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Explaining religion(s) with deep historical time scales:

A comment from cognitive archaeology

Niels N. Johannsen

I read Jonathan Turner's paper with pleasure, finding his biocultural perspective on the origin and evolution of religions (not just religion) fundamentally productive, in several respects. Despite the fact that the general field seeking to produce integrated biological and cultural accounts of human behaviour and societies has gradually been gaining momentum since the pioneering efforts that responded to 1970s sociobiology more than 30 years ago (Boyd & Richerson 1985; Cavalli-Sforza & Feldman 1981; Lumsden & Wilson 1981), I nonetheless find myself wishing that there were more papers like this one. Perhaps not surprisingly, as an archaeologist I welcome Turner's sustained exploration of what can be gained by bringing a multiscalar diachronic perspective to bear on fundamental aspects of human culture and behaviour, though I would add that not only the various branches of sociology emphasized by Turner, but also branches of archaeology and history not restricted to ideographic concerns should play more significant roles in this endeavour. But what is especially attractive is that Turner's truly long-term analytical gaze does not in the end favour either (molecular) evolutionary *or* historical dynamics in ultimate, causal explanation of the overall phenomenon, but both (also Smail 2008). Turner focuses on two key explanatory challenges:

1. The evolution of the biological capacities that made religion (religious cognition and interaction) possible.
2. The establishment and development – or (cultural) evolution – of religions as societal phenomena, particularly of religious institutions and movements that make use, so to speak, of these evolved capacities to produce behavioural (and, we might add, supporting material culture) patterns that go far beyond those necessarily implied by the capacities in themselves.

Making substantial progress on these two challenges will certainly expose much about humans that is central for the broader biocultural understanding of human fundamentals, far beyond any specialized concern with religion. But taking both of these explananda seriously – including both the origin and evolution of religion in individual minds and in societies – *and* treating them as interconnected parts of one complex requires straddling analytical foci and scales in a way that has brought many efforts to a grinding intellectual halt. Overall, though, Turner navigates that difficult terrain effortlessly. His paper draws extensively on and presupposes a much larger framework, the richness or coherence of which this short comment is necessarily unable to do justice to – but there

is in particular one set of issues that I would like to raise for discussion. Ultimately my focus will be mainly on analytical deliverables associated with challenge 2, as sketched above, but – in tune with the spirit of Turner’s paper – I will start by outlining how the issues I raise were inherited (no pun) from Turner’s emphasis when dealing with challenge 1.

The first explanatory challenge is essentially that of producing a plausible outline of evolutionary processes in the hominin lineage that established the basic cognitive and social capacity prerequisites for religion (among many other things). Delivering here depends on making numerous assumptions about the environmental profiles of changing ecological niches inhabited by hominins, their behavioural and genetic adaptation or responses, and the selection forces that over time directed the latter in accordance with the former – all far back in the Pleistocene. And this is a difficult task. It is so chiefly because we have very little evidence to go by: for most of the relevant time span the direct empirical evidence pertaining to the proposed trajectories in ecological adaptation and behavioural repertoires is thin, to be polite, and the indirect evidence relatively limited. This basic working condition underlies both Turner’s and all competing accounts, but in my view Turner delivers a compelling argument. There are two central elements in the way he reads the evolutionary processes that I find particularly important and productive, namely a) stressing evolutionary developments of the *whole* neural system, which seems more in line with 21st century neurocognitive science than the more delimited focus on neocortical areas (not least ‘executive’ roles of the prefrontal cortex) that he criticizes, and b), connected to the first point, stressing the role that developments in the range of affective states and their regulation come to play in interplay with the more frequently emphasized developments in assumedly ‘raw’ processing and integration capacities of the hominin brain.

Turner’s account brings out the probably pivotal roles played by these sets of changes in combination while still, in my view, allowing productive compatibility with the emphases of other recent attempts at synthesizing the evolutionary emergence of modern humans and their cultural capacities (e.g. Henrich 2016; van Schaik 2016). As just outlined, like much of the current work it resonates with, Turner’s scenario for ‘how natural selection created the behavioural capacities for religion’ is strongly focused on capacities for *social interaction*, including not least the transmission and selection of cultural traits. Hardly surprising, considering Turner’s background in sociology, this is the great strength of his perspective. But it is perhaps also its (possibly less significant) limitation:

One central element of what Turner wants to explain struck me as virtually absent in his analysis – but could be integrated into his framework with no conflict apparent to me. Given that one of the key attributes of religion, as defined by Turner, is that humans ‘form communities revolving around beliefs in a sacred and supernatural realm inhabited by forces and beings seen to possess powers to intervene in the mundane

world' (p. 1), it would seem there would have been no occasion to discuss religion if humans had not developed a robust capacity to imagine, i.e. conceptualize, such forces and beings, and share/transmit them communicatively amongst themselves. In the section where Turner moves deepest into the wider neighbourhood of this capacity, focusing again very productively on the role of a sophisticated affective system, he initially suggests that 'Language, cultural systems storing moral codes and expectations, and behavioral capacities to experience such emotions as guilt and shame all lead to conscience formation and, thereby, enable conspecifics to be guided by a common morality. From this point, it is not a large jump to experiencing a morality espoused by sacred and supernatural forces inhabiting a realm that only a large brain can visualize' (p. 13). I would disagree; in terms of biologically evolved cognitive capacities and their ramifications, it is a huge jump. Conceptualizing transcendent beings and realms rests on a highly developed ability and fundamental propensity to understand features of the world – real or imagined – in terms of (combinations of) other, often more well-known or tangible features, employing what is generally referred to as associative or analogical inference. In other words, it requires projecting features and dynamics from reasonably reliable experiential/causal domains into more opaque ones. This was, for instance, the fundamental mechanism at play when people in certain Bronze Age societies of the eastern Mediterranean conceptualized the sun and its journey across the sky in terms of a technology that was central to these societies (charioteering), and when elites in these societies creatively played this new, relational 'fact' of religious cosmology to their advantage (Johannsen 2014). This point is not banal: no other animal comes even close to exhibiting the kind of associative cognitive capacity that humans do – in fact this particular biological jump is of a magnitude that has led some scholars to speak of 'Darwin's mistake', referring to the stark discontinuity between human and nonhuman minds on this specific point, and its incompatibility with the continuity emphasis in traditional evolutionary models (Penn *et al.* 2008).

Needless to say, the biological evolution of the modern human capacity for associative conceptualization, including the question of its phylogenetic (and ontogenetic) connections to the appearance of language, is a complex issue that cannot be addressed here. But where the real causal implications of this capacity truly come into play is in the kind of historical dynamics that Turner acknowledges as central in the evolution of religions as specific, societal phenomena, and as such this relates directly to delivering analytically on his challenge 2 (above). First of all: Take the sacred and supernatural beings generated by associative conceptualization and people's ability to share them out of the picture, and Turner's religious institutions – with their elaborate ritual systems, political aspirations and powers, and with their greater or lesser appeal amongst populations – would not exist. More specifically, as just indicated by the example from the eastern Mediterranean Bronze Age, the ability of a religious institution/community to recruit environmental elements or features that are salient in the lifeworlds of potential adherents may be decisive in the kind of cultural selection processes discussed

by Turner. My claim is that without the ability to come up with sufficiently trustworthy, or at least salient transcendental contents, any religion or religious institution will fare badly, at least on the medium and long term, relative to competing epistemic and social systems on offer. And ‘trustworthiness’ and ‘salience’ can rarely be achieved by playing only biologically evolved attractors in terms of attention and memorability (which have been emphasized in different variants, e.g. Atran 2002; Boyer 1994; Sperber 1996) – they also require playing the experiential resources that individuals have acquired ontogenetically, through growing up and living in cultural environments that have evolved through historical processes.

What I have just proposed does not imply any simplified notion that participants in a given religious community simply internalize the same, total understanding of their world and society (e.g. a given, formal ‘theology’), without variation, contradictions or tensions – such an isomorphic view has been thoroughly dismantled, not least within the cognitive science of religion (e.g. Barrett & Keil 1996; Slone 2007). But it does involve the assumption that one part of what determines a given religion’s fitness is the extent to which its members are able to share and confirm one another in some basic elements of understanding the way that the world works. A striking feature of the major, long-term societal developments emphasized by Turner is that the external resources for conceptualizing sacred beings and realms (among other things) in a given society change dynamically through historical time. The basic capacity for associative conceptualization involved is general and has evolved biologically, just as any other general cognitive capacity, but exactly because the mechanism is associative, i.e. environmentally coupled, the range of potential conceptualizations and, importantly, their cognitive ‘fitness’ among potential adherents change as the cultural environment changes – though not necessarily in a predictable way (cf. Johannsen 2010). The agility of a religious group in latching onto and playing these changing patterns of salience, and in creating material representations reinforcing them (artefacts, buildings, iconography, sculptures, texts), would have been decisive for the success of past religious movements and institutions, as it seems to be today. I see this observation as fully compatible with those other aspects of the dynamic that Turner emphasizes in his analysis, and as such my comments are meant to point not to a correction but to a potentially important addition to an already strong framework for understanding how religions and religious institutions evolve historically.

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