Of Gods and Man: The Biocognitive Turn in Religious Studies

Andrew Ali Aghapour

A thesis submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Masters of Arts in the Department of Religious Studies.

Chapel Hill
2011

Approved By:

Randall Styers

Todd Ochoa

Barry Saunders

ABSTRACT

ANDREW AGHAPOUR: Of Gods and Man: The Biocognitive Turn in Religious Studies
(Under the Direction of Randall Styers, Todd Ochoa, and Barry Saunders)

This thesis surveys and analyzes the "biocognitive turn" in Religious Studies over
the last decade, which is characterized by a rise in cognitive and evolutionary accounts of
religious beliefs and practices. Using Michel Foucault's archaeological method, I
analyze three key discourses—evolutionary and cognitive explanations of religion, sui
generis defenses of religion as irreducible by science, and inaugural projects for
streamlining Religious Studies—with attention to how they mobilize a set of shared
intellectual categories and presuppositions. Central to all of these biocognitive
discourses, I argue, is Foucault's "analytic of finitude," or the epistemological framing of
Man as both an object of knowledge and a subject who knows.

TABLE OF CONTENTS

Chapter

I. INTRODUCTION

At the 2010 meeting of the American Academy of Religion, AAR president Ann Taves delivered a plenary address entitled, "'Religion' in the Humanities and the Humanities in the University." Facing budget cuts, a crisis in the job market, and the difficulty that Religious Studies scholars have in articulating their shared object of study, Taves offered a new future for the field based on an integrated method for the study of religion. Taves' solution was that Religious Studies should actively align itself, methodologically and epistemologically, with the sciences. By specifically citing cognitive science and evolutionary psychology as sites for integration, Taves was participating in a growing trend: in the last decade, scholarship on religion utilizing cognitive, evolutionary, and biological sciences has expanded rapidly, in both academic and popular media. The recent explosion of "biocognitive" accounts has been met with an equally robust genre of oppositional responses, often geared to defend religion from scientific reductionism. Furthermore, a third genre has emerged, characterized by attempts, like Taves', to use biocognitive discourses as a center for integrating the study of religion into a singular, all-encompassing system. The biocognitive event, as we might call it, echoes previous flare-ups in the self-articulations of Religion and Science and, as I will show, reenacts a staging of the human subject characteristic of the Modern era. It is also something new, since its participants do not exclusively draw on historical intellectual resources. Within the theoretical models, epistemological debates, and

intellectual categories of the biocognitive subfield are inflected recent events in critical theory, science studies, and late-twentieth century neo-Darwinian sciences.

The goal of this essay is to investigate the biocognitive subfield as both a contemporary event in Religious Studies discourse and as a product of inherited intellectual categories and epistemological structures within Western thought. To this end, I have formulated two procedures for analyzing the biocognitive subfield. The first, what I call "topological tracing," involves a surface reading of biocognitive subfield that describes specific discursive arrangements. The goal of this tracing is to get a sense of the mechanics of particular discourses: how they operate, what immediate resources they draw on, and how they link to other proximate discourses within the larger field of Religion and Science. The second procedure of this investigation is an analysis of the human subject that operates within these discourses. I share with post-modern and post-structuralist thought the view that the human subject is made and not pre-given; it follows that the human sciences at question are not simply discovering humanity in its essence, but rather drawing from particular assumptions and resources when formulating their object of study. This second procedure draws from the work of Michel Foucault, whose conception of Man as a two-fold subject and object is particularly useful for describing the contemporary biocognitive landscape.

This essay is composed of five sections. In the first two sections, I outline these procedures through two surveys: in section one I trace the field of Religion and Science more generally and, in so doing, elaborate some general characteristics of Religious and Science discourse; in section two I distill Foucault's concept of Man by describing its nineteenth century birth and unstable constitution. In sections three, four, and five, I

apply these two procedures to three key aspects (or genres, or zones) of the biocognitive subfield: the *fecundity* of biocognitive accounts of religion; the *controversy* that these accounts caused, evinced in a genre of oppositional "sui generis" rejoinders; and the recent convention of *system-building* by scholars who, like Taves, see in the biocognitive an opportunity to integrate and unify Religious Studies.

Tracing Religion and Science

The 2010 annual meeting of the American Academy of Religion centered itself on the broad theme of "Religion and Science," with plenary speakers and conference sessions addressing such topics as the brain/mind relation, the science of morality, and the comparative impact of evolutionary theory on different religious traditions. This marked the culmination of a growing trend: in 2001 there were two conference sessions on religion and science; in 2005 there were nine; in 2009 fourteen. In 2010, twenty sessions were advertised to be "Focused on Religion and Science" in a highlighted section of the AAR program book.[1] What does this growing subfield look like, and why is it growing so quickly? Stepping back, the approximately eighty-five Religion and Science sessions that have been held at AAR annual meetings over the last decade provide a snapshot of a complex and heterogeneous field. Unlike other subfields, such as Systematic Theology or Chinese Religions, Religion and Science has no orienting topic, method, or location. It is, rather, a broad umbrella of topics, themes, and research programs that encompasses a variety of intellectual projects.

---

[1] American Academy of Religion, *Annual Meeting Program Book* (2010), 33.

In 2007, for example, the *Science, Technology, and Religion Group* sponsored the following four sessions: (1) "Perspectives on Gender and Sexuality: Evolutionary Biology and Religion"; (2) "Soap, Coal, and Rayon: Miraculous Elements of Modern Industry"; (3) "In Whose Image: Bonobos, Sin, and Transcendence"; (4) "Rethinking Science, Religion, and Their Possible Relations." These panels were informed by distinct intellectual traditions and gathered different types of intellectual work. Panel 1 took up gender and sexuality to couple current debates about human evolutionary origins with relevant theological and ethical concerns. Panel 2 focused on material practices in American industry through the theoretical lens of enchantment. Panel 3 generated comparative thinking about religious concepts through the consideration of nonhuman primates. Panel 4 posited new directions for the study of religion and science, in light of the recent overturning of the "conflict" model that pitted the two against each other.

The diversity of projects under the "Religion and Science" banner speaks to the generality of each operative term. "Religion" is category employed to describe cultural phenomena, social groups, mental states, material practices, modes of action, texts, shared concepts, significant objects, individual beliefs, and a great deal more. The term "religion" does not point to a stable or universal thing-in-the-world; it is a discursive tool used to accomplish specific goals in varying circumstances. For Enlightenment intellectuals it served as a foil for distinguishing between old and new ways of thinking and acting; in the hands of colonial agents it was a tool for gerrymandering the social landscape; for indigenous groups it has been means of gaining political recognition; and in the modern, secular West it has become crucial to the project of separating and policing the divide between public and private. "Science" is a similarly general category,

referring to a heterogeneous range of theories, methods, vocabularies, communities, technologies, and virtues. It is a term used not only by practitioners of modern technoscience, but also by almost anyone who want to denote intellectual seriousness. Even among contemporary Western scientists, there is no single, universal scientific method because the natural world is itself not homogenous, and so it doesn't offer itself up to a unified, ordered body knowledge. In short, what we call scientific knowledge is produced by people who are situated in time, space, culture, and society, and those people have a wide range of beliefs about what characterizes science.

It is in part due to this double-generality that "Religion and Science" is such a fecund, and tangled, site of discursive growth. A great deal of connections can be established within the vast arrangement of entities that the two categories posit: between gender and evolved brains; ethics and technology; primate and human group behavior; neuroscientific and contemplative models of the mind. Within the immense number of possible connections, a few constellations have emerged and stabilized. Returning to AAR panels on Religion and Science, one can discern certain events and patterns. There are flash-in-the-pan events, such as dialogue with complexity theory or considerations of the pop-New Age film *What the Bleep Do We Know?*, which fizzle if they don't garner and sustain interest or if (in the case of *What the Bleep*) their resources can be exhausted quite quickly. There are topics that gain purchase and remain stable for a number of years, like science and theology in the 19th century, before dissipating, transforming, or moving in other directions. There are workhorses— the science of Buddhism; "rethinking" religion and science; ethics; anything to do with Paul Tillich— that are workable enough, in the hands of a dedicated community of scholars, to produce a steady

of flow of creative projects. Finally, there are topics that swell, which begin as scattered nodes and then draw together and form stable connections that rapidly multiply. Over the course of the last ten years, biocognitive accounts of religion have grown in this manner. It is no exaggeration to say that this genre of scholarship, characterized by the application of evolutionary, biological, or cognitive sciences to the study of religion, has exploded in recent years.

The first half of the decade saw only a handful of scattered sessions on neuroscience and personhood, the cognitive science of religion, and science of Buddhist conceptions of the mind.[2] In 2010 alone, seven of the twenty sessions devoted to Religion and Science focused on biocognitive themes, ranging from primate studies to evolutionary psychology to comparative neuroscience. This subfield is also a site of a great deal of controversy: it has been met by articles and conference panels dedicated to outlining the explanatory limit of biocognitive research; still others ignore it as a revival of 19th century positivism. Perhaps due to this rapid growth and opposition, biocognitive accounts of religion have also become home to an inordinate amount of posturing about the future of religious studies and the various ways that it might be systematized, improved, or made coherent. These three features of the biocognitive subfield— fecundity, controversy, and system building— make it a promising site for a sustained investigation. In this essay I investigate the recent biocognitive event across these three dimensions, using two procedures.

---

[2]See sessions A72, 2001; A58, 2002; A125 and A211, 2003; A22-71, 2004; and A19-36, 2006. Listed in American Academy of Religion, "Past and Future Annual Meeting Dates and Sites." American Academy of Religion, http://www.aarweb.org/Meetings/Annual_Meeting/Past_and_Future_Meetings/default.asp (accessed July 2, 2011).

The first procedure extends from the vantage point that has been sketched so far in our consideration of Religion and Science. It is a topological tracing, which investigates specific discursive arrangements. Where my overview of Religion and Science was necessarily broad, the biocognitive subfield is a small enough for a fine-grained account of how a few discursive constellations are composed. We might think of the biocognitive subfield as a series of nodes with dense interconnections, and consider our goal to be a careful study of how these elements are distributed. Nodes within the biocognitive could include operative terms (function, evolution, cognition), explanatory methods (reductionism, materialism, adaptationist thinking), epistemic virtues (coherence, order, objectivity), reflexive categories ("religion," "science"), rhetorical strategies (reifications of religion or science, appeals to unity), or resources that are only partly discursive (prestige, access to publications, ability to draw readership). The goal of a topological tracing is to draw out some of the discursive constellations within the biocognitive subfield and get a sense of their mechanics: "What works through the reflexive category of religion?" one may ask, or "What immediate assumptions are connected to adaptationism?"

Before outlining the second procedure of this investigation, a methodological note: If we are to treat contemporary discourse as a research site in itself, as I have set out above, a necessary first step will be the bracketing of truth-value. Throughout the biocognitive subfield, truth claims are posited, debated, and taken for granted. Biocognitive accounts of religion point to an outside world, in which things like neurons, religious traditions, desires, and DNA all act in knowable ways. This tacit assumption of modern discourse— that there is a world outside that we cannot perceive perfectly, but

which our knowledge can grasp incrementally— plays a central role in organizing contemporary knowledge. If, however, our goal is to investigate biocognitive discourse itself, and not the ontological entities posited therein, we must avoid the temptation to evaluate the correct-or-incorrect value of discursive statements. This bracketing yields a single plane of discursive elements, leveling the various vocabularies, theoretical models, reflexive categories, rhetorical strategies, normative rules, and forms of evidence at play. It allows us to push on discursive nodes— to stress them, to tease them apart, to study their composition— without the end-goal of committing to their truth status. Without this leveling, our analysis would be limited to either (1) adding to existing commentary about specific topics or debates, (2) collecting and formalizing a set of claims that have been sufficiently verified, or (3) accounting for the failure of abandoned claims by appealing to contemporary truths. Each of these movements (inwards, upwards, and backwards) would move us away from the discursive landscape that we wish to survey.

If topological tracing is geared to describe the mechanics of discourse, the second procedure is designed to investigate how arrangements of discourse implicitly share, and get use out of, a particular set of assumptions about the human subject. In his "archaeological" analysis of Western intellectual history, French philosopher Michel Foucault argues that our modern conception of Man is the result of a series of epistemological events in the eighteenth and nineteenth centuries.[3] In short, we understand Man to be, simultaneously, an utterly knowable entity (reducible to various anatomical, linguistic, economic, and social sciences) and the very basis of all positive

---

[3]In this essay I use the term "Man" not as an indicator of the sexed bodies of historical persons, but rather as a specific concept that has currency in post-structural theory. "Man" here names the human subject that was produced in the nineteenth century, the simultaneous object-of-knowledge and subject-who-knows.

knowledge.[4] This precarious depiction of the human subject serves to stabilize Modern

thought against the backdrop of Classical representation; it accounts for the fact that

knowledge is *made*, but rescues its fallen status by attending to the mechanisms that

produce it. After tracing specific discursive constellations within biocognitive discourse,

my second procedure is to investigate how our modern assumptions about the human

subject operate within them, and how this Man-form (as Gilles Deleuze has referred to it)

is maintained, utilized, and policed.[5] At issue here is how the human sciences are

simultaneously constrained and powered by this conception of Man, and what work these

discourses do to reify and support our modern assumptions about the human subject. In

order to get critical leverage out of this concept, I will now briefly distill Foucault's

formulation of Man.

The Birth of Man

Within the biocognitive subfield, a ubiquitous energy source is a shared

conception of the human, as both a knowable entity and as an entity that knows. As

familiar as this formula might be, it is rather new— Michel Foucault dates it to the

beginning of the nineteenth century. In *The Order of Things* Foucault describes the

emergence of the human as an event in the history of knowledge, the result of a rupture in

the relationship between representation and language in Classical thought. For Foucault,

our inherited understanding of the human subject is a highly particular construction, and

it follows that the human sciences, which take humanity as an object of study, are

[4]Michel Foucault, *The Order of Things* (New York: Random House, 1970): 303-387).

[5]Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota Press, 1986): 124-132.

themselves highly conditioned and narrowly confined. Foucault's analysis will provide some critical leverage for mapping the biocognitive subfield, and so I will distill it briefly.

Key to understanding our contemporary understanding of Man is to investigate the specific conditions of its emergence. Foucault endorses the notion of discrete epistemological eras, what has calls *epistemes*, and aligns the birth of Man with the transition between the Classical Age (dating from the end of the sixteenth century to the beginning of the nineteenth century) and the Modern Age (from the early nineteenth century to today). For Foucault, *epistemes* are self-enclosed systems that succeed one another only through fundamental ruptures and transformations. This methodological assumption has its weaknesses (namely, it privileges great thinkers and overextends their dissemination in order to posit a single, all-encompassing intellectual epoch), but it is nonetheless a powerful means of describing intellectual change that avoids the pitfall of naive positivism.[6] By comparing the Modern era to the Classical era that preceded it, Foucault is able to describe some of the mutations and shifts that produced some of our most privileged contemporary concepts, including our modern understanding of Man.

During the Classical Age of Western knowledge, information was arranged in what might be called "chains of identities." Words were thought to connect directly and transparently to the objects they named, and so the project of knowledge was to plot these essential identities, as if on a grid. This involved a two step approach of *finding* and *arranging*. First one must establish an individual identity, which involved arriving, through language, to that place where things and words conjoined in their common

---

[6]For a critique of Foucault's *episteme* paired with an attempt to recuperate archaeology's insights into the human sciences, see Hunter, "The History of Theory," *Critical Inquiry* 33:1 (2006).

essence.[7]   Finding pure identities in the world was a passive enterprise: although

identities must be sought out, they were not thought to be altered by the seeker. These

epistemic assumptions are apparent, for example, in scientific atlases of the early

eighteenth century, which sought to capture "ideal images" beyond individual variants of

nature. Natural historians were trained to look beyond the messy surfaces of things, past

wilted leaves and discolorations, in order to produce images that were "true to nature."[8]

In natural history this was linked to a corresponding conception of human psychology.

Humans, it was thought, are passive receivers of images and sensations, and so natural

historians must overcome this passivity in order to look beyond the surface of things.[9]

Once one has found a pure identity, the second step of Classical knowledge was to

arrange it within the grid of previous discoveries. A number of theoretical apparatuses

emerged for this work. During the late seventeenth century, for example, a series

attempts were made to reduce theories of medicine to mechanistic explanation, so as to

align and order these two registers of being. There were also a number of attempts to

mathematicize empirical knowledge, as in the case of astronomy or physics.[10] Such

projects were grounded in the idea of a universal translatability; it was assumed that the

reordering of identities carried no losses and produced no remainders.

    New knowledge thus took two possible forms during the Classical Age: first, the

finding and naming of new things (the distant, the small, the yet-unnamed), or, second,

the conversion of existing names into more basic registers of being. This double process,

---

[7]Michel Foucault, *The Order of Things*, 117.

[8]Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007), 55-113.

[9]Daston and Galison, *Objectivity*, 55-113.

[10]Foucault, *The Order of Things*, 56.

of constantly filling and reordering the grid of knowledge, formed the fundamental project of Classical thought, what Foucault calls *mathesis*. A universal science of measurement and order, mathesis took as its goal a unified corpus of knowledge, in which all forms of measurement were reduced to a single system of signs.[11] One consequence of this discursive arrangement, of the universal extension pure identities within a regime of order, was that it assumed that identities were manifested in representation without any intermediary processes of signification. There was, in short, no place in this arrangement for the concept of a human knower. Just as natural history took human observers to be passive receivers of images, so too did the whole of Classical discourse assume transparent knowers, who played no active part in the construction of knowledge. Humanity was not, so to speak, included in the grid of representation.

In Foucault's account, a series of mutations disrupted the Classical Age's arrangement, and its exclusion of human mediation from representation. These mutations occurred across three discourses, at about the same time. In the early eighteenth century, natural history, the analysis of wealth, and reflection upon language all conformed to the traditional grid of knowledge: it was assumed that their objects of study were fully knowable, and encoded perfectly in language. In each of these fields, however, a series of events caused Life, Labor, and Language to emerge as unities in themselves, with their own internal forces and unobservable processes.[12] For example, in natural history of the 18th century, classifications of individuals and species were constructed out of characteristics that could be fixed and represented in stable structures and forms.

---

[11]Foucault, *The Order of Things*, 56-7.

[12]Foucault, *The Order of Things*, 244.

Classification amounted to comparing and correlating those visible, homogeneous elements that were distributed across the natural world. During the 19th century, however, a series of transitions occurred that introduced an internal principle to the study of nature— *organic structure*— that was not reducible to visible forms. As a hierarchy of characters emerged to distinguish between constant and rare features; as species characteristics were linked to functions; and as the notion of life became necessary to conceptually link physical organs and essential functions, organic structure replaced the grid of characteristics as a central ordering principle for natural history.[13] Where the natural history of the eighteenth century studied species in their perfectly aligned taxonomies, biology of the nineteenth century studied *life*, the mysterious, indwelling process that still eludes contemporary thinking.

Similar transitions occurred within the analysis of wealth and of language, and the resulting emergence of three "transcendental subjects"— Life, Will, and the Word— subverted the epistemological foundations of Classical thought. As natural history became biology, as analysis of wealth became economics, and as reflection upon language became philology, order began to belong to things themselves and their interior laws, and no longer to the grid of pure identities.[14] It was no longer *identity* that beings manifested in representation, but rather an external relation that was established with the knower.[15] As life, labour, and language turned in on themselves, the transparency of Classical knowledge was shattered, and the human that we know today was abruptly

---

[13]Foucault, *The Order of Things*, 226-32.

[14]Foucault, *The Order of Things*, 313.

[15]Foucault, *The Order of Things*, 312-3.

drawn into the vacuum of representation. This, Foucault, argues, marked the archaeological transition to the Modern era.

Modernity, for Foucault, began with the withdrawal of being from representation, and the emergence of Man to stabilize the wobbling structure of a Western knowledge. Man emerged into a precarious double position, drawn into the epistemological field simultaneously as an object of knowledge and as a subject that knows. On one hand, Man was the central participant in the formation of knowledge, the very thing that made knowing possible. If beings manifested in an external relation to the knower, then humans were no longer passive receivers of identities. Man occupied the now-fragmented field of representation as a maker— as an imbricated element in the production of knowledge. On the other hand, Man became, for the first time, included in the field of representation as a finite entity. This knower could also be known; it could be studied through the anatomy of the brain, systems of conjugation, or the mechanics of production costs.[16] As Foucault often reminds us, Man was not discovered; he was not a preexisting entity waiting to be analyzed by new forms of knowledge. Man was invented at a specific juncture, drawn into representation out of a need re-anchor knowledge and then made knowable insofar as he occupied the newly-fragmented grid. Two forms of knowledge emerged that analyzed, and steadied, this wobbling entity.

There were, first, those discourses that operated within the space of the body, studying perception, sensorial mechanisms, physiology, and other processes and entities involved in the production of human knowledge. This form of analysis, which Foucault deems the "transcendental aesthetic," focused on the human as it occupied representation

---

[16]Foucault, *The Order of Things*, 313-4.

and depicted a knowable if ambiguous figure that lived, spoke, and worked.[17] This genre

of discourse covered the surfaces of Man and attempted to turn his empirical

characteristics into predictable forms. A second form of analysis, the transcendental

dialectic, took human knowledge as its subject. The nineteenth century saw a wide range

of discourses that studied humanity's illusions (in the past and abroad) with attention to

their historical, social, and economic conditions, thereby giving empirical form to human

knowledge.[18]

Taking a step back, it is clear that these two modes of knowledge did work to

stabilize the Man-form and the epistemic rupture he occupied. Transcendental aesthetics

studies Man-as-object, tracing the endless and motley combination of elements involved

in knowledge production by collapsing him into finite knowability. By limiting its focus

to sensorial and observational processes, transcendental aesthetics seem to offer a means

of objectifying knowledge-production, thereby assuring the stability of representation.

Transcendental dialectics, on the other hand, begins with the other side of the human

doublet, the subject who knows, to study and demystify historical, mythical, or otherwise

inaccurate beliefs. The result is an objectification of knowledge that (as can be seen in a

variety of nineteenth century texts) lends itself to triumphalist juxtapositions of old and

new models of the world. Where transcendental aesthetics stabilizes the ambiguity of

Man by objectifying knowledge production, transcendental dialectics accomplishes the

same goal by empiricizing knowledge products. With these two forms of analysis, the

inherent instability of human knowledge was propped up from opposite sides.

---

[17]Foucault, *The Order of Things*, 319.

[18]Foucault, *The Order of Things*, 319.

These two forms of analysis set off an explosion of discourses during the 19th century that isolated and investigated particular aspects of Man. Foucault demonstrates that the various human sciences were not united by a common object, but rather bound within a common epistemic space. Modern thought, he argues, is composed of three dimensions: the highly-formalized mathematical and physical sciences; the empirical sciences that sought to establish causal and structural relations within the transcendental subjects of Life, Will and the Word (thus biology, economics, and linguistics); and transcendental philosophical reflection.[19] The human sciences have a precarious relationship with this epistemological triangle because they do not constitute a fourth dimension of modern thought, but instead operate by traversing these three dimensions. The human sciences, in other words, are limited to the recombination of formalized, empirical, and philosophical tools in their study of the human subject. Foucault's historical observations remain applicable today; sociology, anthropology, psychology, and other human sciences simultaneously utilize mathematical formalizations and borrowed concepts from biology, economics and linguistics, often while approximating the philosophical vantage point of one who interrogates formalized knowledge in order to reveal a new truth.[20] The human sciences are bound to these domains of analysis, Foucault argues, because of the subject they posit: Man, in his ambiguous construction, can conform to any of modernity's core representative modalities. He can be, simultaneously, an utterly finite being, a vessel of Life, Labour and Language, and a potential overcoming of every signifying totality.

---

[19]Foucault, *The Order of Things*, 346-8.

[20]On the intellectual performance of this task, see Ian Hunter, "The History of Theory," 93-95.

The fact that the human can occupy all of these discursive arrangements at once gives the human sciences a precarious and perilous relationship to other discourses. On the one hand, the human sciences are precarious because they operate by extending other branches of knowledge (e.g. mathematics, philosophy, biology) onto the human, and thereby threaten the "purity" of their hosts. On the other, the human sciences are in peril because their reliance upon other domains of knowledge gives them a secondary and derived character.[21] This liminal position is evident in the meta-discourses about any human science, from the common accusation that psychology is not a "true science," to the historical attempts made by religious studies and anthropology to more closely align themselves with scientific methodologies. For Foucault, this is all but inevitable: so long as the human sciences take Man as their subject, they will constantly traverse the three branches of modern knowledge in the attempt to produce a stabilized object. There is no reason to speculate about what the human sciences might look like otherwise, since these two forms— the human and those discourses that posit it— are mutually constitutive; they emerged from the same epistemological event and are of composed of the same forces. It extends that even contemporary human sciences will echo this formulation, vacillating between Man-as-object and Man-as-subject.

Foucault's account of the birth of Man is particular useful in considering the recent biocognitive event in religious studies. In the next three investigations— of the fecundity of biocognitive research, the controversy it has met within religious studies, and the genre of system-building that has emerged from this tension— we will inevitably find Man lurking. Whether in cognitive science's extension of the transcendental aesthetic, sui generis attempts to limit the epistemological domain of Man-as-object, or

---

[21]Foucault, *The Order of Things*, 347-8.

renewed attempts to organize and authenticate the perilous human sciences, the contemporary terrain of biocognitive thinking is still darkened by Man's shadow. I will next turn to the fecundity of the biocognitive subfield and, after a topological tracing of some of its theories and methods, address the ways in which it utilizes and polices the Man-form.

II. BIOCOGNITIVE ACCOUNTS OF RELIGION

Within the larger scope of Religion and Science, we can assume that various subfields represent a range of connective potential, in which some subfields involve a relatively narrow field of operations and others incorporate a wide range of discursive entities that can be recombined and rearranged almost endlessly. The connective potential of a subfield will in part be based on (A) the make up of the subject matters at hand and (B) the relative expertise necessary to participate in discourse about that subject matter. Quantum mechanics, for example, makes only one direct appearance at AAR annual meetings of the last decade, presumably because (A) quantum mechanics describes unfathomably small processes that are hard to couple with discursive entities associated with religion (in 2006 it was linked to "Buddhist and Christian perspectives"), and (B) quantum mechanics is a difficult, counterintuitive subject matter, and relatively few scholars have a working knowledge of both quantum mechanics and religion. This could change, of course— a popular book might describe quantum mechanics in a new way and capture the imagination of a new group of scholars— but as it stands the "quantum mechanics and religion" node is a small island, with only a few bridges to other intersections.

We could imagine that, opposite quantum mechanics, a subfield has the potential be a densely-connected intersection if it is characterized by (A) a subject matter that gathers a wide variety of discursive entities and potential connections, and (B) a relatively low threshold of necessary expertise, making it accessible to more participants.

The unparalleled growth of the biocognitive subfield is in large part due to its connectivity and accessibility.

The biocognitive subfield primarily draws from two sciences, evolutionary psychology and cognitive science, which have produced a vast array of methods, theoretical models, and data that can be connected to a wide range of the phenomena that fit into the category of "religion." To get a sense of why these sciences are particularly fruitful for this type of work, we can analyze a few of their core methodologies. Evolutionary psychology emerged in the 1980s as part of the proliferation of discourses, following sociobiology, that used evolutionary theory to study human behavior. Against their colleagues in sociobiology, who applied evolutionary theory directly to manifest behavior, early evolutionary psychologists focused on the operation of innate psychological mechanisms, which presumably evolved over the course of human history as survival-enhancing adaptations. The distinctive approach of evolutionary psychology is to explain universal features of human psychology by reconstructing adaptive problems faced by human ancestors and positing specific mental organs that likely originated as adaptations for solving those problems.[22]

Take, for example, the fact that most humans are disgusted by rotten vegetables and excrement. This disgust is likely unlearned: unlike insects or dairy products, which are detested by some cultures and not others, rotten vegetables and excrement are considered repulsive across social groups. These aversions are also beneficial, since feces and rotting foods are home to harmful microorganisms that ought not be consumed. An innate psychological trigger designed to cause such disgust would likely have been

---

[22]Kevin Laland and Gillian Brown, *Sense and Nonsense* (Oxford: Oxford University Press, 2002), 154-6.

highly adaptive to our ancestors, who, as omnivores, ate a wide variety of foods and therefore ran a high risk of becoming poisoned. Thus it follows that humans likely share an evolved psychological mechanism for detecting, and being repulsed by, certain dangerous pollutants.[23] The methods of evolutionary psychology vary, but this particular form of adaptive reasoning is the most powerful, and popular, tool in the box. In the hands of careful practitioners, this method has yielded persuasive accounts of evolved psychological modules for cheater detection, food sharing, and facial recognition. The central tools of evolutionary psychology can also be wielded poorly, and produce tautological results: one can quite easily take an aspect of human thought and posit an imaginary scenario where a psychological mechanism could have evolved to produce it. Perhaps due to the seductive ease of this explanatory template, and the recent stream of evolutionary psychology texts aimed at lay audiences, adaptationist explanations of religion abound.

Cognitive science is a broad discipline, drawing from neuroscience, psychology, anthropology, behavioral psychology and other discourses. A key feature of cognitive science is that it models brains as *information processors*, and since information can be transferred and stored in many forms, cognitive science typically involves the study of multiple aspects, or "levels" of cognition. This strategy has been particularly successful at describing language, memory, and visual processing, which all require multi-level descriptions of neural processing, cognitive architecture, and mental experiences. In the study of religion, cognitive science usually follows this same strategy by taking a specific religious belief or practice and then investigating the cognitive architecture and

[23]For an overview see Steven Pinker, *How the Mind Works* (New York: W. W. Norton & Company, 1999), 378-386.

psychological processes associated with it. Particularly popular in the cognitive science of religion (hereafter CSR) is the "byproduct" hypothesis, which takes religious beliefs and practices to be motivated by psychological mechanisms that evolved for some other adaptive function. Here CSR shares a great deal with evolutionary psychology: it holds that humans are equipped with a number of domain-specific cognitive mechanisms that evolved for specific reasons in our evolutionary past, long before the existence of contemporary religious traditions. These "mental organs" are thought to function essentially as computational devices, using discrete, rule-based operations to process specific types of inputs in predictable ways. The descriptive work of CSR usually lies in isolating an innate cognitive mechanism (often through adaptationist reasoning or infant development studies) and then tying it to widely held religious beliefs or experiences.

Take, for example, the following vignette. Between 4 and 8 months of age, human infants can track eye gaze and pointing, and by 18 months most understand how to enlist others to help achieve particular goals. Psychologists using computer animations can elicit in one-year-olds the spontaneous attribution of emotions and goals to small, colored dots moving on a screen (one "chasing" the other, for example). Fifteen-month-olds have been found to infer goal-directed behaviors in an orangutan puppet and to follow its gaze, even though they do not respond in such ways towards inanimate objects like mechanical pincers, which lack a face and do not interact contingently with the child.[24] These and other developmental studies suggest that humans are equipped with mental tools that aid in the detection of *agents*, or entities that initiate and control their own actions and interact with others.

---

[24]Scott Atran, *In Gods We Trust* (Oxford: Oxford University Press, 2002), 62-3.

Generally known as "theory of mind," or "folk psychology," there is a rich theoretical framework devoted to explaining how and why we understand other persons and animate objects as intentional agents, which act and interact according to internal motivations like goals and desires.[25] Cognitive mechanisms for recognizing and interpreting animate agents likely primed our ancestors to anticipate the presence of predators and more rapidly detect prey, and was therefore a valuable psychological adaptation. It follows, given the environment of our ancestors, that it was adaptive to have a highly active agency detection system, since this would make one even faster at detecting predators and prey in the surrounding landscape. Setting the agency "trip-wire" too low, and thus mistaking noise for signal, would not have been maladaptive. Our tendency, for example, to initially think that a scratching at the door is the sound of an intruder rather than a tree branch is still adaptive since the misperception, which we can abandon once it is perceived it as misguided, costs very little. It is therefore likely that humans are equipped with a "hyperactive agent detection device" (HADD) that predisposes us to attribute natural events to intentional causes, even though it has the byproduct of projecting human-like beings into the world.[26] Across the globe, our species' common inheritance of a hardwired overactive agency-detection system gives rise to beliefs in supernatural agents like gods and angels because it biases our perceptions of natural events, and makes concepts of supernatural agents all the more believable. When presented with a cultural concept like "ancestor spirits" or "omnipotent god," humans already have rich inference systems at their disposal to understand the

---

[25]Atran, *In Gods We Trust,* 59.

[26]This line of argument is very common, but see Justin Barrett, *Why Would Anyone Believe in God?* (Walnut Creek, CA: AltaMira Press, 2004): 36.

features of those minds. This facilitates group understandings of such agents, since every individual is working with the same psychological templates.

A surface view of this argument exhibits the impressive power of CSR methodologies. Five distinct nodes are interlinked in the HADD model, and each is by itself quite persuasive. First, the infant development studies on eye movement and inferences about agency are convincing and stand on their own, bolstered by the fact that they are drawn from a distinct field— child psychology— with no interest in explaining religion. Second, these diverse findings (that 4-8 month olds track gazes; that 1 year olds attribute emotions to moving dots; that 15 month olds infer goals from puppets; that 18 month olds can enlist help from others) are purified almost seamlessly into a description of a single mental system, "folk psychology," and given a central, panhuman cognitive module: the agency detection device. Third, the newly unified cognitive module is worked through adaptationist reasoning and linked to our ancestor's needs to track predators and prey, thereby establishing its origin in the reassuring evolutionary language of utility. Fourth, the imagined origin of this module is re-calibrated to involve over-use, while still maintaining its adaptability through the clever incorporation of a mechanism for abandoning false-positives. Fifth, the newly-established HADD is linked generally to religious beliefs about supernatural agents, as both a cause of misperceptions and a bias for believing the misperceptions of others. The HADD argument moves efficiently, from childhood development studies to a world of malfunctioning cognitive God-makers in just a few steps.

Unsurprisingly, a series of seams ties these nodes together. Between nodes one and two, diverse infant development studies are purified into a single, integrated

cognitive system. This is a crucial first step, as it sets the foundation of a panhuman computational mind with a rule-based operating system for dealing with agency. It is also, certainly, a small closure: there currently exist other persuasive accounts of cognition (e.g. "ecological" or "dynamic" frameworks) that emphasize the fluid and interactive aspects of cognitive processes, which cannot be reduced to predictable rule-based operations.[27] Nodes two, three and four operate through highly generalized adaptationist reasoning that link a wide range of manifest behaviors to a vague set of selection pressures. These ambiguous connections hold because the selection pressures (predators and prey) are so mundane that they are convincing, and because mistaken attributions of agency (due to hyperactivity or simple miscalculation) are a part of our everyday lives. As Matteo Mameli has pointed out, however, we cannot assume that the genes selected in ancestral environments produce the same psychological mechanisms today that they did when they were initially adapted. Like all other traits, psychological mechanisms are the product of developmental interactions between genes and the environment, and so it may be the case that genes selected in our ancestral environment, when operating in a much different developmental environment today, produces a different psychological mechanism or range of behaviors.[28] This might be a minor methodological problem, given the persuasiveness of the combined infant development studies, but what gives the HADD model power is this rapid movement, which establishes selection pressures and innate modules in a single gesture.

---

[27]For more on ecological frameworks, see Barbara Herrnstein Smith, *Natural Reflections* (New Haven: Yale University Press, 2009), 10-13.

[28]Matteo Mameli, "Evolution and Psychology in Philosophical Perspective," in *The Oxford Handbook of Evolutionary Psychology*, ed. R. Dunbar and L. Barrett (Oxford: Oxford University Press, 2007): 27.

Nodes four and five represent the greatest leap, from an ancient psychological mechanism to widespread contemporary beliefs, and it is here that most critical work is directed. Joseph Bulbulia, for example, has argued that the "byproduct" model's three step process—isolate a psychological mechanism, derive its possible adaptive functions, and seek out possible side effects that correspond to observed religious practices— amounts to a tautology. Under this methodological agenda, features of religion are automatically linked to misfiring cognitive mechanisms, rather, for example, than to the possible adaptive functions of the religious features themselves.[29] Others have attacked this jump for its narrow conception of supernatural agents as mistaken perceptions or easily-believed symbolic forms. To a trained scholar of religion, accounting for the origin of a "supernatural agent" is a remarkably thin means of gaining purchase on any given religious culture. The supernaturalness of gods are one dimension of a rich, complex interplay between myriad social, political, cultural, and material forces, making the psychology of agency-ascription seem relatively minor in the greater scope of things.

The fact of these closures is not a critique of the HADD model, or an argument about its untruthful status. Any discursive constellation will involve purifications and erasures, as certain nodes are bolstered and connected over others. If anything, the formation of HADD just described is a testament to the explanatory power of cognitive science's multi-level modeling. Whatever the religious phenomenon that CSR links up to, it can gather relevant data from psychological, evolutionary, and neuroscientific studies and attempt to piece together a multi-level account of that phenomenon's origin. If these elements are connected persuasively, then a model like HADD can draw a great

---

[29]Joseph Bulbulia, "The Cognitive and Evolutionary Psychology of Religion," *Biology and Philosophy.* 19 (2004): 663-4.

deal of power from its constitutive parts. The HADD model is itself now ubiquitous in CSR, and this is in part due to the fact that its linkages draw on common attitudes about evolutionary utility and computational systems. Furthermore, the ability of CSR arguments to draw from a ride range of methods and data makes it an ideal home for interdisciplinary work. It is therefore not surprising that the first official AAR body dedicated to brain research was the recently established Cognitive Science of Religion Consultation, which has become a gathering point for research on cognitive science, evolutionary psychology, neuroscience, and related disciplines.

Biocognitive accounts of religion are not limited to just these two tools, but an investigation of these two discursive procedures— adaptationist reasoning and multi-level information modeling— illustrates the connective power of this new subfield. Evolutionary psychology and cognitive science share enough common assumptions (a modular mind, the validity of internal states, evolutionary theory) that their methods and discursive productions can be efficiently linked together to form new hybrids. In fact, the biocognitive subfield is by far the most popular site for these new sciences. Although evolutionary psychology and cognitive science are being employed to explain a wide variety of phenomena, it is only in the study of religion that they have expanded so rapidly in the hands of just a few prolific scholars. Why is it that, unlike more traditional topics within neo-Darwinist literature (e.g. altruism or childhood development), the subject of religion has become such a hotbed of activity? It is in part due to the kind of bridging that we saw in the last movement of the HADD model, from mental architecture to human culture. "Religion" is a large placeholder that can include any number of entities, including but not limited to: prayer, burial practices, habitual actions, symbolic

structures, bodily possession, states of dread and ecstasy, group behavior, and beliefs about the world. This ambiguity is preserved by biocognitive accounts, and rarely questioned, because it allows sciences to build upon its Man-as-object and then, at the last second, grasp across the human chasm for a subjective element of human culture. The HADD model is, until its very last step, an account of Man's finitude: like the transcendental aesthetic, it covers the body and investigates its deepest structures. Once a constellation of empirical features has been mapped, the HADD argument crosses into the traditional realm of the transcendental dialectic (the various forms of human knowledge and culture) and captures only those elements that fit into its reduced forms. What makes biocognitive accounts of religion so powerful and prolific is a methodology that recombines empirical accounts of Man such that the resulting form can capture and encode single elements from the domain of religion. The lopsided strategy of this method also explains why criticism of biocognitive sciences always have the character of being obvious and seemingly unnecessary: from the perspective of a scholar of human culture, a biocognitive account amounts to an elaboration of just one of numerous elements.

In short, biocognitive accounts of religion have become a fecund site of discourse because they gather a wide range of methodological tools and elements, whose recombination can produce accounts of the Man-as-object with room for isolated aspects of religion. This gives biocognitive accounts the recurrent feature of tying discrete religious phenomena to an overlapping complex of cognitive mechanisms, but as of yet this method has yet to be exhausted. Perhaps in reaction to this enormous growth, biocognitive research has quickly become subject to critique. A genre of scholarship has

emerged, what we might call *sui generis defensives*, aimed at blockading the

encroachment of biocognitive theories into the subject matter of religion. Sui generis

defensives typically criticize biocognitive scholarship as narrowly conceived and overly

reductionist, and attempt to draw out the explanatory limitations of this new field.

III. SUI GENERIS DEFENSIVES

Reductionist explanations of religion, of course, are nothing new— thinkers going as far back as David Hume have posited naturalistic accounts of religion by appealing to underlying mental causes.[30] Reductionist theoretical models enjoyed the highest circulation in the nineteenth century, in part due to the intellectual currency of the physical sciences, which relied heavily on reductionism, and partly because of the ease with which reductionist models could be applied to a wealth of newly-collected data about exotic cultures. Reductionist explanations characteristically describe complex phenomena as the articulation of a more basic set of causal relationships. For example, the blooming of a flower might be reduced to the biological operations of cells, and the operation of cells might be further reduced to the language of chemistry or physics. Although a certain amount of reductionism is a methodological inevitability in any field, including religious studies (even comparative religion requires the use of basic categories), the 19th and 20th centuries saw particularly reductionist intellectual projects. Scholars including Marx, Durkheim, Freud, and Frazer attempted to reduce religious beliefs and practices to single causes, such as economics, society, psychology, or faulty human reasoning.[31]

The popularity of these reductive theories of religion, paired with the rise of positivist beliefs in the inevitable triumph of science over religion, lead a number of 19th

---

[30]David Hume, *Dialogues* and *Natural History of Religion* (Oxford: Oxford University Press, 1993).
[31]For an overview of the turn towards naturalistic explanations, see J. Samuel Preus, *Explaining Religion* (Atlanta: Scholars Press, 1996).

and 20th century scholars to defend religion as irreducible to materialistic explanations. Many such scholars, including Max Müller and Mircea Eliade, conceived of religion as *sui generis*, or unique and self-caused. Advocates of the sui generis approach argued that religion is irreducible to economics, psychology, sociology or politics, and that the unique nature of religious culture and experience merits autonomous discourse and expertise. During the 19th and 20th centuries, sui generis defenses of religion were both intellectually fruitful and tactically useful: comparative religion and the phenomenology of religion both found justification in the claim that religion was irreducible to material explanations; and the claim that religion is a unique dimension of study, as irreducible as "humanity" or "consciousness," was instrumental to the establishment of Religious Studies as a discipline. The splintering that began in the nineteenth century between those who studied religion "scientifically," via reductionism, and those who defended it as sui generis was as much a product of their disparate methodologies as it was of self-identification. Both groups benefited from what is often described as the "conflict model" of religion and science. The notion that religion and science are fundamentally at odds motivates and fuels both scientific positivism, which assumes that, in such a contest, science will ultimately win, and sui generis holism, which pits ever-expanding, hegemonic science against religion and the sacred.

As useful as it might be for certain intellectual projects, the notion of a "war" between science and religion has been undermined on a number of fronts. It is widely perceived by historians of science to be an inadequate historical tool, "so blunt," in Colin Russell's words, "that it is more damaging than serviceable."[32] The conflict model

---

[32]Colin A. Russell, "The Conflict of Science and Religion," in *Science and Religion: A Historical Introduction*, ed. Gary B. Ferngren (Baltimore: John Hopkins University Press, 2002), 8.

overlooks and obscures the diversity within, and overlap between, science and religion. It ignores, for example, that religious elements were integral to the early modern study of nature in England, where natural history was frequently pursued from religious motives, based on religious presuppositions, and internally ordered according to theological principles of design. The conflict model also casts religion and science as not only oppositional, but bounded and self-sufficient institutions. This overlooks the fact that, like any social institution, both religion and science incorporate practices involving imported knowledge. Religious traditions often involve annual cycles of rituals coordinated with the solar year, and must therefore have recourse to astronomical knowledge; scientific communities have a long history of modeling aspects of religious practice, such as the use of "witnessing" to establish the public character of early experimental science.[33] In short, the conflict model entails a systematic purification of two heterogeneous and entangled entities.

Nonetheless, the conflict model persists today for this very reason. It is an efficient, useful tool for any intellectual project that requires a purification of these entities. The conflict model can be found in positivistic scientific accounts of religion, which can tap the explanatory inertia of scientific progress for their own purposes. It is also present in contemporary sui generis defensives, which draw out of the conflict model the reifications necessary to stage a final last-stand. In the biocognitive subfield, two such defensives stand out in particular: Lluis Oviedo's "Is a Complete Biocognitive Account of Religion Feasible?" and William Grassie's "The New Sciences of Religion." Both authors share similar motivations, goals, theoretical gestures. In "Is a Complete

---

[33]Richard G. Olson, *Science and Religion, 1450-1900* (Baltimore: Johns Hopkins University Press, 2004), 4-5.

Biocognitive Account of Religion Feasible?" Lluis Oviedo attempts to lay out the

boundaries of biocognitive accounts of religion by analyzing their epistemological

foundations. Oviedo begins with a summary of "the results so far," an impressively

broad, if clunky gathering of discoveries and research agendas in contemporary CSR.[34]

Oviedo is perhaps clunky on purpose— by listing the "achievements" of biocognitive

research he is able to draw selectively from distinct research programs, and thereby

gather together a series of theories and methods that don't seem to fit with one another.

The result is a cacophonous, fragmented series that seems to lack any conceptual unity

other than a shared reductionism. Oviedo's summary is followed by a series of

pinpointed attacks on specific theoretical assumptions within these propositions,

including, for example, the domain-specific modular mind of cognitive science and

evolutionary psychology.[35] Oviedo's criticism here is not a focused dismantling: his

chief method for indicating weaknesses in CSR is to pair theoretical assumptions with

critiques made by other cognitive "insiders." For example, Oviedo counters the modular

mind by briefly summarizing philosopher and cognitive scientist Jerry Fodor's skepticism

about the presence of "central processors" in the brain.[36] This is Oviedo at his least

comfortable, and his least creative—it is not until his last section, "User Instructions,"

that Oviedo begins to play. Here he draws a number of conclusions about how cognitive

science ought to operate, and what boundaries science cannot cross. These instructions

---

[34]Lluís Oviedo, "Is a Complete Biocognitive Account of Religion Feasible?" *Zygon*, 43, no. 1, (2008): 107-110

[35]Oviedo, "Is a Complete Biocognitive Account of Religion Feasible?" 111-112.

[36]Oviedo, "Is a Complete Biocognitive Account of Religion Feasible?" 112.

(directed towards biocognitive sciences) include a call to interdisciplinary fairness and a ban on ever-extension outside the proper domain of science.

In "The New Sciences of Religion," William Grassie attempts a similar division between religion and science, but does so by mobilizing the "insider/outsider" division for the study of religion. Studying religion from the "inside," he argues, deals with holistic questions about the "self, society, and cosmos," where studying it from the "outside" involves naturalistic and reductive theories that cannot exhaust the complexity religion's inner circle.[37] This division establishes a barrier that biocognitive science can't cross, and thereby defends religion as irreducible. Grassie also summarizes CSR findings, spending the most time on the hyperactive agency detection device, and then employs a handful of thought experiments to undermine the explanatory potency of "outside" cognitive theories. Like Oviedo, Grassie is the most creative and energetic when he is grappling at the boundaries between religion and science; he is particularly fond of lengthy hypothetical scenarios that demonstrate biocognitive science's epistemological limitations or self-refuting claims. Whatever the stakes might be for the actual truth value of Oviedo and Grassie's claims, they have created strikingly similar discursive constellations. The fact that Grassie and Oviedo share a similar site of play—that both authors attempt to delimit the explanatory domain of scientific reductionism at the border of religious cognition—makes this staging an attractive site for topological investigation.

A key similarity between these authors is that they both use the conflict model to establish purified entities that can be opposed and evaluated. This is particularly apparent in their depictions of science, which Oviedo and Grassie characterize as an invasive force

---

[37]William Grassie, "The New Sciences of Religion," *Zygon,* 43, no. 1, (2008): 129 and 140.

that, if not properly guarded, has the potential to overrun its boundaries and contaminate

other domains, like religion. Both authors share the goal of making a viable enemy out of

the sciences, one that is a sufficient threat to religion, but which is ultimately defeatable.

To this end, Grassie and Oviedo employ two conceptions of science strategically,

depicting it as both a *tool* and an *agent*. One the one hand, the authors describe science

as an active, self-animated agent, which is driven to naturalize any and all phenomena in

its purview. Oviedo argues that in order to protect religion, we need to "make science

admit transcendent causes" and establish a "statute of limitations" around the study of

religious cognition.[38] In Oviedo's formulation, science is a powerful, autonomous entity

that can be singled out and forced to admit its limitations. Grassie, too, argues that

barriers need to be constructed between science and religion in order to defend against

scientism, which he defines as science's deeply entrenched aim to "replace religion with

a scientific and rational view of the self, society, and cosmos."[39] Grassie and Oviedo

both depict science as an active force in need of taming. The benefit of this temporary

purification, which renders science singular and aggressive, is that it resonates with the

commonly-held belief that science and technology are outpacing important human

values. The atomic bomb, stem cells, and cloning all seem to point to science's lack of

normative considerations or moral boundaries. "Science gone wild" also plays into a

dominant theme throughout both texts: that religion needs defending. Since the central

project of each author is to establish defensive barriers around religion, they both find

purchase in portraying the enemy as vast, autonomous, and unwieldy. Furthermore, this

reification of science actually makes an overwhelmingly difficult project seem much

---

[38]Oviedo, "Is a Complete Biocognitive Account of Religion Feasible?" 104.

[39]Grassie, "The New Sciences of Religion," 132.

more tenable: to convince every cognitive scientist, evolutionary psychologist, and layperson to abandon reductionist or scientific interpretations of religion would be impossible, but making "science" admit its limitations seems quite simple. By describing science as an agent, Grassie and Oviedo both construct a monstrous, but singular enemy.

Where the agent formulation depicts science as a singular cultural force that animates individuals, institutions, and resources, the *tool* view takes it to be an inert, predictable, and controllable set of techniques and procedures. Both authors shift between these two conceptions of agency, and in the latter science is usually portrayed as a weapon of choice for those individuals who want to attack religion. Grassie has a particularly dire vision of this potential. Science, he argues, is inherently opposed to religion, and modern research universities, which were "founded with an explicit agenda of getting rid of religion," provide a host of tools for religion's "intellectual despisers.[40]" Here science is not a force, but a resource that is too often deployed in anti-religious warfare. Oviedo, too, describes science as a basic method. In calling for science to be contained from religion, he repeatedly describes science as "productive," so long as it "limits its application to its own field.[41]" Oviedo goes so far to describe science as one player within a larger epistemological game, equal in stature to any other discipline, despite its tendency to try and be both player and referee at the same time.[42] Oviedo strains to fit his ominously-conceived science into the metaphor of a "fair game" for good reason—if discourse is a procedural matter and science is one of many techniques, then the challenge of science can ultimately be met so long as everyone follows the rules. The

[40]Grassie, "The New Sciences of Religion," 134, 136.

[41]Oviedo, "Is a Complete Biocognitive Account of Religion Feasible?" 120.

[42]Oviedo, "Is a Complete Biocognitive Account of Religion Feasible?" 105.

same goes for Grassie's portrayal of science as a weapon. So long as we consider science one of many types of epistemic instruments, to be wielded within an agreed-upon domain of operations, we can take individual users to task for breaking certain implicit agreements. This conception of science, as a tool or instrument used within a game, is effective for a number of reasons. Where the agent formulation mystifies and reifies science in order to justify defenses of religion, the tool formulation simplifies science to a brute procedure whose presence in social institutions is contingent upon individual practice. By casting science as a procedure within a larger set of rules, Oviedo and Grassie imply that there exists some meta-epistemological rulebook wherein the value of religion has already been established. Finally, by positing science as one of many kinds of knowledge-tools, both authors attempt to level scientific knowledge to a more humble position amongst other discourses.

There are indeed valid and persuasive ways of describing elements of science as both practical, at the level of methods and technologies, and as active, in the same way that any social institution can be said to exhibit agency. Oviedo and Grassie both draw on these elements simultaneously to construct a purified version of science that is, on the one hand, a dangerous and unwieldy force and, on the other, a brute procedure associated with epistemic chicanery. The passion and care that each author takes in doing so speaks to the difficulty of their larger project. Both authors need science to be many things at once: powerful and defeatable, hegemonic and subservient, singular and diffuse, monstrous and mundane. They need a many-headed monster that can also be tamed, and only by oscillating between tool and agent can they accomplish this. After stabilizing biocognitive science as overreaching, both authors attack it with the same weapon: the

accusation of self-refutation. This argumentative strategy, which attempts to show that a fully extended biocognitive science will ultimately destroy itself, is called the "you too" argument.

The "you too" argument is a common tool in theological and sui generis rejoinders to naturalistic and reductionist accounts of religion.[43] It usually operates by isolating some element of an atheistic polemic or naturalistic theory and then turning it onto itself. Thus, following one of Barbara Herrnstein Smith's examples, a priest may accuse an atheist, too, of mindlessly conforming to received ideas.[44] In theological arguments, Herrnstein Smith argues, "the charge is often produced as a *coup de grace*, exposing… an implicit self-accusation and, with it (or so it is maintained), a conclusive self-refutation."[45] In sui generis defensives, the "you too" argument usually amounts to reducing science itself to a naturalistic account of evolutionary biology or cognitive architecture. Both Oviedo and Grassie employ this argument in their attempts to reign in scientific accounts of religion, and but for descriptive purposes we will focus on Oviedo's use of the strategy.

Towards the end of "Is a Complete Biocognitive Account of Religion Feasible?", where he is most polemical and creative, Oviedo offers the "you too" argument as an obvious indicator of science's limitations. The "notorious case of paradoxical inclusion," as he deems it, tells us that even "biocognitive science may be deconstructed as a survival strategy and as a by-product of other cognitive domains… Cognitive science cannot settle

---

[43]Herrnstein Smith, *Natural Reflections*, 22.

[44]Herrnstein Smith, *Natural Reflections*, 22.

[45]Herrnstein Smith, *Natural Reflections*, 23.

what ultimately stands and what falls without risking self-destructive consequences."[46]

Here is Herrnstein Smith's *coup de grace*—a demonstration of biocognitive reductionism's self-refuting contradiction. The goal of Oviedo's "you too" argument is to temporarily allow for a radical naturalization of human knowledge and culture (which he understands biocognitive science to be seeking), and then show that science could not exist in such a world. "You want to reduce religion to cognitive materialism?" the "you too" argument taunts, "Well you'll have to reduce your precious rationality and scientific inquiry as well. No one escapes the biocognitive reduction!"

Although this argument does establish that it would be contradictory for a biocognitive accounts of religion to claim some ultimate truth unadulterated by cognitive mediation, it does so by hypothetically leveling all domains of knowledge and forfeiting religion as unique or sacred, and this relativist perspective haunts Oviedo's essay. Late in the piece, Oviedo laments the double standard that, of our numerous evolved cognitive operations, only religion seems to be denigrated. He concludes that "religion's being a by-product of evolution does not necessarily mean that it is useless or even harmful; it can… at least can play a function of positive value for the entire species or for many of its members—as happens with art, for example."[47] Here Oviedo has found himself in a position of relativism, where religion is striving for the social status of art. This is an odd moment in his essay, and it is abandoned quickly, but it illustrates the double-edged nature of the "you too" argument. The fundamental premise of argument is that Science will want to maintain a hold on transcendent truth. If one assumes that A) religion makes

[46]Oviedo, "Is a Complete Biocognitive Account of Religion Feasible?" 121.

[47]Oviedo, "Is a Complete Biocognitive Account of Religion Feasible?" 121.

unique truth claims which reach beyond our embodied cognitive, cultural, political, and social practices, and that B) scientific theories of religious cognition undermine those claims while simultaneously making their own transcendent truth claims, then the "you too" argument should have scientists of religion running to the hills in order to protect their vaunted access to that reality beyond human perception and linguistic constructs.

The problem, though, is that science may not retreat. As Barbara Herrnstein Smith argues, the claim that scientific knowledge is itself a product of evolved cognitive tendencies does not dispute the operational validity of scientific techniques.[48] If science doesn't retreat, the "you too" argument leaves the sui generis defensive in an unintended place. Why would Oviedo, in the middle of a defense of religion's uniqueness, momentarily gives up the sacred and compare religion to art? Because his "you too" argument temporarily surrenders religion's unique truth-claims in order to entertain a world where science can no longer exist. The entire "you too" strategy depends on a presumably impossible leveling that, if affirmed, would actually undermine any claims to sui generis status.

The twisted logic of the "you too" argument, and the more general project it represents, raises an important question: why are Oviedo and Grassie choosing this battle, and why are they framing it so poorly? There are much more coherent and straightforward means of questioning the explanatory reach of the biocognitive sciences, yet both authors fall into a reified back-and-forth struggle that inevitably overwhelms their defensive projects. The chief mistake of these authors is that they take biocognitive accounts of religion on their own terms, and accept a set of assumptions that they are not equipped to undermine. As we discovered in our tracing of the biocognitive subfield's

---

[48]Herrnstein Smith, *Natural Reflections*, 23.

fecundity, the motor of CSR is grounded in one side of the the ambiguous human doublet: it produces so much by focusing almost wholly on Man in his finitude, and then grasping for religious entities that can be captured in the resulting models.

Oviedo and Grassie miss this nuance, taking CSR to be Science, pure and simple, and then follow their intellectual forebears with a handful of critiques designed to fight 19th century positivism. The two most powerful sui generis strategies— the insider/outsider model and the "you too" argument— both hinge on a separation of religion and science across the chasm within modern Man. The insider/outsider model juxtaposes the formal and empirical sciences of Man-as-object with the humanitarian study of Man-as-subject, and advocates for this unstable differentiation. The "you too" argument points to a contradiction within the transcendental aesthetic— the assumption that the mechanisms of human knowledge can be studied empirically by those self-same mechanisms— in order to subvert any claim to transcendental status. Yet contemporary CSR is not 19th century positivism, as it makes no claims to transcendent status. For this reason, Oviedo and Grassie's most powerful weapons are ineffective, and the purifications and erasures required to hone them are all the more apparent.

A topological investigation of Oviedo and Grassie's sui generis defensives has turned up a few key aspects of contemporary biocognitive discourse. The first is that the conflict model is a useful, but dubious resource for intellectual projects that draw on its purified versions of religion and science. Grassie and Oviedo get a great deal of work out of these entities—they are able, for example, to use the inherent contradictions of a reified science to fuel grandiose demonstrations of its weaknesses. Ultimately, though, the weaknesses of this strategy reveal the fragility of the epistemological ground that

41

these sui generis defensives occupy. Oviedo and Grassie attempt to defend

transcendental claims with a relativist tool, and in Oviedo's case it threatens to undermine

his entire project. Where sui generis defensives have responded to biocognitive accounts

of religion by trying to blockade their growth, another genre has emerged with an very

different aim: to integrate religious studies scholarship into a single representative system

that is modeled on cognitive science.

IV. EPISTEMIC IMAGINARIES

A distinctive feature of recent scholarship on the cognitive science of religion is the tendency for authors to claim unique epistemic status for their projects. Titles like *Breaking the Spell, The God Delusion,* and *Religion Explained* are just a few examples of how recent evolutionary accounts tend to frame their projects triumphantly, as if religion has not been properly accounted for until now.[49] This isn't simply a revival of yesterday's positivism— what distinguishes this genre is not narrow faith in the power of scientific inquiry, but instead a new form of epistemic posturing. Biocognitive authors often begin with an overview of the field of religion, describing it as fragmented or exhausted, and then offer evolutionary or cognitive analysis as a means of centering and unifying a new and improved discipline. Pascal Boyer, for example, begins *Religion Explained* with a review of failed "origin scenarios," and then deliberately weighs the explanatory benefits of his revised form of functional analysis.[50] Throughout *Religion Explained*, Boyer also identifies scientific explanation exclusively with descriptions of underlying causal mechanisms, thereby ignoring a wide range of naturalistic accounts of religion that currently exist outside of biocognitive science.[51] Similar gestures can be

---

[49]Daniel C. Dennett, *Breaking the Spell* (New York: Viking, 2006); Richard Dawkins, *The God Delusion* (New York: Mariner Books, 2006); Pascal Boyer, *Religion Explained: The Evolutionary Origins of Religious Thought* (New York: Basic Books, 2001).

[50]Pascal Boyer, *Religion Explained*, 25-27.

[51]As Barbara Herrnstein Smith has pointed out, this reflects outdated views of science, once based largely on the particular explanatory modes of the physical sciences (astronomy, physics, and chemistry). See Herrnstein Smith, *Natural Reflections*, 37-38.

found in the works of Susan Blackmore, Richard Dawkins, and Daniel C. Dennett, who all frame an all-or-nothing choice between their specific explanatory strategies and non-scientific accounts of religion, generally conceived.[52]   This widespread discursive theme—the call for *new religious systems*—involves a number of shared strategies, assumptions, and epistemic ideals. By far the most sophisticated scholarship in this direction has come from Ann Taves, a religious studies scholar who has recently turned to evolutionary and cognitive frameworks for thinking through methodological issues in the study of religion. Taves' vision is most clear in her 2010 Presidential Address to the AAR, which headlined that year's focus on Religion and Science. In "'Religion' in the Humanities and the Humanities in the University," Taves differentiates between those discourses that are oriented around subject matters and those that focus on specific levels of analysis, and then calls for a refined, multi-level study of religion centered on the "processes of valuation" involved in religious systems.

In her presidential address, Taves takes as a starting point a well-known difficulty that scholars of religion face: "the historical instability of our object of study."[53]   There exist no essential markers constituting the boundary of religion; as an intellectual category it always has been (and always will be) historically situated and culturally constituted. For too long, she argues, scholars have tried to get around this ambiguity by offering temporary, stipulated definitions that stabilize their objects of study. This is a common three-step move in religious studies scholarship: one adopts a theoretical method from another discipline, tentatively defines religion in such a way that it is

---

[52]See, e.g. Dennett, *Breaking the Spell,* 29-53; Susan Blackmore, *The Meme Machine* (Oxford: Oxford University Press, 1999): 202-3; Dawkins, *The God Delusion*, 51-59.

[53]Ann Taves, "2010 Presidential Address," *Journal of the American Academy of Religion* 79:2 (2011): 291.

receptive to this theoretical apparatus, and then enacts a borrowed procedure on this newly-stabilized object. The problem with this method is that the ambiguity of religion isn't being fully accounted for, and so the products of this procedure run the risk of retroactively depicting religion as something that conforms wholly to a specific theoretical model. Taken to an extreme, this practice could make for a hollow discipline, whose principle object of study can only be viewed through borrowed lenses. Against this dire vision, Taves maintains that scholars of religion ought to embrace the instability of religion, and offers a new mode of analysis that promises to turn the presumed weakness of religious studies into a strength. The foundation of this future-facing project is in a particular distinction, between "subject-oriented" disciplines and disciplines that are defined by a "level of analysis."[54]

For Taves, subject-oriented disciplines like political science, religious studies, and art history, are all defined by their object of study.   Since objects like religion and art don't yield to any single, obvious means of study, disciplines like religious studies are "raider disciplines" that borrow their theories and methods from other discourses.[55] Thus political science borrows from statistics, philosophy, sociology, and other fields in order to investigate "politics" in its various instantiations. In contrast, certain other disciplines are defined levels of analysis, which Taves lists in order of magnitude: Particles (studied by Physics), Molecules (studied by Chemistry), Cells and Organisms (Studied by Biology, and also Chemistry), Individuals (studied by Psychology, and also Biology), and

---

[54]Taves, "2010 Presidential Address," 289.

[55]Taves, "2010 Presidential Address," 289.

Groups and Societies (studied by Sociology).[56] Where Taves lists subject-oriented

disciplines loosely, implying that there are a wide variety of them, she catalogues the five

levels of analysis deliberately, including a vertical graph of their orientation.[57] Taves

also ascribes cultural differences between the humanities and the sciences to this

differentiation: where subject-oriented disciplines incorporate a diverse variety of

methods, but lack a shared conceptual vocabulary, "biologists, psychologists, and

sociologists have the luxury of shared conceptual approaches and levels of analysis… but

they typically are not trained to work across disciplines." Taves is effectively redrawing

the traditional line that separates the "objective" sciences and the "subjective"

humanities, appealing to their objects of study instead of, for example, their essential

constitutions.

This particular division—between the cross-disciplinary but fragmented

humanities and the unified but insular sciences— establishes the ground upon which

Taves' epistemic posturing will rest. It is, therefore, important to map out the discursive

mechanics involved in her purifications of the "subject-oriented" and the "level-of-

analysis-oriented." For Taves there exist in the universe more or less coherent levels of

analysis, from particles to cells to societies, and disciplines have emerged to study those

levels using the more or less stable methods and conceptual vocabularies suited those

levels. We tend call those disciplines the sciences, and we distinguish them for the

conceptual cohesiveness that they enjoy. In our messy and complex world, however,

there are also phenomena that occur simultaneously at multiple levels, such as art,

religion, or sexuality. Phenomena that occur at multiple levels require different sets of

---

[56]Taves, "2010 Presidential Address," 290.

[57]Taves, "2010 Presidential Address," 290.

conceptual vocabularies. Religion, for example, can be explained with theories and

methods oriented at the cellular, individual or group levels. The purifications involved in

Taves' division are effective— they posit an ontological ground for the surface

differences between the sciences and the humanities, and do so without falling into the

dual traps of scientific positivism or transcendental holism (e.g. an inside/outside model).

They also offer a theoretical model for describing the recent turn in religious studies

towards the ambiguity of religion. As Taves demonstrates admirably in an overview of

recent scholarship, the constitution of subject-centered disciplines like "religion" requires

constant work of differentiation and purification in order to gerrymander the ontological

borders of complex multi-level phenomena.[58]

　　Of course, Taves' division also involves its own constructed unities. Taves takes

as "levels of analysis" those ontological planes posited by select sciences, and this

requires two erasures. First, it ignores scientific discourses like biophysics and ecology

that complicate this picture of discrete explanatory levels. The sciences are themselves

home to conceptual discordance and fragmentation, and to overlook this Taves must be

selective when constructing her vertical system. She chooses Physics, Chemistry,

Biology, Psychology, and Sociology because they each seem sufficiently far away from

each another, without being so far dispersed that a rogue phenomenon might slip through

the cracks.[59] Second, Taves takes for granted the accuracy and transparency of the

sciences that posit these levels of analysis. In Taves' model, the cellular/organismic level

exists *in the world*, discrete and autonomous, and was only recently discovered by

---

[58]Taves, "2010 Presidential Address," 295-303.

[59]What other selection criteria, after all, would fold sociology in with the sciences?

biology. This is far from given, and it runs against trends in contemporary philosophy of science that view such levels as discursive products themselves, constituted in specific historical, social, and cultural networks.

Considerable energy is required to differentiate subject- and level-oriented disciplines, and Taves does this for a reason: she maintains that the current intellectual crisis in religious studies is the result of its not coming fully to terms with its status as a subject-oriented field. As it stands, she argues, scholars of religion are simply borrowing theories and methods from other disciplines, thereby turning religious studies departments "into fragmented microcosms of the larger university."[60] To correct this misstep and reunite the discipline, Taves proposes a new system for orienting the study of religion. Religions, she argues, should be construed as "systems of valuation that people call upon consciously and unconsciously when making claims regarding what happened, what caused it, and whether or why it matters."[61] They are, in other words, more or less coherent ways of giving meaning to the world, and religious studies scholars are uniquely suited to investigate the various processes whereby things are given value. The benefit of studying of "systems of valuation," Taves argues, is that the evaluative process can be studied from different levels of analysis. Where the study of "religion" has led to fragmentation, the study of "systems of valuation" is presumably generic enough to center a multi-level study of evaluative processes. "Systems of valuation" may seem quite vague, but there is a trick to studying them systematically: one must analyze these systems across two different registers: "diachronic" and "synchronic" levels.

---

[60]Taves, "2010 Presidential Address," 293.

[61]Taves, "2010 Presidential Address," 292.

Where diachronic analysis traces events historically through evolutionary time (e.g. from the origin of cells to the evolution of organisms to the formation of complex societies), synchronic analysis investigates the present from micro- to macroscopic levels (e.g. from cells to organisms to social institutions).[62] Presumably these two registers of analysis overlap, and can be simultaneously applied to any religious phenomenon. Thus a burial ritual, to be better understood as a "process of valuation," might be studied diachronically with attention to animal behavior, the evolutionary environment of our ancestors, and a local history of specific practices; it could also be studied synchronically with attention to the neural activities of participants, their self-reporting about the meaning of burial rites, and a functional analysis of group practices. What unites diachronic and synchronic levels is a kind of embodied history: we are composed of cells that have evolutionary histories, use psychological mechanisms that once evolved in specific environments, and participate in a culture that itself has developmental features. By disentangling and ordering these levels, Taves is able to accord specific tasks to the fragmented lot of scholars who take religion as their object of study. One could imagine, for example, a Coalition for the Study of Spiritual Purity: Diachronic Division, where historians , anthropologists and evolutionary biologists work to fill shared timeline of evolutionary and cultural events. Meanwhile, over at the Synchronic Division, neuroscientists are mapping the brains of religious practitioners faced with impure objects. The chief value of this organizing system is its overlapping framework: rotting vegetables have their place in the Diachronic Division (a part of the environment that our ancestors had to negotiate) and in the Synchronic Division (in the evolved pollution detection system that can also misfire). By harnessing existing disciplines into a unified

---

[62]Taves, "2010 Presidential Address," 293-295.

conceptual system, Taves argues, we can give order to our diverse subject-oriented work and, perhaps most importantly, establish collaborative efforts outside the humanities.[63]

The central theme of this epistemological vision is that the sciences have achieved a conceptual harmony that the humanities can approximate. The sciences serve as a persistent foil to the "highly fragmented and diversely aligned" humanities, allowing Taves to juxtapose the two at the level of intellectual history and university culture.[64] Thus the humanities were the last university curriculum to "coalesce," whereas the neo-Darwinian research programs of the 20th century "consolidated" and then "synthesized" various scientific breakthroughs.[65] In Taves' picture, the sciences move like animals— digesting and metabolizing according to specific short-term goals— where the humanities spread unpredictably, like fungus or an oil spill. For Taves, this needn't be the case: the fragmented trajectories of humanistic disciplines are due to their rote importation of level-oriented methods to solve subject-oriented problems. Another driver of the humanities' fragmentation, which Taves emphasizes and works to overcome, is the cultural gap between the sciences and the humanities. Even if we were to align subject- and level-oriented disciplines through Taves' restructuring, one might argue, the deep-seated differences between humanists and scientists will continue to block collaborative efforts. Taves' strategy is to, on the one hand, carefully recognize differences in habits of thinking and, on the other, show that the sciences and the humanities are in fact doing very similar kinds of work. Before discussing evolutionary accounts of religion, for

---

[63]Taves, "2010 Presidential Address," 308.

[64]Taves, "2010 Presidential Address," 297.

[65]Taves, "2010 Presidential Address," 297, 303.

example, she emphasizes that she is taking off one disciplinary "hat" to put on another.[66] She pauses again, mid-analysis, to acknowledge that she has crossed the "humanities-sciences divide," and remind us that she is doing it carefully.[67] After having crossed the divide, Taves outlines two examples of how cognitive science might form the basis of a diachronic/synchronic model of religious phenomena. Using an elegant hybrid vocabulary, Taves demonstrates that, in the cases of mother-infant relations and play, complex cultural activities seem to be "layered on top of more basic processes," that cognitive science can describe.[68] For Taves, a properly aligned religious studies will not only model science's conceptual unity, it will also be more receptive to its discoveries.

Taking a step back to consider the larger context of Taves' intellectual efforts, something immediately stands out as curious about the contemporary arrangement of the biocognitive subfield. To briefly recap where we have been: within the vast and diverse landscape of Religion and Science, biocognitive accounts of religion are growing rapidly. The fecundity of this subfield is in part due to the kind of work being done there, the rapid coupling of biocognitive methodologies to various entities considered "religious." This metabolic process of incorporating individual religious things into biocognitive models is made particularly efficient by the makeup of cognitive science, which centers itself on the computational brain, and then ascribes mental phenomena to various levels of processing. Biocognitive accounts have met resistance in the genre of sui generis defensives, which mobilize old tools for critiquing scientific positivism, but these attacks failed due to a misjudgment of the contemporary epistemological landscape. Within this

---

[66]Taves, "2010 Presidential Address," 303.

[67]Taves, "2010 Presidential Address," 305.

[68]Taves, "2010 Presidential Address," 307.

setting, this minuscule corner of Religious Studies as a whole, Taves is recombining elements anew. Her new religious system is another call for unity, an update of Classical *mathesis* and the dream of a coherent order of knowledge. This epistemic imaginary plays on familiar reifications of science and religion, but reorganizes them into a new system, across a different set of axes. Having pushed on this system to get a sense of its construction, the immediate question that we face is a simple one: Why? Why did Taves invest so much energy to invite collaboration between science and humanities, when the last decade has seen unprecedented growth in this intersection? Why would someone so savvy in their considerations of one science do so much work to oversimplify and pigeonhole others? Finally, and most importantly, why is Taves so concerned for the future of religious studies? Why is fragmentation and borrowing such a bad thing?

These questions highlight Foucault's analysis of Man and the human sciences. The primary energy source of Taves' wobbling, quixotic project is the perilous status of the human sciences. The human sciences, including religious studies and cognitive science, are bound to a liminal status within modern knowledge because they borrow tools from mathematics, empirical sciences, and philosophical reflection. The reason for this is that the subject of their study— the ambiguous human doublet— has filled the void of Classical representation by standing in as a fully-knowable foundation of all knowledge. The only way to consider this entity within the confines of modern discourse is to isolate it from one side at a time— to speak both at once leads us down an endless rabbit hole, or has us walking perpetually backwards. This impossibility of the current form of Man is only made more clear by the biocognitive event, and how rapidly contemporary discourse (in the form of debates, triumphant claims, and future-visions)

has lined the chasm that lies at the heart of the human sciences. Under the calm of

Taves' system building lurks a fear that the ground is shifting, and that the artificial

divides that inform our contemporary categories of religion and science are about to fall

apart. In her denigration of the "raider discipline" and her elevation of the pre-existing

level-of-analysis, Taves seems to be sheltering herself in the cognitive by working on it

and making it more stable. What is her "system of valuation" but a life raft, a means of

anchoring the sciences and the humanities onto psychology, their only plausible center?

Some Concluding Remarks

Intellectual prophecies are as doomed as they are grandiose, but there is reason to

consider the future of the biocognitive subfield. On the one hand, scientific descriptions

of human cognition are sure to continue. The wave of technological innovations for

studying the brain has not crested, and new information about human social, conceptual,

and experiential cognition will surely offer some insights into the manifold elements that

we associate with religion. Furthermore, we can only expect that, so long as current

divisions between "Religion" and "Science" are maintained, there will be interested

parties capable of battling over these knowledges, especially if the Man-form is still a

tool at their disposal. On the other, there is reason to expect that so many of the divisions

that currently ground the biocognitive subfield— between Religion and Science, Man-as-

subject and Man-as-object, scientific and humanistic discourse, transcendental truth and

perverted falsehood— are themselves waning, given the broad trajectory of intellectual

history over the last thirty years. If the biocognitive event was in large part informed by

these divisions, what would it look like after Man's inevitable last throes? Time will tell

whether Taves' life-raft, or some other construct, can harness those dissipating forces that have so long been gathered in the forms of Man, Religion, Science, and Truth.

WORKS CITED

American Academy of Religion, *Annual Meeting Program Book*, 2010.

American Academy of Religion, "Past and Future Annual Meeting Dates and Sites."
American Academy of Religion,
http://www.aarweb.org/Meetings/Annual_Meeting/Past_and_Future_Meetings/defa
ult.asp (accessed July 2, 2011).

Atran, Scott. *In Gods We Trust*. Oxford: Oxford University Press, 2002.

Barrett, Justin. *Why Would Anyone Believe in God?* Walnut Creek, CA: AltaMira Press,
2004.

Blackmore, Susan. *The Meme Machine.* Oxford: Oxford University Press, 1999.

Boyer, Pascal. *Religion Explained: The Evolutionary Origins of Religious Thought.* New
York: Basic Books, 2001.

Bulbulia, Joseph. "The Cognitive and Evolutionary Psychology of Religion." *Biology
and Philosophy.* 19 (2004): 655-686

Daston, Lorraine and Peter Galison. *Objectivity.* New York: Zone Books, 2007.

Dawkins, Richard. *The God Delusion.* New York: Mariner Books, 2006.

Deleuze, Gilles. *Foucault.* Minneapolis: University of Minnesota Press, 1986.

Dennett, Daniel C. *Breaking the Spell.* New York: Viking, 2006.

Foucault, Michel. *The Order of Things.* New York: Random House, 1970.

Grassie, William. "The New Sciences of Religion." *Zygon.* 43, no. 1 (2008): 127-158.

Harrison, Peter. "'Science' and 'Religion': Constructing the Boundaries." *The Journal of
Religion.* 86, no. 1 (2006): 81-106.

Herrnstein Smith, Barbara. *Natural Reflections: Human Cognition at the Nexus of
Science and Religion.* New Haven: Yale University Press, 2009.

Hume, David. *Dialogues* and *Natural History of Religion.* Oxford: Oxford University
Press, 1993.

Hunter, Ian. "The History of Theory." *Critical Inquiry* 33:1 (2006): 78-112.

Laland, Kevin and Gillian Brown. *Sense and Nonsense.* Oxford: Oxford University Press, 2002.

Mameli, Matteo. "Evolution and Psychology in Philosophical Perspective," in *The Oxford Handbook of Evolutionary Psychology*, ed. R. Dunbar and L. Barrett (Oxford: Oxford University Press, 2007): 21-34.

Olson, Richard. *Science and Religion, 1450-1900.* Baltimore: Johns Hopkins University Press, 2004.

Oviedo, Lluís. "Is a Complete Biocognitive Account of Religion Feasible?" *Zygon.* 43, no. 1 (2008): 103-126.

Pinker, Steven. *How the Mind Works.* New York: W. W. Norton & Company, 1999.

Preus, J. Samuel. *Explaining Religion.* Atlanta: Scholars Press, 1996.

Russell, Colin. "The Conflict of Science and Religion." In *Science and Religion: A Historical Introduction*, ed. Gary B. Ferngren, 3-12. Baltimore: John Hopkins University Press, 2002.

Shapin, Steven. "How To Be Antiscientific." In *The One Culture: A Conversation About Science*, ed. Jay A Labinger and Harry Collins, 99-115. Chicago: University of Chicago Press, 2001.

Taves, Ann. "2010 Presidential Address." *Journal of the American Academy of Religion* 79:2 (2011): 287-314.