

Evolution Shabbat  
Temple Beth Shalom  
Hudson, Ohio  
February 8, 2008

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The goal of Evolution weekend is to stimulate conversation about the compatibility between religion and science. When I was first asked to participate in this event, I struggled a little bit because I had never really experienced a conflict between the two. Science was science and religion was religion. It did not occur to me until later that the major reason for my lack of conscious thought on the matter was that one of the basic tenets of Reform Judaism is the personal interpretation of one's faith – we have the freedom to subscribe to particular beliefs or practices as we so choose. However, even among religions with more doctrinal rigidity than our own, there is not necessarily a conflict between the teaching of evolution and religion. Evolution is taught in Catholic schools and Catholicism sees no conflict between faith and science (although this was not always the case). The “controversy”, as it exists, springs from the view of conservative Protestant groups that employ a literal reading of Genesis. If the earth was created in 6 days, and was created less than 10,000 years ago, then evolution can not possibly have occurred. Apart from this viewpoint, the evidence in favor of evolution is so overwhelming that the idea that there is a controversy at all could be considered laughable. However, this discussion persists, so I want to spend a minute or two describing what evolution really is, and then why this idea of a controversy persists.

One of the problems is that a large number of scientists find it difficult to communicate scientific ideas to the general public; therefore, non-scientists do not have a consistent definition of evolution when referring to its existence. One relatively simple definition is that evolution is a process that results in heritable changes in a population spread over many generations. That is, if a change can be inherited, and that change spreads throughout the population over a long period of time, then evolution has occurred. So when biologists say that humans and chimps evolved from a common ancestor, what we mean is that there have been inherited changes in two different populations that were isolated from one another, such that one became modern humans and one became modern chimps. Do you hear anything in that statement that excludes the existence of God? I don't. And therefore isn't it a little silly to claim that evolution somehow excludes religion?

We can watch this process of evolution occur within our lifetimes, as we humans have ourselves become an engine of evolutionary change. Just 200 years ago there was no such creature as a Yorkshire Terrier. Disparate-looking creatures such as the Yorky and the Great Dane all arose from selective breeding of dogs, a process that resulted from, yes, heritable changes in a population spread over many generations. If all humans suddenly disappeared from the planet, would such creatures endure? Of course not. Only dogs with the ability to survive on their own would pass on their genetic makeup to the next generation, and the evolution of dogs would continue as the population adapted to its new conditions. The evolution of antibiotic-resistant bacteria is also observable evidence of evolution. But again, the important point is that

the existence of this process in no way conflicts with the existence of God or, in our case, the practice of Judaism.

One of the problems that leads nonscientists to believe that there is a controversy stems from the term “The Theory of Evolution.” Opponents of the teaching of evolution say that evolution is “just a theory”, implying that it is just a guess, or an unproven idea. This arises out of the misconception that some people have about how scientists use the word Theory. Darwin had a theory of evolution, but that was over 150 years ago. Evolution is not a theory now – it really does exist. Every test we can put forth to test the existence of evolution leads to the conclusion that evolution is real.

So what is the conflict? There are three main belief systems about the origins of the life forms on the earth. 1) Beliefs promoted by religions, 2) Evolution, and 3) blends of scientific and religious beliefs, including the idea of Intelligent Design. New Earth creationists believe the earth was created in 6 days less than 10,000 years ago. Most commonly this view is found among some Christian groups that believe that God directly inspired the authors of the Jewish scriptures, and that the text is to be read literally. Old Earth creationists accept that the earth is billions of years old, but that God created the world and its life forms – the difference being that the “6 days” was really a much longer length of time. The scientific view is that the earth coalesced about 4.5 billion years ago, and that life subsequently began as simple single-celled organisms that evolved into the diversity of life we have today. Finally, the theistic evolution view (Intelligent Design) is that evolution happened as scientists describe, and that evolution was a tool used, directed, or controlled by God to accomplish a higher purpose – the creation of humans. This discussion most often takes place in the context of the teaching of creationism or intelligent design in public schools. When someone or some group promotes this, they often suggest that this should be done to “teach the controversy.” However, there is no controversy. Creationism and Intelligent design can not be taught in science classes because they are not science – their ideas can not be tested scientifically nor should they be. Similarly, creationism and intelligent design should generally not be taught in \*other\* classes in a factual way, as in this country that violates the separation of church and state.

The most important different between science and religion is this, and this is only my own opinion. Science requires that we be skeptical about things that can not be demonstrated, while religion requires that we NOT be skeptical about things that can not be demonstrated. Religion is about faith – we do not require evidence or proof of God to believe that God exists. One can have faith even in the face of apparent contradictions. However, one can not allow science to be driven by faith. Science requires that we have evidence for scientific beliefs. The principles of evolution give us insight to the function of the world – evolution explains the development of antibiotic-resistant drugs, changes in biodiversity in response to global climate change, even the emergence of invasive species such as the zebra mussels that are fouling up Lake Erie.

Fortunately, as Jews, we do not have to make a choice. Judaism has never been closed on scientific issues. Jews view science as just one part of the human endeavor, like art, religion, and philosophy. There are many questions for which science has no answers. But for those areas in which science does provide answers, we can safely separate the science from the faith.