

## **Convergent pathways between evolutionary psychology and psychology of religion**

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### **Abstract**

This article examines the relationship between evolutionary psychology and psychology of religion. It is argued that cognitive science plays an important role in that relationship, and that both evolutionary psychology and psychology of religion lead convergent pathways of a fruitful discourse. Could it be assumed that religion forms an adaptation, or that it is a biological construct examined in evolutionary terms? Also, could religion be assumed to be a designing precursor of consciousness? These are some of the questions which will be addressed in this article in terms of finding answers that could relate evolution to religion and vice versa. Finally, a new paradigm entitled Evolutionary Psychology of Religion would be presented in this article which provides more insights about the importance of religion as an ontological need for the survival of the human species.

**Keywords:** evolution, biology, religion, cognitive science, adaptation, consciousness, survival, co-opted exaptation

Evolutionary psychology is a modern paradigm in social sciences, which entertains both evolutionary theory and mainstream psychology. The origins of evolutionary psychology can be found in evolutionary biology (Kirkpatrick, 1999). In this vein, evolutionary psychology is considered to be a by-product of biological science that has derived from the evolutionary development of the human species. Evolutionary psychology investigates the human psychological mechanism by regarding it as an overall adaptation by natural selection. It also discusses it in terms of a good design and fitness maximising. In this way, it considers that human mind and behaviour are better explained when put under the framework

of the evolutionary paradigm (Cosmides & Tooby, 1989; Tooby & Cosmides, 1992). Evolutionary psychology by introducing a more mechanistic view of human psyche tries to examine how patterns of it had arisen with the result of providing humans with particular solutions against everyday difficulties and confrontations that influence human life and behaviour (Barrett et al., 2002).

Psychology of religion studies the religious phenomenon from the perspective of mainstream psychology. By religion we mean an inherent disposition through which we question issues limited to our comprehension, and issues that express our understanding of the world in terms of attributing them to a Supreme Being. Mainstream psychology is the tool for psychology of religion to examine the issue of religion in terms of human behaviour and the development of personality (Kirkpatrick, 1999). Psychology of religion is the only psychological discipline, which unites psychological theories afar from fragmentations and antitheses. The study of personality in the framework of religion does not only investigate behaviour and cognitive abilities of the human mind, but also questions how the use of religion in an everyday reality shapes humans and their understandings of the world, the issue of spirituality, human interrelations, religious affiliation matters, issues of belonging to particular congregations, etc. In such a way, psychology of religion scrutinises issues of attachment and detachment, and how these influence the mind and behaviour of an individual (Brewer, 1979; Tajfel, 1981; Hazan & Shaver, 1987).

The common denominator between evolutionary psychology and psychology of religion is cognitive science. Through cognitive science, evolutionary psychology studies the cognitive elements of human mind, whereas psychology of religion the scientific elements of religious phenomenon. Evolutionary psychology is termed as the new science of human mind (Buss, 2004), whilst psychology of religion as a discipline of a pluralistic perspective interested in the whole of psychosomatic organisation of human entity (Wulff, 1997). Cognitive science for both evolutionary psychology and psychology of religion provides the tools needed for a fruitful

presentation and discussion of the capabilities of human mind and how these can unfold into traits of behaviour.

This article will explore the thesis that evolutionary psychology and psychology of religion follow convergent pathways. It will be argued that, although evolutionary psychology lacks palpable evidence for its assumptions about humanity and its 'findings' are disputed by many (Rose & Rose, 2000; Hurlbut & Kalanithi, 2001), its endeavours by being related to evolution and cognitive science provide a theoretical framework useful to psychology of religion. Finally, a new paradigm will be suggested which could examine human evolutionary theory under the psychological perspective of religious evolution and not vice versa. This new paradigm will be able to recapitulate the findings of evolutionary theory in terms of the psychological importance of religion for human species, and it will be defined as *Evolutionary Psychology of Religion*.

### **1. Casting out an old fear**

Charles Darwin feared that issues such as religion and morality could shake the edifice of his theory of evolution through teleological arguments as well as assumptions about intelligent design (Darwin, 1887; 1958; Darwin, 1995; Edis, 2002; Darwin & Darwin, 1897 (2004); Von Sydow, 2005). Furthermore, what he clearly feared was to include morality, and particularly religion, in his evolutionary investigations. The reason is perhaps obvious: The issue of religion is the most puzzling issue in the history of humankind. It has been argued that it proves great survival value together with spirituality (Finch, 1998; 1999; Hay, 2006); a good design in terms of cognitive-specific patterns to the human mind, a multifaceted manifestation in the cultures of the world (Looy, 2005; Atran & Norenzayan, 2004); a fitness maximizing integration regarding modifications and refutations of its ideas, as well as a magnificent adjustment to the needs of people (Soeling & Volland, 2002; Wilson, 2002).

## **2. First things first**

Evolutionary psychology follows the course of biological science. Its interests relate to findings of biology, such as the concept of instincts (James, 1890; Le Bon, 1903; Freud, 1913); Hamilton's (1964) research on inclusive fitness and kin selection; Williams's (1966) criticism on the models of group-selection; Trivers's (1971; 1972) theory of reciprocal altruism and parental investment, etc. Many of evolutionary psychology proponents (Leda Cosmides, John Tooby, David Buss, Louise Barrett, Robin Dunbar, John Lycett) trace back its origins in a saying cited by Darwin (1859: 369): "In the distant future I see open fields for far more important researches. Psychology will be based on a new foundation". 140 years later this new branch of social sciences employs theoretical and empirical insights of evolutionary theory in terms of understandings and contributions of modern psychology (Cosmides & Tooby, 1997). Although its concerns are mainly evolutionary, they cannot be regarded as ground-breaking without following the evaluation via modern psychological terms, in regard to mind and cognition, as well as theorisations discussing human behaviour (Alexander, 1974; Axelrod, 1984). Psychology of religion, on the other, although it is thought to have been conceptualised as an idea late 19<sup>th</sup> early 20<sup>th</sup> century (Hall, 1882; 1917; Scheler, 1921; Wunderle, 1922; Girgensohn, 1930), is deemed to be much older, traced even back to the phrenology movement [Gall, 1796 (Fancher, 1988)].

In both evolutionary psychology and psychology of religion the most intriguing point when coming to discuss religion is its phenomenal significance to the history of the world (Emmons, 2000; Boyer, 2003; Broom, 2003; Looy, 2005; Peet, 2005; Wilson, 2005). Religion is a social phenomenon that not only guides the lives of individuals, but also the development of societal principles (Burriss et al., 1997; Koukl, 2006). Religion attracts students of evolution and psychology both in natural selection terms, and the study of human cognitive abilities.

The sections to be presented in this article will refer to:

***2.1 The survival value and naturalness of religion***

***2.2 Religion: Adaptation or not?***

***2.3 Understanding evolution as a biological construct***

**2.4 Understanding religion as a biological construct**

**2.5 Religion as a designing precursor of consciousness**

**2.6 Evolutionary Psychology/Psychology of Religion:  
Can they lead the way in the study of religion in  
convergent terms?**

**2.7 The New Paradigm of Evolutionary Psychology of  
Religion**

**2.1 The survival value and naturalness of religion**

The principle of survival is a central assumption of Darwin's theory of natural selection<sup>1</sup>. The principle of survival fitness is a motivating potential for natural selection. Natural selection would not have existed, according to Darwin (1859), without the element of survival of species. Since species survive over centuries, either by getting over or enduring changes, it means that natural selection shapes ways in which species become capable in transmitting their genes over time.

An evolutionary account of religion assumes that religion helps individuals to survive and reproduce. Religion's survival value for individuals is thought to be associated with commitment to principles of dogmatic faith and ritualistic behaviour. Commitment begets affiliation, and affiliation begets in-group coalitions in order between-group conflicts to come at ease. The more a religious affiliation is able to depend on a commitment strategy of its members the more its faith and ritualistic principles can flourish outside the community they represent. In such a sense, religion has a survival value for individuals because it prospers over centuries, supporting conflict resolution between groups, and attracting new followers in the course of time. Religion has also a reproduction value for those acquainted with it. On the one

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<sup>1</sup> What we know about 'natural selection' theory as attributed to Charles Darwin (1859) is actually an idea initially proposed by William Paley (1802) with the metaphor of a watchmaker's design through whom all adaptations in creation have evolved. According to Paley (1802), adaptations take place because of a divine designer who undergoes them all in his wisdom. Darwin liked the idea of the watchmaker and replaced it with his idea of natural selection as executing all adaptations.

hand, it helps individuals to reproduce safely, whether sexually or intellectually, in a community-protected environment; on the other, individuals feel able to spread the word which in turn is 're-produced' to the extent to become more 'affiliated' to as far as new recruits are concerned.

Religion has not always been the same, and has also endured changes either by having been reshaped to other forms or beliefs or by having been completely altered and re-born to contemplations of a different angle. Certainly we do not position all religions under the same umbrella; for instance it is impossible to compare animism to Christianity because of their fundamental differences in all their angles in approaching the Divine, such as the meaning of it, faith concerns, and the existence and presence of spirits (Halverson, 2003). It can be argued that religion has a survival value for it is a natural disposition towards not only explaining the unknown but also dealing with unfavourable and difficult environments in which human beings need protection (Broom, 2003). It has also been claimed that religion is a natural phenomenon associated to human cognition (for example, Dennett, 2006). Commitment to religion appears as a natural inclination for cultures and civilisations. Cultures around the world regard religion as a constituent part of their identity (Lawson & McCauley, 1990). McCauley (2000) argues that religion *is* a natural disposition for it is a *normal thing* one to be religious. In support of this, comes the observation that individuals acquire more easily religious knowledge, than *any* other knowledge. The reason for this is because individuals are attracted to unfathomable assumptions, rather than premises they can have an intellectual hold of. In other words, things people hope for provide greater psychological value than things that are easily interpreted; most importantly that seems to apply to premises related to things of ultimate meaning such as afterlife, unification unto God, ease of hardships, that sin is not eternally present, etc. Survival value and naturalness in religion explain the fact that religion is an intuitive predisposition expressed as a social manifestation (McCauley, 2000). Survival value and naturalness in religion mean that religion, along with spirituality, are "hard-wired into our biological make-up and evolved through natural selection. (They are) what enables

people to relate ethically to other human beings and to their environment” (Hay, 2006: back cover).

## **2.2 Religion: Adaptation or Not?**

Unlike researchers who see religion as a by-product of an evolved adaptation (Soeling & Volland, 2002), others do not regard it as such. Religion for those on the adaptation side (Wilson, 2002; Looy, 2005) relates to the problems individuals encounter in everyday life, whilst those who reject it view it as a topic of complex nature, and as such it baffles both behavioural geneticists and evolutionary theorists<sup>2</sup> alike (D’Onofrio et al., 1999; Kirkpatrick, 1999).

Behavioural geneticists although they admit that individuals have needs of ultimate importance, such as religion, they seem unable to interpret them in terms of a genetic association and transmission to future generations (D’Onofrio et al., 1999; Peet, 2005). The reason for this difficulty relates to the assumption that what might be considered as a religious need, or trait, is mostly a social construct which has no corresponding entity at the level of genes (Dawkins, 1993). Religion to them is interpreted as an individual behavioural stance in terms of community affiliation, attitudinal principles, and participation in activities (Boivin, 2001).

For many evolutionary thinkers, the argument that religion is an adaptation is a weak assertion (Boyer, 2002). To support this position they offer explanations about the incomparability of psychological states to religiously functional elements such as beliefs (Kirkpatrick, 1999), indicating that religion is an outcome of the abilities of human mind against contingencies met in the environment, and as

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<sup>2</sup> Religion seems to *unite* both behavioural geneticists and evolutionary thinkers in a search about religion whether it is an adaptation or not. For a number of them (Gould, 1991; Kirkpatrick, 1999), religion is not an adaptation for it is difficult to find it in the gene pool of a population, that on the one hand would relate religion to genetic sources (Dawkins, 1993), and on the other, if religion was to be claimed as a human trait, should exhibit low or insignificant heritability (Tooby & Cosmides, 1987).

such is regarded as another product of culture, such as writing, reading, the arts, etc. (Gould, 1991; Pinker, 1997). Other evolutionary thinkers consider religion an adaptation (Hay, 1994; McClenon, 1997), arguing that it results from domain-specific cognitive mechanisms in order for humans to deal with external difficulties, out-group and in-group conflicts, to create coalitions, to satisfy hierarchy needs, to manage costly commitment activities, etc. (Soeling & Volland, 2002; Wilson, 2002). All the above are said to serve the adaptive function of religion in order for individuals to be able to prosper and survive (D’Onofrio et al., 1999).

In my view, religion may have an adaptive nature, if it is related to aspects of great importance, such as what is life, whether there is an afterlife, what is the meaning of death, whether there is an ultimate being watching over us, etc<sup>3</sup>. Religion to have an adaptive nature is examined in terms whether problems with the environment can be dealt with, as well as whether its universal value provides satisfactory answers to the searches of humans. I argue therefore that religion has an adaptive value in the universality of individuals’ needs not only in the prospect to tackle everyday obstacles, but to help also individuals to come to terms with the unknown and the exaggerated. The adaptive nature of religion, not religion as an adaptation, and its universal value is what makes religion the real evolutionary quest in the history of humankind. By that I mean a distinction between psychological functions and evolutionary adaptations. Religion’s functionality relates to the psychological needs of man, for it comes to fill the gaps of ultimate questions which indeed have great psychological importance for the man’s course in life; evolutionary adaptations fill the gaps of direct or indirect needs, the use of which improves the presence and relationship of individuals to their environments.

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<sup>3</sup> To this issue, evolutionary thinkers such as Dawkins (1976), Pinker (1997) and Boyer (1994a; 2002) do not regard religion as adaptation, but only in survival terms. Questions of *semantic importance* about religion seem to lack evolutionary scrutiny; they simply examine the issue one-sidedly, not wishing to be informed about the significance of religion as a quest concerned with the self.

### ***2.3 Understanding evolution as a biological construct***

The biology and the physical organisation of a species start with evolution by means of natural selection and adaptation (Barrett et al., 2002; Buss, 2004). The more successfully an organism reproduces itself the more an organism becomes biologically integrated. The evidence scientists draw from to support that thesis is the organisation of human brain and its cognitive abilities (MacLean, 1990). Cognitive abilities are considered major evidence for the biological integration of human brain (Williams, 1966; Klein, 2000). What scientists maintain does not fall short of evidence; it falls short to a secondary approach that has not been adequately accounted for so far. That approach refers to understanding evolution as arising from biological constructs.

Biological constructs do not explain the biology of an organism per se, but what the biology of an organism has offered to the course of evolution. The organisation of the human brain would not have evolved if there were no foundations from which it could have evolved from scratch. Such foundations are the existing biological constructs of an organism without which the continuum of evolution could not have taken place. For example, if language, perception, attention, intuition, memory, etc. had not been biological constructs evolved from biological mechanisms, humans would not be able to reason, to create cultures, to posit questions about life and death, and so on (Elman et al., 1996). Biological constructs do not situate a threat to the theory of evolution; on the contrary, they are the means in comprehending puzzles of evolution in biological terms; something which is attested by the fact that evolutionary accounts have emerged by observing and discussing the biology of different organisms, foremost including humans.

### ***2.4 Understanding religion as a biological construct***

Religion in terms of searching, looking, and discovering what is cognitively understood, and what not, arises from the biological constructs of the human brain (Koenig et al., 2001; Reimer, 2005). Discussing religion as a biological construct does not demean its significance to the history of humanity,

but it argues for an intellectual position of human mind in the vein of examining, investigating, and scrutinising issues of an unfathomable questioning, as well as reasoning. There would not be any case about religion if the organisation of human mind were not present. Religion as a biological construct is seen as one of the main cognitive by-products of self-realisation in a world physically hostile, potentially difficult, and constantly changing. Brain is the physical organ, which regulates the senses and explores the needs and expectations humans have in their environments; mind is the ‘cognitive abilities’ tool of the psychosomatic man, which provides the human entity with intellectual and behavioural structures. In paraphrasing David Hay (2006), we could contend that what the mind offers via the brain to the physical totality of human body is what spirituality offers to religion: a relationship in terms of psychosomatic integration. “It is recognition of the role of our physiology in opening up awareness of transcendence” (Hay, 2006: 241).

Both mind and brain contribute to human entity via regulating the physical and cognitive edifice of man. They are interrelated, for none could have existed without the other; brain is the cover, mind is the content. That is why cognition is so important: it provides the ability for humans to think and challenge what is present, as well as to inquire about what it isn't! Questioning and reasoning about gods; writing about their qualities and attributes; presenting them either as fulfilling quests, or agents leading humans to afterlife, introduce religion as a matter of utmost importance for human mind (Albright & Ashbrook, 2001). To this remit, in regarding religion as a biological construct it also means that it forms part of the biological evolution of human mind because it is connected to the abilities of reasoning, thinking, recognition and representation of images, problem-posing and solving, concept-categorising, object classification, speech as communication, and emotion-inducing experiences. Since religion has a cognitive-laden importance for human biology, and this seems not to be disputed (Kamppinen, 2002; Barrett, 2004; Tremlin, 2006), is strange enough, although in many

accounts obvious<sup>4</sup>, why it is not officially included in the research scope of evolutionary theorists<sup>5</sup>.

### ***2.5 Religion as a designing precursor of consciousness***

Since evolution is the generator of human biology, and biological constructs have worked out and elaborated the evolution of physical organisms, it follows that consciousness has evolved to include patterns and features related to inquiring concerns discussing the inexplicable. According to a theory (Jaynes, 1976), which so far has neither been fully accepted nor refuted (Dennett, 1993; Boyle, 2002), religion is considered to be part of the breakdown of the bicameral mind. Bicameral mind equals to the issue of consciousness which, according to Jaynes (1976), is about 2.500 years old<sup>6</sup>.

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<sup>4</sup> The *biological hypostasis of religion* poses real problems to scientists who do not recognize religion as a constituent part of human personality (Dawkins, 1993; Hitchens, 2007). When we say biological hypostasis of religion we do not mean some kind of 'religious' or 'God gene' in the human DNA (D'Aquili & Newberg, 1999; Edwards, 1999; Hamer, 2004). We just mean a biological operation of the human organism influenced by the agency of religion in terms either of bodily arousal (Lake, 1966; 1981; Friedlander et al., 1987; Goldbourt et al., 1993; Oxman et al., 1995) bodily weariness (Spellman et al., 1971; Sanua, 1992; Levav et al., 1997), or cognitive potentials (Snyder et al., 1991; 1996; Mickley et al., 1992; Idler & Kasl 1997). Unfortunately, evolutionary scientists coming from a background where religion is not recognized as a factor of importance for the development of personality (Gorsuch & Hao, 1993) do not include the term in their scientific queries, 'excluding' science on the one hand from looking in depth to the essence of things, and on the other by lessening and restricting its investigations on man via following narrow-minded ways (McGrath, 2005; McGrath & Collicutt, 2007).

<sup>5</sup> Neither textbooks on evolution (Stearns & Hoekstra, 2000; Futuyma, 2005) nor evolutionary psychology (Barrett et al., 2002; Buss et al, 2004) books seem to include in their chapters the case of religion from an evolutionary point of view. If they do, textbooks of the kind are either discussing religion in a footnote order, or presenting it as a bystander to evolutionary aspects that de-assemble religion from its cognitive associations (Cartwright, 2000).

<sup>6</sup> The issue of consciousness is inconsistent in terms how Jaynes (1976) approaches it chronologically. The fact that he considers consciousness as a cognitive element to be absent in texts like Iliad and

According to this theory, religion as much as it is an issue of volition, problem-solving, decision-making, and empathy it is also a function that forms the psychological framework of human personality (Reimer, 2005). The breakdown of bicameral mind coincides with the emergence of consciousness in humans and presents religion as an individual psychological construct that designs volition, problem-solving, decision-making, and empathy as constituent parts of the operation of consciousness. Volition, decision-making, and empathy are perception-induced components through which religion is manifested. To this extent, belief systems, ritualistic behaviour, and religious affiliation are said to be cognitive by-products deriving from religion and depending on the development of consciousness in terms of approaching existential pursuits and investigating ineffable phenomena. In this way, religion could well be understood as a metaphor in terms of looking for a vehicle transmitting the evolving process of human spirituality (Hay, 2006). Consciousness, in this context, could be part of human spirituality in relational terms, i.e. in terms of personal awareness regarding the immediacy of religious experience (Hay, 2006). It could also be a spiritual experience that is presented as a cognitive dimension depending on religious beliefs. In such a vein, religion could be regarded as a designing precursor of consciousness and a shared knowledge of conducive properties, in terms of a subjective perceptiveness about what is understood as Divine, in terms of a satisfaction resulting from practising religious rituals, in terms of problem-solving insights to everyday difficulties, etc. (Hay, 2006).

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Odyssey is somehow unjustifiable, for, by reading those texts, aspects of personal consciousness such as intuition, are apparent if we think them in terms of thought-involvement in the practicalities of life. So, consciousness is not only 2.500 years old but more than that; I reckon, in relation to the texts we have at our disposal, should be about three to four thousand years old, because humans are able to consider, make up their minds, choose from available alternatives, demonstrate rhetorical questions, creating elements of individual importance such as myths, erecting temples, constructing societies, etc.

## **2.6 Evolutionary Psychology/Psychology of Religion: Can they lead the way in the study of religion in convergent terms?**

Evolutionary psychology as a discipline rests on assumptions about human psychology, by means of natural selection and adaptation. On the one hand we have the argument about the superiority of genes in terms of a biological determinism (Dawkins, 1976); on the other, the assumption that evolutionary goals cannot be accomplished by design-programming (Nelkin, 2000)<sup>7</sup>, as well as that biological determinism is an illusion in favour to extreme reductionism, for it attempts to crack down entities into simpler components so to disarm them from their ultimate meanings (Rose et al., 1990; Joseph, 2004; 2006). In evolutionary psychology, genes are the main argument psychology needs to be developed in humans, for they are presented somehow as a 'sacred ought' never to be distanced from. Evolutionary psychology in resting on the gene assumption does not approach human cognition in its own right, and for this reason lacks real evidence in its accounts regarding religion by means only of survival and as part of an adaptive process. What evolutionary psychology needs to try more is to include approaches not touched so far in depth, and to have a closer look on issues, such as morality and ethics, in order to cross the evolutionary boundaries of the 'cultural demand' or the social 'attestation' of imperatives, something which only some anthropologists have done so far (Boyer, 1994a; 1994b 2001; Wilson, 2002).

To consider evolutionary psychology in a confluent path to psychology of religion we should refer to issues of unison and not of divisibility. The query about converging evolutionary psychology to psychology of religion, and vice versa, lies at the link between evolution and religion. The idea of discovering a common path relates to understanding both terms as biological necessities (Hay, 2006), which on the one

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<sup>7</sup> Nelkin (2000) in her article *Less Selfish than Sacred?: Genes and the Religious Impulse in Evolutionary Psychology* (Rose & Rose, ed., 2000) discusses the 'selfish gene issue' as a narrative related to a "mindset that sees the world in terms of cosmic principles, ultimate purpose and design" (p. 21).

hand present evolution as something deriving from natural selection via adaptation, whereas on the other religion as a by-product of the development of human cognitive abilities. Evolution and religion are not extremes to each other, for both approach human needs and expectations in terms of the development of human cognition. Evolutionary psychology and psychology of religion focus their searches on the psychological components of human cognition that inquiry religion. The religious phenomenon cannot stand alone or as a per se definition without being related to everyday life experiences, issues of well-being, or human interrelations, all of which entertain the foreground of the practising of cognitive abilities. What is primarily needed to a fruitful discussion about religion by both evolutionary psychology and psychology of religion is a launching of a common framework that will favour both evolution and religion. In such a paradigm, biologically constructed mechanisms underpinning the human state would converge with cognitive and behavioural traits associated with religiousness, affiliation to particular belief systems, faith manifestations, or the search for the Ultimate from a psychological standpoint.

### ***2.7 The New Paradigm of Evolutionary Psychology of Religion***

Evolutionary psychology of religion could be a new paradigm in social sciences that may treat evolutionary ideas in a cognitive convergence/integration with religious phenomena. This new paradigm would not be an expansion of evolutionary theory, and would not result from biological science. Instead, it will be connected to the theory of evolution in terms of discussing the religious phenomenon in its psychological importance for human beings. In other words, in this paradigm the theory of evolution would be the denominator and the issue of religion the numerator. In such an account, evolution could be an underlying character of religion, whereas religion a crucial factor upon which evolution has shaped behavioural features and human societal traits. My paradigm is an improved version of the one proposed by Pinker (2004), who considers religion as subjected to evolution, whereas not examining it as integration

and a unique manifestation of human mind.

***The New Paradigm of Evolutionary Psychology of Religion*** would be distanced from an evolutionary framework favourable to subduing religion to evolution, and unable in explaining aspects such as love<sup>8</sup>, sacrifice, morality, senescence, suicide, etc. In this new paradigm, evolution would be integrated in terms of understanding the religious phenomenon and its century-old influence over humans, the issue of adaptations, as well as the generation of culture. It is being accepted that not only religion is proposed as an aspect ensuing from evolution, but also that religion has created cultures, as well as conditioned them to favour the development of human mind and behaviour. In this context, I would term ***religion*** as ***the cross-cultural evolutionary element of the survival principle***, which does not fall short to meanings and notional understandings, but integrates human nature through influencing many of the societal systems, ethics and values, as well as through redistributing ideas and producing scientific findings [Lamarck, 1809; Mendel, 1866; Pasteur (Farley, 1978); Lavoisier (Meldrum, 1934)]. ***Religion as the cross-cultural element of the survival principle could be regarded as a co-opted exaptation*** that is borne out of an ***integrated process towards fulfilling ontological needs***<sup>9</sup>.

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<sup>8</sup> A serious problem to Darwinian psychology is posed through the issue of love in terms of showing an unprecedented interest to the needs of someone to whom one has no kin relatedness, ethnic link, religious connection, traditional adherence, etc. In particular is of great question to Darwinian Theory of evolution how one demonstrates a loving behaviour, especially against someone who is enemy to him and wants to destroy him. The parable of the Good Samaritan is one of many examples that posed a threat to Darwinian psychology (Cartwright, 2000).

<sup>9</sup> As a *co-opted exaptation*, religion may be examined as an evolutionary aspect that although does not relate to genetic inheritance of any sort or source, it nevertheless is investigated as an issue of widespread importance across human generations, without the necessity of physical reproduction. *Religion is an exaptation which is co-opted in terms of helping to the changing of individual needs through a universal and cross-cultural cognitive framework.* An exaptation to this vein is an improved version of a number of adaptations, which in the

Finally, this new paradigm of *evolutionary psychology of religion* could present religion as a social phenomenon without which the evolution of humanity and the development of society would have not been emerged. In such a vein, **religion** could prove an **inescapable trait** of the social reality to which the search for self-identity is subjected.

### 3. Conclusion

Human evolution is regarded as having ensued from natural selection and through the course of adaptations. Religion is an issue, which is both examined as an adaptation and as a by-product of evolved adaptations. Evolutionary psychology leads the way in examining the issue of religion in terms of the evolutionary significance of human cognitive abilities, the emergence of culture, and the need humans to deal with conflicts in their environments. Psychology of religion examines the psychological importance of the religious phenomenon in terms of studying human personality in relation to its cognition.

Both evolutionary psychology and psychology of religion study the course of human evolution from the perspective of the development of human cognition, the investigation of human mind, and the evolutionary foundations of human behaviour. To this vein, both branches of psychology discuss the cognitive contents of human personality and investigate issues of individual differences in terms of their biological constructs as well as the accomplished elements deriving from the individuals' relation to surrounding environments.

Evolution and religion are interpretative accounts of the need for survival and the cultivation of human species. The psychological elements underlying the importance of evolution and religion can be manifested in many ways: representation of information and inferential patterns of cognitive significance, thinking and attention-induced processes, perception-laden conscious choices and behavioural patterns.

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case of religion refers to a developing framework of integration principles (Gould & Vrba, 1982; Gould, 1991; Buss et al., 1998; Kirkpatrick, 1999).

Evolution and religion refer to an in-depth analysis of human traits which whether expressed in evolutionary terms or religious affiliation accounts are embodied elements addressing the development of human personality.

Evolutionary psychology and psychology of religion follow convergent pathways in the study of religion and its emergence as a human phenomenon. The apex of their convergent pathways can be defined through the new paradigm of evolutionary psychology of religion in which religion and evolution play a semantic role in the interpretation of human mind and behaviour in psychological terms. Evolutionary psychology of religion is the new scientific paradigm, which lays weight on both evolution and religion. Religion is not subjected to evolution as an issue of cultural importance, but as a cognitive perspective, which has helped the course of evolution in individual and societal terms. To this vein, the religious phenomenon is not only regarded as a manifestation of human cognitive abilities, but as a contributor to the course of evolution via investigating the aforesaid in terms of the religious development of human species.

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