



## The Prospects and Pitfalls of “Just-So” Storytelling in Evolutionary Accounts of Religion

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### Abstract

I discuss problems importing evolutionary language into the study of religion. It is not impossible to do, but it is difficult to carry out properly in practice. I suggest five criteria for scholarship in the study of religion to amount to good science when incorporating such language. They are 1) avoiding just-so storytelling as much as possible 2) the requirement to add a compelling level of explanation beyond the historical narrative 3) clearly distinguishing between proximate and ultimate forms of causation and explanation, and favoring proximate causes where possible 4) addressing the specific content of religion directly as part of the narrative 5) being explicit about the genre of scholarship undertaken, whether science-writing, humanistic exploration, or some mix of the two. Wiebe and Martin's arguments do not end up rising to the challenge that they themselves have instigated to have a truly scientific study of religion.

### Keywords

religion, explanation, evolution, just-so story, teleology, science

Wiebe's title may appear to suggest that he plans to explain the origin of religion, however this is not the case. He wishes to explain the origin of “religions,” by which he means those institutional forms of religion that arose after the agricultural revolution in Eurasia, “the first epidemiological transition.” When human beings began to settle in great number, major diseases and in turn epidemics got hold for the first time. Religions became behavioral immune systems that kept these diseases out by regulating contact with out-groups. Modern conditions since the industrial revolution involve new human means to combat diseases and epidemics (the discovery of germ theory) and as such presently religions are no longer needed for that purpose and thus become, as Wiebe says, auto-immune diseases themselves.

Martin argues that Mithraism was a response to “anxiety” produced by the cosmological revolution when the three-tiered model of the cosmos (underworld, world, heavens) was replaced by a Ptolemaic model of the earth as a

sphere in the infinity of space. The latter provoked a kind of existential angst that Martin sees Mithraism solving. Martin argues that religion and ritual are part of a cognitive mechanism in humans that is active in response to general threats in our environment. In Martin's model, the human hazard precaution system evolved as a better-safe-than-sorry mechanism in the face of uncertain environments. The by-product of this mechanism is "anxiety." Religion in this model seems to be both the cause of the anxiety, as an overactive system for detecting signs of potential danger, and relief from it, through ritual and other means. While anxiety is a human universal, Martin argues that Hellenistic anxiety has a *particular* source (infinite space). Mithraism was a response to that source.

While I have some real sympathy with their efforts, these articles give me the opportunity to discuss some of the methodological (and theoretical) problems we arrive at when importing evolutionary language into the study of religion. I myself have probably fallen victim to them at one point or another. The one point I will not address is the obvious stumbling block that Wiebe and Martin are offering *blatant* functional explanations, an undertaking replete with problems they know well from Hans Penner, who thought that functionalism was a form of religious thinking on the part of scholars of religion. Ironically, the illogical teleology behind functionalism reminded him of the kind of teleological thinking in religion; functionalism, in effect, becomes a superhuman agent.<sup>1</sup> In a further irony, Martin and Wiebe themselves (2012) have recently articulated a similar idea as part of their own criticism of unscientific thinking, saying that, "despite advances in scientific knowledge, which are characterized by the replacement of agent causality with natural causality, most people—including scientists and scholars—nevertheless tend to fall back on agent causality to make everyday sense of the world" (593).

I will not pursue the issue of functionalism, since at least with regard to evolutionary theories of religion, that ship has sailed. I want to simply note that because of our natural biases evolutionary functionalism should be regarded with *extreme* skepticism as an initial point of departure.

Instead I hope to sail elsewhere and try to describe some other limitations to applying evolutionary theory to the study of religion. I do not think it is impossible, just very hard to do in practice. The criteria below, when met, would be

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<sup>1</sup> This sentiment is reflected in Penner (2002: 154) and other sources (Penner 1999: 250) where he playfully wonders why the false (or illogical) reasoning behind functionalism, like false belief in religion, *persists*: "However, since it has been amply demonstrated that functionalism is illogical if not false when applied to cultural systems, we may well wonder why this doctrine persists, and what needs it fulfills among scholars in the academy!" Solomon puts it another way, saying, "evolution is the new magic wand, which with a wave changes something inexplicable into something only seemingly explained" (Solomon 1998: 5, quoted in Sesardic 2003: 428).

sufficient to amount to good thinking. Let us call these criteria 1) avoiding just-so storytelling/Molière's sleeping pill,<sup>2</sup> 2) adding to the historical narrative?, 3) proximate/ultimate, 4) genre, 5) role of religion.

The first of these is not a problem in itself. Any attempt to explain human behaviors with evolution will involve some version of just-so storytelling. Hard science, while aimed at falsification and asymptotic truth,<sup>3</sup> is still also at the same time a form of storytelling. But there are better and worse stories, from a scientific perspective. It is *easy* to concoct a seemingly plausible story about evolution. The term "just-so story" comes from the title of Rudyard Kipling's book of children's stories, about how camels got their humps and leopards their spots. Since camels *already* have humps and leopards *already* have spots, we jump to the conclusion that such characteristics serve a function.

We have an implicit bias to think that things that have a function got them on purpose, through some design. An evolutionary story provides that design. Aside from the problematic assumption that the characteristic functions in the proposed manner (which is rarely actually shown in functional accounts), the direct line between the function and the story oversimplifies the process of natural selection so much that we should not even call it that anymore. Evolution does not work in the same way as a story. A story has a beginning, middle, and an end—a *telos*. Evolution has no *telos*. It is a blind process, one in which "the causal processes that produce new designs in the evolution of life are largely random with respect to any functions that those novelties might assume" (Frankenberry 2012: 600).

So importing narrative language into evolutionary explanation, while necessary (since explanations are stories), is automatically dangerous: we have to be very careful. This tendency of some evolutionary explanations to downplay the randomness and complexity that eventually leads in some partial way to an adaptation—where evolution is described as a *force*, as some straight line driving history—leaves it vulnerable to accusations of "Panglossianism," Dr. Pangloss being Voltaire's overly optimistic character in *Candide* who "claimed that our noses were designed to carry spectacles, based on the fact that our noses support spectacles efficiently" (Wrangham 2009: 45; Sesardic 2003: 427). This tendency is of course exacerbated in any attempt to account for *culture* in evolutionary terms because human history is partly a story of *auto-domestication* and *artificial* selection; in other words, cultural "evolution" is not always blind. This fact may be a stumbling block in the attempt to import evolutionary theory without metaphor into cultural science, or it might be a brick wall.

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<sup>2</sup> In the play *The Imaginary Invalid*, a character makes fun of some doctors' explanation of the sleep inducing powers of opium as arising from its "virtus dormitiva" ("dormative" power).

<sup>3</sup> Think of the curve as "truth," and the line, as the "science" we use to approximate it.

## I. Avoiding just-so Stories

In a clear exposition of the subject in response to Griffiths (1997) critique of the evolutionary account of emotions, Neven Sesardic (2003) describes the three requirements that go into making just-so stories more compelling from a scientific perspective (and thus for him *not* in fact just-so stories). Sesardic relates an example of an explanation that he thinks is a best-case scenario for fulfilling these requirements: the evolutionary explanation of human jealousy (particularly male jealousy). I will briefly present his argument and then lay out the next few topics from my list that an evolutionary approach to religion (like the cognitive science of religion) has to be particularly careful about. The three requirements are:

- I. theoretical entrenchment
- II. predictive success
- III. the failure of rival explanations.

- (I.) By theoretical entrenchment Sesardic means that a thesis under consideration has as part of its background “a more fundamental theory that is empirically well-confirmed across a very wide range of phenomena” (430). The fundamental theory he sees behind the evolutionary explanation of male jealousy is Trivers’s theory of parental investment. The theory is that humans are one of the few species that require bi-parental “investment” in childrearing. But since men cannot be guaranteed of their fatherhood (unlike in some other species), jealous behavior is selected for as a “solution” to that “evolutionary problem.” He regards this theory as extremely well supported.
- (II.) Predictive success involves the operationalization of a given thesis in the context of the well-entrenched theory. The more empirical evidence to support the thesis, the better. In the case of male jealousy, Sesardic notes four kinds of strong evidence: the ethnographic record, psychological research, statistical data about family violence, causes of conjugal dissolution in a number of cultures.
- (III.) The success of one theory is partly relative to rival theories. When other theories are operationalized and prove unsuccessful empirically, this lends support to those theories that *are* successful empirically. Competing theories are a very good thing indeed. When two competing theories can both be operationalized and one proved more convincing empirically than the other, it gives us even better reason for a provisional accep-

tance of the convincing theory (until another alternative comes along!).<sup>4</sup> Ideally, requirement (III.) involves a *variety of competing theories*. This requirement is partly the reason why science is time-consuming and expensive, requiring a critical mass of people working on the same problem at once.<sup>5</sup>

## II. Pitfalls Specific to Religion

- (2) Do we need it? Does the cognitive or evolutionary narrative add anything to our understanding of a historical situation beyond surface description?

Martin's abstract states that "cognitive historiography" employs cognitive science and evolutionary theory for "understanding the complexities of the historical data." At the same time, he spends a great deal of energy at the beginning of the essay arguing that the simplification of data is necessary for explanation. There is a deep conflict here between the simplification necessary to apply the kinds of general theories that cognitive sciences employ and the "complexities of the historical data."<sup>6</sup>

- (3) Are we presented with a clear indication of the relationship between proximate and ultimate causes or explanations?

Though this is a big debate in evolutionary theory, it seems pretty clear to me that science should be primarily concerned with proximate causation and explanation. Ultimate causes and explanations are much broader and more abstract than proximate ones from a metaphysical perspective. Ultimate explanations are extremely useful and play nicely with intuitive human psychology (where we look for teleological reasons for things), but it is the proximate mechanisms behind evolution that should be the bread and butter in a scientific theory. For example, Weiner (1994) gives us a beautiful account of the

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<sup>4</sup> The example Sesardic uses has recently been challenged in a meta-analysis of the data; see Carpenter 2012. As far as the science is concerned, this type of challenge is a good thing, because it will lead to the refinement of the thesis.

<sup>5</sup> It is also partly for this reason McCauley thinks that a possible scientific approach to religion would be "difficult," "expensive," and "complicated," among other challenges (McCauley 2012: 605).

<sup>6</sup> As Wiebe himself says elsewhere: the suggestion that "the historian could escape the messiness of the contingency and subjectivity involved in accounting for individual events, and the persons engaged in them, is seriously flawed" (2011: 167). Wiebe thinks the contingency and subjectivity of historical events calls for explanatory pluralism.

details about proximate mechanisms with regard to Darwin's favorite example: the beaks of Galápagos finches.

We have to be careful in thinking about selection that we do *not* think of it as a *force* of some kind. We easily slip into this type of thinking, but selection is a *post facto* descriptive term. It simply means that looking back at a long historical record certain genes and epi-genes that lead to certain traits become more common than other traits. There is nothing inherent in the genes that make them want to survive, they are not selfish in that sense. With regard to the explanation of jealousy, the genes of a father do not *want* the genes of his biological children to survive more than other children. Rather, over the long haul, genes and epi-genes that lead to jealous behavior became more common than other types of genes because fathers who controlled the sexuality of their mates could be more sure of their paternity and thus more willing to invest in raising children, thus leading to more "successful" children, evolutionarily speaking.

The proximate mechanism here concerns the "because" and it is debatable, in particular because we must account for why this evolutionary "solution" rather than another was selected for. For example, from a biological perspective other mechanisms could be selected for that help certify one's fatherhood—and here the just-so nature of these arguments rears its head again. Furthermore, another issue is that near-certainty about paternity is a completely different mechanism than jealousy, showing the complexity of making any evolutionary account.<sup>7</sup> Nevertheless, the thesis makes the unambiguous claim that fathers who are more sure of their paternity are more likely to "invest" more in their children.

In the case of Martin and Wiebe, what are the proximate mechanisms, and what is the ultimate descriptive mechanism? I think we get a good sense of what they see as the ultimate mechanisms. For Wiebe, sedentary (agricultural or probably Axial age) Eurasian religions (not "religion" as such) evolved to solve the problem of diseases spreading through new contact between groups. For Martin, religion (Mithraism?) emerged as a byproduct of the hazard precaution system that evolved to "solve" other "evolutionary problems." But the proximate mechanisms seem to be a much more complicated and unfounded.

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<sup>7</sup> This discussion partly concerns the difference and relation between proximate and ultimate mechanisms. In the strictest scientific sense we could claim that there are *only* proximate mechanisms, the ultimate mechanisms being narrative devices we use to describe the historical record over a long period of time.

The background theories are relatively well supported: in the case of Martin, it is the research on the relation between ritual and the hazard precaution system. In the case of Wiebe, it is research on behavioral immune systems. But is Martin offering an evolutionary argument for the origin of Mithraism or simply saying Mithraism fits into the evolutionary picture of religion that CSR has put together? If it is the former, he has not shown proximate or ultimate mechanisms (to the extent that someone like Sesardic would like), and if it is the latter, it does not seem to locate anything *specific* about Mithraism that would justify the use of evolutionary theory. For Wiebe, we are never given an indication that there is anything special about “religions,” as opposed to any form of collective identity, that makes it particularly well suited to “solve” the proposed evolutionary problem. This gets into the next problem specific for evolutionary accounts of *religion*.

(4) Religion: Does the argument in question address religion directly?

In Wiebe’s paper, he argues that the term “religions” describes specific socio-political institutions whose members have “a peculiar range of thought and behaviour” that is “connected to beliefs in supernatural beings, powers, or states and for that reason are designated ‘religious.’” However, it is not clear from his paper what sets religious institutions apart, if anything, from other kinds of institutional forms. That is, Wiebe’s argument is that “religions” maintain the boundary between in-group and out-group and thus function as behavioural immune systems, but he does not suggest what sets “religions” apart in this respect from other forms of identity that also set up such boundary conditions. Perhaps a clue to his answer comes in his discussion of the role that false beliefs play in religions, but such beliefs are probably true of any institutionalized form of identity. In other words, what is it, if anything about the connection “to beliefs in supernatural beings, powers, or states” that sets “religions” apart from other institutions? If nothing sets religious institutions apart, then we cannot rightly call this a theory about religion(s), though it may be valuable for other reasons. Though Martin only uses the term *religion* five times in the body of his paper as far as I could see, and we do not really get a sense what he means by it, the same sort of argument applies to the function of ritual. That is, is there anything that sets *religious* rituals apart with regard to their *supposed* function?

(5) Genre: is this science or religious studies (history of religions), or both?

All of this might sound like more of a critique than it is. The force of the critique, I think, comes down to a matter of genre. If I am reading Martin and Wiebe correctly—particular considering their unfulfilled wish, voiced in this year's *JAAR*, to have a “comprehensive scientific study of religion” (2012, 588)—they want to contribute a “scientific” theory of religion. Humanistic theories or examinations of religion almost always rely on just-so storytelling, Molièrian sleeping pills, Panglossian glasses, or some version of all three. This form of storytelling occurs because humanists in general are not that interested in escaping folk psychology but instead working within it for other purposes and aims than science (though often the aims are not as explicit). So were Martin and Wiebe content to stay within this genre, a critique of them for this type of reasoning would have no teeth (other criticisms, indeed, would be in play). However, they have other aspirations. The grass is always greener on the other side.<sup>8</sup>

In conclusion I want to say I am a bit puzzled by Martin and Wiebe's recent statement in *JAAR* that they do not think a science of religion is possible. In part, I think their arguments show that such an undertaking is not possible because of some fault on the side of scholars of religion. Such an undertaking is not possible because religion is not a legitimate object of scientific scrutiny (if we mean *science* in the Anglo-American sense, as opposed to the German/Northern European sense, as *wissenschaft* or *videnskab/vitenskap*). As Frankenberry puts it: “If most of the important questions in the study of religion are semantic in nature, not causal, then the forms of explanation that make reference to human beliefs, intentions, desires, etc. will never be displaced by science, however developed that science eventually becomes” (2012: 599). I would like to think there is a compromise position between Frankenberry and Wiebe/Martin—and thus a middle ground between causal and semantic theories, or at least some way for them to play nice together—but lately I am not so sure (Davis 2012: 105-114). Perhaps they can play nice if cognitivists stop insisting they have a special type of language. Science is a *special type of language-game* that I think works within certain confines (*ceteris paribus* clauses, etc., Day

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<sup>8</sup> If they were content to stay within the humanistic perspective, I think Wiebe's argument would be useful to students of religious biopolitics because part of the “behavioral immune system” must concern sexual regulation of females. Such an account might help us make more sense of the emergence of a “jealous” god—jealous of a possibly unfaithful Israel—during the period in question (Assman 2004: 30). By the same token, Martin's argument is illuminating in the context of recent humanistic work on anxiety (especially as it relates to place/space) and religion—religion producing the problem that it fixes.

2007: 55, 60-61), but the humanistic study of religion does *not* work within those confines. So if Martin and Wiebe want to have their cake (religion/s) and eat it too, they need to accept that the use of the language of cognitive and evolutionary science in the study of religion does not entail a special kind of language that gives it priority over other types in the field. Cognitive and evolutionary science are extremely powerful and useful tools that can help us be better scholars of religion, but they do not change the game in any substantial or essential way.

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