

# Memes, Possible Worlds, and Quantum Theory: New Perspectives in the Study of Religion

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***Draft!***

## 1. Introduction: Great Chapters in the Study of Religion

Studying religion has a long history. Depending on the way, in which we define “religion”, we may set the beginning of the study of religion at the time when philosophy emerged. Philosophy, as Plato defined it, was supposed to study “the care of the gods”, that is problems related to what we call religion today. More concretely, the beginnings of the study of religion goes back to the emergence of the notion of religion no longer strictly bound to Christianity properly so called. There is a parallelism between the emergence of the study of religion on the one hand, and the spectacular change in the logical place of the term “religion”. The more “religion” lost its strict identity with Christianity, the more it became a general term, a genus, out of which a number of species could be defined: Judaism, Islam, natural religions – and among these species, Christianity itself.

Yet the scientific study of religion presupposes the proper development of another term, *science*. While the study of religion belonged to theology for many centuries, that is to say to the realm of apologetics, yet the great geographical discoveries made it possible to treat the problem of religion separately in a *historical* perspective. This perspective was closely bound with the notion of nature: just as nature – as opposed to revelation – has certain independence, it has too a historical character. Thus Hume was able to write a lengthy work

on “the natural history of religion”, in which questions of faith was completely disabled.  
(Hume 2007)

The great paradigms of modern and contemporary science have surfaced in the study of religion in a number of ways. During the 18<sup>th</sup> and 19<sup>th</sup> centuries, various approaches were developed, such as the historical approach to religion, the philosophical understanding, the psychology, sociology, phenomenology, and even the hermeneutics of the study of religion. (Kerber 1993) These paradigms usually followed the characteristic scientific schools of the period. For instance, when sociology was born in the works of Émile Durkheim (Durkheim 1968), the sociology of religion emerged as concomitant to the new form of scholarship. On this basis, a general rule may be formulated, which runs as follows: in the modern and contemporary study of religion, it was not a *sui generis* understanding of religion, which determined the corresponding methodology. Rather, methodologies developed with respect to other areas of investigation have been applied to the study of religion (Clarke and Byrne 1993).

Today, we witness new efforts to use scientific results on the study of religion, and my task here will be to briefly consider and evaluate these efforts. I shall argue that these efforts notwithstanding, the study of religion still exhibits a certain resistance to being fully exhausted by certain scientific paradigms, while these paradigms are important for reaching a better understanding of this mysterious phenomenon we call religion.

## 2. Paradigms and Mistakes

According to Jaques Wardenburg, there have been two main periods in the study of religion: the classical period up to 1945, and the period thereafter reaching to the present. (Wardenburg 1983) In the classical period, the most influential paradigm in the study of

religion was the historical one. By “historical paradigm” we may mean, however, quite different things. A simple narrative of a given state of a positive religion can be labeled as historical just as an overall theory of the historical evolution of religions. “Historicism”, on the other hand, could be the term to denote those efforts, which exclude the presence and efficacy of *sui generis* logical structures in the development of religions. A balanced historical approach would be the one, which allows the existence and importance of logical structures, yet maintains the prime importance of the empirical study of positive, i. e. historically accessible, religious forms.

In addition to the historical approach, we can list a number of further paradigms in the study of religion, which imply in some way the historical dimension of religions yet their emphasis lays somewhere else. Such paradigms are the sociology, psychology, anthropology, or the economy of religion. (Woodhead and Heelas, 2000) In these paradigms, religion is considered as an expression of sociological, psychological, anthropological, or economical states of affairs. That is to say, while in the historical paradigm the unique nature of religious phenomena, or even *the* religious phenomenon, is maintained to some extent, in the other paradigms, “religion” is not considered as a *sui generis* realm of culture; religion is considered as an expression of processes, the nature of which has little to do with religion. Whatever is called religion in these approaches, it is merely a moment, an integral part, or perhaps an epiphenomenon of underlying processes of something different, such as the social reality.

The emergence of the phenomenology of religion by the end of the 19<sup>th</sup> century signaled the advance of a radically new approach to the study of religion. In this conception, religious phenomena are recognized as moments of a *sui generis* terrain, religion. Religion is not only of its own kind, but it is at the same time the central phenomenon of human existence. This notion is expressed in Rudolf Otto’s notion of the Holy, Friedrich Heiler’s

understanding of prayer, or Mircea Eliade's term of the sacred (Otto 1987; Heiler 1918, Eliade 1987). These experts and their works point out, that in what we call the phenomenology of religion, the historical approach is strongly present. Religious phenomena are established first by rigorously historical means, so that their form, type, or essence – the *sui generis* religious phenomenon – can be grasped through a well established methodology. The hermeneutics of religion, as suggested by Eliade in his later career (Eliade 1980), is a further development in the phenomenological paradigm, inasmuch as it is understood as a factually based cultural interpretation of religious phenomena.

When I speak of mistakes in the various paradigms in the study of religion, I mean two things. First, the basic or general mistake I identify here consists in the *reductive nature* of the paradigms I mentioned (Clarke and Byrne 1993). The abundance and variety of religious phenomena throughout the history of humanity suggest that what we face here is no way a secondary phenomenon or an epiphenomenon of more fundamental biological or cultural processes. Let me recall the view of an extremist representative of the reductive interpretation, Richard Dawkins, according to which religion and religious phenomena are not merely of a placebo kind, but they are aggressively detrimental to human development (Dawkins 2006). Now human history is so deeply imbued by religious phenomena, modern Western history including, that the emergence of modernity as something fundamentally antireligious is, on this basis, counterintuitive. If this view is counterintuitive, we still may be skeptical about the alternative view, according to which religion is the driving force of human development. If not a driving force, religion is certainly present in a massive fashion in our history and presence. Thus a reductive approach to religion would be an obstacle to the understanding of this phenomenon. Inasmuch as the paradigms I mentioned are reductive – they are such in various measures – they are incapable of deciphering the *sui generis* religious phenomenon.

There are *specific* mistakes in the particular paradigms. The historical paradigm is defective, inasmuch as it disregards the logical side of religious phenomena. By “logical side” I mean the structural constant characteristics of religious phenomena, for instance the ones described by Gerardus van der Leeuw (van der Leeuw 1933). The sociology of religion disregards the fact, central in most religious formations, that transcendence cannot be fully explained by reducing it to social, physical, psychological, political, or economic usefulness. The center of religion consists in a reference pointing towards a referent radically different from the reference itself. The psychology of religion can be again of different kinds – from an extremely reductive sort, such as S. Freud’s theory, to the more complex approach of a C. G. Jung (Freud 1927, Jung 1964). These approaches, however, can lead to genuine results, inasmuch as their methodologies allow the existence of a *sui generis* religious phenomenon.

In the middle of the last century Mircea Eliade offered an overview of the important paradigms in the study of religion from the turn of the 19<sup>th</sup> century to the last decades of the 20<sup>th</sup> century. His starting date is 1912, when

Emile Durkheim published his *Formes élémentaires de la vie religieuse* and Wilhelm Schmidt finished the first volume of his monumental work *Ursprung der Gottesidee*, which was to be completed only after forty years, with vols. XI and XII appearing posthumously in 1954 and 1955. Also in 1912, Raffaele Pettazzoni brought out his first important monograph, *La religion primitive in Sardegna*, and C. G. Jung published his *Wandlungen und Symbole der Libido*. S. Freud was correcting the proofs of *Totem und Tabu*, to be issued in book form the following year. (Eliade 1969, 12)

For Eliade, the important paradigms of the 20<sup>th</sup> century are the historical, the sociological, the deep psychological, the social-anthropological, the mythological and ritual

schools in the study of religion. Eliade adds a special emphasis to Wilhelm Schmidt's monumental work (1912-1955), Pettazoni's "general science of religion" (Pettazoni 1967), and Georges Dumézil's theory of the Indo-European religions (Dumézil 1980). In Schmidt's paradigm, Eliade seems to accept that, deep in religious phenomena, a certain notion of a higher source of religion is latent, a source, which surfaced even in the most ancient times in the form of a monotheistic or henotheistic conception. In Pettazzoni's approach, Eliade emphasizes the strict historical methodology, which Eliade himself followed in many ways. Dumézil's paradigm is again relatively close to Eliade's understanding, because Dumézil stresses the importance of the common theoretical structure behind various historical developments among Indo-European religions. In Eliade's view, the phenomenology of religion as represented by G. van der Leeuw or R. Otto is also decisively important for the study of religion.

Accordingly, the question of the origin of religion cannot be answered, in Eliade's approach, merely in historical terms. There is a historically evolving yet phenomenologically manifest structure of religions, which point to the occurrence, central to any religion, of a hierophany or theophany. The awesome emergence of a reality radically distinct from what is known to the given community is the matrix, in which religion originates. Theophanies are varied yet they communicate a higher form of life and being, a higher level of existence, as a fact and an obligation, for the given community. This "primordial revelation", as Eliade terms it, constitutes the very origin of a religion. Yet there are historical developments and an exchange of ideas and practices, so that the study of religion is supposed to move zigzag in order to develop the proper balance between a phenomenology and a history of religion. In this way, which Eliade terms "total hermeneutics", we are able to develop a study of religion, which is to play the role of the central discipline in the realm of humanities.

A criticism of Eliade's "total hermeneutics" can be developed from three aspects. First, a historical approach can criticize the total character of this hermeneutics as the residue of an underlying yet inexplicit philosophy of religion. Second, Eliade's approach does not make explicit either the naturalness of religious ideas and thus confuses a quasi-mystical theory of theophanies with the exploration of the natural sources of religion in the human brain or the experience of the universe. Thirdly, a philosophical criticism can be developed pointing out that the basic terms of Eliade are philosophical; his types are not properly developed in the empirical sense, and the often purely logical status of his ideas is not clarified.

Besides Eliade, one can analyze other authors along the same lines of praise and criticism. For instance, the ideas of Eric Voegelin or Thomas Molnar could be mentioned, but for the sake of brevity I will offer such explorations in a different context (Voegelin 1966; Molnar 1993).

### 3. The Meme Hypothesis

Before going over to the discussion of the role and importance of the theory of memes in the study of religion, I wish to point out the proper place of such a theory. The classical approaches to the study of religion concentrated especially on documents, archeological facts, rituals, artistic monuments, and their rigorously positive interpretations. In contradistinction to these approaches, the phenomenological paradigms presuppose the existence of a Platonic universe of religious phenomena, a universe to be discovered by means of a specific philosophical methodology, such as observation, intuition, or hermeneutical analysis. Some paradigms, such as that of Eliade, combined the two approaches to a certain extent, maintaining however the latent yet decisive role of a philosophical and phenomenological

understanding of religion. The strictly historical approaches nevertheless refused, sometimes quite openly, the plausibility of a phenomenological approach and its implications – such as the total validity of one methodology – and insisted at the meticulous historical-empirical investigation of facts and their direct implications.

In the century-long debate of between these approaches, the idea of a theory of memes appears to open a new possibility. For the theory of memes is not based on humanistic and historical investigations, neither it is bound to a certain *a priori* philosophical scheme. Parallel to the theory of genes, which is a biologically secured scientific hypothesis, the theory of memes proposes a new understanding of the mechanics of cultural transmission. That is to say, the theory of memes is not so much about the *contents* of religious phenomena as rather about the *ways* such contents are transferred from one individual or one generation to the other. If there is the idea of God, the theory of memes explains the *mechanism* in which this idea – understood as a meme – is transmitted.

What is a meme? the Oxford English Dictionary offers the following definition:

“meme (mi:m), n. Biol. (shortened from mimeme ... that which is imitated, after GENE n.) “An element of a culture that may be considered to be passed on by non-genetic means, esp. imitation”.

In Susan Blackmore’s words:

The term meme was coined by Richard Dawkins, Professor of the Public Understanding of Science at Oxford University, in his 1976 book *The Selfish Gene*. As examples he suggested “tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches”. Memes are habits, skills, songs, stories, or any other kind



of information that is copied from person to person. Memes, like genes, are replicators. That is, they are information that is copied with variation and selection. Because only some of the variants survive, memes (and hence human cultures) evolve. Memes are copied by imitation, teaching and other methods, and they compete for space in our memories and for the chance to be copied again. Large groups of memes that are copied and passed on together are called co-adapted meme complexes, or memplexes.<sup>1</sup>

As to the significance of memetics for the theory of religion, already Dawkins suggests that some religious ideas, such as the eternal damnation or salvation, has a “copy me” feature, which ensures the transmitting of the idea from one individual to the other or from one generation to the next one. The success of a meme can be measured by its success of being passed on throughout the centuries or even millennia. In this sense, religious memes are the most successful ones in our known history. The notion of a god is perhaps the oldest idea we have in culture, and still the most popular one – in its variety of forms and contents.

Individual religious memes, according to Dawkins and Blackmore, form memplexes, structured collection of memes, such as the world religions, or lower level ideological forms, such as fashion in a certain time span. The survival ability of memes is infused into the memplexes, though the latter’s survival power must be of a different kind. For instance, the cult of Mithras during the first centuries of our epoch contained a number of features, which were to play an important role in Christianity too, such as the iconographical and theological identification of Mithras and the Sun. Yet the cult of Mithras died out after two centuries of flourishing, while Christianity proved to be successful for more than two millennia. This difference between the two forms suggests that memplexes have higher level capabilities

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<sup>1</sup> See <http://www.susanblackmore.co.uk/memetics/about%20memes.htm> See also Blackmore 1999.

than individual memes. The survival value of memplexes is similar to the survival value of individual memes, but there are additional factors resulting in a different value.

This fact leads us to the question whether the survival value of individual religious memes and memplexes can be clearly measured and established. Now there is a lot of confusion in this respect resulting from the works of the first authors writing on memes. In Dawkins arguments, we find the following ambiguity: On the one hand, Dawkins tries to identify religious memes with a certain capacity of being useful for individuals and communities. Usefulness means here the capacity of physical survival; psychological advantages count inasmuch as they help physical survival. On the other hand, Dawkins and his followers have to face the fact that religious formations contain features perspicuously lacking a survival value, such as the propensity of religions to form artistic beauty or extreme ascetic practices. Take for instance the universal habit of prayer in its variety of forms: in order that prayer as a meme can survive on a universal level, it is supposed to be useful in ways pointing far beyond the mere realm of a placebo effect. Religious memes can be distinguished from other cultural memes just by the former's characteristic of lacking *prima facie* usefulness. Yet religions not only survived but – we can securely say so – even determined the history of mankind from its beginnings up to the emergence of Western modernity.

Without giving a detailed analysis of other problems affecting the theory of memes, let me concentrate on the problem I want to identify as the central one. This problem is the obvious tension between an understanding of memes as mere replicators, and another understanding I suggest here, memes as content type units of cultural evolution. The tension consists in this that if memes are replicators of useful cultural solutions, then they are not about a *what* but about a *how*; yet the distinctive feature of religious ideas and forms is precisely their striking distance from common sense practical solutions. To mention again the

example of prayer: in a number of everyday situations, prayer does not seem to be able to help in an average sense. To catch a wild animal, to win a battle, to find drinking water, or to save the shelter in a storm, attitudes characteristic of prayer may constitute an obstacle, rather than a help. In spite of this obvious state of affairs, prayer is the most widespread religious behavior in almost all known forms of religion.

The answer I want to suggest is this: in order to properly understand the function of memes and memplexes, it is not enough to analyze their common sense survival value. We need to be able to find a way to a content type analysis, for contents – such as the specific beliefs and their dogmatic building in religious forms – contribute to the ability of spreading, being copied, and thus to the historical survival of certain religious forms. Just to mention another example: Muslim theology is apparently simpler and perhaps more powerful than Christian theology. In Islam we find the clear notion of one God, and this notion lacks the mystical ambiguities present in a Trinitarian theology. Yet Islam, while very successful on a historical scale, has not been able to overcome Christianity with the latter's overcomplicated, difficult to understand theological structures. From the perspective of utility, Islam appears to be simpler and thus having a higher survival value than Christianity. Yet even in Africa, Christianity successfully defends its position against Islam in a number of countries.

Thus a content type analysis and its proper methodology need to be added to the theory of memes if we want to save this theory from trivial contradictions. We need a *theological memetics* in order to decide on the reasons of survival of certain religious forms. A theological memetics or *theomemetics* needs to be built on comparative religion, that is to say, on the results of the classical approaches to the study of religion. In this respect I stress the importance of the notion of God. Just as the practice of prayer is universal in religions, so the notion of a God or some understanding of an Absolute is the generally acknowledged center of religious beliefs. Primitive versions of God, such as animism or manatism, belong to

the same problem: we need to answer the question of the origin of religion, not in its common sense forms of practical utility, but more importantly in its characteristic distance from any apparent common sense usefulness.

In this respect, the scientific study of religion needs the assistance not only of comparative religion and comparative theology, but the philosophy of religion too. I mean by philosophy of religion not the analytical approach to particular questions on the fringes of theology – such as the existence and attributes of God etc. – but rather a philosophy raising the question of the meaning of divinity in human thought. Let me mention here again Rudolf Otto, whose analysis of the Holy throws new light on the notion of God. For Otto, God in its explicit form is derivative of an idea of the human mind, an idea he terms the Holy. In Otto's interpretation, the Holy is a Kantian idea of the mind the content of which can be described by concentrating on its moments. This philosophical approach is not merely a conceptual analysis but an analysis of a *sui generis* religious experience as well.

As pointed out, I consider it a merit of the theory of memes that it offers an approach to the problem of religion different from the classical approaches. At the same time, however, I need to emphasize that this approach is viable if and only if it takes into consideration the most important results of the classical approaches – not merely the historical ones, but the philosophical and phenomenological results too.

#### 4. The Possible Worlds of Religion

It is in this context of approaches that I wish to localize the importance of a further approach to the study of religion, the Possible Worlds Theory. Possible worlds are ontological complexes close to the actual world with respect to something. Possible worlds, moreover, have a consistency similar to the actual world, or perhaps even more so: in some worlds, the

structures of necessity, known from our actual world, are of a stricter kind. Thus there is a world in which contingency is reduced to a state close to zero, that is such a world is very close to being necessary.

As to the development of the precise methodology of possible worlds semantics in the study of religion, we still need some time until research offers convincing arguments. An important author to be mentioned here is Sir Karl Popper, who developed the theory of what he termed “World 3”, the realm of values (Popper 1976). Here a distinction must be made between applying possible worlds semantics on some religious questions, such as the existence of God – as among others Alvin Plantinga (1974) or Steven Weinberg (Gordon-Dembski 2011, 547-557) do that – and applying possible worlds semantics on the *sui generis* religious phenomenon, to religion itself. The two perspectives are close to one another, yet it is the latter I emphasize here. There are possible religious worlds as variations of positive religions. I suggest that such a methodology can be fruitful in a number of ways. First, possible worlds semantics helps us to develop conceptual variations of religious memes and memplexes. We can start with a positive occurrence of a meme or a memplex in a historically existing positive religion and establish in a meticulous procedure the possible variations of such a phenomenon. Second, we can check the occurrence of some of these variations in positive religions known to us from research and description. Third, we are able, by applying possible worlds semantics, to see the logical relationship between various religious phenomena and their ramifications. Lastly and perhaps more importantly, by applying this method, we presuppose and discover at the same time the *sui generis universe of religion* in which an infinite number of religious worlds are possible. The universe of religion is such a world, which contain all possible versions of religious facts, structures, and wholes.

Here I want to emphasize that the intellectual, moral, or historical value of a religious meme or a religious memplex, or even of a religious world, is not decided by merely

establishing their actual existence. There are many possible religious worlds existing parallel to each other, but their amplitude of reality varies. To express this notion in another way, let me use the words contingency and necessity. Beyond their existence, possible worlds display a certain proportion of necessity and contingency. In some possible worlds, contingent features are stronger, while in other worlds we find a more robust necessity. Contingency and necessity express the level of coherence; the more coherent a world is, the more necessity it contains in its structures and contents; and the less coherence a world possesses, the more contingency it has in its structures and contents. This approach helps us to answer the intriguing question as to the truth value of certain states of affairs existing parallel to one another in our universe of religion. In the religious universe too, truth value can be decided on the basis of coherence, contingency, and necessity.

The use of possible worlds semantics in the study of religion is at its beginnings. In contradistinction to the merely historical approach to religion, and on the other hand to the phenomenology of religion, possible worlds theory of religion locates the methodological problem of the study of religion in the realm of a strong scientific theory. It remains an open question what sort of ontological status certain complexes of religious propositions possess. I do not want to answer this question here; suffice it to say that positive religions, such as Christianity or Islam, are contingent exemplifications of a possible form of religion, of which we can outline more or less necessary versions. These versions ideally point to an ultimate, strictly necessary religion. This religion we may *not* know in its precise structures and contents; yet positive religions and their variations point to its existence and even to some of its contents.

Let me explain the idea of the possible worlds theory of religion by using again the example of prayer. I define prayer as an act of will to realize a certain state of affairs, which is not available by common sense means. The state of affairs we aim at in prayer is not

something illogical, impossible, or absurd; yet it cannot be reached by everyday means, and so prayer is used to effect such a state of affairs – for instance, the recovery of an apparently fatal illness. The act of will can range from slightly articulate (such as a desire or wish) to the kind of petition which clearly aims at the realization of the act of will. Realization of an aim can vary again from petty everyday matters to an ultimate change in the status of the universe, as it were. The mode of realization can again be very different, beginning from simply petitions to the decision of self-sacrifice. If there are certain positive modes of prayer, there are other, possible modes too; and if there are religions characterized by the predominance of a certain positive kind of prayer, there are possible religions characterized by possible modes of prayer. Petitionary prayer is perhaps the most common form of prayer present in possible religious worlds; but there are modes of prayer the typical expression of which is closer to a command than to a petition. Finally, a prayer is made possible by the characteristic distance between possibility and actuality in a given situation; but to every such world there belongs a world in which this distance approximates 0.

## 5. Quantum religion

The theory of possible worlds is not unrelated to another realm in contemporary science, that of certain consequences of quantum theory (QT). QT is a theory about physics, but its implications contain claims about fundamental epistemological and ontological questions. Some of these questions concern our subject matter; yet in its technical details, QT is still quite far away from the problems of religious studies. Thus we need to be cautious when speaking about the possible application of some of the suggestions of QT on the study of religion; a precise clarification is needed as to the specific claims and their relation to our subject matter.

The study of religion, however, is the study of the ultimate horizon of human beings. This horizon can be investigated in a number of ways and it appears to be important to face the implications of one of the most significant development in contemporary science. By keeping ourselves among the confines of the least controversial claims of QT, we can avoid, or at least minimize, the distrust raised by quite a number of mystery-mongering attempts on this field. By considering some of the best scholars of QT, such as B. D’Espagnat (D’Espagnat 1979, 158-181) or Stephen M. Barr (Barr 2003), we may recognize that the implications of QT entail claims of religious nature – claims about God, the creation of the world, or the nature of our existence.<sup>2</sup>

These claims, however, need to be converted into claims about the scholarly study of religion. It seems that this task is far from being impossible. QT has implications pointing to a number of claims commonsensical in many positive religions; the study of religion is not only the study of some positive forms of religion, but also the study of possible forms, probable forms, and their structures in the mind. QT is about such structures and their possible and probable forms entailing propositions about the ultimate horizon of knowledge and reality, with which religion is most importantly concerned. In my view, therefore, the relevance of at least some implications of QT is quite obvious for the study of religion. While this relevance concern in the first instance general epistemological and ontological questions, some further considerations show that questions of contents – such as the existence of God, the human mind’s nature etc. – are too referred to in this context.

Important questions are raised by QT especially with respect to the following implications:

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<sup>2</sup> See also Schommers, 1989.



- Local or ever-day knowledge of reality cannot be paradigmatic for a more encompassing notion of reality; the notions of space and time included;
- The physical world is not causally closed;
- The human mind has a central role in the universe (in determining what is real);
- Human minds form in some way a continuum, which is demonstrated by the phenomenon of quantum entanglement.

Specific questions are raised by QT especially in the following implications:

- Fundamental problems in religion, such as the existence of God or the problem of creation, can be highlighted by using the semantics of QT;
- Some interpretations of QT, such as the Many Worlds Theory, open the possibility to study religious phenomena as versions of a really existing whole of relevant entities.
- The probabilism of QT shows a further possibility in the study of religion, a prospect close to the possible worlds semantics. We are able to identify probable structures of religious nature by spelling out the implications of fundamental religious ideas.

Let me concentrate here only on two points from the list above. Locality is among the premises of common-sense realism that cannot be upheld in the light of some important clarifications of the foundations of QT. According to Bernard d’Espanat, “local theories of reality” [...] “are most certainly in error” (d’Espagnat 1979, 158). In other words, local theories are

[...] based on three assumptions or premises that must be accepted without proof. One is realism, the doctrine that regularities in observed phenomena are caused by some physical reality whose existence is independent of human observers. The second premise holds that inductive inference is a valid mode of reasoning and can be applied freely, so that legitimate conclusions can be drawn from consistent observations. The third premise is called Einstein separability or Einstein locality, and it states that no influence of any kind can propagate faster than the speed of light. The three premises, which are often assumed to have the status of well-established truths, or even self-evident truths, form the basis of what I shall call local realistic theories of nature.

(ibid)

Now in QT local theories of nature prove to be false, as demonstrated by the fate of the Bell inequality. The Bell inequality is valid if and only if local theories of nature are valid. But on QT, the Bell inequality is refuted. It follows then, that local theories of nature are false too.

Religious ideas often appear extravagant, irrational, or even horrendous to enlightened, rational persons. Cargo cults are good examples of the neglect of the obvious, rational explanation of the origin of material wealth and substituting it by an ultimate explanation of ancestor deities as source of the cargo (Jebens 2004) The rational explanation of the cargo appearing in a port of a distant, uncivilized island is obvious for all having the necessary knowledge of the real origin of the cargo and the modern means of transportation. Yet even if this origin was explained to native people, they kept their belief in the supernatural origin of the material goods arrived at the port. We may say, however, that what aboriginal human beings in this case did with their cargo theory was actually a primitive version of a non-local

theory of the origin of material goods; in this version, the concepts are understood always in the framework of a non-local understanding of reality and knowledge.

The other example I mention here is the role of probability in religious studies. QT describes reality as sets of probabilities referring to an underlying foundation, which some scientists, for instance d'Espagnat, tends to see as closely related to the notion of God. The work of Richard Swinburne of Oxford offers the perfect example how probabilistic thinking can be applied on the study of religion (e. g. Swinburne 1991). By accepting the probability of a religious proposition (an idea, a notion of characteristic religious contents), we are able to construe, on the basis of the probability calculus, a great number of further propositions. The system of such probabilistic propositions constitutes the main body of a given religion. We can nevertheless take another proposition and deduce from it different propositions of some probability, and construe in this way a different body of religious notions. It can be demonstrated that positive religions have structures similar to, or perhaps even identical with, the structures of probabilistic propositions. This shows that probability semantics (and in some cases even the probability calculus) can be meaningfully used in the study of religion.

## 6. Summary

If the study of religion is to be further developed, it has to enhance its methodology. As opposed to the traditional historicist methods, phenomenological approaches offer a broader possibility of research by establishing formal structures of religious reality. The nature of these structures, however, remain ambiguous as the methodologies followed by Otto, van der Leeuw, Heiler, or even Eliade do not distinguish between inductive and deductive models of research. The theory of memes and memeplexes appears as a biologically based top-bottom theory contributing to the better understanding of the survival of

fundamental religious ideas. Still, the theory of memes owes us the answers to a great number of disquieting questions about the origin of the content of memes and the reason why religious notions survived hundreds of thousands of years in the history of humanity. The fundamental meme, that of a God, points to the greatest difficulty in the theory. In order that the God-meme can survive, it must appear at a certain point, and the explanation of the origin of such a meme is beyond the horizon of the theory.

The methodology based on possible worlds semantics has the promise to develop a logically secure foundation of our catalogue of religious notions and their implications. The problem here consists in the weak connection to phenomena of positive religion. Quantum research may, however, solve this problem. Quantum religion – by avoiding a number of mysticist interpretations – seems to be able to consider the universe of religion as an open universe, and the role of the observer as the very source of the existence and content of this universe. This universe contains the history of positive religions too as basic patterns of predictions.

The question as to the possibility of the renewing of the study of religion is not yet decisively answered. Eliade proposed his total hermeneutics of religion as the new framework of the human sciences. Today, we are no longer so ambitious; religion is indeed an important topic in scholarly discussions, but the meanings attached to this ancient term are less and less intriguing in the scientific community. Yet if the study of religion can be successfully situated in the realm of cutting edge research of contemporary science, we may be able to speak again of the paramount importance of the study of religion. But even in this case, I believe that religion as a *sui generis* phenomenon cannot be exhausted and processed entirely; an inexplicable core remains with us as the sign of the limits of our human knowledge of the reality of religion.



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