

Our Biology Is Not Our Biography

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Abstract

Academic papers and scientific literature abound with theories of how mind is produced in Homo sapiens. Scientific disciplines such as neurology, biology, and genetics, and those who write about them—such as Antonio Damasio, Daniel Dennett, and Richard Dawkins—contend that the “mind, consciousness and autobiographical-self” are generated by an evolved biological body/brain. This paper’s hypothesis is that the thought processes of mind—generated by a biological brain—which allow the autobiographical-self to believe it can survive after the biological death of the body undermine such theories. Especially when the mind allows such thinking to be linked into *quid pro quo* covenants with a nonphysical entity, which might require/condone the weakening or self-destruction of the biological body to insure the survival of the created autobiographical-self in nonphysical mind-created reality. It will be demonstrated that such behavior is not altruistic but pure selfishness on the part of the created autobiographical-self to obtain some form of bliss in another reality.

This phenomenon will be documented from history, paleontological artifacts, and cognitive psychology and literature. If proven true, the hypothesis could limit the extension of theories of mind based solely on the application of the Darwinian evolutionary models of biology by questioning, “How can a species with this kind of thought process, created solely by material random genetic mutations and allowed to survive solely through material natural selection, create a mind capable of its biological self-destruction to preserve the integrity of an autobiographical-self in a non-material reality?”

ESSAY: Our Biology Is Not Our Biography

The way our brains work—in part—is obviously the result of our biological evolution. Yet possibly as early as 300,000 years ago humans started to deviate from being purely biological animals. Counter-materialistic thinking is one aspect of an autobiographical-self's ability to deviate from a purely biologically driven creation. The first counter-materialistic thought we will document and demonstrate is that the majority of humans on this planet believe that the self can survive the biological death of its own body. Second, which a majority of individual human autobiographical-selves—down thought the ages—have and still believe they can enter into binding quid pro quo covenants with non-physical being(s), or power(s) or realities. Such beliefs call into question the theoretical constructs of some neurologists, geneticists, and Darwinian evolutionists because they change the meaning of survival: survival as far as a vast majority of believing humans are concerned is no longer based solely the survival of the fittest biological animal. We will contend that an autobiographical-self's belief that it can survive in some form beyond death of the biological body undermine any argument that the intricate wiring of billions of neurons or the molecular interactions of as many chemicals are the sole creators of that self. This paper is not concerned with the nature/nurture arguments. Rather, it will explore the possible duality between biology's purely materialistic groundings and that of the human animals themselves who believe they have the agency to survive in a reality beyond the demise of their body's neuronal networks and the scattering of all its molecular chemicals as dust to the wind.

In his most recent book, *The Feeling of What happens*, Antonio Damasio reveals how the mind hides things between the body and the mind, when he concedes:

Sometimes we use our minds not to discover facts but to hide them. We use part of our mind as a screen to prevent another part of it from sensing what goes on elsewhere. The screen is not necessarily intentional—we are not deliberate obfuscators all the time—but deliberate or not the screen does hide (2014, p28-29).

He expands this by telling us that “One of the things the screen hides most effectively is our own body.” Here Damasio is referring to the inner workings of the body, saying the “alleged vagueness, elusiveness and intangibility of emotions and feelings are probably symptoms of this fact” (p 29).

This essay contends that certain intended human behaviors formed in the mind on behalf of the autobiographical-self use the brain to hide what Damasio would refer to as “objects,” or intentions, from the body itself. This in a number of situations can be detrimental to the very existence of an individual biological body. Suicide, martyrdom, and jihad—each a self-destructive act—run counter to Damasio’s assertion that “managing and safekeeping life is the fundamental premise of biological value. Biological value has influenced the evolution of brain structures, and in any brain it influences almost every step of brain operation ... Biological value has the status of a principle” (Damasio 2007). Yet somehow the evolution of the autobiographical-self has allowed billions of human selves [1] to delude themselves, individually and/or collectively, that they can survive in a reality beyond the death of the biological body, and that, further, they can enter into a *quid pro quo* covenant with a nonphysical entity, entities, or powers as a grounding for their spiritual practices or religious beliefs. Readers do not have to believe this is true for themselves—only that we offer enough proof that the vast majority of human beings living on this

¹. In 2013, 31.5 % of the world population were classified as Christian, 23. 5 as Moslems, 13% as Hindu, and 6.7 percent as Buddhist. All believed in some form of continuation of life after the death of their biological body, as well as some kind of *quid pro quo* relationship with a deity or deities as a matter of belief. The total was 74%.

planet since the advent of written language, and possibly, as early as 300,000 years ago, have believed in its possibility.

The essay will show that self-destructive behavior calls into question Damasio's basic tenet that the evolutionarily formed biological body and brain and its interaction with the physical world is the sole source of mind, consciousness, and the autobiographical-self. To some extent, self-destructive behavior also calls in to question some of the ideas of evolutionary theorists such as Daniel Dennett and Richard Dawkins.

Damasio's hypothesis of mind rest heavily on Darwin's theory of evolutionary diversity, which has become the default explanation for diversity in biological evolution. Damasio refers at least one hundred times to evolution in his work *Self Comes to Mind: Constructing the Conscious Brain* (Damasio 2010). A few examples: "Had subjectivity not begun, even if very modestly at first, in living creatures far simpler than we are, memory and reasoning are not likely to have expanded in the prodigious way they did, and the evolutionary road for language and the elaborate human version of consciousness we now possess would not have been paved."(p 4); "The self-as-subject-and-knower is not only a very real presence but the turning point in biological evolution"(p 9).

Even when writing about ethics, Damasio links mind to evolution: "As far as one can see, judging from the spectacle of biological evolution, nature appears to be morally indifferent and thus unlikely to have provided a blueprint for ethical behavior" (Damasio, 2007 p 6). Ethics, though human made, "is grounded in a hodgepodge of neural devices connected with origins of emotions—aspects of biological regulation such as punishment and reward mechanisms, drives and motivations, kin altruism reciprocity—all of which play a principal role in the survival of organisms and through their survival, in the genes they carry" (p 6).

Others also connect the formation of mind directly to the evolutionary process. Daniel Dennett brags in a video that “Darwin said we can have an absolutely mindless ignorant, mechanical process that generates minds” (Dennett, 2011).

Richard Dawkins in his acclaimed evolutionary work *The Selfish Gene* (Dawkins, 1976) makes a number of claims about how evolution has evolved consciousness: “purposiveness has evolved the property called consciousness” (p 50); “the evolution of the capacity to simulate [future possible events] seems to have culminated in subjective consciousness” (p59). Finally, he links consciousness and self when he says, “perhaps consciousness arises when the brain's simulation of the world becomes so complete that it must include a model of itself” (p59).

Dawkins also backs up Darwin’s emphasis on the survival of the individual in the natural world, even though his emphasis is on the genes’ selfishness to propagate and survive as the blind driving force of evolution. At the outset of his book Richard Dawkins emphasizes that “many writers get it wrong because they misunderstand how evolution works. They made the erroneous assumption that the important thing in evolution is the good of the species (or group) rather than the good of the individual (or gene)” (1976 p 9). A close reading of Darwin’s own words bears this out:

As many more individuals of each species are born than can possibly survive; and as, consequently, there is a frequently recurring struggle for existence, it follows that any being, if it vary however slightly in any manner profitable to itself, under the complex and sometimes varying conditions of life, will have a better chance of surviving, and thus be naturally selected. (Darwin, 1859, p 5).

Dawkins in the last chapter of his book talks of the uneasy “tension between gene and individual body as a fundamental agent of life” (p 235). On the one hand we have the “beguiling image of independent DNA replications” (p235). A mere protein not even a living cell; of importance solely for its sequential arrangements. But for Dawkins these genes are envisioned as, “...skipping like chamois, free and untrammelled down the generations, temporarily brought together in throwaway survival machines” (p 235). Dawkins uses such words as “immortal coils,” forging toward their “separated eternities.” On the other hand these throwaway survival machines have over the eons turned into “obviously coherent, integrated, immensely complicated machines, with a conspicuous unity of purpose” (p 235). And I contend that this complicated survival machine has developed an equally selfish, nonphysical autobiographical-self which is also seeking its own immortality and eternity after its temporary disposable survival machine returns to dust.

So what we are left with is two selfish entities: one a nonliving arrangement of protein; the other a nonphysical entity that Damasio calls the autobiographical-self. Both sharing a disposable biological body that will eventually die, but often finds itself challenged to support one or the other of two conflicting, selfish driven forces working at cross purposes while it is trying to preserve itself physically. One force wanting the body to merely be strong enough to survive until it can pass on its genes; the other willing to prematurely self-destroy or voluntarily weaken the body in order to fulfill some **mind created covenant** with a dead ancestor, tradition, nonphysical entity, entities, or powers. The dilemma here is not the particular belief(s) listed above. Rather that the belief(s) are theoretically created in a biological brain whose sole evolutionary function is supposedly the preservation of its evolutionary materialistic body. Yet we find the biological brain wasting its time and energy in the generating a variety of thought

patterns that support the autobiographical-self's beliefs in an existence beyond its body's death. The brain consumes about 25% of our daily caloric intake. The impetus for any incongruent waste of energy on other than the biological survival of the individual body must come from somewhere not found in the tenant of biological evolutionary theory.

Freud might have intuitively understood this conflict between sex-driven genes and the autobiographical-self wanting to live in another reality beyond death when he proposed his death drive in *Beyond the Pleasure Principle*. His intuition regarding a struggle within the human body was correct; especially in regard to his "sexual instincts" which Dawkins would probably applauded wholeheartedly. But Freud lacked the knowledge that Dawkins has about the role of genes. Freud in his rawest—before he started to add modifiers—began with this assumption: "If we take it as a truth that knows no expectation that everything living dies for *internal* reasons becomes inorganic once again—then we shall be compelled to say that 'the aim of all life is death' and looking backwards, that 'inanimate things exist before living ones'." (Freud, 1961 p 45-46). Yes genes are inanimate protein, but this insight was not reflected in Freud's use of the words "germ cells" for the function of genes. He saw genes as living matter, as in the phrase:

...regarding the sexual instincts, though it is true they reproduce primitive states of the organism, what they are clearly aiming at by every possible means is the coalescence of two different germ cells which are differentiated in a particular way. If the union does not happen the germ cell dies with all the other elements of the multicellular organism. (p 52).

Genes are inanimate matter: in theory they cannot die, since they never lived. Yet maybe Freud's idea that "the sexual function can prolong the cell's life and lend it the appearance of

immortality” was what gave the autobiographical-self of our ancient ancestors their first unconscious feelings that they too could become immortal in another kind of reality.

Like the warrior Vikings who believed if they died in battle with a sword in their hand they would go to *Valhalla*, a place of wine, feasting, women, and fellow-warriors.

Further, Freud’s own atheism did not allow his mind to entertain the struggle as being between two forces both trying to obtain a kind of life affirmation, or survival beyond the death of the biological body: the one being inanimate genes struggling to be passed on from living body to living body and the other the autobiographical-self which wants to use religious covenants to insure its existence in the hereafter.

Freud does draw a “sharp distinction between the 'ego instinct' [which we have been referring to as the autobiographical-self] and the 'sexual instincts', [which we have been referring to as the selfish genes] and the view that the former exercise pressure toward death and the later toward a prolongation of life" (Freud, 1961 p 52). But here we have to take a side step to understand what Freud meant by "pressure toward death." Peter Gay, in his biographical introduction to Freud's *Beyond the Pleasure Principle*, says that "Once Freud had adopted his construct, in which the forces of life, Eros, dramatically confront the forces of death, *Thanatos*, he found himself unable to think any other way"(Gay, 1989 p xx). The Greek word *Thanatos* refers to the god or *daimon* of non-violent death. His touch was gentle, likened to that of his twin brother *Hypnos* (Sleep). The kind of violent death of the martyrs for example, was more likened to the domain of *Thanatos*’s blood-craving sisters, the *Keres*, spirits of slaughter and disease.

Freud said that "in our hypothesis the ego instincts arise from the coming to life of inanimate matter and seek to restore the inanimate state.” Genes, which are inanimate protein matter might fit Freud’s first condition but actually resist returning to the unstructured protein,

state. Dawkins would say they enjoy living as matter in structured configuration and fight to do so from one human body to the next. The autobiographical self, on the other hand, is capable of acting in a contrary matter. As much as it might like living in its material body it is willing to sacrifice it, or allow it to become prematurely degraded because of some *quid pro quo* agreement it believes to be true because of an agreement it has made in the mind of its biological brain.

A few last words from Richard Dawkins to move us forward: “If genes really turn out to be totally irrelevant to the determination of human behavior, if we really are unique among animals in this respect, it is, at the very least, still interesting to inquire about the rule to which we have recently become the exception.” (Dawkins, 1976 p 9). We would suggest that the rule, as Dawkins calls it, which make humans different from animals is a multi-step process possibly originating as far back as 300,000 years ago when our Neanderthal brethren started burial practices that indicate they must have believed that a human’s death is something different from an animal’s death, coupled with an emerging autobiographical-self’s fear of dying. And then at some point the mind, consciousness, and autobiographical-self started to believe what it wanted to believe: the autobiographical-self could survive the death of the body. This abstract “object,” thought, idea was reinforced by various kinds of peak experiences—sometimes possibly induced by funny mushrooms but which more often than not just happened—that set humans off on a mind journey to build edifices around the experiences as proof to themselves and others of the validity of their experiences.

Let us start off with an event we all know to be true because our minds trust in a mind phenomenon called foreknowledge. Foreknowledge or foresight is something humans believe other animals do not have. Like all animals, our biological self is going to die. In *On Human Nature*, the world-famous biologist, author, and father of sociobiology Edward O. Wilson avoids

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talking about his own feelings regarding the dread of death by quoting Premack: “What if like man” he asks, “the ape were to learn to dread death and will deal with this knowledge as bizarrely as we have? ... Which in the case [of man] has led to the invention of ritual, myth and religion” (Smith, 2004 p 27). So how have our biologically created minds learned to cope with this dreadful foreknowledge? Well, first we would have to figure out when we developed foreknowledge, which is beyond the scope of this essay, so it has to be taken as a fact. At some point, human minds became capable of forethought.

According to the paleontologist Dennis O’Neil, from the Behavioral Sciences Department at Palomar College, at the early archaic human site of Atapuerca in Spain, there is “evidence of the intentional storing of bones from at least 32 people in a cave chamber by as early as 300,000 years ago. This behavior suggests a belief that dead humans are not the same as other animals” (O’Neil, 1999). O’Neil also report that by 90,000 years ago their existed “several Neanderthal cave sites which provide the first reasonably good evidence of intentional burial of their dead” (O’Neil, 1999). In the case of a burial in Shanidar in Northern Iraq, there may even been more elaborate ritual activity. Apparently, “the body of a man was placed on pine boughs in the grave and flowers from 8 different species of plants such as daisies, hollyhocks, and bachelor's buttons, were sprinkled on top.” Professor O’Neil contends that it is “difficult to account for such activity by the Neanderthal unless it is assumed that they believed in some sort of afterlife” (O’Neil, 1999).

Before tackling additional evidence as to why our minds might believe in an afterlife we have to take a short detour, explaining why suicide, *per se*, is different from public religious self-destruction. Religious martyrdoms are **public** events. They are not done out of guilt or shame. In “The Role of Shame in Suicide” Dave Lester states, “Shame seeks secrecy. Shame is a feeling we experience when we evaluate our actions or feelings and conclude that we have done wrong...Shame desires to hide, disappear, or die” (Lester 1997). None of these qualities could be attributed, for example, to the act of Thich Quang Dur, a Vietnamese Mahayana Buddhist monk who burned himself to death at a busy Saigon road intersection on 11 June 1963 to protest the persecution of Buddhists by the South Vietnamese government. (*Thich* is a Buddhist honorary title, *Quang Dur* is a descriptive for meritorious actions.) Photographs of his act brought worldwide attention (Thich, 1963). This kind of act was done neither in hiding nor out of shame or guilt. It was done out of a cultural belief that his biologically created mind accepted as true—that he would be honored by his fellow-believers (which he was) and be favored in the afterlife by his action of self-immolation with the aid of his fellow monks actually who lit the fire.

What internal life experiences led Thich Quang Dur to believe as strongly as he did went to the grave with him. For example, because of language and culture barriers I will never know if he had had any peak experiences. Such experiences (which I can attest to from my own personal experience) are often described as transcendent moments of pure joy and elation. These are moments that stand out from everyday events. The events are memorable and lasting, and people

often liken them to a spiritual experience. During the 1960s, the noted psychologist Abraham Maslow, breaking ranks with the dominant models of his time, wrote *Religions, Values and Peak Experiences*, where he defined “peak experiences” as “moments of highest happiness and fulfillment” (Maslow, 1964). He considered the events ubiquitous, believing anybody could experience such events: “The great lesson from the true mystics [is that] the sacred is in the ordinary, that it is to be found in one's daily life, in one's neighbors, friends, and family, in one's backyard” (Maslow 1964). These experienced thoughts of other-worldliness occur in the individual minds of humans. Though they can be induced in the brain by consciousness-altering substances, most people reporting them have not noted ingesting such substances. Either way, what is important is that our minds, created by our biologically evolved brains, are capable of experiencing other-worldliness: something I can personally attest to.

Annamaria Hemingway, the author of five published books and a member of the International Association for Near-Death Studies, has written extensively on the relationship of near-death experiences and peak experiences. In her work *Immortal Yearnings*, she states one of our core points: “Throughout the evolution of human consciousness, mystical vision and divine apparitions reveal recurring and primordial affirmations of alternate reality, providing a foundation for both mythological beliefs of world religions and the spiritual development of humanity” (Hemingway 2012). She then gives the Western world’s first written records of the phenomena from earlier Greek writings which use the word *mysticos*, which can be described as one “who had been initiated into the secrets of the Ancient Mystery Cults of Greece and Egypt.” Like Maslow, she affirms that “such transcendent visionary states are universal and share many similar characteristics, and they are not subject to any particular religious traditions” (Hemingway, 2012 p1). These enigmatic experiences occur beyond the realms of everyday

consciousness, “dissolving barriers of time, space and logic” and “radically change perception of reality” (p 1).

From the point of view of a brain formed by evolution such mystical states are paradoxical in their nature. They register in the psyche as sensations and feelings of ‘other’ without any reference to “objects’ or archetypal symbolic images. They are purely experiential and are not translatable into higher level emotions until after the experience is over, and then only in an it-felt-like-kind-of -way. Hemingway comments that “mystics, seers, and prophets from many different religious traditions struggle to find language that can adequately articulate the ineffable ecstatic essence of such inexplicable experiences” (2012 p 2). Even Paul, the writer of so many early Christian biblical texts whose own peak experience was recounted in detail in The Acts of the Apostles (Bible 2011) describes his experience as the “peace of God, which transcends all understanding” (Bible 2011, Phil.4:7). Summing up her research in research near-death experiences, Hemingway says:

Near-death experience survivors describing transcended other-worldly encounters...return from euphoric near-death journeys with an unshakeable belief in a continuum of consciousness following death and find a unique sense of purpose to our fleeting earthly existence (2012 p 2).

From a purely hard scientific point of view, all of the above descriptions of peak experiences have one limitation: the experiences described are subjective and anecdotal, which means they cannot be reproduced in a lab. Yet this does not seem to stop people from having the experiences and writing about them. Harriet Brown, in a Huffington Post article titled *What Really Happens In Our Brains When We Have Spiritual Experiences* (Brown, 2013), first shares

her experience and then describes herself as a science journalist and an agnostic empiricist who appreciates the cultural aspects of being Jewish but not the religious ones. Yet she had a spiritual experience. According to the article, she set out to understand what happened to her. She cites the work of Andrew Newberg, MD, director of research at the Myrna Brind Center for Integrative Medicine at Thomas Jefferson University Hospital in Philadelphia, who is one of a new breed of "neurotheologians" studying the intersections among our brains, religion, philosophy, and spirituality. Newberg surveyed about 3,000 people who'd had spiritual experiences and identified a few common elements. Number one was a strong sense of what he calls realness. "When you wake up from a dream", he explains, "you know it wasn't real, no matter how vivid it felt. Not so with transcendent experiences, which feel authentic not only at the time but years later" (Brown 2013).

"These occurrences are necessarily deeply personal and hard to articulate," Brown says. She then goes on to quote Patrick McNamara, Director of the Evolutionary Neurobehavior Laboratory at the Boston University School of Medicine: "What one person calls a religious experience—which could be intense and life-changing—another might call a simple 10-second prayer." (Brown 2013)

Brown also talks about Jill Bolte Taylor, a neuroanatomist who at 37 suffered a stroke that essentially shut down the left hemisphere of her brain—the side that processes language and logical thought. Taylor, who wrote about her recovery in the book *My Stroke of Insight*, (Taylor 2008) described the feeling that resulted as being "at one with the universe." In the hours before she got help, she says, "I experienced an incredible deep inner peace and contentment." According to Brown, Taylor suspects this sense of union came from the brain's right hemisphere,

the half that was in control during her stroke. She thinks the right brain—which is associated with intuitive and subjective thinking—is what connects humans to "the bigger picture and the present moment, where there are no boundaries and [you're] a part of it all." (Brown 2013)

Taylor's talk became the second most viewed TED Talk of all time. Yet, to repeat ourselves, her spiritual experiences are only accepted as anecdotal by the methodology of hard science because they cannot not be duplicated in a lab. It doesn't matter that according to Brown, who quoted from a study at the University of Chicago, "about half of all Americans say they've had such an experience, which might range from a sense of well-being while watching a sunset to a classic near-death journey." Of importance for this paper is merely the fact that there is enough evidence, handed down through the ages in sacred texts and histories, including contemporary writings by scientifically grounded individuals, simply stating that some aspect of an evolved human brain is capable of receiving the experience of another reality and entertaining the thought that their autobiographical-self can exist beyond the death of their human body. This belief could merely be a "hope in that which they cannot see," which may be reinforced by personal internal spiritual experiences or not, or based on beliefs of their cultures and/or religions. Even though they advocate for various forms of atheism, Ara Norenzayan and Will Gervais, in a paper for *Trends in Cognitive Science*, concede "one widely discussed view holds that disbelief when it arises, results from significant cognitive effort against powerful biases." (Norenzayan, 2013 p 20). If the mind-perceiving and purpose-seeking brains of human beings "effortlessly infer the existence of invisible agents with intentions, beliefs, and wishes, then disbelief lacks intuitive support." (p 20). Religious beliefs and behaviors arise from multiple interacting sources and therefore reflect an over-determined complex of tendencies. One of which is the ability "...to be able to form intuitive mental representations of supernatural agents"

(p 20). Another would be a willingness to be “motivated to commit to supernatural agents as real and relevant sources of meaning, comfort, and control.” (p 20).

This essay’s second hypothesis is a little easier to demonstrate: the vast majority of human beings daily enter into *quid pro quo* relationships with nonphysical deities, entities, or powers every time they pray; for good or evil, or to good or evil deities, depending on the reader’s own particular prejudices. For our hypothesis to be true it doesn’t matter what people pray for. What is important is that humans do it, and to the best of our knowledge other evolved biological animals such as apes or chimpanzees do not. Just saying “May Allah will it” or ending a prayer request with “Let thy will be done” is admitting to some kind of *quid pro quo* relationship with a deity. The vast majority of the human population with biologically evolved brains—according to our ancient records and monuments throughout the world and down through the ages—have confessed to believing in some kind of relationship with a nonphysical reality. Most of these individuals also have a faith/belief system that allows them to enter into some kind of *quid pro quo* relationship with deities. This relationship entitles their autobiographical-self to obtain immortality in some paradise or hell, in another reality, or through many reincarnations in this reality, and eventually another reality depending on how they live out their present lives. This is the *quid*. The *quo* part of the exchange usually requires some sacrifice on the part of the autobiographical-self’s biological body—varying in the extremes from fasting during the month of Ramadan, avoiding sexual contact before marriage, or celibacy on the part of priesthoods to the self-destruction of the body itself in the prime of life.

Even though we are contending that voluntary, public, bodily self-destruction on behalf of the autobiographical-self to insure it a privileged place in the hereafter is a selfish act, the act

itself offers a very strong feedback loop capable of reinforcing others believers of the same faith system. Albert Bandura would consider such feedback loops as a “way of creating and strengthening self-beliefs of efficacy” by vicariously experiencing others’ acts as “social models” (Bandura 1994). Seeing people similar to oneself succeed by sustained effort raises observers' beliefs that they too possess the capabilities to master comparable activities required to succeed. Such an act can be seen by others as sometimes altruistic, because it can be interpreted as being done on behalf of what the other believe in. A recent headline at a website called <http://www.christiantoday.com>, reads “21 Christians slain by ISIS to be declared martyrs by Coptic Church.” The designation of martyr by a Christian church automatically insures the deceased a place in heaven. In Christianity there are two ways to achieve martyrdom: be killed for publicly affirming your faith or, like the jihadist, to actively die in battle condoned by the believer’s religion. A historical example of being honored with a place in the hereafter by actively dying in battle was offered by Pope Urban II when he preached the first crusade at the Council of Clermont on 27 November 1095. There are five different accounts of what he said, all written after the fact, but all the accounts agreed that Pope Urban’s sermon contained a promise of remission of sins for whoever took part in the crusade. (Urban 1095) Remission of all sins meant that an autobiographical-self would go immediately to heaven if its body died in battle. Not too much different from the promises made to Muslim jihadists whom the crusaders would fight against. A contemporary reiteration of the promise made to jihadist was recently headlined on jihadwatch.org, a website which claimed “Islamic State jihad-martyrdom suicide bombers murder 28 Kurds,” followed by a quote from the Koran: “Indeed, Allah has purchased from the believers their lives and their properties [in exchange] for that they will have Paradise. They fight in the cause of Allah, so they kill and are killed” (Qur’an 9:111). An act of jihad-martyrdom,

immediately followed by a promise of paradise in another reality. Steven Stalinsky on his webpage *Observing Media* tells of the website of Saudi Arabia's embassy in Washington, D.C. and how it recommends the homepage of its Islamic Affairs Department (IAD) to Americans who want to learn about Islam and Jihad, Martyrdom, & The Rewards of the Martyr. The IAD explains the concepts of jihad and martyrdom in Islam. Excerpts from the Qur'an and Hadiths are provided as evidence to foster these concepts in the contemporary Muslim world. The IAD cites many Hadiths on the importance of martyrdom as well as the rewards of the martyrs in order to inspire Muslims. Among these are some of the most widely associated with Jihad: the one quoted is similar to the Hadith already cited but the wording is slightly different: 'Whoever of My slaves comes out to fight in My way seeking My pleasure, I guarantee him that I will compensate his suffering with reward and booty [during his lifetime] and if he dies, I would forgive him, have mercy on him and let him enter Paradise' (Stalinsky, 2004).

Merely being killed for publicly affirming your faith in Christianity has a more involved history, according to Maurice Hassett as he defines the word "martyr" in the *Catholic Encyclopedia*. "The Greek word *martus* signifies a witness who testifies to a fact of which he has knowledge from personal observation." (Hassett, 1910) It is in this sense that the term first appears in Christian literature; "the Apostles were 'witnesses' of all that they had observed in the public life of Christ, as well as of all they had learned from His teaching." In his first public discourse the chief of the Apostles spoke of himself and his companions as "witnesses," adding "that in giving their public testimony to the facts, of which they were certain, they must obey God rather than man." (Bible, 2011 Acts 5:29)

Even in the initial use of the word *martus* in Christian terminology a new shade of meaning was added to the accepted definition of the term. Hassett says, "The disciples of Christ

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were no ordinary witnesses such as those who gave testimony in a court of justice. These latter ran no risk in bearing testimony to facts that came under their observation, whereas the witnesses of Christ were brought face to face daily, from the beginning of their apostolate, with the possibility of incurring severe punishment and even death itself.”(Hassett, 1910). These Apostles all suffered premature and painful deaths for their convictions. “Thus, within the lifetime of the Apostles, the term *martus* came to be used in the sense of a witness who at any time might be called upon to deny what he testified to, under penalty of death.” Ever since this early period of the first century the meaning of the term, as used in Christian literature has always been: “a martyr is a person who, though he has never seen nor heard the living Jesus ... is yet so firmly convinced of the truths of the Christian religion, that he gladly suffers death rather than deny it” (Hassett, 1910) There are also number of biblical texts that historically link dying and rewards in the afterlife: one example from Revelation 5:9, which is believed to have been written in a time of prosecution: “And they sang a new song, saying: You are worthy to take the scroll, and to open its seals, because you were slain, and with your blood you purchased for God persons from every tribe and language and people and nation.” (Bible 2011).

Public witnessing to what we believe on any subject, especially if we knew that such witnessing might lead to our own death, would take a lot of willful agency on the part of any autobiographical-self. Yet as the often cited social cognitive theorist Albert Bandura says, “The capacity to exercise control over one's own thought processes, motivation, and action is a distinctively human characteristic. Because judgments and actions are partly self-determined, people can effect change in themselves and their situations through their own efforts.” (Bandura, 1989 p 1175)

If one uses the idea of self-efficacy as a criterion, then it's not enough for an author to just say in a paper "experimental tests raise a question of reliability" without defining how the participants in experiments reflect the self-efficacy and diversity of the billions of believers throughout the world. It is hubris on the part of Boyer to derive generalizations from experimental testing such as, "This is why theologies, explicit dogmas, scholarly interpretations of religion cannot be taken as a reliable description of either the content or the causes of peoples' beliefs." Such a statement seems very superficially founded unless the experimental studies included Coptic martyrs, or Islamic jihadists, or those who faithfully fast for the month of Ramadan denying and weakening their biological bodies, or the committed members of a Christian or Buddhist celibate religious order.

This essay accepts many of Boyer's statements, such as "What makes religious thoughts 'natural' might be the operation of a whole collection of distinct mental systems rather than a unique, specific process;" or "In each of these systems religious thoughts are not a dramatic departure from, but a predictable by product of, ordinary cognitive function." (p 119). However, our hypothesis does contend that such statements do not explain how or why the autobiographical-self can believe that its survival is more important than the biological body's survival.

This essay has demonstrated, first, that humans have believed that their autobiographical-self will in some form survive the death of their biological bodies. And, second, that with enough self-efficacy autobiographical-selves are willing to voluntarily weaken their physical bodies or even die to uphold *quid pro quo* covenants with nonphysical entities. I believe this essay has validated these two hypotheses sufficiently to call into question the extension of any theory of

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evolutionary biodiversity as the sole foundation for explaining how the human brain creates human minds, consciousness, and the autobiographical-self. Also it calls into question how a brain theoretically formed by an “absolutely mindless, ignorant, mechanical process” for the sole purpose of protecting and supporting the human body’s quest for physical substance and survival can entertain the duality of a nonphysical reality for the preservation of a nonphysical autobiographical-self after the death of the physical body that hosts it. Yet the brain does! And the vast billions of autobiographical-selves—Western and Eastern—seem to like it that way.

References

Bandura, Albert (1989) Human agency in Social Cognitive Theory. PDF copy of article from journal of *American Psychology*. Retrieved May 1, 2015 from <https://meagherlab.tamu.edu/M-Meagher/Health%20360/Psyc%20360%20articles/Psyc%20360%20Ch%203/self-efficacy.pdf>.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of mental health*. San Diego: Academic Press, 1998).

Bible, New International Version®, NIV® Copyright © 1973, 1978, 1984, 2011. Retrieved April 23, 2015 from <http://www.biblica.com>

Boyer, Pascal. (2013). Religious thought and behavior as by-products of brain function, *Trends in Cognitive Sciences*, Vol. 7, No. 3 March 2003 pgs. 119 to 124

Brown, Harriet (2013) *What Really Happens In Our Brains When We Have Spiritual Experiences?* Huffington Post. Retrieved April 30, 2015 from http://www.huffingtonpost.com/2013/10/19/science-behind-spiritual-experiences_n_4078519.html

Damasio, Antonio. (2007) Neuroscience and Ethics: Intersections. *The American Journal of Bioethics*, January, Volume 7, Number 1, 2007.

Our Biology Is Not Our Biography

Damasio, Antonio (2010). *Self Comes to Mind: Constructing the Conscious Brain*, Pantheon Books, NY

Damasio, Antonio. (2014). *The Feeling of what Happens: Body and Emotions in the Making of Consciousness*, Harcourt Brace & Co. NY. Retrieved April 25, 2015 from http://rucss.rutgers.edu/faculty/pylyshyn/Consciousness_2014/Emotions/10-Damasio-OCR.pdf

Darwin, C. R. (1859). *On the origin of species by means of natural selection, or the preservation of favored races in the struggle for life*. London: John Murray. [1st edition] Text Image Text & image PDF F373

Dawkins, Richard (1976). *The Selfish Gene*. Second edition (1989) Oxford University Press. Oxford and New York

Dennett, Daniel (2011). *Big Thinkers - Daniel Dennett [Philosopher]*. Retrieved April 30, 2015 from <https://www.youtube.com/watch?v=41orN2hT8X4>

Freud, Sigmund (1961). *Beyond the Pleasure Principle*. W.W. Norton & Company New York

Hassett, Maurice (1910). "Martyr." *The Catholic Encyclopedia*. Vol. 9. New York: Robert Appleton Company. Retrieved April 8, 2015 from <http://www.newadvent.org/cathen/09736b.htm>.

Hemingway, Annamaria (2012). *Immortal Yearnings: Mystical Imaginings and Primordial Affirmations of the Afterlife*. John Hunt Publishing Ltd. Alresford, Hants, UK.

Our Biology Is Not Our Biography

Lester, D. (1997). The Role of Shame in Suicide. *Suicide and Life-Threat Behavior*, 27: 352–361. doi: 10.1111/j.1943-278X.1997.tb00514.x

Norenzayan, Ara, and Gervais, Will M. (2013). The origins of religious disbelief, *Trends on Cognitive Sciences*, January 2013, Vol 17, No 1.

O'Neil, Dennis. (2012). *Archaic Human Culture*. Retrieved April 8, 2015 from http://anthro.palomar.edu/homo2/mod_homo_3.htm,

Stalinsky, Steven (2004). Jihad and Martyrdom, *Islam Daily: Observing Media*, Jan 17, 2004. Retrieved April 8, 2015 from <http://www.islamdaily.org/en/wahabism/321.jihad-and-martyrdom.htm>

Taylor, Jill Bolte (2008). *My Stroke of Insight: A Brain Scientist's Personal Journey*. Penguin Group. NY

Wilson, Edward O. (1978) *On Human Nature*. W.W. Norton & Co. NY.

