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**Comments on
“Creationism in 3 Flavors ... and a Jewish Response” 022308**

First off all, I want to thank Congregation Beth Shalom, Oak Park, for its very kind invitation to speak. (<http://www.congbethshalom.org/>)

I am happy to be here. Since 1977, I have on a number of occasions debated Christian Creationists, but this is the first time I have spoken to a Jewish group and had the chance to think through the Jewish implications of this problem.

All slides in this PowerPoint presentation and my comments today are on my Web site at <http://www.cse.msu.edu/~weinshan/> as noted in the first slide. After Shabbat, you can work through these slides and click on any of the links to go to the sites I referenced.

I said that I would not discuss the theories of evolution, meaning “Descent with Modification” and “Natural Selection.” The last time I taught such a course, this took roughly 30 hours of lecture and 40 hours of lab work including computer simulations.

1. Slides 2 and 3 summarize major classes of evidence and major types of dating from that course.
2. Slide 4 points you to some of the world’s best work on evolution, currently being done in the Digital Evolution Lab at Michigan State University.
3. Slide 5 lists three flavors of Creationism and an overview of this talk.

Slide 6 gives you some of the major ideas of Young Earth Creationism. I should tell you that I have several file drawers full of materials used in a course I taught in 1976 with Professor John N [“for negative,” as he used to say] Moore. He and other Young Earth Creationists argued that

- All inferred evolutionary relationships are merely “imagined.”
- There were no new species in the fossil record; he used the Hebrew word *min* rather than “species” to mean “kinds” or a “fixed group.” Modern evolutionists of course have a very specific understanding of what a “species” is and how species become isolated from each other
- Many Young Earth Creationists agreed that there were fossils in the rocks but said that, like radioactivity, they were put there as a test of human belief in the Biblical account, i.e., the world has an “appearance of age.”

That is, the universe was created with the fossils already in the rocks, light already en route from distant stars and so on.

Slide 7 gives you more of this argument. In case you think that I am describing a problem from the distant past, on January 11 of 2007, Doug Sharp of Lansing wrote to the Lansing State Journal

"I have a copy of Tom Vail's book "The Grand Canyon: A Different View," the book that is causing all of this controversy because it advocates a catastrophic origin of the canyon related to the biblical flood.

"Apparently, the LSJ ("To the Point," Jan. 6¹) is advocating we censor this book and write our congressmen to have it banned. I say if you think it will damage your faith in atheism, don't buy it."

I replied a few days later

"Mr. Sharp and Mr. Vail are entitled to their own opinions but not to their own facts. If you want the facts, take your family on a vacation to the Grand Canyon. You will see many alternating layers of land fossils and ocean fossils. The land repeatedly rose above sea level and sank below sea level over millions of years. The details are at http://www.kaibab.org/geology/gc_layer.htm

"The whole issue got hammered out in the '30's and '40's - I mean the 1830's and 1840's - under the name "The Uniformitarianist-Catastrophist Debate" and involved the greatest scientific minds of the day.

"But then was then, and now is 2007."

These folks also make claims about the fossil record and put forth evidence which, if true, would seriously damage our understanding of the evolutionary sequence. For example, they claimed for about 15 years that there were human and dinosaur footprints crossing each other in the limestone of the Paluxy River near Glen Rose, Texas.

I can only add that I did a frame-by-frame analysis of their movie, "Footprints in Stone," and showed my class that the "human" footprint had the arch on the wrong side and that each toe imprint ended in a sharp depression. Even if I let my toenails grow, they will not turn down. What we were seeing was the imprint of a five-toed, well characterized dinosaur. Eventually, the movie was withdrawn, but you can still find references to it.

¹ Editorial opposed to including Intelligent Design in the curriculum.

Slide 8 is a small sample of a set of photos of early hominids which a colleague took at the Field Museum in Chicago. To Young Earth Creationists, they are either descendants of Adam and Eve or degenerate Antediluvian animals from before the Flood and can tell us nothing about modern humans. The last one is the Piltdown Hoax, which was actually the first of the modern hominid finds. It was debunked by some hard working scientists, not Creationists. When I gave my students the entire set of skull photos including this one – not telling them what it was – they inevitably moved this skull to one side and were unable to place it in any hominid sequence.

Slides 9, 10 and 11 give you some key references. Note particularly in Slide 10 that the new Creation Museum in Kentucky, which shows humans children and dinosaur young at play, has attracted a couple of million people this year.

In short, Young Earth Creationism is, sadly, alive and well.

Slide 12, which is Judge Overton's decision in the McLean case, is possibly the best statement of the way science actually works that I have even seen. It reminds me of the question that somebody once asked Pete Seeger: "What is folksong?" He replied, "Folksong is songs that folks sing," **and science is what scientists do and report in scientific journals.**

- Guided by natural law
- Explanatory by reference to natural law
- Testable against empirical world
- Conclusions tentative, not necessarily final word
- Falsifiable [Popper: capable of being tested and shown to be false]
- Creation science "fails to meet these essential characteristics" [Judge Overton wrote] and thus is "not science."

Keep this in mind as we skip Slide 13 about Old Earth Creationism. This is just the Creationism that we have been discussing but with the added twist that people are a recent invention in an otherwise old world.

Slide 14 takes us into the modern Creationism, Intelligent Design.

Here is a bit of autobiography. When I finished my M.S. in Food Science and Technology at the University of Wisconsin, where I was the world's reigning – and only – expert on canned carrots, I "played careers" for a bit. What I really wanted to do was to go into the History and Philosophy of Science. Some serious market research suggested that I would be well educated but unemployable, so I got a Ph.D. in Biochemistry instead. However, in the course of several long discussions with Professor Ihde, then Chair of the History of Science Department at Madison, he said,

Don! Always keep in mind that we historians of science are not scientists. We are like the guys who sweep up after the elephants

in the circus. We aren't the elephants, but we try to figure out where they've been.

Slides 15-16 detail the "Wedge Strategy," an explicitly political document with an unambiguous religious goal.

"To see intelligent design theory as an accepted alternative in the sciences and scientific research being done from the perspective of design theory."

As Pennock details in this book, *Intelligent Design Creationism and Its Critics*, the Intelligent Design movement attacks the very foundation of science, the view that any scientific statement must be testable within the confines of what can be observed, measured and calculated. Intelligent Design argues for the admission of non-testable assumptions such as the intervention of an outside "Intelligent Designer" when experiments do not work.

Before moving on, I need to tell you that I am on the Board of the **Michigan Citizens for Science**, a diverse group which works extremely hard to see that science – and only science – is taught in science classrooms. [I've referenced the MCFS in the last slide.] My particular task is to receive literally hundreds of GOOGLE alerts a year about I.D, sending only the most relevant to other members of the Board.

From this vast flood of information, I can tell you the characteristic of Intelligent Design arguments, and I urge you to look at the Discovery Institute, that Mother Temple of the Intelligent Design movement, referenced on Slide 15. I want you to confirm for yourself what I am saying.

1. They argue that ID is not Creationism. Indeed, they go to great lengths to disassociate themselves from Young Earth and Old Earth Creationism.
2. They argue that the scientific enterprise is limited by its naturalism, which means recourse only to observation and measurement. They want to invoke outside causes.
3. They argue that the scientific establishment is biased against I.D. publications, again because peer-reviewed journals will not accept articles which argue for causes which lie outside of the measurable.
4. They claim that 'an increasing number of scientists are rejecting Darwinism,' even though they can name only a handful who are willing to go on record.
5. They claim that they have many fine scientists who publish in major journals. This piece is true as far as it goes, but the publications they cite are in areas unrelated to Intelligent Design.
6. They attack Darwin as if Darwin himself were the last word on evolutionary theory. Any competent evolutionist can spend an hour talking all of the things that Darwin got wrong. For example, he knew nothing at all about Mendel's genetics, and the synthesis of genetics and evolution did not occur until well into the 20th Century.

7. They attack Darwin's mechanism of "natural selection" as if we did not today recognize many other evolutionary mechanisms in addition.
8. Their rhetoric is marked by high levels of invective and *ad hominem* attack. For example, after Judge Jones' decision in the Dover case, referenced below in Slide 21, the Discovery Institute and others launched attacks on him as an "activist judge"-- attacks which continue to this very day -- even though he wrote

"Those who disagree with our holding will likely mark it as a product of an activist judge. If so they will have erred as this is manifestly not an activist court."

9. Last, but hardly least, they flatly refuse to name the Intelligent Designer, a point on which I challenged my opponent in debate posted on my Web site. They say in effect, "Vote for my guy, but I won't tell you who it is."

With that background, let me turn to "Irreducible Complexity," the absolute touchstone of the I.D. movement. (Slide 17). As its proponent, Michael Behe writes,

"By Irreducibly Complex, I mean a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning."

(See slide 18.) Behe's claims that the bacterial flagellum, the sort of molecular oar that propels the bacterium, cannot be explained by science.

The problem is that he is wrong, dead wrong. Slide 19 is from the Proceedings of the National Academy of Science for last April, in which the authors carefully detail the evolution of the bacterial flagellum from pre-existing, simpler bacteria.

Slides 20 and 21 summarize the whole field. My own token contribution to the argument is a paper listed in Slide 20. I would be happy to send you a copy.

Finally, Slide 21 lists key references including the great Dover, Pennsylvania trial on Intelligent Design, the subject of a recent PBS special, "Judgment Day: Intelligent Design on Trial." Even I, who know little about the law, thought that Judge Jones' 139 page decision was magisterial. You can find it at many places on the Web, but I can send you a copy with an appended Table of Contents if you are interested.

In summary, Intelligent Design is not science, not even close.

Now I will turn to the implication for *halakhah* (Jewish Law). In what follows, understand that I talk about Jewish views of Creation and Jewish views of Evolution as being a single question, not two. Both draw on the same metaphysical and religious concerns: how God and the world interact.

Slide 22 is the first five verses of *b'reshit* from Trope Trainer. Note that, for *halakhic* reasons, I do not print the names of God.

Slides 23 through 25 give you various translations of the first five verses. I want you to particularly note that *b'reshit* cannot under any reasonable grammatical construction, mean “In the beginning” but only “In the beginning **of**.....” That is why all modern Jewish translations, starting with the JPS 1985-1999 translate these verses differently.

Creation, to us Jews, is a process -- an ongoing process. This is illustrated in Slide 26 where we thank God for “renewing creation” each day.

Furthermore, in your honor, I arranged for a total eclipse of the Moon last Wednesday night. I did this because the *b'racha* is *oseh ma'aseh b'reshit* / “...Who makes the work of Creation.” I can look at the Moon and recite this *b'racha*, and, at the same time, remember that there are something like 14 terms in the equation which describe the orbit of the moon. Both descriptions are correct.

Slide 28 illustrates this superbly. On both Shabbat and weekday, we recite this *Mi'cha'desh* prayer. Here are four translations from across the denominations, all of which reflect the view of “creation as an ongoing process.”

Slide 29 introduces you to Rabbi Natan Slifkin’s widely-praised book, one which was, however, searingly condemned by Ultra-Orthodox sources. I keep citing him in Slides 29-31 precisely because he shows that our Tradition – from the Mishnaic Rabbis of the First Century, all the way through Rambam / Maimonides and the Medieval commentators to the present – had a profound and subtle understanding of natural law and creation.

As Slide 30 stresses, our sages argued that what we call “miracles” really are built in to the Laws of Nature from the beginning. (Slifkin analyzes the modern intrusion into Judaism of “interventionist prayers,” ones which ask God to suspend the laws of nature for an individual’s benefit. On page 70, he attributes this development to the influence of the Baal Shem Tov and the rise of the Chabad movement.)

Slide 31 summarizes my argument. As I wrote in the Lansing State Journal on June 20, 2005

“Science can tell you how quickly things fall but not why you shouldn’t kick canes out from old ladies.”² If you want an answer to THAT question, look to your religion and your system of ethics and morals.

² I swiped that line from Richard Elliot Friedman. In a later E-mail exchange, he told me that he swiped it from somebody else, so I don’t feel too badly.

“When people – all people anywhere – talk about “religion,” they believe in some being who is utterly beyond full human understanding ...

“Sadly, for “intelligent design” creationists, they want to use “this world” tools to prove that the being exists.”

Slide 32 tracks such “proofs” to sources such as Aquinas. These Intelligent Design arguments are just modern versions of the old “God-of-the gaps” ones in which every unanswered question defaults to God.

The threat to *halakhah* is that such shoddy creationist “science” attempts to prop up religion. Kick out the creationist props – as in the Behe flagellum example – and you harm the very people who relied on these props to support their view of the religion.

But our Tradition rejects such “props” in the first place. We are in some ineluctable sense descendents of *torah mi’sinai*, however differently each of us interprets that phrase. To our most ancient rabbinic sources, God was seen as the Ultimate Cause, a view which resonates well with many of the most profound questions raised by modern Cosmology, as Slifkin documents.

Our Tradition neither needs nor seeks the kind of pseudo-science support which Intelligent Design Creationism offers. Intelligent Design actively makes God an obstacle to investigating the wonders of God’s creation. **After three decades of fighting this battle, I have therefore concluded that Creationism in its various flavors constitutes *chillul ha’shem* / desecration of God’s name.**

I leave the last words to that great Protestant theologian Paul Tillich in slide 33 and to that great scientist and self-described “agnostic Jew” Stephen Jay Gould in Slide 34.

Tillich:

“The distinction between the truth of faith and the truth of science leads to a warning, directed to theologians, not to use recent scientific discoveries to confirm the truth of faith..... The truth of faith cannot be confirmed by latest physical or biological or psychological discoveries—as it cannot be denied by them.”

Gould:

- “The text of *Humani Generis*³ [a major Papal Encyclical] focuses on the magisterium (or teaching authority) of the Church—a word derived ...*from magister* ...Latin for “teacher.”

³ http://www.vatican.va/holy_father/pius_xii/encyclicals/documents/hf_p-xii_enc_12081950_humani-generis_en.html

- ... principled resolution of supposed "conflict" or "warfare" between science and religion. No such conflict should exist because each subject has a legitimate *magisterium*, or domain of teaching authority-and these *magisteria* do not overlap
- ... NOMA, or "nonoverlapping *magisteria*").
 - The net of science covers the empirical universe: what is it made of (fact) and why does it work this way (theory).
 - The net of religion extends over questions of moral meaning and value.
 - These two *magisteria* do not overlap”

Shabbat shalom.