

Defending the Mesorah

Simcha Coffey

In his most recent offering¹, Rabbi Nosson Slifkin once again sets out to defend the indefensible.

Rabbi Slifkin begins his paper by dismissing Dr. Jonathan Ostroff's criticisms² as merely "*smooth prose*" that in fact conceals "*grave errors, both scientific and theological.*" This accusation is made without providing examples of scientific errors, and without admitting that the theological "errors" are simply Dr. Ostroff's loyalty to the consensus of classic, authentic Jewish thought, rather than Rabbi Slifkin's embracement of non-traditional approaches that undermine our *mesorah*. Rabbi Slifkin's additional accusation that Dr. Ostroff engages in manipulation and obfuscation is a transparent projection of his own dependency upon these tactics.

Case in point. In his very first paragraph, Rabbi Slifkin writes

I hope the reader will bear with me as I separately address the scientific and theological issues, in order to defend a large number of people in the Jewish community who do not see themselves as heretics.

This is classic demagoguery. Not once did Dr. Ostroff refer to Rabbi Slifkin as a heretic. He certainly never labeled "*people of the Jewish community*" who happen to find Rabbi Slifkin's approaches attractive as heretics. But despite this, Rabbi Slifkin chooses to undercut Dr. Ostroff's message by subtly appealing to the prejudices of his potential readers. To quote Rabbi Slifkin, "*it is always easier to obfuscate and distort than to untangle and clarify*".

1. The Scientific Issues

Dr. Ostroff demonstrates that Rabbi Slifkin consistently hides scientific information of anomalies that contradict the evolutionary idea of common ancestry. Rabbi Slifkin takes Dr. Ostroff to task for this:

But it is not I who am distorting the scientific picture. My book accurately summarizes the state of modern science. And the consensus of the global community of scientists, in all the relevant fields of the natural sciences, is that the universe is many billions of years old, and that all life descended from a common ancestor (the question of exactly how this happened is still subject to debate, as I discuss in my book), based upon an extraordinarily diverse wealth of evidence. To be sure, there are occasional anomalies, as with

¹ *Defending God's Creative Wisdom* December 2007 Online www.zootorah.com

² *Contra Rabbi Slifkin* The Jewish Press November 30, 2007 <http://toriah.org/articles/ostroff-2007.pdf>

everything else, but these do not undermine the vast amount of evidence in favor of these conclusions...

But here is the problem. There is no reason for a loyal Jew to be beholden to the general consensus of scientists regarding a science that possesses no concrete evidence and cannot be tested in a laboratory. The general consensus of over 6 billion people is that our Torah is false or that it no longer applies. Would Rabbi Slifkin be swayed by this consensus? Of course not. Why? Setting aside his pre-conceived theology, the answer is simple. Because once he would investigate their claims, he would encounter anomaly after anomaly, built on one irrationality after the next. Why should a Torah-loyal Jew feel compelled to adopt the paradigms of methodological naturalism merely because Science refuses to entertain Design as a means of explaining the existence of the endless phenomena of our universe? Authentic Jewish thought has never caved in to the surrounding ideologies regardless of number.

Rabbi Slifkin's book sets out to reconcile, ostensibly for people loyal to the Torah, the contradiction that exists between the Torah's depiction of Creation and the scientific description of the unfolding of the formation of the universe currently adopted by the academic establishment. One way to reconcile it is by abandoning the unanimous consensus of the *ba'aley mesorah* – that the world and its creatures were separately formed with plan and purpose through *meta-natural* processes within a short period of time. Another way would be to question the consensus of current academia that the universe and its creatures were formed by chance over billions of years through naturalistic evolutionary processes that did not have us in mind.

In view of this, an appropriate treatment of the "scientific picture" cannot be limited to a dogmatic acceptance of the scientific consensus. To be truly objective, one must be willing to subject the scientific consensus to criticism at least as much as one is willing to challenge the consensus of Torah scholars past and present. Evidence contradicting evolution must be presented alongside evidence for evolution.

In addition to his published books, Rabbi Slifkin has had countless debates with Dr. Ostroff and me regarding his approaches. He has consistently expressed confidence in the global scientific community and, when challenged, has responded by claiming that there are several independent lines of evidence which, when taken together, make the evolutionary idea of common ancestry virtually incontrovertible.

But the surprising truth is that *Rabbi Slifkin himself challenges these very premises*. Rabbi Slifkin apparently agrees that a global scientific consensus *sans* material evidence need not be accepted. This is why he immediately modifies his invocation of the scientific consensus with the words, "based upon an extraordinarily diverse wealth of evidence." But as we shall soon

see, he himself openly declares that scientists are presumptuous when they assign the category of fact to common ancestry.

I have Rabbi Slifkin's book *The Science of Torah* (Feldheim 2001) open on my desk³. (This was the book which ultimately provoked public censure of his writings by a host of Israeli and American Rabbinic authorities – Rabbi Slifkin lives in Israel) On page 144, he writes as follows:

Scientists consider evidence for common ancestry to be very strong indeed. Futuyma even rates common ancestry as fact, relative to explanations of evolutionary mechanisms, which he terms theory. Actually, scientists are often being presumptuous when they give such a status to the evidence for common ancestry, as they generally are not giving serious consideration to explanations for it in light of other possibilities (such as Divine creation, panspermia, or some other unknowable process).

Here Rabbi Slifkin forgoes what one would have thought was his unmitigated faith in the global community of scientists. He dares to assert that scientists are presumptuous in (a) considering evidence of common ancestry to be very strong and (b) assigning to it the category of fact. Why? Well, for one thing, *Divine creation is a viable alternative explanation!*

And although this has not been Rabbi Slifkin's public attitude in his online debates, he *does* state it here. So which one is it? If Rabbi Slifkin is truly convinced that the conclusions of scientists are unassailable, why is he comfortable challenging their conclusions regarding the strength of evidence for common ancestry? And if somehow he *does* embrace the idea of academic culpability, why not grant Dr. Ostroff the same latitude? Why not grant critics of academic dogma the freedom to evaluate scientific doctrines based solely on their merits? Why does Rabbi Slifkin blithely reject arguments against evolution out of hand on the mere basis of the quantity of academic adherents it possesses? Perhaps the most obvious question is, why is Rabbi Slifkin so convinced of evolutionary dogma if he himself asserts that scientists are rash in considering evidence of common ancestry to be very strong and assigning to it the category of fact? But let's leave this aside for now.

The Evidence That Convinces

In the above-noted paragraph, Rabbi Slifkin continues as follows:

Still, while some of the evidence is weak, other parts are very convincing (*ibid*).

³ Subsequently, Rabbi Slifkin released an expanded version of this book titled *The Challenge of Creation* but for our purposes, the above-noted book will suffice. In *The Challenge*, Rabbi Slifkin's scientific arguments in support of evolution remain essentially the same.

There is a vast distinction between “very convincing” and conclusive, the former being subjective, the latter presumably not. But for the time being, let’s allow for this. Rabbi Slifkin concludes as follows:

The evidence for common ancestry can be grouped into four categories which we shall discuss in turn (*ibid*).

In the following pages, Rabbi Slifkin discusses what he considers the most convincing evidence for evolution. Noteworthy is the fact that the evidence for biological evolution is treated in all of eight pages in a book numbering 229 pages. One of the pages is devoted to diagrams, making the written material seven pages in total. But let’s see what Rabbi Slifkin considers evidence so very compelling as to unseat the *messorah*.

There are four lines of evidence Rabbi Slifkin treats here.

- A) Homologous Limbs
- B) The Fossil Record
- C) Vestigial Organs
- D) Embryology

Here’s a short definition of these terms.

“Homology” is the study of similarities in structure among different biological organisms.

“The Fossil Record” refers to an alleged sequence of fossils found in geological strata, which indicates evolution of the species. (Fossils are organisms which have turned to stone via the process of mineralization. The process works as follows. A dead organism, given its proximity to mineral bearing waters, eventually has all its soft parts, tissues etc. carried away by the groundwater. Simultaneously, minerals are deposited into the pores of its bones causing the bones to harden to stone. The result is referred to as a fossil.)

“Vestigial Organs” refers to organs that have allegedly either lost much of their function, are entirely useless, or possibly even harmful to the organism. The idea of vestigial organs is based on the concept of the Evolution of the Species which depends on random mutations of the gene to effect variation. As such, there are supposed to be countless examples of organs carried forward from “previous editions” which have lost some or all of their functions.

“Embryology” is the study of the human embryo in its various stages. Evolutionists claim that the embryo undergoes the various stages of its past during its gestation period. The most popular description of this process in common scientific parlance is “ontogeny recapitulates phylogeny.”

My intention is to demonstrate that the very experts Rabbi Slifkin feels confident in quoting as his source for a rejection of our *messorah* admit that these fields *do not* actually constitute hard evidence for evolution (notwithstanding the fact that, for whatever reasons--usually philosophical ones--these experts nevertheless remain loyal to the theory of evolution).

In fact, we shall see that Rabbi Slifkin himself explains the weaknesses of the evolutionists' lines of evidence, yet remarkably concludes that it is reasonable to accept their conclusions.

A) Homology

This line of evidence requires no work on my part to defeat. Rabbi Slifkin provides all the material necessary for its rejection. He writes as follows (pp. 145-148):

There are two types of objection to using homologous limbs as a support for common ancestry.

In his first objection, Rabbi Slifkin shows that the human foot and the human hand, although remarkably homologous, do not, in an evolutionary sense, descend from a common ancestor. After outlining a second objection⁴ he then goes on to write as follows [*my emphases*]:

A separate line of objection to the concept of homologous similarities being used as evidence for common ancestry is that **it has to be considered in light of alternative possibilities, such as that each species was separately created by God. But with this scenario, homologous similarities also make sense.** Since the pentadactyl limb (Rabbi Slifkin is referring to the limb possessing a five-fingered construction found in a variety of vertebrate creatures such as humans, bats, whales, dogs, etc.) is a good component for a body-plan, why shouldn't God use it for all sorts of different functions? Indeed, homologous similarities were understood well before Darwin, and were explained in precisely this way. Rabbi Bachya ibn Pakuda, discussing the unity of God, writes:

The second [argument for God's unity] is drawn from the signs of wisdom which are manifest throughout this world, in its upper and lower regions, in its minerals, vegetation, and animals. When we study the world, it shows us that it is entirely the plan of a Designer, the work of a single Creator. For we find that, with all the differences in substances and elements, it shows uniformity in its effects and parts. The Signs of the Creator's wisdom, manifest in the smallest as in the largest creatures, testify that they all have one wise Creator. If the world really had more than one Creator, diverse forms of

⁴ Rabbi Slifkin outlines a second objection: Sometimes, homologous limbs are not formed from corresponding parts of the embryo.

wisdom would be manifest in its different parts and in its species and individuals.

In fact, as we shall later see, there is strong support in mystical Jewish sources for the idea of a basic pattern being manifest in many different ways.

Genetic similarities, which are an increasingly popular form of evidence for common ancestry, **are also not as they may appear**. To be sure, they fit in well with common ancestry; **but they fit in equally as well with special creation**. Well before Darwin, it had been noted that apes and humans share many common features. The Mishnah even discusses the halachic similarities that a creature called *adnei ha-sadeh*, understood by some to refer to the orangutan or to the chimpanzee, shares with a human being. **Discovering that these similarities are also shared by the DNA is scarcely more indicative of common ancestry** than the external similarities.

Beautiful! I couldn't have said it better myself. Rabbi Slifkin presents the argument *against* homology in the most elegant fashion. Unfortunately, he doesn't seem to pay very much attention to his own argument. He concludes the section on homology by positing that "perhaps" homologous similarities are "suggestive" of common descent. This is a far cry from his initial characterization of evolution being "based upon an extraordinarily diverse wealth of evidence". And it is a far cry from an objective weighing of facts pro- and con- meta-natural, sudden creation vs. the evolutionary notion of common descent with modification.

B) The Fossil Record

As with the previous category, not much work has to be invested on my part. In my opinion, Rabbi Slifkin entirely demolishes the argument from the fossil record all on his own.

In *The Science of Torah* (p. 149), Rabbi Slifkin writes as follows:

The second expectation, that there should be a gradual sequence of fossils from ancient to modern forms, is more controversial. Orthodox Darwinists will claim that it is as good as can be expected, if not better. Non-Darwinian evolutionists say that it is poor. Creationists claim that it is woefully inadequate.

This is misleading. Technically speaking, Orthodox Darwinists no longer exist. Today, the theory of evolution is promoted by the neo-Darwinian movement and its adherents are referred to as neo-Darwinists. The movement possesses two distinct forms: Gradualist evolution, and rapid, punctuated-type evolution. Gradualists understand evolution as a process that takes hundreds of thousands of years, even millions of years, to occur. Punctuated type evolution proposes that the earth's history is randomly interposed with sudden appearances of new species, a process that takes much less time.

Both camps concede that the fossil record is poor. The difference between them is that the Punctuated camp *modified* the theory specifically to accommodate for the paucity of fossils. Not only does Rabbi Slifkin know this, he admits it openly, as we shall soon see.⁵

Now, as far as mainstream neo-Darwinism goes, here are a few choice quotes from my favorite book on evolution by the world-renowned professor of paleontology at Harvard University, George Gaylord Simpson, arguably the most prominent Neo-Darwinist of the 20th century.

On still higher levels, those of what is here called “mega-evolution” [a term Simpson coined which refers to fundamental changes in an organism, such as the appearance of a brand new limb, which would be looked upon as an example of speciation], the inferences [he is referring to previous statements] might still apply, but caution is enjoined because here **essentially continuous transitional sequences are not merely rare, but they are virtually absent...** their absence is so nearly universal that it cannot, offhand, be imputed entirely to chance and does require some attempt at special explanation as has been felt by most paleontologists⁶

This is true of all the thirty-two orders of mammals, and in most cases the break in the record is still more striking than the case of the perissodactyls... The earliest and most primitive known members of every order already have the basic ordinal characters [just like the Torah implies], **and in no case is an approximately continuous sequence from one order to another known**⁷

In most cases, the break is so sharp and the gap so large that the origin of the order is speculative and much disputed...there is little doubt, for instance, that the highly diverse ungulates [hoofed animals] did have a common ancestry; **but the line making an actual connection with such an ancestry is not known in even one instance**⁸

And here’s one more from another textbook he wrote:

...it remains true, as every paleontologist knows, that most new species, genera, and families, **and that nearly all categories above the level of families, appear in the record suddenly and are not led up to by known, gradual, completely continuous transitional sequences**⁹

⁵ See page 10, “Futuyma states...”

⁶ George Gaylord Simpson, *Tempo and Mode in Evolution*, Columbia University Press, 1984, p. 105 (Emphasis added)

⁷ *ibid.* p. 106

⁸ *ibid.*

⁹ George Gaylord Simpson, *The Major Features of Evolution*, Columbia University Press, 1969 p. 360

It is abundantly clear that professional mainstream neo-Darwinists concede the lack of fossil evidence despite their allegiance to evolutionary dogma.

When Charles Darwin published his famous book "On the Origin of Species", he included an entire chapter detailing the issues that his theory faced. The name of the chapter is "Difficulties on Theory" and the primary difficulty was what he referred to as the "absence or rarity of transitional fossils". He asks:

Why, if species have descended from other species by insensibly fine gradations, do we not everywhere see innumerable transitional forms? Why is not all nature in confusion instead of the species, being as we see them, well defined?

Later on, in chapter nine, he asks:

But just in proportion as this process of extermination (a theory Darwin proposed for the lack of transitional forms) has acted on an enormous scale, so must the number of intermediate varieties, which have formerly existed on the earth, be truly enormous. Why then is not every geological formation and every stratum full of such intermediate links? Geology assuredly does not reveal any such finely graduated organic chain; and this is the most obvious and gravest objection which can be urged against my theory.

Subsequently, Darwin stated that although in his day the study of fossils in the rocks was only in its incipient stage, he was confident that after time, his theory would be shown to be true. However, his "grave objection" was so powerful that even today, almost 150 years after Darwin's book was published, paleontologists are still stymied by it. And although all the high-school biology text books assert with confidence that scientists possess numerous examples of transitional sequences, the truth is that these links are just as "rare or absent" today as they were in Darwin's age.

In order to demonstrate common ancestry, a fossil must possess some of the features of its supposed ancestors but, as Darwin wrote, all we find are "well defined" species, whether currently in existence, or extinct; 150 years later, that is *still* all we find. The evolutionist asserts that all species on earth descended from a single common ancestor through "insensibly fine gradations". In other words, the theory considers life as an ever-changing phenomenon, without any preordained classifications. However, a concerted study of life invariably reveals precisely what the Torah states: that organisms are strictly separated into distinct categories (see R' Samson Raphael Hirsch, *parhsas* Bereishis, for an exposition on this topic).

Robert Carroll, a highly regarded evolutionist, writes as follows:

Although an almost incomprehensible number of species inhabit Earth today, they do not form a continuous spectrum of barely distinguishable intermediates. Instead, nearly all species can be

recognized as belonging to a relatively limited number of clearly distinct major groups, with very few illustrating intermediate structures or ways of life.¹⁰

Without an assumed attitude of discounting the *messorah's* account of the individual creation of different species, 150 years of scientists' systematic failure to produce intermediate fossils *should* serve to demonstrate the falseness of mainstream evolutionary theory, just as Darwin himself admitted.

We continue with Rabbi Slifkin on page 149.

David Raup of the University of Chicago, one of the world's most respected paleontologists, wrote as follows in a letter to Science magazine:

A large number of well-trained scientists outside of evolutionary biology and paleontology have unfortunately gotten the idea that the fossil record is far more Darwinian than it is. This probably comes from the oversimplification inevitable in secondary sources: low level textbooks, semi popular articles, and so on. Also there is probably some wishful thinking involved. In the years after Darwin, his advocates hoped to find predictable progressions... In general these have not been found – yet the optimism dies hard, and some pure fantasy has crept into textbooks... One of the ironies of the evolution-creation debate is that the creationists have accepted the mistaken notion that the fossil record shows a detailed and orderly progression and they have gone to great lengths to accommodate this "fact" in the Flood geology (*Science, vol. 213 p. 289*).

I must admit, I am delighted with Rabbi Slifkin's choice of quotations. In light of the above quote, the fact that he still considers fossil evidence as one of the four compelling lines of evidence for evolution shall forever remain a mystery to me.

Let's continue with Rabbi Slifkin's remarkable quotes. On page 150, he writes as follows (*emphasis added*):

In fact, it was largely the paucity of the fossil record that led to Stephen Jay Gould and Niles Eldredge's theory of Punctuated Equilibrium. As Gould writes, the fossil record does not show the predicted gradual sequence of transitions:

The history of most fossil species includes two features particularly inconsistent with gradualism:

1. Stasis. Most species exhibit no directional change during their tenure on earth. They appear in the fossil record looking much the

¹⁰ Robert L. Carroll, *Patterns and Processes of Vertebrate Evolution*, Cambridge University Press, 1997, p. 9

same as when they disappear; morphological change is usually limited and directionless.

2. Sudden appearance. In any local area, a species does not arise gradually by the steady transformation of its ancestors; it appears all at once and "fully formed." *The Episodic Nature of Evolutionary Change, in The Panda's Thumb. p. 180*

Gould and Eldredge therefore theorized that evolution occurs too fast to leave a trace in the fossil record. (It should be noted that "fast" in their terms does not mean over a few years; it means over a few thousand years rather than over a few million years.)

... Futuyma states that because we know evolution progresses rapidly, it is to be expected that the fossil record will show few transitional forms! Whereas the truth is the reverse: **Because there are so few transitional forms, it is therefore theorized that evolution progresses rapidly. Punctuated Equilibrium is an apologetic for the fossil record, not a prediction of it.**

As we mentioned above, Rabbi Slifkin openly admits that Punctuated Equilibrium is merely a desperate attempt by evolutionists to avoid the glaring *contradiction* to evolutionary theory from the rocks.

Rabbi Slifkin concludes his treatment of fossils as follows:

There *are* transitional forms, but they are **far fewer and farther between than evolutionists had hoped for**. The fact that they exist at all, as well as the overall trend in the fossil record from simpler earlier creatures to more complex later ones, does provide **some support** for common ancestry; their scarcity has more ominous implications for certain theories of evolutionary mechanisms and rates of evolution than for common ancestry.

In order to salvage some vestige of support for the evolutionary idea of common ancestry from the fossil record, Rabbi Slifkin asserts that fossils provide "some support." An intellectually honest summary of the evidence should have caused him to conclude that not only does the fossil evidence fail to provide evidence for common ancestry; it contradicts it!

C) Vestigial Limbs

The concept of vestigial organs refers to the evolutionary idea that organisms possess organs which are reduced in function, or entirely useless, which evolutionists interpret as being vestiges of former states of existence. Such a claim demonstrates a combination of incredible arrogance coupled with plain, downright stupidity. From a scientific standpoint, it is reckless beyond belief.

Rabbi Slifkin writes as follows:

The strongest direct evidence for common ancestry comes from vestigial limbs....One of the most popular examples has always been the hipbones of whales. Whales have no legs, of course, but the presence of hipbones in certain species, attached to no limb, indicates that they used to have legs.

At least, this had always been one of the most popular examples, until it was recently discovered that these bones may serve as an attachment point for the muscles that control the reproductive organs. **This shows the potential flaw in describing a limb as vestigial; it may be entirely functional in a way that we don't know about.** Nevertheless, to say that all apparently vestigial limbs can be explained in this way would really be going out on a limb. There is a vast number of such organs, in creatures whose biology is well understood. The most reasonable conclusion to draw is that these creatures descended from creatures in which these limbs are functional, which in turn indicates that most (or indeed all) creatures descended from common ancestors [*emphasis added*]

Rabbi Slifkin makes no attempt to delineate the “vast” number of useless organs. As such, his assertion is necessarily suspect. After all, even he would agree that the *overwhelmingly vast* number of organs are profoundly useful. Where then, are the “vast number” of useless organs?

The truth of the matter is, the argument from vestigial organs has long gone out of style in evolutionary circles. However, some evolutionists still cling to it and every once in a while, it crops up in low level media publications. As such, a short treatment of the subject is in order.

The argument from vestigial organs was first advanced over a century ago. In fact, Darwin himself wrote about it in 1859.

In 1895, German anatomist Dr. R. Wiedersheim composed a list of approximately 100 vestigial organs. As science progressed, it was discovered that in fact, each and every one of the organs on his list possessed important functions.

For instance, it was thought that the appendix, the thymus gland, and tonsils were vestigial. It was then discovered that they were crucial in warding off infection.

Other bodily organs and tissues—the thymus, liver, spleen, appendix, bone marrow, and small collections of lymphatic tissue such as the tonsils in the throat and Peyer's patch in the small intestine—are also part of the lymphatic system. They too help the body fight infection¹¹

¹¹ *The Merck Manual of Medical Information, Home edition*, Merck & Co., Inc. The Merck Publishing Group, Rahway, New Jersey, 1997.

The thymus is actually crucial to the maturation of T cells and it produces hormones which stimulate the production of certain infection-fighting cells.

They used to think that the pituitary gland was vestigial. Until they learned that it was responsible for regulating the functions of the body.¹²

It was thought that the coccyx, at the lower end of the vertebral column, was vestigial. Until it was found that it supports the bones around the pelvis and acts as the convergence point of some small muscles. Without the coccyx, it would be impossible to sit comfortably.¹³

In addition to the appendix, Darwin assumed that the semi-lunar fold in the eye was vestigial. However, we now know that it is responsible for cleansing and lubricating the eyeball.

There are a host of organs formerly classified as “vestigial” that turned out to be crucial to the organism. So many so that leading scholar and zoologist Professor E.S. Goodrich of Oxford University stated

He would be a rash man indeed who would now assert that any part of the body is useless.¹⁴

Incidentally, Goodrich died in the 1940's. Sixty years ago medical and biological science had already advanced sufficiently to recognize the madness of maintaining such a doctrine.

There are several more arguments which undermine the case from vestigial limbs. In fact, Darwin himself proposed one.

There remains, however, this difficulty. After an organ has ceased being used, and has become in consequence much reduced, how can it be still further reduced in size until the merest vestige is left; and how can it be finally quite obliterated? It is scarcely possible that disuse can go on producing any further effect after the organ has once been rendered functionless. Some additional explanation is here requisite which I cannot give.¹⁵

What remains amazing is that Rabbi Slifkin is surely aware of all this. In fact, as we pointed out, he himself concedes to the tenuousness of claiming that an organ is useless. As he writes, “This shows the potential flaw in describing a limb as vestigial; it may be entirely functional in a way that we don't know about.” Yet remarkably, he concludes that “The strongest direct evidence for common ancestry comes from vestigial limbs...” If Vestigial Organs is the

¹² http://en.wikipedia.org/wiki/Pituitary_gland#Functions

¹³ <http://www.emedicine.com/pmr/TOPIC242.HTM>

¹⁴ Quoted by Rav Avigdor Miller in *Sing, You Righteous* p. 121

¹⁵ Charles Darwin, *Origin of the Species*, Chapter 14.

strongest evidence for common ancestry, we can begin to see how weak the evidence really is.

D) Embryology

Rabbi Slifkin writes:

A similar line of argument for common ancestry is advanced from embryology. The embryos of whales and anteaters develop teeth and then absorb them again before birth. This indicates that they originate from creatures that possessed teeth. Similarly, human embryos possess tails until a certain stage of their development.

The facts of embryology, the study of development, also make little sense except in the light of evolution. Why should species that ultimately develop adaptations for utterly different ways of life be nearly indistinguishable in their early stages? How does God's plan for humans and sharks require them to have almost identical embryos? Why should terrestrial salamanders, if they were not descended from aquatic ancestors, go through a larval stage entirely with the egg, with gills and fins that are never used and then lose these features before they hatch? *Douglas Futyma, Science on Trial, p. 48*

Much like vestigial organs, embryology as a means of proving evolution has long gone out of style in the majority of evolutionary circles. It has been proven time and time again that this theory is entirely false. It is known that the "gills" that supposedly appear in the early stages of the human embryo, and that are supposed to represent fish-like characteristics, are in fact the initial phases of the middle-ear canal, parathyroid, and thymus. The component of the embryo that was equated to the egg yolk pouch, which is supposed to represent bird-like characteristics, turns out to be a pouch that produces blood for the infant. The part that was identified as a "tail" is in fact the backbone, which resembles a tail only because it takes shape before the legs do.

And the reality is, all this was known a hundred years ago. We will satisfy ourselves with a quote from the 1970's. Leading evolutionist Stephen Jay Gould, whom Rabbi Slifkin is wont to quote in his books, states as follows:

The theory of recapitulation proclaimed that animals repeat the adult stages of their ancestors during their own embryonic and postnatal growth – ontogeny recapitulates phylogeny, in that mystical phrase we all learned in high school biology...If recapitulation was true – which it is not – then features would have to be accelerated during evolutionary history, for adult characters of ancestors can become the juvenile stages only if their development is speeded up...Thus there is a general correspondence between accelerated development and recapitulation...¹⁶

¹⁶ Stephen Jay Gould, *Ever Since Darwin*, W.W. Norton & Company New York, p. 67.

This concludes our treatment of the evidence for evolution. It is abundantly clear from the above that common ancestry as promoted by evolutionary theory is far from fait accompli. The evolutionary paradigm, which requires eons of time to unfold, has simply never been proven. In fact, special Creation is not contradicted by any of the lines of evidence Rabbi Slifkin suggests--not by homology, not by the fossil record, not by the supposed presence of vestigial organs, and certainly not by embryology. This then elicits the question: Why does Rabbi Slifkin feel authorized to suggest an approach to *maaseh bereishis* which contradicts the collective *messorah* of Klal Yisrael for over 3700 years?

2. Support For The Messorah

Rabbi Slifkin writes:

Dr. Ostroff would have us believe that all the world's scientists are not to be trusted, because they are operating under assumptions and biases that are contrary to religion. Yet the opposite is true. Mary Schweitzer, the paleontologist that Dr. Ostroff quotes, is a devout evangelical Christian. She believes that the dinosaur fossils that she studies are millions of years old not because of any anti-religious bias, but because the evidence overwhelmingly favors that conclusion.

Dr. Schweitzer may not have anti-religious bias; but she, as well as most scientists, is most certainly biased in favor of explaining the world's origins in naturalistic ways. Dr. Ostroff reveals Dr. Schweitzer's personal beliefs openly in his op-ed piece in the Jewish Press:

"I got goose bumps," recalls Schweitzer. "It was exactly like looking at a slice of modern bone. **But, of course, I couldn't believe it.** I said to the lab technician: 'The bones, after all, are 65 million years old. How could blood cells survive that long?'"

A "good kashya," but it drives Schweitzer crazy when creationists suggest that this may be evidence for a recent creation.

Rabbi Slifkin writes:

With the overwhelming evidence and consensus of scientific opinion against them, antiscientists seek to latch on to any statement by a scientist that may bolster the case, but usually they end up distorting the significance of what the scientist is saying. A perfect example is with Dr. Ostroff's claim that the research of Dr. Mary Schweitzer shows that fresh blood cells have been discovered in a fossilized Tyrannosaurus Rex. First of all, this is quite a perversion of the scientific picture. Schweitzer herself only said that the structures she found had the appearance of blood cells, not that they actually are blood cells! She clarified that "the fossil record can mimic many things,

so without doing the chemistry to show that there are similarities to blood cells at the molecular level, I do not make any claims that they are cells." In fact, most other paleontologists do not believe that they are blood cells.

Hmm...a quote from Schweitzer on *PBS Online*. Rabbi Slifkin's quote from David Raup dismissing information from low level media outlets comes to mind. The published scientific literature gives us the real, "non-perverted" scientific picture.

According to *The Smithsonian*,

In the year 2000, Bob Harmon, a field crew chief from the Museum of the Rockies, was eating his lunch in a remote Montana canyon when he looked up and saw a bone sticking out of a rock wall. That bone turned out to be part of what may be the best preserved T. Rex in the world. Over the next three summers, workers chipped away at the dinosaur, gradually removing it from the cliff face...¹⁷

The Smithsonian continues to relate that eventually Schweitzer, *et al*, discovered that ensconced in the T. Rex fossils they were studying was "a fragment of dinosaur soft tissue." Further testing revealed "a fine network of almost-clear branching vessels".

According to the prestigious journal *Science*, Schweitzer stated as follows:

The fossil record is capable of exceptional preservation, including feathers, hair, color or color patterns, embryonic soft tissues, muscle tissue and/or internal organs, and cellular structure. These soft tissues are preserved as carbon films or as premineralized three-dimensional replications, **but in none of these cases are they described as still-soft, pliable tissues**¹⁸ (*emphasis mine*).

Now, I understand that Schweitzer needs to maintain her job at North Carolina State University. *PBS* is a perfectly suited instrument for the furtherance of tenure. As such, quoting her public statements (Rabbi Slifkin's quote is actually Schweitzer's public response to a layman's question), obviously geared to demonstrating her dedication to evolutionary dogma, is meaningless. We must turn to her conclusions as presented in responsible, peer reviewed scientific journals. Here is her paper in *Science* (2005) with my explanatory comments interspersed in brackets:

Partial demineralization [taking the stone out of the bone] of the cortical bone revealed parallel-oriented vascular canals that were seen to bifurcate [branch] in some areas. Occasional fenestrae [anatomical openings] were observed on the surface of the vascular canals, possibly correlating with communicating Volkmann's canals [a

¹⁷ May 2006

¹⁸ *Science* March 25, 2005 Vol. 307 pp. 1952-1955

Volkmann's canal is a canal which transmits blood vessels from the tissue surrounding the bone into the bone itself]. Complete demineralization of the cortical bone released thin and transparent soft-tissue vessels from some regions of the matrix, which floated freely in the demineralizing solution [the lab techs prepared a solution which would cause degeneration of bone structure but not affect soft tissue matter]. Vessels similar in diameter and texture were recovered from extant [currently existing] ostrich bone, when demineralization was followed by digestion with collagenase enzyme to remove densely fibrous collagen [a fibrous protein found in skin, bone, and other connective tissues] matrix . In both dinosaur and ostrich, remnants of the original organic matrix in which the vessels were embedded can still be visualized under transmitted light microscopy. [In other words, they can see precisely where the blood vessels existed in the organism.] These vessels are flexible, pliable, and translucent. The vessels branch in a pattern consistent with extant vessels, and many bifurcation points are visible. [In other words, we may as well be studying a bone of an ostrich that died last year.] Many of the dinosaur vessels contain small round microstructures that vary from deep red to dark brown [i.e. blood cells]. The vessels and contents are similar in all respects to blood vessels recovered from extant ostrich bone. Aldehyde-fixed dinosaur vessels are virtually identical in overall morphology [structure] to similarly prepared ostrich vessels, and structures consistent with remnants of nuclei from the original endothelial cells [blood vessel cells] are visible on the exterior of both dinosaur and ostrich specimens.

Under scanning electron microscopy (SEM), features seen on the external surface of dinosaurian vessels are virtually indistinguishable from those seen in similarly prepared extant ostrich vessels, suggesting a common origin. These features include surface striations [parallel groove patterns] that may be consistent with endothelial cell junctions, or alternatively may be artifacts of fixation and/or dehydration. In addition, small round to oval features dot the surface of both dinosaur and ostrich vessels, which may be consistent with endothelial cell nuclei.¹⁹

The Smithsonian states as follows:

Inside the dinosaur vessels are things Schweitzer diplomatically calls "round microstructures" in the journal article, out of an abundance of scientific caution, but they are red and round, **and she and other scientists suspect that they are red blood cells.**²⁰

Here are a few excerpts from a follow-up piece in *Science*:

Two of the hottest discoveries in dinosaurs last year—the first definitive sexing of a dinosaur, from egg-laying tissue, and the amazing preservation of what looks like original cells and still-stretchy

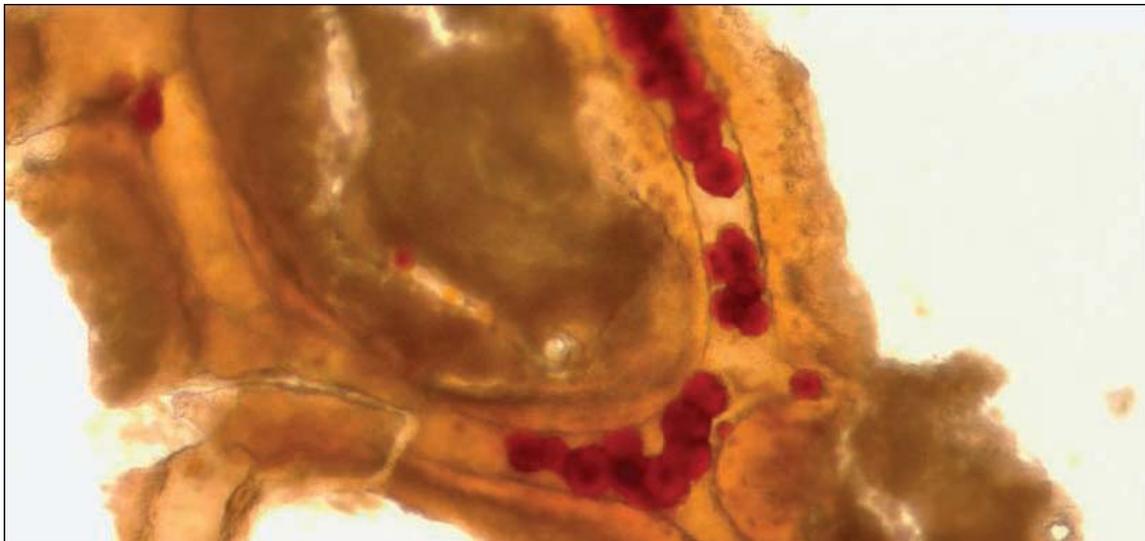
¹⁹ Ibid.

²⁰ Ibid *emphasis added*

blood vessels—came from the lab of Mary Schweitzer of North Carolina State University in Raleigh...

Now Sarah Werning and Andrew Lee, graduate students at the University of California, Berkeley, and paleontologist Paul Bybee of Utah Valley State College in Orem have found medullary bone [medullary bone is a mineral-rich tissue produced by ovulating female birds in their legs and other bones as a storehouse for calcium in the production of eggshells] in two other kinds of dinosaurs. Looking at a nearly 150-million-year-old tibia [the inner bone of the lower leg] of the large predator *Allosaurus fragilis* from Utah, the trio found a layer of bone in which the tissue was disorganized and replete with traces of blood vessels, suggesting it had grown quickly. "It was really convincing," says paleontologist Martin Sander of the University of Bonn, Germany...

Meanwhile, Schweitzer has been testing whether the medullary bone and other soft tissue she discovered are original. Her first report of the preserved tissue (*Science*, 25 March 2005, p. 1952) was based on preliminary tests. At the meeting, Schweitzer reported that she had looked at the transparent vessels and cell-like structures using a transmission electron microscope. Elemental analyses revealed the presence of the mineral hydroxyapatite of a type created by living organisms. "There is a small fragment of mineral that the dinosaur laid down originally," Schweitzer said. She has also found what appears to be collagen, which could be authentic dinosaur protein. Atomic force microscopy of fibers showed 67-nanometer-wide bands like those of emu collagen. Schweitzer even managed to get short sequences of peptides that matched collagen. "Looks like collagen, behaves like collagen, and it's 68 million years old. How cool is that?" says David Martill of the University of Portsmouth, U.K., who was not at the meeting but is familiar with the findings...²¹



Lifelike. New findings support the idea that this and other dinosaur tissue may be real

²¹ *Science*, November 10, 2006 Vol. 314, p.920

As late as September 2007, *Science* reports on attempts by scientists to sequence collagen peptides found in a 600,000 year old Mastodon and a 65 million year old T-Rex.

These alternate sequences strengthen our assertion that collagen has been sequenced from ancient fossil bones without contradicting well established structures for collagen modifications. In retrospect, prior knowledge of collagen structures would have helped to construct our peptide library; however, the oversight inadvertently provides us assurances that genuine collagen sequences were detected. Overall, these possible minor sequence alterations do not alter our original conclusions that ancient collagen peptides were sequenced from well-preserved mastodon and T. rex fossil bones, and that T. rex sequences match better to chicken than any other single organism of currently known sequence.²²

This, then, is the real, un-perturbed scientific picture. Yes, Schweitzer casts some doubt on the implications of her findings, but this is irrelevant. In the enterprise we are engaged in, only one thing is relevant: what do the facts indicate? And are they so compelling as to usurp the *messorah* as understood by the unanimous consensus of its transmitters?

Rabbi Slifkin continues as follows:

Dr. Ostroff then claims that these blood cells prove scientists wrong in believing that dinosaurs lived millions of years ago. But on what basis does Dr. Ostroff claim that it is impossible for blood cells to be preserved for so long under the right conditions? Why does he insist that those scientists who say that this is impossible are right, and that those scientists who say otherwise are wrong, and that they are all wrong when they say that dinosaurs lived millions of years ago? This seems rather selective.

Red herring. First of all Dr. Ostroff never claimed that blood cells provided conclusive proof against the millions of years of evolution. I've known Dr. Ostroff for quite a while now and it is monumentally difficult to prove to him that *any* scientific data is conclusive. What he does believe is that the ostensible presence of dinosaur blood cells, elastic tissue and proteins such as collagen offer support for our young-earth traditions, not conclusive proof for it. Normally such support would be entirely unnecessary. Unfortunately, the madness of evolution has permeated every level of academia in our society. As such, one must fight fire with fire.

Second, Rabbi Slifkin does not reference "those scientists who say otherwise." Who are the scientists that claim blood cells and pliable tissue can be preserved for 65 million years? There are none! At best, some scientists *hypothesize* that perhaps unique molecular interactions between

²² *Science*, Vol. 317, September 7, 2007, pp. 1324-25

the decaying bone tissue and post-mortem degradation of iron-containing dinosaur bio-molecules, such as hemoglobin, can facilitate long-term preservation of organic material. But this is only an hypothesis. Until scientists found dino tissue, no one ever would have thought of proposing that organic material can be preserved for so long. As Rabbi Slifkin writes about punctuated equilibrium, it is not the observation that caused the hypothesis, it is the dictates of evolutionary theory that caused the hypothesis.

3. Setting the Record Straight

Rabbi Slifkin writes:

Dr. Ostroff states that “what Rabbi Slifkin does not reveal to his readers is that under the right conditions, an animal the size of a dinosaur can become a fossil in a mere three weeks!” I do not reveal that to my readers for a very simple reason. The pace of fossilization is irrelevant; what is relevant is when this fossilization took place.”

Rabbi Slifkin missed the point. His book is replete with references to evolutionary dogma and in fact, it has a lovely depiction of a T-Rex in all its resplendent glory, right on the front cover. Dr. Ostroff understands that the average layman is impressed by such imagery. In fact, the vast majority of laymen assume that the very presence of a fossil indicates age. The structure of Dr. Ostroff’s argument is as follows: (a) Fossils per se do not indicate age, despite erroneous ideas found among the average layman. (b) These dinosaur bones actually provide empirical evidence that conforms to the *mesorah* of a recent Creation.

4. The Hoax of Geology

Rabbi Slifkin writes as follows:

Furthermore, on scientific grounds, his question regarding their day of creation is easy to resolve – let’s just see whether dinosaur fossils are found along with the fossils of whales and eagles, or along with the fossils of lions and bears! But we find instead that their fossils are found with neither. The hundreds of thousands of dinosaur fossils that are found all over the world are never found with the fossils of contemporary animals such as dogs or lions or elephants or with people. The most reasonable conclusion is that they lived at a different period.

Rabbi Slifkin claims that the fact that fossils of lions and bears are not found mixed with fossils of dinosaurs makes it more reasonable to adopt the evolutionary paradigm. Notwithstanding the vast amount of evidence

demonstrating the tenuousness of common ancestry, his claim can be countered on several levels. But before doing so, several things should be pointed out.

First of all, Rabbi Slifkin is in the habit of making general statements pertaining to science without backing up any of his assertions. It is very difficult to chase down every statement he makes, research the science, and produce the appropriate counter claims. For instance, he does not reference his claim that dinosaur fossils are never found with contemporary life-forms. Is this indeed true? Are there any peer-reviewed statistical studies conducted in this field? Indeed, are there any significant studies conducted in this field at all? It would be nice if he provided some references once in a while.

What about the coelacanth fish? According to evolutionists, it went extinct 70 million years ago based on their geological observations. In fact, it was used as an index fossil by evolutionists to date the fossils found in strata containing coelacanth fossils. Yet the coelacanth fish is alive and well and living in the Indian Ocean. How is it that we have a contemporary life-form that somehow does not appear in the record for over 70 million years? Shouldn't that indicate to evolutionists that their notions about what the fossil record does and doesn't capture might be flawed?

Furthermore, there is a logical inconsistency with Rabbi Slifkin's argument. His claim *assumes* that which has yet to be proven. Sure, if we *assume* billions of years of evolution then the lack of dinosaur fossils alongside contemporary life-forms for a period of 180 million years might seem odd. But according to the *messorah*, dinosaurs were around for some thousands of years, *at most*, and thus no question arises in the first place. In such a short period, why would we expect the fossil record to capture all co-habitations?

The truth is, the primary geological science associated with evolution pertains to the *strata* that fossils are found in, not whether various life-forms are found together simultaneously in the same dig. And in this sense, geology, as a means of proving common ancestry, is a dismal failure.

Perhaps a short introduction to the subject might be helpful.

The Wrong Order

One of the mainstays of evolution is the claim that the rock strata demonstrate the development of living things from the simple to the complex. The unsuspecting public has been led to believe that the "bottom layers" contain simpler (and therefore earlier) life-forms and as we ascend the geological column we find more highly developed forms.

But the discrepancy between the dictates of the theory and the actual facts are far too pronounced for an intellectually honest mind to ignore. The

actual order of the strata as we see them superposed upon each other, very frequently *contradict* the order required by the theory.

To this, evolutionists counter that whenever the perceived order of the strata contradicts their theory, it constitutes the “clearest” evidence that the strata “must have been” displaced. These “displacements” often-times involve areas of hundreds of thousands of square miles, a phenomenon which is incapable of being explained by geologists. Even if such a phenomenon could occur, we would expect to see some tell-tale signs of these displacements but geologists claim it occurred even when there isn’t the slightest evidence that the strata were disturbed in any way.

It may even be said that in any case where there should appear to be a clear and decisive discordance between the physical evidence and the paleontological evidence [*i.e. the evolutionary claims of simple to complex--SC*], it is the former that is to be distrusted rather than the latter.²³

Incredible! Physical evidence must be distrusted in order to conform to the dogma of evolutionary theory.

We may even demonstrate that in some mountainous ground the strata have been turned completely upside down, if we can show that the fossils in what are now the uppermost layer ought properly [*according to the theory of evolution--SC*] to lie underneath those in the beds below them²⁴

Evolutionary geologists are willing to overturn huge mountainous regions in order so the strata should conform to their pre-conceived notions.

The strata could scarcely be supposed to have been really inverted, save for the evidence as to their true order of succession [*in other words, evolutionary order of succession--SC*] supplied by the included fossils...Portions of Carboniferous strata appear as if regularly interbedded among Jurassic rocks, and indeed could not be separated save after a study of their enclosed organic remains²⁵

The only way to separate the Carboniferous strata from the Jurassic is by an appeal to evolutionary dogma, despite the fact that the physical evidence demonstrates otherwise.

The problem of the overthrust [*i.e. the imaginary displacement of mountain masses--SC*] **is one of our greatest difficulties**, and all explanations hitherto proposed are so hopelessly inadequate that we

²³ H. Alleyne Nicholson, *Ancient Life-History of Earth*, Kessinger Publishing, 2007, p. 40 (first published in 1900).

²⁴ Sir Archibald Geikie *Textbook of Geology*, 1903, p. 837. This textbook, along with many others by this world-renowned author on geology, was reprinted many times subsequently. In fact, they were still reprinting his books in the 1960’s.

²⁵ *Ibid.* p. 678

have sometimes felt compelled to doubt whether the facts really are as stated...any real doubt as to the facts is out of the question, and we must still look for some adequate method by which the overthrusting could have been brought about²⁶

Spoken like a true evolutionist. Although the evidence compels this writer to doubt his conclusions, nonetheless, he continues to adhere to a theory which is contradicted by the empirical evidence presented to his own two eyes.

One final quote:

A more spectacular example was found on the North Slope of Alaska, where many thousands of bones lack any significant degree of permineralization. The bones look and feel like old cow bones, and the discoverers of the site did not report it for twenty years because they assumed they were bison, not dinosaur, bones.²⁷

In other words, these dinosaur bones were found in exactly the same plains that bison bones were expected to be found. Noteworthy is the fact that these bones somehow existed for over 65 million years with no "significant degree of permineralization" meaning that they were not fossilized. And although this is not as spectacular as Mary Schweitzer's discovery of red blood cells, it certainly requires an appeal by evolutionists to extraordinary circumstances.

The Cambrian Explosion

Thus far, we have been discussing instances where fossil evidence has been found in the wrong order. But there is a specific phenomenon which entirely overturns the theory on its head.

The Cambrian Explosion is a phenomenon in geochronology which amounts to the death-knell of evolution as a rational means of describing life on earth and simultaneously comprises the single most compelling piece of scientific evidence to the Creation narrative in the Torah. But in order to understand this, some background information must first be discussed.

As we discussed earlier in this paper, Darwin considered the study of fossils the primary method used by paleontologists to arrive at their conclusions. Like one Geologist wrote:

Fossils provide the only historical, documentary evidence that life has evolved from simpler to more complex forms²⁸

²⁶ W.W.Watts, *Annual Report 1925*, Smithsonian Institute

²⁷ Philip J. Curie, 101 *Questions About Dinosaurs*, Dover Publications, Inc. 1996

²⁸ C.O. Dunbar, *Historical Geology* pg. 52

In order to determine how old a fossil is, geologists have broken up the earth into imaginary layers and supplied them with fancy geological names. According to the theory of evolution, complex life first appeared on earth approximately 550-570 million years ago. In geochronology, this period is referred to as an Eon. Every Eon is broken up into sub-categories referred to as Eras which are further broken down into Periods and which are finally broken down into Epochs. Our current Eon is broken down into three distinct Eras; Paleozoic (approx. 290 million years), Mesozoic (approx. 190 million years), and Cenozoic (approx. 65 million years). These Eras are further broken down into approximately 10 periods represented by ten strata deposited one on top of the other in a geologic column thousands of feet deep. Beginning from the bottom up, they are as follows: Cambrian, Ordovician, Silurian, Devonian, Carboniferous, Permian, Triassic, Jurassic, Cretaceous, Tertiary and Quaternary.

The preceding ten or so categories supposedly mark the evolution of life as it branched out in the Cambrian period from unicellular life to multi-cellular life to vertebrates and invertebrates, to fish, to reptiles, to birds, to mammals, to hominids to man. Darwin proposed that life developed from a single common ancestor, and took on all of its permutations via a series of tiny undetectable changes. According to this, life should have first emerged in very similar and simple forms and then branched out into differing and increasingly complex life forms. In short, according to Darwin, life is like a tree with a common root which subsequently splits up into varying branches and in fact, this is precisely how Darwinism is discussed in the textbooks: Darwin's Tree of Life.

According to this tree concept, phyla, the fundamental units of classification between living things, came about in stages. According to Darwinism, one phylum must first emerge, and then the other phyla can slowly come about with minute changes over vast periods of time. According to Darwin, the number of animal phyla must have gradually increased in number. But is this really what happened?

The answer is no! On the contrary, animals have been very different and complex from the moment they made their appearance in the rocks. All the animal phyla known today emerged at the same time, in the middle of the geological period known as the Cambrian Period or Cambrian Age. The Cambrian Period is estimated to have lasted some 65 million years, between 570 to 505 million years ago. But the period of the abrupt appearance of major animal groups fit in an even shorter phase of the Cambrian, often referred to as the "Cambrian explosion."

The Cambrian explosion occurred within an exceedingly narrow window of geologic time, lasting no more than 5 million years.²⁹

²⁹ Stephen C. Meyer, P. A. Nelson, Paul Chien, *The Cambrian Explosion: Biology's Big Bang*, 2001, p. 2.

Before this, there isn't a trace in the fossil record of anything other than single-celled creatures and a few very primitive multi-cellular ones. All animal phyla emerged completely formed and all at once, in the short period of time represented by the Cambrian explosion. (Five million years is a very short time in geological terms)

The fossils found in Cambrian rocks belong to very different creatures, such as snails, trilobites, sponges, jellyfish, starfish, shellfish, etc. Most of the creatures in this layer have complex systems and advanced structures, such as eyes, gills, and circulatory systems, exactly the same as those in modern specimens. These structures are a) very advanced and b) very different.

A half-billion years ago, ...the remarkably complex forms of animals we see today suddenly appeared. This moment, right at the start of Earth's Cambrian Period, some 550 million years ago, marks the evolutionary explosion that filled the seas with the world's first complex creatures.³⁰

Jan Bergström, a paleontologist who studied the early Cambrian deposits in Chengjiang, China, is quoted as saying

The Chengjiang fauna demonstrates that the large animal phyla of today were present already in the early Cambrian and that they were as distinct from each other as they are today.³¹

Paleontologist Roger Lewin discusses this extraordinary fact, which totally demolishes Darwinist assumptions about the history of life:

Described recently as "the most important evolutionary event during the entire history of the Metazoa," the Cambrian explosion established virtually all the major animal body forms Baupläne or phyla that would exist thereafter, including many that were "weeded out" and became extinct. Compared with the 30 or so extant phyla, some people estimate that the Cambrian explosion may have generated as many as 100.³²

This final quote is from one of the foremost proponents of evolution today, Richard Dawkins of Oxford University.

For example the Cambrian strata of rocks... are the oldest ones in which we find most of the major invertebrate groups. And we find many of them already in an advanced state of evolution, the very first time they appear. It is as though they were just planted there, without any evolutionary history.³³

³⁰ Richard Monastersky, *Mysteries of the Orient*, Discover, April 1993, p. 40

³¹ Ibid.

³² Roger Lewin, *Science*, vol. 241, 15 July 1988, p. 291

³³ Richard Dawkins, *The Blind Watchmaker*, W. W. Norton, London, 1986, p. 229

Rabbi Slifkin feels that in view of the fact that dinosaur fossils do not appear with lion fossils (supposedly), this makes it more reasonable to adopt the evolutionary paradigm but as we have seen above, the opposite is true. It is profoundly *unreasonable* to adopt evolutionary dogma. In fact, it is demonstrably clear that aligning oneself with the evolutionary notion of common descent in opposition to the *pashtus* of *maaseh bereishis* as explicated by our *messorah* is pure folly.

5. The Universe Testifies

Thus far, the discussion has centered on the various lines of evidence for evolution proposed by Rabbi Slifkin. In addition to showing that these claims are patently false, it has been demonstrated that Rabbi Slifkin *himself* questions the strength of these supposed proofs. However, before we conclude, I would like to take this opportunity to discuss several biological phenomena which *strongly support* the idea of meta-natural Creation.

Anyone who has had even the slightest exposure to the science of biology is immediately overawed by the endless wisdom apparent in all of its features. Thousands of volumes have been written on biology and yet Science hasn't even begun to scratch the surface. It is impossible to outline all of the features apparent in biological phenomena and thus we have chosen to highlight one feature; the human cell.

The complexity and ingenuity of the human cell poses one of the greatest challenges to the Theory of Evolution, a theory which relies on the machinations of random, chance mutations. If the cell would be magnified a few hundred times, as the microscope was capable of doing during Darwin's time, it might have appeared as a disordered pattern of blobs and particles tossed haphazardly in all directions. But current technology has allowed for a far more detailed assessment of the cell. Molecular biologist Michael Denton describes the complexity of the cell as follows:

To grasp the reality of life as it has been revealed by molecular biology, we must magnify a cell a thousand million times until it is twenty kilometers in diameter and resembles a giant airship large enough to cover a great city like London or New York. What we would then see would be an object of unparalleled complexity and adaptive design. On the surface of the cell we would see millions of openings, like the port holes of a vast space ship, opening and closing to allow a continual stream of materials to flow in and out. If we were to enter one of these openings we would find ourselves in a world of supreme technology and bewildering complexity. We would see endless highly organized corridors and conduits branching in every direction away from the perimeter of the cell dome leading to the central memory bank in the nucleus and others to assembly plants and processing units. The nucleus itself would be a vast spherical chamber more than a kilometer in diameter, resembling a geodesic dome inside of which

we would see, all neatly stacked together in ordered arrays, the miles of coiled chains of the DNA molecules. A huge range of products and raw materials would shuttle along all the manifold conduits in a highly ordered fashion to and from all the various assembly plants in the outer regions of the cell.

We would wonder at the level of control implicit in the movement of so many objects down so many seemingly endless conduits, all in perfect unison. We would see all around us, in every direction we looked, all sorts of robot-like machines. We would notice that the simplest of the functional components of the cells, the protein molecules, were astonishingly complex pieces of molecular machinery, each one consisting of about three thousand atoms arranged in highly organized 3-D spatial conformation. We would wonder even more as we watched the strangely purposeful activities of these weird molecular machines, particularly when we realized that, despite all our accumulated knowledge of physics and chemistry, the task of designing one such molecular machine – that is one functional protein molecule – would be completely beyond our capacity at present and will probably not be achieved until at least the beginning of the next century. Yet the life of the cell depends on the integrated activities of thousands, certainly tens, and probably hundreds of thousands of different protein molecules.

We would see that nearly every feature of our own advanced machines had its analogue in the cell: artificial languages and their decoding systems, memory banks for information storage and retrieval, elegant control systems regulating the automated assembly of parts and components, error fail-safe and proof-reading devices utilized for quality control, assembly processes involving the principle of prefabrication and molecular construction. In fact, so deep would be the feeling of *deja-vu*, so persuasive that analogy, that much of the terminology we would use to describe this fascinating molecular reality would be borrowed from the world of late twentieth-century technology.

What we would be witnessing would be an object resembling an immense automated factory, a factory larger than a city and carrying out almost as many unique functions as all the manufacturing activities of man on earth. However, it would be a factory which would have one capacity not equaled in any of our own advanced machines, for it would be capable of replicating its entire structure within a matter of a few hours...³⁴

The above description serves to alert one to the enormous complexity found in the human cell. The cell contains artificial languages and decoding systems (DNA) and contains hundreds of thousands of complex biological machines performing an endless number of tasks. In addition to the information encoded in the DNA, the cell possesses all the materials necessary to carry out the instruction encoded in its computers. The cell is a city of vast

³⁴ Michael Denton, *Evolution: A Theory in Crisis*, Adler & Adler, 1986, pp. 328-329

complexity far beyond the capacity of mankind to duplicate. And it is capable of the astounding task of replicating itself in the matter of a few short hours. Nothing more needs to be said. To imagine that all this came about via random chance mutations is sheer lunacy!

For whatever reason, Rabbi Slifkin feels compelled to accept the underlying assumptions of natural scientists—assumptions that by definition are in opposition to the meta-natural report of the origin of life transmitted to us by our *messorah*. He then somehow finds it remarkable that the theories built upon those assumptions lead to conclusions that contradict the version presented by our *messorah*. And for some reason he therefore feels it “most reasonable” to reject the *messorah* and reinterpret the *pesukim* in the Torah which deal with meta-natural development of life into a metaphor, in total opposition to the consensus of Jewish authority past and present. Rabbi Slifkin’s motives for abandoning logic notwithstanding, those who value Torah and its classical transmitters have no reason to give up on the *messorah*.