

Integrity In Science (8/21/15 for Apologetics Forum)

Don Johnson

Ph.D.s: Chemistry-- MSU, Computer & Information Sciences--UMN

Overview of Presentation

Importance of evidence-based science

Is Darwinism scientific? What's the evidence?

What about mass/energy origin & fine-tuning?

What about origin of life scenarios?

Is intelligent design religion or science?

Damage done by "consensus science"

What's with global warming?

What about Common Core?

Are scientific speculations appropriate?

Review of reality of computers and programs in life

Evidence-Based Science

- Obama's speech to NAS on 4/29/13: "what is so necessary for us to continue our scientific advance and ... a fidelity to facts and truth, and a willingness to follow where the evidence leads ... we've got to make sure that we are supporting the idea that they're not subject to politics, that they're not skewed by an agenda, that, as I said before, we make sure that we go where the evidence leads us."
- Science as we don't know it is NOT science, e.g. --
 - >speculations for origin of mass/energy, life, species
 - >speculation of unobservable multi-universes or strings

Biblical Basis for Integrity

Integrity: being honest and having strong moral principles; moral uprightness.

1 Chron 29:17 I know, my God, that you test the heart and are pleased with integrity.

Ps 25:21 May integrity and uprightness protect me, because my hope, Lord, is in you.

Prov 10:9 Whoever walks in integrity walks securely

Mark 12:14 They came to him and said, "Teacher, we know that you are a man of integrity."

2 Cor 1:12 Our conscience testifies that we have conducted ourselves in the world, and especially in our relations with you, with integrity and godly sincerity.

Are Speculative Scenarios Science?

Nearly everything learned (ACS "From Molecules to Man") as chemical evolution has been debunked by science.

The PBS Nova program "What Darwin Never Knew" is a good example of "non-explanation." Except for a minor gene mutation for mouse color modification (minute 39), all evolution evidence presented involved turning **existing genes** on or off via switches (no NEW information).

For the "perfect" **transitional form** (that was looked for and "proves" evolution of tetrapods from fish), Tiktaalik, "The genes needed to make legs and arms were **already** being carried around by prehistoric fish." (min 78) But, a tetrapod 10 million years older was found! *Nature* (463), 2010, p43-48

Interesting Observations

- “Biological functionality is turning out to be much more highly specified and precise than we had originally envisioned... biology is really a science of engineering, where the constraints for bio-functionality are extreme – to the point that nearly every molecular interaction is remarkably precise and tightly controlled. Molecular biology is much like a jigsaw puzzle where each piece must be specifically shaped to fit with the other pieces around it.” w.iscid.org/papers/Bracht_GoodenoughResponse_021203.pdf
- Philip Skell, chemist and member of the US-NAS, writes: “Darwinian evolution – whatever its other virtues – does not provide a fruitful heuristic in experimental biology.” “Why Do We Invoke Darwin? Evolutionary Theory Contributes Little to Experimental Biology,” *The Scientist*, 8/29/05

Sudden Appearance and Fixity of Kinds

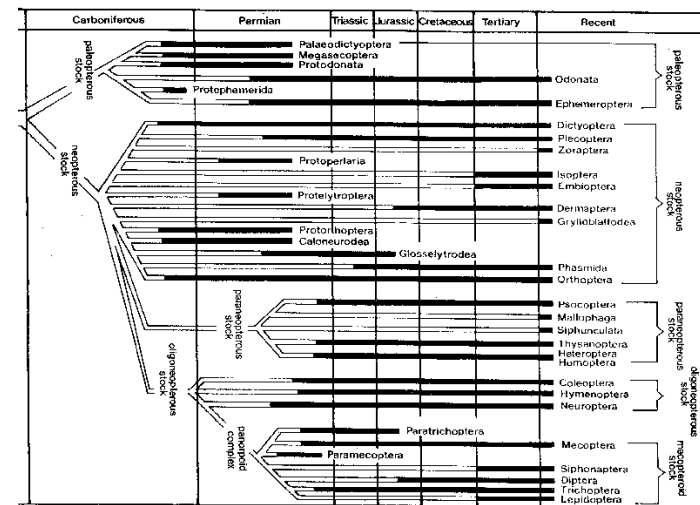
“according to their kinds” (Gen 1)

“Most of the animal phyla that are represented in the fossil record first appear, ‘fully formed,’ in the Cambrian... The fossil record is therefore of no help with respect to the origin and early diversification of the various animal phyla.” Barnes, Clow & Olive, *The Invertebrates*, 2001, p9–10

“It is as though they were just planted there, without any evolutionary history.” Richard Dawkins, *The Blind Watchmaker*, 1996, p229

The fossil record supports creation with:
 Multitude of life in the oldest fossil-bearing rocks
 Fixity of species over "eons" of time
 NO transitional forms verified, though claimed

Actual (black) vs. Presumed Connections (grey) (‘77 Ency. Brit.)



3.7 million-year old Laetoli Footprints

“They looked so human-like, some scientists had a hard time believing that they were made by Australopithecus afarensis (Lucy's species), the only human ancestor known to have lived at the time.” PBS

Footprints are "indistinguishable from those of modern humans" Anderson, *New Scientist* 98:373, 1983



Nebraska Man (from a pig's tooth)

Illustrates eagerness to find missing link



Does evolutionary theory need a rethink? Nature, 10/8/14

“The number of biologists calling for change in how evolution is conceptualized is growing rapidly. Strong support comes from allied disciplines, particularly developmental biology, but also genomics, epigenetics, ecology and social science. We contend that evolutionary biology needs revision if it is to benefit fully from these other disciplines. The data supporting our position gets stronger every day.

Yet the mere mention of the EES [extended evolutionary synthesis] often evokes an emotional, even hostile, reaction among evolutionary biologists.”

Defeating Creationism in the Courtroom, But Not in the Classroom Berkman & Plutzer, 1/28/11 Science. P404-405

- Only “28% of all biology teachers consistently implement the major recommendations and conclusions of the National Research Council”
- Recommended fix is for those “who cannot accept evolution **as a matter of faith** to pursue other careers.”
- Such statements destroy the credibility of science.
- Darwinism forces scientists to dogmatically ignore known scientific evidence.
- Americans aren’t interested in pursuing a field of study that consistently portrays as unassailable truth ideas that are believed to be wrong, causing the US to fall behind in science (see www.ussci.info).

Mass/Energy Origin Is Unknown to Science

- Oscillating Universe violates: 2nd law & expansion
- Quantum fluctuation of undetectable vacuum energy
- $>10^{500}$ Colliding unseeable “Universes” with 10+ dimensioned “Strings” collapse to our 3 space + time
- “Infinite” energy being(s) convert energy to mass or otherwise supernaturally create universe's 3×10^{55} g or 3×10^{68} joules of mass/ energy
- ALL 4 have unprovable/unverifiable/unfalsifiable assumptions not bound by known science
- All are philosophical or theological beliefs
- It is no more scientific to believe a natural scenario than to believe a supernatural one since known science cannot account for the origin. Most violate conservation of mass/energy and/or increasing entropy.

Fine-Tuned Nature of the Universe

- Physical constants for weak and strong nuclear forces, electromagnetic and gravitational forces, ratios of forces and electron/proton masses, and properties of neutrons are all critical, as are the expansion rate, mass, and density of the universe
- Earth's orbit, tilt, rotation, magnetic field, atmosphere, and composition are life-critical
- Concerning the constants of physics: "The remarkable fact is that the values of these numbers seem to have been very finely adjusted to make possible the development of life." Stephen Hawking, *A Brief History of Time*, 1988

The Uniqueness of Earth

A list of probabilities that any planet within the Universe will possess the specific features within the appropriate range to support bacterial life for 90 days or less is based on a study of >650 astronomical/astrophysical research papers. The probability for occurrence of all 501 parameters occurring on one planet is 10^{-311} . Long-term simple life and intelligent life have much lower probabilities. [H. Ross, "RTB Design Compendium (2009)," Part 3 reasons.org/files/compendium/compendium_Part3_ver2.pdf]

"He who fashioned and made the earth, He founded it; He did not create it to be empty, but formed it to be inhabited." (Is. 45:18)

Universe is "fine-tuned" to allow for life

- "An accuracy of one part in 10^{123} ...the precision needed to set the universe on its course." Penrose in *The Emperor's New Mind*, p.344
- "There is for me powerful evidence that there is something going on behind it all.... It seems as though somebody has fine-tuned nature's numbers to make the Universe.... The impression of design is overwhelming." Paul Davies, *The Cosmic Blueprint: New Discoveries in Nature's Creative Ability To Order the Universe*, 1988, p203
- "A common sense interpretation of the facts suggests that a superintellect has monkeyed with the physics" [F. Hoyle, "The Universe: Past and Present Reflections," *Engineering and Science*, 11/81U, p8-12]
- "If we nudge one of these constants just a few percent ...No carbon, no life. Not even any chemistry. No complexity at all." David Deutsch, Interviewed on *The Science Show: The Anthropic Universe*, 2/18/06.

Infinite Universes Problems: "The Grand Design"

Describes how miraculous it is that the laws of physics allow for a Universe that is hospitable for life, in which the Universe has an excess of matter over antimatter and galaxies with stars (& planets) that last billions of years, "explained using "M-theory"

"Besides the absence of any compelling experimental evidence for M-theory, there is another difficulty — its predictions are far from unique. There are 10^{500} different ways to curl up the extra seven dimensions and hide them, and how they curl up determines the fundamental constants and what we four dimensional creatures see as the laws of physics." [M. Turner, "Hawkings: No miracle in the multiverse," *Nature*, 10/7/10, p657-658]

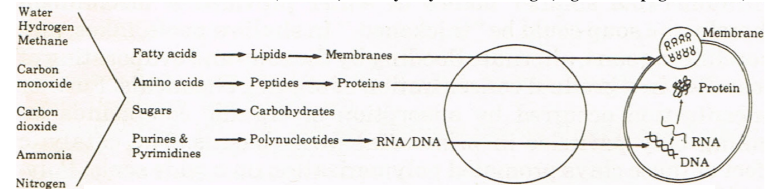
God: The Failed Hypothesis Victor Stenger, 2007

- “A plausible scientific model... need not be proven to be correct, just not proven incorrect.” p17 (plausible does NOT mean not impossible)
- “The hypothesis of a God... is falsified by the absence of data.” p188
- “**Theists** who argue that the universe is fine-tuned to earthly life have the **burden of proving that no other form of life is possible...** in every **conceivable** universe that has different physical parameters.” p154
- There is a “**possibility** that an appreciable number of planets exist with conditions that, while unsuitable for our form of life, can support some kind of life” p144 (in science “possible” = proven non-zero probability)
- “Well-understood **physical and chemical processes... are sufficient to account for the observed interactions between various parts of living organisms.**” p85
- “The equations of cosmology that describe the early universe apply equally for the other side of the time axis” p126
- “The three great conservation laws are not part of any structure. Rather they follow from the very lack of structure” p131

Origin of Life Observations

- **Could a Protocell Live and Reproduce Without a “Genome”?** Reliable, yet evolvable, replication is fundamental to life. Cybernetically-controlled chemical metabolic networks are needed to admit and process fuel to harness energy for growth, reproduction, manufacturing, etc. (Johnson, “What Might Be a Protocell’s Minimal Genome?” in *The First Gene*, 2012)
- “**The origin of life remains one of the most vexing issues in chemistry, biology, and philosophy,**”
Bioinorganic Photochemistry, 2009, p109
- “The challenge for an undirected origin of such a cybernetic complex interacting computer system is the need to demonstrate that the rules, laws, and theories that govern electronic computing systems and information don’t apply to the even more complex digital information systems that are in living organisms.” Johnson, *Probability’s Nature and Nature’s Probability*, 2009/2010, p48.

Chemical Evolution (Thaxton, *The Mystery of Life’s Origin*, Fig.2-1 and page182 & 186)



“Chemical evolution is broadly regarded as a highly plausible scenario for imagining how life on earth might have begun. ... what has emerged over the last three decades ... is an alternative scenario which is characterized by destruction, and not the synthesis of life. ... The undirected flow of energy through a primordial atmosphere and ocean is at present a woefully inadequate explanation for the incredible complexity associated with even simple living systems”

True for Proteins, DNA/Enzymes, RNA (ribozymes), or Metabolism First

Natural Science Probabilities of Life

Law of Probability allows a maximum probability of forming-

- a typical functional protein^a: 1 part in 10¹⁷⁵
 - the required enzymes for life^b: 1 part in 10^{40,000}
 - a living, self-replicating cell^c: 1 in 10^{340,000,000}
- ^aThaxton, Bradley, & Olsen, *The Mystery of Life's Origin*, 1992
^bFred Hoyle, *The Intelligent Universe* pp. 16-17, 1983
^cHarold Morowitz, *Energy Flow in Biology*, p. 99

Equivalent to winning each (once is 1 in 41,416,353) CA Superlotto for: ^a23 times, ^b50 years, ^c125 million years

- **Life is unfathomably complex: “Functionally effective proteins have a vanishingly small chance of arising spontaneously in a prebiotic environment.”** Jimenez-Montano, “Applications of Hyper Genetic Code to Bioinformatics”, *J. Biol. Sys.* (12) pp5-20, 2004

Interesting Observations

- "None of the papers published in JME (Journal of Molecular Evolution) over the entire course of its life (1971-) as a journal has ever proposed a detailed model by which a complex biochemical system might have been produced in a gradual, step-by-step Darwinian fashion." *Michael Behe, Darwin's Black Box: the biochemical challenge to evolution, 1996, p176*
- "The unexpected levels of complexity revealed at the molecular level have further strained the concept of the random assembly of a self-replicating system." *AW Swee-Eng, "The Origin of Life: A Critique of Current Scientific Models", CEN Tech. J. 10-3, pp300-314, 1996*
- "It's hard to see how the chemicals on early Earth could have combined to form the complicated nucleotides that make up RNA." *John R. Davenport, "Possible Progenitor of DNA Re-Created," Science Now, 11/16/00, p1*

Intelligent Design

- ID is NOT connected to any theology
- "God" is not a required belief (but is certainly compatible), e.g.— Hoyle states "the intelligence which assembled the enzymes did not itself contain them...which by no means need be God, however." *Evolution From Space, p. 139*
- Science currently restricted to "undirected natural processes". Consideration of intelligence, design, and purpose are not allowed.
- ID makes better science:
"Vestigial organs" & "junk DNA" have purpose.
Over 80% of DNA has known functionality, up from <2% (junk for 30 years, until 2012 studies)

Intelligent Design Basics

- ID "holds that certain features of the universe and of living things are best explained by an intelligent cause, not an undirected process such as natural selection. (Discovery Institute Website) (Religious implications doesn't make ID a religion)
- Until known science can demonstrate feasible scenarios for the Universe's fine-tuning and informational features of life arising by undirected nature, science must recognize that intelligence is the **only** scientifically feasible source, making ID a certainty based on known science.

The Best Explanation of Observations

- "Limiting science to a predetermined set of acceptable explanations naturally begs the question, 'What if there is no natural explanation?' What if, in fact, an intelligent agent was responsible for DNA, etc.? Science would forever miss it and would continue to squander intellectual and financial capital on finding naturalistic answers that do not exist. Scientific progress depends heavily upon discovering blind alleys and rejecting failed theories. This is simply the way that science works, and thus, ID theory should be seen as invigorating, not stifling, scientific investigation." www.uncommondescent.com/education/open-inquiry-the-new-science-standard/
- Occam's razor: "the explanation of any phenomenon should make as few assumptions as possible, eliminating those that make no difference in the observable predictions of the explanatory hypothesis or theory... entities must not be multiplied beyond necessity... 'All other things being equal, the simplest solution is the best.' In other words, when multiple competing theories are equal in other respects, the principle recommends selecting the theory that introduces the fewest assumptions and postulates the fewest entities."

Pertinent US Court Rulings

1980 Supreme: implications of material alone do not make a religion even if they “coincide or harmonize with the tenets of some or all religions.”

1961 Supreme: “Among religions in this country which do not teach what would generally be considered a belief in the existence of God are ... Secular Humanism.”

2005 Appellate: “Atheism is religion, and the group... was religious in nature even though it expressly rejects a belief in a supreme being.”

1961 Supreme: “religious beliefs... are based... upon a faith to which all else is subordinate Some believe in a purely personal God, ... others... as a way of life”

IPCC-GW criticized by tens of thousands of informed scientists

- Heidelberg Appeal (4000 signatures including 62 Nobel prizewinners), The Oregon Petition (31,000 accredited scientists), The Manhattan Declaration (600 research climatologists), The Petition to the United Nations (100 geoscientists), Statement from the American Physical Society (150 physical scientists), UN Climate Scientists speak out on Global Warming (700, many previously involved with the IPCC), etc. All are critical of the notion of man-made global warming.
- IPCC's charter: "to assess... risk of human-induced climate change"
- Fifty-three authors and five reviewers are all that can be said to *explicitly* support the claim of a significant human influence on climate. The figure of 4000 is a myth". (professor Penny Sackett)

Examples of Twisting Facts to Support Bias

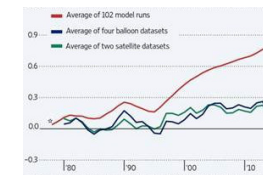
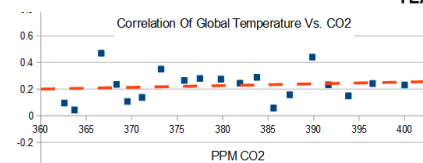
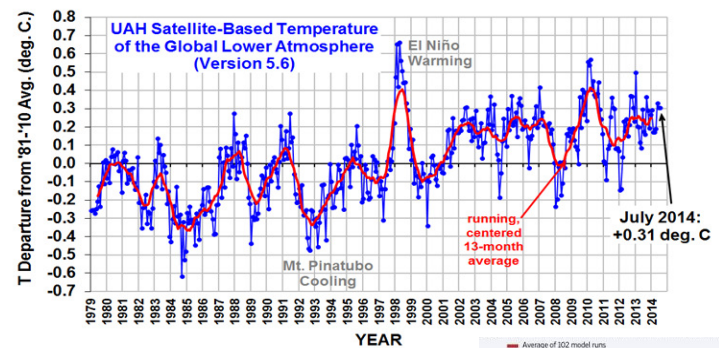
Barbara Forrest, 9/27/12.lasciencecoalition.org/2012/09/27/discovery-institute-apologist-in-louisiana/

Donald E. Johnson — An ID apologist with a background in computer programming.

Larry Moran, <http://sandwalk.blogspot.com/2011/08/don-johnson.html>

“He has several of the common characteristics of Intelligent Design Creationist proponents: ... multiple Ph.D.s. I'm really intrigued by the fact that so many IDiots have more than one Ph.D. because I hang out with real scientists all the time and none of them have ever felt the need to be a graduate student more than once in their lives.”

Global Warming? (flat for 17 years)



Registered clinical trials make positive findings vanish
Chris Woolston, Nature 524, 269, 8/20/15

A 1997 US law mandated the registry's creation, requiring researchers from 2000 to record their trial methods and outcome measures before collecting data. The study found that in a sample of 55 large trials testing heart-disease treatments, 57% of those published before 2000 reported positive effects from the treatments. But that figure plunged to just 8% in studies that were conducted after 2000.

'Controversial' Science Topics Are Edited More Often
While topics like evolution, alternative medicine, climate change, and nuclear power are not scientifically controversial, they are politically controversial. It is for this reason that those topics often fall victim to "edit wars" on Wikipedia, where users alter information to fit their biased beliefs or tarnish the integrity of the page with slanderous statements.

Wikipedia entries on politically controversial scientific topics can be unreliable due to information sabotage. PLOS ONE, 2015; 10 (8): e0134454 DOI: 10.1371

The Case Against Scholarly Consensus
Christopher Ferguson, The Chronicle Review, 8/10/15
American Psychological Association had colluded with the Department of Defense to change the APA's ethics code, giving psychologists cover to participate in torturous interrogations... This case is a particularly disturbing example of a problem throughout the social sciences: the crafting of false consensus statements to promote ideological or political goals. False consensus does great, sometimes irreparable, damage to science.

CSU-Northridge Scientist Fired for Triceratops
Mark Armitage findings were of soft tissue only thousands of years old were published in July 2013 in a peer-reviewed scientific journal. Shortly after the original soft tissue discovery, a CSUN official told Armitage, "We are not going to tolerate your religion in this department!"

Top 10 Retractions of 2013 *The Scientist*, 12/30/13
“with a few weeks to go in 2013, there have been 511”

64 more papers retracted for fake reviews, this time from Springer journals there have been about 1,500 papers retracted overall since 2012. *Retraction Watch*, 8/17/15

Social Sciences Suffer From Severe Publication Bias
Mark Peplow, *Nature*, 8/28/14

“Survey finds that ‘null results’ rarely see the light of the day. When an experiment fails to produce an interesting effect, researchers often shelve the data and move on to another problem. But withholding null results skews the literature in a field, and is a particular worry for clinical medicine and the social sciences.” Science is “really poisoned by only hearing about the successes.”

A Scientific Look at Bad Science *The Atlantic*, 2015 (9)
“2 percent of scientists admitted to having fabricated, falsified, or modified data or results at least once, and as many as a third confessed “a variety of other questionable research practices including ‘dropping data points based on a gut feeling,’ and ‘changing the design, methodology or results of a study in response to pressures from a funding source?’”

Many scientists blame increased competition for academic jobs and research funding, combined with a “publish or perish” culture.

A researcher ... wrote in *Nature* that when his team tried to reproduce 53 landmark cancer studies, they could replicate just six.

Common Core Facts & Problems

Common Core takes from parents their primary right regarding the education of their children.

- **Common Core Frustrates the Purpose of Education: Goal is Making Students “Career and College Ready”**
- **CC by its standardized teaching and testing seeks to create a massive machine of education.**
- **CC Standards require children’s personal information to be provided to a database that can be expected to sell or share the data to unspecified companies**
- **CC has Devastating Impact on Literary Study and Analytical Thinking**
- **e.g. -- Common Core Civics Assignment: Revise the Constitution’s Outdated Bill of Rights**

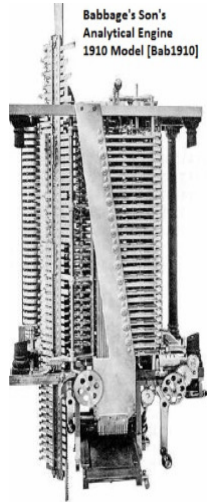
Life as Computer System?

Mechanical computer designed 1837

“The machine code of the genes is uncannily computer-like. Apart from differences in jargon, the pages of a molecular biology journal might be interchanged with those of a computer engineering journal.” Dawkins River Out of Eden, p17

“Human DNA is like a computer program but far, far more advanced than any software we’ve ever created.” Bill Gates, *The Road Ahead*, p.228.

“Life is basically the result of an information process, a software process. Our genetic code is our software.” Craig Venter, 2010 Guardian interview.



Science Needs to Provide Plausible Mechanisms to Explain **How did nature:** write the prescriptive programs needed to organize life's metabolism?

formally solve life's other complex problems and write the programs?

develop the operating systems and programming languages?

develop the arbitrary protocols for communication and coordination among the thousands (or millions) of computers in each cell?

develop alternative generation of prescriptive messages using techniques such as overlapping genes, messages within messages, multi-level encryption, and consolidation of dispersed messages?

defy computer science principles by avoiding software engineering's top-down approach required for complex programming systems?

produce complex functional programs without planning by randomly modifying existing algorithms?

simultaneously modify multiple such programs to result in the production of irreducibly complex structures?

(from “Programming of Life” -- [www. programmingoflife.info](http://www.programmingoflife.info))

What is A Computer?

Necessary and sufficient requirements for a functional computer are:

- Input (or embedded data)
- Memory and internal data transfer
- An instantiated algorithm (program)
- Processing capability
- Capability to produce meaningful output

Electronic and biological computers have multiple components

- DNA/RNA can store program instructions to be executed
- Proteins can be processing and communication components
- Proteins and cellular controls are examples of output
- **In each cell, there are multiple OSs, multiple programming languages, encoding/decoding hardware and software, specialized communications systems, error detection/correction mechanisms, specialized input/output channels for cell component control and feedback, and variety of specialized “devices” to accomplish the tasks of life.**

Speculation and Integrity in Science

- Speculation within the scientific community is important when generating or imagining new scientific theories.
- Avoid propagating speculations as something worthy of consideration by non-scientists.
- Science has suffered a reputation decrease because of unsubstantiated speculations.
- The argument "we don't yet know how this feature can arise by undirected natural processes, but we will someday" is not a scientific statement, but is faith based on "naturalism of the gaps" dogma, which has no more scientific validity than appeal to the "God of the gaps" as explanation for complex systems.