

“The Sacred Depths of Nature”

By Ursula Goodenough

A Review

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<http://mccue.cc/bob/spirituality.htm>

The further the spiritual evolution of mankind advances, the more certain it seems to me that the path to genuine religiosity does not lie through the fear of life, and the fear of death, and blind faith, but through striving after rational knowledge. Albert Einstein

I finished reading “The Sacred Depths of Nature” (“SDN”) this morning, having heard Dr. Goodenough speak at a conference last weekend, and having had the chance to chat with her there. She is one of the world’s leading geneticists, and author of the widely used university text titled “Genetics”. Due perhaps to her father’s influence, both cultural (he was a well known religious studies professor) and genetic, Dr. Goodenough has a life long interest in spiritual matters. SDN is the fusion of her scientific training and spiritual inclination. I quoted Einstein above. He has been one of my primary spiritual guides of late, and his ideas harmonize with Goodenough’s approach. She would doubtless agree with his sentiments regarding science and religion, expressed thus:

“The finest emotion of which we are capable is the mystic emotion. Herein lies the germ of all art and all true science. ... To know that what is impenetrable for us really exists and manifests itself as the highest wisdom and the most radiant beauty, whose gross forms alone are intelligible to our poor faculties - this knowledge, this feeling ... that is the core of the true religious sentiment. In this sense, and in this sense alone, I rank myself among profoundly religious men.”

Dr. Goodenough is one of those rare people who both project a sense of personal power and make those in her presence feel valued and safe. Her book will take a cherished place in my library because she has hit almost directly on the head a number of things that I have been groping toward for some time. And through her I have now connected with a community of people who see things much as I do, and have a similar sense of value and priority. This community of people can be found at <http://www.iras.org> and http://www.metanexus.net/metanexus_online/index.asp.

So, I highly recommend Dr. Goodenough’s book. Reviews that come at it from different perspectives (some more critical than others) can be found at the following links:

- <http://www.americanscientist.org/template/BookReviewTypeDetail/assetid/15648;jsessionid=baa8hO4dy4XQY7>
- <http://faculty.washington.edu/nelgee/literature/bkreview/reviews/goodenough.htm>
- <http://www.scispirit.com/goodenough.htm>

My comments are as follows:

SDN is the single shortest and most lucid big picture analysis of “reality” I have found. Goodenough starts with the big bang and then flips through how life might have come into being and evolutionary theory in a few short chapters. She reviews a lot of material with which I was familiar using novel examples to explain concepts I do not remember grasping before as I now do thanks to her, and breaks lots of new ground for me. The book is well worth reading for its scientific content, and is pitched at a level that is easily understandable for those who like me do not have an extensive science background.

One concept I don’t recall thinking about before is the difference between asexual and sexual life in terms of evolutionary strategy. Asexual organisms (such as bacteria) are immortal in the sense that their genetic essence does not change as they divide. As long as the ecological niche required to support them exists, they simply continue to clone themselves and in that sense are “eternal” beings. Sexual life forms use a different evolutionary strategy that involves changing to adapt to a changing environment. The creation of a new genetic package – a new blueprint – for each individual through the genetic combination of its parents means that each individual is unique. The natural selection process is thus presented with an endless array of different individuals from which to choose those best suited to a changing environment. So, the “eternal” aspect of sexual life forms is their communal genome that continually adapts to its environment. All other parts of each sexual individual is subservient in a sense to this – to protect the unique part of the genome housed in its sperm or eggs until it can play its tiny part in this grand drama.

During the evolutionary dance Goodenough described, small group animals at some point emerged. And from them, about 15 million years ago, emerged apes. And from them, about 5 million years ago, emerged the first “humans”. And from them, a relatively few thousand years ago, emerged humans who could communicate symbolically, and were (or shortly thereafter became) self-conscious much as we are. The ability to communicate symbolically conferred enormous survival and propagation advantages on homo sapiens, and made him also conscious of his individually limited span of life. That is, the very organ (the brain) that became conscious of its own existence became conscious at the same time of its imminent demise. You don’t get one without the other.

Our awareness of both existence and death seems to be responsible in one way or another for much of our religious and artistic inclination. I leave aside for the moment the way in which those who wish to control their fellows harness religion for that purpose. I want to focus on the seeming universal inclinations that make this possible.

We have become conscious of ourselves and our instinctive drive to propagate and survive that are essential for our life form’s evolutionary strategy form to work. This drive is the whispering of our eternal genome. We interpret it as our own immortality. This faint, comforting voice contradicts the death we see all around us and which is essential to our life form. Individual death allows life to dance with our environment, and to display itself in the endless, breathtaking variety that inspires virtually universal reverence in those who become conscious of it.

At the end of each chapter Goodenough includes a section titled “Reflections” in which she outlines the feelings that the chapters contents evoke for her. In many cases I did not identify with her feelings, but those cases in which did made the part of the exercise more than worthwhile.

I particularly liked Goodenough's conclusion, in which she indicated that her reason for being is tied to evolutionary theory – the grand story of existence. She accepts as a given that life is good and should be preserved. That is of course perfectly aligned with our most basic biological drivers. She notes that this impulse causes her to try to understand the nature of our environment and what we need to do within it to get along better as a human race and preserve the biodiversity required for long term existence and enjoyment of all life as to offer. She notes the connection this approach causes her to feel to all life. She makes extensive use of words like “scared”, “spiritual”, “religious” while explaining her feelings. She notes that once we are well grounded in our place in nature, we can enjoy the art, emotion etc. that all religious traditions have to offer – their essential humanness.

I particularly like Goodenough's reference to one of her father's favorite metaphors. As noted above, he was a professor of religions studies who had a conservative religious upbringing, but as life passed became more metaphoric in his understanding of religion. He said, “Life is like a coral reef. We each leave behind the best, the strongest deposit we can so that the reef can grow. But what's important is the reef.”

I am content with my place in the reef; to enjoy life's miracle while it lasts; to learn to pay more attention to the tiny part of the miracle that is before me, moment by moment; and think less about those parts of the future that are beyond my influence.

Two of the reviews I linked above noted that Goodenough's approach is not likely to be satisfying to many theists. I agree. However, for those of us who have found our religious traditions wanting, Goodenough offers a wonderful way to reframe the big picture so as to enjoy certain aspects of our past. I had reached most of the conclusions Goodenough and her colleagues put forward but needed some help to bring things into focus and then begin to think critically about and refine my intuitions. I find tools to do through my interaction with this group.

I also note that some people who leave Mormonism retain more of theistic leanings than do I. I don't say that this is necessarily a bad thing, as long as we do not give ourselves over to the same kind of magical thinking that Mormonism promoted. And I still have trouble finding the brakes on the bus as long as we are prepared to accept any kind of metaphysical conclusions without a measure of testability. For those who are comfortable on buses without brakes of the type I noted, what Goodenough offers may have less utility. For those whose minds run along paths similar to mind, this is a goldmine.

Let me conclude with another reference to Einstein's thought, which sums up much of my feelings with regard to the relationship between science and spirituality.

"The more a man is imbued with the ordered regularity of all events the firmer becomes his conviction that there is no room left by the side of this ordered regularity for causes of a different nature. For him neither the rule of human nor the rule of divine will exist as an independent cause of natural events. To be sure, the doctrine of a personal God interfering with the natural events could never be refuted, in the real sense, by science, for this doctrine can always take refuge in those domains in which scientific knowledge has not yet been able to set foot. But I am persuaded that such behaviour on the part of the representatives of religion would not only be unworthy but also fatal. For a doctrine which is able to maintain itself not in clear light but only in the dark, will of necessity lose its effect on mankind, with incalculable harm to human progress

If it is one of the goals of religions to liberate mankind as far as possible from the bondage of egocentric cravings, desires, and fears, scientific reasoning can aid religion in another sense. Although it is true that it is the goal of science to discover rules which permit the association and foretelling of facts, this is not its only aim. It also seeks to reduce the connections discovered to the smallest possible number of mutually independent conceptual elements. It is in this striving after the rational unification of the manifold that it encounters its greatest successes, even though it is precisely this attempt which causes it to run the greatest risk of falling a prey to illusion. But whoever has undergone the intense experience of successful advances made in this domain, is moved by the profound reverence for the rationality made manifest in existence. By way of the understanding he achieves a far reaching emancipation from the shackles of personal hopes and desires, and thereby attains that humble attitude of mind toward the grandeur of reason, incarnate in existence, and which, in its profoundest depths, is inaccessible to man. This attitude, however, appears to me to be religious in the highest sense of the word. And so it seems to me that science not only purifies the religious impulse of the dross of its anthropomorphism but also contributes to a religious spiritualization of our understanding of life." (See "Science, Philosophy, and Religion, A Symposium", published by the Conference on Science, Philosophy and Religion in Their Relation to the Democratic Way of Life, Inc., New York, 1941)

I find it interesting that Einstein puts such emphasis on the importance of overcoming our personal hopes and aspirations. He refers to these as "shackles". This recalls Goodenough's explanation of the immortality of sexual life forms, including humans, as being only real in a collective sense, and achieved through the very personal hopes and desires Einstein felt liberated from through science.

My guess is that Einstein's "liberation" came as a result of his understanding of the forces that gave rise to his feelings – his hopes and desires. Elsewhere, he writes extensively about how most of mankind is controlled fear, and how religion often improperly uses fear to control people. And Buddhist theory (among other wisdom traditions) teaches that fear and desire are closely related forces that can be found at the root of most human trouble.

I have found that as I understand both how (biological mechanisms) and why (evolutionary and social imperatives) my individual hopes, dreams and fears arise that their influence over me is reduced and their entertainment value is enhanced. When I am moved by beauty, I both enjoy the experience more fully, and am less influenced by it behaviourally than was the case. I give myself more completely to life's tragedies (see <http://home.mccue.cc:10000/bob/documents/rs.an%20agnostic%20in%20a%20foxhole.pdf> for example) and simply accept that experience as part of life.

Overall, this is a great book.

What follows is a lightly edited version of a letter I sent to Ursula Goodenough at her request after I got in touch with her to, among other things, thank her for her book. She told me that she is working on something else along similar lines, and would appreciate hearing frank feedback as to what "worked" for me and what did not in SDN. I do not purport to say what is good or bad about the book – as is clear from what I have already written here, I think it is a great book. But some parts of its were more moving for me than others. This letter is likely to be of much more use to those who have read the SDN and wish to plumb its depths.

June 11, 2005

Ursula:

I have some time to think and read today, and so will finish what I started the other day for you. As I started to read, I found ideas that called for a re-write of what I sent a few nights ago, so I have started over and will send a blackline from what I sent earlier so that you can find the changes to the earlier message easily. It seems that I can't re-read anything without re-writing.

Thanks for your note the other day. I hope I didn't upset some of the regulars on the IRASRN listserve, and I obviously agree with your point of view. The idea that we should "just live" is far too simple in my view, as is the posited distinction between "intellectualizing" and "living".

Here is the analysis you asked for regarding your book. I will refer to it as "SDN".

As I have already told you, I think it is a fantastic work. It touched me deeply, but some parts much more than others. It provided much more than I ask for in a book. I would say the same thing of Robinson's "Gilead", which you will enjoy if you haven't already read it. But in that case most of the first 2/3rds of the book dragged (beautifully dragged perhaps - the prose was lovely but a great description of the pedestrian only takes me so far) and the last third held me spellbound. Robinson there used her descriptive guns on issues that for me are of central importance with regard to how we come to know things, and how that process puts stress on important relationships.

As I noted in my message to the list the other day, how we are affected by a book is in my view mostly a function of the nature of the information we have processed before happening upon the book, and how we have processed the prior information. Your book would have left me cold several years ago as a result of the headspace created by my Mormon conditioning. I read your book at a time when it helped me to synthesize a lot of science and evolutionary theory reading I had already done, and to connect it to some of my spiritual leanings. For me, parts of it were the right thing at the right time.

I am sure most of what I am about to say will not be news to you, but since you asked I will tell you what I think and hope that this may help you to synthesize your thoughts in some way.

If you are going to write another book, I would suggest that you decide which of two groups you are trying to reach. The basic distinction I have in mind is between those who have already lost their magical thinking, and those who have not. SDN was great for those who have already adopted a naturalistic mindset. And it would help to make that paradigm more understandable for those who lean that way, and to connect it to the instinctive spiritual foundation I think most people have. There are all kinds of things you could write for that market. The "emergence" concept is full of ideas in that regard, for example.

Let me suggest that the other market - those who have not yet deep-sixed their magical thinking - is the more important of the two. These folks are the dangerous ones, and have the most to gain both from their own points of view and from society's if they can cross the Rubicon to naturalistic thinking. I have some ideas as to how to reach at least some of those in this group, but don't have time to lay that out here if I want to get to the main purpose of writing this for you. So, if you are interested in this, we can discuss it another time.

Let me get to the main point. Which parts of your "reflections" moved me, and which did not? Remember, I am a naturalist who already knew a reasonable amount about the scientific end of

things, and who is deeply suspicious of anything that smacks of the magical as a result of my experience. With that in mind, let's go through the book chapter by chapter.

First, I thought that the format was brilliant - the alternation between the objective and subjective. That works on all kinds of levels. For those of us who are not scientists, the subjective felt like a "rest". This alone made it attractive. And, it helped to put flesh on science's bones. It reminded me a little of Godel Escher Bach in that regard. Given what I have been reading lately about how various parts of the brain engage differentially when we process emotional and intellectual matters, it does not surprise me that a literary experience that includes both strong elements from each of those camps feels richer than one that is focussed primarily on either of them.

Chapter One

I thought you might here have put a bit more emphasis on the empirical world's inherent uncertainty. I know this is a big issue, but you deal so deftly with other big issues that I would have liked to see you tackle this one.

There is no line, as you know, between the "known" and "unknown". All we have to work with in this regard is probabilities, and in my experience the bottom of the pool is hard to find even where it appears the most shallow. See for example Peter Godfrey Smith, "Theory and Reality: An Introduction to the Philosophy of Science".

I have, however, read some things that lay out the hierarchy of certainty in the sciences in ways that make sense to me. It is humbling to understand how resistant groups of humans have proven to be over long periods of time toward phenomena that were demonstrably quite certain and were eventually accepted as our best understanding or reality. The pattern of this behaviour is clear enough that in my view it demonstrates certain soft spots in our ability to perceive evidence. Ideas related to what I just said, from my point of view, are an important foundation to the entire story you told so well. And, this is the central issue for those who retain magical thinking. Their brains are, in most cases, compartmentalized. They use naturalistic thinking for most things, but do not do so when it comes to religious issues. Hence, epistemology is for them a crucial issue.

There are lots of books that attempt to naturalize the religious experience. I think a great book could be written to explain in naturalistic terms why devoutly religious people in the traditional sense have experiences that are very similar to those of nature worshippers, agnostics and atheists, and what the differences between those experiences are. Your ability to describe complex phenomena is such that it would be fascinating to see you take a crack at this.

Evolutionary theory will be central to this story. We are small group animals. We, historically, depended on the group for survival. Fitting into our dominant group was therefore an essential survival skill. I posit that our subconscious developed the ability to suppress information that while accurate, would threaten survival by compelling us to act "rationally" were we to become aware of it. For example, were we aware that the alpha male in our group might be having sex with our mate, or that the set premises on which our group's authority structure was based was bull shit, we might take actions that would threaten our survival or that of the group.

I was deeply moved by your reflections at the end of this chapter. I wondered if the angst you felt regarding the universe had to do with the fact that you have not come to know it as you have our biological world. Einstein speaks with the same warmth regarding physics as you do

regarding biology. It is his home. I think there is something to this. Fear usually goes down as familiarity goes up.

But in any event, I am like you. The sweep of the universe, or even the history of our Earth's climatic shifts relative to this mere intake of cosmic breath that supports us, still makes me shiver at times. However, this also makes me grasp the present as never before. It is a little like I imagine mankind becoming conscious of both self and the eventual extinguishment of self was - a revelation that simultaneously scared the hell out of us and made us weep with joy at life's sudden, miraculous, beautiful appearance. We can't seem to have one without the other. While I was focused on the afterlife benefits promised by my particular magical view of existence, I was anaesthetized to the life that now courses through me.

This draws my attention back to the basic dichotomy between life itself, and our limited individual span. It makes sense that whatever draws our attention to the fact that as individuals we are limited this will be frightening. Big picture cosmology, or even geology, raises these issues. On the other hand, the miracle of life itself and how we play a tiny role in it directs us toward the miracle of our being. Biology is part of this. It is the happy part of the story in most respects. Hence, perhaps I just have not read Einstein carefully enough to appreciate his angst.

When you use Christian hymns to help make your point regarding the mystery of all being, I confess to being left somewhat cold. This is likely due to baggage I carry. When these hymns and poetry speak of "God" using personal language, too many metaphors that I now regard as unhealthy come to mind. Perhaps people from other traditions automatically de-personalize these references. But that does not happen in my head.

The Eastern wisdom you quote rings more true to me. It is less anthropomorphic, less "personal godish", more systematic, scientific. This was true throughout the book. Most of the Christian stuff no longer rings true to me. There is the odd bit of Gnostic wisdom that still works. As noted, this is likely a quirk in my case that relates to my prior experience.

Chapter Two

I love the covenant with mystery concept. I think I might have acknowledged that we don't know what, if anything, cause the circumstances leading to our consciousness (or consciousness itself) to come into being. The fact that we lean heavily on "emergence" with regard to how consciousness came into being means that its causal mechanisms are still in the realm of the unknown.

The ultimate cause of the reality of which we are a part could be anything from a three-line algorithm created by random processes (as Steven Wolfram "A New Kind of Science" suggests) to an all-powerful, all-knowing old man with a long white beard (as the Bible suggests). I would say the former is much more probable than the latter, but here we reach for the bottom of the Bayesian pool without finding it. I am content just say I don't know, and that I won't believe anyone who has a definite answer for this question until they also provide proof commensurate with the answer they hold out. So I am fully in the covenant with mystery camp, and happily so. This and many other mysteries have put a spring in my mental step that have not enjoyed for over two decades.

So, what is clear is that if anything that is consciousness of us was involved in the creation mentioned above, it either can't communicate with us, or chooses not to. And, myriad societies of humans have been certain that their mutually contradictory characterizations of this force are

correct. So, the best policy appears to be to doubt the conclusions put forward by any group, and particularly one's own group, on this point. I think it was Feynman who said that physics are not certain, and social interactions are much less so, and anyone who puts forward certain conclusions with regard to manifestly uncertain social phenomena should not be trusted.

I also note that I liked your narrative better than Walt Whitman in this case. I am not sure which piece of poetry I would have selected to equal your description of emerging life. But Walt fell flat for me by comparison to what preceded him in this case.

Chapter Three

I liked your use of the musical analogy. That was new to me and it added something material to my understanding of the connection between appreciation of something emergent - or seemingly miraculous - and the processes that give rise to it. This entire reflection lifted me, with the exception of your use of "thy" language to refer to your source of inspiration. The anthropomorphic reference felt out of place to me.

The "assent" concept moved me. This evokes the Buddhist "harmonic" approach to all that is real. That is now my road.

I particularly liked your quote from James. Our "acceptance of the Universe." I might have used it a little differently, however. Religion often relates to the parts of reality we either don't understand or don't wish to accept. So, many problems with religion dissolve when we obtain a better purchase on reality. That is, the "God of the gaps" is best description of how the notion of god works in most societies with which I am familiar.

This brings us back to the problem created by spurious "knowledge" of reality that underpins many social groups. Much of what is accepted as attributes of universal reality is false, and yet people cling to these ideas because to question seems to destabilize the very foundations of their lives. Hence, the first hurdle to be leapt is understanding, in my view. Only when understanding is achieved can acceptance become possible. This is likely implicit in what James has to say, but is worth separate treatment in my view. It brings us back to the epistemic issues I mentioned above.

And, we had best acknowledge that what is understood in one generation will likely not be accepted by many of that generation or even the next few. Consider Galileo and Darwin. And my experience with Mormonism bears this out. My father, who taught history for over 30 years at the University of Victoria, has looked me in the eye several times and told me that he does not care what the history books say about Mormon foundations, and he is deeply distrustful of the social sciences in general. He has felt the truth of Mormonism etc. in his heart, and although some things are very confusing to him, he trusts that God will provide answers when He deems it appropriate to do so. And who am I (referring to me), arrogant pup that I am, to question God's ways?

Dad's position is precisely that of many well-educated Mormons of his generation. The other position commonly adopted by people of that type is a kind of mixed up postmodernism that says we can't be sure of anything, so doing what "works" for you is justifiable. This uses something like Derridian deconstruction to attack the "metanarratives" of science and history that would otherwise bring Mormonism tumbling down, but refusing to use deconstruction on the Mormon metanarrative. This line of reasoning is particularly entertaining when it comes out of the mouth of someone who also believes that they are a member of God's one and only true

church on Earth, and supports missionaries who sell this message everywhere people will listen to it.

But I digress.

Chapter Four

This was a lovely reflection for the most part. But I did not apprehend the connection between the baptismal ritual and what followed. I like Dan Dennett's approach in "Freedom Evolves". Many aspects of religion and its ritual smack to me of a group of individuals who are dependant on sources of external authority for their meaning. Again, we go back to the group.

The price of staying in the group is buying into certain common values and the narratives that support them, or at least pretending that you do. And this pretending is a relatively recent function of increasing awareness. And, the stories that support these values almost always tell us things that to some extent control us (obey the group or be miserable in this life and be punished after death; and if you obey enjoy benefits both now and after death). They also assuage some of our fears (we continue to exist in some satisfactory form after death, at least if we obey; our lives have meaning both as individuals and as a group; etc.).

My guess is that the primary function of these stories evolved as mankind moved from families into more complex groups. Perhaps initially there were storytellers who were popular because they made people feel good about their existential fears, their purpose, etc. As groups formed, the old stories evolved to perform the function of social glue, and this became their primary function. For example, there is an oral history in Peru that was recorded after the Spaniards arrived there that shows how as the Incas conquered people after people, they "re-wrote" the foundational myths of the conquered peoples. This was in a time and place where writing was not used, so within a short time the prior history would be eliminated. The "new" history would include a common connection between the Inca gods (superior) and the gods of the conquered people (subordinate), with prophesy that the two peoples would come together precisely as they had. Goethe's words:

As man is
So is his God
And thus is God
Oft strangely odd

are born out here and in so many other places. God, and religion, are simply reflections of what needs to be accomplished within a group, as defined by a combination of the group's circumstances and leadership characteristics. A nice analogy to the interaction of genes and environment exists here, in my view.

The body of your reflection points precisely in the direction I feel we should go. Increasing degrees of freedom scare each human generation. You beautifully describe the process of weaning ourselves from the authority of the priest who confers meaning on us through ritual. We need to find ways to internalize this process - to confer meaning upon ourselves precisely as you suggest. Perhaps ritual can be a crutch to help the young to reach this understanding. In our collective past - and in my recent past - ritual was used as a means of perpetuating the dependence of the individual on sources of external authority, and hence retarding individual growth and the very process to which you point.

One of the many reasons for which the continuing evolution toward individual freedom is important in my view is that groups comprised of strong individuals are much more difficult for bad leaders to hijack. Another important point is that we use our time and energy to purchase social goods, whether we know it or not. The religious believer spends a great deal of time doing things that are intended to purchase blessings to be realized after death. This is an exchange that a few economists have studied (Innaccone is one of them – see http://www.gordon.edu/ace/pdf/lannaccone_Fundamentalism.pdf). Most of this is visible in behaviour designed to comply with the group's rules, and much of this is designed to strengthen the group in question relative to other competing groups.

Consider Mormon missionary work for example. My knowledge of Peru is a result of my having lived there for two years as a missionary. Much of my effort there did not so much improve anyone in Peru as take people from one religious group, reorientate them somewhat in ways that now mostly embarrass me, and brand them "Mormon". They then became Mormon "assets" in the sense that they donated time and money to Mormonism. Much of their time and money would be directed toward causing others to make the same change they had – that is, to further strengthen Mormonism at the expense of other groups.

Had I invested the same amount of time, money and energy in simply teaching English, or science, or doing any of many other things in Peru or elsewhere, the benefits created through my efforts would have likely been much greater, as measured using means with which most non-Mormons would agree. I believe that a shift of energy from moving resources between groups (dividing the pie) to making the pie larger will follow a change in allegiance from small groups to all of humanity. That is, our efforts will be directed toward the purchase of a different kind of social good. The RN approach to life should help this along.

There is some evidence that religious activity at some levels is productive in the economic sense. It seems that the protestant work ethic, the linear conception of time, and the idea that an individual human can change his circumstances are all riding into some third world countries on the backs of the evangelical Christian message. Borros, a Harvard economist, has done some of this research.

And, the kind of trust and community ethos some religions cause appears to be economically accretive. However, some types of religious behaviour begins to suppress productivity. This kind of behaviour is often associated with religious groups that try to prevent interaction between their members and the members of outside groups, as some fundamentalist leaning groups do. In these cases, the focus on ritual as a primary activity to keep the group together diverts huge amounts of energy away from economically productive activities. That is, human time, money and energy are invested heavily in social goods that are to be delivered after death (ie. will not be delivered). From the perspective of the group's leaders, this amounts to a trade-off between allowing the group to become more wealthy while the leaders may lose control, or having the group remain relatively less wealthy (or even down right poor) while under the leaders' control. The logical extreme of this process is seen in Jonestown, where the leader encouraged group suicide as an alternative preferable to losing the group's identity as a result of law enforcement authorities who were closing in on them. And his charisma combined with the fear we all seem to have to one extent or another of losing our grounding to a particular group was such that most went along with him. And he led the charge into suicide.

Your concluding passages from the Book of Hours reminded me of one of the few uses of the god concept that still appeals to me. This, oddly enough, is Mormon. Joseph Smith (JS) was a product of his times (early 1800s), and hence produced a theology that was naturalistic in a

sense. For example, JS's God was not all-powerful, but rather was subject to "eternal law" - the laws of nature. That is, God was a master scientist and is often described as such in Mormon discourse. This is one of the main reasons for which Mormons are not considered Christian by most Christian denominations - the Mormon concept of God is so different from the Christian norm. The Mormon system has more in common in this regard with Hinduism than Christianity.

The theory of evolution, age of the earth etc. is not problematic to most Mormons, until you try to bring mankind into the picture, for example. Mankind is a special to evolution in the same way that Mormon history is a special historical case. Mormons are not unusual in this regard, of course. Compartmentalized thinking is standard fare in the religious world.

JS's theology also provided that each human being was destined (if she lived obediently) to become a God - to become a master scientist who could do all that was possible to do. This, in my view, is a useful metaphor. Each human being is a creative agent (a mini-god) operating within the scope of natural law, and in accordance with the power and wisdom she has accumulated. And in this sense the personal connotation your quote from the Book of Hours uses makes sense, because it applies to us and not to some impersonal force that gives structure to the reality we can observe. My conception of god is the system of law that governs reality as we know it. It simply is. I dimly comprehend a sliver of it. It humbles me; awes me; makes me feel the deepest reverence of which I am capable. The more I understand of it, the deeper my reverence and humility.

As you know, all logical systems are functions of their premises. JS's premises included the ideas that God was a perfected man, had a perfected moral body, etc. This leads to absurdities such as God impregnating Mary in the "usual" fashion; polygamy being the norm during certain OT times, and since God's word is "eternal and unchanging" that polygamy must be the way for all time, including life after death; etc. My current uses for Mormon theology even in metaphor are very limited.

Chapter Five

As I am flipping through the book, I am again reminded of how much understanding regarding the physical nature of our reality you packed into so few pages. Again, I thank you.

I agreed in full with your comments regarding community, as far as they went. However, I think you should have mentioned the dark side of our yearning in this regard, as I have noted above. So many take advantage of others on this basis. And we are so inclined to follow the strongest social current to which we are subject that it warps our ability to perceive reality. It is this force that will prevent many from so much as hearing your words.

It makes most people smile to tell them that they need to remain in community. What many people need more than anything else is to get out of Dodge. It will be hell for many of them to do this (or it will at least seem so initially), and the generations that follow them will bless their names. They are our pioneers.

Chapter Six

This was a brilliant introduction to evolutionary theory. However, the reflection tries to do something that may require an entire book, or many - to shift the object of worship from a personal god to nature itself. You did not need to convince me of this, and so I simply enjoyed the reflection. But by this point in the book, I was already well into the "mystery" idea and have

read many things before that run along the same lines as the reflection, and so was not moved as much by the reflection as I was by your explanation of evolutionary theory itself.

I again note the importance of epistemology and social theory for purposes of helping people make the transition you identify in this reflection.

Chapter Seven

Again, I thought the science was great. Andrew Newberg (“Why God Won’t Go Away”) has been very helpful to me in this area, and I think you might have used some of his ideas to flesh out yours. I particularly found helpful his explanation of how the “unity with all” seems connected to certain brain states, and how the mechanisms used are similar to those that light up when humans make love and have a similar “unifying” or “bonding” effect between the human and whatever is related to the experience.

It makes sense to me that anything that produces this kind of an experience will leave a deep impression on us. Experiences of this nature should be expected to be “more real than real”, and hence once we are convinced that we have had an encounter with the Universal, or “unitary being” as I think Newberg calls it, rational argument about things we have associated with that state should not be expected to sway us. For example, we should expect to have a great deal of difficulty if we attempt to “reason” away an experience of the powerful type just mentioned that a person who does not have broad perspective with regard to these things has had. Think of such an experience that is related to the death of a loved one from which is inferred the existence of life after death; or a commitment to a religious belief or social group sealed through many hours of fasting, prayer, trial etc. that led up to an experience of the type indicated.

The importance of intense, emotional bonding is obvious from an evolutionary point of view. Whatever can manage to harness the same neural architecture that was built into us for this purpose will have a compelling effect on us. It is this very aspect of human nature that organized religion and social groups of many other kinds have exploited with such spectacular success. The people who have been encouraged, enticed, or even forced through ritual behaviour that has extracted a high price from them are to a large extent owned by their experience. They have merged with it, and do not afterwards individuate from the group as a result.

I do not agree with the metaphysical conclusions that Newberg seems to draw from his research (that “unitary being” is a state more real than the reality we can apprehend and measure). But I believe that the nature of the experiences we can have while in our most intimate states sets them apart from the rest of life in many ways. Their importance from an evolutionary point of view as far as reproduction is concerned does not require comment. In my view, their social role is pretty clear too. Experiences of the type Newberg describes are at the base of religious and patriotic fervour – they are a big part of our social glue, whether through direct experience or as part of the myth that hold the group together. What is missing in his analysis in my view (and I hope to discuss this with him at Star Island this summer) is the ability we have to choose how these mechanisms shape us that accompanies our understanding of them.

For example, once I understand the power of the gateways in my mind that release me from my sense of self and cause me to bond with whatever is in the neighbourhood when that happens, I can choose my most intimate individual, societal and ideological dance partners (my grounds of being) through deciding how, when, where and with whom I choose to have this experience. I will love and be committed to those things regarding which I invest heavily enough to

experience this release of self. This could be particular persons, or science, or sports, or any of many religions, or even tax law (which is what I practise). If I dedicate my self to writing for the next 20 years instead of continuing to practise law, for example, I would likely be a different human being at the end of that period of time. What if I choose to study and write about the kind of psychology Martin Seligman has popularized, for example. Every time I have spent an extended effort on his or related work, I could feel myself becoming more positive, encouraging to those around me, balanced, etc.

So, continuing to dabble with many things as I am now will produce one kind of human being. What I choose to dabble with will make a difference in that regard. And I could radically change myself if I dedicated the kind of radical effort Newberg describes as being necessary to find “unitary being” and I have experience in the Mormon context, to any of many possible activities. This is one aspect of the “rebirth” of which many religions speak. It is possible to renovate human beings (particularly young ones) in a real way. I have added this to the category of things about which I make conscious choices. This, for me, is a massive paradigm shift. I still marvel at it.

Some of us are no doubt more susceptible to “merging” with our activities than others. Those of us, who like me, are at least a little obsessive compulsive can do this almost at will with a wide range of activities. And if we focus with sufficient intensity over a long enough period of time, we can “initiate” ourselves into the “world” of our choice. Even at relatively advanced ages, our brains will respond to a lot of time spend on particular types of activities by growing vast new networks of connections, making us “one” (in a sense) with this world we have chosen. Through the use of time-honoured tools such as fasting, meditation, contemplation, certain types of physical activity, we can choose the “depth” of the experience. How deep do we want the roots of this activity to enter our soul? How much of ourselves do we wish to literally give to a particular group, cause, idea, etc.? These are important questions because many of us seem to have a pathological willingness to surrender our sense of self-awareness.

I think what many people who have left, or are thinking of leaving, the traditional religious world is the deep connection to a particular kind of cause or group. That is, standing alone (or perhaps better put, taking personal responsibility for our daily choices) is frightening when we are not used to doing this. Abraham Heschel wrote about the “insecurity of freedom”. This is part of what he had in mind, I suspect, and may lead some people to desire to “give” themselves to something to replace the role religion played in their lives. As long as this is done consciously, I don’t see a problem with it. On the other hand, I have noticed that many of my irreligious friends are suspicious of anything that would require this loss of self in even a small degree. I think that they perhaps miss something of fundamental importance. This is part of the modern lament that we have lost our communities, and hence some of our meaning. I agree with this to an extent. I think that as people become more aware of how these neural and social mechanisms work, that they will simply choose to dedicate energy toward the things that matter to them so as to create the experience that used to arise more naturally from our social structures.

I will continue to toy with this line of thought. It has all kinds of possibilities.

Because of the slant I just noted, while I agreed with everything in the reflection, it did not move me as much as others did. The reflection started up the path I just noted, but did not make it as far as I hoped it would. And the quote from Iverson left me cold. I don’t like the idea of this experience “falling” on me and “melting” or “molding” me. I like much more the idea that I can,

to a far greater extent than I had imagined, choose where and how this happens. What I can't predict is where the trip will end and so some of the trip will always be a surprise.

The essence of Iverson's statement is that of the religious believer in the hands of an all-powerful God. Elements of our existence are well beyond our control, and we will often merge with things that simply come upon us. But that is the common part of the experience. Again, the miracle for me is that if I choose to do so, I can remake myself to one extent or another by intimately interacting with a wide range of things. And having done that, I will be much less subject to the winds that from time to time blow through my life because I will be grounded to what I have chosen instead of something that was chosen for me, and may not suit me well at all. I will choose, to a greater extent than ever, my ground of being.

I understand that there are some biological analogies for this line of thought as well. That is, at the microbiological level it appears that our constituent parts were once more loosely related, and over time have become sufficiently closely related to be considered "an organism". And, this group parts included some things that were at one point intruders that have been incorporated into the organism.

Chapter Eight

I loved this reflection. The only thing I might have been tempted to do is balance your very positive treatment of this subject with something from its darker side. Symbols and emotions are often used to control people. Your perspective comes from a person who stands high above the fray and can enjoy the vast, gorgeous tapestry of human symbol and art from top to bottom. The mask that you enjoy may represent the greatest possible terror to a tribesman somewhere, and is expressly designed for that purpose.

Chapter Nine

I learned more from the science in this chapter than any other. Maybe I knew this stuff at some time, but if so I had forgotten it. The difference between sexual and asexual life from an evolutionary strategy point of view is of crucial significance. Brilliantly explained.

The reflection was, in turn, one of those that most moved me. The story about your son makes an important point memorable. The more stories of this nature you can use the better. We remember stories better than any other form of communication, and hence are more affected by a good story than anything else.

And your call at the end of the chapter to find and transmit to our children a "joyous and sustainable vision of their future" is of crucial importance. It was my search for that very thing that made you stand out at Cal Tech [I met Ursula at a conference at Cal Tech in May, 2005] from my point of view.

Chapter Ten

Again, a brilliant chapter on the science side of things. You packed an amazing amount of useful information into a few pages. But I had a tough time with most of the reflection. I could have dispensed with a lot of your illustration of the personal god concept. And I liked the way you finally took this bull by the horns.

I liked your indication that there is a spectrum of theists. The notion of God can be expressed in so many ways that to speak of “theism” is often misleading. And the more educated the “theist” the more back doors there seem to be in her definition.

The question that you beg, however, is why you simply don’t have the ability to conceptualize, and hence worship, a personal god but so many others do. One way to read this part of your story is that for those we simply “can’t” believe, RN is an OK second choice. But belief in a personal god is the preferred route, because as you say, this adds “another dimension, another opportunity for relationship”. From my point of view, RN completely changes the “relationship”. Think of Christmas after Santa Claus no longer “really” comes. No less satisfying. Perhaps much more satisfying, because the focus is on real relationships instead of magic. But not as exciting in some ways.

I suppose your soft sell approach is perhaps justified as some kind of a Trojan horse. Perhaps believers would read your book in this form, but would not if you laid out the evidence in support of the idea that belief in a personal god appears to be a social artefact much like a preference for Curry instead of barbequed chicken, and was created in the same way. I suppose the idea of a personal god does not hurt as long as that god does not tell us what to do through dubiously appointed representatives. That, really, is the point – that the concept of a personal god makes it so easy for the leaders of human groups to persuade their followers to do immoral things on the basis that their particular personal god simply reflects back at them their own values and prejudices.

While your quote from Michelangelo is beautiful, for me it represents much of what is wrong with the personal god paradigm. He supports us. With Him we are more than without Him. He controls us. We submit to Him. Etc. I much prefer harmony with the innumerable forces of which we are an integral part. It takes tremendous mental and emotional strength (I would even say superhuman strength) to be committed to the sentiments expressed by Michelangelo while resisting the most powerful external and deepest internal voices that would have us justify what is good for us and our little group, and bad for those who are mostly out of sight and mind.

Chapter Eleven

I say this pretty much each time, and hope you are not tiring of it. I simply loved the way you reduced complex science, in a few pages, to something so elegant and understandable.

The reflection lifted me. You laid the groundwork brilliantly in earlier chapters. I do have something to add from the perspective of a former believer in a personal god and the magic that comes with that. My thinking in this regard was formed largely as a result of the fact that our 14-year-old son nearly died last fall. That is a long story that I have documented to some extent. See <http://home.mccue.cc:10000/bob/documents/rs.an%20agnostic%20in%20a%20foxhole.pdf>

The bottom line is that I think RN completely changes, and enhances, those parts of life that relate to tragedy, loss, and even death.

Chapter Twelve

Great chapter again. I enjoyed the reflection, but did not learn much from it because this is an area in which I had done a lot reading. I thought that maybe you were going to say more about co-evolution and how in a real way we lose something of ourselves whenever our environment

becomes less rich. I am just learning about how radically over time the number of species has varied. If we survive long enough, we will likely have a massive affect on this process.

Emergent Religious Principles

My favorite part of the book, by far. And I liked much of the rest, as you know.

I thought the simple combination of questioning, gratitude, reverence and the credo of continuation was brilliant. The single most memorable part of the book is the coral reef analogy you attribute to your father. That one stuck the moment I read it.

And I would not change a word of your conclusion. That summed things up as well as possible, from my point of view.

Thanks for inviting me to send you this. It gave me the incentive I needed to read the book quickly again, and so I have now processed it deeply enough that much more of it will stick than otherwise would have been the case.

I will look forward to hearing how my reaction strikes you.

Best regards,

bob