The Naturalness of Religion : What It Means and Why It Matters?

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The Naturalness of Religion: What It Means and Why It Matters

Summary: "Religion is natural" has become a common thesis in Cognitive Science of Religion (CSR). The claim, however, is often ambiguous. This paper seeks to clarify and evaluate the naturalness of religion thesis that flows from CSR theories pointing to the optimal compatibility between recurrent religious concepts and the ordinary operations of the human mind. For the naturalness thesis to be scientifically valid, some criteria for naturalness are needed. Robert McCauley has suggested four typical marks for natural cognitive systems, but his account suffers from the inability to point to any causal operations in human development responsible for the naturalness of religion. Even if naturalness is a problematic concept, the science behind it may nevertheless carry interesting implications. First, since Christian theologians have traditionally viewed man as naturally religious, CSR offers new material for theological considerations. Second, it may also help us make predictions about the future of religion. Third, it has been argued that the naturalness thesis offers support for freedom of religion.

Keywords: Cognitive Science of Religion, supernatural agency, Pascal Boyer, Justin Barrett, Robert McCauley

Zusammenfassung: „Religion ist natürlich" ist eine gängige These in der Kognitiven Religionswissenschaft (Cognitive Science of Religion, CSR) geworden. Die Behauptung ist allerdings oft wage. Dieser Beitrag versucht die aus der CSR kommende These über die Natürlichkeit der Religion, welche auf die Kompatibilität zwischen wiederkehrenden religiösen Konzepten und den gewöhnlichen Vorgängen des menschlichen Verstandes hinweist, zu verdeutlichen und zu evaluieren. Für die wissenschaftliche Anerkennung der Natürlichkeitsthese bedarf es bestimmter Kriterien von Natürlichkeit. Robert McCauley hat auf vier typische Kennzeichen für natürliche kognitive Systeme hingewiesen. Seiner Darstellung mangelt es allerdings daran auf kausale Zusammenhänge zur menschlichen Entwicklung hinzuweisen, welche für die Natürlichkeit der Religion zuständig

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sind. Doch selbst wenn die Natürlichkeit ein problematisches Konzept ist, dürfte die Wissenschaft dahinter interessante Implikationen tragen. Erstens, da christliche Theologen traditionell den Menschen als natürlich religiös ansehen, bietet CSR neues Material für theologische Überlegungen. Zweitens, kann es uns helfen Voraussagen über die Zukunft von Religion zu machen. Drittens, wurde argumentiert, dass die Natürlichkeitstheorie Religionsfreiheit unterstützen kann.

Schlüsselwörter: Kognitive Religionswissenschaft, übernatürliche Agenten, Pascal Boyer, Justin Barrett, Robert McCauley

Public debates focusing on some aspect of human culture and behavior often include claims about "naturalness". Whether the topic is monogamy, meat eating, breastfeeding, or some unusual sexual behavior, arguments about what is natural and what is not are likely to weigh in. Commonly naturalness is perceived as something positive, just like the statement "it is unnatural" has a (naturally) negative sound to it.

Claims about naturalness and human nature also feature in academic discussions on human behavior.[1] Many scholars writing in the field of Cognitive Science of Religion (CSR) maintain that religion is natural. CSR is a cross-disciplinary research program that studies the recurrent aspects of belief and behavior found in almost every religion.[2] Well-known works in the field include titles such as *The Naturalness of Religious Ideas, Why Religion is Natural and Science is Not*, *Is Religion Natural?* and *Born Believers*. However, despite the popularity of the naturalness of religion thesis, it is often unclear.

In this paper I will analyze what CSR scholars mean when they say religion is natural and the implications this thesis may have. I will begin by clarifying exactly what sort of naturalness, and in relation to which aspects of religion, scholars representing the "standard model" of CSR argue for (cognitive naturalness).[3] In the second section I will illuminate the concept of cognitive naturalness by providing a short overview of a few of the foundational theories in the field.

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1 See, e.g., Agustín Fuentes & Aku Visala: Conversations on Human Nature (Walnut Creek: Left Coast Press, 2016).

2 For introductions to CSR, see, e.g., Justin Barrett: Why Would Anyone Believe in God? (Lanham: Altamira Press, 2004). Aaron Smith: Thinking About Religion. Extending the Cognitive Science of Religion (Hampshire: Palgrave MacMillan, 2014).

3 The "standard model" differs from other evolutionary accounts of religion in that it views religion as a *by-product* of cognitive mechanisms naturally selected for other purposes, not as an evolutionary adaptation. However, this view is hardly the "standard" or the mainstream one any longer. The name "standard model" was first dubbed by Michael Murray & Andrew Goldberg, "Evolutionary Accounts of Religion: Explaining or Explaining Away?", in The Believing Primate:

After this, I will identify stronger and weaker versions of the naturalness thesis and show why the claim needs to be taken in a comparative sense (i.e., religion is more natural than, e.g., science). For the thesis to be a scientifically valid claim, some criteria for naturalness are needed. Therefore, in the following section I will focus on the four "marks" of cognitively natural human traits suggested by philosopher Robert McCauley.[4] Since McCauley's work presents one of the only serious attempts to flesh out the naturalness thesis, the problems with his account have consequences for the thesis in general. Finally, I will consider what implications the naturalness thesis may have for theological consideration on man's natural knowledge of God, for the future of religion, and for freedom of religion.

I In what sense is religion natural?

In their article *In What Sense Might Religion Be Natural?* Justin Barrett and Aku Visala identify four ways in which the concept of naturalness has been employed in recent literature.[5] First, in some works "natural" is presented as the opposite of supernatural. Barrett and Visala name this viewpoint the *ontological naturalness* of religion. This usage is common in atheistic critiques of religion, for instance, in Daniel Dennett's book *Breaking the Spell: Religion as a Natural Phenomenon.*[6] Since religions can be explained purely by reference to natural causes, there is nothing supernatural about them, or so the argument goes. CSR scholars rarely argue explicitly on these lines, although some works may imply that cognitive science shows religion to be natural and nothing but natural.[7]

Second, "religion is natural" may refer to *methodological naturalness.* This means that the methods of natural and behavioral sciences provide a legitimate approach for investigating religious belief and behavior. CSR scholars drawing from evolutionary biology and cognitive science certainly employ this approach, even if methodological naturalness is not what they usually mean by saying

Scientific, Philosophical, and Theological Reflections on the Origin of Religion, ed. by Jeffrey Schloss & Michael J. Murray (New York: Oxford University Press, 2009), 179–199.

4 Robert McCauley: Why Religion Is Natural and Science Is Not (New York: Oxford University Press, 2011).

5 Justin Barrett & Aku Visala, "In What Sense Might Religion Be Natural?", in The Naturalness of Belief: New Essays on Theism's Reasonability, ed. by Paul Copan & Charles Taliaferro (in press).

6 Daniel Dennett: Breaking the Spell: Religion as a Natural Phenomenon (London: Penquin, 2006).

7 See Jeffrey Schloss, "Evolutionary Theories of Religion: Science Unfettered or Naturalism Run Wild?", in Schloss & Murray (see above, n. 3), 1–25.

religion is natural. While few scientists and philosophers would contest this approach, many twentieth century scholars of religion have been uncomfortable with such "reductionism".[8] For instance, Clifford Geertz (1926–2006) famously argued that ideas and reasons that form the basis of human action are not subject to causal explanations. Scholars should aim to *understand* religion as a symbolic "web of meanings", not to engage in futile search for causal laws underlying human behavior. CSR writers disagree: religion can be explained in terms of mental representations (concepts, ideas, images, beliefs) that are susceptible to causal explanation, even if human behavior is not caused by laws similar to laws of nature.[9]

The third sense of naturalness is what Barrett and Visala call *cross-cultural naturalness*. According to this view, religion is natural because it is a central feature of all human cultures. Human environments are replete with religious stimuli, and through social learning new generations inherit the religious beliefs and behaviors of their community. This perspective has been emphasized in the social science of religion by scholars such as Emilé Durkheim (1858–1917) who explained the persistence of religion by its social function in maintaining group loyalty. Also recent evolutionary accounts of religion view religious behavior as a way to promote trust and cooperation within the group.[10]

The fourth type, *cognitive naturalness*, refers to the kinds of minds humans have. According to this view, we are not religious only because religion is all around us (as in the cross-cultural view), but religion is all around us because human minds have a preference for religious ideas. To differentiate cognitive naturalness from cross-cultural naturalness Barrett and Visala offer an analogy of minds as traps for cultural ideas: "Now, it is a fact that human minds are full of religious ideas. Our minds are, thus, catching religious rabbits instead of, let us say, scientific foxes. Like in the case of the rabbit trap, the explanation of this fact might be that there is something about our minds that dispose it to catch religious ideas (something about the trap) or that there is simply many religious ideas in our environment. In the former case, religion would be cognitively natural, that is, *our belief-forming mechanisms would be biased in such a way as to create a tendency or a disposition to acquire, think and transmit religious ideas instead of some other kinds of ideas*. In the latter case, religion would be cross-culturally

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8 See, e.g., Daniel Pals: Seven Theories of Religion (New York: Oxford University Press, 1999).

9 See Aku Visala: Naturalism, Theism, and the Cognitive Study of Religion: Religion Explained? (Farnham, Ashgate, 2011).

10 E.g., Richard Sosis, "Religious Behaviors, Badges, and Bans: Signaling Theory and the Evolution of Religion", in Where God and Science Meet. Volume 1: Evolution, Genes, and the Religious Brain, ed. by Patrick McNamara (Westport: Praeger Publishers 2006), 61–86.

natural, that is, most, if not all, human cultures would be proliferated with religious stimuli (including testimony, ritual, etc.)."[11]

The concept of cognitive naturalness captures well the idea that is put forward by scholars such as Scott Atran, Justin Barrett, Pascal Boyer, Robert McCauley, Ilkka Pyysiäinen, along with other CSR writers. It should be noted that CSR is not an attempt to explain everything under the label "religion". Hence, not every religious belief or practice is claimed to be natural. In fact, Many CSR scholars resist defining religion altogether. Although famous scholars of religion such as Mircea Eliade and Rudolph Otto claimed that religion has an essence, such as the *sacred* or the *holy*, from a cognitive perspective the category of religion does not pick out any single entity that is "out there" to be explained.[12] Rather, "religion" is an imprecise category consisting of multiple representations, concepts, events and activities. Instead of defining religion, many CSR writers favor a "piecemeal approach", which means "identifying human thought or behavioral pattern that might count as 'religious' and then trying to explain why those patters are cross-culturally recurrent".[13]

What is it about religion that is natural, then? CSR is interested in recurrent features of popular religion rather than in theological systems that incorporate the reflective work of religious sages through the ages. Common religious beliefs and behaviors are almost always connected to the idea of supernatural agency.[14] As Scott Atran puts it, "Supernatural agency is the most culturally recurrent, cognitively relevant, and evolutionarily compelling concept in religion".[15] Ideas of supernatural agency show up whether scholars are looking at religious practices such as rituals,[16] or common beliefs such as belief in immaterial and immortal souls and the afterlife,[17] in the purposefulness and the "intelligent

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11 Barrett & Visala (see above, n. 5), 2–3. Italics mine.

12 Visala (see above, n. 9), 27–28.

13 Justin Barrett, "Cognitive Science of Religion: What is It and Why is It?", in Religion Compass 1 (2007), 768–786.

14 Despite the common idea that Buddhists have no gods, even Buddhism has no lack of supernatural agents, and Buddhas are frequently attributed supernatural features such as omniscience. See Ilkka Pyysiäinen: Supernatural Agents: Why We Believe in Souls, Gods, and Buddhas (Oxford: Oxford University Press, 2009).

15 Scott Atran: In Gods We Trust. The Evolutionary Landscape of Religion (Oxford: Oxford University Press), 57.

16 E.g., Candace S. Alcorta & Richard Sosis, "Ritual, Emotion, and Sacred Symbols: The Evolution of Religion as an Adaptive Complex", in Human Nature 16 (2005), 323–359.

17 E.g., Paul Bloom, "Religion Is Natural", in Developmental Science 10 (2007), 147–151. Idem.: Descartes' Baby: How the Science of Child Development Explains What It Means to Be a Human (London: Heinemann, 2004).

design" of the natural world,[18] or in the moral nature of the universe where bad behavior invites bad consequences in this life or after it.[19] In CSR, a supernatural agent or "god" may refer to any counterintuitive, intentional, and active agent that a group of people believes in and that can (at least in principle) be detected by them.[20] Hence, ancestor spirits, fertility goddesses, angels and demons count as well as Yahweh or Allah or Shiva. However, the absent divinity of Deism or theologian Paul Tillich's "ground of being" are not gods in the CSR sense. Gods are interfering agents, not causally impotent abstractions.

II What makes religion natural?

For a closer look at the cognitive naturalness of religion, let us consider some key theories in the works of Pascal Boyer and Justin Barrett that have been foundational for CSR. Boyer has sought to explain *why religious ideas are more widespread than many other kinds of ideas*.[21] He notes that anthropologists often falsely assume that people's minds are "blank slates" with "vast empty space" ready to be filled by any ideas that education, culture, and personal experience provide.[22] Against this, Boyer argues that our minds are not attentive to any information whatsoever. Analogously to natural evolution, our minds select certain cultural inputs with a higher frequency than others.[23] Just like people remember only some melodies really well, some cultural representations are more "catchy" than others.

According to Boyer, religious representations are easy to acquire, entertain, and transmit (and are widespread) because they are *minimally counterintuitive*

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18 E.g., Deborah Kelemen & Cara DiYanni, "Intuitions About Origins: Purpose and Intelligent Design in Children's Reasoning About Nature", in Journal of Cognition and Development 6 (2005), 3–31. Deborah Kelemen & Evelyn Rossett, "The Human Function Compunction: Teleological Explanation in Adults", in Cognition 111 (2009), 138–143.

19 Dominic Johnson: God Is Watching You. How the Fear of God Makes Us Human (Oxford: Oxford University Press, 2016).

20 Justin Barrett, Cognitive Science, Religion, and Theology: From Human Minds to Divine Minds (West Conshohocken: Templeton Press, 2011), 97.

21 See Pascal Boyer: Religion Explained: The Evolutionary Origins of Religious Thought (New York: Basic Books, 2001).

22 Boyer (see above, n. 21), 3. Criticism of the "blank slate" view of the mind in social science has been a central tenet of evolutionary psychology. See, e.g., Steven Pinker, The Blank Slate. The Modern Denial of Human Nature (London: Penquin, 2002).

23 Boyer's theory is largely based on Dan Sperber's work on the *epidemiology of representations*. See, e.g., Dan Sperber: Explaining Culture: A Naturalistic Approach (Oxford: Blackwell, 1996).

(MCI).[24] To understand this notion, consider the two primary ways we form beliefs: intuition and reflection.[25] When we talk about someone believing something, we usually mean reflective beliefs. The more a belief is the result of deliberate and careful thinking and is held explicitly and consciously, the more reflective it is. Intuitive beliefs, however, spring up quickly and spontaneously, and we are usually not aware of having them. Our minds populate lots of unrecognized, tacit beliefs about objects in our environment. Boyer draws attention to intuitive beliefs that pertain to the way we view the world around us in terms of ontological categories such as objects, plants, animals, and persons. Counterintuitive ideas are ones that *violate* this natural way of thinking about things in our environment. For instance, we intuitively attribute material and biological features to all things in the category of persons. But gods, ghosts, and ancestor spirits seem to be persons that do not have material bodies or biological functions. Hence, these supernatural agent concepts violate our intuitive ontology. Violations of ontological expectations, Boyer argues, are the hallmark of religious ideas.[26]

It is not obvious why counterintuitive ideas would become widespread, because whatever runs counter to intuition is hard to swallow. However, a violation can also make an idea attention-grabbing and interesting. A zombie is a person lacking awareness, and this is probably why *The Walking Dead* is such a popular TV show (who would be excited to watch *The Walking Living*?). Importantly, the idea of an immaterial person includes only a single violation. While one violation makes an idea interesting, several would make it messy and hard to recall. Popular religious ideas typically include only a single violation or a *transfer* from one category to another, such as in the case of an object that has psychological abilities (e.g., a statue that hears prayers). This makes them salient, attention-grabbing, but also easy to recall and communicate – more so than simply intuitive or highly counterintuitive concepts.

But Boyer's theory does not sufficiently explain *what makes religious concepts plausible so that people are prone to seriously believe in gods*? After all, zombies are minimally counterintuitive and popular characters, but few believe they really exist. Here I have no room to address this so-called Mickey Mouse problem (i.e., what differentiates the MCI agents that many people hold to be real from the ones

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24 For an overview of Boyer's theory, see Sᴍɪᴛʜ (see above, n. 2), 43–48.
25 See, e.g., Daniel Kᴀʜɴᴇᴍᴀɴ: Thinking, Fast and Slow (London: Penquin, 2011).
26 Unlike Boyer, Barrett believes that the concept of a disembodied god may actually be a highly intuitive notion, not a counterintuitive one. See Justin Bᴀʀʀᴇᴛᴛ: Born Believers. The Science of Children's Religious Belief (New York: Free Press, 2012).

we all hold to be just cultural inventions).[27] In the case of supernatural agent concepts, however, Justin Barrett has highlighted the importance of two cognitive systems or "mental tools" that appear also in most standard CSR accounts.[28] The first one is called the Hyperactive Agency Detection Device or HADD. Because of HADD, we easily and quickly detect signals in our environment that might be caused by an agent. A rustling bush, a sound in the wind, or traces in snow cause us to look around to see if there is an animal or a human we should be aware of. Spotting other humans and especially animals (e.g., predators and prey) has been indispensable for the survival of our ancestors. Therefore, HADD is "hyperactive" in the sense that it often causes false alarms on the basis of ambiguous evidence (just like smoke detectors). The benefit of this is that in the case of a false positive, we do not lose much, but failing to spot a predator could be lethal.

HADD is closely connected to a second mechanism called the Theory of Mind or ToM. ToM is specialized in "mindreading": it perceives intentionality and automatically produces inferences about the mental states of other agents. It helps us to fluently navigate our social environment where a tone of voice, a facial expression , or an emoticon in a text message might reveal something important about someone's intentions, emotions, beliefs, and desires. Importantly, these trigger-happy mechanisms do not only produce intuitions about the presence and mental states of other people and animals; they also reinforce beliefs in and about invisible supernatural agents that we have learned about through culture. In a sense, then, our natural cognitive systems support ideas of supernatural agents with a feeling of plausibility. This also shows how in the CSR standard model, religion is not an evolutionary adaptation in itself, but a by-product of mental tools such as HADD and ToM that have evolved for spotting natural agents.

However, this still leaves open the question of *why are people so committed to worshipping gods and following religious rules*? For instance, people believe in the reality of angels, but rarely organize their lives around them. Also, in many instances where HADD causes a false positive, we soon realize it was a false alarm ("it was just the wind"). CSR writers emphasize that an important reason why people are so devoted to supernatural agents is that these ideas help us to make sense out of and to deal with existentially relevant phenomena, such as morality and misfortune, sickness and death.[29] In traditional cultures, health and disease,

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27 See, e.g., Will M. Gervais, Aiyana K. Willard, Ara Norenzayan and Joseph Henrich, "The Cultural Transmission of Faith: Why Innate Intuitions Are Necessary, But Insufficient, To Explain Religious Belief", in Religion 41 (2011), 389–410.

28 Barrett (see above, n. 2). See also, e.g., McCauley (see above, n. 4); Pyysiäinen (see above, n. 14).

29 Ibid, (see above, n. 2), 45–60. Boyer (see above, n. 21), 169–228.

fertility and infertility, and changes in crop yield are often explained by reference to agents with superpowers and a full access to strategic information (e.g., about people's true intentions and motivations). These kinds of existential matters are also emotionally loaded, and hence religion taps into our emotional resources.[30] Also believers in modern Western societies who live relatively secure lives interpret certain experiences as cases of divine providence or communication.[31] Even nonreligious people may refer to "pseudoagents" such as Fate or Destiny in making sense of existentially meaningful events.[32]

   What is the evidence for all of this?, one may ask. Barrett suggests that if some feature of cognition is truly natural, we would expect to find three kinds of evidence.[33] First, there should be cross-cultural evidence that the feature is ubiquitous among human populations. Second, there should be evidence of it showing up early in human development. Third, species-comparative and archaeological evidence should indicate that the capacities in question (such as ToM) have risen early in human evolution. The naturalness of religion thesis seems to gain support especially from cultural anthropology and developmental psychology. In his book *Born Believers,* Barrett presents evidence for the following claims:[34] (i) From infancy, people easily differentiate agents from other objects and understand well how they behave; (ii) children and adults fluently attribute agency and mentality even to objects that do not resemble humans (e.g., geometric figures moving non-randomly); (iii) agents need not be visible to be very real (e.g., over 40 percent of children have imaginary friends); (iv) young children attribute superpowers and super-knowledge to agents such as human adults; (v) people have an inclination to search for "hidden" agents in their environment; (vi) people are prone to postulate nonhuman agency and intention behind the natural world and its objects as well as certain attention-grabbing events (e.g., natural events such as thunderstorms and shooting stars). These results lead Barrett to argue that there is something very natural about believing in a super-knowing, super-powerful, all-good, eternally existing creator God. He calls it

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30 See ATRAN (see above, n. 15).

31 E.g., Konika BANERJEE & Paul BLOOM, "Why Did This Happen to Me? Religious Believers' and Non-believers' Teleological Reasoning About Life Events", in Cognition 133 (2014), 277–303. Bethany HEYWOOD & Jesse M. BERING, "'Meant To Be': How Religious Beliefs and Cultural Religiosity Affect the Implicit Bias to Think Teleologically", in Religion, Belief, and Behavior 4 (2013), 183–201.

32 BARRETT (see above, n. 26), 212–216.

33 Justin BARRETT, "The Naturalness of Religion and the Unnaturalness of Theology", in Is Religion Natural? ed. by Dirk EVERS & Michael FULLER & Antje JACKELEN & Taede A. SMEDES (London: T & T Clark, 2012), 3–24.

34 BARRETT (see above, n. 26).

"natural religion": god-belief is a "cognitive default" for all neurotypical children raised in a normal human environment.[35]

III How natural is religion? Compared to what?

Not all scholars make equally strong claims about the naturalness of religion. Helen De Cruz and Johan De Smedt identify three levels of the claim in recent literature.[36] Boyer presents his case in relatively modest terms: religious beliefs are *easily acquired* in relation to many other kinds of beliefs because they sit nicely on our cognitive structures. Indeed, Boyer does not think, for instance, that people are born with implanted notions of gods and spirits in their heads; rather "they get that from other people, from hearing what they say and observing how they behave."[37] A somewhat stronger way to present the naturalness thesis is to say that humans are *predisposed* to believe in supernatural agents. De Cruz and De Smedt rightly attribute this view to Barrett. As he himself puts it, "Children's minds are naturally tuned up to believe in gods generally, and perhaps God in particular".[38] However, also Barrett assumes that children need to hear about gods before they can believe in them. But De Cruz and De Smedt identify a yet stronger version of the naturalness thesis, which in their words states that, "Religious concepts such as ghosts and punishing deities *emerge spontaneously* from the innate structure of our minds and that such concepts require only modest, if any, cultural input".[39] These observations suggest that CSR writers are divided over questions on the amount of cultural input needed for belief, although to some extent the apparent differences may be due to the terminology the writers apply. De Cruz and De Smedt themselves are critical of strong claims to naturalness and argue that "there is little empirical support for the widespread idea that appeal to supernatural entities is the cognitive default".[40] By their lights,

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35 People with autism are less susceptible to belief in supernatural agency. The common explanation for this is that their ToM is not functioning normally. See, e.g., Ara Norenzayan, Will Gervais & Kali H. Trzesniewski, "Mentalizing Deficits Constrain Belief in a Personal God", in PLoS ONE 7 (2012).
36 Helen De Cruz & Johan De Smedt: Natural History of Natural Theology: The Cognitive Science of Theology and Philosophy of Religion (Cambridge: MIT Press, 2015), 31.
37 Boyer (see above, n. 21), 237.
38 Barrett (see above, n. 26), 4.
39 A view attributed to Jesse Bering. See, e.g., Jesse Bering, "The Folk Psychology of Souls", in Behavioral and Brain Sciences 29 (2006), 453–498.
40 De Cruz & De Smedt (see above, n. 36), 38.

cultural exposure to religion plays a more prominent role than scholars like Barrett think.

De Cruz and De Smedt also argue that we cannot draw a categorical distinction between natural and non-natural.[41] However, it seems that even if a qualitative distinction is hard to make, a quantitative distinction is feasible. In fact, "religion is natural" ought to be taken as a comparative claim (more/less rather than is/is-not). For instance, Barrett asserts that popular conceptions of god are more natural than atheism "in a comparable respect".[42] While religion grows in the kinds of human environments that have historically been the norm, atheism requires "special cultural conditions that upset ordinary function, cognitive effort, or a good degree of cultural scaffolding". Interestingly, these conditions are found, for example, from safe European countries where people are able to exercise much control over their own lives.[43]

Likewise, despite the clear-cut title of his book *Why Religion Is Natural and Science Is Not*, Robert McCauley insists that his "claims about the cognitive naturalness or unnaturalness of some capacity or activity are always intended to be comparative".[44]

McCauley contrasts religion to science.[45] First, he argues that science depends on cognitively unnatural *processes* that take special skill to master, such as discerning what kind of evidence to look for and the ability to analyze and assess it. Although infants already seek explanations and new experiences change their expectations, people also naturally fall prey to confirmation bias, motivated perception, and other fallible heuristics of reasoning that scientists are trained to avoid. Second, the *products* of science are often very counterintuitive. For instance, heliocentrism and the germ theory of disease were very hard for people to swallow at first. Especially the cornerstones of modern physics – relativity theory and quantum mechanics – "envision a world that is overwhelmingly incompatible with our common sense conceptions of space and time and matter".[46] In addition, Darwin's theory of evolution through natural selection has to battle against our essentialist intuition that species are more or less fixed and the intuition that only agents can bring about order. In fact, it has been shown that

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41 Ibid., (see above, n. 36), 39.

42 Justin BARRETT, "The Relative Unnaturalness of Atheism: On Why Geertz and Markússon are Both Right and Wrong", in Religion 40 (169–172), 169.

43 BARRETT (see above, n. 26), 207–212.

44 McCAULEY (see above, n. 4), 101.

45 Ibid., (see above, n. 4), 83–143.

46 Ibid., (see above, n. 4), 109.

creationism and teleological versions of evolution such as Lamarckianism are more intuitive options than Darwinism.[47]

In a similar vein, Barrett argues that theology is less natural than religion.[48] Just like science, academic theology is a relatively recent phenomenon in the history of humanity and it depends on special skills such as writing and reading. It also requires explicit teaching and learning (at which some people are much better than others) as well as conscious reflection. Like many scientific theories, products of theology can also be highly counterintuitive. The idea of an omnipresent Trinitarian deity that determines absolutely every event in the universe may be part of classical Christian theism, but devoted Christians hardly think god in these terms in their everyday life.[49] For this reason, in experimental settings religious people display crudely anthropomorphic and "theologically incorrect" ideas about god despite their explicit claim of being committed to theologically sound views. But since theologically dubious god-concepts require much less cognitive labor and cultural scaffolding, people seem to be "born idolaters" rather than "born believers".[50]

IV Are there any criteria for naturalness?

If the naturalness of religion thesis is supposed to be anything like a scientific claim, some criteria of naturalness are needed. Such criteria can, in fact, be found in Robert McCauley's book *Why Religion is Natural and Science is Not*, which has been acclaimed as "the most thorough articulation of the naturalness thesis" to date.[51] McCauley talks about *maturational naturalness*, highlighting the idea that certain abilities, such as walking, result from normal human development. Maturational naturalness is differentiated from *practiced naturalness*, which refers to culturally specific abilities such as cycling, abilities that we handle fluently only after a period of conscious, effortful practice.

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47 E.g., Margaret E. Evans, "Cognitive and Contextual Factors in the Emergence of Diverse Belief Systems: Creation versus Evolution", in Cognitive Psychology 42 (2001), 217–266.

48 Barrett (see above, n. 33).

49 See D. Jason Slone: Theological Incorrectness: Why Religious People Believe What They Shouldn't (Oxford: Oxford University Press).

50 See Jonathan Jong, Christopher Kavanagh & Aku Visala, "Born idolaters: The Limits of the Philosophical Implications of the Cognitive Science of Religion", in NZSTh 52 (244–266).

51 Richard Sosis, Wesley Wildman & Patrick McNamara, "On the Naturalness of Religion", in Religion, Brain & Behavior 3 (2013), 89–90.

McCauley (2011, 37) offers four typical "marks" for maturationally natural cognitive systems such as HADD and ToM.[52] First, they "operate unconsciously, and their signals arrive to consciousness automatically and unreflectively". Second, most (but not all) maturationally natural systems begin functioning early in life (and are usually in place by the fifth birthday). Third, they are designed for "fundamental cognitive challenges" that humans face and they "address problems that are elemental in human survival". Fourth, the operations of these systems "do not depend on anything that is culturally distinctive -not on instruction, or on structured preparations, or on artifacts".

This attempt to make the naturalness claim more robust has not escaped the criticism even of those in favor of CSR.[53] Here I will concentrate on a general problem harking back to old controversies about nature and nurture. Jonathan Jong and Aku Visala see McCauley's use of the term "natural" as an attempt to escape the conceptual problems surrounding the term "innate".[54] Gregory Peterson observers that, "The term 'natural' in debates on human nature have a long association with claims about innateness and genetic dispositions, and McCauley has put himself in a position where he has to continually remind his audience that this is not what he means by natural at all."[55]

What exactly is the problem with "innateness" that may motivate McCauley to distance himself from this concept? Many biologists, psychologists, and philosophers think innateness is a scientifically bankrupt notion.[56] First of all, it does not identify any single theoretically useful property of a biological or cognitive trait, but rather conflates a number of distinct properties.[57] A trait may be said to be innate by virtue of not being learned, having a genetic origin, being heritable, or being developmentally robust. Even these property descriptions may mean different things in different contexts. A second problem is that the demarcation line between innate and non-innate is arbitrary and scientifically useless. Mameli and Bateson list 27 possible meanings of "innateness" and find all of them unsatisfactory.[58] For instance, innateness cannot be equated with genetic deter-

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52 McCauley (see above, n. 4), 37.

53 See the book symposium in Religion, Brain, and Behavior 3 (2013), 119–182.

54 Jonathan Jong & Aku Visala, "Three Quests for Human Nature: Some Philosophical Reflections", in Philosophy, Theology and the Sciences 1 (2014), 146–171.

55 Gregory R. Peterson, "On McCauley's Why Religion Is Natural and Science Is Not: Some Further Observations", in Zygon 49 (2014), 716–727.

56 See, e.g., Fuentes & Visala (see above, n. 1).

57 Matteo Mameli & Patrick Bateson, "An Evaluation of the Concept of Innateness", in Philosophical Transactions of the Royal Society B 366 (2011), 436–443.

58 Matteo Mameli & Patrick Bateson, "Innateness and the Sciences", in Biology and Philosophy 21 (2006), 155–188.

minacy, since every human trait is partly genetic but no trait is purely genetic. We may wish to say that certain traits are more genetic and therefore more innate whereas some other traits depend more on environmental conditions. But there is apparently no scientific way of measuring the genetic and environmental inputs of any given trait.[59] For these sorts of reasons many scholars have concluded that innateness is a pre-scientific concept, a folk-psychological idea such as "instinct".[60]

Despite its bad reputation, innateness has been a popular notion in Evolutionary Psychology, a controversial field that has had a lot of influence on CSR.[61] In fact, Jong and Visala think that McCauley's concept of naturalness sounds very much like the concept of innateness employed by evolutionary psychologists, who "seek out traits that develop cross-culturally in much the same way despite the variance in and paucity of post-natal environmental inputs".[62] Jong and Visala are especially critical about McCauley's fourth mark, which is "vague at best, and at worst a sneaky attempt to circumvent talk of genetic causation by denying the causal role of 'culturally distinctive' factors". By their lights, the most generous interpretation of the fourth mark is that the operations of maturationally natural cognitive systems do not require learning. However, since everything is more or less learned (just like everything is more or less genetic), this interpretation does not help.

Therefore, an important problem with McCauley's account of naturalness is this. The idea of a maturationally natural trait implies a causal mechanism that factors in the normal development of a human person and gives rise to the trait. But McCauley does not identify such causal mechanism. Perhaps McCauley might insist that it is enough to point out that certain cognitive systems develop in a robust fashion among human species around the world (the fourth mark). But in so doing he would be pointing to something else than causality, to a lack of cultural variation. In this case Jong and Visala would recommend employing biologist C. H. Waddington's notion of "developmental canalization".[63] Unlike "innateness" or "naturalness", this concept does not confuse *analysis of variance* with *analysis of causation*. Should we then take "religion is natural" to mean that

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59 Petri Yʟɪᴋᴏsᴋɪ & Tomi Kᴏᴋᴋᴏɴᴇɴ: Evoluutio ja ihmisluonto (Helsinki: Gaudeamus Helsinki University Press, 2009), 144.

60 Paul Gʀɪꜰꜰɪᴛʜs, "What Is Innateness?", in The Monist 85 (2002), 70–85.

61 See Ilkka Pyysɪäɪɴᴇɴ, "The Cognitive Science of Religion", in Evolution, Religion, and Cognitive Science: Critical and Constructive Essays, ed. by Francis Watts & Leon Turner (New York: Oxford University Press, 2014), 21–37.

62 Jᴏɴɢ & Vɪsᴀʟᴀ (see above, n. 54), 159–160.

63 Ibid., (see above, n. 54), 153–154.

religion is canalized? Well, this seems tantamount to saying that religion is universal. And as Peterson notes, this would hardly be a novel claim: we already knew religion is found all over the world.[64] We did not need CSR to tell it to us.

Notice that this criticism does not cast doubt on the scientific work behind the naturalness of religion thesis. It does go to show, however, that "naturalness" may be a misleading concept. The danger here is that the naturalness thesis becomes a rhetorical tool for selling books rather than a scientifically viable concept. Ironically, just like "innateness", "naturalness" seems itself to be a folk-psychological and hence a cognitively natural idea (although without counter-intuitive features). After all, it is quite natural to believe that cross-culturally and cross-temporally ubiquitous human traits are natural.

V So what if religion is natural?

If religion is natural – or at least characteristic of human thinking and behavior – what difference does this make? Firstly, CSR offers fresh scientific insights for theological reflection on the nature of belief.[65] Theologians such as Augustine, Aquinas, and Calvin have suggested that there exists a natural knowledge of God that all men have or have access to. This theme is rooted in Biblical passages relating to God's general revelation in nature (e.g., Psalm 19:1, Wis. 13:1–9, Acts 17:22–29). According to Romans 1:18–20, all people at all times have "clearly perceived" that God exists because the created order reflects his "power and divine nature" (RSV). The Catechism of the Catholic Church states that man is a "religious being" whose "faculties make him capable of coming to a knowledge of the existence of a personal God".[66] Moreover, this God "can be known with certainty from the created world by the natural light of human reason".[67] Calvin concurs: "There is within the human mind, and indeed by natural instinct, an awareness of divinity [...] God himself has implanted in all men a certain under-standing of his divine majesty [...] There is, as the eminent pagan says, no nation so barbarous, no people so savage, that they have not a deep seated conviction

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64 PETERSON (see above, n. 55), 179.

65 See, e.g., Justin BARRETT, "Cognitive Science, Religion and Theology", in SCHLOSS & MURRAY (see above, n. 3); Adam GREEN, "Cognitive Science and the Natural Knowledge of God", in The Monist 96 (2013), 399–419.

66 Catechism of the Catholic Church, Revised edition (London: Geoffrey Chapman, 1999). Paragraphs 28 and 35.

67 Catechism of the Catholic Church (see above, n. 66). Paragraph 36.

that there is a God".[68] Although Catholic teaching is more optimistic than Calvin about the spiritual value of natural knowledge of God, the idea is well established in Christian theology.

Calvin's idea of *sensus divinitatis* (the faculty that makes people able to perceive God) has been taken up in contemporary discussions on religious episte- mology by philosopher Alvin Plantinga.[69] Plantinga argues that *sensus divinitatis* may be reliable in leading people to knowledge of the one true God. Justin Barrett and philosopher Kelly James Clark have noted that that the claims of Calvin and Plantinga converge with the core theories of CSR in interesting ways.[70] For instance, both Calvin and Plantinga think that god-belief does not arise as a result of reflective reasoning, but is formed spontaneously and intuitively (*contra* Aqui- nas who emphasizes the role of philosophical arguments). However, the accounts of Plantinga and Calvin also differ, and some CSR theories coincide better with one or the other. For example, Plantinga maintains that belief in God is reinforced in existentially relevant moments such as in seeing God's handiwork in nature. This coincides with psychologist Deborah Kelemen's work indicating that people are prone to believe in a cosmic Designer because they perceive teleology and design in the natural world.[71] However, CSR overlaps more with Calvin in relation to the specificity of god-concepts. Although Plantinga thinks *sensus divinitatis* gives rise to belief in the Christian God, Calvin found it to be the source of all kinds of ideas of supernatural agency. Now, although CSR seems to overlap with traditional Christian theology and recent Christian philosophy in interesting ways, does it provide scientific evidence for something like Calvin's *sensus divinitatis* or for Plantinga's Reformed Epistemology? Or does it provide reasons for a Christian to believe that God has designed our minds so that all people would have an urge to seek him? A theologian may want to argue so; after all, knowledge of and communion with God has traditionally been seen as the ultimate *telos* of human life. However, this theological interpretation of CSR creates new challenges.[72]

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68 Jean Calvin: Institutes of the Christian Religion 1.3.1.

69 Alvin Plantinga: Warranted Christian Belief (Oxford: Oxford University Press, 2000).

70 Kelly James Clark & Justin Barrett, "Reformed Epistemology and the Cognitive Science of Religion," in Faith and Philosophy 27 (2010), 174–189; Idem., "Reidian religious epistemology and the cognitive science of religion", in Journal of the American Academy of Religion 79 (2011), 639–675.

71 E.g., Kelemen & DiYanni; Kelemen & Rossett (see above, n. 18).

72 One challenge is that our knowledge of the history of religion shows that, from the Christian perspective, the god-faculty reinforces far more often idolatry than worship of the one true God. Following Calvin and Plantinga, one might respond that this is part of the "noetic effects of sin". See Barrett (see above, n. 65), 97–99. Plantinga (see above, n. 69), 178–180. But this response

Secondly, the naturalness thesis may imply something about the future of religion. On the one hand many books on cognitive and evolutionary study of religion conclude by predicting a relatively bright future for supernatural agents.[73] Importantly, despite what the contemporary cultured despisers of religion may hope, the advancement of scientific literacy does not necessarily foster a gradual demise of religion. Popular religious ideas are not only easier for us to grasp and existentially far more relevant than science, but people quite fluently harmonize scientific and religious ways of viewing the world (for instance, in seeing God's providence in apparently random evolution).[74] A couple of ways CSR scholars have tried to explain the easiness of harmonization is by pointing out that religious ideas cannot be empirically verified or falsified and by underlining the metaphorical nature of religious claims that keeps them forever open for new interpretations (so they never conflict with science).[75] However, there is evidence that when people offer both natural and supernatural explanations for an event (such as someone's death, an illness, or the origin of animals and people), these are meant to address different aspects of the same phenomenon (e.g. the biological process that makes someone ill vs. an intention of a supernatural agent behind the causal chain).[76] In fact, this comes close to the way theologians have sought to integrate science and theology.[77]

On the other hand, humans have shaped their environment for a long time to a direction that is less friendly to supernatural agents. Modern welfare societies have constructed the cultural scaffolding that unbelief needs to become widespread. For instance, studies show a correlation between analytic (reflective) thinking and disbelief in religious or paranormal ideas.[78] Since education fosters

has problems of its own. See John Teehan, "Cognitive Science, Evil, and God", in Advances in Religion, Cognitive Science, and Experimental Philosophy, ed. by Helen De Cruz & Ryan Nichols (London: Bloomsbury Academic, 2016) 39–60.

73 See, e.g., Atran (see above, n. 15); Johnson (see above, n. 19); McCauley (see above, n. 4).

74 For instance, a poll conducted in 2017 indicates that Theistic Evolution is now as popular as New Earth Creationism in the United States (both accepted by 38 percent of respondents when the third option was unguided evolution). See http://www.gallup.com/poll/210956/belief-creationist-view-humans-new-low.aspx.

75 See Atran (see above, n. 15), 276; McCauley (see above, n. 4), 244–252.

76 Christine Legare, E. Margaret Evans, Karl S. Rosengren & Paul L. Harris, "The coexistence of natural and supernatural explanations across cultures and development: The case of origins, illness, and death", in Child Development 83 (2012), 779–93.

77 See Cristine Legare & Aku Visala, "Between Religion and Science: Integrating Psychological and Philosophical Accounts of Explanatory Coexistence", in Human Development 54 (2011), 169–184.

78 E.g., William Gervais & Ara Norenzayan, "Analytic Thinking Promotes Religious Disbelief", in Science 336 (2012), 493–496.

analytic thinking, psychologist Ara Norenzayan believes these studies explain the rise of what he calls *analytic atheism*: habitual analytic thinking promoted by higher education gradually undermines the intuitive basis of religious belief.[79] He also thinks this phenomenon explains why nonbelievers are generally more intelligent and educated than religious believers. These conclusions are premature, however. Recent study has cast serious doubt on the claim that analytic thinking promotes disbelief.[80] Perhaps a more valid point that Norenzayan makes pertains to *apatheism*: gods are less needed in societies where people enjoy existentially secure lives supported by strong police forces and a stable justice system, long life expectancy, high enough income to satisfy all real needs, plus good nutrition and health care. Although many people in these countries still find the idea of god feasible and appealing, explicit commitment to religion is usually reinforced by real-life needs.[81] People devote less time and resources for religious activities when they have less to worry about. If the New Atheists want to find a truly secular society, perhaps advancing security and strong economy is a better method than simply advancing scientific literacy.

Thirdly, philosopher Roger Trigg thinks that CSR offers support for religious freedom.[82] According to Trigg, our drives and impulses are not easily dissected from who we are as human beings. In fact, they constitute human nature. Other things being equal, it is good for humans to get what they want. Thwarting our basic impulses gets in the way of human flourishing. Although there certainly are manifestations of religion (such as terrorism) that the society should not tolerate, the state does not have the authority to tell people that following their religious impulses is misplaced. "Fundamentally", Trigg writes, "the issue is one of individual liberty": "Human well-being and fulfillment are intrinsically linked to our ingrained nature. Human rights in general acknowledge the fact that humanity is not at root socially constructed. Similarly, the particular right to religious freedom answers the universal fact that we seek some larger spiritual reality and impute purpose to even apparently random events".

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79 Ara Norenzayan, Big Gods: How Religion Transformed Cooperation and Conflict (Princeton: Princeton University Press, 2013), 185.

80 A replication of the study by Gervais and Norenzayan (see above, n. 79) with 900 participants (compared with 57 participants in the original study) found no evidence that analytic thinking decreases religious disbelief. See Clinton Sanchez, Brian Sundermeier, Kenneth Gray & Robert J. Colin-Jagema, "Direct replication of Gervais & Norenzayan (2012): No evidence that analytic thinking decreases religious belief", in PLoS ONE 12 (2017).

81 See Norenzayan (see above, 79), 185–190. See also Barrett (see above, n. 26), 219.

82 Roger Trigg, "Human Nature and Religious Freedom", in The Roots of Religion: Exploring the Cognitive Science of Religion, ed. by Justin L. Barrett & Roger Trigg (Farnham: Ashgate, 2014), 209–223.

It seems far from clear, however, that the naturalness of religion thesis adds anything substantial to our reasons for upholding freedom of religion. One suspects that Trigg's plea is an example of a case where the concept of naturalness leads one astray, because "natural" becomes too closely tied with that which is "good". It seems that what is really important is not whether religion is a product of our "basic impulses" or not, but whether religion promotes human flourishing. If it did not, the naturalness argument probably would not get very far.

VI Conclusion

"Religion is natural" is a thesis that summarizes the general viewpoint in CSR. The attractiveness of religion is not primarily due to its ability to explain ambiguous natural phenomena or to provide social order and comfort in a cold world, nor is it a cognitive illusion that results from relaxation of commonsense thinking.[83] Though these traditional ways of explaining religion's success have some truth in them, CSR shows that religion is natural in the sense that the basic structures of religious representations enjoy an optimal fit with our cognitive mechanisms.

Although the concept of naturalness is quite intuitive, a scientifically precise definition of "naturalness" seems hard to formulate. Nevertheless, the naturalness of religion thesis points to a real phenomenon that science has began to uncover. CSR offers insights that can help Christian theologians to rethink the concept of natural knowledge of God, sociologists to predict more accurately the future of religion, and philosophers to consider new arguments for freedom of religion.

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83 Boyer (see above, n. 21).