

LITERATURE REVIEWS

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A NEW BLIND WATCHMAKER: DESIGN BY HOMEOSTASIS

The Tinkerer's Accomplice: How Design Emerges from Life Itself.
J. Scott Turner. 2007. Cambridge, MA: Harvard University Press. 304 p.
Hardcover \$27.95.

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Almost one hundred and fifty years after Darwin's seminal publication, "there is still little agreement" on the main question that he attempted to answer: the origin of species. Scott Turner eloquently addresses this problem, demonstrating that modern "evolutionary biology doesn't really have a good answer" to many fundamental questions, including how "an unintentional process" such as natural selection "can produce intentional beings" like us (p 29). Turner stresses that "dogmatic insistence" on Darwinian mutation and selection as the only agent of design "has encumbered us with blinders that keep us from seeing an answer" (p 29).

After noting that modern scientists have "eschewed design" as a solution, even opposing those who feel design is a fruitful area of research, Turner concludes "modern biology's most glaring blind spot is...design" (p 12-13). In contrast to Dawkins' selfish gene ideology, Turner shows that "without the thermodynamic machines that underpin function, the gene is nothing more than an interesting polymer, utterly incapable of anything, let alone the tinkerer's kind of adaptation" (p 13).

For this reason Turner attempts to take a "fresh look at design and evolution," concluding that all organisms exhibit "marvelous harmony of structure and function," an attribute Turner calls "designedness — not because natural selection...has made them that way, but because agents of

homeostasis build them that way” (p 14). In other words, homeostasis — the ability of an organism or cell to maintain equilibrium by adjusting its physiological process by biological feedback loops — can produce design that is not directly the result of genes.

Using his study of termite chimneys (the tall thin homes termites build out of mud) as an example, Turner concludes that certain aspects of termites’ complex behavior are not the result of mutation and selection, but rather homeostasis. Because “termites are ‘comfortable’ with particular carbon dioxide concentrations, humidity, and so forth”, they evolved the ability to modify their chimney home in order to maintain the optimal conditions for themselves (p 27). This conclusion fails to address why, rather than evolving complex behavior to maximize their environmental conditions, termites don’t evolve greater tolerance to normal environmental variations in carbon dioxide concentration, temperature and humidity fluctuations.

Turner deals extensively with homeostasis and human anatomical system development, such as the development of the blood circulatory systems (Ch 4), the skeletal system (Ch 5), the embryo (Ch 6), the digestive system (Ch 7), the visual system (Ch 9), and the brain (Ch 10). Each chapter contains much detail that elegantly expresses the wonder of life’s complexity in terms very similar to Michael Behe’s *Darwin’s Black Box*. The difference is Behe documents the fact that these systems are both irreducibly complex and that evidence is lacking for their evolution.

Although Turner uses the term “irreducibly complex” only once, to argue that this concept is a “God of the gaps” view that puts faith in an “ever diminishing God,” his physiology discussions eloquently support Behe’s concept (p 138). He correctly adds that Behe’s critics are also “prone to a kind of God-of-the-gaps mentality” because “their faith lies in the essentially atomist notion that all phenomena...can be explained by a few simple rules that govern interactions among mindless and indivisible units. Neo-Darwinism is an example of this faith...” (p 138).

In documenting many “self-organizing systems” Turner raises a major problem for Darwinism as indicated by his coining the term “designedness” — a word that openly implies design — to explain these systems. The theory Turner proposes, homeostasis, essentially makes designedness an emergent property of homeostasis. Ultimately, his theory fails to explain the irreducibly complex self-organizing systems he details as necessary to achieve homeostasis. The purposefulness that Turner attributes to homeostasis ignores more major questions including how life survived until

homeostasis evolved, how the mechanisms of homeostasis came to be, and why life often has very narrow set points.

One characteristic of an excellent book is that it raises more questions than it answers. Judging by this criterion, Turner's book succeeds marvelously. It is also an important book because of its effective critique of Darwinism. Absent is the seemingly obligatory paragraph bashing Intelligent Design (ID). In its place are over a dozen references to ID, and all are respectful, thoughtful, and all too brief. One section that fails to maintain this high standard deals with eye evolution where Turner relies heavily on common misperceptions and does not carefully review the literature (such as p 161).

Turner is more successful in pointing out the shortcomings of Darwinism than proposing a better theory. He documents that one feature of Darwin machines is "their utter absence of intentionality or goal-directedness." His homeostasis theory is "frankly teleological, imbued with the goal-seeking behavior and purposefulness that is at the heart of homeostasis" (p 28) but ultimately his theory is as inadequate as Darwin's theory. Although Turner's teleological view is against the grain of modern biology, he concludes teleology is required to explain the natural world. The book is written for general audiences, is highly informative, well organized, and written with obvious enthusiasm using the first person style. The author freely expresses his opinions and experiences that were influential in helping him to arrive at his conclusions, even noting some potential methods to falsify his theory.