

**Review: Douglas Axe, *Undeniable: How Biology Confirms Our Intuition That Life Is Designed*, HarperOne, NY, 2016**

Pages: 298

**Clear, Logical Argument for Design**

The author has eschewed technicality to give an accessible description of functional coherence and selective variation, as applied in his field of protein folding research. He also shows up the bankruptcy of Materialism, that atom collections can somehow gain ‘consciousness’, and random searching across protein spaces will yield the exceedingly rare functional ones.

There is enough supporting material and notes to go far deeper into his research, but the main text will at least act as an excellent Intelligent Design apologetic, and impart basic genetic concepts.

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**I) The Big Question (pp. 1-11)**

**II) The Conflict Within (pp. 12-23)**

**III) Science in the Real World (pp. 24-40)**

Most proteins have a single preferred folding shape, crucial to functionality and specified by its AAs.

A ‘ribbon’ diagram shows coils as  $\alpha$ -helices.

A code is required to translate the 4-base nucleotide code into the 20-AA protein code.

The breaking point of AA substitution in a protein chain is *always* reached.

**IV) Outside the Box (pp. 41-56)**

Atom collections can't become conscious.

**V) A Dose of Common Science (pp. 57-64)**

Only  $10^{-74}$  protein sequences are said to be functional.

**VI) Life Is Good (pp. 65-86)**

The panda's thumb bone (*radial sesamoid*) isn't a true jointed thumb, which is why some denigrate it as a makeshift adaptation no good designer would employ.

**VII) Waiting for Wonders (pp. 87-111)**

“Commitment to Materialism is commitment to accidental explanation.”

Selection is incapable of turning down immediate advantage for something better worth waiting for.

**VIII) Lost in Space (pp. 122-134)**

**IX) The Art of Making Sense (pp. 135-162)**

Inventors never search blindly.

Functional Coherence: “The hierarchical arrangement of parts ... to produce a high-level function.” [p144]

**X) Coming Alive (pp. 163-185)**

Rhodopsin protein holds a single molecule of A which absorbs a coloured photon changing its shape. It takes a dozen photon-absorption events to perceive lights in humans (for cats and owls only one or two).

**XI) Seeing and Believing (pp. 186-214)**

Selective optimisation: “Repeated selection of the best variant after introducing slight variations.”

**XII) Last Throes (pp. 215-234)**

**XIII) First World (pp. 235-251)**

**XIV) A New School (pp. 252-274)**

**Notes (pp. 275-298)**

Some proteins need folding assistance to avoid interference.

Given a four-base genome, codon triplets are required since a dual codon would only give sixteen permutations, under the twenty fundamental AAs.

The likelihood of a 'beneficial' mutation spreading population-wide is said to be  $10^{-6}$ .