What is the naturalistic basis of theological interpretation?

James Carney
Lancaster University

Támas Dávid-Barrett
University of Oxford

Author Note
James Carney is Senior Research Associate at the Department of
Psychology, Lancaster University, UK
(j.carney@lancaster.ac.uk)

Támas Dávid-Barrett is Researcher at Trinity College and the Department of
Experimental Psychology, University of Oxford, UK
(tamas.david-barrett@psy.px.ac.uk)

Correspondence concerning this article should be addressed to James Carney
Department of Psychology, Lancaster University, Lancaster LA1 4YT, UK

Contact: j.carney@lancaster.ac.uk

Abstract: The interpretation of religious texts and artifacts—known as hermeneutics or exegesis—is a core part of religious practice. Nevertheless, biocultural models of religion largely neglect it. Here, we offer a framework for how foundational research might be initiated in this important area.

Though biocultural theories of religion have successfully accounted for the content of religious belief in terms of human cognitive architecture and general evolutionary principles (Atran, 2002; Barrett, 2000; Boyer, 2008; Irons, 2001; Sosis, 2005), they say very little about the propensity to *interpret* religious content. This is a significant omission, given that much of the activity of mature religious practice consists of extracting the allegorical, analogical and metaphorical meanings that are believed to reside in religious objects (Ricœur, 1995). We maintain here that this activity— variously termed 'hermeneutics' or 'exegesis'—needs to be included in the project of naturalizing religious beliefs if it is to achieve the comprehensiveness it aspires to. Further, we argue that *not* doing this does the field a disservice, insofar as it supplies critics with the easy objection that biocultural approaches—whatever their value for analyzing 'superstition'—are inadequate to the demands of 'sophisticated' religious belief (Feser, 2015).

How might one operationalize the ambition of making sophisticated interpretations of religious materials amenable to cognitive science? We propose that a program of research based on the following four questions might cast important light on the naturalistic basis of exegetical behavior. Religion, of course, is an inherently complex phenomenon and we accept that each of our questions will also reflect on non-

religious behaviors. However, given that two of the questions involve assigning intentions to a believed-in counterfactual agent, when the other two focus on the propensity to create and search for suprapersonal meanings, our view is that their aggregate effect is to circumscribe an identifiably religious activity.

1—What does religious exegesis *do*? One account holds that it reads 'through or around the literal meaning of the words in order to discern their more significant "spiritual" meaning' (Healy, 2006, p. 7). In other words, its purpose is to infer the intentions of an absent or virtual divine agent from a set of non-explicit cues. Naturally, this undertaking will also reflect historical pressures: an interpretation need not be sincere, and can be framed to benefit (or disadvantage) specific social actors (Caspary, 1979); equally, its purpose might be to protect scriptural authority from disconfirmation by events (Horton, 1967). Nevertheless, the general form of exegetical activities remains the same, and superficially resembles the agency detection strategies identified in Guthrie (1993) and Gray & Wegner (2010). The main difference is that where the perceptual registration of an agent comes for 'free' (Gallagher, 2008), the most basic scriptural exegesis requires at least level three theory of mind (ToM) ('I believe that the prophets didn't know that God intended them to communicate hidden meanings')—with even more levels supervening when it comes to assessing the interpretations of others. Two predictions follow from these considerations. Firstly, exegetical ability should scale with ToM—i.e. clerical and theological interpreters should perform better on tests measuring the ability to track nested mental states like those developed in Kinderman, Dunbar, & Bentall (1998). Secondly, relevance theory suggests that textual cues imposing a moderate cognitive burden will cue greater interpretive efforts than either simple cues or overly difficult

ones (Sperber & Wilson, 1995; Sperber, 2010). (For instance, unrepresented vowels in Torah scrolls both facilitate and limit interpretive freedom, just as illuminated bibles like the *Book of Kells* stimulate attention by simultaneously engaging and frustrating schematic perception.) We propose that collaborating with colleagues in cognitive social psychology and experimental linguistics to test these predictions concerning the interaction between ToM abilities and textual features will generate foundational insights into religious interpretation by clarifying its underlying function.

2 — Why do we engage in religious exegesis? Though scriptural exegesis is obviously the prerogative of literate societies with developed doctrines, the widespread interpretation of historical events in religious terms by way of divination, augury and other like practices points to a deeper foundation for exegetical activities (Raphals, 2013). Though this does *not* mean they were selected for by evolution, it does pose the question as to whether exegetical activities are directly informed by an evolved competency. Our response is that the 'social brain' hypothesis allows exegetical activities to be situated in an evolutionary framework in a nonreductive way (Dunbar & Shultz, 2007; Dunbar, 1992; Humphrey, 1976). This hypothesis holds that a major driver in the evolution of the human neocortex was the need to develop processing power adequate to the needs of large-group sociality (Dávid-Barrett & Dunbar, 2013). Clearly, a facility for inferring the intentional state of non-present agents would be advantageous in this scenario — and thus a selection pressure may have existed for the cognitive mechanisms that support exegetical activity. While it is impossible to test this claim directly, agent-based models would cast light on whether or not it is plausible. Initial steps towards this end can be found in Dávid-Barrett & Carney

(2015); we propose here that a sustained collaboration between network scientists, evolutionary psychologists and paleoanthropologists may generate further predictions concerning the origin of exegesis that can be tested against the empirical record.

3—Is there a neural mechanism underwriting exegetical activities? One active research tradition in the biocultural approach to religion centers on identifying the neural basis of religious experience (D'Aquili & Newberg, 1999; Lewis-Williams, 2010; Saver & Rabin, 1997). We suggest that work on the 'salience disorder' paradigm in the understanding of schizophrenia offers a promising possibility for extending this program to exegesis (Barkus et al., 2014; Kapur, Mizrahi, & Li, 2005; Winton-Brown, Fusar-Poli, Ungless, & Howes, 2014). Specifically, this position suggests that the propensity to interpret is linked with the dopaminergic system, insofar as increased dopamine uptake by D2 receptors in the striatum spurs interpretive activity by conferring salience on relevant stimuli. When disordered uptake of dopamine results in aberrant salience patterns, psychosis is held to emerge. On this view, the propensity to interpret religious materials should scale with dopamine uptake. (The converse prediction—that low levels of dopamine should cause a drop in exegetical engagement—is partially confirmed in McNamara, Durso, & Brown (2006), where dopamine deficient Parkinson's patients are shown to exhibit lower levels of religiosity.) One way to progress the dopamine hypothesis would be to collaborate with imaging specialists, and use PET scan technology to investigate whether or not high-level interpreters of religious materials have a larger number of D2 receptors than the population mean.

4—What causes individuals to arrive at, and commit to, specific interpretive positions? Given the fraught role played by schism, reformation and heresy in the history of organized belief, this question bears directly on religious practice (Evans, 2008; Fiero, 2013). Recent work in politics suggests that a large portion of ideological variation is driven by preexisting dispositions rather than rational decision-making (Graham, Haidt, & Nosek, 2009; Haidt, 2013). Equally, there is a body of research that identifies the propensity to search for meaning as a trait that exhibits variation across the population (Steger, Frazier, Oishi, & Kaler, 2006; Steger, Kashdan, Sullivan, & Lorentz, 2008; Steger & Samman, 2012). We propose that, by analogy with political affiliation, interpretive commitment in religion may be predicted by personality traits. Testing this claim would involve working with personality psychologists, and would entail asking a population who have been evaluated on measures like the 'big five' personality model (McCrae & John, 1992), the 'disgust scale' (Haidt, McCauley, & Rozin, 1994) and the 'search for meaning' scale (Steger et al., 2006) to pick a preferred interpretive position from a series of vignettes corresponding to generic interpretive positions in theology. We propose that scores on all metrics will predict the choices made, thereby showing up both the simple effects and the interaction effects of the personality factors that drive interpretive commitment.

References

Atran, S. (2002). *In Gods We Trust: The Evolutionary Landscape of Religion*. Oxford: Oxford University Press.

Barkus, C., Sanderson, D. J., Rawlins, J. N. P., Walton, M. E., Harrison, P. J., & Bannerman, D. M. (2014). What causes aberrant salience in schizophrenia? A role for impaired short-term habituation and the GRIA1 (GluA1) AMPA receptor subunit. *Molecular Psychiatry*, *19*(10), 1060–70. http://doi.org/10.1038/mp.2014.91

Barrett, J. (2000). Exploring the Natural Foundations of Religion. *Trends in Cognitive Sciences*, *4*(1), 29–34.

Boyer, P. (2008). Religion: Bound to believe ? *Nature*, *455*(October), 1038–1039.

Caspary, G. E. (1979). *Politics and Exegesis: Origen and the Two Swords*. Berkeley: University of California Press.

D'Aquili, E. G., & Newberg, A. B. (1999). *The Mystical Mind: Probing the Biology of Religious Experience*. Minneapolis: Fortress Press.

Dávid-Barrett, T., & Carney, J. (2015). The deification of historical figures and the emergence of priesthoods as a solution to a network coordination problem. *Religion, Brain & Behavior*, (August), 1–11. http://doi.org/10.1080/2153599X.2015.1063001

Dávid-Barrett, T., & Dunbar, R. (2013). Processing power limits social group size: computational evidence for the cognitive costs of sociality. *Proceedings of the Royal Society B*, *280*(June), 1–7.

Dunbar, R. (1992). Neocortex size as constraint on group size in primates. *Journal of Human Evolution*, *20*(1), 469–493.

Dunbar, R., & Shultz, S. (2007). Evolution in the social brain. *Science*, *317*(5843), 1344–7. http://doi.org/10.1126/science.1145463

Evans, G. R. (2008). *A Brief History of Heresy*. Oxford: Blackwell.

Feser, E. (2015). *Religion and superstition*. (G. Oppy, Ed.). New York: Routledge.

Fiero, M. (2013). *Orthodoxy and Heresy in Islam, Volumes 1-4*. Oxford: Taylor & Francis.

Gallagher, S. (2008). Direct perception in the intersubjective context. *Consciousness and Cognition*, *17*(2), 535–43. http://doi.org/10.1016/j.concog.2008.03.003

Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology*, *96*(5), 1029–46. http://doi.org/10.1037/a0015141

Gray, K., & Wegner, D. M. (2010). Blaming god for our pain: human suffering and the divine mind. *Personality and Social Psychology Review*, *14*(1), 7–16. http://doi.org/10.1177/1088868309350299

Guthrie, S. (1993). *Faces in the Clouds: A New Theory of Religion*. Oxford: Oxford University Press.

Haidt, J. (2013). *The Righteous Mind: Why Good People Are Divided by Politics and Religion*. London: Vintage Books.

Haidt, J., McCauley, C., & Rozin, P. (1994). Individual differences in sensitivity to disgust: A scale sampling seven domains of disgust elicitors. *Personality and Individual Differences*, *16*(5), 701–713. http://doi.org/10.1016/0191-8869(94)90212-7

Healy, N. M. (2006). Introduction. In T. G. Weinandy, D. A. Keating, & J. P. Yocum

(Eds.), *Aquinas on Scripture* (pp. 1–20). New York: Continuum.

Horton, R. (1967). African traditional thought and Western science. *Africa: Journal of the International African Institute*, *37*(2), 55–87.

Humphrey, N. K. (1976). The social function of intellect. In P. P. G. Bateson & R. A. Hinde (Eds.), *Growing Points in Ethology* (pp. 303–317). Cambridge: Cambridge University Press.

Irons, W. (2001). Religion as a hard-to-fake sign of commitment. In R. Nesse (Ed.), *Evoliution and the Capacity for Commitment* (pp. 292–309). New York: Russell Sage Foundation.

Kapur, S., Mizrahi, R., & Li, M. (2005). From dopamine to salience to psychosis--linking biology, pharmacology and phenomenology of psychosis. *Schizophrenia Research*, *79*(1), 59–68. http://doi.org/10.1016/j.schres.2005.01.003

Kinderman, P., Dunbar, R., & Bentall, R. P. (1998). Theory-of-mind deficits and causal attributions. *British Journal of Psychology*, *89*, 191–204.

Lewis-Williams, D. (2010). *Conceiving God: The Cognitive Origin and Evolution of Religion*. London: Thames & Hudson.

McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, *60*(2), 175–215.

McNamara, P. G., Durso, R., & Brown, A. (2006). Religiosity in patients with Parkinson's disease. *Neuropsychiatric Disease and Treatment*, *2*(3), 341–8. http://doi.org/10.2147/nedt.2006.2.3.341

Raphals, L. (2013). *Divination and Prediction in Early China and Ancient Greece*. Cambridge: Cambridge UP.

Ricœur, P. (1995). *Figuring the Sacred: Religion, Narrative, and Imagination*. (D. Pellauer, Trans.). Minneapolis: Fortress Press.

Saver, J. L., & Rabin, J. (1997). The neural substrates of religious experience. *J Ournbal of Neuropsychiatry and Clinical Neuroscience*, *9*(3), 498–510.

Sosis, R. (2005). Does Religion Promote Trust? The Role of Signaling, Reputation, and Punishment. *Interdisciplinary Journal of Research on Religion*, *1*, 1–30.

Sperber, D. (2010). The Guru Effect. *Review of Philosophy and Psychology*, *1*(4), 583–592. http://doi.org/10.1007/s13164-010-0025-0

Sperber, D., & Wilson, D. (1995). *Relevance: Communication & Cognition*. Oxford: Blackwell Publishing.

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, *53*(1), 80–93. http://doi.org/10.1037/0022-0167.53.1.80

Steger, M. F., Kashdan, T. B., Sullivan, B. A., & Lorentz, D. (2008). Understanding the search for meaning in life: Personality, cognitive style, and the dynamic between seeking and experiencing meaning. *Journal of Personality*, *76*(2), 199–228. http://doi.org/10.1111/j.1467-6494.2007.00484.x

Steger, M. F., & Samman, E. (2012). Assessing meaning in life on an international scale: Psychometric evidence for the Meaning in Life Questionnaire-Short Form among Chilean households. *International Journal Of Wellbeing*, *2*(3), 182–195. http://doi.org/10.5502/ijw.v2.i3.2

Winton-Brown, T. T., Fusar-Poli, P., Ungless, M. A., & Howes, O. D. (2014). Dopaminergic basis of salience dysregulation in psychosis. *Trends in*

Neurosciences, *37*(2), 85–94. http://doi.org/10.1016/j.tins.2013.11.003