

Corrections and Additions to *The Challenge Of Creation*
(2006 edition; these changes are incorporated into the 2008 edition)

(note: only significant revisions are listed)

pp. 47-48 – removed paragraphs and footnote discussing argument from causality; it is far from watertight and it distracts from the argument from design, which is the subject of this section.

*p. 55 – addition to the refutation of the claim that the existence of multiple universes removes any indication of a Creator: And even if one does propose the existence of such universes, it does not answer the question of where the ultimate laws of science come from: “The multiverse theory is increasingly popular, but it doesn’t so much explain the laws of physics as dodge the whole issue. There has to be a physical mechanism to make all those universes and bestow bylaws on them. This process will require its own laws, or meta-laws. Where do they come from? The problem has simply been shifted up a level from the laws of the universe to the meta-laws of the multiverse.” - Paul Davies, “Taking Science on Faith,” *The New York Times*, November 24th 2007*

*pp. 61-62, “The Downside of Miracles.” An additional voice for this idea is Rabbi Yonasan Eibenschutz: “God only performs miracles out of great necessity... the miracles that were performed for our ancestors in early times were done out of great need... for the people were attached to idolatry... God therefore performed miracles and wonders which mostly involved changing nature, to show them that their inherited idolatrous beliefs were false... and therefore that which we find that miracles ceased from the days of Esther and onwards, was not due to a flaw in our faith, but rather to a perfection in our faith...” (*Ya’aros Devash* I:3).*

*Addition to footnote 2 on page 63: It is unclear and debated as to whether Rambam also adheres to this position in the *Guide of the Perplexed*. See Joseph Heller, Maimonides’ Theory of Miracles, in A. Altmann (ed.), *Between East and West - Essays Dedicated to the Memory of Bela Horovitz* (London: East and West Library 1958), pp. 112-127.*

p. 70, in the top paragraph, “Ramban (Nachmanides), although popularly thought to maintain a view that miraculous providence is very widespread, is actually of a very different view. His opinion is that although providence does involve supernatural (albeit “hidden”) intervention, it occurs only in very rare cases; for select righteous individuals and, under exceptional circumstances, for the Jewish nation in general. Most individual people’s lives are run by natural law.” should be replaced with: Ramban (Nachmanides), although popularly thought to maintain a view that miraculous providence is all-encompassing, is actually of a very different view. His opinion is that the continuous miraculous providence which functions at a national level is only when the nation is of a high spiritual caliber. And barring the absolutely righteous and the

absolutely wicked, most people's lives follow natural law, except with regard to reward and punishment which take place via hidden miracles.

pp. 125-127, "*The Rainbow and Ramban.*" Add footnote at end: See too Ramban to Genesis 35:16, where he notes that his visit to Israel made him realize that the belief that Rachel was buried in Rama was impossible, and he therefore posits that the verse seemingly attesting to that is to be interpreted metaphorically.

p. 178, footnote 1 regarding *Seder Olam* has been expanded into a new section:

Difficulties in the Calendar

One objection raised against reinterpreting the six days to refer to something other than six ordinary days is that it undermines halachic practices that involve the Jewish calendar. Since legal documents, such as divorce bills, are dated according to the years elapsed since creation, it is claimed that the notion of the universe being created billions of years ago undermines the validity of this system.

The first point to note in this discussion is that dating events from creation has only been done following Talmudic times. Previously, events were usually dated according to the reigning monarch or based on the time elapsed since the destruction of the Temple. The calculation of the number of years since creation is given in the Tannaic work *Seder Olam Rabbah*. However, the chronology given in this work has not been universally accepted as authoritative; authorities such as Ramban have disputed it.¹ The suggestion has also been made that the count of years given in *Seder Olam* was deliberately intended to be incorrect; Rabbi Shimon Schwab controversially suggested that the prophet Daniel concealed 168 years from Jewish history.²

In light of such disputes, it is clear that the problem of documents being dated from creation began long before the issues raised by modern science. However, in all these cases, the solution is simple: dating documents in this way is a convention, rather than a binding attestation to a historical reality. The simple proof of this is that legal documents, when giving the date in terms of the year from creation, include the phrase "according to the method of counting in this place." This is because there were some disputes regarding how to count the years, forcing us to acknowledge the role that convention plays in this calculation.³

A similar situation exists with the procedure of *birchas ha-chamah*, the blessing recited every twenty-eight years when the sun returns to the same position that it was in during the

¹ See *Otzar HaGeonim, Miluim al Chagigah*, p. 65, quoting Rav Saadiah Gaon regarding not relying upon Aggadah in stating that one is not required to unconditionally accept *Seder Olam*. Ramban in several places notes that the chronology of *Seder Olam* is not binding; see his commentary to *Yevamos* 61b, Exodus 12:40 and Exodus 12:42. (I am indebted to Rabbi Chaim Eisen for these references.)

² *Selected Speeches*, chapter 21, pp. 260-284. He later formally retracted this suggestion, but this author heard directly from one of his grandchildren that this retraction was done due to pressure rather than a change of heart.

³ See Responsa Rashbatz 3:301 and *Pischei Teshuvah, Even Ha-Ezer* 127:16.

week of creation. This universally acknowledged to be a convention rather than a precise historical attestation – it is based on calendrical reckonings that are known to be useful approximations rather than precise calculations.⁴

One may still ask, though, that while disputes and inaccuracies in the calculations do not undermine the force of conventions, these conventions nevertheless serve to mark the starting position of creation. How can we utilize such conventions if we are accepting the scientific picture of the universe’s development? In order to understand why this is not a problem, we need to first explore some questions that are raised regarding a component of the calendar which has the commemoration of creation as its very goal: Shabbos.

p. 183, following the section concerning Shabbos comes a new section:

The Nature of Shabbos

There is another issue relating to Shabbos that is raised by some as an objection to interpreting the six days of Creation in such a way as to match the contemporary scientific account of the development of the universe.⁵ Since the Torah describes God as having created the world in six days and then ceasing from such activity on Shabbos, this must mean that there is a fundamental difference between the way in which God interacted with the world during creation and the way in which He interacts with the world today. Thus, the way in which God interacts with the world today – i.e., via the laws of nature – could not have been the way that God operated while creating the world. One cannot maintain that the planets and stars and animal life were formed via naturalistic processes, since such processes would still be at work today. A distinction must be drawn between Creation and Shabbos. But if the six days of Genesis are describing the physical, chronological history of the development of the universe, ending 5768 years ago, and the creative activities of Genesis refer to these events, then in which way did God cease from creative activity?

One could answer this by saying that when the Torah says that God rested from creation, it means only that creation was concluded vis-à-vis the universe being ready for man, but not that the nature of creative activity itself finished. Accordingly, God’s creative activity during the six days could be seen as functioning via the laws of nature even though such activity continues through today. However, one might find this answer unsatisfactory in terms of the Torah seemingly describing God as refraining from creative activity.

There is another approach to this objection. We may, in any case, be forced to acknowledge that we cannot truly understand the nature of Shabbos. The Torah states that on the seventh day, God “rested and was refreshed” (Exodus 31:17). We might explain “rested” to mean that God refrained from further acts of creation, but what does “refreshed” mean? While some of the commentaries present explanations on the level of *derash* (homiletic exegesis), nobody has any other translation on a level of *peshat* (simple layer of

⁴ See Rabbi J. David Bleich, *Bircas HaChammah* (New York: ArtScroll Mesorah 1981) for an excellent discussion of this issue.

⁵ Rabbi Shlomo Miller, personal conversation, 5th December 2007.

meaning) other than it referring to recovering one's strength via rest. Obviously such a notion cannot be applied to God, which forces us to accept that this phrase is presenting Shabbos not in terms of its genuine meaning, but rather in terms that are easily accessible to man. Rabbi Shlomo HaKohen of Lyssa (18th century) notes that, in any case, we are forced to explain Shabbos in this way:

The power of our comprehension is insufficient to understand things except in the language of man, and therefore it states "and He was refreshed." For even if it stated that on the seventh day He did not make anything, this would not be in accordance with the way that we understand it, for just as everything was made according to His will so too it all constantly endures through today according to His will. And this is why God is described as the Maker of Heavens, in the present tense, since they always exist only due to His will, both before us and after us. Therefore, do not be surprised about the word "refreshed," for the Torah speaks in the language of man.

Rabbi Shlomo HaKohen, *Avi Ezer* to Ibn Ezra, Exodus 31:17

As a parable, consider the custom on Passover night to dip one's finger in wine and spill ten drops on the table. This serves to allude to "the finger of God" that smote the Egyptians,⁶ and yet Judaism maintains that God most certainly possesses no such thing. However, although we cannot grasp the nature of how God smote the Egyptians, the Torah presents it as happening via His finger smiting them so that we can relate to it and commemorate it in our own terms. Likewise, although we must acknowledge that we cannot truly understand the nature of God creating and then resting, we relate to it in our terms by observing Shabbos. This is the approach presented by my mentor, Rabbi Aryeh Carmell of blessed memory:

It is apparently believed by some that acceptance of a non-literal time-scale for creation might remove the basis for Shabbos observance, one of the fundamental laws of the Torah. Others however do not feel that there is any force in this argument. The true nature of God's creative activity during the six days and the sense in which He can be said to have "rested on the seventh day" must remain forever beyond our comprehension, whether the days are taken literally or metaphorically.

Rabbi Aryeh Carmell, *Challenge* p. 259

Some may still be dissatisfied with this approach. In attempting to synchronize the six days of creation with the billions of years of the universe's development and to interpret it as a scientific account that is meaningful in the 21st century, we are stripping Shabbos of *any* genuine meaning that we can understand, in terms of God ceasing creative activity. This is indeed a difficulty with the idea of synchronizing the six days with science, but we will present a solution in the context of a fundamentally different approach to understanding creation. But first, we will look at some other serious difficulties with the day-age approach.

⁶ *Darchei Moshe*, cited in *Mishnah Berurah* 473:74.

P. 189, citation from Shem Tov Ibn Falaquera should be Shem Tov Ibn Joseph

P. 190, footnote to be added to the citation from Abarbanel: Some people have been led astray by Abarbanel's later comments on p. 86, where he writes that Rambam "did not compose an [allegorical] interpretation and did not veer from the literal interpretation of the verses as the Torah describes it..." to believe that Abarbanel at this point revised his understanding of Rambam's position. But considering that on p. 10 he explains Rambam's position on the non-chronological sequence in full, describes it as a secret that was revealed by others, then proceeds to condemn this approach in the harshest terms, it is most unreasonable to think that *sixty-seven* pages later he decides that Rambam didn't really hold that view at all, without explicitly spelling that out, without stating that there is no need to condemn Rambam for holding such a view, and without stating that everyone else was mistaken in believing him to hold this view and explaining how they misunderstood him—especially since Abarbanel always defends Rambam wherever possible. It is far more reasonable to interpret Abarbanel's later words as referring to Rambam not allegorizing creation in an Aristotelian manner such as to undermine the concept of creation *ex nihilo*. This is exactly how Abarbanel ends his sentence above: "...in that the belief in creation *ex nihilo* is accepted with our nation."

p. 214, new section to be added after citation from Rav Herzog:

The Nature of Shabbos, Revisited

In chapter thirteen, we noted how correlating the six days of creation with the fourteen billion year scientific account of the universe's development, aside from all the other difficulties with it, raises a problem with understanding Shabbos as a cessation of God's creative acts. However, now that we have departed from a concordist approach, we have a new way of resolving this difficulty. If the six days does not need to be a historical account of the physical development of the universe, then Shabbos does not need to refer to a single point in time at the conclusion of those fourteen billion years.

It is reasonably clear that the Torah wishes to convey that the six weekdays and Shabbat correspond to some basic structures of reality, and it can make no difference to the concept of Shabbat whether God's "activity" or "inactivity" is expressed in relation to days, *sephiroth*, or other spiritual constructs.

Rabbi Aryeh Carmell, *Challenge* p. 259

As we saw, according to Rambam, the six days represent a hierarchy of the natural world rather than a sequence of events. Accordingly, Rambam understood Shabbos not as an event in time in which something was halted, but rather as an expression of how there is nothing in the universe beyond the hierarchy that was already stated.⁷

⁷ This seems to be how Rambam is explained by the commentator Moses Narvoni to *The Guide of the Perplexed* 1:67. See Sara Klein-Braslavy, *Maimonides' Interpretation of the Story of Creation*, chapter 14.

With the approach to creation that we are presenting, whereby it teaches theological lessons about God's relationship to the universe, we can understand Shabbos in a way that is relevant to moderns as well as to ancients. The very laws of nature that govern the cosmos, space, time, mass, energy, and life—the subject of so much mystery and wonder—were only able to come into existence via God exercising His role as the Creator. God created these laws via which the universe emerged, after which He “rested”—He ceased to create any new such laws. Shabbos attests to the creation of these extraordinary laws of nature, along with God's actual implementation of these laws to create the universe.

p. 220 “As Rambam and Ralbag stated, the days are not truly periods of time at all, but rather present a conceptual hierarchy of the universe. But why would the Torah present this hierarchy as a sequence of time? Perhaps because it also had to teach us that sequences of time, involving transitions from day to night and back to day, are themselves nothing more than the creations of God.” New footnote: Cf. Rabbi Baruch HaLevi Epstein, Torah Temimah, Genesis 2:2:4, who notes that because the “mornings” and “evenings” were individual creations, there is no mention of them on the first Shabbos, on which nothing was created.

p. 225, addition to footnote 2: The concept of the six days of creation being a twinned set of three is also reflected in the laws of ma'asros, tithes. The cycle of ma'asros is set up within the six years of a shemittah cycle, in two consecutive series of three years each (ma'aser rishon and sheini for two years, then ma'aser oni replacing the ma'aser sheini. This repeats for the second set of two years). Now, the shemittah year is labeled as Shabbos; thus, each year of the cycle reflects one of the "days" of creation. And so, here we have a Torah-mandated phenomenon that clearly reflects the six days of creation as being two matching units of three days each.

p. 259, new section:

Nested Hierarchal Taxonomy

One oft-overlooked argument for common ancestry stems from the underlying pattern of the animal kingdom. The animal kingdom can neatly be classified under a nested hierarchal taxonomy. This means that each group can be further subdivided into smaller categories, with characteristics that are not possessed by other groups. This fits perfectly with common ancestry (and means that common ancestry is tested and confirmed with each new species that is discovered), but is unexpected and bizarre from a creationist standpoint.⁸

For example, the animal kingdom as a whole can be divided amongst mammals, reptiles, birds, and other classes; the mammals can be divided amongst carnivores, rodents, primates and other orders; the carnivores can be divided amongst dogs, cats, bears, and other families; etc., etc. Each category possesses certain characteristics, not a single one of which is to be found in any other category. The mammalian hair structure is not found in any other class;

⁸ For an elaboration of this argument, see Niles Eldredge, *The Triumph of Evolution and the Failure of Creationism*, pp. 144-146.

the carnivore skull is not found in any other mammalian order; the wrist-bone structure of the dog family is not found in any other carnivore family. There are no chimeras (animals that are hybrids of two distinct groups)—no mermaids, griffins, or animals that grow on trees.⁹

The possibility to classify a range of items in such a way is a feature of common ancestry. Items that are separately manufactured cannot be classified in such a way, as various features will crop up in otherwise dissimilar groups. For example, it is impossible to classify cars in such a fashion; if one groups them by manufacturer, one will nevertheless find that some cars possess certain components that are shared by cars made by a different manufacturer. Only when the raw materials for the items are limited by their origins—i.e. when they are physical descendants of earlier forms—will features be limited to specific groups.

Creationists respond to this argument by claiming that for some unknown reason it pleased God to create the animal kingdom in such a manner; that this pattern is of certain significance to Him. But aside from the inherent weakness in such an answer (since it lacks any kind of actual explanation) there is another problem: the Torah's own system of classification is fundamentally different. For example, in the Torah's system, whales are classified along with fish, and separately from other mammals; bats are classified along with birds, and separately from other mammals. Thus, any just-so story as to why God made the animal kingdom in such a way would be faced with the problem that the Torah itself specifically does not classify the animal kingdom in this way.

p. 261, additional footnote at end of section "The Fossil Record": Some creationists account for the fossil evidence by arguing that Jewish thought itself claims that there ought to be a wide array of intermediate forms, as we shall later cite from Rabbi Yosef Albo and Malbim. But the connecting lines of fossil relationships are different than the relationships in the Torah. For example, Scripture states that birds were created on the same day as fish, and the Talmud (*Chullin* 27b) states that they therefore possess similar characteristics; yet the fossil record shows that birds are related to terrestrial dinosaurs rather than to fish. (Rabbi Aharon Marcus, in *Keses HaSofer*, vol. I Bereishis, p. 60, claims that the *Archaeopteryx* fossil confirms the Talmudic link between birds and fish; but this demonstrates a misunderstanding of the nature of *Archaeopteryx*, which possesses no true features of fish whatsoever and possesses only avian and dinosaurian traits.)

pp. 303-304 "Stephen Jay Gould has elaborated upon this argument in his work The Panda's Thumb. Pandas do not have an opposable thumb that is one of the five digits, as do other animals with grasping hands. Instead, they have a modification of the wrist bone, which serves to help grasp bamboo. Such a "thumb" makes sense in light of Darwinian evolution; the thumb was already pressed into use as a finger, leaving natural selection to operate with the wrist bone. But,

⁹ Medieval Torah scholars, however, did believe in the existence of such creatures, in part because they were unaware of the nested hierarchal structure that exists in the animal kingdom. See *Sacred Monsters* by this author for more details.

*argues Gould, this is too inefficient a limb to be the work of a wise Creator.” New footnote: Gould’s claim regarding the inefficiency of the panda’s thumb has been disputed; see H. Endo, D. Yamagiwa, et al., “Role of the giant panda’s ‘pseudo-thumb’.” *Nature* 397:6717 (1999) 309-310. Still, this is not relevant to the principle being discussed, that many features of biological organisms appear to be pressed into use from previously available parts rather than designed specifically for the task. Even the panda’s thumb seems to be an example of this, regardless of whether or not it is optimally efficient.*

*p. 305, regarding less-than-ideal aspects of biological entities being an inevitable by-product of the evolutionary process that God used: New footnote: Maharal uses a similar concept to account for various negative spiritual and physical phenomena. In the words of Rabbi Yitzchok Adlerstein: “Maharal... reasons that once Hashem decides to create various elements of this world and entrust them to fixed, predictable laws of nature, some unpleasantness will inevitably ensue. The bad and the ugly are the industrial wastes of the elegant systems that produce their bounty of good... once God develops certain natural laws, there are [negative] consequences. (*Maharal: Be’er HaGolab* pp. 171-172)*

*p. 321, addition to section The Essence of Man: Rambam likewise attests that man’s fundamental essence is with regard to man’s spiritual/intellectual nature rather than any aspect of his physical form: “The term *tzelem* (image) signifies the specific form, namely, that which constitutes the essence of a thing... In the phrase “Let us make man in Our image” (Genesis 1:26) the term signifies the specific form of man, namely, his intellectual perception, and does not refer to his figure or shape...” (Maimonides, *Guide of the Perplexed* 1:1)*

*p. 327, addition to section The Wild Side of Man: Rambam notes that a person who lacks intellectual perception is not only no different from an animal; he *is* an animal: “It is acknowledged that a man who does not possess this “image” (intellectual perception) is not human, but a mere animal in human shape and form.” (Maimonides, *Guide of the Perplexed* 1:7)*

*p. 338, additional footnote at the end of the section When Was Man Created: Some object that Rambam was of the view that it is an essential foundation of faith that man originated from a single ancestor 2500 years ago. Rambam states that “it is a cornerstone of the Torah that the universe was created *ex nihilo*, and that one man of the human race was created first, and that was Adam HaRishon. There was only about 2500 years between Adam until Moses, and if this story alone were present people would doubt this, for people were by then scattered throughout the entire world in different families and with very different languages. In order to remove this doubt, the Torah gives their genealogy and the account of their branching apart” (*Guide of the Perplexed* III:50). But Rambam does not invent critical principles of faith*

out of thin air; they must fundamentally relate to Judaism's underlying ideology. In *Guide of the Perplexed* II:22, he explains why creation *ex nihilo* is of such importance. It seems that his rating of the creation of one first person was seen as a necessary step to creation *ex nihilo*; if the universe has always existed, then there would always have been a large number of people. Likewise, the detailing of the 2500 years from Adam to Moses is a way of teaching that mankind had an origin, which is part and parcel of attesting to the universe's origin (see Sara Klein-Braslavy, *Perush HaRambam LeSipurim Al Adam BeParashas Bereishis*, 5:3 pp. 306-310). Modern science has given us a new way to arrive at this foundational truth of Torah; human evolution shows that mankind did have an origin, as did the universe.