Argument from Design Based on the Calculus of Probabilities

Abstract:

One of the premises of the argument from design is the need of the order to a designer. This premise has been explained by many ways, one of which is the calculus of probabilities. It holds that the probability of an ordered thing to come into existence by chance is too low that human beings consider it almost impossible; therefore, this order needs an intelligent designer. However, some contemporary Muslim Philosophers, like Ayatollah Javadi Amoli, as well as some western philosophers denied the validity of the calculus of probabilities, alleging that the calculus of probabilities does not discover the reality, enjoying merely practical usage. They asserted that the undesigned states have the same probability of the designed states. In this article, I explain these objections, refuting them, finally showing the soundness of the argument from design based on the calculus of probabilities.

١. **Introduction**

Argument from design is one of the important ways to establish the existence of a supernatural cause who has designed the world and has ordered it. This argument is based on two premises:

The first premise holds that there are so many examples showing order and design in this world.

The second premise holds that this order is a sign of the existence of a intelligent designer who has designed the world.

There are many ways by which the validity of the second premise would be explained; one of which is using the calculus of probabilities. In this way, all probabilities of the existence of an ordered existent are analyzed and it is concluded that the improbability of the existence of an ordered existent by chance is a sign of its need to a designer.

However, some contemporary Muslim Philosophers, like Ayatollah Javadi Amoli, as well as some western philosophers denied the validity of the calculus of probabilities. In this article, firstly, the calculus of probabilities will be explained, then the main objection against its validity will be responded.

It must be noted that argument from design could be addressed from different aspects. For example, the most important criticism raised against the validity of this argument today are based on the theory of evolution. Some evolutionary biologist intended to undermine the argument from design based on the theory of evolution (Dawkins 2006, ١١٩-١١٣) □□□ □□□□ □□□□□□□□ □□ □□□□ □□□□□□□□□□ □□ □□□□□□□□□□□□ □□□□ □□□ gradual design in the process of evolution needs a designer (Evans ٢٠١٠,٧٩), □□□ □□□□□□□□□□ □□□□□□□□□□□□ □□□□□ □□□ □□ □□□□□□□□□ □□ □□□ theory of evolution (Behe 2006, 39), the cosmological fine-tuned universe needs a designer (Collins 2004, 135), and our ability to understand truth is not related to the theory of evolution (Plantinga ٢٠٠٢,١-١٣). □□□□□□□□, □□□ □□□□□□□□ □□□□□□□ □□□ □□□□□□ □□ □□□□□□□□□ □□□ the argument from design is not the subject matter of this article. The focus of this paper is merely on the argument from design based on the calculus of probabilities.

٢. **The Need of Order to a Designer**

Before explaining the argument from design based on the calculus of probabilities, it is necessary to explain that there are four ways to prove the second premise of the argument from design (I. e., the need of the ordered things to a designer), each one requiring independent

discussions, but I indicate to them very shortly here. They are as follow:

١. The first way is *analogical*. According to this way, as manufacturers are ordered by a designer, the world has been ordered by a designer too, because both of them are like each other. In fact, by considering the analogy between manufactures and the world, it gets clear that both of them are like each other and it proves that, analogically, as manufactures needs a designer, the world needs a designer too.

This way has been objected by Scottish philosopher *David Hume*. He categorizes all things to two kinds: *natural things* that do not need to a designer and *manufactures* that need a designer. He said that we are sure, by experience, that a manufacture like a house needs a designer, but we are not sure that our natural world is like a manufacture. Therefor we cannot use analogical way, since the resemblance between the natural world and a manufacture is not certain and complete. The dissimilitude between the natural world and the manufactures shows the invalidity of the analogical way (Hume 2007, ٢١).

However, the viewpoint of Hume would be objected that as manufactures for their order needs a designer, other things that are like manufactures in their order and arrangement, needs a designer too, whether they are natural phenomena or manufactures. Hume assumed that the need to a designer is limited to manufactures, but in fact, as all manufactures needs a designer, everything else *resembling* them in the order, needs a designer too.

In other words, though there are some dissimilitude between the natural world and the manufactures, the analogical way can be run, since both have a resemblance in the order and arrangement. Therefore, it can be concluded that, analogically, all ordered things need a designer, because they are like manufactures in their order and arrangement.

٢. The second way, would be called deductive, considers the need of the ordered things to a designer as *self-evident*. When we see any ordered thing, we get astonished and amazed. Thus. It can be said that the need of an ordered phenomena to a designer is self-evident, needing no argument for its truth. In this way, we do not compare manufactures with natural phenomena, but rather we say that our intellect judges that any ordered thing needs a designer, whether it is a manufacture or a natural phenomenon. Many contemporary Muslim Theologian has used this way (Motahhari 2003, V8, 470-472, مصباح یزدی ١٩٩١, ٣٣-٤٩)

The priority of this way over other ones is that it offers a certain way for the validity of the second premise of the argument from design, in contrast with other ways which are merely probabilistic or inductive.

٣. The third way, by which the validity of the second premise of the argument from design would be proven, is *the inference from the best explanation*. Although the inference from the best explanation does not suggest a certain solution for a problem, it proposes the best explanation for a phenomenon. According to the inference from the best explanation, there are three options to explain the order of the world: chance, natural laws, and a designer. But which is the best inference to explain the order of the world?

The chance is an unreasonable explanation of the design. How would it produce an ordered thing! Nobody can accept that an unguided process of chance can produce a guided, ordered and designed thing. The second way relies on the process of evolution. To reject this option, one can use the argument of Richard Swinburne that the natural explanation does not make us needless of personal explanation. The complete explanation needs two things: the natural explanation in the first level, and a person created and ordered the laws in the higher level (Swinburne 2010, 20-24) Therefore, the best explanation for illustrating the order and design of the world is to hold that this design has been created by an intelligent designer.

٤. The fourth way, which is the subject of this article, is to use the calculus of probabilities. It will be explained in what follows.

٣. Explanation of the Calculus of Probabilities

In the argument from design based on the calculus of probabilities, the probability of a designed world without a creator is calculated, and then it's too low probability shows the need to a designer. Suppose that you want to write a meaningful sentence. If you put the pen in your hand and write some letters unintentionally, it is *rarely* possible that you can write even one meaningful *word*. In a broader domain, if you put the pen in your hand and write some letters unintentionally, it is *too rarely* possible that you can write a meaningful *sentence*. On a broader scale, it is *almost impossible* that you can write an *encyclopedia* unintentionally. If one says that it is possible that an encyclopedia be written by chance, everybody laughs at him, considering his viewpoint as unreasonable; because, although it is logically possible that an ordered thing comes into existence by chance, its probability is so weak that nobody considers it as a rational option. Therefore, it can be said that, by the way of calculus of probabilities, the too low probability of the order by chance establishes its need to an intelligent designer. If this principle runs in the world, it can be said that it is almost impossible that this ordered world comes into existence without an intelligent God.

William Dembski, defending the argument from design, added the point that beside the improbability, the conformity with a pattern must be considered. He mentions an example from Michael Polanyi; if some stones placed in a garden be arranged in the way showing a meaningful sentence, this precise arrangement is too improbable to be created by chance. This improbability beside the conformity with a pattern show a coherent sentence, could be a sing of an intelligent designer. Thus, he defined design as "patterned improbability" (Dembski 2005, XI-XIII).

Another point must be noted is that the argument from design based on the calculus of probability can be explained by new discoveries of modern physics. The principle of fine-tuning of the universe is one of the newest ways of explanation of the argument of design that uses the principle of calculus of probabilities. In the last century, some new discoveries in the physics and astronomy have shown us that our world is highly structured. The physical cosmologists have determined the value of some fundamental parameters like density, mass, temperature, curvature and entropy to a very precis degree, and then have concluded that this precise degree could not have happened by chance. Our universe is exactly fine-tuned for the life. Any slightly difference in these parameters makes the life in this world impossible. Therefore the too low possibility of the existence of this fine-tuned universe makes the probability of chance too improbable, revealing the need to a designer (Manson 2003, 4). Thus, although it is logically possible that this fine-tuning has occurred by chance, it is *almost impossible* to occur according to the calculus of probabilities.

However, to show the validity of the argument from design based on calculus of probability, it is necessary, firstly, to explain the theories of probabilities, and then to respond to the objections raised against it.

۴. **Theories of Probability**

When we use the argument from design based on calculus of probabilities, the question arises regarding the objectivity or subjectivity of the probability. The theories of the nature of probability are divided into two kinds: (1) *epistemological* (or *epistemic*) and (2) *objective.*

۱. *Epistemological* accounts hold that "probability" is something related to human's knowledge. There is no probability in the reality; it is only the degree of human's knowledge in respect of reality. The epistemological accounts are divided into three main theories:
   - The logical theory: it considers the probability on the basis of a particular evidence to be equal for all human beings, i.e., the particular degree of probability makes a specific degree of

probability of a belief for all rational human beings.
- Subjective theory: it holds that the degree of probability is different in various human beings, i.e., it is possible that an evidence makes different degrees of probabilities for different individuals.
- Intersubjective theory: it is a developed version of subjective theory, maintaining that though the degree of probability is not equal with respect to different individuals, the degree of probability is something on which there is a consensus by a group.
٢. *Objective* accounts of probability assert that "probability" is not something related to human knowledge, but a real feature of the world. The objective accounts are divided into two main theories:
- The frequency theory: according to this theory, the probability is a feature of the world in connection with the outcome resulted from the frequency of similar event in a long time.
- propensity theory: according to this theory, the probability is a feature of the world with respect to an inherent propensity that would be shown in the repeatable conditions. When an event is repeated in a long time, it shows the inherent propensity of something in connection with an event. This inherent propensity is the degree of its probability (Gillies 2006, 1-3).

Considering the above theories, the question arises regarding the acceptable theory. in my view, the probability is epistemological, because in the objective world, either something exists or it doesn't. As Muslim philosophers held there is nothing in the middle of being and non-being (Suhrawardi 1996 4, Shahrazuri 2004, 34), thus it must be said that in the objective world, either there is a God or there is not God; there would not be something in the middle of being and non-being called probability. The probability is the feature of our knowledge of the world, not the objective world; the reality is not probable.

The next question is that which theory among the epistemological theories is the most reasonable one. the question here is that whether the degree of probability differs in various human beings and groups or there is one logical foundation for evaluating probabilities?

If one holds that the degree of probability is something depending on each individual, it leads to relativity. The calculus of probability is a reliable way, would be used by scholars in different fields, but if one says that it is relative, it loses its validity. Therefore, to avoid relativity, it must be held that the probability is not relied on the mind of some people or groups, but rather the degree of probability calculated is equal for everybody who proceeds on rational arguments. If an evidence is rational, it must possess a high degree of probability for all, and if it is

not rational it must possess a low degree of probability for all. Thus, to keep an evidence as evidence, it must be equally probable for all rational humans, and it is not reasonable to make the degree of probability relative. Relativity undermines the validity of probabilistic arguments. Therefore, it should be held that the probability of an evidence can be calculated and then it can be rational equally for everyone.

However, the significant point must be noted, having efficiency in the argument from design, is that although the probability is a feature our epistemic knowledge, it does not mean that this probability is merely a subjective knowledge having no relation with objective facts. Our beliefs, if rational and valid, are ways to represent the objective world, and as much as our knowledge is more probable, it can represent the reality more accurately. The nature of a rational beliefs is to represent the reality, like a mirror showing the picture of objects. Thus, if the probability of an evidence is certain, it shows the fact exactly, and the more probable is our knowledge, the more accurately the objective world is shown. Consequently, though the reality of the calculus of probability is epistemic, it represents the reality; and the more probable an evidence is, the more accurate facts will be revealed.

٥. Responses to Objection

Based on the above explanations, I clarify and then refute the chief objection against the validity of the argument from design in what follow.

٥,١. Calculus of Probabilities and Revealing of Reality

The first objection is that one can use probabilistic arguments in our ordinary life for some practical goals helping us in our life. We rely on probabilistic inductions to use them in practical affairs. the objections against the argument from design based on calculus of probabilities, has been raised by Ayatollah Javadi Amoli, is that in the arguments of existence of God, we must seek the arguments that reveal the facts, while the probabilistic argument does not disclose the reality, having merely practical usage. We calculate the degree of probability of something to occur for planning for it and evaluating the degree of our expectation from it; it is a practical usage, having no relation with reality. In the arguments for the existence of God, we seek to prove the existence of a real God, but probabilistic argument does not show the reality. Therefore, the probabilistic argument from design does not fulfill our need to find the reality. The calculus of probabilities does

not uncover the real feature of world, but rather it is a mental assessment, lacking the capacity to show the reality (Javadi-Amoli ۲۰۱۱, ۲۴۵-۲۴۶).

This objection has been explained in another way. What asserted is that the calculus of probabilities does not explain a real thing, showing merely our expectation. For example, when we throw a dice, the probability of *number two* to appear is one out of six, because a dice has six sides. It means that our expectation from a dice to show the number six is one out of six, but our expectation here has been driven from our ignorance. The calculus of probabilities does not show the reality, but it indicates to our expectation in cases which we ignore the reality. However, if we know the reality and the forces making one side of a dice on the top, we can find the objective reality. These probabilities are emanated from our expectations in the cases which we ignore the reality, but there is no probability in objective world; because in reality, i.e., objective world, whether the physical forces require a special number of dice to be shown or not and there is no probability. Suppose that you want to get on a plane. How much is the probability of this plane of be crashed? You might count it one out of hundred, but this counting is emanated from your ignorance, but in reality, either it will be crashed, because of some causes making it crashed, or does not be crashed, because of the lack of those causes making it crashed. Therefore, it can be concluded that the calculus of probability cannot show the reality and thus would not be applicable in the case of the existence of God (Ayatollahy 2013, 115-116).

This objection can be answered by considering that there are two propositions must not be confused:

۱. the probability is epistemological. There is no probability, objectively, in the world.

۲. Since the probability is epistemological, it has no relation with the objective world.

The problem of the above argument is that the second proposition does not follow from the first one. though, as explained, there is no probability in the objective world, our knowledge is a means to disclose the reality. Our probabilistic argument is a mirror to show the objective world. The more likely an argument is, the more accurately the reality is revealed.

In the above example of the crash of a plane, if on intends to get on it, he should estimate whether it is reliable to get on or not. So, our estimation is a way to reveal the reality. Correspondingly, regarding the existence of God, we can count the degree of probability of existence of God by the calculus of probabilities to decide about our belief about reality of existence of God. Thus, the calculus of probabilities in all

cases, and particularly in the case of the existence of God, shows the reality and it is not just a practical and mental method lacking the objectivity.

٥,٢. **Non-Certainty of the Calculus of Probabilities**

The second objection is the contention that the calculus of probability, although would be used in sciences, is not a certain way. It, at most, establishes the validity of argument from design in the extent of a conjecture and guess. To prove the existence of God, there is need to a certain argument, while the argument from design based on calculus of probabilities does not give us this sureness (Javadi-Amoli ٢٠١١, ٢۴۵).

Two replied would be presented regarding the objections:

Firs, although the calculus of probabilities does not give us a *certain* knowledge of the world, it gives us an *almost certain* result and this kind of almost certain result would be rationally considered as acceptable and reasonable result.

Second, the usage of calculus of probabilities is to judge about two theories of chance and design. The expectation from this argument is not to give us a complete certain knowledge, but to give us the priority of theory of design over the theory of chance. However, the reason for this preference is not only subjective, but in reality, the probability of the need to a designer is more likely. Therefor although this method is not certain, it can be reasonable.

٥,٣. **Probabilistic Equality of Designed and Undesigned States**

The third objection alleges that the degree of probability of the designed and undefined states are equal, therefore there is no reason to prefer one of them. Suppose that there are one thousand states for one thing to occur, and among these thousand states, it is in one state ordered and arranged; and other states, which are nine hundred ninety-nine states, are unordered and undesigned. The question is that whether the probability of designed state is more than other states or not?

It was held that all states in calculus of probabilities are equal and therefore it is not usable and helpful in the arguments for the existence of God. Suppose that there are ten coins with numbers from one to ten. If you through them, it is much more unlikely that the numbers from one to ten respectively appears, and therefore this regular arrangement, would not be happened by chance; but in reality, the probability of all unordered states are equally low. i.e., If the probability of states of

throwing a dice is counted, all of them have the same probability. For example, if the probability of appearing the numbers *ten, eight, three, and so on,* I.e., an undesigned state, is one out of one thousand, the probability of appearing the *arranged numbers*, from one to ten, is also one out of one thousand. therefore, it would be concluded that if possibility of an ordered phenomenon is one out of a billion, all other unordered and undesigned states have the same probability. Consequently, the low possibility of ordered states is not the sign of the need to a designer, because these low possibilities also exist in all of the unordered states. (Javadi Amoli, 1390, p 32-33).

This argument seems flawed. It is clear that if the ordered and unordered states have the same improbability, then there is no need to a designer, but the point is that the probability of ordered and unordered states is not equal. The probability of unordered states is so high and the probability of ordered states is so low. The problem of the above argument is that it considers the states of appearing of each state *individually*, but to count the degree of probability of something, we should count the improbable states *together*. Suppose that there are one thousand possible states for a thing to appear meaningfully. In this instance, one cannot say that all states have the same probability, i.e., one out of one thousand, but rather it should be said that the probability of unordered states *altogether* is nine hundred ninety-nine and the probability of the ordered state is one out of thousand. In fact, if all ordered and unordered states are considered *together*, it could be concluded that the probability of ordered state is too low and therefore it need a designer who has arranged it. consequently, it can be concluded that the improbability of something to happen is a sufficient criterion for its need to a designer, but this improbability exists in the ordered and designed states just.

۵.۴. Calculus of Probabilities and Anthropic Principle

Some contemporary philosophers have endeavored to support the hypothesis of chance, instead of the need to a designer in unlikely events, by appealing to the so called "anthropic principle". The summary of this principle is that it is possible to recognize the existence of the order in the world, based on the calculus of probabilities, when there are many realized worlds and a person compares them and then recognizes that one of these worlds has order and the rest have no order, but with paying attention to the fact that humans have encountered only the existing world, they cannot make a judgment about the regularity of the world, because humans have only observed this world.; order is a

concept that humans have imposed to the world based on their observations, and it is not a real and objective reality. Order is a concept that humans have imposed on this world and is not related to the reality. The conclusion of the anthropic principle is that our world is not something astonishing and unlikely, to be in the need of a designer (John Borrow 1986, 2).
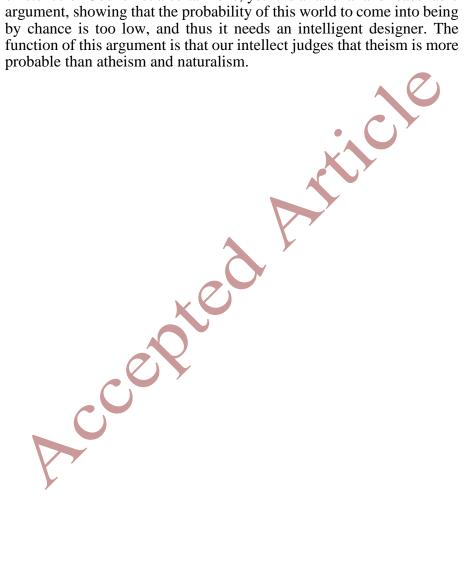
This argument seems flawed. The concept of "order" could be obtained by comparing the objects of the world. By comparing different objects, human being observes some as having order and some as having no order. Correspondingly, when a person observes the world, he realizes that this current world is designed to achieve some specific goals. For example, the parts of the human body achieve certain goals in terms of seeing, hearing, tasting, etc., or the system of plants provides their goals. Considering these instances, human being discovers that although he has only encountered this world and has not seen other worlds, this observable world has a real order that achieves certain goals. This order is not a concept imposed on the world, but a reality that would be discovered by observing the objects in the world and their relationships with other things in terms of achieving certain goals as a result of these relationships.

Using anthropic principle, one might criticize the argument from design, holding that the existence of all universes, our universe and other hypothetical irregular ones, is equally improbable. Thus, as wining a lottery does not need a designer, the order of this world does not need a designer. Although designed states are much less improbable to occur, they do not any designer, because there are some cases in which we see that improbable events realized without any need to a designer. Suppose a person participates in a lottery in which one million people have joined. In this lottery, the possibility of A to win is one out of million. If A wins the lottery, an improbable event has happened. But there is no need to any designer. In the lottery, improbable events happen merely randomly and it is the best example to show that improbable events could happen without any need to a designer. In other words, if all improbable events need a designer, so why, in cases like lottery, an improbable event occurs by chance? It demonstrates that improbable events could happen merely by chance.

It seems there is a fallacy here. The fallacy is that although winning in a lottery is improbable, but this improbability is for everyone. The improbability is the sign of existence of a designer in cases that one side is almost improbable and other side is very likely; but in the case of a lottery, wining is improbable for everyone and therefore it does not show the existence of a designer.

Conclusion

Though "probability" is something epistemological, it reveals the reality. The more likely a reason is, the more it shows the objective world. Considering this point, the probabilistic argument to prove the existence of God is not a certain one, yet it is a rational and reasonable argument, showing that the probability of this world to come into being by chance is too low, and thus it needs an intelligent designer. The function of this argument is that our intellect judges that theism is more probable than atheism and naturalism.

References

١. Ayatollahy, Hamidreza. 2013. *Contemporay Religious Studies A Critical Approach (in Farsi)*. Tehran Institute for Humanities & Cultural Studies

٢. Behe, Michael. 2006. *The Biochemical Challenge to Evolution*. London.

٣. Collins, Robin. 2004. "The Teleological Argument." In *Rationality of Theism*, edited by Pole Copan Paul Moser. London and New York: Routledge.

۴. Dawkins, Richard. 2006. *The God Delusion*. Bantam press: Sydney.

۵. Dembski, William. 2005. *The Design Inference Eliminating Chance through Small Probabilities*. New York: Cambridge.

۶. Evans, Stephen. 2010. *Natural Signs and Knowledge of God*. Oxford: USA.

٧. Gillies, Donald. 2006. *Philosophical Theories of Probability*. London and New York: Routledge.

٨. Hume, David. 2007. *Dialogues concerning Natural Religion*. UK: Cambridge

٩. Javadi-Amoli, Abdollah. 2011. *Explanation of the Arguments for God (in Farsi)*. Qom: Isra'.

١٠. John Borrow, Frank Tipler. 1986. *The Anthropic Cosmological Principle*. New York: Clarendon.

١١. Manson, Neil A. 2003. *God and Design* London and New York Routledge

١٢. Motahhari, Morteza. 2003. *Collection of the Works of Motahari (in Farsi)*. Sadra Tehran

١٣. Plantinga, Alvin. 2002. "The Evolutionary Argument against Naturalism " In *Naturalism Defeated*. New York: Cornell university.

١۴. Shahrazuri, Shams al-Din. 2004. *al-Shajarah al-Ilahiyyah (in Arabic)*. Tehran Iranian Research Institute of Philosophy.

١۵. Sobhani, Ja'far. 1991. *al-ilahiyat (in Arabic)*. Qom: al-Markaz al-Alami li-Derasat al-Islamiyah.

١۶. Suhrawardi, Shihab al-Din. 1996 *Mosannafat Sheykh Ishraq (in Arabic)*. Vol. ١. پژوهشگاه علوم انسانی و مطالعات فرهنگی و انجمن حکمت.

١٧. Swinburne, Richard. 2010. *Is There a God?* New York: Oxford