

# EVOLUTIONARY CONSCIOUSNESS, LIMIT-LANGUAGE AND HUMAN EXPERIENCE IN RELIGION

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Psychology of Religion  
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*“Man is the only animal for whom his own existence is a problem which he has to solve and from which he cannot escape.” – Erich Fromm<sup>1</sup>*

Two weeks prior to Thanksgiving of 2006 a conference was held in La Jolla, California with this head-turning title: “Beyond Belief – Science, Religion, Reason and Survival.” The topic was built to be epic and the invited guests even more so. Sessions by Steven Weinberg, V.S. Ramachandran, Scott Atran, Sam Harris, Patricia Churchland, Paul Davies and other Science v. Religion all-stars battled for primacy at the podium. The conversations were heated. It was if the fate of religion itself was to be decided in that three-day conference. A post-lecture discussion between Atran and Harris succinctly captured the overall mood of ardent fervor at the conference. Watching video footage of these ordinarily stoic academics was reminiscent of watching two boys in a schoolyard arguing over who’s dad could beat up whose...only with bigger words.<sup>2</sup>

Believers, agnostics and atheists alike have made the scientific analysis of religion a recurring bestseller in bookstores and on newsstands. The question is why the fuss? What about the topic of religion invokes such as passion in both layman and academic? Lastly, when I say the word “religion”, are we really talking about the same thing?

Each of the questions above could easily take up volumes therefore I will focus primarily on the last one regarding the *definition* of religion, hopefully understanding why discussion of religion undoubtedly triggers a strong felt sense. I’ll begin to answer the question of defining religion by asking yet another question: can evolutionary theory, human consciousness, and the psychological concept of self-transcendence of limits overlap in order to define religion? At

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<sup>1</sup> Erich Fromm, *Psychoanalysis and Religion* (New York: Bantam Books), 23.

<sup>2</sup> Video of Atran and Harris’ debate can be seen in its entirety here: <http://www.youtube.com/watch?v=Cn3CzII4o4k>; the conference sessions here viewable here: <http://beyondbelief2006.org/>.

issue here is whether or not an evolutionary theory of consciousness based on a specific psychological concept explains *why* we have religion.

Before I continue mentioning the word religion, I will give my own definition of this word so as to avoid semantic confusion with the countless other definitions that exist for religion. *Religion has to do with a facet of human existence intrinsic to personal and communal survival, a cognitive mechanism that stems from an evolutionary longing for self-transcendence of limits to ordinary experience.* There are three key points to expand upon in this definition: 1) evolutionary survival, 2) human cognition (emphasizing both conscious and unconscious faculties), and 3) personal evolution of experience during limit situations.

A primary concern is whether a culturally evolutionary schema of self-transcendence is *intrinsic to all humanity*. In order to strength the claim that religion can be defined as such, evidence from the fields of psychology, religion, philosophy, biology, and computational neuroscience will be reviewed with several of these disciplines inevitably overlapping. The first section will discuss religion in terms of evolutionary survival, focusing primarily on the important work of Pascal Boyer. The second section shows how consciousness in humanity has evolved, elaborating on the theories of Boyer and Atran as supporting evidence. The third section will glean from the psychological work of David Tracy, David Ray Griffin, and Erich Fromm to further the notion of self-transcending limits.<sup>3</sup> In the final section I will attempt to amalgamate the prior three sections into a cohesive framework by using my own experience as example.

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<sup>3</sup> One may notice the increasing complexity with each section: evolutionary survival residing primarily in autonomic function, human consciousness playing a role in higher brain function, and limit language application of higher brain processing as a psychological function. I should also comment that these *functions* are overlapping, but do not imply a philosophical functionalist approach to religion. The method used here is scientific in nature yet not reductionistic. A more thorough definition of this will be discussed in my final analysis in section four.

In this paper I will hurl stones at my proposed definition of religion in order to see if there is any lasting worth in its proclamation. As a scientist, I should be able to accept the final results regardless of the experiment's outcome, however, scientists are human and often try their best to set up experiments to achieve a desired result. I am inevitably sure to fall prey to this scenario, but will attempt to present each view as objectively as possible.

## **1. RELIGION IN EVOLUTIONARY SURVIVAL**

Darwin's theory, the best thing going thus far in biology, is by no means complete but it seems to offer some important clues as to how the biological process works. Several divergent genetic and social evolutionary theories exist and the number of theories is compounded exponentially when the role of religion in evolutionary theory is added to the mix. For brevity's sake the basis for evolution presented here is taken primarily from David Sloan Wilson's lucid and insightful book, *Darwin's Cathedral*.<sup>4</sup>

### **1a. ADAPTIVE UNITS**

Among cognitive scientists and evolutionary biologists there are typically two ways to consider religious concepts: adaptations or by-products of adaptations. The former relies heavily on the importance of group selection and the latter views religious behavior as a mental by-product at the individual or gene level.<sup>5</sup> For Wilson, study of religion has morphed from a theological to evolutionary analysis where adaptive units are created out of group interaction. This places Wilson firmly in the adaptations category. In order to discuss this social formation, he says, three evolutionary principles are central: phenotypic variation, heritability, and fitness

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<sup>4</sup> David Sloan Wilson, *Darwin's Cathedral* (Chicago: The University of Chicago Press, 2002).

<sup>5</sup> Pascal Boyer, "Religion, Evolution, and Cognition," *Current Anthropology*, Vol. 45, No. 3 (June 2004), 430-1.

consequences. This means the three together create “a tendency for fitness-enhancing phenotypic traits to increase in frequency over multiple generations.”<sup>6</sup> These central tenets of Darwin’s theory rely entirely on survival and reproduction and are (at a first glance) unable to explain this *groups as adaptive units* theory. Wilson points out that the fundamental problem is comprehending social life in animals, which makes it hard to adapt the notion of adaptive units in nature to how religious groups form in human social dynamics.<sup>7</sup>

The solution? A tribe, for example, can vary in phenotypic expression in order to better survive, and if current groups resemble previous groups they transition into adaptive units just as individuals evolve into adaptive units.<sup>8</sup> This seems a logical possibility, yet it is by no means a guaranteed occurrence. In fact, once a group evolves into an adaptive unit, it often behaves in a hostile manner to neighboring groups for most mammals including humans. It is easy to see how the social interaction of varying groups can mimic studies of neighboring religious groups as well. For example, altruistic traits develop in a religious group that may hurt the individual even though, ironically, this adaptive feature seen at the group level is not reflected at the genetic or “selfish gene” level.

To this point, much of the evolutionary theory mentioned is not human-specific so we must move forward in understanding what makes us religious beings. Why are humans so unique in this world? What makes reading *The Brothers Karamazov* bring someone to tears or the body shudder when an orchestra performs Arvo Part’s heart-wrenching composition, *Fratres*? What makes a moving sermon about heaven seem so intrinsically tied to our very nature? And what makes us feel good when we help a little old lady cross the street?

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<sup>6</sup> Wilson, 7.

<sup>7</sup> Ibid., 8.

<sup>8</sup> Ibid., 9.

## 1b. RELIGIOUS MUTATION

This last question addresses the concept of morality. Wilson believes that we must reconcile two seemingly contradictory facts: “the fact that moral systems require *innate psychological mechanisms*, and the fact that they can rapidly evolve by cultural evolution.”<sup>9</sup> This view is highly controversial due to its non-subservient attitude towards genetic evolution which tends to overshadow any form of cultural evolution. I see this as a constant ping pong battle between individual and community – the one is unable to exist without the other and must co-exist in order to further evolution of the species.

Let’s look at an example from my own experience. While at Oral Roberts University, students were required to attend a mandatory spring revival every year in order to “get right with God.” Rodney Howard Brown, a South African charismatic preacher, was on the agenda that year and news of his ability to make people laugh uncontrollably and bark like dogs was well known. The students arrived, ready to see what would happen. Halfway through Brown’s pedestrian, straight-faced sermon a woman towards the back of the auditorium began to cackle, her laughter echoing of the gold-painted walls. Everyone craned their necks to see what was going on. Then another student joined her. Pastor Brown continued preaching as if nothing happened, awaiting what I’m sure he knew to be the inevitable laughter domino effect. And he was correct. Within a few minutes of the first laugher, half of the two thousand students in that chapel were hugging their friends as they guffawed, some barking like dogs, and others hopping over the tops of seats in a frenzied state of euphoria. Some Holy Spirit laughers even brought cameras to document their friends’ “uncontrollable” behavior.

So how does this religious experience relate to cultural mutation? Barking like a dog was a new phenomenon to charismatic circles at the time, an action coupled to a belief that God was

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<sup>9</sup> Ibid., 25.

sending his power in a way that forced people to throw off their inhibitions and be happy. This mutation swept over the congregation within minutes and across the country in a few months. Like many charismatic fads, barking like a dog passed and evolved into a new form of religious expression.<sup>10</sup> Whether it be holy laughter or prophetic lion visions, something about these evolutions of experience transformed and solidified the community:

We should think of religious groups as rapidly evolving entities adapting to their current environments. Religions appeal to many people in part because they promise transformative change – a path to salvation. The word evolution means change, so it would seem that evolution and religion share much in common.... When we expand our view of evolution to include all Darwinian processes (not just genetic evolution), we can begin to see how religions actually can produce transformative change, even from a purely evolutionary perspective.<sup>11</sup>

One concern with this enthusiasm, however, is how to differentiate positive transformation from manic hysteria. Is there a scientific method to parse out these two interpretations of the same event? It doesn't look hopeful. This is what makes scientific investigation of felt sense so difficult. Also, the hunter-gatherer communities of early humanity that were given by Wilson no longer reflect the majority of modern human lives. Does this notion of religious and cultural evolution work in larger groups such as a city like Boston or New York? Or even in the internet age of online community chat rooms? Does the evolution of religious experiences in these larger groups, to invoke William James, say anything about the healthy soul or the sick soul?

### **1c. ANXIETY AND GROUP DYNAMICS**

The concept of evolutionary fitness also can be applied to religion in a relative sense. It doesn't matter how *well* an organism survives, just that it beats out others. Looking back at the experience of holy laughter at ORU, more people joining the laughter meant a stronger motivation for their cause. What cause you might ask? To spread the gospel according to Oral

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<sup>10</sup> At ORU the next craze was seeing gold dust that was supposed raining down from heaven.

<sup>11</sup> *Ibid.*, 35.

Roberts (this is a statement directly from an ORU chapel sermon). Other religions<sup>12</sup> and even other Christian denominations were viewed as being in constant spiritual combat with the truth of Charismatic beliefs. Their cause is the Charismatic morality code which at ORU was written out in the form of The Honor Code – a document signed every year that laid out the morality code while attending school there.<sup>13</sup>

I believe that religion is indeed adaptive and parallels the evolution of individual human consciousness which acts in a dynamic relationship with constant community interaction. It is a sort of “checks and balances” system where continual reassessment of emotion, belief, and other psychological states act to shape the individual’s thought patterns as well as the moral and doctrinal patterns of the religious group. Pascal Boyer says that humans need two things: 1) information about the external world and 2) cooperation from other humans in the group.<sup>14</sup>

This ability to reformulate the individual and group dynamic is what I call *optimal anxiety*. In the case of ORU, Fromm would deem this an *authoritarian* form of religion if the anxiety is due to God’s control over humankind. The group would be considered a *humanistic* religion were the community to feel anxiety for pattern change in order to bolster human progress.<sup>15</sup> Fromm sees authoritarian religion having no connection to real life or people, yet I disagree with him on this point. Authoritarian religion can experience optimal anxiety in group dynamics, thus creating an evolution of the community regardless of whether God or human is the driving focal point. This optimal anxiety with regards to morality, however, can be used to spread ideas such as peace as well as ideas of holy war.

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<sup>12</sup> I use the word “religions” here as would be viewed normative at ORU, a religion being a generalized belief systems such as Islam, Catholicism, Buddhism, Hinduism, etc.

<sup>13</sup> It’s best not to ask how I lasted all four years at this institution given my attraction to non-ORU approved activities such as smoking, drinking, and reading Sartre.

<sup>14</sup> Boyer, 120.

<sup>15</sup> Fromm, 34-37.



Fromm illustrates this latter point by using Adam and Eve as “an allegorical explanation for human biological evolution and existential angst.”<sup>16</sup> When the first biblical couple ate the fruit, they evolved into human beings, became aware of their own selves, and were forced to consider their own separation from God in nature. Adam and Eve could also be seen in this way to have assessed the group dynamic (albeit quite small) and used it for individual evolutionary progress which in turn led to group pattern change due to optimal anxiety. Simply put, the allegory says Eve ate the apple, Adam followed suite, and so begins the struggle over sin.

Lastly, religion can also be evolutionarily non-adaptive at times, refusing to change or shift patterns over generations thus making for less desirable phenotypic expression over time. I call this *habituated anxiety*. Habituated anxiety reaches a building threshold, only, instead of producing a catalyst for change, there is a regression or halting of progress. It is usually this form of anxiety that critics of religion address (often justifiably so) without giving credence to the former type. How both types of anxiety relate to human consciousness and psychology of religion will be discussed further in section four.

## **2. RELIGION IN HUMAN CONSCIOUSNESS**

Group dynamic evolution, morality, and optimal versus habituated anxiety are all cognitive tasks that require a lot of brain processing power. It takes a complex brain to perform these tasks, thus religion up to this point can be seen as something intrinsic to humanity rather than dogs or mice. Boyer states that explanations for religious beliefs and behaviors are found in

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<sup>16</sup> Erich Fromm. (2006, December 6). In Wikipedia, The Free Encyclopedia. Retrieved 13:57, December 7, 2006, from [http://en.wikipedia.org/w/index.php?title=Erich\\_Fromm&oldid=92549298](http://en.wikipedia.org/w/index.php?title=Erich_Fromm&oldid=92549298).

the biology of the brain.<sup>17</sup> Wilson sees religion as being more than a cultural convention or law-like function, yet also says psychological aspects of religion in humanity should be regarded as physiological. In addition to this innate psychological dimension, moral systems include an open-ended cultural dimension.<sup>18</sup> This illustrates a “ping pong” effect where individual genetics allows for cultural evolution thanks to task-specific problem-solving. This may be true, but Boyer stresses that cultural concepts are not “downloaded” from one mind to another. It is not true that opening the gate to one type of cognitive evolution opens the dam to new cultural changes or extremes.<sup>19</sup>

Scott Atran brings up the fact that *cognitive theories* of religion cannot explain the fervor behind religion and is unable to differentiate Mickey Mouse from Jesus.<sup>20</sup> The same is true for the opposite, macroscopic society-view *commitment theories* that ignore the cognition’s viability. Atran attempts to reconcile cognitive and commitment theories of religious belief “on the basis of evolutionary arguments that mobilize data from numerous psychological studies and anthropological observations.”<sup>21</sup> Each human possesses their unique experience of religion, a felt sense of what it is like to experience limits in religious communities that shape who they are within their community at large. To leave out how people interact with their families, friends, co-workers and authoritative figures would be to leave out the necessary psychological element of defining religion within the context of evolving consciousness.

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<sup>17</sup> Boyer, 2.

<sup>18</sup> Wilson, 28.

<sup>19</sup> Pascal Boyer, “Evolution of the modern mind and the origins of culture: religious concepts as a limiting-case,” *Evolution and the Human Mind*, eds. Peter Carruthers and Andrew Chamberlain, (Cambridge, UK: Cambridge University Press, 2000), 97.

<sup>20</sup> Atran, 14.

<sup>21</sup> *Ibid.*, 15.

## **2a. ACTIVE INFERENCE SYSTEMS IN CONSCIOUSNESS**

So far I've discussed evolution by way of cultural and psychological means, but how does human consciousness evolve within the context of religion? Boyer discusses the concept of *inference systems*, or attention-based mechanisms, that shape humanity's evolutionary history, the systems themselves evolving to cope with the recurring issues of our ancestors.<sup>22</sup> He continues by saying that religious concepts succeed if they become active inference systems, triggering important psychological notions such as emotion, group sharing, and morality.<sup>23</sup> This idea of an attention-driven theory of consciousness and religion via psychological actions is central to my definition of religion. How?

The self-transcendence of limits that occurs in an individual as well as a community is based upon the notion of transplanting habituated anxiety with optimal anxiety. An individual's conscious, optimal anxiety is based on an attention-based mechanism in the brain that forms plasticity in the working memory. This is paralleled with an unconscious sense of religion stored in long-term memory from childhood experiences, racial experiences, and all other experiences for that matter. I also believe both the conscious and unconscious representations of religion are intrinsic to the human mind's evolutionary hardwiring due in part to phenotypic variation in our ancestors. There is a lot here to discuss and I will do so by attempting to psychoanalyze my own experiences as an illustration of the definition above.

## **2b. FEAR OF ETERNITY – A NARRATIVE ACCOUNT**

At age seven I remember lying frozen stiff on my bed, eyes wide open and filled with tears as I pondered the concept of eternity. Never dying. Growing up with a fascination for all things science, normally this horrific thought was tied with a visual of my body floating in the

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<sup>22</sup> Pascal Boyer, *Religion Explained*, (New York: Basic Books, 2001), 118.

<sup>23</sup> *Ibid.*, 135.

vast emptiness of the Milky Way. This was the first time I remember being consciously aware of feeling anxiety at the thought of my own existence. As the sinking feeling of eternity wove knots into my stomach, I remember praying aloud to God that Jesus would save me. It was in my bunk bed that I experienced my first self-transcendence of a limit situation.

From that day forward I connected to God through nature – collecting rocks, attending Space Camp, examining a fly’s wing under the microscope, etc. Youth group changed things. As an Assemblies of God teenager, I was told that good Christians must enter the ministry in order to do God’s will. Throughout my teenage years I would still lie awake at night and breathe heavily at the thought of eternity, however, I tried to block scientific visuals from my brain this time. In youth group we watched videos that told us all about the evils of science and its agenda to win over America to heresy of evolution, so I forced myself to remove evil thoughts of stars and bugs from my head.

I entered the university, “rebellious” against my church by picking engineering as a major, then quickly feeling a wave of guilt and changing my major to theology at the last minute. In the strict conservative setting that was ORU, the idea that science and evolution were sinful was further pounded into my head, making it harder to deal with my thoughts of eternity at night. It wasn’t until after college that I rediscovered my love for all things science, and not until seven years after that point when I no longer felt guilty about pursuing science as a career. Studying Science, Philosophy & Religion here at BU was that re-entry point. Now a scientific perspective seems to be infused within every paper I write as is evidently clear!

This often happens to people in extreme situations. If a strict parent, for example, refuses to let a child make any mistakes, often those children “go wild” the minute they leave the house. My “going wild” came in the form of science. Geeky, I know. Friends of mine who have

experienced similar situations as this one are unanimously atheists now, yet something within me refused to let that be a final ideology. I think back to that night as a small boy and wonder whether my brain's hardwiring gave me any other choice. Were my first thoughts of eternal existence passed down to me from countless generations before me? My parents had never discussed this topic with me before that experience. There was no outside source sparking a forgotten memory; it seemed as if that forgotten memory was intrinsic to my own biological makeup, called up from an unconscious autonomic place into a conscious state.

Closing out this analysis, when Dr. Schlauch mentioned Fromm saying, "What Paul says about Peter says more about Paul than Peter," I began to think. Does what Sean says about religion says more about Sean than religion? This entire paper has become, then, a shining example for Freud's division of conscious and unconscious (or id, ego, and superego) and James' radical empiricism. Oddly enough, the essence of Freud's ideas on this division of the mind has become a basis for recent non-linear mathematical models of consciousness that see higher-level consciousness as a global workspace with specialize processors constantly working away, unbeknownst to us, at the unconscious level.<sup>24</sup>

### **3. RELIGION IN SELF-TRANSCENDENCE OF LIMITS**

#### **3a. DEFINING LIMIT**

I have mentioned now a few times the notion of "limit" as playing an integral role in this cognitive evolutionary process, but have not yet explained what a limit experience is or how this relates to self-transcendence. David Tracy uses the existential language of Kierkegaard<sup>25</sup> to

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<sup>24</sup> Stanislas Dehaene and Lionel Naccache. "Towards a cognitive neuroscience of consciousness: basic evidence and a workspace framework." *Cognition*, 79 (2001): 1.

<sup>25</sup> Kierkegaard's existentialism is, I believe, most masterfully discussed in *Fear and Trembling*.

reference talk of limits, a concept which I have relied on for the third element in defining religion. The theme which Tracy repeats is the moving beyond ordinary experience or “limits-to” this experience. Forward momentum corresponds to self-transcendence and personal judgment in an optimistically-viewed way: “We really do know when and how we have moved past a level of merely cognitive self-transcendence to one of real, moral, existential, and communal self-transcendence.”<sup>26</sup>

I believe there is something *unknowable* in the notion of limits as well. This belongs to the unconscious realm which keeps things from our conscious mind in order to protect us from certain pains or awareness of autonomic functions like temperature control. Freud believes we live on the boundary of conscious and unconscious, a battle of forces to either reveal or conceal.<sup>27</sup> Unlike Freud, however, I do not see this as a constant battle within ourselves over warring factions, rather it is a constant attempt to reshape (on the conscious level) what information at the unconscious level takes primacy over a passage of time back upon the conscious level, be it a painful memory or not.<sup>28</sup>

### **3b. SELF-TRANSCENDENCE, ANXIETY AND LIMIT**

Moving on, Tracy sums it up best: “All significant explicitly religious language and experience (the ‘religions’) and all significant implicitly religious characteristics of our common experience (‘the religious dimension’) will bear at least the ‘family resemblance’ of articulating

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<sup>26</sup> Tracy, 97.

<sup>27</sup> Sigmund Freud, *Beyond the Pleasure Principle*, (New York: W.W. Norton & Co., 1961).

<sup>28</sup> Read the papers by Stanislas Dehaene, et al. in *Cognition* 79 for more on the subject of global neuronal workspace theory. Dehaene’s theory is a variation on Bernard Baars’ Global Workspace Theory which takes the Daniel Dennett perspective of conscious mind being a spotlight on the stage of a theatre with the unconscious mind being the audience. Such a view is more along the lines of what Freud proposed in *The Ego and the Id*; Dehaene’s view is a better reshaping of this idea based on recent discoveries in neurophysiology and neurobiology.

or implying a limit-experience, a limit-language, or a limit-dimension.”<sup>29</sup> This limit-speak is found in what I call self-transcendence of limits, meaning the movement beyond ordinary, mundane experience (habituated anxiety) which somehow is deemed a necessary evolution by the individual’s unique experience (optimal anxiety). Tracy continues by saying: “We need to reflect upon both the explicit limits-to our ordinary experience (the everyday and the scientific, the moral, aesthetic, and political) and the implicitly disclosed dimension which functions as limit-of or ground to (e.g., *fundamental* faith or trust) our more ordinary ways of being-in-the-world.” There is something about religious experience in this last statement by Tracy that feels intrinsic to the very items making humans evolutionarily unique – the cultural and spiritual realms for each individual that are constantly in flux within themselves, their community, their society, and their species as a whole.

Atran echoes Tracy here with regards to limits, saying that “emotionally eruptive existential anxieties” are the impetus behind religious beliefs.<sup>30</sup> This is the felt sense of my definition. Self-transcendence of limits is emotional and spiritual in nature, the emotional realm being quite ancient evolutionarily speaking and the spiritual realm being quite new.<sup>31</sup> *Limit-situations* (or *boundary* experiences as Tracy sometimes puts it) evoke anxiety, guilt, fear of death, love, joy, and the gamut of emotions that integrate emotional firing in our brains with the spiritual connections in the brain. When the more ecstatic types of emotion such as love or bliss

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<sup>29</sup> Tracy, 93.

<sup>30</sup> Atran, 177.

<sup>31</sup> Emotional reaction is primarily, but most definitely *not* exclusively, a process stemming in the amygdala whereas spiritual reaction has been shown to stem from the more evolutionarily neoteric prefrontal cortex action in the anterior portion of human brains. Studies on spirituality and mysticism by Eugene D’Aquili and Andrew Newberg have been monumental in furthering this field.

overcome us during limit-situations, we achieve self-transcendence in varied moments during times of optimal anxiety.<sup>32</sup>

### 3c. COGNITIVE MODELING IN CONSCIOUS VERSUS SUBCONSCIOUS ACTION

By inevitably repeating this process of self-transcendence in limit-situations our cognitive framework is quite literally rearranged and transformed into new synaptic connectivity. Persistence of optimal anxiety in limit-language should bear “the good fruit” of ecstatic experience. In other words, if a person is willing to turn habituated experience into something new, despite the negative aspects of emotion that often precede the ecstatic emotion, the ecstatic states should become hardwired into mundane experience. In global neuronal workspace language, the emotional *subconscious* relays that become globally accessible in the conscious mind create synaptic connections that make ecstatic emotional pathways more readily accessible in *conscious* experience. Jung sees religion being product of only the unconscious<sup>33</sup>, yet the scenario laid out here seems to negate this claim. It appears that conscious action is what rewires the brain in a way that lays down a foundation in the subconscious mind, thus evolution of the human mind as we know may have resulted from change in the conscious mind which may now be relegated in some aspects to more autonomic, subconscious processes.

Fromm relates this approach to psychoanalysis. Religion aims to understand the whole of human reality behind thought systems as a result of strong emotional matrices or not.<sup>34</sup> He continues by saying:

If religious teachings contribute to the growth, strength, freedom, and happiness of their believers, we see the fruits of love. If they contribute to the constriction of human potentialities, to unhappiness and lack of productivity, they cannot be born of love, regardless of what the dogma intends to convey.<sup>35</sup>

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<sup>32</sup> Tracy, 105.

<sup>33</sup> Fromm, 17.

<sup>34</sup> Ibid., 60.

<sup>35</sup> Ibid., 62.



This seems to me an enforcement of Tracy's ecstatic boundary experiences in limit-situations that bring about self-transcendence. One limit-situation, however, does not yield this sort of enhancement to human freedom and growth; it takes a life lived in overcoming of habituated anxiety and a striving for self-transcending moments in the face of optimal anxiety.

#### **4. MY SYNOPSIS OF THE THREE CATEGORIES**

In this last section I want to amalgamate the concepts of consciousness in evolution with regards to self-transcendence in limit situations. First I will wrap up some loose ends on the theory of defining religion, then in conclusion I will attempt to translate this definition into my own human experience of religion.

##### **4a. LIMITS AND NEUROBIOLOGY**

I contend that self-transcendence of limit situations produces reward-based adaptation in the basal ganglia, which in turn excite cortical projections throughout higher associational regions of the brain such as the prefrontal cortex. This adaptation also relies on constant interaction of networks between more subconscious systems such as the amygdala and hippocampus. Although this level of change is purely on the individual level, the catalyst for change is bounded by the individual's experience within a living, breathing community.

I disagree with Atran that religion is not evolutionarily adaptive, opting for the hypothesis that limit situations trigger dopamine-based rewards which shift synaptic plasticity and the individual's phenotype. The more this unexpected reward is associated with religious experience and struggle, greater the chance this plasticity will create new pathways. Such a theory is evolutionarily viable if mates with similar pattern choices of religious self-transcendence choose

one another over other forms of religious expressions, propagating a phenotype into a second and perhaps third generation.

#### **4b. SUPERNATURAL AGENTS**

One peculiarity of my paper might be the absence of explaining what Atran and others call supernatural agents.<sup>36</sup> From my definition it may be clear that no supernatural agents are necessary for what I consider to be religion. What matters most is evolutionary change in self-transcending moments due to limit situations. So why is this religion and not just morality? Well, if religion is indeed the attempt to understand the whole of human reality behind thought systems, then a lot is at stake for these individuals. Religion must be defined in a way that explains how people would be willing to die for their beliefs. Does my current definition of religion meet these demands?

Religion is at the core of the conscious and unconscious brain processing, thus it becomes intrinsic to the way we experience life. This is not to say that religion is the only core process in the brain, yet it is a key function in human evolution that differentiates us from other animals. This said, humans oftentimes reference supernatural agents as the beings that give meaning to our reality. In fact, it has been hypothesized that those supernatural agents are the very ones that shaped the evolutionary process that make us inevitably wonder if gods, angels, demons or souls exist. If supernatural agents are taken out of the picture as *essential* to religion, then religion becomes related to the core of a person and their willingness to overcome habituated anxiety by focusing on whatever conscious-subconscious concept drives them to understand their reality and make it an evolutionarily fit space to live in. In English, religion is the triggering mechanism for better understanding Fromm's human reality behind thought systems. Wilson furthers this:

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<sup>36</sup> Scott Atran and Ara Norenzayan, "Religion's evolutionary landscape: Counterintuition, commitment, compassion, communion," *Behavioral and Brain Sciences*, 27 (2004).

“If there is more to religion than belief in supernatural agents, then perhaps science is not as hostile to religion as it is often taken to be.”<sup>37</sup>

Such a definition would be repulsive to those who David Ray Griffin calls *ontological naturalists*<sup>38</sup> - people who espouse atheism as axiom in a 19<sup>th</sup> century way that views science with a capital S. It is ironic to me that the very reason theists act with passion over the existence of God is the very same reason atheists such as Dawkins or Weinberg act with passion to disprove God’s existence at a science and religion conference. I believe that reason stems from a need to prove to others their form of religion, a need to not only understand why they exist but to make sure their religion wins. As I mentioned in the first section, there is something autonomic in religion that our species views as essential to human survival and evolution. “The question is not *religion or not* but *which kind of religion*, whether it is one furthering man’s development, the unfolding of his specifically human powers, or one paralyzing them.”<sup>39</sup>

#### **4c. A NARRATIVE REVISITED**

My own experience is not exempt from this analysis of religion either. My definition of religion makes it obvious that I think something is indeed at stake here, therefore I am doing my best to convince others (for better or worse) that my view of religion is one worth not just thinking about, but experience firsthand. So how does my definition mirror my experience? I’ll briefly return to the story about my fear of eternity.

My personality is a unique and equal mix of my mother and father. I inherited mom’s gregarious disposition, religious sensibility, and oversensitivity as well as my dad’s love of science, logic, and extreme individualism. The first night that I lied awake literally scared stiff

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<sup>37</sup> Wilson, 3.

<sup>38</sup> David Ray Griffin, “Religious Experience, Naturalism, and the Social Scientific Study of Religion,” *Journal of the American Academy of Religion*, 68/1 (March 2000), 119-23.

<sup>39</sup> Fromm, 26.

over the awareness of my own mortality was a bizarre experience for a number of reasons. First, I seemed to be predisposed to the concept of eternity. Second, my mind automatically connected eternity with swirling gas clouds around red-hued planets and cold, dead space. Third, the reaction to feelings of eternal existence produced knots in my stomach and emotions like fear and helplessness.

After my teenage years when I was scolded for liking science, I began to have severe night terrors. I now attribute much of these horrific experiences to my separation of a “sense of ultimacy” from a scientific visualization in my head. The two were meant to meld together for some reason in my brain. When science was demoted to subconscious processing, it found an outlet via my dream state. It wasn’t until I came to terms with science in my current perspective that the night terrors ceased. I need to also mention that bad dreams were persistent during my reintroduction to science, a time that I equated science with atheism. Realizing that this was not the answer for me, I renewed a balance of religion and science that produced a healthier conscious-to-unconscious relationship in my mind. This balance seems to teeter-totter constantly, yet the act of self-transcendence during limit situations such as pondering my extreme atheism or extreme evangelical conservatism produced an evolving notion of religion in my experience.

In conclusion, I want to mention that *of course* my definition fits into my own human experience! My definition is just that – my experience. The larger struggle is trying to figure out the subconscious processing that triggers conscious representation of why I define religion in this way. Perhaps a professional psychotherapist would have been a better companion than Atran and Wilson when writing this paper.

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