LITERATURE REVIEWS

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Why is a Fly Not a Horse? Giuseppe Sermonti. 2005. Seattle, WA: Discovery Institute Press. 165 p. Paper $14.95.

Reviewed by David N. Mbungu, Ph.D.
Department of Biology, Andrews University
Berrien Springs, Michigan

In *Why Is A Fly Not A Horse?* Giuseppe Sermonti, a retired professor of genetics and chief editor of the journal *Rivista di Biologia*, questions the legitimacy of evolutionary theory and provides evidence from biology to highlight its flaws. Because of his strong antievolutionary views, the author is conscious of being labeled a creationist. However, he disavows creationism and expresses his desire to remain "only a creature" (p 18).

Throughout the book Sermonti interweaves concepts from genetics, molecular biology, paleontology and other methods of scientific inquiry to illuminate contradictions between Darwin's evolutionary postulates and current empirical evidence. He expresses dismay at speculation that natural selection has diversified life through a gradual process of germ-line mutation capture and transmission; a view he considers both conjectural and a philosophical fiction. Instead, natural selection is a conservative force stabilizing populations by resisting change: "only oscillations deriving from genetic variability enable a species to remain faithful to its type" (p 49). Further, he contends, mutations cannot account for genetic variability in organisms because most are either deleterious or neutral.

Richard Dawkins' *Blind Watchmaker* is used by Sermonti to illustrate how advocates of Darwinism employ evolutionary dogma as a guiding factor in experimentation and data interpretation. Sermonti cautions against bending data to support preconceived views and argues that an objective

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evaluation of Dawkins' results leads to conclusions opposite to those Dawkins draws: "unless there is a preestablished design, nothing-nothing at all!-can come into existence" (p 56).

Evidence from molecular genetics features prominently throughout the book including reflections on progress made in mapping chromosomes. Many hoped that such an accomplishment would facilitate construction of objective kinship patterns between organisms. However, these studies have not revealed any correlation between chromosome numbers and kinship. For example a donkey has 31 chromosomes and a horse 32 while zebras, which resemble donkeys morphologically, have only 16. The author concludes that these studies have only succeeded in eclipsing the organisms they were meant to illuminate.

Next, Sermonti evaluates the success of biochemical, morphological and paleontological studies in elucidating relationships among organisms. Can genetic endowment account for species identity and diversity of organisms? Here again, he argues against this supposition by highlighting the remarkably high degree of biochemical similarity in phylogenetically distinct and morphologically diverse groups of organisms. For example, cytochrome *c* protein is highly conserved in all species studied so far, demonstrating evolutionary "stasis" in this protein. He questions reliance on comparative anatomy studies to construct phylogenies given that such studies reveal structural similarities or differences but not the "meaning" of the parameters studied and cautions against explaining morphological adaptations in organisms based on their perceived needs.

Contrary to expectations, Sermonti observes, studies attempting to harmonize human and ape molecular phylogenies with paleoanthropology have been impeded by paucity of primate fossils and lack of intermediate forms in man's supposed evolutionary path. The discovery of fossils of presumed human progenitors long before primates diverged from the ancestral tree according to molecular data nullifies Darwin's assertion that man descended from apes and begs for an alternative explanation. "The truth," Sermonti says, is that man has "remained what he had always been. At the parting of ways the molecules and chromosomes of human beings were already there" (p 77).

Just as uniform color has nothing to do with team sportsmanship or ability Sermonti argues that molecular life is governed by "conventions" defined as: "rules not dictated by situational needs" of an organism (p 82). Conventions are just as crucial for life as the genetic code is and conventions are inter-linked with identities. This he illustrates with two examples: 1) the species-typical orientation behavior of migrating birds

raised in isolation which will take to the sky the very first time they have the opportunity and 2) trypanosome cells which can start with truncated RNA genes transcripts and produce mRNA transcripts that are translated to normal active enzymes. Both of these examples reveal the existence of "hidden knowledge" in organisms that is inaccessible through empirical investigation.

Giving as an example prions, which are inherited independent of DNA, the author relegates DNA to only a secondary role in determining morphological features. He argues that development is guided by one or more of the "morphological destinies, lying in wait somewhere" to propel change (p 103). Specific structures he mentions that are formed without DNA templates include mollusk shells in their many variations. He contends that sudden appearance of strikingly similar patterns in different organisms without DNA involvement — and therefore no cumulative selection — is consistent with DNA playing only a secondary role in the emergence of such processes. Morphological differences, Sermonti posits, can arise without underlying genetic differences as illustrated by termite castes whose members differ morphologically yet retain genetic identity.

Sermonti ponders the impact of the Roman Catholic Church's endorsement of organic evolution on the "mind-body" debate. He finds troubling the papal decree that the mind and the body had separate and independent existence with the body evolving organically until it was invaded by the soul through an "ontological leap." Contrary to this view, Sermonti expresses his conviction that "man was born all of a sudden in a great leap" (p 114).

Towards the end of the book, Sermonti highlights evidence from the fossil record that refutes Darwinian evolution: leaf insects in fossils that predate plant evolution, sudden explosion of complex life in the Cambrian and lack of intermediate fossils. He concludes that the commitment of evolutionary advocates to their dogma has led them to ignore data that does not conform to their cherished theory.

Although the author does not answer the rhetorical question "Why is a fly not a horse?" his candid and objective evaluation of the evolutionary theory in a style that is both provocative and entertaining, makes this book an invaluable resource for biologists.