Nonexistence of gods: a deductive proof

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Abstract

I prove the nonexistence of gods. The properties of imaginary gods are laid out in a series of theorems that are only based on first principles, most notably the axiom OCKHAM’s razor; the theorems remain true for the case that there are no gods. Central is the result that gods are arbitrary, i.e., random without any further regularity; this implies that the temporal dependence of the probability to find a miracle is described by a POISSON process and spatially by an equipartition. Further no information is transferred to gods from entities of our universe. The theorems allow me to prove the two axioms from my previous article in this issue: religiosity is endogenous in humans and there are no miracles; both needed to be established inductively before. With these insights I deduce that gods do not exist. The consequences of this discovery are tremendous. A completely new perspective onto life presents itself, a life without gods with the freedom to determine our own destiny.

Keywords: god • nonexistence • proof • OCKHAM’s razor • postulate • deduction

1 Introduction

The uncertainty about whether gods exist or not has troubled many of those professing to believe in gods. Therefore, throughout the centuries, theologians and philosophers have attempted to prove (Samelson and Clayton 1985; Taliaferro 2014) the existence of gods, to ascertain that their belief is meaningful. These proofs are not correct as KANT1 showed by analysing and disproving the schemes of reasoning used in these proofs:2 first, from the imagination of a god it is concluded that the god must exist; second, from the existence of the universe, one concludes that a god must have created it. KANT calls proofs of the first kind “ontological” (Oppy 2015) and proofs of the second kind “cosmological.” (Reichenbach 2013) In this article KANT’s two schemes for proofs of gods are disproved in a strictly mathematical way.

If one is not able to prove a proposition—such as the existence of gods—then one should attempt to prove the opposite, i.e., the nonexistence of gods. I follow this ansatz in this article. Although some philosophers and theologians conjecture that a proof of the nonexistence of gods is as impossible3 as the proof of a gods existence, this unfounded assumption is refuted. My proof of the nonexistence of gods is based on the modern method of science (Mittelstraß et al. 2004), the axiomatic method (The

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1 World Wide Web: www.christianbuth.name, electronic mail: christian.buth@web.de. Dedication: To all mankind.
2 An analysis of the ontological and the cosmological schemes to “prove” the existence of a god can be found on pages 69–73 in ref. (Kant 1975).
3 Other ways of argumenting for the existence of a god, such as from teleology (Ratzsch and Koperski 2015) or moral (Evans 2014) are not considered here.

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Editors of The Encyclopædia Britannica 2015), which starts from axioms (Stelzner 2010) and definitions (Ernst 2010), to formulate and prove (Stekeler-Weithofer 2010) lemmata, theorems, and corollaries (Beutelspacher 2009).

Historically, many errors have been made concerning arguments about gods. Always one needs to keep in mind—specifically when regarding non-formal language—that implications may arise of the form that there is a false proposition at the beginning from which an arbitrary proposition can be deduced as true. This leads not to truth but to meaninglessness. For example Kant's⁴ postulates (Thürnau 2010) of practical reason (Thürnau 2010)

⁵ are “the will is free,” “the soul is immortal,” and “god exists.” Particularly, the second and third postulate are clearly wrong, as I prove in this article, whereas the first postulate is prima facie not wrong (Strawson 2011). In the case that you encounter inferences based on such postulates, you know that they are a fallacy (Walton 1998).

False postulates are very problematic and one needs to rid the world of them. Aside from postulates (Thürnau 2010) which are obviously wrong, there is a class of postulates which is improper in a subtle sense (Buth 2015), namely,

Definition 1: An improper postulate in the sense of OCKHAM is to demand a concrete entity⁶ as being without any indication.

Nota bene, phrases such as “without any indication” and “cannot be ascertained” shall always imply that this is impossible on principle. Otherwise a fallacy of an argument ad ignorantiam might happen (Walton 1998).

Central for the elimination of improper postulates according to Definition 1 in my following arguments is (Baker 2013; Buth 2015; Schlömerkemper 2010)

Axiom 1 “OCKHAM’s Razor”: Entities must not be postulated improperly as concrete beings.

Nota bene, in the following, I will assume that the word entity without further specification denotes exclusively concrete entities.

This article is structured as follows. Realisations about gods are presented in the ensuing section which comprises a series of strictly mathematical proofs (Stekeler-Weithofer 2010) of properties of gods. Specifically I prove the axioms Endogenous Religiosity, Axiom 2, and Atheistic Miraclelessness, Axiom 4, from ref. (Buth 2015); these deductions are the basis for the proof of the nonexistence of gods in Theorem 12. Concluding remarks are made in the last section. Annotations on parts of the article and a list of concepts with an extended bibliography can be found in the Supplementary Information. I use the scientific language developed in the course of the induction-based proof of the nonexistence of gods from ref. (Buth 2015). All statements in this article are colour coded: red for axioms, yellow for definitions and green for lemmas, theorems, and corollaries.

2 Deduction

Theorem 1: Observing that the universe exists does not indicate a god as creator:

Proof: The universe exists. However, no reason for its existence can be given because how the origin of the universe came about—i.e., why there was a big bang⁷—is beyond our epistemological (Kaulbach

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⁴ According to ref. (Krippenberg 2010) on page 2299.
⁵ See “Critique of Practical Reason” on pages 274–277 in ref. (Kant 1975).
⁶ See pages 1865, 1866 in ref. (Kühlmann 2010) for a definition of entity. A concrete entity is defined on page 1866 in ref. (Kühlmann 2010).
⁷ See page 201 in ref. (Wölfel and Hübner 1994) on the big bang and ref. (Hawking 2004) chapter 1 “Unsere Vorstellung vom Universum” on page 14, chapter 2 “Raum und Zeit” on page 44, chapter 3 “Das expandierende
1982) possibilities. This implies that observing that the universe exists does not enable one to conclude that there is a god which is its creator, q.e.d.

**Corollary:** If the existence of the universe is the only indication of a god, then there are no gods.

**Proof:** The proposition of Theorem 1 that the existence of the universe does not allow one to infer a god means that the universe can be understood without gods, if the existence of the universe is the only hint for the postulate of a god; thus gods are not necessary (Garson 2014) for understanding the universe. I conclude with OCKHAM’s razor, Axiom 1, that there are no gods, q.e.d.

Nota bene, the partitioning into theorems and corollaries as exemplified for Theorem 1 and the Corollary is a paradigm that I apply throughout this article. My aim is to restrict the use of OCKHAM’s razor, Axiom 1, as far as possible as the axiom has enormous consequences. By this partitioning I reveal what conclusions can be proven without resorting to Axiom 1.

A similar proposition as Theorem 1 is that a god created the laws of nature but does not interfere with the universe any longer. This position is held in deism (Gestrich 1981; Rowe 1998). In this case a god does not interact with the universe and thus there is no indication of the god apart from the existence of the universe. But ascertaining the existence of the universe is, according to Theorem 1, insufficient to conclude that there is a god. The Corollary even says that in this case the universe exists alone without gods. This result falsifies deism.

A god is almost described as a completely supernatural concrete entity, Definition 2, in Theorem 1 and the Corollary. The only aspect that sets it apart from Definition 2 is the postulate that the god created the universe.

Definition 2: A completely supernatural (Frey 1994) entity is a concrete-being entity which acts only supernaturally and the ramifications of its supernatural actions are exclusively supernatural.

**Theorem 2:** Completely supernatural entities cannot be ascertained.

**Proof:** A completely supernatural entity, according to Definition 2, takes effect exclusively supernaturally, i.e., not by miracles (Kleine et al. 2004). As the ramifications of its supernatural actions are exclusively supernatural as well, the ramifications cannot be perceived by natural entities from the universe (Buth 2015). Hence natural entities cannot have any indication of a completely supernatural entity, i.e., they cannot ascertain it, q.e.d.

**Corollary:** There are no completely supernatural entities.

**Proof:** The proposition of Theorem 2 that completely supernatural entities cannot be ascertained, leads, with OCKHAM’s razor, Axiom 1, to the conclusion that completely supernatural entities do not exist, q.e.d.

**Theorem 3:** One cannot ascertain that entities in our universe are not exclusively governed by the laws of nature (Hooker 1998) and thus are partially supernatural.

**Proof:** There are no completely supernatural entities following the Corollary to Theorem 2. Given an entity from the universe that interacts with natural entities, i.e., entities from the universe which are exclusively governed by the laws of nature (Hooker 1998).

**Case 1:** If the given entity interacts only naturally with all natural entities of the universe, then there is no way for a natural entity to discern a supernatural part of the given entity.

**Case 2:** The given entity exerts a supernatural influence on natural entities of the universe which may

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Universum” on pages 61–65, and chapter 8 “Ursprung und Schicksal des Universums” on page 156.

8 At this place, I need to request that an interaction takes place only with natural entities because, otherwise, also two partially supernatural entities might interact with each other which needs to be excluded.
happen only in terms of miracles (Kleine et al. 2004).

(a) If the miracles can be attributed to the given entity, then the supernatural part of the entity is measurable and a law can be established for the supernatural influence. Consequently, the universe can be extended by the supernatural part of the entity which makes the partially supernatural entity completely natural under the condition that the entire supernatural part is measurable. Otherwise, if only a fraction of the supernatural part becomes natural, then the situation is the same as the one of Case 1 or Case 2 (b) and is treated as such.

(b) If it is not feasible to attribute the miracles to the partially supernatural entity, then natural entities in the universe cannot have any indication of supernatural actions of the entity.

This shows that an entity from the universe which interacts with natural entities in the universe, can only be ascertained to interact naturally with natural entities in the universe. There is no way to detect that such an entity is (partially) supernatural or works miracles, \textit{q.e.d.}

\textbf{Corollary 1:} Entities in our universe are \textit{exclusively} governed by the laws of nature (Hooker 1998) and \textit{cannot} be partially supernatural.

\textbf{Proof:} According to Theorem 3 one \textit{cannot} make out on principle that entities in our universe are \textit{not} exclusively governed by the laws of nature. Therefore, it is impossible to discover that there are entities in the universe which have a supernatural part. As a consequence of OCKHAM’s Razor, Axiom 1, entities from the universe \textit{cannot} act supernaturally, they are exclusively governed by the laws of nature (Hooker 1998), and they have \textit{no} supernatural part, \textit{q.e.d.}

\textbf{Corollary 2: No part of a god is part of the universe.}

\textbf{Proof:} The Corollary 1 implies that entities in the universe cannot be partially supernatural. Conversely, a supernatural entity cannot be partially in the universe, i.e., it \textit{cannot} be partially natural, \textit{q.e.d.}

\textit{Nota bene,} the extension of the universe by a supernatural part, as it is done in Case 2 (a) of the proof of Theorem 3, is an important pattern of inference. Namely, in the future, a huge number of novel laws of nature (Hooker 1998) will be discovered with absolute certainty. Hence, our understanding of what is natural needs to be adjusted continuously to incorporate the expanding and deepening knowledge of the natural laws and the universe which is the entirety of our natural world, Definition 2 in ref. (Buth 2015). A similar way of inference will be used in the proofs of Theorem 4 and Theorem 9 (Case 2).

The proposition of Corollary 2, that no component of a god is part of the universe, is consistent with the viewpoint of theology on the world (Stock et al. 2003). From Theorem 3, Corollary 1 and Corollary 2 follows that pantheism (Maier et al. 1995) is unfounded as the universe is natural and not (partially) supernatural as pantheism implies, i.e., a permeation of everything by god.

\textbf{Definition 3:} Arbitrary means random without any further regularity.

\textbf{Theorem 4:} Gods are arbitrary.

\textbf{Proof:} Assumption: A god is \textit{not} arbitrary. Then it is deterministic and/or probabilistic (Schlömerkemper 2010). This means that the god obeys certain laws. Hence one can experiment with the god—systematic communication is a variant of experimenting according to Definition 5 and its discussion in ref. (Buth 2015)—i.e., one can predetermine a natural cause and observe a divine effect, a miracle. In

\footnote{The concept of a supernatural interaction which becomes measurable and thus natural, corresponds to discovering novel laws of nature (Hooker 1998) which expand our thinking. For example, in modern physics, such expansions were relativity theory and quantum mechanics. The prolongation of the lifetime of elementary particles such as positrons or muons which move close to the speed of light in the laboratory reference frame (Martin and Shaw 1997) is a nice example for the idea of a supernatural interaction which becomes explainable and thus natural by a new theory; the relativity theory.}
this way, the universe can be extended by the god or a part of the god which thus becomes a (partially) natural entity. This is a contradiction to Corollary 2 of Theorem 3, q.e.d.

This proposition is enormous! Its point of view onto actions of gods is supported by theology insofar as theology discusses the individual and his relationship with god, i.e., the personal religious experience. In contrast to the natural sciences, in theology no global regularities are examined of repeatable and predictable phenomena leading to intersubjective propositions. On the one hand, this approach indicates that theology is rooted in the tradition of the humanities, on the other hand, this can be understood as a consequence of arbitrariness of gods.

What is the form of a miracle by an arbitrary god? A god cannot enter a dialogue with entities in the universe and reveal what it intends and what it expects of the entities in the universe. If a god did anything like that this would mean a contradiction to arbitrariness, Theorem 4. With this argument, a large fraction, if not all, of the miracles (Kleine et al. 2004) which are discussed in the bible are obviously no miracles because the intentions of a god are revealed! Similarly, a god does not produce a divine sign because this, again, would reveal a divine will.

Up to know, supernatural actions of a god on the universe are supposed to be in terms of miracles, Definition 8 in ref. (Buth 2015). Thereby a miracle functions as a bridge between natural and supernatural spheres (Frey 1994). This deals exclusively with the actions of gods; nothing is said about a reaction of the universe on gods. Thus it seems that the concept of a miracle is insufficient to understand gods and I give the

**Definition 4:** An inverse miracle is a miracle without natural ramifications.

As an inverse miracle has no natural ramifications, its occurrence cannot be detected. An inverse miracle could only be detected by experimenting with gods because the inverse miracle changes only the gods. Therefore, a god would need to work a miracle by which it tells entities in the universe that inverse miracles have occurred. This represents a feedback loop which may lead to emergence as it is studied in the social sciences between humans. The interaction of a god with entities of the universe can thus be classified as action by miracles, Definition 8 in ref. (Buth 2015), and reaction by inverse miracles, Definition 4.

**Theorem 5:** There is no indication of inverse miracles.

**Proof:** Inverse miracles are a postulate (Thürnau 2010) whose correctness can only be established by miracles as they have no natural ramifications, Definition 4, which could be perceived by entities from the universe, Definition 2 in ref. (Buth 2015). Because gods are arbitrary, Theorem 4, inverse miracles cannot be detected as an arbitrary god does not reveal that it gained information in such a way. Hence there is, on principle, no indication for inverse miracles, q.e.d.

**Corollary:** There are no inverse miracles.

**Proof:** With the proposition of Theorem 5 that there is no indication of inverse miracles and OCKHAM's Razor, Axiom 1, follows that there are no inverse miracles, q.e.d.


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11 In chapter 4 “Die Unscharferelation” on page 72 of ref. (Hawking 2004) a similar point of view is adopted: a god can only obtain information from the universe, if the measurement does not change the universe. HAWKING concludes from this with OCKHAM’s razor that one can do without god. The argument is plausible but, nonetheless, not correct because contingency or impossibility of gods is not shown.
12 See sec. 3.2. “Emergenz” in ref. (Mittelstraße et al. 2004).
13 See page 205 in ref. (Wöfler and Hübner 1994) on interactions in physics.
Proof: **Assumption:** Religious phenomena *do* indicate a god. Then a god becomes measurable, as explained in the proof of Theorem 4, and thus the universe can be extended by the god or a part of the god which, in this way, becomes a (partially) natural entity. This is a contradiction to Corollary 2 of Theorem 3. Thus religious phenomena can only be endogenous, i.e., be effected by our brains, q.e.d.

Axiom 1 lays the foundation for the proof of the Lemma of ref. (Buth 2015), that religious phenomena, Definition 7 in ref. (Buth 2015), do *not* indicate a god. Religious phenomena, therefore, play no role for the question whether there are gods or not.

**Lemma 1:** The number of miracles in a finite volume in space during a finite period of time is finite.

**Proof:** **Assumption:** The number of miracles in a finite volume of space during a finite amount of time is infinite.\(^{14}\) Due to the arbitrariness of gods Theorem 4, no volume of space or time interval is distinguished, i.e., the number of miracles is infinite in every finite volume and time interval. This, however, implies the breakdown of the laws of nature—everywhere and anytime—as it is also the case for the big bang singularity and the singularity in black holes;\(^7\) any prediction of the time evolution of nature becomes impossible. This is a contradiction to the fact that the natural laws (Hooker 1998) provide an excellent description of nature (Frey 1994) and allow one to make precise predictions, q.e.d.

*Nota bene,* if the number of miracles became infinite, then I could no longer speak of the laws of nature (Hooker 1998) because miracles are contradictory to them, i.e., the laws of nature would lose their meaning. However, a singularity in the number of miracles in each point of space and time of the universe is consistent with the notion of divine grace, i.e., that the universe can only exists through a god (Frey 1994). An example of how an infinite number of miracles in points of space and time could be realised is the vacuum in quantum field theory in which there is a constant creation and annihilation of all sorts of virtual particles whose existence is only restricted by the time-energy uncertainty relation of quantum mechanics.\(^{16}\)

**Lemma 2:** A god acts randomly in space and time without any further regularity. The probability (Krengel 2005; Siegmund 2015) of miracles is described by a probability density ("Dichte (Wahrscheinlichkeitstheorie)" 2012)\(^6\) which is the product of a spatial and a temporal probability density, i.e., both densities are independent of each other. The spatial probability density is an equipartition ("Gleichverteilung" 2012; Krengel 2005); temporally miracles occur, on average, with a constant rate, i.e., the wait times on a miracle from a starting time on is given by an exponential distribution.\(^{17}\)

**Proof:** According to Theorem 4, a god acts arbitrarily. Hence I cannot establish a law of such actions beyond spatial and temporal randomness. Because of its arbitrariness, there is no interdependence between the chosen spatial volumes and temporal intervals, in which the probability to find a miracle, is regarded. This finding lets me introduce a probability density of miracles which is a product of spatial and temporal probability densities of miracles. Spatially, arbitrariness implies an equipartition ("Gleichverteilung" 2012) of miracles, i.e., miracles accumulate nowhere in space. The arbitrary temporal dependence means that miracles occur, on average, with a constant rate, i.e., a constant number of miracles per unit of time happen. Such a dependence is described by an exponential distribution for the wait times for a miracle from a fixed starting time on, q.e.d.

\(^{14}\) I can half the spatial volume and the time interval where in both halves still occur an infinite number of miracles; namely, due to the arbitrariness of gods, Theorem 4, no half can be distinguished. This way of dividing a spatial volume and time interval into halves can be continued indefinitely. Always I find, in any arbitrarily small spatial volume and time interval, an infinite number of miracles. Thus it is possible to take the limit ("Grenzwert (Mathematik)" 2012) of a vanishing spatial volume, $\Delta V \to 0$, and time interval, $\Delta t \to 0$, which leads to the result that the number of miracles in each point in space and time is infinite ("unendlich (Mathematik)" 2012), i.e., a singularity.

\(^{15}\) See page 134 in chapter 7 "Schwarze Löcher sind gar nicht so schwarz" of ref. (Hawking 2004).

\(^{16}\) For a mathematically exact definition of the probability density see "§ 10 Wahrscheinlichkeitsmaße mit Dichten" and "§ 11 Zufallsvariable und ihre Momente" on pages 127–151 in ref. (Krengel 2005).

\(^{17}\) See pages 130, 131 in ref. (Krengel 2005).
**Nota bene**, the spatial probability density of miracles is, according to Theorem 4, consistent with the *principle of indifference* (The Editors of Encyclopaedia Britannica 2015b)—also known as *principle of insufficient reason*—which says that, as long as there are no further information about a probabilistic situation, an equipartition should be assumed.\(^8\) Neither the spatial nor the total probability density depend on the spatial coordinates whereas the temporal probability density and thus the total probability density do depend on time.

The predicted spacial equipartition and temporal, on average, constant rate of miracles by Lemma 2 have never been observed. Ecclesial miracles accumulate in certain Holy Places (Lanczkowski and Diether 1986) where many religious persons meet. If one continues to think along these lines about spatial arbitrariness, then also in free space and within the earth, miracles would occur. With respect to the surface of the earth, there ought to be an equipartition of miracles, i.e., miracles are distributed randomly over the surface of the earth and do not accumulate in certain places. However, in reality the contrary happens because ecclesial miracles occur predominantly in Holy Places such as Lourdes (Lanczkowski and Diether 1986; The Editors of Encyclopaedia Britannica 2015c) in France.

Provided that the universe is infinite, Lemma 2 provides grounds for a proof of Axiom 4 (see below). Namely, there is

**Theorem 6**: There are no miracles in an infinite universe.

**Proof**: Assumption: There are miracles. Hence the probability density of miracles does not vanish. According to Lemma 2, the probability density (“Dichte (Wahrscheinlichkeitsstatheorie)” 2012; Krengel 2005) of miracles is given by the product of spatial and temporal probability densities of miracles. The spatial dependence of the probability to encounter a miracle is proportional to the volume in space considered. As the universe is presumed to be infinite, the product of a finite spatial probability density of miracles and a volume of arbitrary extend eventually becomes greater than one, if the size of the volume goes to infinity (“unendlich (Mathematik)” 2012)! In other words, a nonzero spatial probability density of miracles is not meaningful. Hence the probability density of miracles must vanish and, consequently, there can be no miracles. This is a contradiction, q.e.d.

With Theorem 6 it follows that, for an infinite universe, there are no gods, i.e., the Corollary of the Theorem in ref. (Buth 2015). From here on I need to suppose that the probability density for miracles vanishes and/or the universe is finite because only in these cases, a probability density of miracles can be defined. The second condition, that the universe is finite, is fulfilled according to the present state of cosmological research.\(^9\)

**Definition 5**: A probabilistic statement that is phrased with de facto is so likely that in reality it always comes to pass.

An example for a proposition according to Definition 5, that *de facto* always comes to pass, stems from thermodynamics: the probability to find all air molecules in one half of a room is almost zero such that this case *de facto* does not occur.\(^{20}\)

**Theorem 7**: Recurrent miracles *de facto* do not occur.

**Proof**: For a first miracle to recur, a second miracle needs to happen in the same volume of space and it needs to be identical to the first miracle. I estimate the probability for the recurrence of a miracle by the probability to find a second, not necessary equal, miracle in the same volume of space. Because of

\(^8\) See page 5 in ref. (Krengel 2005).

\(^9\) In chapter 3 “Das expandierende Universum” HAWKING argues that the universe is finite but the expansion of the universe will continue in all eternity. This is true as long as our present knowledge of the average density of the universe and the expansion speed do not deviate dramatically from the actual values. (Hawking 2004) See also refs. (McMullin 1998; The Editors of Encyclopaedia Britannica 2015a).

\(^{20}\) See chapter 7 “Schwarze Löcher sind gar nicht so schwarz” on page 131 in ref. (Hawking 2004).
the uncertainty principle, miracles cannot be located exactly spatially by natural means. Therefore, I need to assume a small spatial volume for determining the probability that a miracle recurs in a specific location. If the volume tends to zero, so does the probability for recurrence. This implies that the better a miracle is located in space, the less probable is its recurrence. As a consequence, a second miracle about in the same position in space as a first miracle does de facto not happen and thus there is no recurrence of miracles, q.e.d.

With Theorem 7 I infer that the blood miracle in Naples of Saint JANUARIUS ("Blutampullen" 2012, "Blutwunder (katholische Volksfrömigkeit") 2012; Garlaschelli et al. 1991)—which is not an ecclesial miracle but an ecclesial folk custom of the liquefaction of blood in an ampoule that reoccurs yearly—is not a miracle for more than one instance; only a single instance of the recurrences of the miracle might be a true miracle.

**Lemma 3:** Miracles are events that occur at a point in time.

**Proof:** One may have notice of the occurrence of a miracle no earlier than the beginning of time with the big bang which is a lower bound to the time series of miracles. **Assumption:** Miracles have a finite duration. As gods are arbitrary, Theorem 4, the duration of a miracle is random without any further regularity, i.e., an equipartition. Hence the duration is picked from the time interval of the positive real numbers [0; +∞] where the end point in time of the miracle is given by the sum of the starting point and the duration. The duration is never negative; otherwise I would simply exchange the starting point and the end point which rendered the duration positive. On [0; +∞[ no equipartition ("Gleichverteilung" 2012) can be defined because the probability density of miracles ("Dichte (Wahrscheinlichkeitsberechnung" 2012; Krengel 2005) would vanish on any finite interval being a subset of [0; +∞[. For this reason, the duration of a miracle must have an upper bound. The fact that an upper bound needs to be specified is not consistent with the arbitrariness of gods as a specific choice for an upper bound indicates a divine will or, alternatively, a boundedness of gods. This is a contradiction to the arbitrariness of gods, Theorem 4! Hence the duration of miracles must vanish and miracles are point processes in time, q.e.d.

**Theorem 8:** The temporal occurrence of miracles in a finite volume of space is described by a POISSON process.

**Proof:** The time series of miracles is determined by a POISSON process because miracles (Kleine et al. 2004) are described by a point process, Lemma 3, that fulfils the clauses:

(0) The number of miracles in a finite volume of space during a finite period of time is either zero or finite, i.e., enumerable by natural numbers, Lemma 1. The starting time of the POISSON process is chosen such that no miracles occur at this time and thus the initial number of miracles is zero.

(1) For two disjoint time intervals, the event, that no miracles occur in the two intervals, are independent according to Theorem 4 and Lemma 2 where the same volume in space is chosen in both cases.

(2) For two equally long time intervals, the probability that there occur no miracles is the same due to Theorem 4 and Lemma 2 where the identical spatial volume is used.

(3) In a finite volume of space occur, during a finite time interval, only a finite number of miracles following Lemma 1.

(4) Two miracles occur never at the same point in time, Lemma 3, as two synchronous miracles would

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22 See (A0)–(A4) in “§ 18 Der Poisson-Prozess” on page 226 in ref. (Krengel 2005). There, the exact mathematical conditions for the random number of miracles are specified.
be counted as one miracle, q.e.d.

A typical example for a POISSON process is radioactive decay. The distribution of the waiting times till a miracle occurs is given for a POISSON process by an exponential distribution as found already in Lemma 2.\textsuperscript{23} The propositions of Theorem 4, Lemma 2, Theorem 7, Lemma 3, and Theorem 8 represent a powerful arsenal for gathering experimental evidence of Atheistic Miraclelessness, Axiom 4 (see below).

\textbf{Theorem 9:} Actions of a god on the universe are by miracles.

\textbf{Proof:} \textit{Assumption:} There are actions of a god on the universe which are not supernatural but natural.

\textit{Case 1:} A natural action of a god is in accordance with the laws of nature (Hooker 1998), i.e., the action of the god cannot be distinguished from the natural laws. Then the natural action of the god can be explained by the laws of nature; the actions of the god cannot be assigned to it. The concepts “natural law” and “god” are, in this context, tautological as the god cannot be identified as the cause of the actions and everything occurs in accord with the natural laws. In other words, this is simply a question of nomenclature whether to call the actions “god’s work” or “nature.” This is a contradiction!

\textit{Case 2:} A natural action of the god is in accordance with the natural laws but the actions of the god are clearly distinguishable from the natural laws. Then the actions can be attributed to the god which means that the god is measurable. I choose a system of the god and the universe as new universe. But then the god is part of the universe which is a contradiction to Corollary 2 to Theorem 3!

Therefore, the opposite of the assumption is true: the interaction of a god with the universe is supernatural. The ramifications of the supernatural action must be natural, i.e., miracles according to Definition 8 in ref. (Buth 2015). Otherwise the action could not be perceived by entities from the universe and the god would be a completely supernatural entity which does not exist according to the Corollary of Theorem 2, q.e.d.

\textit{Nota bene,} despite Theorem 3, I need to prove Theorem 9 because a god is not part of the universe such that Theorem 3 cannot be applied to it. As a god is supernatural, natural actions of the god on the universe cannot be excluded without Theorem 9.

Because of the uncertainty principle,\textsuperscript{21} there are information (“Information (Informatik)” 2012), such as atomic and molecular states, in the universe that cannot be completely read out by natural means without changing the states. Hence such information can only be obtained by a miracle. But there is

\textbf{Theorem 10:} There is no indication that information (“Information (Informatik)” 2012) is transmitted to a god from entities of the universe.

\textbf{Proof:} Information of an entity of the universe are naturally encoded. To obtain these information, there needs to be an interaction between a god and the information.

\textit{Case 1:} The information can only be obtained via a natural interaction of the god as long as the divine measurement process does not change the information as so happens when quantum mechanics is needed to describe the encoding of the information. Otherwise, the god itself could be detected. Then the universe could be extended by the god which, consequently, becomes natural. This possibility is excluded by Corollary 2 of Theorem 3 that no part of a god is part of the universe. Thus there is no indication that information is transmitted to a god in this way.

\textit{Case 2:} Let me assume that a miracle occurs. Then this miracle, according to Definition 8 in ref. (Buth 2015), can be perceived by natural entities. Entities in the universe cannot—because of the arbitrariness of gods, Theorem 4—however have any indication that a god has obtained information in this way.

\textsuperscript{23} See pages 130, 131, 227, 229 in ref. (Krengel 2005).
With this said and the Corollary to Theorem 5, that there are no inverse miracles, there is, on principle, no indication that information are transmitted to a god from entities of the universe, q.e.d.

**Corollary**: No information ("Informations (Informatik)" 2012) is transmitted to a god from entities of the universe.

**Proof**: With Theorem 10, that there is no indication that information are transmitted to a god from entities of the universe, and OCKHAM’s Razor, Axiom 1, I conclude that no information are transmitted to a god from entities in the universe, q.e.d.

**Definition 6**: The soul (Tegtmeyer 2010) is the configuration of the brain (“Gehirn” 2014) at a point in time, i.e., all the informational content, conscious and unconscious and the typology and connectivity of the neurons.

As quantum mechanics is required to describe consciousness (Atmanspacher 2011), there is no way to read out the soul completely naturally due to the uncertainty principle.

**Theorem 11**: The soul (Tegtmeyer 2010) does not endure after death. Specifically, it is not transmitted: “The soul does not ascend to heaven.”

**Proof**: With death all biological processes specific to a living organism come to a halt, i.e., only the matter of the brain (“Gehirn” 2014) remains; the electrochemical processes stop. Then biological decomposition of the body commences. The soul is not transmitted because of the Corollary to Theorem 10 which states that no information is transmitted to a god from entities of the universe, q.e.d.

If an entity of the universe, such as a human, had a supernatural component of the soul, then this component would render the entity partially supernatural. But this is impossible according to Corollary 1 to Theorem 3. Consequently, there is no supernatural component of the soul and thus the soul is purely natural. The preceding propositions of this section prepare the proof of

**Axiom 4 “Atheistic Miraclelessness”:** There are no miracles (Kleine et al. 2004).

**Proof**: **Assumption**: There are miracles. Miracles are divine actions, hence, there is a god. No information is transmitted from entities of the universe to a god, Corollary to Theorem 10. If no information can be transmitted to a god from entities of the universe, then, symmetrically, it is also true that no information can be transmitted from the god to entities of the universe. If a miracle happened, a god would communicate to the entities of the universe that there is a god. This is a contradiction, q.e.d.

From Axiom 4 follows immediately the validity of Agnostic Miraclelessness, Axiom 3 of ref. (Buth 2015).

**Theorem 12**: There are no gods.

**Proof**: As there are no miracles, Axiom 4, a god could only be a completely supernatural entity, Definition 2, which, however, does not exist according to the Corollary of Theorem 3, q.e.d.

**Extraordinary**, that the nonexistence of gods can be proven without recourse to Endogenous Religiosity, Axiom 2, and Atheistic Miraclelessness, Axiom 4, because these axioms themselves can be proven. Eventually, the proof of the nonexistence of gods rests only on OCKHAM’s Razor, Axiom 1, as a first principle.

### 3 Conclusion

The essence of this article can be summarised in a single sentence: as gods do not interact with our universe, the notion of humans of gods can only be a product of human imagination and, therefore, there are no gods. This statement is proven strictly mathematically and is a contribution to ontology (Kuhlmann 2010), namely, gods are shown to be abstract entities (Hale 1998). The limits of
epistemology (Kaulbach 1982) are shown in this article. Why nature (Frey 1994) is the way it is remains obscure and humans have no possibility to find out eventually how the laws of nature (Hooker 1998) came about and why they are the way they are.

Having ascertained that gods do not exist, our understanding of the world (Stock et al. 2003) rises to a higher level to a scientifically-informed natural monism (Mehlhausen and Dunkel 1994), i.e., a unified perspective on the world as nature and man being a part of it. This position is held in naturalism (Papineau 2009) where special metaphysics (van Inwagen and Sullivan 2015) (god (Lançzkowski et al. 1985), soul (Tegtmeyer 2010), world (Stock et al. 2003)) is destroyed by the results of this article. Theology as a research discipline of gods and believe in them is transformed to a discipline which studies naturally arising religious phenomena and the historic influence of religions and believes onto humanity. Theology needs to find ways how spiritual experiences can be lived meaningfully in naturalism (Papineau 2009).

The question remains, how such an elaborated idea of gods, as in Christianity, may have developed. This is explained by Feuerbach’s (Salaquarda 1983) theory of projection where a god is understood as a projection of the desires of man. The theory can be abridged to the formula “theology is anthropology” which is a point of view that is also shared in the psychological literature: a projection means that one sees one’s own experiences in others. The concept of agent detection lets one understand how the notion of supernatural agents has come about. Namely, humans infer the presence of intelligent agents such as predators with this mechanism which, however, tends to overgeneralise and cause also inanimate objects to be seen at times as agents such that there may be some occurrences that are falsely seen as a supernatural presence. Together with the concept of theory of mind that allows an individual to prognosticate the behaviour of others by viewing himself in the others’ position, projection occurs. Finally, the causes of religion are fully explained by natural reasons.

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24 I would like to explicate that a natural monism is not to be understood as a pseudo-religious worshipping of nature—as done in a previous monist association (Mehlhausen and Dunkel 1994)—but a scientifically-informed understanding of nature and thus the world. This is science without special metaphysics (van Inwagen and Sullivan 2015) as founded by MERLEVINE, see page 356 in ref. (Baum and Bader 2000). With the denomination “monism” I turn again the concepts of dualism, which contain a division into nature and supernature, or pluralism of religions.


Nonexistence of gods: a deductive proof

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Abstract

A list of concepts with an extended bibliography is given.

Concepts

In the following I list the concepts from the article with expanded bibliography. Only those concepts are introduced here which were not listed in ref. 1. Do not let the massive number of references discourage you. For a first reading, I recommend the book of SCHLOMENKEMPER2 which introduces many of the ideas and concepts used in this article in an easily understandable way.

Apart from references to books, I cite extensively a selection of encyclopaedias. The Theologische Realenzyklopädie (TRE)3 is the authoritative source for Christian theology. A modern philosophical point of view is represented by citations of the Enzyklopädie Philosophie (EPh),4 the Routlege Encyclopaedia of Philosophy (REP),5 and The Stanford Encyclopaedia of Philosophy (SEP).6 For general references, I use the Brockhaus Enzyklopädie (BE)7 and the Encyclopaedia Britannica (EB).8 Other references are indicated by “O.”

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Dedication: To all mankind.

Dr. Christian Buth

29 August 2015
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