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The Nature of Unnaturalness in Religious Representations:
Negation and Concept Combination¹

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Abstract

The cognitive anthropological approach has provided a powerful means of beginning to understand religious representations. I suggest that two extant approaches, despite their general plausibility, may not accurately characterise the detailed nature of those representations. A major source of this inaccuracy lies in the characterisation of negation of ontological properties, which gives rise to broader questions about their ontological determinacy and counter-intuitiveness. I suggest that a more plausible account may be forthcoming by allowing a more complex approach to the representations, deriving from understanding their nature as concept combinations. Such an account also suggests an alternative approach to the role of deference in religious representations. In sum, the empirical and theoretical implications of a more fine-grained analysis of religious representations suggest a vindication of the cognitive anthropology approach to integrating culture and cognition.

1 Introduction and Outline of Paper

The cognitive approach to anthropology has proved to be a very fertile way of understanding the underpinnings of the cultural distributions of representations. Insights into a range of different types of belief have been derived from its premise that, in order to understand the structure, content and distribution of representations, it is necessary (though not sufficient) to understand the cognitive processes through which representations are held, modified and transmitted.

In this paper, I aim to discuss some issues concerning recent cognitive anthropological approaches to religious representations. My argument is not that the cognitive anthropological approach has not produced a viable account of these representations in general, but rather that they may have failed adequately to reflect some of the complexities of the details of the representations.

The paper is structured as follows. I will first outline some of the basic ideas from the cognitive anthropological approach to religious representations, and then indicate some of the key points that will serve as the starting point for the argument. I will suggest that the cognitive anthropological approach assumes that religious representations are best understood as types of complex concepts – that is, combined concepts. This leads onto a summary of some recent ideas concerning concept combination, from the cognitive psychology literature. This provides a space of possibilities for understanding concept combinations, in terms of different cognitive mechanisms for producing representations.

The cognitive anthropological approach assumes that religious representations can be understood by employing only a small set from this space of possibilities. I will then go on to suggest that this assumption may not be warranted, and that a fuller understanding of religious representations may be forthcoming if we employ a wider range from this space of possibilities, and thus allow that religious representations may be somewhat more complex and indeterminate in their content than usually assumed.

2 The Cognitive Anthropology Approach

The key ideas from the cognitive anthropological approach that I will discuss arise from the work of Sperber (1975, 1996, 200) and Boyer (1994, 1996). I shall not be concerned with work concerning the emotional significance of religious representations (e.g., Whitehouse, 2000) or the nature of religious rituals (e.g., Lawson & McCauley, 1992) – though these aspects are clearly important to a fuller picture – nor with other cognitive anthropological approaches to religion, which do not make claims at the same level of cognitive psychological detail (e.g., Bloch, 1999).

A central tenet of the approach is that religious representations are both natural (or intuitive) and unnatural (or counter-intuitive).² They are natural in that their nature, organisation, processing, content and development are explicable on the same terms as non-religious representations – so we should expect exactly the same cognitive mechanisms to underpin our concepts of gods and our concepts of dogs. But they are also unnatural, in that religious concepts negate intuitive ontological expectations about

physics, psychology, and so on, which non-religious concepts obey – so gods defy the folk physics that dogs obey. I will suggest that this characterisation is only partially correct: that is, religious representations are natural in that they are explicable according to the same mechanisms as non-religious representations; but that the pattern of denial of intuitive ontological expectations for religious representations is not as marked as Boyer and Sperber argue (e.g., in many instances the ontological expectations are not directly negated but only cast into doubt), and that this pattern is also found in non-religious representations. I will further suggest that one source of the unnaturalness of religious representations may be found in their indeterminacy of content arising from indeterminacy of processing mechanism. These differences have implications for explaining the symbolic or mysterious quality of the phenomenology of religious representations, and for their connection with deference to authority.

Sperber (1994; 2000) differentiates between two “levels” of representation: basic, or intuitive beliefs, and less basic, reflective beliefs. The former concern the kinds of fundamental, largely implicit, beliefs we hold about ontology and its explanation – for example, basic beliefs about physics, psychology, etc.; they are beliefs that do not require a great deal of explicit teaching or enculturation, since they are characterised by the unfolding of innately given templates for natural kinds, psychological explanations, and so on. The latter concern the more explicit beliefs that arise from combining intuitive beliefs into more complex representations; they often do require explicit enculturation, and very often result in contradictions between intuitive beliefs. Where such contradictions arise, it is hypothesised that the resolution of the contradiction – and hence

an accurate interpretation of the complex representation – may depend upon deference to a culturally-sanctioned authority (e.g., priest, scientist, teacher). Additionally, such a contradiction may be embedded in a “metarepresentation” – as a reflective belief – in which the contradiction is explicitly not resolved and so the belief is not “felt” to be true or believed in the same way as a basic intuitive belief – even though it is, as it were, mentally “declared” to be true as a result of being part of such a metarepresentation. In this way, certain beliefs are interpretable, but not graspable intuitively.

Boyer (1999) further developed this general picture of the basic content of religious representations. In a sense, whilst Sperber’s account is largely concerned with how religious beliefs are represented, and so emphasises the contrast between intuitive and reflective beliefs, Boyer is more concerned with the content of those beliefs – that is, what is represented. In this way, the two pictures are complementary. Boyer argued that there are three invariant features to the content of religious representations. First, each representation activates at least one ontological category: e.g., the representation or symbol of spirit activates the ontological category of PERSON. Second, those representations negate (“breach”) the intuitive expectations of that ontological category: e.g., the representation of a spirit is of a PERSON that is (usually) invisible and can move through physical obstacles – that is, a person whose properties definitely do not follow the intuitive ontological expectations concerning physics that normal people follow. Third, they activate (“transfer”) other intuitive expectations of that ontological category: e.g., a spirit is a PERSON with a functioning mind, who behaves according to belief/desire psychology, perceives current events and remembers the past.

In this way, religious representations involve the combination of representations to form complex concepts. However, the pictures presented by Boyer and Sperber do differ in significant ways, concerning what I will refer to as the determinacy of representations and of the inferences arising from those representations. Boyer (1994) appears to assume that religious representations are representationally determinate, at least as regards their basic ontology – that is, the ontological status of religious entities is clear, since the cognitive mechanisms through which the representations are produced involve clear negation and transfer of category ontological properties. So the upshot is that we know what kinds of things religious representations refer to. However, on Boyer’s account, there is nonetheless a wide space for inferential indeterminacy – that is, uncertainty about the kinds of inferences that can be made about the religious entities. He suggests in particular that their counter-intuitive ontology renders uncertain implications about how to act towards the entities that religious representations represent. This is exemplified by inferential gaps – uncertainty concerning adherence to behavioural implications of religious beliefs. So Boyer’s approach appears to combine representational determinacy over ontology with inferential indeterminacy over resultant inferences about belief and behaviour.

By contrast, Sperber’s approach appears to involve a higher degree of indeterminacy. Where there is a contradiction between intuitive beliefs, Sperber suggests that the contradiction may not result in a clear negation of one of those beliefs (as in Boyer’s “breaches”), but in fact may not be resolved at all. That is, the cognitive mechanism for

constructing complex concepts may not produce an interpretation at all; the result is a “semi-propositional” belief, in which the two contradictory elements are preserved in the representation – that is, although only partly understood (in that the contradiction is not resolved), the belief is nonetheless a true belief. On this account, the contradiction need not be resolved at all, but where it is resolved, it is likely to depend on deference to an appropriate authority. Only after deference might the contradiction be resolved – though it is also important that, even after deference, the result might be no resolution at all; that is, the authority figure may provide an interpretation that does not resolve the semantic contradiction, but appeals to, for example, the “mystery” of the contradiction itself. Hence, given that there is a basic contradiction between elements of the representation, there are as a result, indefinitely many possible interpretations of the ontological nature of the entity represented by the religious representation – and the preferred interpretation may or may not involve arriving at a determinate ontological interpretation. Because of their contradictions of ontological assumptions, religious representations are particularly attention-demanding, making them what Sperber refers to as “relevant mysteries”. The constituent ontological representational indeterminacy of such representations is combined with an inferential indeterminacy that is similar to that proposed by Boyer.

So, for Boyer, religious representations have representational ontological determinacy coupled with inferential indeterminacy, whilst for Sperber religious representations have representational ontological indeterminacy coupled with inferential indeterminacy. It should also be noted that, as befits their explanatory orientations, both Boyer and Sperber are concerned to make universal claims – for example, Boyer explicitly argues that there

should exist no religious representation whose content does not follow the pattern noted above. I will suggest that a closer look at the possible mechanisms for constructing complex concepts can allow us to pursue a middle path, in which the religious representations are more representationally indeterminate than Boyer suggests, but not as open-ended as Sperber suggests. This in turn has implications for the universalist claims.

3 Cognitive Psychology of Concepts and Concept Combination

In order to see how this picture can be developed, I will provide a brief account of some key ideas in the recent study of concepts and concept combinations.

3.1 Concepts

Concepts are widely held to constitute the basic building blocks of thought. They represent the properties possessed by members of categories, providing information that is used to, inter alia: categorise entities as category members or non-members, make inferences about category members (so that, if we know something is a category member, we can usually infer that it possesses the properties relevant to category membership), and understand talk about category members. The precise form in which concepts are represented has been a matter of much debate over the years, but there has been a recent near-consensus around the idea that they are intimately connected with peoples' commonsense theories about a domain. So concepts about dogs reflect peoples' commonsense theories about dogs. Whilst there is much debate about how theories

themselves might be represented, there is wider agreement on the kinds of properties of entities that those theories represent. These properties divide into two broad kinds. First of all, one kind represents information about category members' surface properties – that is, the characteristic appearance, movement, and other inspectable properties that are used as more or less reliable indicators of category membership. These surface or diagnostic properties of the category are sometimes considered as providing evidence for a non-demonstrative inference about the inner properties of the category: that is, if it looks like a dog, moves like a dog, smells like a dog, then (by non-demonstrative inference) it more than likely is a dog. This inference is characterised as an inference about particular entity's possessing the hidden essence of the category, the second kind of property represented. Exactly how to characterise the essence is not completely clear, but there are at least three options available to us. First, it could be a sortal essence – the properties that are necessary for being a category member, and could be inspectable under ordinary conditions (e.g., to be a dog, an animal has to have been born from another dog). Second, it could be a causal essence – the property or properties that give rise to other, category-defining properties, but which are not themselves inspectable under ordinary conditions (e.g., some hypothesised internal properties which give rise to a dog looking like a dog). Third, it could be an ideal essence – the property or properties that a category member might possess under ideal conditions, or which an ideal member of the category might possess, but which may never really be encountered in any given instance (e.g., to be an ideal dog, it would need to have ideal faithfulness despite all forms of cruelty and hardship). The distinction between sortal and causal essences is difficult to draw in the limit; however, this problem need not detain us, since we will draw only on the contrast

between sortal and causal essences on the one hand, and ideal essences on the other – the former are held to reflect empirically existing category-relevant properties, whilst the latter reflect non-material properties (which may nonetheless have causal or sortal qualities ascribed to them). (For discussions of these points, see Murphy & Medin, 1985; Medin & Ortony, 1989; Braisby, Franks & Hampton, 1996; Gelman & Hirschfeld, 1999).

The intuitive properties that are breached and transferred (on Boyer's view) or that result in an ontological contradiction (on Sperber's view) are essence properties. Whilst Boyer only appears to countenance a role for sortal/causal essences, I will suggest below that, echoing Sperber (1975) on the symbolic qualities of strange beasts, religious representations may also involve transfer of ideal essences.

3.2 Concept Combinations

These contradictions, breaches and so on only arise because, in forming religious representations, other, non-religious representations are combined, and the properties of those combined non-religious representations are in some way incompatible. That is, religious representations are a type of concept combination, which are hypothesised to follow the same mechanisms as non-religious concept combinations.

In the following summary of some of the main approaches to concept combinations, we will see that the cognitive anthropological approach might benefit from assessing the

viability of alternative interpretation mechanisms. In general terms, empirical and theoretical approaches suggest that there are two broad types of mechanism whereby two concepts might be combined to make a complex concept. To make AB from A and B might involve either property mapping or relation mapping (see Murphy, 1990; Gagné & Shoben, 1997; Wisniewski, 1997). In property mapping, a property or set of properties from within concept A is transferred into the concept B to make AB. By contrast, in relation mapping, a meaning relation that is not represented in either A or B indicates how A and B are to be related to make AB. We will return to relation mapping below.³

Two broad cases of property mapping can be isolated, depending on whether the properties represented in A and B are consistent or in contradiction. Unification (Boyer's "transfer"): where property α that is transferred from A is consistent with properties already represented in B, so α is added to the properties of B to make AB: e.g., red apple, wet towel, loud noise all involve adding the property of the modifier (red, wet, loud) to the properties of the head concept (apple, towel, noise). Schematically, if A = properties p, q, r, and B = properties s, t, u, their unification into AB = p, q, r, s, t, u. Nothing extra is gained, nothing is lost. (cf., Franks, 1995; Wisniewski & Love, 1998.)

Where the properties of the concepts are in contradiction – that is, where property α transferred from A is not consistent with property β in B, there are at least two options (Franks, 1995). The first, negation (Boyer's "breach") may occur where α directly negates β , so that the resulting AB possesses α (and therefore $\neg\beta$). This is equivalent to assuming that property possession mirrors the laws of classical logic, and in particular expresses the negation of a 2-valued logic – where $\neg\neg\alpha = \alpha$. Examples of negations of

essences might include: fake gun, invisible picture, stone lion. In each case, the modifier concept directly and explicitly negates the essence properties of the second, head concept: whatever a fake gun is, it does not possess the essence of a gun; whatever a stone lion is, it does not possess the essence of a lion, and so forth. Schematically, again, if $\underline{A} = p, q, r$, and $\underline{B} = s, t, u$, and p entails $\neg s$, then their combination via negation property mapping into $\underline{AB} = p, q, r, \neg s, t, u$.

The second form of combination arises from a less radical form of contradiction: doubt, where $\underline{\alpha}$ casts doubt on $\underline{\beta}$, so that \underline{AB} possesses neither α nor $\neg\alpha$, and neither β nor $\neg\beta$. This is equivalent to assuming a 3-valued logic of negation, where $\neg\neg\alpha \neq \alpha$. Some cases of doubt over essences might include: apparent friend, blue lemon, alleged criminal, wooden skillet. In these cases, the modifier appears to cast doubt over the essential properties of the head: an apparent friend is someone who appears to be a friend, but who may or may not be a real friend; an alleged criminal is someone who has been claimed to be a criminal, but may or not really have committed a crime, and so on; of these entities, then, we can predicate neither the property of friendliness nor its negation, nor the property of having committed a crime nor its negation, respectively. There is, as it were, a truth-value “gap” that reflects the doubt over the properties. Schematically again, if $\underline{A} = p, q, r$, and $\underline{B} = s, t, u$, and p and s cast doubt on each other, then their combination via doubt property mapping into $\underline{AB} = \neg(p \& \neg p), q, r, \neg(s \& \neg s), t, u$.

However, conceptual doubt may take more than one form: Braisby, Franks & Harris (1997) differentiate between a weaker and a stronger form. The form noted above is the weaker, “exclusion” doubt, which reflects the notion that, in terms of categorisation, an

entity is not clearly a member nor a non-member of the category, or in terms of property possession, that an entity does not clearly possess property P nor \neg P. This is the form that has often been employed in characterising conceptual “fuzziness” (e.g., McCloskey & Glucksberg, 1978; van Mechelen, de Boek, Theuns & de Greef, 1992). “Inclusion” doubt, the stronger form, concerns the notion that an entity is both a member and a non-member of the category, or that it possesses both the property P and \neg P. Schematically again, if $\underline{A} = p, q, r$, and $\underline{B} = s, t, u$, and p and s cast doubt on each other, then their combination via doubt property mapping into $\underline{AB} = (p \ \& \ \neg p), q, r, (s \ \& \ \neg s), t, u$. Lest inclusion-doubt appear counter-intuitive, it should be noted that it appears to reflect the possibility of a tolerance of contradiction, as argued for by Nisbett and his colleagues (see section on Culture, Contradiction and Religious Representations, below). The above are examples of “two-way” doubt, in which p casts doubt on q and vice versa; a “one-way” form of doubt might also arise, where p casts doubt on s , but not vice versa.⁴

Whether such “gaps” in belief are actually eradicable or believed to be so may well depend on the domain of the belief – though I will suggest that it is an important part of the “mystery” that pertains to the doubt in religious beliefs, that the believer believes that there is the possibility of resolution of the doubt (usually, via deference to a religious authority).

If a combination interpretation is not arrived at by property mapping, it may be interpreted by relation mapping, in which a contextually appropriate semantic relation is chosen to specify the connection between \underline{A} and \underline{B} . The general assumption is that there is a finite list of such relations available, and that only one will be chosen for any one

combination in any one context. A range of different mediating relations have been hypothesised in past work (see, e.g, Levi, 1976; Gagné & Shoben, 1997). For example,

<u>A</u> that IS a <u>B</u>	<u>soldier ant</u>	<u>ant</u> that IS a <u>soldier</u>
<u>A</u> that MAKES <u>B</u>	<u>daisy chain</u>	<u>daisies</u> that MAKE a <u>chain</u>
<u>A</u> that CAUSES <u>B</u>	<u>birth pains</u>	<u>birth</u> that CAUSES <u>pain</u>
<u>B</u> that <u>A</u> HAS	<u>lemon peel</u>	<u>peel</u> that <u>lemon</u> HAS
<u>B</u> that CAUSES <u>A</u>	<u>tear gas</u>	<u>gas</u> that CAUSES <u>tears</u>
<u>B</u> that is ABOUT <u>A</u>	<u>tax law</u>	<u>law</u> that is ABOUT <u>tax</u>
<u>B</u> that is FROM <u>A</u>	<u>olive oil</u>	<u>oil</u> that is FROM <u>olives</u>
<u>A</u> that REPRESENTS <u>B</u>	<u>photo man</u>	<u>photo</u> that REPRESENTS a <u>man</u>

There are residual empirical and theoretical issues concerning exactly how to delimit the set of mediating relations, how to adequately differentiate a mediating relations interpretation from a property mapping one (e.g., the result of unification property mapping might be equivalent to the result of employing the IS relation for certain combinations), and so on. One pertinent question concerns the relative frequency of property mapping versus relation mapping interpretations: given than any one combination could be interpreted either way, which is the more likely? According to Gagné (2001), property mapping interpretations (i.e., the interpretations of the type that Boyer assumes to be typical of religious representations) are, *ceteris paribus*, more rare and difficult to construct, and recent work has suggested that this provides a link to creativity in mate selection displays (Rigby, 2001); such a potential connection with creativity may provide an interesting approach to understanding the cultural resilience of

religious representations, whilst making a novel connection with evolutionary theory (see also Bruce, 1996; Durant, 1985). However, this issue notwithstanding, the empirical possibility of different styles of interpreting religious representations is all that is required. The important point is that, when property $\underline{\alpha}$ from concept \underline{A} contradicts property $\underline{\beta}$ from concept \underline{B} , there are several options concerning the resulting interpretation: the combination may be uninterpretable at that cognitive level (as in Sperber's approach – though this may be because he assumes that the only possible result of contradiction is one property being negated, and does not countenance the doubt option); the combination may be interpreted via negation property mapping (as in Boyer's approach), or doubt property mapping, or by relation mapping. It is clear, then, that the current cognitive anthropological approaches to religious representations express only two of the empirical possibilities for apparently contradictory representations.

4 Religious Representations and Concept Combination

With the above background in place, we can see that the cognitive anthropological approach assumes that religious representations can be described using a small subset of the available possibilities concerning concepts and concept combination.

4.1 Key Issues Concerning Religious Representations and Concept Combination

Over-all, the cognitive anthropological approach appears to assume that:

1. All religious representations that involve concept combinations are property mapping

combinations.

2. Where the property mapping does not involve contradictions between properties, the only relevant essence “transfers” are of sortal/causal essences (Boyer).
3. Where the property mapping involves contradictions between properties, the outcome is either negation (Boyer) or uninterpretability (Sperber).
4. All religious representations are processed in the same way as non-religious representations.
5. As a result, religious representations either have determinate ontology (Boyer) or massively indeterminate ontology (Sperber).⁵

I would like to suggest that, pace these elements of the cognitive anthropology approach,

- 1'. Some religious representations may involve relation mapping combinations.
- 2'. Some transfers of properties in property mapping may be of ideal essences.
- 3'. Some contradictory combinations may involve doubt property mappings – resulting in an interpretable religious representation that does not involve negation.
- 4'. Some religious representations may not be processed in the same way as non-religious representations (unlike non-religious representations, the decision over whether they are to be treated as relation mapping or property mapping may be unclear).
- 5'. As a result, religious representations may be ontologically indeterminate, but in a restricted manner.

Notice that, given the universalist claims of the cognitive anthropology approach, it is not necessary that all religious representations share qualities 1'-5'. Rather, it is only required that at least one of these qualities is found in at least one (not necessarily the same) religious representation, for questions to be raised about the applicability in detail of extant cognitive anthropological approaches.

4.2 The Key Issues Exemplified

In this section, I will provide some brief examples concerning the above five key issues, all drawn from beliefs found in Roman Catholicism, and all suggesting that, in describing the content of certain Roman Catholic religious representations, the cognitive anthropological approach could benefit from availing itself of a wider range of concept combination resources. In each case, I will be concerned to give only a very schematic account of the content, rather than an exhaustive description, so as to demonstrate the broad empirical potential of the approach and indicate the nature of the contrast with the cognitive anthropology approach.

First, relation mapping interpretations: there are clear cases of relation mapping combinations that are explicitly signalled linguistically. For example, a sung mass is “a mass that IS sung”. However, of far more interest is the representation of the ritual wine and bread in the Catholic Mass. One way of glossing the relationship between the wine and bread on the one hand, and the blood and body of Christ on the other, is as a symbolic relationship: the wine REPRESENTS the blood of Christ & the bread

REPRESENTS the body of Christ. Similarly, in understanding the ontological nature of the Holy Trinity, there may be a set of mediating relations that provide the skeleton of an interpretation: the Son REPRESENTS the Father & the Son REPRESENTS the Holy Spirit & the Father IS the Holy Spirit.

Second, property mappings that might involve the transfer of ideal essence properties. Consider the possibility that at least part of the representation of God is as a being that possesses ideal properties transferred from our representations of humans (i.e., ideal theory of mind or “mind-reading” abilities, ideal compassion, knowledge, justice, etc.), but not the actual, human-level versions of those properties. Again, consider the Mass: one way of understanding the properties of the ritual entities is that the wine and bread do not possess the sortal/causal essences of the blood and body of Christ, but may possess their ideal essences – in this case, characterised perhaps in some way concerning their hidden causal powers and hidden connections with Christ. Or the Holy Trinity may be an entity that does not simultaneously possess the sortal/causal essences of all of a Father, a Son and a Holy Spirit, but may possess the ideal essences of some or all of them.

The next question to canvass is the possibility of doubt property mappings⁶. Pursuing the example of the Catholic Mass, it may be that the wine and bread are represented as possessing neither the sortal/causal essence of the blood and body of Christ, nor the sortal/causal essence of wine and bread, nor their negation: i.e.,

\neg (essence of wine & \neg essence of wine) &

\neg (essence of blood of Christ & \neg essence of blood of Christ) ...

\neg (essence of bread & \neg essence of bread) &

\neg (essence of body of Christ & \neg essence of body of Christ).

Similarly, consider the Holy Trinity: this may be represented as an entity that possesses neither the sortal/causal essence of a Father, of a Son and a Holy Spirit, nor their negation: i.e.,

\neg (essence of Father & \neg essence of Father) &

\neg (essence of Son & \neg essence of Son) &

\neg (essence of Holy Spirit & \neg essence of Holy Spirit)

Indeed, the idea of a religious entity as something that somehow, mysteriously reconciles opposites, and transcends ordinary notions of presence and absence, and of existence and non-existence – that is, an entity that is counter-intuitive or unnatural – appears to be reflected in such doubtful property mappings. Such a conception appears to be present in representations of spirits, icons, and so on.⁷

Perhaps the major point to be made, however, relates to the lack of ontological determinism that arises from this picture of the representation of religious entities. I have suggested that a general characterisation of the conceptual content attached to various religious entities involves content that arises from several different sources. This is quite deliberate: a key aspect of these representations is that they do involve a constrained degree of indeterminacy over the ontological nature of the entities, and this indeterminacy is reflected in the three different possibilities for interpretation. Hence, does the Catholic Mass involve consuming wine and bread that do possess the actual causal/sortal essences of wine and bread but (merely) symbolise the blood and body of

Christ (symbolic relation mapping)? Or does it involve consuming wine and bread that possess the ideal essences of the blood and body of Christ (ideal essence property mapping)? Or does it involve consuming wine and bread whose possession of the actual sortal/causal essences of the blood and body of Christ is uncertain (doubt property mapping)? Exactly parallel possibilities arise with respect to the Holy Trinity. Does the notion of the Holy Trinity symbolise the Father and Holy Spirit through the Son? Or does it possess the ideal essences of a Father, a Son and a Holy Spirit? Or is its possession of the actual sortal/causal essences of a Father, a Son and a Holy Spirit uncertain?

Notice that there are two levels of indeterminacy at play in these religious representations. At one level, there is indeterminacy resulting from doubt property mappings, which lead to indeterminacy as to whether the entities possess the relevant essential properties. But this type of interpretation is only one of the several available, and so there is an additional level of indeterminacy over which to choose from the range of possible interpretations that includes doubt property mapping, symbolic relation mapping and ideal essence property mapping. In allowing for these types of indeterminacy at the level of the ontology of the representation, there is a contrast with Boyer's approach; and in allowing for the narrow constraint on the second type of indeterminacy (as a selection of one or more possibilities from a specified, finite set of interpretations), there is a contrast with Sperber's approach.

Such constrained indeterminacy or uncertainty over the ontology of religious entities may thereby be an empirical possibility, but it is it any more than that? There is relatively little

evidence directly available on this point; the empirical findings provided by Boyer, Barrett and others are not sufficiently fine-grained to isolate either level of uncertainty, nor to differentiate representational from inferential indeterminacy.

However, some writers have pointed out that the kinds of tensions between a finite number of semantically distinct interpretations – as in the second level of indeterminacy – is characteristic of the psychology of religious belief. For example, Watts & Williams (1988) note that: “The communion is not a mere piece of dramatic allegory, and ... [cannot] ... be reduced to a set of literal statements that ‘unpack’ the allegory ... In religious thinking ... there is a tension between the symbol and the symbolised that is never resolved. They are neither identified nor finally separated” (p. 139). This tension between the symbol and the symbolised appears to be captured by the uncertainty over whether a symbolic relation mapping or property mapping interpretation is to be preferred.

Not all of these possibilities for interpretation are mutually incompatible, however – one could in each case simultaneously subscribe to both the ideal essence property mapping and the doubt property mapping possibilities, for example. And it is possible that possessors of such religious representations may vacillate from one type of interpretation to another during different processing and ritual episodes, or at different points in their career of religious belief. Notice that this indeterminacy is different from the indeterminacy that arises in non-religious representations, which typically do not involve uncertainty concerning which type of interpretation “mechanism” is employed (i.e.,

relation mapping versus property mapping, etc.), but may involve uncertainty over precisely which properties are to be mapped, for example. So whereas for non-religious representations the uncertainty typically concerns which of various different interpretations of a single semantic type (e.g., which of several different property mapping interpretations) to choose, for religious representations that uncertainty concerns which of different semantic types of interpretation to choose.⁸

In sum, the cognitive anthropology approach locates the unnaturalness of religious representations in the content of those representations, though they are natural in that they are arrived at by exactly the same process as non-religious representations. This provides the foundation for more detailed accounts of religious representations. However, there are two reasons why this account of the unnaturalness of religious representations/concept combinations is incomplete, one concerning the content of religious representations and one concerning the process of interpreting religious representations. Concerning the content of religious representations, the oddity of religious representations in contradicting ontological assumptions has been overstated – as we have seen, other, non-religious representations also contradict ontological assumptions, so this cannot be the sole source of their unnaturalness. Moreover, I have suggested that the cognitive anthropology approach has not entertained the full complexity of the content of religious representations, nor has it given a satisfactory account of its nature and degree of ontological indeterminacy. But the process of arriving at religious representations also appears to differ from that for non-religious representations – though not in a fundamental way. I have suggested that there may be a characteristic role for processing

uncertainty giving rise to ontological uncertainty, in a way that is not typical of non-religious representations.⁹

5 Implications

In this section, I will trace out some of the implications of the approach sketched, noting further contrasts with the approaches of Sperber and Boyer.

5.1 Culture, Cognition and Deference

It may appear that the differences between the approach that I have sketched and those of Sperber and Boyer are “merely” ones concerning detailed cognitive processing, which have no implications for the social and cultural ramifications of religious representations. Not so. Recall that Boyer’s approach to religious representations allied representational determinacy to inferential indeterminacy, and Sperber combined representational and inferential indeterminacy. In essence, where there is representational or inferential indeterminacy, there may be a major role for cultural forces in directing thought, inference and action along a selection of culturally-sanctioned channels – thus, cognitive indeterminacy may be constrained by cultural determination; cognition proposes options (from within a set generated by the matrix of cognition and culture) and culture disposes.

There are two distinct areas in which the different pictures presented here have different implications. First, different accounts of indeterminacy will have different implications for deferential relations concerning the content of religious representations. I will return to this below. Second, indeterminacy is also central to cognitive anthropology approach's explication of the quality of religious beliefs – their particular psychological “modality”, as involving a sense of awe or mystery in their phenomenology. The fact of indeterminacy, according to Boyer (1994) is the cognitive underpinning for this sense of mystery: the apparently non-rational and open-ended nature of interpretation supports a sense that the objects of religious representations are qualitatively different from those of non-religious representations. I am not concerned, here, with whether indeterminacy fully explicates that sense of mystery (though, prima facie, it would seem that religious representations are more intrinsically connected to further propositional attitudes in addition to belief – e.g., hopes, fears, and so on – than are non-religious representations); rather, I am concerned with whether the nature and location of indeterminacy in the cognitive anthropology approach is likely to be sufficient to address that mystery.

Now, to separate inferential indeterminacy from representational determinacy, as Boyer does, suggests that there is no real “mystery” about the ontology of religious entities for possessors of religious representations: the nature of God, the Trinity, the Mass, etc., is ontologically clear; what is uncertain is what follows from that ontology, in terms of detailed (largely, surface) properties of the entities and the actions and practices that are connected to them. It is not clear that this is a wholly accurate picture of the quality of all religious beliefs. For one thing, it is likely to be a matter of variation between the objects

of religious representations; so, for example, the representation of a spirit may be more determinate than the representation of the Trinity; so Boyer's picture might be more appropriate to some objects of religious representations than others. Moreover, the general tenor of Boyer's approach appears to be correct, in that it may be that religious representations are less indeterminate in their basic ontology than in their inferential consequences – but, again, this means a difference of degree of indeterminacy, rather than its absence from the ontological representations.

By contrast, to propose unlimited indeterminacy in representation and inference, as Sperber does, appears to imply that there is the same kind of “mystery” about religious representations' ontology as about their implications. Given that the inferential connections are unconstrained, this may also suggest that peoples' beliefs about basic religious ontology is similarly massively unconstrained. This appears to not fit with the picture of uncertainty over specified alternatives that Watts & Williams note, nor does it accord simply with the high degree of constraint in ontology identified by Boyer. Moreover, Sperber's account appears to imply that ordinary possessors of religious representations just cannot, for at least some representations, arrive at an interpretation of what they actually mean; rather, their interpretation is always mediated by deference to an authority. This appears to carry the suggestion that beliefs about the fundamental ontology of religious entities are always mediated through deference. It is not clear that this reflects the phenomenology of at least some such representations, where those who do believe normally conceive of themselves as bearing a direct relation to the objects of their belief – the relationship with God, for example, is a direct, personal relationship. A

religious representation with unconstrained indeterminacy is one in which a deferential relation holds before any clear interpretation is made, and this appears to preclude the very “directness” that is required. Indeed, the difference between an actual religious representation or belief (as part of a system of beliefs within a culture) and a vague, religious “feeling” appears to be mirrored by the distinction between constrained indeterminacy of representation and unconstrained indeterminacy of representation. By contrast, an account that posits the possibility of clear interpretations before deference (as Boyer and the current picture suggest), may be more directly able to reflect the sense of “directness”.

To propose a middle line – constrained indeterminacy of representation plus wider indeterminacy of inference – is to allow that the nature or extent of the “mystery” attached to basic ontology and consequential inferences, differs. Whether this is accurate is a broader empirical question.

An additional point should be made here. In discussing the psychological modality of religious belief, I have assumed that this modality is closely mirrored by the nature of the content – where content is indeterminate then this allows room for a sense of mystery to operate. I have also assumed that the sense of directness in religious beliefs may be facilitated by a degree of determinacy (and corresponding absence of deference) in those representations. The two are clearly connected. However, it might be argued that these aspects of the psychological modality are, by contrast, more strongly separable from the nature of their content – that directness and mystery are experiential components that can

be applied to any contents, regardless of their determinacy. Such an account would then allow the approaches of Sperber and Boyer – indeed, the current approach also – to provide straightforward accounts of “mystery” and “directness”. The empirical and theoretical implications of these alternatives thus require further investigation.

Now, turning to deference, Boyer’s account makes the ontology of religious representations not intrinsically different from that of non-religious representations, save for their counter-intuitive nature. The predicted pattern of social deference, on this account, would presumably be the same as for natural kinds: the basic ontology is clear, though the extensive details of the entities are not. However, I will suggest below that there do appear to be qualitative differences between the nature of deference for religious representations and for natural kinds. By contrast, Sperber’s account may make the ontology of religious representations entirely disjoint from that of natural kind representations (in that the latter is determinate, and the former is not, on Sperber’s account) – again, a possibility that may elide important commonalities between the two.

An option that is clearly a part of the Catholic religion is for adherents to defer in their beliefs to the explicit teachings of the priesthood, with one of two consequences. One possibility is that deference results in choosing one of the available interpretations as the one to believe. Another, and one that accords more directly with Catholic teaching, is that the teaching might deny some possible interpretations (e.g., symbolic relation mapping, which is more redolent of protestantism), and assert the irresolvability of the remaining indeterminacy as part of the “mystery” of belief. In this case, it is crucial that there is a

small set of available interpretations for important religious concepts (and I do not contend that the three I have suggested are an exhaustive list), so that the indeterminacy is not open-ended (pace Sperber). This form of deference is in marked contrast to the deference exhibited in non-religious representations (see, e.g., Putnam (1975), Recanati (2000), Woodfield (2000)), in which someone with a lack of semantic knowledge defers to an expert, who then provides access to the facts of the matter, or a definitive interpretation. For example, for natural kinds, deference to scientific experts can resolve uncertainty about the meaning of natural kind terms (such as, what exactly separates an elm from a beech). By contrast, deference for religious representations may result in not resolving uncertainty and, perhaps, specifically inculcating such uncertainty as part of the mystery. But precisely because it is sanctioned by authority, and is a constant part of the orthodoxy, this uncertainty does not result in failure to act or communicate appropriately in religious settings, unlike the parallel case for non-religious representations (where lack of knowledge may result in inappropriate language use and other behaviour).

The nature of the uncertainty for non-religious representations also differs from that for religious representations: for religious representations, the key issue concerns how to decide which of a finite set of possibilities best reflects the ontological nature of the entities in question; the resolution of that uncertainty (or its principled non-resolution) does not require additional information about the entities in question – this deference is very closely allied to social authority relations. Such a connection between deference and authority, in the absence of independent informational grounds renders the outcomes relatively resistant to debate and challenge – the resolutions of uncertainty offered cannot

be challenged without challenging the authority of the priest and thereby the beliefs upon which they are based. By contrast, for deference in non-religious representations, the typical case concerns how to obtain information so as to identify, define or otherwise characterise the similarity and difference between entities whose basic ontological nature is not uncertain (elms and beeches are both known to possess the essential ontology of trees, for example); such a judgement does require additional information to resolve the uncertainty (either noting new properties or altering the relative importance of already known properties) – this deference allies authority to information. The connection with authority and information renders the outcomes of this deference open to challenge and debate – the resolutions of uncertainty offered can be challenged without thereby challenging the authoritative status of the scientist (though a challenge to both is often made at once, as in debates concerning genetically modified foods). Whereas deference in non-religious representations can be allied to referential feedback concerning the entities themselves, rendering it directly corrigible, the parallel form for religious representations involves feedback only from public representations that have already been sanctioned as acceptable by authority (e.g., texts, pictures, etc.).¹⁰ So although there are similarities between religious representations and non-religious representations in that both involve deference, and the over-all pattern of deference is consistent between religious representations and non-religious representations, the detailed nature and functioning of that deference may differ.¹¹

5.2 Culture, Contradiction and Religious Representations

A final range of questions that I would like to raise concerns the broader connection between cognition and culture. Thus far, I have suggested that the picture presented by Sperber and Boyer may not, after all, offer an account of universal aspects of religious representations. This is because of the role of doubt as opposed to direct negation in those representations. In a sense, then, this has been an argument based on possible cognitive variation in religious representations. I would now like to take this point a step further, and note some implications of cross-cultural variation for the cognitive structure of religious representations.

The argument draws upon recent findings from the work of Nisbett and colleagues. Nisbett, Peng, Choi & Norenzayan (2001) claim that there is a bifurcation in cultural traditions between Eastern and Western cultures, and that these traditions have given rise to different characteristic styles of cognition. In essence, the West is characterised by an “analytic” style of cognition, which focuses on objects, categories and parts as separate from their contexts, and prioritises a “linear” form of logic. By contrast, the East is characterised by a “holistic” style of cognition, which views entities as inherently connected to their contexts, and prioritises a “dialectical” form of logic. Quite how sharply the distinction should be drawn and how these differences manifest themselves in the details of cognition, is unclear. The claim, over-all, is that evolution has provided humans with a cognitive endowment in the form of a range of possible cognitive “tools for thought”, and that different cultures elicit these tools to varying degrees. Now, a key point of difference between linear and dialectical logic concerns the status of the law of excluded middle: whereas for the linear logic of the West, an entity is (or has properties)

either P or \neg P (but not both), for the dialectical logic of the East, an entity can be (or have properties) both P and \neg P at once. That is, dialectical logic tolerates contradiction in a way that linear logic does not. Note that this tolerance of contradiction is, apparently, not a matter of context-dependence. That is, the claim is not that people simultaneously hold contradictory beliefs, where each belief is activated in different contexts (so that in any specific context, the contradiction is resolved); rather, the claim is that people simultaneously hold such contradictory beliefs in a single context, so that contradictions are not resolved by context.

This possibility has important implications for the cognitive psychology of religious representations. As we have seen, it is a key contention of both Boyer and Sperber that a critical aspect of religious representations is its encoding of irresolvable contradictions between component beliefs. This renders them “relevant mysteries” in Sperber’s terms, and prevents their being understood in the normal way. In Boyer’s terms, the contradiction itself appears to be vital in generating the inferential indeterminacy that gives rise to the sense of the sacred. On both views, holding contradictory beliefs is marked out as a special, non-default circumstance.

But if Nisbett et al’s contention is correct, then holding contradictory beliefs is only “special” in those cultures that lead people to employ linear logic. And if this is the case, then the connection between contradictions and religious representations and the sense of the sacred is also rendered less straightforward. This is because – under dialectical logic – contradictions would be a part of the normally understood representations of potentially

any domain, rather than specially marked out partially-understood representations that pertain to sacred and related domains. This would also suggest that there is a more important role for the specifics of content in religious representations than the somewhat structural accounts of Sperber and Boyer suggest. That is, the sense of the sacred cannot be an implication of the representation of mundane contradictory beliefs, so the specific content of the contradiction itself must be important. This suggests a possible limitation on the argument against the role of content noted earlier (see note 8).

A further point to note concerns the possible connection between tolerance of contradiction and the role of doubt. As discussed earlier, two different characterisations of conceptual doubt relate to an intuitive “inclusion” and “exclusion”. Exclusion-doubt, the weaker form, concerned the notion that an entity is not clearly a member or a non-member of the category, or that it does not clearly possess property P nor \neg P. Inclusion-doubt, the stronger form, concerns the notion that an entity is both a member and a non-member of the category, or both possesses the property P and \neg P. It appears that the tolerance of contradiction suggested by Nisbett et al may well be characterised as Inclusion-doubt. Hence, the approach sketched in this paper is consonant with the application of contentions of Nisbett et al to religious representations. Of course, referring to this as a form of doubt itself appears to presuppose the lack of tolerance of contradiction that is the hallmark of linear logic (that is, the contradiction may only give rise to doubt for those enculturated in linear logic). Such labelling notwithstanding, the possibility emerges that different styles of representing religious representations are at least partially explicable in terms of different responses to contradiction. Whereas in the

West, linear logic leads to the weaker, exclusion-doubt, in the East, the characteristic dialectical logic leads to the stronger, inclusion-doubt. The implication is, again, that a richer account of the conceptual nature of religious representations – one that allows for different kinds of conceptual doubt as well as negation – is required. Empirical investigation, providing contrasts between religious representations held under linear and dialectical logics, are necessary properly to clarify the issues.

6 Conclusions

The cognitive anthropology approach to religious representations has provided a powerful theoretical and empirical orientation which has yielded major insights. I have suggested that two major extant theories that take this approach have provided a picture which is accurate in its broad outlines, but which may require modification. The extent to which such modification should be a matter of finer details or of broader generalities, is subject to empirical investigation and the tracing out of theoretical implications. The differences that emerge have implications for the cognitive and cultural functioning of religious representations, within and across cultures. And this suggests a vindication of the general cognitive anthropological project, in its aim of integrating culture with cognition.

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Notes

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² My reference to the “characterisation” of religious representations should not be taken to suggest that Sperber or Boyer attempt to define or rigidly delimit the religious – they are, rightly, quite explicit that this is a family resemblance phenomenon. Equally, although I focus largely on the cognitive mechanisms relating to those representations (though see Section on Culture, Cognition and Deference, below), both Sperber and Boyer rightly stress the interdependence of cognition and culture as being key to the character of religious representations.

³ Note that these “mechanisms” relate only to the kinds of content that enter into and emerge from the combination process. They do not attempt to specify any actual device or mental implementation. Our discussion relates only to the level of content.

⁴ The use of a logical notation is here meant only to explicate the relations between the contents represented; there is no claim that the actual mental representation is in terms of logical relations. Such a description is not intended to suggest that the “doubt” thus described is anything other than epistemic.

⁵ The use of “massively” here is intended to signal the point that Sperber’s approach offers no obvious constraint on indeterminacy, save for any that follow from the nature of the two concepts being combined (that is, from the components that are properly understood) – this must, however, be a weak constraint, given that the two concepts are

contradictory, and there is no limit to what can follow from a contradiction. By contrast, the approach that I present will suggest that the indeterminacy reflects the possibility of choosing from a finite set of possible ontological interpretations.

⁶ In exemplifying doubt property mappings, I will give examples of only exclusion-doubt, and not inclusion-doubt. In each case, the parallel inclusion-doubt possibility can be rendered by deleting the negation so that the combination of the property and its negation are no longer within the scope of a further negation. That inclusion-doubt results in reasonable paraphrases of aspects of the religious representations should be clear. For example, for the Mass wine, possessing the complex property, (essence of wine & \neg essence of wine), appears plausible. Whether inclusion-doubt or exclusion-doubt provides a more adequate paraphrase of such beliefs may well depend on the believer in question, or the nature of the religion. Such issues are again empirical matters.

⁷ It should be clear that some aspects of the contents that I have discussed may be well described in the terms used by Sperber – for example, those subject to exclusion-doubt property mappings may express semi-propositional contents, in that they have some components that are clearly understood at the intuitive level, and others that are not. Others may be described in the terms used by Boyer – for example, negation property mappings reflect “breaches”. My main point is that they have not given a detailed account of the ways in which such disparate contents might cohere in a religious representation.

⁸ For non-religious representations, one way of resolving doubt, and providing detailed information for a concept, is via “referential feedback”. This involves identifying a typical member of the category that is represented, and then feeding back knowledge of

its properties to the category's representation (e.g., Hampton, 1987). Such feedback is not straightforwardly available for religious representations, since Gods rarely make unambiguous appearances. Rather, this suggests that religious concepts may be more dependent for their content on deference to authority and the use of public, cultural representations (see below).

⁹ There is a further, broader reason to caution against locating the counter-intuitive nature of religious representations solely in their content. Gelman & Hirschfeld (1999) suggest that “essentialism” is a general organising principle that holds across a range of apparently disparate domains – they note its role in guiding categorisation and non-demonstrative inference in understanding inheritance in natural kinds, contagion in illness, transfer of negative and positive affect (in contamination and fetishisation, respectively), and in religious initiation. In all cases, the hidden cause gives rise to a transfer of hidden, essence-like properties, which then give rise to characteristic surface properties. To the extent that this organising principle does hold across domains, then religious representations are not counter-intuitive, since they abide by the same essentialist principles. So although in terms of detailed ontological content, religious representations may be counter-intuitive (though this does not, as we have seen, make them different from many non-religious combinations anyway), in terms of the way in which the resultant representations are organised and support inferences (i.e., according to essentialist principles), they are not counter-intuitive.

¹⁰ However, to the extent that the natural entities over which deferential beliefs range are not themselves open to ordinary inspection – such as the entities involved in genetic modification – the form of deference shares with religious representations the prior

authority-based sanctioning of acceptable sources of evidence. This suggests that the types of deference may be located on a continuum, with complex religious representations (e.g., the Trinity, the elements of the Mass) at one end, ordinary natural kinds (e.g., elms and beeches) at the other, and simpler religious representations (e.g., spirits) and less accessible natural kinds (e.g., germs, genes) ranged between.

¹¹ The picture that I have presented thus far is one in which there is no principled reason why the likelihood of not resolving uncertainty in religious representations should be any less than that of resolving it. However, an alternative approach may be forthcoming from an evolutionary account of the connection between the sense of mystery and the resolution of indeterminacy in peoples' preferences for types of environment. Some have found a preference for environments that provide a sense of "mystery" (see, e.g., Kaplan, 1992; Orians & Heerwagen, 1992). Environmental mystery is the promise of more information if one goes further into a scene, and is reflected in elements of the scene such as screening in the foreground, a winding path, and other features that simultaneously promise more information whilst partially obscuring it. Mystery involves the need to make inferences via exploration, in order to gain more information. This has a consequence that indeterminacy need not actually be resolved, but does need to be resolvable; if there is no promise of resolution, or if the indeterminacy is open-ended (and so not informational), then mystery is transformed into danger. There may be useful insights here for religious representations – that unbridled indeterminacy does not lend itself to positive mystery, and that such mystery does not require that the indeterminacy actually be resolved, but rather offer a promise of resolvability. So, leaving it unresolved, and consequently not deferring in practice, is supported by the knowledge that one could

resolve indeterminacy by deferring, at least in principle. Such parallels may also be suggestive concerning the evolutionary origin of sacred places. Again, these are empirical matters.