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A Critical Analysis of Cognitive Explanations of Belief in Afterlife

Ölüm Ötesi İnancının Bilişsel Açıklamalarının Eleştirel Bir Analizi

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A Critical Analysis of Cognitive Explanations of Belief in Afterlife

Abstract: The Cognitive Science of Religion (CSR) is a *scientific* approach to the study of religion that seeks to provide causal explanations of religious beliefs and practices. Proponents of CSR seek to explain the process of the formation, acceptance, transmission, and prevalence of religious beliefs by explaining the natural features of the human mind and how it functions. One of the religious beliefs that exists in all human cultures, and has attracted the attention of many CSR scholars in the last decade, is the belief in afterlife. According to CSR researchers, this belief is rooted in the natural structures of the human mind. They see the belief in life after death as a non-reflective or intuitive belief that results from the functioning of mental tools. They have proposed various theories to explain the formation, development, spread, and transmission of belief in life after death. But among these theories, two theories have been more widely accepted, *intuitive dualism theory* and *simulation constraint theory*. Intuitive dualism theory says that all humans have the two mental tools: Intuitive Biology and Intuitive Psychology. Intuitive Biology in the face of a dead person makes us believe that he is no longer alive because he cannot move and act. Intuitive Psychology continues to attribute invisible features (such as desires, thoughts, beliefs, and emotions) to the dead person automatically. The simultaneous functioning of the above two mental tools makes the human mind believe that a part of the dead person is immaterial and remains after the physical death. Simulation constraint theory says that all humans have the mental tools to process information from the environment and acquire religious beliefs. None of the mental tools can imagine or simulate the nonexistence of one's desires, thoughts, beliefs, and emotions. Therefore, the human mind in the face of the dead person, although easily imagining his physical death, continues to believe in the existence of another part of the person (thoughts, desires, etc.). Both of these theories seem to face challenges and limitations in explaining the formation of belief in afterlife. These include inability to provide causal explanation, the lack of distinction between the natural and the rational foundations of belief in afterlife and disregarding the supernatural foundations of the afterlife belief. Neither of the two theories seems to provide a sufficient causal explanation for the formation of belief in the afterlife. Both theories attempt to present a *possible story* about the formation of afterlife beliefs based on how mental tools function. They provide only a *reasonable story* of the process that has led to the belief in afterlife. What these two theories offer is a description (not causal explanation) of the human mind and its tools and how they function. This in itself does not explain that these tools have produced a belief in the afterlife. Therefore, the claim that belief in the afterlife is the result of the functioning of mental tools requires a causal relationship between mental tools and this belief. Neither of these two theories can explain this causal relationship, and they merely describe a reasonable story of the relationship between them. Furthermore, distinction between rational foundations of religious belief and natural foundations of religious belief shows that finding a *natural* origin for believing in the afterlife or describing the cognitive mechanisms associated with it does not in any way mean rejecting or discrediting that belief. Cognitive theories about the natural origins of the belief in the afterlife cannot show us whether this belief is rational or irrational. These explanations can only (if they can) show us the natural roots of the formation and prevalence of this belief. Also Religious belief is a complex notion. Firstly, it is a *natural* notion, in that sense it is rooted in the human nature and is related to human cognitive systems and mental tools. Secondly, it is a *cultural and social* notion, in that sense it is both influenced by cultural and social change, and also affects it. Thirdly, it is a *supernatural* notion, in that sense it is deeply connected with both revelation and prophecy, and with the immaterial aspect of human. Belief in afterlife seems to require all three levels of explanation.

Keywords: Cognitive Science of Religion, Religious Beliefs, Afterlife, Intuitive Dualism, Simulation Constraint.

Ölüm Ötesi İnancının Bilişsel Açıklamalarının Eleştirel Bir Analizi

Öz: Bilişsel Din Bilimi (CSR), dini inanç ve uygulamaların nedensel açıklamalarını sağlamayı amaçlayan din araştırmalarına bilimsel bir yaklaşımdır. CSR savunucuları, insan zihninin doğal özelliklerini ve nasıl işlediğini açıklayarak dini inançların oluşumu, kabulü, aktarımı ve yaygınlığı sürecini açıklamaya çalışırlar. Tüm insan kültürlerinde var olan ve son on yılda birçok CSR akademisyeninin dikkatini çeken dini inançlardan biri de öbür dünyaya olan inançtır. CSR araştırmacılarına göre, bu inanç, insan zihninin doğal yapılarına dayanmaktadır. Ölümünden sonraki hayata olan inancı, zihinsel araçların işleyişinden kaynaklanan, yansıtıcı olmayan veya sezgisel bir inanç olarak görürler. Ölümünden sonra hayata inancın oluşumunu, gelişimini, yayılmasını ve aktarılmasını açıklamak için çeşitli teoriler önerdiler. Ancak bu teoriler arasında, iki teori daha geniş kabul görmüştür, sezgisel düalizm teorisi ve simülasyon kısıtlama teorisi. Sezgisel düalizm teorisi, tüm insanların iki zihinsel araca sahip olduğunu söyler: Sezgisel Biyoloji ve Sezgisel Psikoloji. Sezgisel Biyoloji, ölü bir kişinin karşısına geçip hareket edemediği için artık hayatta olmadığına inanmamızı sağlar. Sezgisel Psikoloji, ölü kişiye otomatik olarak görünmez özellikleri (arzular, düşünceler, inançlar ve duygular gibi) atfetmeye devam eder. Yukarıdaki iki zihinsel aracın aynı anda işleyişi, insan zihnini ölü kişinin bir kısmının önemsiz olduğuna ve fiziksel ölümden sonra kaldığına inandırır. Simülasyon kısıtlama teorisi, tüm insanların çevreden gelen bilgileri işlemek ve dini inançlar edinmek için zihinsel araçlara sahip olduğunu söyler. Zihinsel araçların hiçbiri, kişinin arzularının, düşüncelerinin, inançlarının ve duygularının var olmadığını hayal edemez veya simüle edemez. Bu nedenle ölü kişinin karşısındaki insan zihni, fiziksel ölümünü kolayca hayal etmesine rağmen, kişinin başka bir bölümünün (düşünceler, arzular vb.) Varlığına inanmaya devam eder. Bu teorilerin her ikisi de, öbür dünyaya inancın oluşumunu açıklamada zorluklar ve sınırlamalarla karşı karşıya görünüyor. Bunlar arasında nedensel açıklama yapamama, ölümden sonraki hayata olan inancın doğal ve rasyonel temelleri arasındaki ayrım eksikliği ve öbür dünya inancının doğaüstü temellerini göz ardı etme yer alır. İki teoriden hiçbiri öbür dünyaya inancın oluşumu için yeterli nedensel açıklama sağlamıyor gibi görünmektedir. Her iki teori de zihinsel araçların nasıl işlediğine bağlı olarak öbür dünya inançlarının oluşumu hakkında olası bir hikaye sunmaya çalışır. Ölümünden sonraki hayata inanmaya yol açan sürecin yalnızca makul bir hikayesini sunarlar. Bu iki teorinin sunduğu şey, insan zihninin ve araçlarının ve bunların nasıl işlediğinin bir açıklamasıdır (nedensel açıklama değil). Bu, kendi başına, bu aletlerin öbür dünyaya bir inanç ürettiğini açıklamaz. Dolayısıyla ahirete olan inancın zihinsel araçların işleyişinin bir sonucu olduğu iddiası, zihinsel araçlar ile bu inanç arasında nedensel bir ilişki gerektirir. Bu iki teoriden hiçbiri bu nedensel ilişkiyi açıklayamaz ve yalnızca aralarındaki ilişkinin makul bir hikayesini açıklarlar. Dahası, dini inancın rasyonel temelleri ile dini inancın doğal temelleri arasındaki ayrım, ahirete inanmak veya onunla ilişkili bilişsel mekanizmaları tanımlamak için doğal bir köken bulmanın hiçbir şekilde bu inancı reddetmek veya itibarını sarsmak anlamına gelmediğini göstermektedir. Ahirete olan inancın doğal kökenleri hakkındaki bilişsel teoriler bize bu inancın rasyonel mi irrasyonel mi olduğunu gösteremez. Bu açıklamalar ancak (eğer yapabilirlerse) bize bu inancın oluşumunun ve yaygınlığının doğal köklerini gösterebilir. Ayrıca Dinsel inanç karmaşık bir kavramdır. Birincisi, doğal bir kavramdır, bu anlamda insan doğasına dayanır ve insanın bilişsel sistemleri ve zihinsel araçlarıyla ilgilidir. İkincisi, kültürel ve sosyal bir kavramdır, bu anlamda hem kültürel ve sosyal değişimden etkilenir hem de onu etkiler. Üçüncüsü, doğaüstü bir kavramdır, bu anlamda hem vahiy hem de kehanet ve insanın maddi olmayan yönüyle derinden bağlantılıdır. Öbür dünyaya inanç, her üç düzeyde açıklamayı gerektiriyor gibi görünüyor.

Anahtar Kelimeler: Bilişsel Din Bilimi, Dini İnançlar, Öbür Dünya/ Ahiret, Sezgisel İkilik, Simülasyon Kısıtı.

Introduction

Religious beliefs have been widespread in various human cultures and at all times, and all human cultures are engaged in activities called *religious*. Anthropologists believe that religions that share supernatural characteristics (such as belief in God, afterlife, the effect of prayer on the natural course of events, rituals, etc.) are found in almost all cultures on earth.¹ Excavations in archeology, sociological research and anthropology have shown this fact well.

Many disciplines, such as psychology, sociology, anthropology, etc., attempt to explain the formation and prevalence of religious beliefs. One of the new branches that has emerged in the last two decades is the Cognitive Science of Religion. The Cognitive Science of Religion (CSR) is a *scientific* approach to the study of religion that seeks to provide causal explanations of religious beliefs and practices. Proponents of CSR seek to explain the process of the formation, acceptance, transmission, and prevalence of religious beliefs by explaining the natural features of the human mind and how it functions. In fact, scholars of the CSR attempt to explain the widespread formation and prevalence of religious beliefs in various human cultures using the natural functioning of the human mind. In other words, scholars in this field attempt to explain religious beliefs as well as many religious activities of man by means of the basic cognitive structures that all humans possess.

One of the religious beliefs that exists in all human cultures, and has attracted the attention of many CSR scholars in the last decade, is the belief in afterlife. According to CSR researchers, this belief is rooted in the natural structures of the human mind. Much of CSR research to explore the natural foundations of belief in the afterlife in the last two decades has focused on how this belief is formed and developed in children. Jesse Bering is one of the leading researchers in this field who has done extensive research in this regard.² In one case, he and David Bjorklund, examined the natural foundations of this belief in children through experiments on children ages 4 to 12.³ Clark Barrett In his PHD thesis,⁴ and Virginia Slaughter et al.⁵ focus on the biological foundations of children's perceptions of death. Alice Lazar et al.⁶ show that children understand the concept of death from an early age and understand that death cannot be prevented. Paul Harris and Marta Gimenez,⁷ and Rita Astuti and Paul Harris⁸ also show that children have an aptitude for accepting the belief in afterlife at an early age. This research has been done mainly in the field of cognitive psychology and because it is re-

¹ Robin Henig, "Darwin's God", *New York Times* (March 2007)

² Jesse Bering, "Intuitive Conceptions of Dead Agents' Minds: The Natural Foundations of Afterlife Beliefs as Phenomenological Boundary", *Journal of Cognition and Culture* 2/4 (2002); Jesse Bering - David Bjorklund, "The Natural Emergence of Reasoning about the Afterlife as a Developmental Regularity", *Developmental Psychology* 40/2 (2004); Jesse Bering et al., " The development of afterlife beliefs in religiously and secularly schooled children", *British Journal of Developmental Psychology* 23/4 (2005); Jesse Bering, " The Cognitive Psychology of Belief in the Supernatural: Belief in a deity or an afterlife could be an evolutionarily advantageous by-product of people's ability to reason about the minds of others", *American Scientist* 94/2 (2006).

³ Jesse Bering - David Bjorklund, "The Natural Emergence of Reasoning about the Afterlife as a Developmental Regularity", *Developmental Psychology* 40/2 (2004)

⁴ Clark Barrett, *Human cognitive adaptations to predators and prey*, Unpublished doctoral dissertation (Santa Barbara, University of California, 1999)

⁵ Virginia Slaughter et al., "Constructing a coherent theory: Children's biological understanding of life and death", *Children's understanding of biology, health, and ethics*, ed. Siegal (Cambridge, Cambridge University Press, 1999), 71-96

⁶ Alice Lazar et al., " The development of the sub-concepts of death in young children: A short-term longitudinal study", *Child Development* 62 (1991), 1321-1333.

⁷ Paul Harris - Marta Gimenez, "Children's acceptance of conflicting testimony: the case of death", *Journal of Cognition and Culture* 5 (2005), 143-164

⁸ Rita Astuti - Paul Harris, "Understanding mortality and the life of the ancestors in rural Madagascar", *Cognitive Science* 32 (2008), 713-740

lated to religious beliefs, it has received serious attention by researchers in the cognitive sciences of religion. In cognitive anthropology, extensive research has been done on the natural foundations of belief in life after death, which has been considered by researchers in the cognitive sciences of religion. Emma Cohen⁹ and Rita Astuti¹⁰ are prominent researchers in this field.

CSR researchers have proposed various theories to explain the formation, development, spread, and transmission of belief in life after death. But among these theories, two theories have been more widely accepted. One of these theories is *intuitive dualism theory*. Researchers such as Paul Bloom¹¹, Pascal Boyer¹², Justin Barrett¹³, Emma Cohen¹⁴ and Rita Astuti¹⁵ defend this theory. In contrast, there is *simulation constraint theory*. Its most famous defender is Jesse Bering. Of course, there are two lesser-known theories in this area: *the imaginative obstacle theory*¹⁶ and *terror management theory*¹⁷. Our focus in this article will be on the *intuitive dualism theory* and *simulation constraint theory*, because of their prevalence among CSR researchers. Our purpose in this article is to show that these two theories face fundamental explanatory challenges and limitations. After extracting the main components of each of the two theories, we present four basic explanatory limitations that these two theories face.

1. Mental Tools

For the cognitive scientists, the human mind is not an integrated, general-purpose processing machine. Instead, the mind has numerous *proprietary tools* that each process specific information. These tools are called *mental tools*.¹⁸ The existence of these mental tools has been supported by research on the brain and behavioral sciences as well as evolutionary and developmental cognition.¹⁹ Accordingly, the human mind is designed with different subsystems (mental tools) that each have a specific task that is essential for the survival of our species. According to cognitive scientists, beliefs about the existence and properties of objects derive from these mental tools. The features of these mental tools are that they automatically and non-reflectively act on the input information to the mind and form beliefs called *non-reflective or intuitive beliefs*.²⁰ Hence, these mental tools are sometimes called *intuitive inference systems*.

For cognitive science researchers, these mental tools automatically and non-reflectively generate most of our beliefs about the natural and social worlds. As shown in Figure 1,

⁹ Emma Cohen – Justin Barrett, "When minds migrate: Conceptualizing spirit possession", *Journal of Cognition and Culture* 8 (2008), 23-48

¹⁰ Rita Astuti, "Are we natural dualists? A cognitive developmental approach", *The Journal of the Royal Anthropological Institute* 7 (2001), 429-447

¹¹ Paul Bloom, *Descartes' baby: How the science of child development explains what makes us human* (London, Arrow Books, 2004)

¹² Pascal Boyer, *Religion Explained: The Evolutionary Origins of Religious Thought* (New York, Basics Books, 2011)

¹³ Justin Barrett, *Why would anyone believe in god?* (Plymouth, AltaMira Press, 2004)

¹⁴ Cohen, "When minds migrate ..."

¹⁵ Astuti, "Are we natural dualists?"

¹⁶ Shaun Nichols, "Imagination and immortality: thinking of me", *Synthese* 159/2 (2007), 215-233.

¹⁷ Tom Pyszczynski et al., "Terrorism, Violence, and Hope for Peace: A Terror Management Perspective", *Current Directions in Psychological Science* 17/5 (2008), 318-322; Kenneth Vail et al., "A Terror Management Analysis of the Psychological Functions of Religion", *Personality and Social Psychology Review* 14/1 (2010), 84-94.

¹⁸ Justin Barrett, "Cognitive Science of Religion. What is it and why is it?", *Religion Compass* 1/6 (2007), 769

¹⁹ Justin Barrett, "Cognitive Science, Religion, and Theology", *Believing Primate*, ed. Jeffrey Schloss (New York, Oxford University Press, 2009), 79

²⁰ Barrett, *Cognitive Science*, 79

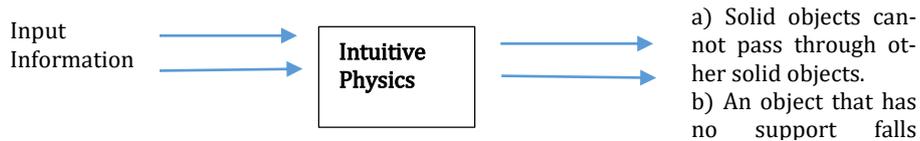
non-reflective (or intuitive) beliefs arise directly from the function of these mental tools on information input from the environment.

Figure 1: The Process of Forming Intuitive Beliefs



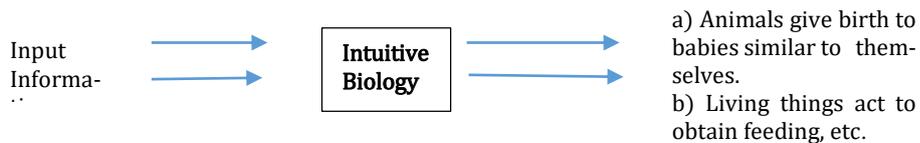
Intuitive beliefs are those beliefs that are not consciously acquired through thought and reflection but that our minds automatically produce at all times. These beliefs are not consciously evaluated or verified; they just seem *intuitive*.²¹ To clarify, let us look at some examples of these mental tools. For example, one of the mental tools is *Intuitive Physics* or *Folk Physics*. Intuitive Physics is a mental tool that produces beliefs about *how inanimate objects move*.²² You can see some outputs of this mental tool in Figure 2.

Figure 2: Intuitive Physics Mental Tool



It is clear that the outputs of this mental tool are non-reflective beliefs that all humans somehow believe in. Another example of mental tools is *Intuitive Biology*. Intuitive Biology is a tool that produces beliefs about *how living things develop and behave*. You can see some of its outputs in Figure 3.

Figure 3: Intuitive Biology Mental Tool

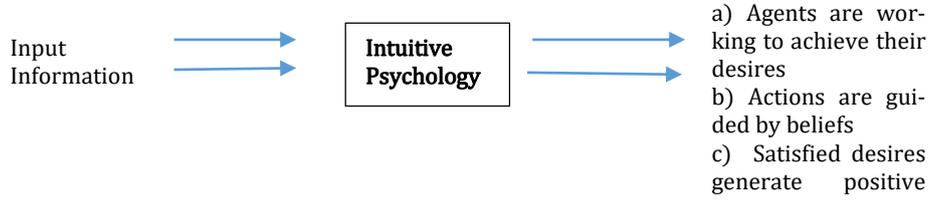


Intuitive Psychology is another mental tool that produces beliefs about *how intentional agents behave*. You can see some of its outputs in Figure 4.

²¹ Justin Barrett, *Cognitive Science, Religion and Theology* (USA, Templeton Press, 2011), 48

²² Helen De Cruz, "Cognitive Science of Religion and the Study of Theological Concepts", *Topoi*33 (2014), 489

Figure 4: Intuitive Psychology Mental Tool



For cognitive science researchers, these intuitive beliefs are not taught to children through explicit verbal instruction. Rather, all children in all times and in all cultures, rapidly and uniformly, acquire these beliefs for the sake of the human mind, and do not need any special environment or training or guidance to acquire it. Therefore, because intuitive beliefs are predominantly gauged in non-verbal terms, we have a considerable amount of information on children's intuitive beliefs. For example, by examining how children look at objects, we know that children intuitively believe that solid objects cannot pass directly through other solid objects. They also believe that unsupported objects fall. In addition, they believe that one inanimate object must be moved by another and cannot move at its own will whereas humans are not.²³

2. Belief in Afterlife

Empirical studies show that religion is present in all human societies and has been for tens of thousands of years.²⁴ What is noteworthy is that although religious traditions vary in different societies, there are considerable similarities in their religious beliefs. In all human cultures, for example, the belief in supernatural beings and the afterlife is widespread. CSR researchers believe that these broad similarities as well as the widespread prevalence of beliefs such as belief in supernatural beings and afterlife are rooted in common mental structures among humans. Accordingly, the cognitive architecture of the human mind has evolved to produce such beliefs automatically and non-reflectively. In other words, the functioning of mental tools in humans causes beliefs such as belief in supernatural beings and afterlife to be automatically and non-reflectively produced and transmitted from generation to generation.

In this article, we intend to examine the mental tools involved in the formation of afterlife beliefs and analyze the views of CSR researchers on how they function.

As mentioned, CSR researchers see the belief in life after death as a non-reflective or intuitive belief that results from the functioning of mental tools. Paul Bloom, Jesse Bering, Pascal Boyer, Justin Barrett, Emma Cohen and Rita Astuti are prominent CSR scholars who all support this approach.²⁵ But between them there are two different theories in explaining the formation of the belief in the afterlife based on how mental tools function. We will explain each of these two theories separately and then analyze them.

²³ Justin Barrett, "Cognitive Science, Religion, and Theology", *Believing Primate*, ed. Jeffrey Schloss (New York, Oxford University Press, 2009), 78-79

²⁴ Russell Powell and Steve Clarke, "Religion as an Evolutionary Byproduct: A Critique of the Standard Model", *British Journal Philosophy of Science* 63 (2012), 457

²⁵ Refer to footnotes 2, 11-15

2.1. The First Theory: Intuitive Dualism Theory

The first approach is the theory advocated by Bloom, Boyer, Barrett, Cohen, Astuti²⁶ and some other CSR researchers. We explain their theory in the light of Bloom's view because he is considered the most prominent defender of this theory. Bloom argues in his famous book *Descartes' baby* that humans are *intuitive dualists*, in the sense that they naturally believe that part of a person is immaterial (the soul) and can survive after the physical death.²⁷ His argument is based on the existence of two mental tools, *Intuitive Biology* and *Intuitive Psychology* in humans.²⁸ As we explained in the previous section, for CSR researchers, all humans have these two mental tools. Intuitive Biology produces beliefs about how living things develop and behave. It tells us that the living things moves and acts to obtain food. Intuitive Psychology, in contrast, produces beliefs about how intentional agents behave. This mental tool enables us to attribute invisible mental states such as beliefs, desires, and emotions to an intentional agent when seeking to explain his actions. When a human is confronted with a *living thing* that is dead (for example, a deer that was cut by a tiger), these two mental tools give us different intuitive beliefs. Intuitive Biology tells us that dead deer are no longer alive because they cannot move and act. But our Intuitive Psychology continues to automatically and unconsciously attribute beliefs, emotions, and desires to the dead deer. According to Bloom, the different functions of these two mental tools causes the human being to recognize the dead deer as a two-dimensional identity (body and soul) and to naturally believe that part of a person is immaterial (soul) and can survive after the physical death.

Boyer has a similar view. He regards belief in the afterlife as a by-product of the natural functioning of two separate operational units of the human mind, Intuitive Biology and Intuitive Psychology.²⁹ He believes that all humans have been equipped with these two mental tools during evolution. In his view, the belief in the afterlife is not a direct product of the function of either tool, but a by-product of the simultaneous operation of both tools. In other words, if humans had each of these two mental tools separately, the belief in afterlife would not have been formed in humans, but with the presence of these two mental tools and their simultaneous functioning, the belief in afterlife is produced in us.

While accepting Bloom's theory, De Cruz and Hodge argue that it is very difficult for the human mind to imagine a dead person completely without body. In other words, a *strong dualism* in the Cartesian sense that completely distinguishes mental states from the physical body and ultimately leads to the survival of the soul alone, is very difficult to process for the human mind. They, therefore, regard humans as *weak intuitive dualists*; that is, humans perceive people as a composite entity of mind and body that although both are ontologically distinct, they are both present in our conception of the personality of a person in the afterlife.³⁰ As a result, humans' belief in the afterlife that emphasizes the continuity of the soul also includes some physical elements, such as the body. De Cruz uses this bias of the human mind to explain why in most religions, Paradise has physical and material elements such as water gardens and trees intertwined.³¹ In his view, this weak intuitive dualism forces one to represent an image of the Hereafter and of Heaven in his mind that has both the material and spiritual elements at the same time. In other words, the human mind is incapable of imagining the Hereafter that one of these two elements alone has formed it.

²⁶ Refer to footnotes 11-15

²⁷ Paul Bloom, *Descartes' baby: How the science of child development explains what makes us human* (London, Arrow Books, 2004), 177

²⁸ Paul Bloom, "Religion is natural", *Developmental Science* 10 (2006), 8

²⁹ Pascal Boyer, *Religion Explained: The Evolutionary Origins of Religious Thought* (New York, Basics Books, 2011)

³⁰ Mitch Hodeg, "On imagining the afterlife", *Journal of Cognition and Culture* 11 (2011); Helen De Cruze, "Cognitive Science of Religion and the Study of Theological Concepts", *Topoi* 33 (2014)

³¹ Helen De Cruze, *Ibid.*, 490

In view of what we have said, the intuitive dualism theory can be summarized as follows:

- a) All humans have the two mental tools: Intuitive Biology and Intuitive Psychology.
- b) Intuitive Biology in the face of a dead person makes us believe that he is no longer alive because he cannot move and act.
- c) Intuitive Psychology continues to attribute invisible features (such as desires, thoughts, beliefs, and emotions) to the dead person automatically.
- d) The simultaneous functioning of the above two mental tools makes the human mind believe that a part of the dead person is immaterial and remains after the physical death.

2.2. The Second Theory: Simulation Constraint Theory

The second approach is the theory that Bering, Barrett, and some other CSR researchers advocate. We will explain this approach based on Bering's view. Bering considers the belief in afterlife among human beings an intuitive belief derived from the functioning of mental tools. But he offers a different explanation of how this belief was formed. In a well-known experiment, Bering et al. organized a puppet show for 4 to 12 year-old children in which a baby mouse is lost and faces crocodile.³² The narrators tell the children at the end of the show that the crocodile has eaten the baby mouse and the baby is no longer alive. After the show, they asked the children what the meaning of the phrase "baby mouse is no longer alive"? Is the baby mouse still hungry? Does he/she feel sleepy? Does he/she still want to go home? Does he/she still feel the nostalgia and the loss of her mother? Most children responded that baby mouse no longer needed food, water, or sleep. But most of them believed that the baby mouse was still *thinking, loving* his mother, and *wishes* to return home. The children knew that the baby mouse could no longer work and move, but they still thought there was something alive in the baby mouse. From this experiment, Bering concludes that the cognitive architecture of our minds has evolved in such a way that it has a strong tendency to believe in afterlife, even when there is no evidence of it. So far, Bering's experiment is in fact a confirmation of Bloom's theory that humans are intuitive dualists. Unlike Bloom, however, Bering does not see the root of this belief in the distinction between the two mental tools, namely Intuitive Psychology and Intuitive Biology. He believes that the root of this belief is the inability of our mental tools to simulate our *nonexistence* (thoughts, desires, beliefs, and emotions) and those we love.³³ His theory is called *simulation constraint theory*. For him, much of our relationship with ourselves and with those around us is produced by memories, dreams and so on. So, it is natural that after the death of the people we love, their existence will continue in our minds.

In fact, Bering believes that in the course of evolution, the human cognitive systems and mental tools have evolved in such a way that although one can imagine the absence of one's physical body, but cannot imagine or simulate the absence of one's feelings, desires, and beliefs. Accordingly, the mental tools cannot imagine what does lack of desires, thoughts, beliefs, and emotions look like?³⁴ Hence, Bering believes that all human beings are born with a strong tendency to believe in the afterlife. Through numerous experiments on children, he shows that as we get closer to childhood, this commitment to belief in afterlife is even stronger. After that, children fall into a particular culture, and their intuitive bias and tendency to believe in afterlife comes closer to the theological beliefs of that culture. In other

³² Jesse Bering and Katrina Mcleod and Todd Shackelford, "Reasoning about dead agents reveals possible adaptive trends", *Human Nature* 16 (2005)

³³ Jesse Bering, "Intuitive Conceptions of Dead Agents Minds: The Natural Foundations of Afterlife Beliefs as Phenomenological Boundary", *Journal of Cognition and Culture* 2 (2002)

³⁴ Jesse Bering and David Bjorklund, "The Natural Emergence of Reasoning about the Afterlife as a Developmental Regularity", *Developmental Psychology* 40 (2004)

words, all human beings are born with a strong tendency to believe in afterlife, but as they come within a particular culture and learn the teachings of that culture, they hold beliefs of the people of that culture about the afterlife.

We can summarize the *simulation constraint theory* as follows:

- a) All humans have the mental tools to process information from the environment and acquire religious beliefs.
- b) None of the mental tools can imagine or simulate the nonexistence of one's desires, thoughts, beliefs, and emotions.
- c) Therefore, the human mind in the face of the dead person, although easily imagining his physical death, continues to believe in the existence of another part of the person (thoughts, desires, etc.).

3. Explanatory Limitations and Challenges of Two Theories

After discussing the two main theories in the field of CSR regarding the formation of belief in afterlife, in this section we intend to examine the success of these two theories in explaining the formation of belief in afterlife. Both of these theories seem to face three challenges and limitations in explaining the formation of belief in afterlife. We will discuss and examine these challenges and limitations in the following.

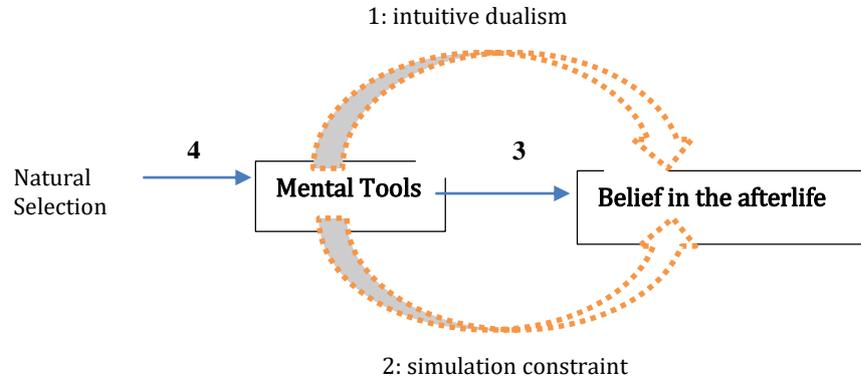
3.1. Inability to Provide Causal Explanation

Neither of the two theories seems to provide a sufficient causal explanation for the formation of belief in the afterlife. Both theories attempt to present a *possible story* about the formation of afterlife beliefs based on how mental tools function. They provide only a *reasonable story* of the process that has led to the belief in afterlife. In other words, they do not provide a causal relationship between the core elements of their theory and the belief in afterlife. The theory of intuitive dualism tells us that the formation of the belief in afterlife as a result of different functions of the two mental tools is possible and reasonable. This theory does not show a causal relationship between mental tools and belief in afterlife. The simulation constraint theory also faces this problem. It tells us that the formation of an afterlife belief is the result of the structural limitation of our mental tools for imagining nonexistent ourselves and those we love (emotions, wishes, etc.). It does not tell us what the causal relationship is between this structural constraint and the belief in afterlife.

As shown in Figure 5, two theories (paths 1 and 2) are two plausible paths that *describe* the relationship between mental tools and beliefs in the afterlife. Other plausible paths may also be provided by CSR researchers in the future. But for these paths to be the causal path (path 3) we are looking for; it needs an independent reason. The proponents of these two theories must show that their path is reasonable and probable, and it is the causal path between the mental tools and the belief in afterlife.

It may be said that empirical evidence and experiments show which of the two paths is justified. In response, the evidence and experiments presented by defenders of both theories only show that there is a particular tendency in human from early childhood to believe in the afterlife. They show no causal relationship between mental tools and such a belief. In addition, to many advocates of these two theories, mental tools have evolved in the course of evolution through the mechanism of natural selection. They need to show how the evolution of mental tools has led to the production of belief in the afterlife. In other words, they must also explain the relationship between evolution and natural selection with the production of mental tools (path 4).

Figure 5: Relationship Between Mental Tools and Afterlife Belief



Clark and Powell³⁵ argue that proponents of cognitive explanations of religious beliefs should show a causal connection between mental tools and their output beliefs. In their opinion "it is easy to claim that a particular aspect of religious belief or behavior is the product of a mental tool, but it is another thing to demonstrate an actual causal relationship."³⁶ Focusing on the function of the Hypersensitive Agency Detection Device (HADD), which CSR researchers believe is the most important mental tool that plays a key role in believing in supernatural identities, including God, they state that "suppose we can establish that the HADD exists. We know that people are disposed to believe in supernatural agents, and it might seem simple enough to attribute such beliefs to the activity of the HADD; but without making a credible case for the conclusion that the operation of the HADD actually causes people to believe in supernatural agents, we are not entitled to this inference."³⁷ In response to the question "How can we find evidence for this causal relationship?" Clark and Powell suggest two ways: "one possibility would be to test whether the degree of agency detection sensitivity correlates with strength of belief in supernatural agents. If the HADD causes belief in supernatural agents then, all things being equal, a particularly active HADD should cause more belief in supernatural agents than a less active one. Another possibility is to look for ways in which deficits in the function of the HADD might limit the types of supernatural agency attributed."³⁸ In the case of belief in afterlife, the two theories of intuitive dualism and simulation constraint face a similar challenge. What these two theories offer is a description (not causal explanation) of the human mind and its tools and how they function. This in itself does not explain that these tools have produced a belief in the afterlife. Therefore, the claim that belief in the afterlife is the result of the functioning of mental tools requires a causal relationship between mental tools and this belief. Neither of these two theories can explain this causal relationship, and they merely describe a reasonable story of the relationship between them.

3.2. The Natural and Rational Foundations of Afterlife Beliefs

When studying religious beliefs, we need to distinguish between two issues:³⁹

³⁵ Steve Clarke and Russell Power, "Religion as an Evolutionary Byproduct: A Critique of the Standard Model", *British Journal Philosophy of Science* 63 (2012)

³⁶ Clark and Powel, *ibid*, 469

³⁷ Clark and Powel, *ibid*, 469

³⁸ Clark and Powel, *ibid*, 470

³⁹ David Hume makes this distinction in his book *The Natural History of Religion*. David Hume, *Natural History of Religion* (California, Stanford University Press, 1956), 21

1. The rational foundations of religious belief
2. The natural foundations of religious belief

The first issue is an epistemological question that examines whether or not religious beliefs are justified: To what extent is *belief in the afterlife* justified? Or, what are the rational arguments for this belief? The second question, however, seeks to investigate the origin of such beliefs in human nature: What natural causes led human being to believe in the afterlife? Indeed, the second question seeks to provide causal explanations of the origin of religious beliefs.

Jeffrey Schloss⁴⁰ argue that the attempt to understand the rational and natural foundations of religious belief is not in itself new, but current research on religion is indeed quite new in at least two ways. First, current research focuses mainly on the second question, that is, it seeks the natural causes of religious beliefs rather than examining philosophical arguments in this regard. The second significant aspect of current theories is "that not only do they emphasize natural causes over reasons for religious belief, but also they understand the latter in terms of the former."⁴¹ For example, Daniel Dennett believe that "Everything we value—from sugar and sex and money to music and love and religion—we value for reasons. Lying behind, and distinct from, our reasons are evolutionary reasons, free-floating rationales that have been endorsed by natural selection."⁴² Some scholars working in CSR claim to have discovered the belief-producing tools shaped by evolution that are responsible for these kinds of religious beliefs. They go on to argue that these belief-producing tools are insensitive to religious facts (if they exist)⁴³. The term "insensitive" is meant that a belief formatting process does not follow the truth. It is not sensitive to the truth. According to this, mental tools "were not *designed* by evolution for the express purpose of tracking truth- instead they were tweaked for survival."⁴⁴ So, they conclude that religious beliefs are unjustified.⁴⁵

Paul Bloom and Pascal Boyer advocate a reductionist approach to CSR. Clark and Powell argue that Boyer and Clark seek to provide a reductionist evolutionary explanation of religion.⁴⁶ Bloom believes that "enthusiasm is building among scientists for the view that religion emerged not to serve a purpose—not as an opiate or a social glue—but by accident. It is a byproduct of biological adaptations gone awry."⁴⁷ For him the real cause for religious beliefs lies at the level of science studied by the cognitive and evolutionary sciences. Boyer has a similar view. For him "The explanation for religious beliefs and behaviors is to be found in the way all human minds work."⁴⁸

Distinction between rational foundations of religious belief and natural foundations of religious belief shows that finding a *natural* origin for believing in the afterlife or describing the cognitive mechanisms associated with it does not in any way mean rejecting or discrediting that belief. In many cases we look for the natural origin of a belief, for example looking for cognitive mechanisms or natural changes in the brain that show us how we perceive a tree or the sum of $2 + 2$. None of this effort means that the tree does not exist or that our perception of it is invalid. The same is true of religious beliefs. We need to distinguish between reasons for believing in religious beliefs and an explanatory view of why people believe in such beliefs. Cognitive theories about the natural origins of the belief in the afterlife cannot show us

⁴⁰ Jeffrey Schloss, "Introduction: Evolutionary Theories of Religion", *Believing Primate*, ed. Jeffrey Schloss (New York, Oxford University Press, 2009), 1-25

⁴¹ Jeffrey Schloss, *ibid*, 2

⁴² Daniel Dennett, *Breaking the Spell: Religion as a Natural Phenomenon* (New York, Viking Penguin, 2006), 93

⁴³ Daniel, Lim, "Cognitive Science of Religion and Folk Theistic Belief", *Zygon* 51/4 (2016), 950

⁴⁴ Daniel Lim, *ibid*, 951

⁴⁵ Daniel Lim, *ibid*, 950

⁴⁶ Clark and Powell, *ibid*, 460

⁴⁷ Paul Bloom, "Is God an accident?", *The Atlantic Monthly* (December 2005), 2

⁴⁸ Pascal Boyer, *Religion Explained*, 2

whether this belief is rational or irrational. These explanations can only (if they can) show us the natural roots of the formation and prevalence of this belief.

As James Van Slyke points out religious beliefs are "inherently multilevel, meaning that they rely on argumentation from multiple areas of knowledge, not just the empirical evidence offered by one level in the hierarchy of science. Thus, empirical evidence from the CSR is insufficient to simply eliminate a theological explanation of religion beliefs. Theology is one option that can offer a competing perspective on the interpretation of findings from the CSR."⁴⁹ He states that "the pairing of these [CSR] theories with causal reductionism in the CSR leads to distortions about the nature of human cognition and the causal explanation of religious beliefs."⁵⁰

3.3. The Supernatural Foundations of Belief in the Afterlife

Religious belief is a complex notion:

1. Firstly, it is a *natural* notion, in that sense it is rooted in the human nature and is related to human cognitive systems and mental tools.
2. Secondly, it is a *cultural and social* notion, in that sense it is both influenced by cultural and social change, and also affects it.
3. Thirdly, it is a *supernatural* notion, in that sense it is deeply connected with both revelation and prophecy, and with the immaterial aspect of human.

Belief in afterlife also seems to require all three levels of explanation. Accordingly, the belief in the afterlife is, on the one hand, supernatural notion in the sense that it is on the one hand connected with revelation and prophecy, and on the other, it has roots in the immaterial aspect of human (soul). Many prophets throughout history have expressed the principle of the afterlife for humans and explained the characteristics of such life. Undoubtedly, the role of the teachings of the prophets and their followers in shaping and spreading the belief in the afterlife in human societies cannot be forgotten.

On the other hand, belief in afterlife is rooted in the social and cultural structures of every society. Other beliefs that people in a society acquire and their form of life are involved in shaping their beliefs in the afterlife. At the third level, the belief in the afterlife is regarded as a belief rooted in the natural structures of the human mind. At this level of explanation, belief in the afterlife is seen as a natural belief rooted in the natural structures of the human mind and its evolution. It is only at this level that the studies of the cognitive sciences of religion address scientific research on how this belief is formed, reinforced, and transmitted in human societies. So it should be noted that trying to find the natural foundations of this belief does not mean denying other levels of explanation in this regard. In addition, it should be noted that providing a comprehensive explanation of the belief in the afterlife requires consideration of all three levels of explanation.

Some scholars working in CSR seek to eliminate explanations at other levels by providing natural explanations. For example, Paul Bloom, a prominent researcher in CSR, wrote in The Atlantic Monthly "Religious authorities and scholars are often motivated to explore and reach out to science ... They do this in part to make their world view more palatable to others, and in part because they are legitimately concerned about any clash with scientific findings. ... Scientific views would spread through religious communities. Supernatural beliefs would gradually disappear as the theologically correct version of a religion gradually became consistent with the secular world view."⁵¹ In contrast, some CSR researchers believe

⁴⁹ James Van Slyke, "Challenging the By-Product Theory of Religion in the Cognitive Science of Religion", *Theology and Science* 8/2 (2010), 164

⁵⁰ James Van Slyke, *ibid*, 165

⁵¹ Paul Bloom, "Is God an accident?", *The Atlantic Monthly* (December 2005)

that even if the CSR provides a complete explanation for our religious beliefs, "it only provides a (relatively) *proximate* explanation, not an *ultimate* explanation, of our religious beliefs."⁵² For example, Michael Murray write: "perhaps God set up our environment and the course of evolutionary history in such a way that we come to have cognitive tools that lead us to form beliefs in a supernatural reality. If that is the way things work, then my beliefs would have a connection, albeit an indirect one, to the target of the belief, and a connection of that sort would not undermine the justification of the belief."⁵³ Contrary to this approach, some other CSR researchers point out that many theists believe that "God and other supernatural agents can, and often do, interact directly with human beings."⁵⁴ A theist who accepts such an account will claim that "supernatural agents causally interact with the world and that supernatural agents can be, at least in certain circumstances, the direct (and most proximate) cause of a human being's forming certain religious beliefs."⁵⁵ For example, Robert Nola write: "why do people hold religious beliefs about the existence of divinities, spiritual entities or God(s)? One time-honored commonly adopted "folk" explanation, given by believers themselves and aided and abetted by theologians, takes at face value the existence and causal efficacy of divinities and gods in bringing about beliefs in them."⁵⁶ According to this view, supernatural agents have a direct causal impact on the formation of human religious beliefs.

Because researchers in the cognitive sciences of religion work on folk beliefs, they cannot forget that for most religious human being, supernatural agents play a key role in shaping their religious beliefs, including the belief in afterlife. Of course, this does not mean that our mental tools do not play a role in the formation of religious beliefs, but it seems that the explanation of religious beliefs due to their great complexity, need levels of explanation and reductionist approaches can't properly explain the formation and prevalence of these beliefs.

Conclusion

CSR researchers see the belief in the afterlife as a non-reflective or intuitive belief that results from the functioning of mental tools. Although they all agree on this principle, there are two distinct approaches to explaining the formation of beliefs in afterlife based on how mental tools function. The first theory (intuitive dualism) considers the belief in the afterlife as the product of the natural functioning of two separate units of the human mind, namely Intuitive Biology and Intuitive Psychology. But the second theory (simulation constraint) does not consider the root of this belief in the distinction between the two mental tools. Rather proponents of this theory believe that the root of this belief is the inability of our mental tools to simulate our nonexistence (thoughts, desires, beliefs, and emotions) and those we love. In this article, we show that the two theories, despite their differences, both face three challenges and limitations in explaining the belief in the afterlife. These include inability to provide causal explanation, the lack of distinction between the natural and the rational foundations of belief in afterlife and disregarding the supernatural foundations of the afterlife belief. The result is that while cognitive explanations show well that all human beings have a particular tendency to accept the belief in the afterlife, these explanations cannot provide all that is needed to explain this belief. To fully explain this belief requires attention to the role of supernatural and social elements in the formation of it.

⁵² Daniel Lim, *ibid*, 952

⁵³ Michael Murray, "Four Arguments that the Cognitive Psychology of Religion Undermines the Justification of Religious Belief", *The Evolution of Religion: Studies, Theories and Critiques*, ed. Joseph Bulbulia et. al (Santa Margarita, CA, Collins Foundation Press, 2008), 396

⁵⁴ Daniel Lim, *ibid*, 953-4

⁵⁵ Daniel Lim, *ibid*, 954

⁵⁶ Robert Nola, "Do Naturalistic Explanations of Religious Beliefs Debunk Religion?" *A New Science of Religion*, ed. Greg Dawes and James Mclaurin (New York, Routledge, 2013), 162

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