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The Transmission of Early Christian Thought Toward a Cognitive Psychological Model

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Abstract: This article uses current developments in cognitive science to explore the emergence of early Christian religion. In particular, it considers Sperber's epidemiology model, Rubin's serial recall model, ritual form theory, and Boyer's theory of religious concepts for understanding the transmission of early Christian thought. Whereas Sperber's approach focuses on ideas (internal representations), Rubin concentrates on the transmission of texts (public representations). Two preliminary hypotheses are put forward in an attempt to apply cognitive scientific research the formative Christianity: the *cognitive relevance hypothesis* about core christological concepts, and the *optimal transmission hypothesis* addressing the balance of tradition and conceptual innovation.

Résumé: Dans cette étude, les tout derniers développements des sciences cognitives sont mis à contribution afin d'explorer les origines de la religion chrétienne. Tout particulièrement, afin de comprendre la transmission de la pensée paléochrétienne, ont été pris en compte le modèle épidémiologique de Sperber, le modèle des rappels en série de Rubin, la théorie des formes rituelles et la théorie des concepts religieux de Boyer. L'approche de Sperber se concentre sur les idées (représentations internes), tandis que Rubin se consacre davantage à la transmission des textes (représentations publiques). L'application des résultats de la recherche des sciences

cognitives aux origines du christianisme se traduit par deux hypothèses préliminaires : l'*hypothèse de la pertinence cognitive*, au sujet des concepts christologiques essentiels, et l'*hypothèse de la transmission optimale*, à propos de l'équilibre qui existe entre tradition et innovation conceptuelle.

1. The challenge of locating Christian origins

After two centuries of modern biblical scholarship, the origins of early Christian religion still remain unclear. Anyone studying first century Christianity has to realise both the diversity and complexity of the phenomenon. Already the earliest documents reflect the existence of surprisingly different and often rivalling groups of the new religion. The variety of views and practices found in the earliest writings is so great, that it is almost impossible to find a minimal definition of Christianity. One should compare, for example, the views about Jesus' death and human salvation in Romans, the Epistle of James, the *Gospel of Thomas*, or the *Acts of John*. Indeed, the very notion of a single origin of Christian religion seems to be an elusive one.

Not only the variety, but also the complexity of early Christian religion is highly perplexing. Most religions in Greco-Roman antiquity were cults, which can be basically described in terms of rites and institutions. Mythology was also important, but it was transmitted in a number of different ways (history, poetry, fine arts, etc.) rather than controlled by religious institutions. The interpretation of mythology, together with the discussion of the great issues of life, was outside the realm of religion. In Early Christianity, in contrast, a single institution coordinated aspects of mythology, ritual, social life, philosophy, and ethics.

If we consider this complexity, it is not surprising that scholars have sought the origins of Early Christianity in such diverse corners of antiquity as mystery cults (e.g. Reitzenstein 1927 [1910]), moral philosophy (e.g. Malherbe 1989; Crossan 1991), apocalyptic Judaism (e.g. Schweitzer 1906), or social movements (e.g. Theissen 1977), to name only a few. My own attempt at studying Christian origins takes into account the diversity of the phenomenon as well as of its sources. Instead of investigating the origin of specific elements of early Christian

religion, I am interested in how motifs (from different sources) combine with each other. Most studies of Early Christianity concentrate on written texts, and less attention is given to other aspects of religion, such as rites, institutions, oral tradition, and sociological embedding. Scholars' preference to textual problems can be explained by post-enlightenment biases as well as the fact that there is hardly any other direct evidence about first century Christians available to us than their writings.

The transmission of early Christian texts has been the focus of one of the most influential projects of modern Biblical scholarship, namely, form-criticism or *Formgeschichte* (Bultmann 1995 [1921]; Theissen 1995). Form critics study the origin and transmission of the small units (*kleine Einheiten*) of the tradition up to their fixation in writing. The origin and use of the textual units is connected to typical situations of life, or *Sitze im Leben*. It is important to notice that the *Sitz im Leben* is not a concrete historical event, as rather a typical, recurring situation in the life of first century Christians, such as baptism, ethical debates, etc. (cf. Bultmann 1995 [1921]: 4). Whereas my project shares the interest of form-criticism in the earliest transmission of Christian texts, my method differs from *Formgeschichte* at several points.

First, I do not attempt to locate the origin of textual traditions in the life of first century Christians. Instead, I hypothesise a set of pre-existent traditions, such as pieces of Jewish and Hellenistic literature, oral tradition about messianic or charismatic figures, including Jesus, popular sayings and wisdom collections (again, possibly including Jesus' own words), etc. My question is *how* and *why* early Christian thought (as reflected in the texts) came into existence from those building blocks.

Second, to understand the *how* of this procedure, I employ the results of modern cognitive science. Whereas form-criticism drew on some ideas of contemporary folklore studies, today a large quantity of cognitive research is available that can be utilised in understanding orality, memory, ritual, and other aspects of cultural transmission. Unlike form-criticism, I do not regard Early Christianity as a purely oral culture. Although estimates of ancient literacy widely differ (Harris 1989), and distinction has to be made between elite and sub-elite literacy (Criboire 2001: 160-84; Morgan 1998, esp. 140-51), we can safely calculate with many literate Christians even in the beginnings. A good illustration is provided by the epistles of Paul, which were not

only written, but also read, answered, discussed, and distributed. Various levels of literacy could have existed in parallel: some were able to read but not to write; others could scribble down a few names or sayings; a few were educated enough to be able to compose a whole gospel. Orality and literacy could have existed side by side and perhaps interacted from the very beginning (cf. Botha 2004).

Third, in order to answer the question as to *why* early Christian tradition developed in the ways it did, I consider reasons beyond the daily needs of the congregations as well as beyond immediate social or socio-economic motivations. It is likely that certain pieces of the tradition served for social groups or congregations as guides, rules, or propaganda in specific historical situations. Such an approach is especially tempting if one concentrates on the ‘small units’ (*kleine Einheiten*), as form-criticism did. However, most Christian texts are known to us from a complex history of transmission. The success of those traditions was due to their appeal to people living in different times, geographical areas, and social locations. In addition to examining the micro-cultural and cultural reasons of their popularity, we can pose the question of why those traditions are so appealing to the human mind that, after surviving so many centuries, even in our days they continue to influence people living in distant places and cultures.

If someone deems such an approach too universal, we have to remember that the basic structures of the human mind have been shaped by evolution through millions of years. On the anthropological level, there is no difference between the apostle Paul and us. As recent cognitive studies of religion argue, most of our basic religious concepts can be related to some important mechanisms of our minds (Atran 2002; Barrett 2004; Boyer 2001 [2000]: 106-54; Pyysiäinen 2003: 18-22). These theories do not claim that religious ideas are direct consequences of certain brain structures, but rather that certain ideas especially appeal to us because our minds can work with them in particularly efficient ways. In other words, religious ideas survive only if they adapt themselves to the structure of the human mind. We can hypothesise that religious ideas with an exceptional success – to which early Christian thought certainly belongs – are exceptionally efficient in using the structures of the human mind. In the rest of my article I will focus on cognitive approaches to transmission and on how they could be applied to early Christian tradition.

2. Christian thought as an epidemic of beliefs

In 1996, Dan Sperber has proposed a theory of “Selection and Attraction in Cultural Evolution,” building on his earlier discussion of “The Epidemiology of Beliefs” and other studies (1996: 76-118). Sperber investigates how mental representations cause public productions, which in turn result in other mental representations. He is influenced by Richard Dawkins’ evolutionary approach to culture, but his model is preferable because it takes into account the important differences between biological evolution and the transmission of culture. In the reproduction of biological genes, exact replication is the rule: mutations occur only once in a million times. In cultural transmission, in contrast, replication can be viewed as a limiting case of the more widespread phenomenon of ‘influence’. Using Sperber’s example:

Two pottery teachers may have shared the same pupils, and therefore have the same cultural descendants, but their cultural descendants may be much more influenced by one teacher than by the other. The resulting pots, too, may be descendants of both teachers’ pots, but more like the pots of the one than of the other. (1996: 105)

Moreover, if we regard bits of culture (such as individual texts, pots, songs, or individual abilities to produce them) as replications of earlier bits, we have to conclude that each token is a replica not of one parent token (or two in the case of sexual reproduction), but rather of an indefinite number of tokens, some of which have played a greater ‘parental’ role than others.

If we apply Sperber’s model to the transmission of early Christian texts, we can classify both written and oral texts as public representations, which were caused by mental representations, and evoked further mental representations in their readers and listeners. Texts are never (except when photocopied) direct descendants of earlier texts, but rather of mental representations caused by them. When texts result in mental representations in the minds of the readers or listeners, or people create texts from their mental representations, a number of components interact with each other.

Potentially pertinent psychological factors include the ease with which a particular representation can be memorized, the existence of background knowledge in relationship to which the representation is relevant, and a motivation to communicate the content of the representation. Ecological factors include the recurrence of situations in which the representation gives rise to, or contributes to, appropriate action, the availability of external memory stores (writing in particular), and the existence of institutions engaged in the transmission of the representation (Sperber 1996: 84, cf. 113-118).

Finally, Sperber hypothesises ‘attractors’, toward which representations assimilate during the process of transmission:

In the logical space of possible versions of a tale, some versions have a better form: that is, a form seen as being without either missing or superfluous parts, easier to remember, and more attractive. The factors that make for a good form may be rooted in part in universal human psychology and in part in local cultural context. (1996: 108)

Sperber’s concept about the transmission of cultural ideas gives a number of cues for applying the model to early Christian tradition. We can take his notion about the role of ‘public representations’ as a point of departure and elaborate on the various factors involved in the success of transmission. The spread of Christian ideas in the first and early second century can be modelled as a case of cultural epidemic.

One particular environmental factor of cultural epidemic, which is not specifically addressed by Sperber, is the role of social networks which transmit cultural innovations. The very same cultural bit (or biological virus) that does not spread in one type of social environment, will make quick advance and cause an epidemic in a different type of social structure (Buchanan 2002: 156-183). The quick spread of (biological or cultural) information is enabled by so-called small-diameter networks, characterised by short-distance as well as long-distance connections (cf. Albert et al. 1999; Dorogovtsev and Mendes 2003: 54-66, 187-190; Watts and Strogatz 1998). To translate this into largely simplified but more concrete terms, small-diameter networks are formed when people know their neighbours (consequently, there is

much chance that they will come into contact with a new piece of information once it is present in their environment) but some of them also have long-distance connections (so that the ‘virus’ appears at distant places almost simultaneously). Jewish society in the first century Mediterranean formed a perfect basis for creating and maintaining a social network with local subnets and long-distance connections which enabled the quick spread of the Christian message. An analysis of the social structure of the earliest Christian movement, using network theory, may shed more light on the rapid success of the new religion. An optimal combination of settled and wandering individuals seems to provide a good general starting point (Crossan 1998: 355-364; Theißen 1985 [1977]: 14; cf. Arnal 2001).

Recent cognitive research of religion and textual transmission has challenged the classical concept of mental representations used by Sperber. The dualism of ‘private’ and ‘public’ representations disappears in ‘embodied cognition’ (e.g. Ziemke 2002), an approach which emphasises the interplay of neuronal and environmental factors in thinking. Some embodied aspects of cognition are considered in this article; the full potential of embodied theories for understanding early Christian transmission will be explored at a later occasion.

3. Christian tradition in oral memory

Whereas the importance of oral transmission in the emergence of Christian thought has been recognised since a long time, little if anything has been done to exploit the potential of memory studies in this area (cf. Botha 2004). In this section we will mainly consider cognitive perspectives raised by David Rubin’s *Memory in Oral Traditions* (1995). In examining the mechanisms responsible for stability and change in oral traditions, Rubin proceeds from the work of the famous pioneers of orality studies, Milman Parry and Albert Lord (Lord 1960; Parry 1971). He analyses different types of oral traditions, such as counting-out rhymes, epic, and ballads. When people remember texts, Rubin concludes, they rely on features such as organisation of meaning, imagery, and patterns of sound, including the poetic devices of rhyme, alliteration, and assonance, as well as rhythm and music (1995: 10). The process of remembering relies on the sequential organisation of the text.

Oral traditions, like all oral language, are sequential. One word follows another as the physical effects of the first word are lost. As the song advances, each word uttered changes the situation for the singer, providing new cues for recall and limiting choices. (1995: 175)

In order to explain how performers remember long and elaborate texts, Rubin proposes a “theory of serial recall in oral traditions”:

Recall in oral traditions is serial. It starts at the first word, or perhaps a rhythm or melody, and proceeds sequentially. [...] At the beginning of the song, genre-specific (i.e., schematic) constraints are known and are useful as cues. Each word, as it is sung, provides additional cues that are specific to the song the way it is sung this time. (1995: 176)

Rubin also tested his theory outside the realm of oral cultures. He asked students to recite texts which all American children memorise at school, such as the Preamble of the American Constitution. He found that the rules of ‘serial recall’ apply to the remembering of those passages:

Although many Americans can directly recall anecdotes about the conditions under which the Preamble, Gettysburg Address, or national anthem was originally written or delivered, they cannot provide a summary of the pieces themselves without first recalling them in order and then analysing their own recalls [...]. (1995: 182)

Whereas Rubin acknowledges that “for many oral traditions, the overall theme of a piece enters as a major cuing device,” he warns that “some pieces of oral traditions are difficult to summarize even when they are written out in full, the meaning being implicitly tied to the whole genre rather than explicitly to the words sung” (1995: 188-9). That is, one should not think about theme, meaning, or imagery, as a condensed version of the whole text, which can be, in turn, automatically expanded to the long version.

Rubin approaches textual transmission differently than Sperber. In Sperber's view, the human mind stores representations, such as ideas, beliefs, and propositions. Texts are public representations, which generate similar mental representations in other minds. In Rubins's model, mental representations play a different role in the transmission of texts. Instead of expressing abstract ideas and beliefs in texts, the transmitter uses mental imagery, schemas, and associations to recall the text. What is transmitted is basically the text with the help of mental representations and not mental representations with the help of the text.

Early Christians, as we have argued, did not live in a purely oral culture. Nevertheless, the public reading, memorisation, and recitation of texts played an important role in their Hellenistic, Jewish, or Hellenistic-Jewish cultural environments. Shall we regard their texts as expressions of abstract beliefs and ideas, or rather as literary works obeying the rules of oral composition and transmission? In other words, when we compare two versions of a miracle story in the synoptic gospels, shall we analyse the conceptual (theological) differences between the two versions, or rather look at the underlying mechanisms of oral tradition, such as genre, imagery, rhythm, sound, rhyme, etc.?

Although Rubin finds that the rules of 'serial recall' apply to remembering in contemporary American society as well as in oral cultures, he also mentions differences. As we move from a purely oral context toward literate societies, the organisational focus of texts changes: "the local, implicit, word-by-word or phrase-by-phrase cuing is the dominant form in oral traditions, whereas more global organization is present in many other kinds of materials" (1995: 177).

We can hypothesise that also within Early Christianity, people with a higher level of literacy paid more attention to the global organisation of the material. A focus on the conceptual level of the tradition, instead of the textual level, is characteristic, for example, of Paul's epistles. When citing Scriptural passages, Christian hymns, catalogues, and other texts, however, Paul relies on the mechanisms of 'serial recall,' as also American students did when asked to quote the Preamble of the Constitution.

How do texts evolve during the process of oral transmission? Whereas evolution is central to Sperber's model, Rubin only mentions that "changes in the environment can change

(select for) aspects of the genre.” Oral transmission, in fact, is basically conservative. Although in the “Introduction” Rubin promises to account for the stability *and* change in oral traditions (1995: 3), his emphasis is evidently on the fact that “songs, stories, and poems are kept in stable form in memory for centuries.” In Rubin’s book, we find examples of changing words, phrases, lines, or sequence. It is, however, beyond the scope of Rubin’s theory to explain how new texts using traditional patterns, or new genres, emerge.

Finally, we can notice that whereas Rubin makes an impressive case for ‘serial recall’ and the underlying poetic tools, the semantic features of epic, ballads, and rhymes remain largely neglected in his book. The powerful imagery of folklore, one may argue, activates very basic and archaic mechanisms of the mind, which substantially contribute to the long-standing transmission of those texts (cf. Pyysiäinen 2004: 147-59).

4. Transmission and rituals

The problem of how religious ideas are transmitted (and whether they are transmitted at all) has been one of the central issues in the recent cognitive study of religion (cf. Barrett 2000).

Other cognitive theories of religion examined the role of rituals in the transmission of religious tradition. From the early ’90s, Thomas Lawson and Robert McCauley applied linguistic competence theory to explaining rituals (Lawson and McCauley 1990; McCauley and Lawson 2002). According to linguistic competence theory, speakers of a language possess “a wide array of grammatical principles and processors” that enables them “to produce and comprehend linguistic strings and to render an assortment of relatively systematic judgements about the syntactic and semantic character of those strings” (Lawson and McCauley 1990: 4). With great simplification, competence theory claims that speakers of a language, even without formal education, can decide whether a sentence is correct or incorrect. The same kind of competence, Lawson and McCauley argue, seems to hold for rituals: “With little, if any, explicit instruction, religious ritual participants are able to make judgements about various properties concerning both individual rituals and their ritual systems” (1990: 5).

Rituals are conceptualised, McCauley and Lawson proceed, like any other action, that is, with the help of a so-called action representation system (2002: 10). The representation of a (ritual) action includes three elements: an agent, an act, and a patient (2002: 14). To put it simply: someone does something to someone (or something) else. Some actions also involve an instrument. In the conceptualisation of rituals, one of the agent, the instrument, or the patient, is connected more closely to a divine being than the other two. Accordingly, Lawson and McCauley write about “special agent,” “special instrument,” or “special patient” rituals (2002: 23-9). The major hypothesis of Lawson and McCauley is that special agent rituals are the ones which participants (persons who are patients of the ritual) remember the most intensely (2002: 138). Other types of rituals (special instrument and special patient rituals), if they are to be remembered, must be repeated more frequently.

During the time that Lawson and McCauley were developing their theory of ritual forms, Harvey Whitehouse put forward his own theory of rituals and transmission, based on his ethnographic fieldwork in Papua New Guinea (1995, 2000, 2004). Whereas in McCauley and Lawson’s *ritual form hypothesis* both frequency and sensory stimulation are functions of how the role of supernatural agents is conceptualised in the ritual, in Whitehouse’s modes theory sensory stimulation, performance frequency, the use of memory systems, and a number of other variables depend on the style of codification (verbalized or iconic).

5. Does transmission matter?

Linguistic competence theory, serving as a model for Lawson and McCauley’s ritual form theory, is the foundational hypothesis of contemporary linguistics (cf. Chomsky 1957; 1965: 3-4; 1968: 4). An important consequence of competence theories is that they presuppose some form of innateness of the underlying structures of (ritual) language (cf. Chomsky 1968: 24; Hauser, Chomsky, Fitch 2002). People can judge any sentence (of their native language) or any ritual as correct or incorrect, even if they have never heard or seen it before. Consequently, there must be a universal grammar which children use to make sense of the linguistic data they experience as they grow up.

In the cognitive study of religion, the *nature* perspective has been taken by Pascal Boyer. Building on Sperber's epidemiology model, Boyer suggested that universal human psychology plays the crucial role in the propagation of religious concepts (Boyer 2002 [2001]: 106-54, 375-7). Boyer's model is based on the notion of specialised mental modules shaped by evolution, an approach represented for example by Steven Mithen (1996) and Steven Pinker (1998 [1997]). When we are confronted with new information, our minds do not pull out little icons from a mental storage, as it were, to compare them with the new 'cultural bit', but rather a few specialised inference systems are activated. Inference systems quickly process the relevant information to make decisions and urge us to take appropriate actions. Some of the millions of messages exchanged among people, Boyer argues, grab the attention better than others by using our mental needs and capacities more efficiently.

Let us take the example of gods and spirits, to which Boyer has paid particular attention. The conceptualisation of these so-called *counter-intuitive agents* relies on various features of the human mind shaped by evolution (cf. Boyer 2002 [2001]: 155-231, 375-6). (1) The *agent detection system*, specialised on the identification of purposefully moving things, originally served to detect the presence of dangerous beasts and potential prey in our environment. (2) Our *theory of mind* enables us to simulate other people's thoughts and feelings. (3) *Moral intuitions* serve social interaction and successful cooperation. When we hear of spirits and gods, we can intuitively compare them to the unseen presence of predators and make conjectures about their perception, knowledge, and plans. Most importantly, we attribute them full knowledge of strategic social information, that is, knowledge of "morally relevant aspects of what we do and what others do to us." "When counter-intuitive agents are construed in this way," Boyer concludes,

it becomes easy to connect them to striking cases of misfortune, because we are predisposed to see misfortune as a social event, as someone's responsibility rather than the outcome of mechanical processes. So the agents are now described as having powers such that they can visit disasters upon people, which adds to the list of their counter-intuitive properties and probably to their salience. (2002 [2001]: 376)

In a recent study, Jesse Bering reports the results of an experiment in which individuals with different kinds of explicit afterlife beliefs were asked in an implicit interview task about how mental states and biological imperatives continue after death (Bering 2002). According to implicit mental models of Bering's subjects, dead agents cease to have psychobiological and perceptual states (they do not eat or hear, for example), whereas they continue to have emotions, desires, and epistemic states. From the experiment Bering concludes that subjects attribute to dead agents those types of mental states that they cannot imagine being without:

Because we know what it is like, for example, to have our vision occluded and subsequently not to be able to see anything, we are able to call upon those experiences of absence and more effectively represent the mental ability to *see* as ending at death than, say, the ability to *think*, which no sentient person has ever consciously been without. (2002: 288)

Bering further suggests that “the social transmission process plays somewhat less a role in spreading ghost concepts than has been thought.” Rather, he proposes,

implicit afterlife beliefs (...) would be characterized more or less as innate – piggybacking standard mental representational abilities specialized to human beings.

“Ghosts come from within, not without,” Bering concludes, deciding characteristically for *nature* against *nurture* concerning the origins of religion.

6. Methodological implications for the study of early Christian thought

The theories outlined in the foregoing sections offer three different perspectives on the transmission of early Christian thought. (1) Various concepts in the first century Mediterranean, particularly Jewish and Hellenistic religious ideas, combined in specific ways to yield a successful new religion, which later became known as Christianity. (2) A selection of stories,

wisdom sayings, hymns, and apocalyptic oracles transmitted in the first century gradually formed a meaningful unity for a group of people in the Eastern Mediterranean to yield what we know as early Christian literature. The model can be extended to rituals, music, art, architecture, and other cultural bits, as well. (3) The innate and universal readiness of humans to entertain religious concepts and perform rituals met with particular environmental clues in the Eastern Mediterranean which led to particularly successful realisations of those religious instincts.

All three scenarios dictate different pathways of investigation. Is Christianity the product of philosophical ingenuity, poetic talent, or is it a natural (biological) phenomenon? Were the first Christians mainly philosophers, scribes, or religious talents? What is the essence of Christianity: its theological sophistication, its rich and inspiring textual and ritual tradition, or the piety of Christian believers? Who are the real heroes: Aquinas and Calvin, Dante and Bach, or Francis of Assisi and Nicolaus von Zinzendorf? What is then the task of theology: to analyse concepts, interpret Christian art, or understand the *schlechthinniges Abhängigkeitsgefühl*, the innate religious awe? The methodological choices taken in the beginning obviously imply very different agendas not only for the student of the New Testament and Early Christianity, but also for the church-goer and the theologian.

In an attempt to organise these different approaches into a complex hermeneutics of religious transmission, it is useful to consider how they apply to other cultural domains. Music, for example, is made possible as well as is constrained by innate capacities of the mind shaped by evolution for different purposes, such as screening the environment, communication, or logical reasoning (cf. Jerison 2000; Koelsch 2005; Pinker 1998 [1997]: 528-38). At the same time, music consists of transmitted cultural bits. Melodies, rhythms, scales, and harmonies are transmitted from generation to generation. The transmission of ideas is equally important: polyphony, kontrapunkt, or complex harmonies are examples of innovation occurring on the conceptual level. In sum, without taking transmission into consideration, it is not possible to understand music around the globe, or the development of European music, for example.

In a similar way we can argue that understanding early Christian religion requires the coordinated application of all three perspectives. An important distinction made by Boyer has to be addressed at this point. When confronted with the fact that many religious ideas do not obey

the rules of mental economy suggested by the theory of counter-intuitiveness (see above), Boyer makes a distinction between the intuitiveness of folk religion (to which his model applies), on one hand, and sophisticated ideas maintained only by religious professionals, on the other hand. To translate this to our categories, popular religiosity could be explained basically in terms of mental structures, whereas professional theology requires mechanisms of cultural transmission (cf. Boyer 2002: 99).¹ To refer back to our earlier example, folk music (a) is not always simple or intuitive (think of Balkan rhythms), (b) depends on transmission as well as innovation, and (c) influences professional music and *vice versa*. Speaking of religious traditions, much of biblical literature testifies to the cross-fertilisation of folklore and theology, and popular religiosity in various contemporary cultures is inspired by the ‘official’ teaching and practice of the Christian churches.

My approach gains support from the current discussion of ‘cognitively optimal’ and ‘cognitively costly’ religion. As Whitehouse (2004: 49-59) argues, there is a vast record of ethnographic cases of sophisticated supernatural concepts which do not fulfil Boyer’s criteria of minimally counter-intuitive religious ideas and therefore create a need for Whitehouse’s ‘modes theory’ of religious transmission in the explanation of religiosity. This argument also justifies the primary interest of this article on the mechanisms of transmission, and its call for combining the perspectives of conceptual development, textual transmission, and innate human capacities. My approach is nevertheless not based on a strict dichotomy of ‘optimal’ and ‘costly’ religiosity, which rather seems to be a scaled attribute of all cultural phenomena. The question of high costs in human culture should be discussed in a systems theoretical perspective, which I will explore in more detail in other publications (cf. Czachesz, forthcoming b).

7. The cognitive relevance hypothesis

In the rest of my article I will advance two preliminary hypotheses about the Christian conceptualisation of Jesus and the early gospel tradition. The first hypothesis will be called the *cognitive relevance hypothesis of Christology*. In terms of this hypothesis, the early Christian conceptualisation of Jesus adapted to the economy of the mind by closely approaching the

archaic idea of ancestors (cf. Czachesz: forthcoming a). What happens after death has kept human reflection busy since times immemorial (recently Bremmer 2002; Segal 2004). Although much of the discussion in Western theology has focused on the fate of souls in heaven and hell, and the so-called near-death experiences have received plenty of attention among believers and sceptics alike, the real issue from the scientific point of view is rather how people feel and think about other peoples' death.

All of us have very complex mental representations (thoughts, feelings, beliefs) about other humans. We suppose that humans (as well as animals) have goals and their actions are governed by those goals. With the help of our theory of mind, we calculate the thoughts and feelings of other people.² This system can also be used when the person whose behaviour we are simulating is absent. When someone dies, some of these mental tools can be easily switched off, as it were: we do not expect the dead person to move or speak, for example (cf. Boyer 2002 [2001]: 159-60; Bering 2002). Other mechanisms, however, do not stop working: we keep talking to a dead relative and have strong feelings of how he or she would think, speak, or act in a given situation. After all, our ability to simulate the thoughts and feelings of other people works excellently even without a sensory input.

Therefore, dead people are an easily conceivable form of supernatural agents. In many cultures, indeed, ancestors play a central role in religion. They are very close to ordinary humans, except for a few attributes, such as having bodies and being constrained by them in their motion. Our ability to think about supernatural beings in that way is further supported by various observations in our natural environment. Seeds are transformed into plants, eggs into chicken, caterpillars into butterflies. Metamorphoses happen around us, this is exactly the common-sense observation on which Paul builds his argument about resurrection (1 Corinthians 15:35-53; cf. John 12:24).

In a great part of early Christian tradition, the concept of Jesus is cognitively relevant because Jesus is conceived of as a dead person transformed into an ancestor. This is what enables him to mediate between humans and God (who, in contrast, is thought of as a more distant and sophisticated supernatural being). This is also what enables humans to imitate him in his resurrection: humans, as Paul argues, can undergo a similar metamorphosis as Jesus did. The

synoptic Jesus calls his followers his family, the Johannine Jesus calls the disciples his friends, and Paul argues that we are, like Jesus, sons of God rather than his slaves (Mark 3:31-35 and par.; John 15:12-15; Gal 4:1-7). Much of this imagery is effective because Jesus is conceived of as an ancestor standing between humans and the higher supernatural beings.

8. The optimal transmission hypothesis

The second hypothesis is called the *optimal transmission hypothesis of Christianity*. In terms of this hypothesis, Early Christianity optimally combined textual transmission with conceptual innovation. Above I have suggested that focusing on the *concepts* in the tradition is characteristic of Paul, whereas the oral tradition quoted by him is determined mainly by the rules of serial recall. Although conceptual innovation certainly occurs in oral traditions as well, it seems that the large scale combination and transformation of concepts that is characteristic of the Pauline epistles is not found, for example, in the greatest part of the synoptic texts. Although it has been usual to attribute to the synoptic authors a host of refined manipulations of the texts which are supposed to express nuanced theological views of the writers, perhaps many differences between the synoptics can be explained using cognitive models of memory and transmission.

In an earlier attempt to evaluate the potential of cognitive science for the study of the gospels (Czachesz 2003), I introduced schema theory (particularly the script model of R.C. Schank and R.P. Abelson) and suggested that early Christian literature relies on a small number of scripts, such as the “martyrdom script,” the “gospel script,” the “healing script,” or “divine call.” Scripts are evoked by the occurrence of typical motifs, and the story is made up using the known details, whereas unknown details are filled up with default values of the relevant script. The importance of thinking in scripts is that the occurrence of a typical motif makes other details predictable. When hearing of martyrdom, for example, no one will predict that the hero was assassinated. The formation of narrative scripts such as the ones used in early Christian literature raises a difficult question about their emergence. Schemas of miraculous healing are unlikely to be formed by life experience (like the scripts of Schank and Abelson), and they are equally unlikely to be hard-wired in the brain (like the innate ontological categories). The discussion of

this problem transcends the frames of this article: some combination of innate mental structures and life experience is probably the key to the solution.

During the performance of oral tradition, scripts serve as underlying story-grammars to the narrative, being actualised and filled up with the help of serial recall. Non-narrative elements often contain lists, another important textual structure widely attested in ancient literature. The performance of lists is a particularly virtuous task in oral recitation (Minchin 2001: 76, 80, quoting Chadwick and Chadwick 1940: 185), and the family tree of Matthew 1:1-17 may have given the speaker an outstanding opportunity to demonstrate his performative talent and grab the attention of his audience.³

Using cognitive models of memory, it may be possible to show that parallel passages of early Christian gospel literature, particularly great parts of the synoptic gospels, record different performances of the same gospel narrative. This does not exclude the possibility that the authors added material from other (written) sources: a delicate interplay of oral and written communication (Andersen 1991: 45-53), rather than dichotomy (cf. Kelber 1983) must have characterised Early Christianity. Nevertheless, using such a method, differences between parallel texts formerly attributed to theological agendas may prove to have resulted from the rules of oral transmission. Moreover, this approach may provide us with insights about the pre-Christian sources of gospel narratives, considering not only literary parallels (e.g. Deuteronomy [Moessner 1989], 1 and 2 Kings [Brodie 2000, 2004], Homer [MacDonald 2000, 2003]) but also the possibility of a long-standing, *pre-Christian oral transmission* of several elements of the gospels, possibly including, but not restricted to, traditions about the historical Jesus.

Finally, a cognitive approach to the function of rituals in early Christian transmission has the potential of shedding new light on the traditional concept of *Sitz im Leben*. The two central rituals emerging in the early Church, eucharist and baptism, provided two different mechanisms of transmitting and consolidating memories. Baptism was a low frequency ritual in which everyone participated as an initiate only once in a life. Although we do not have a description of the ritual and the preparations for it in Paul's epistles, the instructions of *Didache* as well as various passages of Acts give us an idea of the form of baptism in the first century (cf. Barth 1981: 125-36; Yarnold 2001). Two key elements have to be mentioned in particular: instruction

(*Didache* VII.1; Matthew 28:19-20; Acts 8:26-40; cf. Hebrews 6:1-2), serving the transmission of key concepts of Christian belief, and fasting (*Didache* VII.4; Acts 9:9; cf. Justin, *Apology* I.61.2), which facilitates extra sensory stimulation and thereby helps the formation of long term autobiographical memories. McCauley and Lawson's *ritual form theory* (see above) also explains why baptism creates long-lasting emotional experience. In terms of their theory, baptism is a "special agent ritual," in which the baptising official of the church, that is, the *agent* performing the ritual act, is conceptualised as having the most intimate relation with God among the participants. Such rituals, McCauley and Lawson argue, are conceived of as powerful acts of God, which makes them especially significant in the memory of the participants.

Eucharist, in turn, is a frequently performed ritual, in which the closest connection to God is attributed to the bread and the wine. In this case, McCauley and Lawson talk about a "special instrument ritual," which generates less intense memories, but this is compensated by the higher frequency of performance. 1 Corinthians 11 attests how the ritual of the Eucharist was still under formation at Paul's time. In his instruction, the apostle makes use of the practice of communal meals for the purpose of transmitting the memory and interpretation of the Last Supper. The two rituals, it appears, emerged to fill two 'attractor positions' in the spectrum of possible ritual forms: baptism as a low frequency ritual with high sensory stimulation, Eucharist as a high frequency ritual with low sensory stimulation. The conflict in Corinth displays a typical problem of high frequency rituals. Frequently repeated, routinised rituals easily become tiresome and uninteresting (so-called 'tedium-effect'), which can be temporarily balanced by extra sensory pageantry (Whitehouse 2000: 44-6; McCauley and Lawson 2002: 207-10). In Corinth, excessive eating and drinking served this purpose: "one goes hungry and another becomes drunk (*methuei*)" (1 Corinthians 11:21). Another result of tedium is the formation of factions, which is also evident from the epistle (1 Corinthians 1:10-17; 3:1-23; 8:9; 11:19; 12:1-13:31; cf. recently Theissen 2003).

Applying our distinction of conceptual (Sperber) and textual (Rubin) transmission, it can be assumed that high frequency rituals enable the transmission of longer texts through frequent repetition and make use of serial recall. Low frequency rituals, in turn, facilitate the transmission

of core concepts together with the intense emotional experience attached to them, which can be reformulated time again in different words.

9. Conclusion

This article has considered various insights from cognitive science for the study of the emergence of Early Christianity: cultural epidemic, small-world networks, serial recall, ritual form theory, and conterintuitive agents. We have suggested that although these cognitive approaches emphasise different aspects of Christian history, their integrated application to the Christian beginnings is the most fruitful strategy. Two hypotheses have been put forward, in particular, in the final part of the article, which highlight two factors in the success of Christian religion: the cognitive optimality of Christology, and the efficient combination of conceptual and textual transmission.

The two hypotheses in this article exploit only a small part of the potential of using cognitive science for the study of Christian beginnings (cf. Czachesz, 2003: 35-6). These initial steps will hopefully encourage students of (early) Christianity to explore the field of cognitive science and apply its insights in their efforts to solve the puzzle of the emergence of Christian religion.

Notes:

1. Such dichotomy can be found elsewhere in the cognitive research (e.g. Pinker 2005:9-10). The problem with such approaches is that (1) although scientific (or theological) concepts emerge in the work of generations of scholars, still individual minds can represent them; (2) even intuitive folk-concepts involve learning (e.g. Atran 2005:42-48); and (3) naïve and learned concepts are not discrete alternatives but graded qualities (as I am arguing here about music and religion).
2. This faculty is called ‘theory of mind’, ‘mind theory’, ‘mind reading’, ‘mentalising’ or ‘folk psychology’ (cf. Pinker 1998 [1997]: 329-33, 556-7; cf. Leudar and Costall 2004)

3. In contemporary African oral traditions, the lists of ancestors serve to establish the ethos of the performer (Loubser 2003).

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