Evolution v. creation

Evolution

Should the stork theory appear in books on reproduction? How about astrological lore in expositions on astronomy? It would be unreasonable to even consider those ridiculous concepts. This is why the idea of creation should not be considered as the answer to how life began. Rather, the theory of evolution accounts for the creation of life. Charles Darwin is credited with creating the theory of evolution. Evolution assumes that all natural forms arose from their ancestors and adapted over time to their environments, thus leading to variation. In evolution, there are many rules the environment places upon the survival of a species. “ There are many misconceptions that creationists have about evolution. A large part of the reason why creationist arguments against evolution can sound so persuasive is because they don’t address evolution, but rather argue against a set of misunderstandings that people are right to consider ludicrous” (Isaak). Evolution refers to change, or transformation over time. “ There are numerous ways in which evolution occurs, the most noted are Natural Selection and Adaptation” (“ Evolution v. Creationism”). As Savage said, “ We do not need a listing of evidences to demonstrate the fact of evolution any more than we need to demonstrate the existence of mountain ranges” (v).

A very popular, although erroneous, argument given by creationists is that evolution has never been observed. Evolution at its simplest involves relatively minor changes in the gene pool of a particular population from one generation to the next (Savage 32). One example of evolution being observed is insects developing a resistance to pesticides over the period of a few years. Even most creationists recognize that evolution at this level is a

fact. “ What hasn’t been observed is one animal abruptly changing into a radically different one, such as a frog changing into a cow. This is not a problem for evolution because evolution doesn’t propose occurrences even remotely like that. In fact, if we ever observed a frog turn into a cow, it would be very strong evidence against evolution” (Isaak). According to Isaak, what they don’t appreciate is that this rate of evolution is all that is required to produce the diversity of all living things from a common ancestor.

Another inaccurate argument against evolution is that there are no transitional fossils. A transitional fossil is one that looks like it’s from an organism intermediate between two lineages, meaning it has some characteristics of lineage A, some characteristics of lineage B, and probably some characteristics part way between the two (Prinze). To say there are no transitional fossils is simply false. The fossil record is still spotty and always will be; erosion and the rarity of conditions favorable to fossilization make that inevitable. Prinze continues, “ Transitions may occur in a small population, in a small area, and/or in a relatively short amount of time; when any of these conditions hold, the chances of finding the transitional fossils goes down.” According to Prinze, there are still many instances where excellent sequences of transitional fossils exist. Some notable examples are the transitions from reptile to mammal, from land animal to early whale, and from early ape to human. “ The misconception about the lack of transitional fossils is perpetuated in part by a common way of thinking about categories. When people think about a category like dog’ or ant,’ they often subconsciously believe that there is a well-defined boundary around the

category” (Isaak). In truth, categories are man-made and artificial. Nature is not constrained to follow them, and it doesn’t.

Another misconception is that the theory of evolution says that life originated, and evolution proceeds, by random chance. But there is probably no other statement which is a better indication that the arguer doesn’t understand evolution (Isaak). Chance certainly plays a large part in evolution, but this argument completely ignores the fundamental role of natural selection, and selection is the very opposite of chance. “ Chance, in the form of mutations, provides genetic variation, which is the raw material that natural selection has to work with. From there, natural selection sorts out certain variations. Those variations which give greater reproductive success to their possessors (and chance ensures that such beneficial mutations will be inevitable) are retained, and less successful variations are weeded out” (Dennett 146). According to Dennett, when the environment changes, or when organisms move to a different environment, different variations are selected, leading eventually to different species (146). Nor is abiogenesis (the origin of the first life) due purely to chance. Atoms and molecules arrange themselves not purely randomly, but according to their chemical properties. “ Once a molecule forms that is approximately self-replicating,” says Savage, “ natural selection will guide the formation of ever more efficient replicators (93). The first self-replicating object didn’t need to be as complex as a modern cell or even a strand of DNA. Some self-replicating molecules are not really all that complex (as organic molecules go)” (93). Some people still argue that it is wildly improbable for a given self-

replicating molecule to form at a given point (although they usually don’t state the “ givens,” but leave them implicit in their calculations):

This is true, but there were oceans of molecules working on the problem, and no one

knows how many possible self-replicating molecules could have served as the first one. A

calculation of the odds of abiogenesis is worthless unless it recognizes the immense range

of starting materials that the first replicator might have formed from, the probably

innumerable different forms that the first replicator might have taken, and the fact that

much of the construction of the replicating molecule would have been non-random to start

with. (Savage 93-94)

One final argument that creationists falsely use is that Evolution is only a theory; it hasn’t been proven. Most people seem to associate the word “ evolution” mainly with common descent, the theory that all life arose from one common ancestor (“ Evolution v. Creationism”). The article states, “ Many people believe that there is enough evidence to call this a fact, too. However, common descent is still not the theory of evolution, but just a fraction of it (and a part of several quite different theories as well). The

theory of evolution not only says that life evolved, it also includes mechanisms, like mutations, natural selection, and genetic drift, which go a long way towards explaining how life evolved.” Calling the theory of evolution “ only a theory” is, strictly speaking, true, but the idea it tries to convey is completely wrong (“ Evolution v. Creationism”). The argument rests on a confusion between what “ theory” means. Being a theory implies self-consistency, agreement with observations, and usefulness. Creationism fails to be a theory mainly because of the last point; it makes few or no specific claims about what we would expect to find, so it can’t be used for anything. When it does make falsifiable predictions, they prove to be false (“ Evolution v. Creationism”).

Natural Selection is one way in which evolution occurs. The most important and revolutionary part of Darwin’s theory was “ the mechanism of evolutionary change was natural selection” (Dennett 39). “ The idea of natural selection was not itself a miraculously novel creation of Darwin’s but, the offspring of earlier ideas that had been vigorously discussed for years and even generations” (40). “ However,” Dennett says, “ Darwin concluded that those that had been able to survive and reproduce had not been a random sample of those born, but rather variants especially suited to their environments” (41).

Natural selection plays upon variation and adaptation, all of which occur simultaneously (77). The best example of a quick change in the environment and a species ability to adapt concerns the color of the Gypsy Moths in England (88). When the industrial revolution occurred, Dennett says, coal and other industrial factories spewed out so much air pollutants that even

during the day the skies were as dark as night. The original color of the gypsy moths was a light gray that blended in with the trees in their environment, and acted as camouflage against predators. With the change in the environment, Dennett adds, the camouflage adaptation no longer functioned because the tree trunks were darker colored from the air pollution. The dark gray gypsy, once at a disadvantage and quickly eaten by predators, now survived and bred, while their lighter counterparts were eaten. As a result the gypsy moth, through adaptation and natural selection, was able to gradually change it’s coloring to a dark gray-black, to match the surface of the trees covered in pollution (88-89).

Dennett concludes, “ The gypsy moths didn’t just decide one day to change their color, at the basis of such a change was the concept of Natural Selection” (89).

In conclusion, based on the evidence that has been shown, it is not only the safest, but also the only logical assumption to say that evolution is the cause of life. Darwin’s theory of evolution fundamentally changed the direction of future scientific thought, though it was built on a growing body of thought that began to question prior ideas about the natural world. Creationists have many misconceptions about evolution, and they tend to argue those misunderstandings, rather then evolution itself. The misconceptions that have been cleared up, and the arguments have been proven wrong. The core of Darwin’s theory is natural selection, a process that occurs over successive generations and is defined as the differential reproduction of genotypes (Dennett 14). What evolution has is what any good scientific claim has; evidence, and lots of it. Evolution is supported by a wide range of

observations throughout the fields of genetics, anatomy, ecology, animal behavior, paleontology, and others. According to Dennett, if you wish to challenge the theory of evolution, you must address that evidence. You must show that the evidence is either wrong or irrelevant or that it fits another theory better (275). “ If I had to give an award for the single greatest idea that anyone ever had, I’d give it to Darwin” (Dennett 278).

Works Cited

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