

The Evolutionary roots of religious thought

Like Paul, I bring greetings from your brothers and sisters up the hill in the Boyd Hall Science building. It is my good fortune to be a member of a church that allows me, a known agnostic, to wander down the hill to fill the pulpit. Just to be sure we're on the same wavelength, I'm not an atheist, but simply an agnostic. An atheist does not believe in God, but an agnostic believes in Gods and Dogs, in my case in a philosophical sense. Life does not make any sense without a purpose to it. And Gods and Dogs show us that there is more to life than simple existence. A God or Gods provide us with guidance for our lives and a Dog, well, he/she provides unconditional love, but then again so does God.

Before I move on to my topic, I want to make a few disclaimers.

1. Whoever chose the liturgy for the day, must have known that I was going to speak on this topic as both the scripture from Colossians and Luke fit the topic very well.
2. As many of you know, I've taught at Plymouth State University for 45 years. The last semester that I taught, was the fall of 2012. I did not teach this past spring, nor do I have anything on tap for this fall. This means that I must really be retired. I haven't fully accepted that scenario. Perhaps giving an occasional sermon will function as a suitable transition to full retirement.
3. As a faculty member I'm use to two lecture lengths: 50 minutes on Monday, Wednesday and Fridays and 75 minutes on Tuesday and Thursday. Although you were exposed to a somewhat longer sermon last week, I promise you that if I can use my notes, I will not keep you that long.
4. Lastly, I have tried to keep the science of my talk some what simplistic, but true to its real intent. I hope I can succeed on that matter.

Let's begin with a bit of a refresher course on definitions. What do we mean by evolution? Evolution can simply be defined as a change over time. Many things are thought to have evolved: the universe, our Earth, the creatures on the Earth, agriculture, manufacturing, etc. As a scientist, my special interest is in biological evolution, or how the Earth has come to be populated with a multitude of living creatures that have shown many changes over time. This diversity of life, past and present is what got me interested in biology in the first place. And this

diversity of life makes no sense unless viewed from an evolutionary perspective.

And what about religion? I'll define religion in the small rather than the large sense. Religion is simply the set of beliefs that a small group of folk adopts to bring sense to their lives. The question at hand then is whether we can use evolutionary processes to explain how a small group of folk can come to adopt a set of beliefs that that guide their lives.

So, let's begin with some "audience" participation. Let's come up with a few terms that describe good folk and bad folk!!

Good Folks	Bad Folk
Caring	Uncaring
Ethical behavior	Unethical
Concern for others	Concern for self
Loving	Unloving
Outward looking	Inward looking

Evolution is thought to not only affect the way things look and function, but also the way organisms behave. Therefore, we assume that all of these traits are in some way evolutionarily derived. To show this we need to investigate the evolutionary processes.

As most of you know in the late 19th century Charles Darwin proposed a mechanism. He called that mechanism, natural selection. Darwin was an astute observer of the world around him. He realized that breeders selecting amongst the diversity of body forms obtained the variety seen in many domestic creatures; pigeons with pantaloons, dogs designed to work in the mines, sheep bred for different kinds of wool.

Now, you're going to answer a few more questions for me.

- How many eggs do you think most fish produce?
- How many of those eggs actually become adults?
- How similar were all your children if you had more than two?
- At the same time, how much in common do your children have with respect to you or your parents?

Based on your answers, we can now list the tenets of Darwin's Natural Selection:

1. More are born than can survive. This is Thomas Malthus' principle. Food production is arithmetic; young production is exponential.
2. The parents are able to pass on to their offspring traits that they themselves possess.
3. Some traits are suitable, that is they provide a greater likelihood for survival, some traits provide a lesser likelihood of survival.
4. Nature does the selection amongst the traits passed on to offspring.
5. Therefore over time, the characteristics of the descendants change and new species are produced.

Notice that we really haven't mentioned genetics *per se* in the above list. Although Darwin had received Mendel's paper on the inheritance of traits, apparently it didn't make a strong impression on him. Also I should mention that our modern idea of evolutionary mechanisms is much more sophisticated than Darwin's idea of natural selection, but for our purposes let's stick with Darwin.

But before we do that, let's briefly mention a few things about genes and how they work. We can say that everything that we see in an organism has some sort of genetic basis, but how close is that relationship? I have blue eyes and therefore genetically, I have two genes on homologous chromosomes that during the development process were unable to make melanin pigment. Thus my irises are blue rather than brown/black. I'm also a bit over weight. Is that my genes or is it just the fact that I like high caloric foods? I would like to blame my genes, but unfortunately, personality is probably more likely the answer. So, genes are somewhat loosely related to what we are and do change over time. In fact, we could redefine evolution as a change in genetic makeup over time. No genetic makeup though is ever perfect, because the environment is constantly changing over time. We could say that evolutionary change is like a floating crap game, with the odds and locations constantly changing over time. What adaptations that are suitable today, may not be suitable tomorrow.

If we use natural selection as a mechanism, we can see immediately how some of the bad traits of human behavior might be selected for. Let's take the case of food sharing. We have two families of chimps that we are observing. Both families have a couple of offspring, but in

family one, the mother is much more efficient in finding food than the mother two and she doesn't share that food. Mother two is a klutz when it comes to finding food and then when she finds food, she shares it with other members of the tribe. Which of the children have a greater chance of survival? If you answered the one with the more efficient mother, you're right. The other mother because of her inability to find food and then sharing it ends up starving her progeny.

How can we make "good traits" survive, if selfish traits seem to have a higher selectability? To do that, we must move from individual selection to group selection. Now that we know more about genetics we can determine the amount of genetic relationship in a group and what we find is that in a small social group, even though there may be more than one parent, all members of the group share many of the same genes. So let's look at another example, that of other members of the group assisting a mother in the child rearing duties. Even if those members never have any progeny of their own, they're aiding one another in the child rearing duties, the genes that facilitate that behavior would be passed on to the next generation because all individuals have them. Sometimes we call this behavior, altruistic behavior.

Let's look at a specific example of altruistic behavior. We're down at the Plymouth Rotary amphitheater park. We see a young child who has fallen into the river. What are our options?

1. Let the child drown.
2. Jump into the river, save the child and save yourself
3. Jump into the river, save the child, but drown.

Most of us would not choose 1, and all of us would hope for number 2, but what about number 3. It's a possible outcome. How could that trait be evolutionarily suitable? With our example above, since folks living in a small group have a high degree of genetic relatedness, it is highly likely that the young child who was saved has the same set of genes where he/she would make the same decision at some time in the future if the same situation took place.

The point I'm trying to make is that most of the traits that we listed as "good traits" just a few minutes ago, are not only traits that are evolutionarily suitable, but are tenets of most religions. But we might ask, "How did they get transformed into religious entities?"

I'm in the process of reading Jared Diamond's new book *The World Until Yesterday: What Can We Learn from Traditional Societies?* I will ignore the critiques that have been brought forth about his ideas of violence in these traditional societies and mention a few of his other observations. The first is that most of these groups have very few personal possessions and that there is a great deal of sharing of possessions amongst the members of the group. This includes food, not only when it is superabundant, but also when it is scarce.

A second observation is that all members of the group, not just the parent, often share child-rearing duties. As should be evident, both these aspects contribute to the survival of the group and should be selected for and not against. The individual that hides his/her food or only shares it with his/her own progeny may increase their individual survival, but not that of the whole group. The groups that Diamond explores in his book are typically "pre-agricultural groups". He does indicate often that the groups are very violent to non-members of their group when such an individual or individuals come into contact with the group, but are very selfless with respect to members of their own group.

What happens after agriculture comes along? We know that group size gets larger because agricultural societies can produce surpluses that can be stored. These larger groups can also be violent towards each other, but now other social relationships must develop, because surpluses can be sold or traded to other societies and if you kill your neighbors, you've destroy potential purchasers of your goods.

Religion in the sense that we often think of it that is, of having real Gods and creeds, begins with these agricultural societies. One can develop useful techniques in watering planted crops, but why not for insurance make some sort of prayer to a rain god. It doesn't hurt and it surely would make one feel better that they have covered all possibilities, good planting and care techniques and suitable prayers to the "food" or "rain" god.

As our social groups get larger the sharing that we see amongst the groups that Diamond describes seem less likely, yet as we said, those attributes are evolutionary suitable. How do we get the folk to perform them? My thoughts are, "Why not call them religious tenets?"

The message we heard from Colossians today said "because we have heard of your faith in Christ Jesus and of the love you have for all God's people— ⁵ the faith and love that spring from the hope stored up

for you in heaven and about which you have already heard in the true message of the gospel⁶ that has come to you. In the same way, the gospel is bearing fruit and growing throughout the whole world.”

Of course the gospel message includes love for one another, caring for one another, more concern for our enemies than for our friends, and to behave as Jesus, himself behaved—giving of himself for our survival, a little bit of the altruism we mentioned above. Loosing his life so that ours might be saved. And saved for what, saved so that we can do good deeds for our friends and enemies. We also see in the Luke passage, that the good Samaritan was pretty altruistic. There was nothing in it for him in giving money to the innkeeper, but none the less he not covered the injured man’s costs, but asked to be informed of the outcomes.

Again, we see this in Colossians. “For this reason, since the day we heard about you, we have not stopped praying for you. We continually ask God to fill you with the knowledge of his will through all the wisdom and understanding that the Spirit gives,^[e] ¹⁰ so that you may live a life worthy of the Lord and please him in every way: bearing fruit in every good work, growing in the knowledge of God, ¹¹ being strengthened with all power according to his glorious might so that you may have great endurance and patience, ¹² and giving joyful thanks to the Father, who has qualified you^[f] to share in the inheritance of his holy people in the kingdom of light. ¹³ For he has rescued us from the dominion of darkness and brought us into the kingdom of the Son he loves, ¹⁴ in whom we have redemption, the forgiveness of sins.”

So in conclusion, let’s quickly review what I’ve rambled on about. First, we live in a system that has evolved over time. Second, all organisms are related to each other, because over time they have evolved from a common ancestor. Biological evolution takes place in simplistic form through natural selection. Natural selection can produce traits that provide for individual survival or group survival. If for group survival, when human societies were very small, individuals in those groups wouldn’t have identified them as tenets but would have simply acted in the right manner, but as societies grew larger and more based on domesticated plants and animals, these traits would have been formalized as religious tenets, modes of being that would find their ways into written materials such as the Jewish, Muslim, Christian scriptures. We’ve seen that evolution can produce both selfless and selfish attributes. Once we became human, we’ve been somewhat freed from biological constraints. Religion has thus provided us with the free will to make the right decisions, to choose

the altruistic, selfless lifestyle that brings a sense of purpose to our lives.

May we not get so tangled up in the details of the scriptures as to not see the bigger purpose of our life on Earth; to serve one another as a brother and/or sister; as a mother and/or father.