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# Creationists and Evolutionists: A Common Ground?

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**C**reationists and evolutionists view the world from different perspectives. These differences have at times been debated so acrimoniously that one might wonder whether the two sides can agree on anything at all. However, identifying areas of agreement and disagreement can illuminate the issues involved in the debate. The central issue concerns the diversity of living organisms. Are all species related by common ancestry—as evolutionists propose—or are there many independently created lineages? Biblical creationists accept the Genesis account of the creation of diversity as historically accurate, despite its lack of detail.

Since Biblical creation involves the activity of God, it is part of a religious worldview. As a result, the religious implications of creationism greatly increase the intensity of the debate between creationists and evolutionists.

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## Evolution or Change?

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In discussing origins, the term *evolution* is often used. Unfortunately, different meanings of the term may cause confusion over precisely what is being discussed.<sup>1</sup> In different contexts, evolution may mean changes in molecules, in morphology, or in complexity. Evaluating the support for each of these meanings may help to identify the basis for disagreement over the validity of evolution.

**Evolution as Change in Gene Frequencies.** In a simple sense, evolution means change, and any change can be considered evolution. According to one widely used definition, evolution is a change in the frequencies of various genes within a population.<sup>2</sup> Since these changes have been observed,<sup>3</sup> this

kind of evolution certainly occurs. However, fluctuations in gene frequencies do not by themselves explain changes in species,<sup>4</sup> and evolution exhibited in this sense is trivial. Accordingly, this definition of evolution has largely been abandoned.

**Evolution as Change in Molecules.** Individual creatures within a population have minor molecular variations, for example, different amino-acid sequences. Mutations probably caused most of these differences, although some molecular variation probably existed in each species at its origin. Comparison of different species reveals greater molecular differences. The term *evolution* is commonly used to refer to the degree of variation between similar molecules in different populations or species.<sup>5</sup>

Changes in molecules do occur, and have been detected experimentally. However, one cannot really equate these changes with evolution. Mere changes in sequences for similar molecules do not explain the diversity of living organisms. The relationship between molecular sequences and different morphologies is obscure. Comparing sequences whose function is unknown, such as overall DNA similarity, produces data whose significance is likewise unknown. Differences among species surely result from more than just differences in amino-acid sequences of hemoglobin molecules or in the nucleotide sequences of ribosomal RNA.<sup>6</sup> Although *evolution* might be used to describe the effects of mutations, *variation* would be a more appropriate description.

**Evolution as Changes in Morphology.** The morphological dif-

ferences in separating the various species within a genus may resemble the variations within a particular species. But species in different genera typically have different shapes.<sup>7</sup> Body shape reflects the types and proportions of body parts and their relative arrangement. Changes that produce differences of this kind come under the heading of morphological evolution.<sup>8</sup>

Evidence from experimental selection, such as in dogs, shows that minor morphological changes can occur. Differences among breeds of dogs are, in fact, equivalent to differences among some genera of wild dogs.<sup>9</sup> This shows that some species possess sufficient genetic variability to produce individuals that taxonomists would classify in different genera. Such changes could account for the diversity within such well-defined groups as bears, cats, or horses. However, claims that morphological changes produce new genera or families need to be supported by a reasonably continuous set of intermediate morphologies, either living or fossil.

Genetic variability does help to explain diversity within well-defined natural groups. However, such groups appear to be separated by gaps that have never been bridged. Selection experiments indicate that as a species is pushed farther from its normal genetic state, its viability decreases.<sup>10</sup> There seem to be limits to the flexibility of the genetic architecture. These limits could explain the gaps that separate natural groups of species.

Species in different mammal orders typically possess distinctive anatomical specializations, al-

though the parts involved may be structurally equivalent. Typical specializations involve the teeth, skull, and limbs. Differences among species in different orders seem too great to have resulted from modifications of a common ancestor that took place over time. For example, dogs and rabbits seem equivalent in complexity, but they differ considerably in overall shape, diet, behavior, and style of locomotion. No fossils link dogs and rabbits to a common ancestor. It is difficult to imagine how their differences could be bridged by viable intermediate forms. This type of problem becomes much more severe when one considers the differences among such groups as bats, whales, and primates.

In summary, morphological changes do occur, but only within limits. Changes in anatomical proportions may explain the diversity within certain well-defined groups of mammals. At the present time, however, the evidence does not adequately support evolution as the cause of body plan modification, and creationists tend to reject the possibility that it might occur. Since scientists know very little about how morphology is produced, one should not be too dogmatic on this subject. Further research may illuminate the genetics of development, and new mechanisms for change may be discovered.<sup>11</sup> Nevertheless, the burden of proof falls on those who claim such changes are possible.

**Evolution as Increase in Complexity.** The general theory of evolution holds that life started with simple forms that diversified, becoming increasingly complex over time. All the above evolutionary processes taken together would not explain how today's organic diversity resulted from simple ancestors. The general theory of evolution requires another kind of change: increases in complexity resulting from the development of new genes, organs, and systems.

It is implausible to expect a new gene to arise *de novo*. The gene

duplication hypothesis proposes that a duplicated gene can mutate since other copies of the gene will provide the materials needed for cell functioning.<sup>12</sup> But mutations seem an unlikely means of producing new information. While the majority of mutations may be nearly neutral, those that produce visible effects are almost always harmful. It is difficult to see how mutations that have negligible or harmful effects could explain the origin of diversity.

Regulating a new gene and integrating it into the activities of other genes present other problems. Random mutations would likely disrupt both the regulatory sequence and the structural gene itself, producing an inactive "pseudogene." Explaining the production of new genes is a very difficult problem for evolutionists.<sup>13</sup>

Even if a new gene did appear, this would not fully explain the origin of diversity. Concurrently, new kinds of body parts must somehow be created and integrated into the functioning organism.<sup>14</sup> Organs are both structurally and genetically complex. They are unlikely to arise suddenly, in a single step. Likewise, new organs probably would not arise in stages. Of what use would be a partially developed wing, or two-thirds of an eye?

Furthermore, an organ needs to not only be functional, but must be integrated with other body systems. This would require modifications of the other body systems, and could not be accomplished by any known mechanism. Development of a new organ and coordination with other parts of the body could not be accomplished by any known mechanism. Creationists have reasonable theoretical and empirical grounds for rejecting evolution as a means of increasing the complexity of living organisms.

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## Areas of Agreement and Disagreement

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With all these points of disagreement, can creationists and evolutionists agree at all about changes in species? The answer is Yes. Molecular variation can be observed. A known mechanism can account for such variation, and changes can be detected experimentally. Morphological variation within a species can be observed. Although the genetic mechanisms behind this variation may be unknown, new morphological varieties have been produced. These types of changes do yield variations sufficient to justify classification in different genera, at least for dogs. Such changes could easily produce an increase in the number of species within a natural group. In this way, changes in species contribute to the diversity of living organisms. Both creationists and evolutionists can agree on these points.

Evolutionists claim that all species are linked by common ancestry. Such a claim not only goes beyond the available evidence, it also contradicts much of it, both empirical and theoretical. Assuming a common ancestry for all organisms is a weak basis for drawing conclusions contrary to the available data.

Two types of empirical evidence contradict the theory of common ancestry. First, experimental selection confirms that there are boundaries to genetic change. Changes in species can be produced, but these are merely variations. No increase in complexity has been observed. This observation provides a good explanation for the gaps between natural groups of species. More evidence against common ancestry is found in the fossil record.<sup>15</sup> Fossil and living species cannot be arranged in a continuum. They occur in natural groups separated by gaps. Some scientists think that the gaps indicate that morphological change occurs in rapid spurts

("punctuated equilibria").<sup>16</sup> This may be true of minor variations.<sup>17</sup> However, it does not explain why the gaps become larger as one moves up the taxonomic hierarchy.<sup>18</sup> Above the family level it appears that many independent lineages exist.

Finally, there are theoretical reasons for rejecting a common ancestry for all organisms. No one has ever observed a spontaneous increase in the complexity of living organisms. On the contrary, observations suggest that structures tend to degenerate unless they are essential for survival. Examples include degenerative losses by blind cave organisms, flightless birds in environments without predators, and legless burrowing lizards. If increasing complexity was the norm, scientists would not have to assert the need for natural selection to maintain it.<sup>19</sup> The general theory of evolution is not only inconsistent with empirical evidence, it is also theoretically implausible. Finally, there are theoretical reasons for rejecting a common ancestry for all organisms.

### God and Evolution

The evidence against complexity originating through strictly natural processes is rather strong, as briefly outlined above. Many scientists recognize the evidence against the general theory of evolution, yet they still believe that all species must be related through common ancestry. Some suggest that God works through natural processes to cause living organisms to become more complex. Using this line of thinking, God is the Creator, and evolution is the process by which he created. However, this theory, known as theistic evolution, contains some insurmountable problems.

The theory of theistic evolution is inconsistent with scientific evidence. The gaps among living and fossil species tend to disprove continuity in evolution, regardless of whether it occurred naturally or by divine direction. In addition,

natural processes tend toward randomness. If natural processes are God's method of creating, one must conclude that God tears things down rather than building them up.

Theistic evolution is also inconsistent with God's character as described in the Bible. God's truthfulness is challenged by theistic evolution. God himself declares that he produced a completed creation in six days.<sup>20</sup> Theistic evolution directly contradicts this statement. The Bible also reveals God's opposition to death, and his plan to ultimately eliminate it.<sup>21</sup> But death is required for theistic or any other kind of evolution. Evolution is believed to be driven by natural selection, in which weaker organisms are eliminated because they cannot compete with stronger ones. Competition also requires resource shortages. If evolution is God's method of creating, then resource shortages and death are part of his plan.<sup>22</sup> This makes God responsible for predators, parasites, and poisonous creatures. If God directs evolution, then he must be responsible for its results. This contradicts the Scriptural explanation that evil resulted from human sin.<sup>23</sup>

Theistic evolution also implies that humanity has reached its present state by improvement, not by a fall into sin. If that is so, why would human beings need salvation? They are better than they used to be, or at least will improve naturally with time. Because theistic evolution implies that God is to blame for evil, that humankind is naturally improving, and because it contradicts God's own words, it must be rejected by Bible-believing Christians. To accept it would undermine the basis for Christianity. On the contrary, Christians must affirm their confidence in the reliability of God's Word, from the creation described in Genesis to the re-creation described in Revelation.

### Conclusion

Available evidence clearly indicates that genetic variability occurs within species. We can observe variation in genes and morphologies sufficient to account for separate species, and probably even separate genera. But change occurs only within certain limits. Rearrangement of body parts into new "body plans" has not been observed, and is highly improbable. Production of new functional genes is theoretically implausible by standard genetic mechanisms, and the evidence for it is much weaker than generally thought.<sup>24</sup> Production of new organs and systems is theoretically unlikely, and asserted solely because common ancestry of species is needed to support evolutionary theory.

As we have seen, creationists and evolutionists can find common ground even though they approach their discipline with different presuppositions about origins. However, when explanations of organic diversity exceed the available evidence, and even contradict that evidence, it should be no surprise to find disagreement among scientists.

The differences between evolutionists and creationists could be greatly reduced if inferences from science were limited to what can be observed, and questions relating to supernatural creative activity were settled from God's revelation of Himself in Scripture. In fact, traced back in time, the scientific data reveals the existence of numerous independent lineages of organisms. This evidence agrees with the biblical account of creation.

### NOTES

1. J. H. Campbell, "The New Gene and its Evolution", in K. S. W. Campbell and M. F. Day, eds., *Rates of Evolution* (London: Allen and Unwin, 1987), pp. 283-310.

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## Shalom!

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this magazine is perfect. If you don't feel that your Jewish friends are ready for it, you could order it for yourself, and then give them individual articles that you might think they would enjoy. (To order: Send \$4.95 to *Shabbat Shalom*, 12501 Old Columbia Pike, Silver Spring MD 20904.) Also, at this same address, you can request information about a packet, including tapes, on "How to Witness to Jews."

When approaching your Jewish friends, remember that they can be won to Jesus just like anyone else. The Holy Spirit is wooing them too. But it is important to be aware of their sensitivities. If you can learn how not to offend them, then you will have great opportunities. Patience, tact, sensitivity, and love will do more for them than all the arguments and proof texts combined.

Jewish people can be—and are being won—to various Christian denominations. Let's win them to the best.

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## Creationists . . .

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2. "Evolution is a change in the genetic composition of populations." T. Dobzhansky, *Genetics and the Origin of Species*, 3rd edition (New York: Columbia University Press, 1951), p. 16.

3. E.g., see E. G. Zimmerman, "Temporal Genetic Variation in a Population of the Pocket Gopher, *Geomys Bursarius*," *Genetica* 76:153-159 (1988).

4. G. G. L. Miklos and B. John, "From Genome to Phenotype", pp. 263-282 in Campbell and Day, eds., *op. cit.*, pp. 263-282.

5. E.g., F. J. Ayala, *Molecular Evolution* (Sunderland, MA: Sinauer, 1976).

6. "It is doubtful if anyone would have ever felt any need to resist the notion of evolution if all it implied was that the exact chemical constitution of haemoglobin gradually changed over the ages." C. H. Waddington, *The Evolution of an Evolutionist* (Edinburgh: Edinburgh Univ. Press, 1975), p. iv.

7. C. A. Lemen and P. W. Freeman, "The Genus: A Macro-evolutionary Problem," *Evolution* 38:1219-1237, (1984).

8. E.g., W. Arthur, *Mechanisms of Morphological Evolution* (New York: Wiley, 1984).

9. R. K. Wayne, "Cranial Morphology of Domestic and Wild Canids: The Influence of Development on Morphological Change," *Evolution* 40:243-261, (1986).

10. E. Mayr, *Populations, Species, and Evolution* (Cambridge, MA: Belknap Press, 1970). See also L. P. Lester and R. G. Bohlin, *The Natural Limits to Biological Change* (Grand Rapids, MI: Zondervan, 1984).

11. One relatively recent idea is the possibility of mutations being non-random (e.g., see J. Cairns, J. Overbaugh, and S. Miller, "The Origin of Mutants," *Nature* 335:142-145 [1988]). Another recent idea is the possibility of trans-specific gene transfer (e.g., see L. Jeppson, "A Possible Mechanism in Convergent Evolution," *Paleobiology* 12:80-88 (1986).

12. S. Ohno, *Evolution by Gene Duplication* (New York: Springer-Verlag, 1970).

13. G. Z. Opadia-Kaddima, "How the Slot Machine Led Biologists Astray," *Journal of Theoretical Biology* 124:127-135 (1987).

14. E.g., see chapter 5 in Lester and Bohlin, *op. cit.*

15. E.g., "The fossil record contains so many morphological gaps between what might be regarded as ancestral and descendant species that it gives the impression of discontinuity rather than evolutionary continuity." A. Hoffman, *Arguments on Evolution* (Oxford: Oxford University Press, 1989), p. 8. See also Chapter 8 in M. Denton, *Evolution: A Theory in Crisis* (Bethesda, MD: Adler and Adler, 1985).

16. N. Eldredge and S. J. Gould, "Punctuated Equilibria: An Alternative to Phyletic Gradualism," in T. J. M. Schopf, ed., *Models of Paleobiology* (San Francisco, CA: Freeman, Cooper & Co., 1972), pp. 82-115.

17. A statement to this effect, made by an author who disagrees with my conclusions, can be found in the following source: E. C. Olson, "The Problem of Missing Links: Today and Yesterday," *Quarterly Review of Biology* 56: 446 (1981). The possibility of large-scale mutations seems necessary if evolution is true, but both experimental evidence and our present understanding of genetic mechanisms seem to preclude such a possibility.

18. M. Denton, *op. cit.*, pp. 191-192.

19. E.g., A. Hoffman, *op. cit.*, p. 156.

20. Exodus 20:11; see also Genesis 1, 2 and Exodus 31:17.

21. Isaiah 65:45; Matthew 10:29; Romans 8:20-22; Revelation 20:14; 21:4.

22. F. Van Dyke, "Theological Problems in Theistic Evolution," *Journal of the American Scientific Affiliation* 39:11-18 (1986).

23. Genesis 3:14-19; Romans 5:12; 8:19-23.

24. G. Z. Opadia-Kaddima, *op. cit.*

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