

CREATION RESEARCH SOCIETY

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QUARTERLY

Volume 55 Winter 2019 Number 3



V 5 5 N 3



- IS THE ALBORAN BASIN AN IMPACT CRATER — PART I
- THE UNIQUENESS OF HUMANS

# Creation Research Society Quarterly

**Volume 55**  
**Number 3**  
**Winter 2019**

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**Haec Credimus**

*For in six days the Lord made heaven and earth, the sea, and all that in them is, and rested on the seventh. —Exodus 20:11*

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Cover by Michael E. Erkel, Afton, Virginia

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Design services by Cindy Blandon, cblandon@aol.com

The *Creation Research Society Quarterly* is published by the Creation Research Society, 6801 N. Highway 89, Chino Valley, AZ 86323, and it is indexed in the *Christian Periodical Index* and the *Zoological Record*.

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ISSN 0092-9166

Printed in the United States of America

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# eKINDS Project Paper

## The Uniqueness of Humans Is Clearly Demonstrated by the Gene-Content Statistical Baraminology Method

Jean K. Lightner and Matyas Cserhati\*

### Abstract

The Creation Research Society's eKINDS (examination of kinds in natural diversification and speciation) research project has been working with a newly developed statistical baraminology tool, the gene-content method. In this paper we apply this method to several vertebrate taxa: humans, simians (monkeys and apes), two other mammalian taxa (Felidae, or cats, and Muridae—mice and rats), and two avian taxa (Galliformes, or chicken-like birds; and Anseriformes—ducks, geese, and swans). Three of the four non-primate taxa have good hybridization data, allowing us to compare our findings here to other lines of evidence. The results were largely consistent with what would be expected based on previous studies and current taxonomy, with one exception: humans are clearly distinct from all other taxa, including simians; the great apes more naturally fit in with the monkeys. These findings conflict with the popular-level evolutionary narrative that humans are closely related to the great apes. Instead, the results are in keeping with the biblical narrative that God created creatures according to their kinds, with humans being created separate from all other animals.

### Introduction

A realistic understanding of biological relationships requires an accurate framework for interpreting data. While the evolutionary worldview assumes that

all life is related by universal common descent, the Bible makes it clear that plant and animal life were created “according to their kinds” (Genesis 1:11–12, 20–22, 24–25). Humans were created

separately from all other animals, and in the image of God, with unique traits appropriate to our role of ruling the earth (Genesis 1:26–28).

The field of baraminology, or the study of created kinds, involves identifying which groups of plants and animals known today are truly related, in that they belong to a single created kind, or *baramin*. There are many examples

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Accepted for publication April 8, 2019



Figure 1 (left). A heat map visually representing the relative similarity (and dissimilarity) within clusters and between clusters. Lighter colors represent greater similarity; darker colors, and especially the red, indicate greater dissimilarity. Every species listed down on the right side is also listed across the bottom. The white “stair step” pattern from the lower left to the upper right of the figure is where each species is compared to itself.



Figure 2 (below). This heat map uses a similar color scheme as Figure 1, but substitutes a vertebrate outgroup species (*Xenopus laevis*) for the invertebrate one (*Caenorhabditis elegans*) used in the previous heat map.

of animals from different species that can reproduce together to produce viable offspring. This hybridization is considered, by most creationists, a clear indication that these species are from the same baramin. The underlying rationale is that reproduction is an enormously complex process, requiring compatibility on multiple levels. This suggests that reproduction could not occur between two organisms unless they were specifically designed for this possibility, as would be the case if they were from the same baramin (Wood et al., 2003; Lightner et al., 2011).

It is important to recognize that the level of the baramin does not necessarily correspond to any particular taxonomic rank in our current classification system. This was pointed out over a century ago based on morphological data (Wasmann, 1910, pp. 291–292). It was repeated by Marsh (1964), who discussed hybridization data. So, depending on the group under consideration, the level of the kind could be at the order, the family,

the genus, or somewhere else. In Felidae (cats), hybridization data indicates the kind is at least at the family level; in Galiformes (chicken-like birds), it is at least at the order. When it comes to humans, which are currently placed in the same family as the great apes (Hominidae), the kind is not at the level of the family (Lightner, 2012, 2013).

At one time great apes were placed in the family Pongidae, separate from humans (Lightner, 2012). Anatomical differences that separate us from the great apes include a big toe that is not opposable, a unique position of the larynx and associated structures that allows for speech, skeletal differences associated with our upright posture, different organization of the brain that supports superior cognitive function, and hands designed for greater dexterity. Despite our profound anatomical and cognitive differences, evolutionary philosophy—that overemphasizes our genetic similarity (see Tomkins, 2018)—seems to be the motive for placing humans in the same family as the great apes.

Since (for a variety of reasons) hybridization data between different species of interest is not always available, other tools have been developed to aid in identifying baramins (Wood et al., 2003; Lightner et al., 2011). As part of the Creation Research Society (CRS) eKINDS (examination of kinds in natural diversification and speciation) project we have developed a comparative statistical tool. As explained by O’Micks (2017), this tool compares all catalogued expressed proteins for a species that belong to known orthology groups and clusters these species based on similarities. In this current study, we applied this technique to protein sequence data from humans, great apes, Old World and New World monkeys, and several other mammalian and avian taxa. Our results show clear clusters, consistent with creationist expectations. More profoundly, we show further evidence of discontinuity between humans

Table 1. A species list showing current classification of the species in the order they appear on the heat maps.

<b>Species List</b>	
(in the order they appear on the heat maps)	
<b>Class Mammalia</b>	
<b>Order Carnivora; Family Felidae</b>	
<i>Panthera altaica</i> .....	Siberian tiger
<i>Acinonyx jubatus</i> .....	cheetah
<i>Panthera pardus</i> .....	leopard
<i>Felis catus</i> .....	domestic cat
<b>Order Rodentia; Family Muridae</b>	
<i>Rattus norvegicus</i> .....	brown rat
<i>Mus musculus</i> .....	house mouse
<b>Order Primates</b>	
<b>Family Cercopithecidae (Old World monkeys)</b>	
<i>Macaca mulatta</i> .....	Rhesus macaque*
<i>Macaca fascicularis</i> .....	crab-eating macaque*
<i>Papio Anubis</i> .....	olive baboon*
<i>Macaca nemestrina</i> .....	Southern pig-tailed macaque*
<i>Cercocebus atys</i> .....	sooty mangabey*
<i>Chlorocebus sabaues</i> .....	green monkey
<i>Rhinopithecus roxellana</i> .....	golden snub-nosed monkey
<i>Rhinopithecus bieti</i> .....	black snub-nosed monkey
<i>Mandrillus leucophaeus</i> .....	drill*
<i>Colobus angolensis palliatus</i> .....	Peter’s Angolan colobus
<b>Family Hominidae (Great apes)</b>	
<i>Pan troglodytes</i> .....	common chimpanzee
<i>Pan paniscus</i> .....	bonobo
<i>Gorilla gorilla gorilla</i> .....	western lowland gorilla
<i>Pongo abelii</i> .....	Sumatran orangutan
<b>Families Cebidae, Aotidae, and Callitrichidae (New World monkeys)</b>	
<i>Saimiri boliviensis boliviensis</i> .....	Bolivian squirrel monkey
<i>Aotus nancymaae</i> .....	Nancy Ma’s night monkey
<i>Cebus capucinus imitator</i> .....	white-headed capuchin
<i>Callithrix jacchus</i> .....	common marmoset
<b>Family Hominidae (Humans)</b>	
<i>Homo sapiens</i> .....	modern humans
Denisova .....	extinct human (people group)
Neanderthal .....	extinct human (people group)
<b>Class Aves</b>	
<b>Order Galliformes; Families Phasianidae and Numididae</b>	
<i>Gallus gallus</i> .....	red junglefowl/domestic chicken
<i>Coturnix japonica</i> .....	Japanese quail
<i>Numida meleagris</i> .....	helmeted guineafowl
<i>Meleagris gallopavo</i> .....	turkey
<b>Order Anseriformes; Family Anatidae</b>	
<i>Anser cygnoides</i> .....	swan goose
<i>Anas platyrhynchos</i> .....	mallard
<b>Class Chromadorea (outgroup species, heat map 1, from Phylum Nematoda)</b>	
<b>Order Rhabditida; Family Rhabditidae</b>	
<i>Caenorhabditis elegans</i>	
<b>Class Amphibia (outgroup species, heat map 2, from Phylum Chordata)</b>	
<b>Order Anura; Family Pipidae</b>	
<i>Xenopus laevis</i> .....	African clawed frog
* monkey species that are known to be related based on hybridization data	

and great apes, with the latter showing far more similarity to monkeys than to humans.

## Materials and Methods

Only species with at least 20,000 cataloged proteins were used in this study, as previous experience shows that strong clusters may not be formed unless a complete representative proteome is used (discussed in Lightner and Anderson, 2018). We selected species from the following taxa: humans (3), simian primates (18), Felidae (4), Muridae (2), Galliformes (4), and Anseriformes (2), with *Caenorhabditis elegans* (1) as an outgroup species.

All RefSeq protein sequences for each of the 34 species were downloaded from NCBI (Table 1). Since the Neanderthal and Denisovan did not have a complete proteome, protein sequences were predicted using the gene prediction method Augustus (Stanke et al., 2006). The whole genome sequences for Neanderthal and Denisovan are available at <http://golgi.unmc.edu/HumanMotifomeData/> (Cserhati et al., 2018).

The proteome data for each species was analyzed with the statistical tool's default parameters (at the OrthoMCL website at <http://orthomcl.org/orthomcl/>) (Chen et al., 2006) to find orthologous groups. After the initial run, we substituted *Xenopus laevis* (a frog) for *Caenorhabditis elegans* (a worm) to compare the difference between using a more similar outgroup species. OrthoMCL results for *X. laevis* were calculated on the Galaxy server at <https://eupathdb.globusgenomics.org/>. The number of RefSeq proteins and the number of found orthologous groups can be found in Table I of the Appendix, and also on github at <https://github.com/csmatyihumanUniqueness>.

Statistical analysis was done using the k-means clustering algorithm as part of the gene-content method for determination of species clusters. This analysis

was performed for 5, 6, 7, and 8 clusters. Groupings and their associated p-values were obtained.

The gene-content method was used on the list of species and their orthologous gene groups to define species clusters (O'Micks, 2017). The heat map depicting the relationships between the 34 species (Figures 1 and 2) was produced by the R script, which implements the gene-content method. On the heat map, lighter colors represent species pairs with a highly similar gene content (JCV closer to 1), whereas darker colors represent species pairs with less similar gene content (JCV closer to 0). The cluster membership for each k-value is found in Table II of the Appendix. The number of species in each cluster, as well as the minimum, mean, maximum JCV value and p-value, are recorded in Table III of the Appendix. A matrix containing the JCV values for all species pairs can be seen in the Supplementary Data file (available at <https://github.com/csmatyihumanUniqueness>).

## Results

The heat maps (Figures 1 and 2) provide a visual representation of the groups to which each species belongs based on orthologous protein comparisons. Every species listed along the right of the heat map is also listed along the bottom. This results in a diagonal of light-colored squares from the bottom left corner to the upper right, as each species compared to itself has 100% similarity (JCV = 1). Light areas (white or light yellow) correspond to high similarity; darker (redder) colors indicate less similarity. Note that the outgroup species, the nematode *Caenorhabditis elegans*, shows the greatest dissimilarity compared to all other species, except itself (Figure 1). It shows a red streak with all other species, indicating low common protein content. Figure 2 uses a different color palette than Figure 1 (making it somewhat darker), but with

a vertebrate outgroup species, *Xenopus laevis*, (African clawed frog).

Table 1 lists the species in this study in the order they appear in the heat maps (from top to bottom along the right side). Note that with the exception of humans, all species cluster where we would expect based on their current taxonomic classification. Identifying clusters can be somewhat subjective. For example, are all simians (apes and monkeys) one group, or are they three groups? Are all the birds one group, or are they two? Our analysis helps to address these questions, with resulting groupings and associated p-values listed in Table 2.

## Discussion

The top right group depicted on the heat map is comprised of the four species of Felidae included in this study ( $p = 1.52 \times 10^{-7}$ ). Visual inspection of the heat map almost hints that the group might be divided, but that would divide two species from the same genus, *Panthera*. Based on morphology and hybridization data, all members of the cat family are recognized as belonging to the same baramin (Lightner, 2012). It is only when the clusters are taken down to five ( $k = 5$ ) that the cat spuriously clusters with the rat and mouse (Muridae), which are from a different order. While it is possible that the level of the kind could sometimes be above the order, it seems precluded here due to significant discontinuity between Carnivora and Rodentia (Lightner, 2012). The distinction between the felids and the murids is best seen on the heat map using a vertebrate outgroup species, *Xenopus laevis*, the African clawed frog (Figure 2).

The second cluster consists of the brown (or Norwegian) rat and the house mouse. Since this group consists of only two species, the t-test cannot be performed between the JCV values of these two species and all other species to calculate a p-value. There is no hybrid data connecting these two species,

**Table 2. The clusters revealed statistically by specifying 5 (k= 5), 6 (k=6), 7 (k=7), and 8 (k=8) clusters, along with the associated p-values for each cluster.**

<b>k = 5</b>		
<b>Group</b>	<b>number of species</b>	<b>p-value</b>
Felidae + Muridae	6	$9.97 \times 10^{-06}$
OW + NW monkeys + apes	18	$8.02 \times 10^{-94}$
humans	3	$1.91 \times 10^{-30}$
Galliformes	4	$4.86 \times 10^{-09}$
Anatidae	2	*
<b>k = 6</b>		
<b>Group</b>	<b>number of species</b>	<b>p-value</b>
Felidae	4	$1.52 \times 10^{-07}$
Muridae	2	*
OW monkeys	10	$9.56 \times 10^{-46}$
Great apes + NW monkeys	8	$2.84 \times 10^{-28}$
humans	3	$1.91 \times 10^{-30}$
Galliformes + Anatidae	6	$9.25 \times 10^{-14}$
<b>k = 7</b>		
<b>Group</b>	<b>number of species</b>	<b>p-value</b>
Felidae	4	$1.52 \times 10^{-07}$
Muridae	2	*
OW monkeys	10	$9.56 \times 10^{-46}$
Great apes	4	$2.45 \times 10^{-15}$
NW monkeys	4	$1.61 \times 10^{-16}$
humans	3	$1.91 \times 10^{-30}$
Galliformes + Anatidae	6	$9.25 \times 10^{-14}$
<b>k = 8</b>		
<b>Group</b>	<b>number of species</b>	<b>p-value</b>
Felidae	4	$1.52 \times 10^{-07}$
Muridae	2	*
OW monkeys	10	$9.56 \times 10^{-46}$
Great apes	4	$2.45 \times 10^{-15}$
NW monkeys	4	$1.61 \times 10^{-16}$
humans	3	$1.91 \times 10^{-30}$
Galliformes	4	$4.86 \times 10^{-09}$
Anatidae	2	*

\* When a group consists of 2 species, the t-test cannot be performed between the JCV values of the 2 species and all other species to calculate a p-value.

which are both from the largest rodent family, Muridae. Previous work suggests that they are likely related (Lightner, 2012), and the results here are consistent with that hypothesis. More species in this order should be evaluated when more complete protein sequence data becomes available.

The next group we come to are the simians (apes and monkeys). On the heat map, it looks like they could easily be a single cluster. When eight clusters are specified, the Old World (OW) monkeys, great apes, and New World (NW) monkeys are distinctly separated (see Table 2). Interestingly, when six clusters are specified, the great apes cluster with the New World monkeys with a lower p-value than when they are separate  $2.84 \times 10^{-28}$  vs.  $2.45 \times 10^{-15}$ . This is rather surprising, as great apes are supposed to be more closely related to Old World monkeys. When five clusters are specified, a highly significant cluster with all simians is formed ( $p=8.02 \times 10^{-94}$ ). Division into the three groups identified statistically is somewhat discernable on the heat map shown in Figure 1 but less discernable in Figure 2.

In previous work the great apes and different families of New World monkeys were tentatively considered separate kinds (Lightner, 2012). However, the results of this study suggest the hypothesis that all simian primates, but not humans, may belong to a single baramin. In support of the latter, the average person is not likely to be able to readily distinguish between Old World and New World monkeys upon observing them in an exhibit in the zoo (unless they read the signage). Further, if one is not familiar with the separate status of great apes, most people would naturally tend to group them in with monkeys (tailless monkeys). Thus, there is a strong cognitum, or natural grouping, based on human cognitive senses, for simians, which explains why the word "simian" exists. If it is, in fact, the case that they are related, the differences between Old

World and New World monkeys would be from an early split in the lineage after the ancestral simian pair disembarked from the ark.

Certainly, there are other taxa where the apparent level of the baramin is well above the family level based on hybridization data (e.g., Galliformes and Passeriformes; Lightner, 2013). However, for several reasons, caution should be exercised before concluding all simians are related. First, statistically the three simian groups were separate when a larger number of clusters were specified. They fell into a single cluster only when  $k = 5$ , which also spuriously grouped the felids (cats) with the murids (the rats and mice). This spurious grouping could result of the small sample sizes for some of these animals. Further, hybrid data in simians only unites one subfamily of the two comprising Cercopithecidae, or Old World monkeys. Thus, it might be informative to look at the traits taxonomists use to distinguish these three groups of simians.

Old World monkeys display considerable diversity in facial features, coloration (especially in males), and in the habitats where they live, yet they retain the ability to hybridize across several of the genera. Thus, their inclusion in the same cluster is expected based on hybridization data (Lightner, 2012). However, the differences within this family are considered superficial by taxonomists. According to Fleagle (1999), Old World monkeys are remarkably uniform, due partly to a recent adaptive radiation. This is why they are placed in a single family, while New World monkeys comprise several.

New World monkeys, or platyrrhines, dwell in Central and South America. They can be distinguished by their broad, flat nose, as compared to Old World monkeys, which have narrow nostrils. Furthermore, New World Monkeys usually have three premolars as opposed to two in Old World monkeys. They lack hypoconulids on their first two lower

molars. In the skull, their tympanic ring is fused to the side of the auditory bulla and does not extend laterally like a bony tube as in Old World monkeys. In New World monkeys the zygomatic bone is connected to the parietal bone, whereas in Old World monkeys, the frontal and sphenoid bones are connected with each other (Fleagle, 1999, pp. 136–137, 185).

Great apes are characterized by relatively broad palates and nasal regions, large brains, a reduced lumbar region, an extended sacral region, and the absence of a tail. Furthermore, they have a relatively broad thorax, with a dorsally positioned scapula, and relatively long upper limbs (Fleagle, 1999, p. 235).

Creationists still debate if the differences between these three simian groups are created differences, or if they developed because God designed these creatures to be able to undergo such changes as they reproduced and filled the earth. If simians indeed comprise three baramins, there is a tremendous amount of designed similarity in the proteins they express.

The humans included in the next cluster ( $p = 1.91 \times 10^{-30}$ ) are remarkably similar in expressed proteins among themselves and strikingly different from all other animals, including the simian primates included in this study. This supports the humanity of Neanderthals and Denisovans, as much as it contradicts evolutionary narratives about common descent between humans and apes. In conjunction with other lines of evidence of human morphological, cognitive, and genetic (including non-protein coding regions) distinctiveness, it clearly demonstrates that the evolutionary ideas on the origin of man have no plausible scientific foundation (Tomkins, 2013, 2014, 2016, 2018).

The last cluster(s) is (are) comprised of the birds included in this study. When 5 or 8 clusters were designated, the Galliform (chicken-like) birds ( $p = 4.86 \times 10^{-09}$ ) were in a separate cluster from the duck and goose (Anseriformes). Again,

regarding the latter, when only two species are in a single cluster, no p-value can be assigned because t-test cannot be run. Interestingly, when 6 or 7 clusters were designated, all birds fell in a single cluster ( $p = 9.25 \times 10^{-14}$ ).

Based on morphological and hybridization data, the order Galliformes is considered a baramin (Lightner, 2013). There are hybrids connecting ducks, geese, and swans with each other, but no hybrids that bridge the gap to the galliform (chicken-like) birds. The division between these two orders (Galliformes and Anseriformes) has been relatively noncontroversial, suggesting they are separate kinds. Thus, it is more consistent with current creationist expectations that these two groups comprise two baramins. Nevertheless, more detailed creationist work is needed to come to a stronger conclusion.

Based on these observations, we can suggest the following regarding the gene-content methodology: First, it is desirable to select taxa for study where at least three species would be expected to land in any given cluster. This way there is enough data for the t-test to be performed. It may also help decrease spurious clustering, such as was seen in this study with the felids and murids. While strong clusters should, in theory, be at the level of the baramin, at times there seems to be some semblance of clusters above or below that. So, caution and multiple lines of evidence should always be used when interpreting the results of this or any other statistical baraminology technique. Further, we know from previous unpublished results in insects (mentioned in Lightner and Anderson, 2018) that only taxa with nearly complete, high-quality representative proteomes that yield  $\gg 6000$  orthologues should be used, or they often will not cluster well.

While the gene-content method seems to hold promise as a tool to help identify baramins, one of the biggest current challenges is finding taxa with

complete, high-quality proteome data for numerous species. In this study, simians were well represented, but the felids, murids, and birds were less so. With the accumulation of more species' protein data, this challenge should lessen over time.

## Conclusion

The results of this study yield another striking confirmation of the biblical narrative. First, animals cluster together in groups consistent with the biblical history that they were created according to their kinds. Even more profoundly, humans are clearly distinct from all other animals, including apes. The great apes land in the middle of a simian cluster, between the Old World and New World monkeys. As expected from previous creationist works, the cats form a distinct group, as do the rodents included in this study. It is not quite as clear if the chicken-like birds are distinct from ducks and geese as generally believed by creationists, but further analyses when more proteomes become available should clarify that point.

The gene-content statistical baraminology method appears to be a valuable tool for creationists when complete proteome data is available for a taxon of interest. As we continue to use it, we should continue to learn helpful strategies to use it more effectively. We currently recognize the need for good quality proteomes (> 20,000 proteins) and at least three species for any group likely to form a cluster. Further, some caution is necessary when interpreting

the results because weaker clusters are often detected above or below more obvious ones. For this reason, other lines of evidence should always be considered as conclusions are drawn.

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## Appendix: Supplementary Data

Table I. Species included in this study.

Species	Refseq proteins	Orthologues
<i>Acinonyx jubatus</i>	27284	13973
<i>Anas platyrhynchos</i>	30500	11127
<i>Anser cygnoides</i>	31811	11244
<i>Aotus nancymae</i>	47568	14622
<i>Caenorhabditis elegans</i>	38541	13059
<i>Callithrix jacchus</i>	45275	14620
<i>Cebus capucinus imitator</i>	53173	14801
<i>Cercocebus atys</i>	65950	14953
<i>Chlorocebus sabaeus</i>	61809	14953
<i>Colobus angolensis palliatus</i>	38654	14660
<i>Coturnix japonica</i>	39111	12027
<i>Denisova</i>	32733	13306
<i>Felis catus</i>	54767	29796
<i>Gallus gallus</i>	46485	12248
<i>Gorilla gorilla gorilla</i>	46456	14987
<i>Homo sapiens</i>	44006	13404
<i>Macaca fascicularis</i>	63105	14890
<i>Macaca mulatta</i>	55775	15010
<i>Macaca nemestrina</i>	66586	14958
<i>Mandrillus leucophaeus</i>	38430	14779
<i>Meleagris gallopavo</i>	33325	11942
<i>Mus musculus</i>	78425	15436
<i>Neanderthal</i>	33049	13363
<i>Numida meleagris</i>	43240	11997
<i>Pan paniscus</i>	50092	14990
<i>Pan troglodytes</i>	91838	14014
<i>Panthera altaica</i>	29462	14898
<i>Panthera pardus</i>	57954	15204
<i>Papio anubis</i>	66688	14973
<i>Pongo abelii</i>	49906	14951
<i>Rattus norvegicus</i>	72948	30302
<i>Rhinopithecus bieti</i>	49617	14826
<i>Rhinopithecus roxellana</i>	37319	14834
<i>Saimiri boliviensis boliviensis</i>	36216	14528
<i>Xenopus laevis</i>	42878	32497

Table II. Clusters identified in this study.

Species	Taxon	k=5	k=6	k=7	k=8
Anas_platyrhynchos	Anseriformes	3	5	7	1
Anser_cygnoides	Anseriformes	3	5	7	1
Gorilla_gorilla_gorilla	Hominidae	4	4	2	2
Pan_paniscus	Hominidae	4	4	2	2
Pan_troglodytes	Hominidae	4	4	2	2
Pongo_abelii	Hominidae	4	4	2	2
Aotus_nancymae	NW monkey	4	4	6	3
Callithrix_jacchus	NW monkey	4	4	6	3
Cebus_capucinus_imitator	NW monkey	4	4	6	3
Saimiri_boliviensis_boliviensis	NW monkey	4	4	6	3
Mus_musculus	Muridae	2	3	3	4
Rattus_norvegicus	Muridae	2	3	3	4
Denisova	Human	5	1	1	5
Homo_sapiens	Human	5	1	1	5
Neanderthal	Human	5	1	1	5
Acinonyx_jubatus	Felidae	2	6	5	6
Felis_catus	Felidae	2	6	5	6
Panthera_altaica	Felidae	2	6	5	6
Panthera_pardus	Felidae	2	6	5	6
Cercocebus_atys	OW Monkey	4	2	4	7
Chlorocebus_sabaeus	OW Monkey	4	2	4	7
Colobus_angolensis_palliatus	OW Monkey	4	2	4	7
Macaca_fascicularis	OW monkey	4	2	4	7
Macaca_mulatta	OW monkey	4	2	4	7
Macaca_nemestrina	OW monkey	4	2	4	7
Mandrillus_leucophaeus	OW Monkey	4	2	4	7
Papio_anubis	OW Monkey	4	2	4	7
Rhinopithecus_bieti	OW Monkey	4	2	4	7
Rhinopithecus_roxellana	OW Monkey	4	2	4	7
Coturnix_japonica	Galliformes	1	5	7	8
Gallus_gallus	Galliformes	1	5	7	8
Meleagris_gallopavo	Galliformes	1	5	7	8
Numida_meleagris	Galliformes	1	5	7	8

Table III. Statistics

<b>k=5</b>							
<b>baramin</b>	<b>species</b>	<b>mean</b>	<b>stdev</b>	<b>min</b>	<b>max</b>	<b>p-value</b>	<b>group name</b>
1	4	0.903	0.016	0.883	0.922	4.86E-09	Galliformes
2	6	0.887	0.037	0.84	0.951	9.97E-06	Muridae and Felidae
4	18	0.942	0.01	0.92	0.969	8.02E-94	great apes, OW and NW monkeys
5	3	0.979	0.005	0.974	0.984	1.91E-30	human
<b>k=6</b>							
<b>baramin</b>	<b>species</b>	<b>mean</b>	<b>stdev</b>	<b>min</b>	<b>max</b>	<b>p-value</b>	<b>group name</b>
1	3	0.979	0.005	0.974	0.984	1.91E-30	human
2	10	0.953	0.008	0.938	0.969	9.56E-46	OW monkey
4	8	0.938	0.01	0.924	0.96	2.84E-28	great apes and NW monkey
5	6	0.876	0.028	0.841	0.922	9.25E-14	Anseriformes and Galliformes
6	4	0.923	0.018	0.909	0.951	1.52E-07	Felidae
<b>k=7</b>							
<b>baramin</b>	<b>species</b>	<b>mean</b>	<b>stdev</b>	<b>min</b>	<b>max</b>	<b>p-value</b>	<b>group name</b>
1	3	0.979	0.005	0.974	0.984	1.91E-30	human
2	4	0.948	0.009	0.94	0.96	2.45E-15	great apes
4	10	0.953	0.008	0.938	0.969	9.56E-46	OW monkey
5	4	0.923	0.018	0.909	0.951	1.52E-07	Felidae
6	4	0.947	0.007	0.938	0.955	1.61E-16	NW monkey
7	6	0.876	0.028	0.841	0.922	9.25E-14	Anseriformes and Galliformes
<b>k=8</b>							
<b>baramin</b>	<b>species</b>	<b>mean</b>	<b>stdev</b>	<b>min</b>	<b>max</b>	<b>p-value</b>	<b>group name</b>
2	4	0.948	0.009	0.94	0.96	2.45E-15	Great apes
3	4	0.947	0.007	0.938	0.955	1.61E-16	NW monkey
5	3	0.979	0.005	0.974	0.984	1.91E-30	human
6	4	0.923	0.018	0.909	0.951	1.52E-07	Felidae
7	10	0.953	0.008	0.938	0.969	9.56E-46	OW monkey
8	4	0.903	0.016	0.883	0.922	4.86E-09	Galliformes

# Is the Alboran Basin, Western Mediterranean, an Impact Crater?

## Part I: Kinematics

Michael J. Oard\*

### Abstract

Understanding the geology and geophysics of the Alboran Sea Basin will contribute toward developing a comprehensive Flood model. In this analysis, I assume the described structural geology is accurate, including the thrust faults. The most unique aspect of the Alboran Sea Basin and the surrounding mountains is an extended, subsided basin surrounded by thrust faults that radially moved away from the basin. According to GPS measurements, this activity took place in an area where the African and Eurasian plates are slowly converging. The thrusts are divided into three zones with local mantle rock, ultrahigh pressure minerals, and diamonds exposed in places, indicating exhumation from depths below 140 km. Geophysical observations indicate the Alboran Basin has thinned crust, a high Moho, a high gravity anomaly, and high heat flow. Seismicity does not form any significant pattern, but unexplained earthquakes continue beneath Granada at 620 to 660 km depth. The geology indicates that after large-scale tectonics, the area was deeply eroded, depositing thick Late Cenozoic sediments in the valleys and basins. Much of the unique geology and geophysics of the area is unexplained by uniformitarian scientists.

### Introduction

Geology is one of the main fields secular scientists use to convince people that evolution took place over millions of years. They ignore the overwhelming evidence in biology for intelligent design

and believe the real data of history lies in the areas of geology and paleontology. Radiometric dating, along with its many assumptions, is used to support their claims for deep time (Oard, 2019). As a result, the evidence from geology is

claimed to trump any claims for a Creator from biology or the Bible.

That is why it is important to develop a biblical explanation for the geological data. Secular geologists have organized the data along secular assumptions, but the inconvenient data have been ignored. Biblical geologists can do better. We need to show that the hundreds of seemingly contradictory data in geol-

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Accepted for publication December 14, 2018

ogy can be interpreted another way. We also need to develop a comprehensive Flood model to place all the geological observations into a single whole and show that we can explain the geological observations—contrary to what secular scientists claim. At this point in time, we are only in the beginning stages of developing this kind of model. Several models have been presented (Table 1) along with several sub-models (those that attempt to explain certain aspects of the Flood). These models are quite different from one another, and all are in a state of *rudimentary* development. The catastrophic plate tectonics (CPT) model is the most developed with its computer model. It is possible that none of the models is the correct model, or that parts of the models are correct, which are two options included in Table 1. At this point in our knowledge, multiple models are a good thing when there are many unknowns. This agrees with the principle of multiple working hypotheses (Chamberlin, 1890, 1995). We won't know which model is the best unless we continually test each and are able to suggest areas of further research. This is the way model building progresses.

I used the word “rudimentary” above because the models are of a general nature and have not yet been applied to the details of a host of geological challenges. For instance, the geology of the western United States has not been explained well with the Flood models, although the impact/vertical tectonics (IVT) model has been applied with success to some of the geomorphology of the western United States (Oard, 2008, 2013). The hydroplate theory (HPT) has made a poor attempt in trying to explain several of the broadscale features of the southwest United States, including the origin of Grand Canyon (Brown, 2008; Oard, 2016).

In this paper, I will describe the kinematics (the current geological and geophysical features) of the Alboran Sea

**Table 1. The three main Flood models with two other possibilities.**

Catastrophic Plate Tectonics (CPT) model
Hydroplate (HPT) model
Impact/Vertical Tectonics (IVT) model
None of the above
Parts of two or more models

Basin in the western Mediterranean Sea and the surrounding mountains. In a following paper, I will analyze uniformitarian attempts to explain the origin or dynamics of this unique area and then offer an impact mechanism.

### Assumptions

Since this is literature research, I must spell out the assumptions I will be making. I will assume that the descriptions of rock units published by secular geologists are accurate. I will not delve into the specific sedimentary rocks or their ages and will assume for the sake of discussion that the geological column in the area represents a true, relative timescale without the millions of years. This paper is mainly a study in structural geology, and so I also will assume secular scientists have given a reasonably accurate description of the structural geology of the area, which is the most significant in determining the origin of the features. Therefore, I will assume that their descriptions of folds, faults, and tectonics are accurate.

More specifically, this means that I will assume that major thrust faults, in which one rock unit pushes up and over another rock unit at less than a 45° angle is accurate (Figure 1). If a thrust fault makes a very low angle with the horizontal, it is called an overthrust, while if the angle is greater than 45°, it is called a reverse fault (Neuendorf et al.,

2005, pp. 462, 670). I will refer to all of them as simply thrust faults.

The geophysics of the Mediterranean Sea area and southern Europe can help us understand the area better, but in some cases it is difficult to resolve. Some of the geophysics is straightforward observational data, such as gravity and magnetic anomalies, GPS motions, and heat flow, but some of it is more equivocal, such as seismic deductions. As a first guess, I will assume these aspects of geophysics are true.

Seismic tomography is the determining of the 3D structure of the subsurface by integrating thousands of earthquake waves through a particular volume (Stein and Wysession, 2003). There are many assumptions and problems in this application that makes its accuracy questionable (Foulger et al., 2013). Since seismic observations are sensitive to crustal structure, tomographic images rely on *a priori* crustal structure, including the assumption of high velocity subduction zones (Molinari et al., 2015). This can produce a bias in the results. Regardless of these problems, I will assume the tomographic images are roughly true of the high- and low-velocity volumes in the subsurface.

### Thrust Faults and Gravity Spreading

After being skeptical of most thrust faults for many years, I have come to believe,

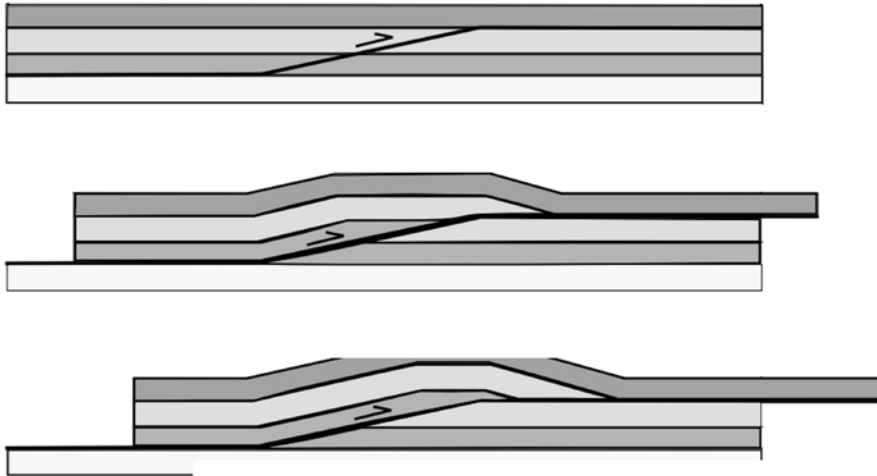


Figure 1. Diagram of the origin of a thrust fault (Mikenorton, Wikipedia Commons CC-BY-SA-3.0). A lateral force pushes up older strata over younger strata.

based on field data along the Montana Rocky Mountain front, that the large thrusts I have seen are real, but some of the minor thrusts are imaginary (Oard and Klevberg, 2015). Moreover, a commonsense mechanism presents itself in the case of the Rocky Mountain Front, which can be applied to many other thrusts around the world, and that is gravity spreading caused by uplift of mountains late in the Flood. In the case of the Rocky Mountains, uplift resulted in the slumping of the east edge of the Rocky Mountains eastward, with rock units being stacked up into mostly reverse faults upon hitting a backstop (the High Plains strata). The upward rise of the Rocky Mountains added potential



Figure 2. Aerial view of the multiple thrusts (ridges) along the Rocky Mountain Front with a wide valley to the west, looking north across the Sun River Canyon (Bobak Ha'Eri, Wikipedia Commons CC-BY-SA-3.0). The lake is the Gibson Reservoir, west of Augusta, Montana, USA, and is formed by a dam on the Sun River. The Lewis Overthrust is just out of the figure to the left, west of the wide north-south valley of the Middle Fork of the Sun River.

energy to an unstable edge, which provided the energy for the tremendous horizontal compressive force for gravity spreading. So, one mechanism for thrusting is by gravity on part of a block providing the horizontal push for the thrust sheets (Clarey, 2013). As evidence for gravity spreading, there is a 5 km wide depression or valley between the Rocky Mountain continental divide and the stacks of thrusts (Figure 2). This depression is what one would expect during a rotational slump (see below).

Gravity spreading is the “vertical collapse and lateral spreading of salt and

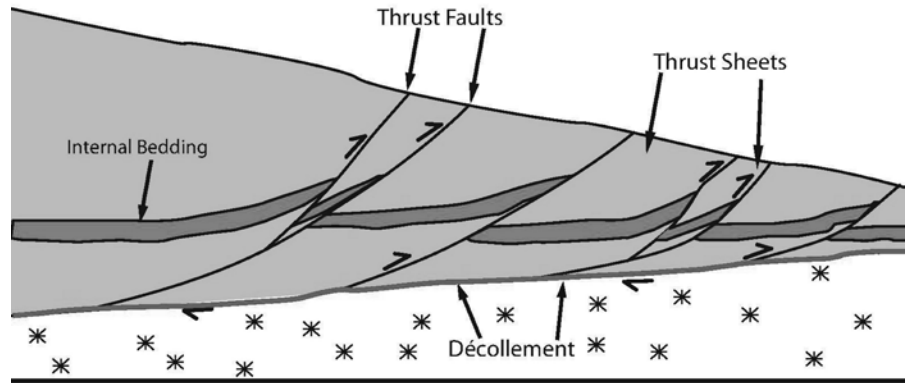


Figure 3. A basal décollement on undeformed rock with imbricate thrust above (Tberli3, Wikipedia Commons Attribution-Share Alike 3.0 Unported). Thrusts caused by compression toward the right side of diagram.

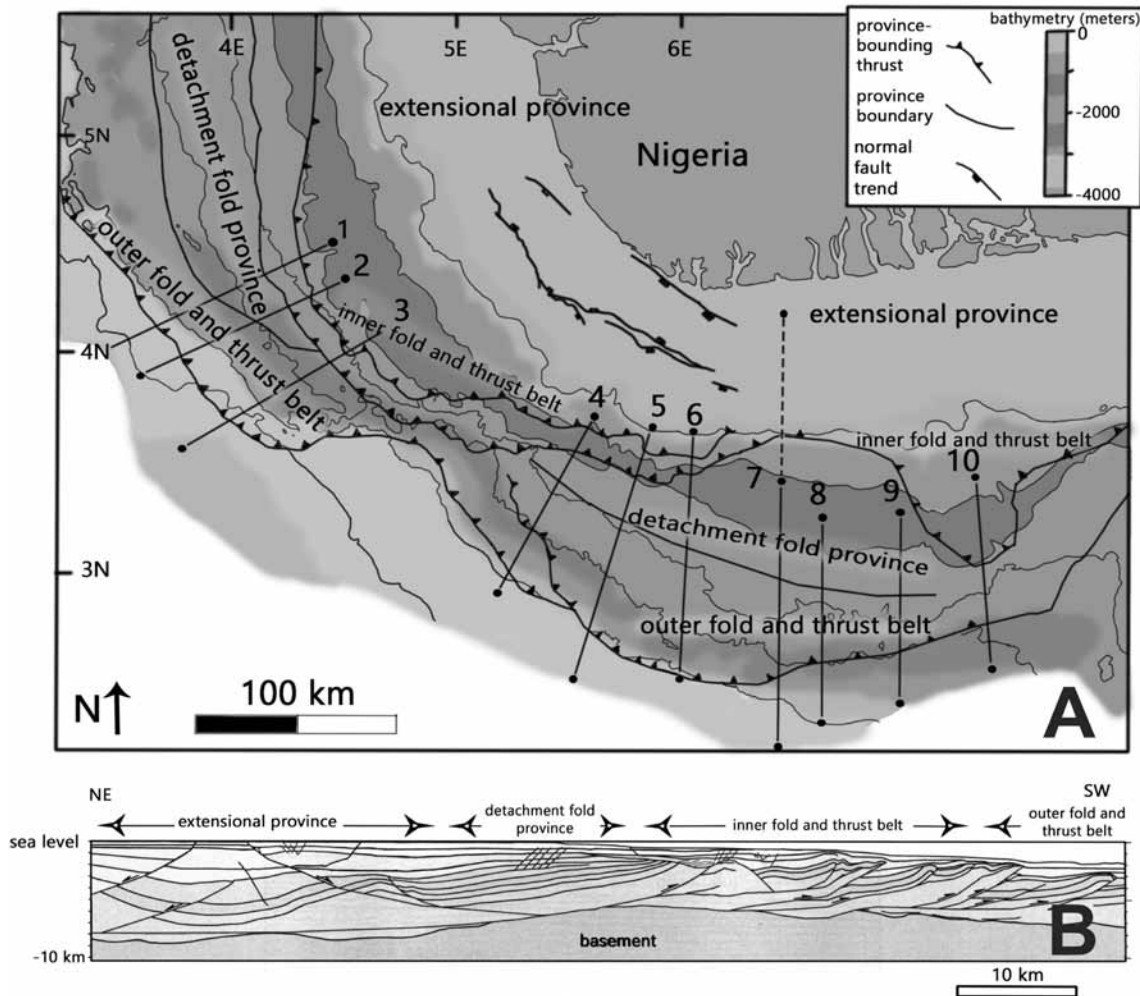


Figure 4. (A) Plan view of the Nigeria continental margin with extensional tectonics and normal faults just offshore with stacked overthrusts from gravity spreading oceanward (from Bilotti and Shaw, 2005). (B) One of the ten cross section through the thrusts shown in Figure 4a (from Bilotti and Shaw, 2005). Notice that the cross section goes from extensional, normal faults just offshore (left) to multiple stacked thrusts oceanward (toward the right). Figures reprinted by permission of the AAPG whose permission is required for further use. AAPG©2005.

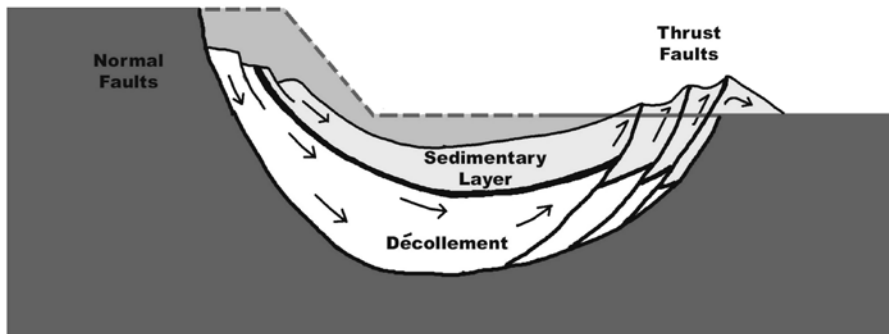


Figure 5. A rotational landslide slump with normal faults at the upper end and thrust faults splaying out from a décollement (redrawn from Melosh, 2013, p. 339, by Mrs. Melanie Richard).

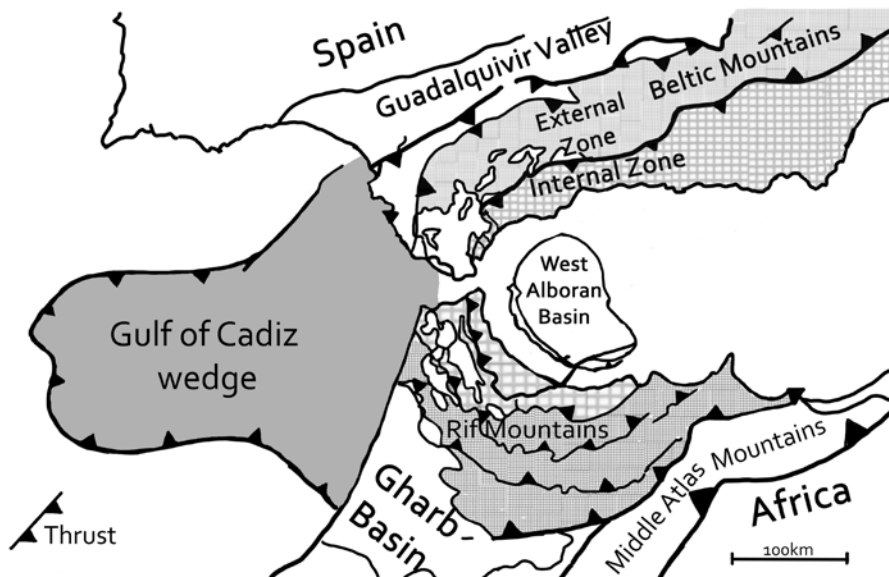


Figure 6. The Alboran Sea Basin in westernmost Mediterranean Sea showing major geological features (Redrawn from Do Couto et al., 2016 by Mrs. Melanie Richard). A few features to point out are the arc-shaped multiple thrusts in the mountains surrounding most of the Alboran Sea with the triangles pointing to the block that moved up and out. Note the internal zones (Alboran Domain) and external zones. Normal and detachment faults not shown.

any overburden under their own weight” (Neuendorf et al., 2005, p. 282). This is similar to what is called “gravity gliding” in that it is the downslope sliding of a mass of rock (Neuendorf et al., 2005, p. 282). The difference appears to be that in gravity spreading, the spreading mass

deforms, while in gravity gliding, the block is undeformed.

During gravity spreading, the edge of an uplifted rock slumps down and spreads away on a deep master thrust, called a *décollement*. Above the *décollement*, slices of rock detach and thrust

one on top of another and become stacked as multiple thrusts (Figure 3). We observe these features today by seismic methods along unstable, steep areas, such as along continental margins (Figures 4a and 4b). South of the Kilauea volcano on the large island of Hawaii, the southern edge is slumping down and the outer edge is pushing out into a series of thrust faults. This is called the Hilina slump (Okubo, 2004). The upper part of the mass that spreads shows normal faults downward toward the direction of spreading. It is like a rotation as seen in many slumps (Figure 5). It is not unusual for the area between the normal faults and the stacked thrusts to form a terrace, basin, or valley. In the case of the Rocky Mountain Front, the broad valley west of the thrusts represents the slump valley.

### The Alboran Sea Basin and Subbasins

The Alboran Sea is a small sea in the extreme western Mediterranean Sea; and of all the basins in the Mediterranean Sea region and southeastern Europe, it is the most distinctive (Figure 6). The Alboran Sea and surrounding areas form a unique semicircular shape (Torné et al., 2000). The area is one of the most tightly *arcuate* mountain chains in the world (Platt et al., 2013; Kirker and Platt, 1998). To the north are the Betic Mountains of southern Spain (Iberia), arcing toward the west through Gibraltar and swinging southeast as the Rif Mountains of Morocco. The north-south symmetry of the structures and types of rocks between the Betic and Rif Mountains is truly remarkable (Vernant et al., 2010). The internal and external zones of the Betic Mountains continue far to the east in southern Spain, and the same structure of the Rif Mountains generally extends east into northern Africa. The most remarkable aspect of the area is that the surrounding mountains are a stack of thrusts (Figure 7) that were

pushed out from the extended, subsided Alboran Basin.

In the example of the Rocky Mountains stacked thrusts, gravity was the mechanism for the thrusting. But what powerful mechanism could have pushed a vast amount of rock radially out in an arc shape from a developing depression? Secular geology has yet to come up with a good explanation since they believe the thrusting and formation of the depression of the Alboran Basin occurred at the same time and is related somehow, like most else, to plate tectonics. I agree the time is the same. The Alboran Basin is just one example, albeit the best, of many mountains thrust out from an extending, sinking basin in the Mediterranean region and southern Europe. Moreover, these common extending basins have occurred *within* a convergence zone between the colliding European and the African plates. The current rate of convergence in the Alboran region based on GPS is about 5 mm/yr but not in a north-south direction but more in a northwest-southeast direction (Cunha et al., 2012).

The Alboran Sea is rather complicated (Figure 6 is a simplified diagram). The West Alboran Basin is a deep sub-basin that contains sediments greater than 10 km thick (Do Couto et al., 2016; Gutscher et al., 2012). The bottom layers of sediment appear partially chaotic and tilted with debris flows (Do Couto et al., 2016). The majority of the sediment above the bottom layers is mostly undeformed, as if the basin opened up quickly and was rapidly filled in with little subsequent deformation. The central part of the Alboran Sea is uplifted, metamorphic rocks that are similar to the internal zone of the surrounding mountains (Do Couto et al., 2016). Farther east, the small East Alboran and South Alboran Basins contain only a few kilometers and 4 km of sediment, respectively (Medaouri et al., 2014). There is also a narrow North Alboran Basin with several kilometers of sediments. These smaller

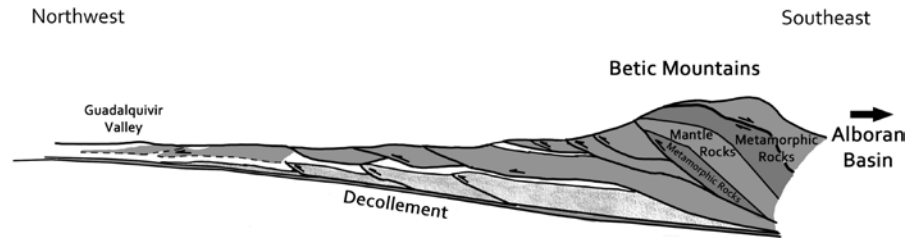


Figure 7. Stack of thrusts spread out northwest from the Alboran Sea (right) (Redrawn from Vergés and Fernández, 2012, by Mrs. Melanie Richard).

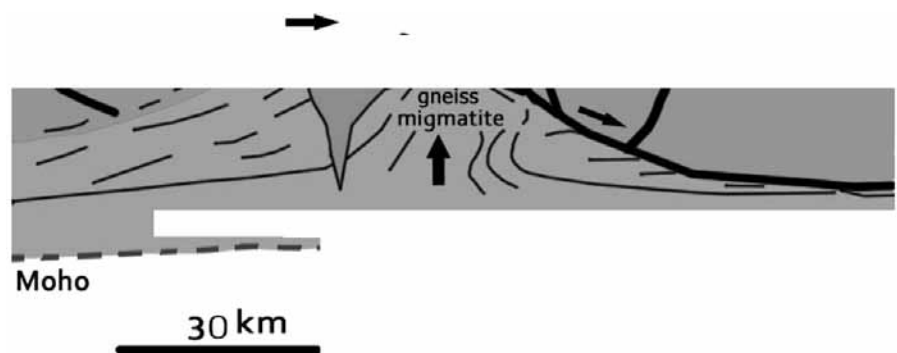


Figure 8. A detachment fault in which a dome of igneous rock (granite) and metamorphic rock (gneiss and/or migmatite) rises and mostly unmetamorphosed rock slides away on a low angle normal fault, called a detachment fault (drawn by Mrs. Melanie Richard).

basins are separated by high areas with thin sediments (Martínez-García et al., 2013). Volcanism has occurred mainly within the eastern part of the basin and the surrounding mountains (Lustrino et al., 2011).

Although most of the Alboran Basin is a result of north-south extension (Do Couto et al., 2016), convergent features are found in the central and eastern part of the main basin (Martínez-García et al., 2013). These convergent features seem to have formed after basin extension (Buontempo et al., 2008).

### The Surrounding Betic and Rif Mountains

The Betic and Rif Mountains surrounding the Alboran Basin together

are called the Gibraltar Arc and are made up of three main zones (Figure 6). Starting from the farthest away, they are the external zone, the middle “flysch” zone (not shown), and the internal zone (Martín-Algarra et al., 2000). “Flysch” is a European term that loosely describes a thick, poorly fossiliferous mixture of bedded rocks including conglomerates, sandstones, fine-grained sedimentary rocks, and limestones (Neuendorf et al., 2005, p. 247). The flysch is mainly found in the western part of the arc and is of minor importance.

All these zones were emplaced by thrusts (Figure 7) that moved radially *outward* from the Alboran Basin as the basin extended (Martín-Algarra et al., 2000; Torné et al., 2000). The radial movement was facilitated especially

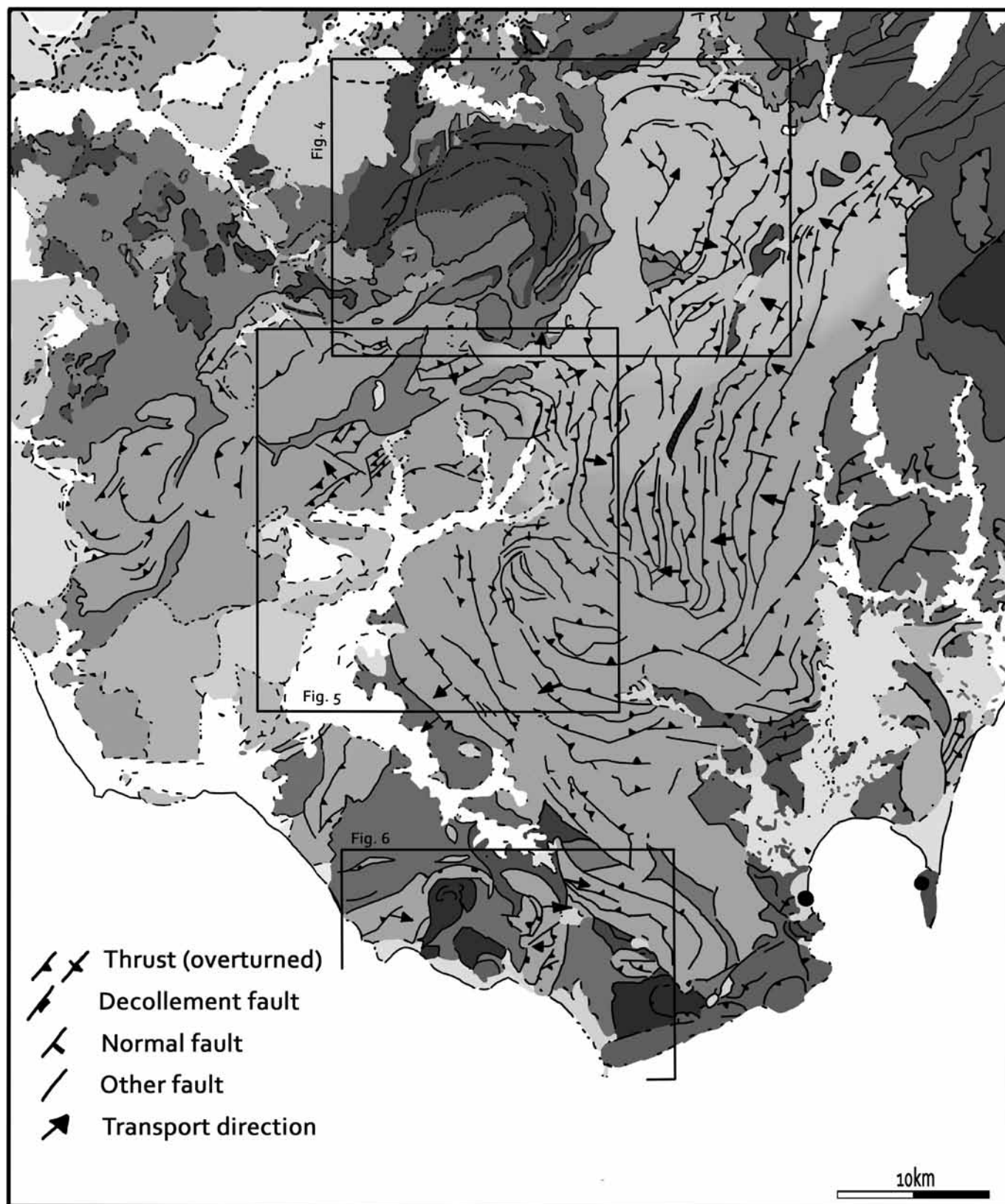


Figure 9. General chaotic pattern of thrusts, faults, and folds from the middle flysch and external zones of the northwest Betic Mountains (from Crespo-Blanc et al., 2012, reprinted by permission of *Journal of the Geological Society, London*). Thrust faults are shown by a line with triangles with the triangle pointing to the upthrown block.

by Triassic “evaporites” (Vergés and Fernández, 2012). Then it appears that after the outward thrusting, there was extensional, normal faulting of the internal zone close to the sea and just offshore *back toward the basin* with uplift and detachment faulting (normal and detachment faults not shown on Figure 6) (Crespo-Blanc and Campos, 2001; Do Couto et al., 2016; García-Dueñas et al., 1992; Torné et al., 2000). A detachment fault is the result of an uplift that causes the rocks on top to slide off, in this case back toward the Alboran Sea Basin (Figure 8).

There has also been some extension perpendicular to the direction of thrusting (Mazzoli and Martín Algarra, 2011), as one would expect from thrusts moving out radially, in which case they need to expand perpendicular to the motion. There is also an east-west component of extension in the eastern Betics. Both the north-south and east-west extension opened up valleys and basins that were subsequently filled with sediments (Augier and Jolivet, 2005).

### The External Zone

The external zone of the Betic Mountains abuts against the foreland Guadalquivir Basin, and the external zone of the Rif Mountains converges with the foreland Gharb Basin south of the Rif Mountains (Do Couto et al., 2016). The thrust sheets show variations in style based especially on the rock type of the particular thrust rocks and the nature of the décollement, especially the closer they are to the Guadalquivir and Gharb Basins (Luján et al., 2003). Small-scale arcs in a semi-chaotic pattern with different directions of thrusting and local overturning occur at some locations of the western and central Betics (Crespo-Blanc, 2007, 2008; Crespo-Blanc et al., 2012) (Figure 9). This makes sense when thrust sheets of variable rock type pile up against a “backstop” (the boundary that stops the thrust movement), which may be of variable shape. This situation

would cause crumpling of the thrust sheets. The style of the thrusting suggests one rapid event:

Finally, the possibility of generating oblique structures with a very high degree of obliquity with respect to the main trend during *a single episode of shortening* could be a key process in the complex evolution of the central Subbetic. (Crespo-Blanc, 2008, p. 78, emphasis mine)

### The Internal Zone

The internal zone, also called the Alboran domain, is made up of mostly three types of high-pressure, low-temperature metamorphic rocks (Buontempo et al., 2008; Do Couto et al., 2016). Metamorphic rocks are usually related to the depth of burial and in this case are said to have metamorphosed tens of kilometers deep (Vergés and Fernández, 2012). Starting from the most metamorphosed in the Betic Mountains and going upward: the Nevado-Filabride complex is composed of eclogite and/or blueschist high-pressure, low-temperature metamorphism at 320°-700°C from depths of 35 to 65 km; the Alpujarride complex (Sebtide complex in Rif Mountains) was metamorphosed at 340°-570°C at depths of 21 to 33 km; and the Malaguide complex (Ghomaride complex Rif Mountains) with low-grade metamorphism from a shallower depth. The Nevado-Filabride complex outcrops on the surface only in the eastern Betic Mountains. It is assumed that the metamorphic rocks were somehow pushed down deeply and then exhumed upward (Vergés and Fernández, 2012).

### The Gulf of Cadiz

The Rock of Gibraltar and the surrounding area are part of the internal zone, while the external zone swings west of Gibraltar into the eastern Gulf of Cadiz, where a wedge of sediment is located (Figure 10). This wedge is seen by seismology to be chaotic with thrust sheets dipping toward the east and over 10 km

thick in the extreme east (Gutscher et al., 2012; Iribarren et al., 2007; Platt et al., 2013). The wedge of sediment thins westward and forms an arcuate shape or double arcuate shape.

## The Mantle Rocks

The internal zone also is made up of slabs of mantle rocks, which contain ultrahigh-pressure minerals (UHPm), such as coesite, and microdiamonds (Figure 7) (Van der Wal and Vissers, 1993). In Spain the mantle rocks of the internal zone are called the Ronda peridotite, while in Morocco they are called the Beni Bousera peridotite, and they are similar (Torné et al., 1992). A small patch of UHPm and microdiamonds also exist in extreme southwest Spain (Ruiz-Cruz and de Galdeano, 2013). The Ronda peridotite is considered the largest subcontinental mantle outcrop in the world, covering 450 km<sup>2</sup> (Hidas et al., 2013; Moudnib et al., 2015). The Ronda peridotite is composed of a slab of peridotite 4 km thick at the surface that extends deep into the mantle and widens to about 8 km (Mazzoli and Martín Algarra, 2011). The peridotite is underlain by high-grade metamorphic rocks, including brecciated migmatite, gneiss, and mylonite, which indicate much shearing movement, probably as the mantle rocks were uplifted (Mazzoli and Martín Algarra, 2011; Van der Wal and Vissers, 1993).

The UHPm and microdiamonds imply that exhumation of the peridotite was from below 140 km depth (Hidas et al., 2013; Platt et al., 2003)! It is likely the peridotite is thick and continuous around the Gibraltar Arc, since seismic data indicates a continuous high velocity anomaly down to 24 km (Moudnib et al., 2015). Some think that the origin of the peridotite represents an exhumed lithosphere/asthenosphere boundary that sheared up to the surface at a low angle (Frets et al., 2014; Soustelle et al., 2009).

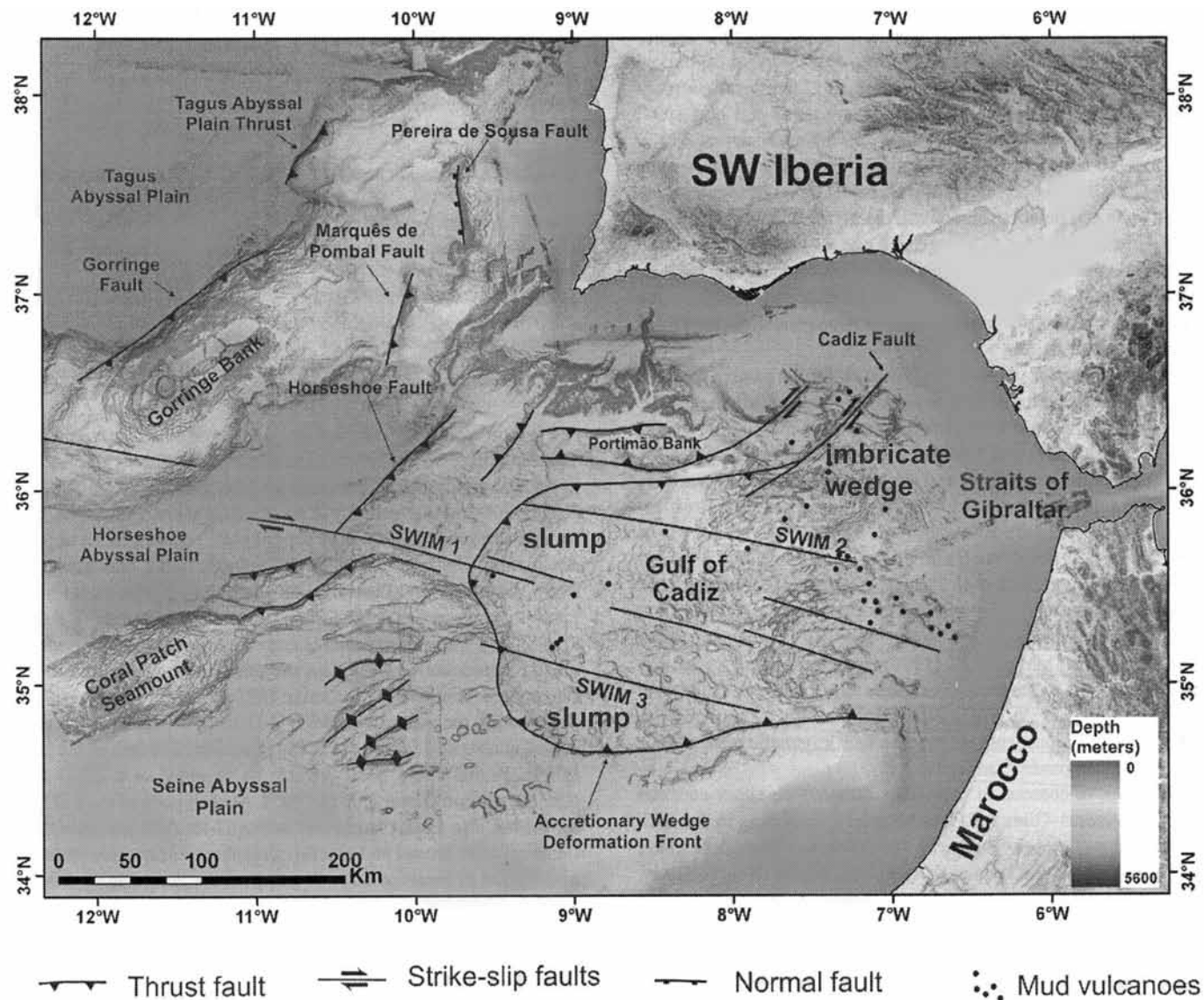


Figure 10. Gulf of Cadiz imbricate wedge thrust faulted west toward the Atlantic Ocean with further sliding down into the deep ocean (from Cunha et al., 2012, reprinted by permission of *Geophysical Journal International*).

### Geophysical Observations

Geophysical observations add more information about the subsurface. For instance, seismic waves show that the crust is thinned in the middle of the Alboran Basin with a minimum thickness of 12 km, while the crust thickens to about 36 km in the surrounding mountains (Timoulali et al., 2014; Torné et

al., 2000). So, the crust is considered thinned, extended continental crust, probably because it is thicker than the 6 to 7 km, typical of ocean crust but thinner than the 35 km, attributed to continental crust.

Gravity anomalies show a positive anomaly in the center after the lightweight sediments are removed from the

West Alboran Basin. Gravity lows exist in the surrounding mountains (Figure 11) (Torné et al., 2000).

The basin also has moderately high heat flow, which increases toward the basin center (Torné et al., 2000). Heat flow is caused by the temperature gradient with depth. Both the gravity anomaly and high heat flow likely result from

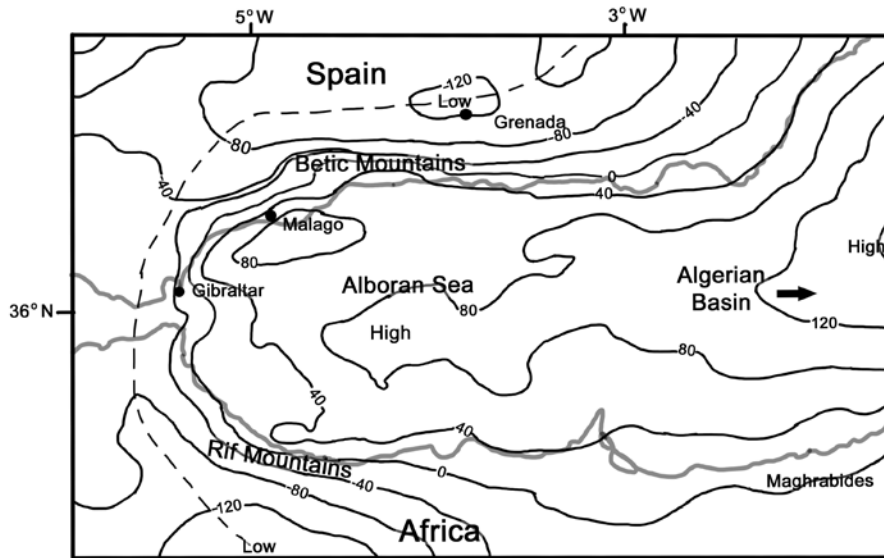


Figure 11. Sediment corrected Bouguer gravity anomalies with contour interval 40 mGal (redrawn from Torné et al., 2000 by Mrs. Melanie Richard). Note the gravity high in the middle of the basin and the lower, arc-shaped gravity anomalies in the surrounding mountains. The gravity high in the northwest Alboran Sea is probably due to the dense Ronda peridotite mantle rocks.

the thinned crust and high Moho, the boundary between the crust and mantle. This allowed hot, denser rocks to have risen to shallower depths.

Seismic velocity varies under the basin. Based on tomography, which is like a CAT scan but using earthquake seismic waves from many directions passing through the area, assuming the anomalies represent temperature anomalies, there is a high velocity anomaly at the top of the crust at 5 to 10 km depth in the Alboran Basin (Timoulali et al., 2014). A low velocity zone occurs in the upper

mantle rocks below the basin from about 15 to 60 km (Palomeras et al., 2014; Timoulali et al., 2014). Tomography also shows an image of a near vertical, slightly east dipping, high-velocity layer below the Western Alboran Basin and the surrounding mountains between about 60 to 650 km (Do Couto et al., 2016; Monna et al., 2013; Morales et al., 1999; Palomeras et al., 2014). There are other deep, vertical low-velocity layers in the Gulf of Cadiz to the west.

The seismicity of the region is strange (Casado et al., 2001). Besides the usual

shallow earthquakes, there is a north-south cluster of quakes down to 160 km just east of Gibraltar (Bezeda et al., 2013). Then there are no earthquakes from 160 to 620 km (Palomeras et al., 2014). Most mysterious of all are the earthquakes below Granada, and only Granada, in southeast Spain between 620 and 660 km depth that are up to magnitude 7.1 (Gutscher et al., 2012; Palomeras et al., 2014). The first motion of an earthquake is the direction of the first wave from an earthquake to hit the seismometer and gives a measure of the motion of the fault. One solution out of two (there are always two possible directions from the first motion of earthquakes) for the focal mechanism of these quakes is normal faulting on a vertical axis (Casado et al., 2001).

### Erosion

After the Alboran Basin extended, and thrusting, normal, and detachment faulting ended, the area was strongly eroded, resulting in mountaintop planation surfaces (Farines et al., 2015) and thick sediments in low areas, much of the sediment likely originating from the currently high areas. Erosion has sheared off the tops of many of the thrust sheets, leaving near vertically tilted strata in places below a gently rolling surface (Figure 12). A measure of the erosion is that all those Late Cenozoic valleys and basins of various types are filled with sediments estimated to be 209,000 km<sup>3</sup> (Iribarren et al., 2009). Iribarren et al.

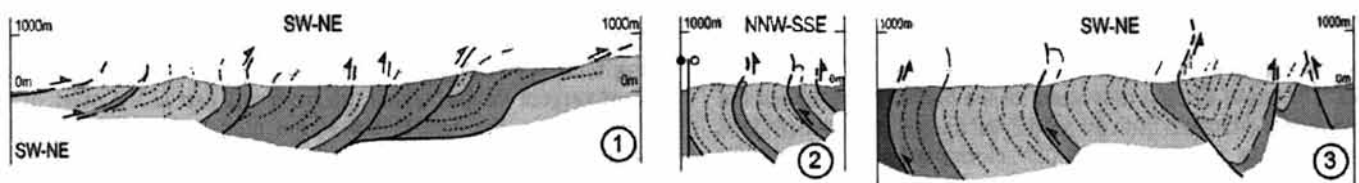


Figure 12. Three cross sections showing the commonly near vertical thrusts, which represent a series of tightly folded synclines and anticlines that used to extend high into the air before erosion reduced them to a gently rolling surface (from Crespo-Blanc et al., 2012, reprinted by permission of *Journal of the Geological Society, London*).

(2009) found over 10 km of sediments in the West Alboran Basins, up to 2 km in the Gulf of Cadiz on top of the thick imbricate wedge (which has over 10 km of sediments), over 2.5 km of strata in the Guadalquivir Valley and the Rharb Basins, and around 400 m average in the valleys and basins in the mountains. Moreover, the intermontane valleys and basins have a fair amount of marine sediments, indicating that much of the area was still underwater during erosion.

Pediments were also carved at low elevations in the valleys and basins of the Betic Mountains (Farines et al., 2015) as the top of the valley and basin sediments were eroded. It is common for sediments that filled basins and valleys to have hundreds of meters of their tops eroded off, leaving erosional remnants (García-Castellanos and Larrasoña, 2015).

## Unexplained by Uniformitarianism

The origin of the Alboran Basin and the surrounding mountains is controversial for secular geologists (Do Cuoto et al., 2016; Torné et al., 2000). Such a feature as outward moving, arc-shaped thrusts from an extending, sinking basin is paradoxical: “The seemingly contradictory observations of a young extensional marine basin surrounded by an arcuate fold-and-thrust belt, [sic] have led to competing geodynamic models (delamination and subduction)” (Gutscher et al., 2012, p. 72). Moreover, the Alboran Basin is an extensional basin in an area of plate convergence based on GPS readings.

In part II, I will delve into the secular hypotheses for the origin of the Alboran Sea Basin and the surrounding mountains and show that an impact origin during the Flood is more plausible.

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# Minutes of the 2018 Creation Research Society Board of Directors Meeting

The fifty-fifth annual Creation Research Society (CRS) board of directors meeting was held at the Residence Inn in Prescott, Arizona, near our VACRC laboratory facilities in Chino Valley, Arizona, from Thursday 31 May through Saturday 2 June 2018.

The members accomplished many tasks in full board meetings and smaller committee meetings over the weekend. The lab committee held an extended meeting Thursday afternoon. The entire board met Thursday evening to consider preliminary matters. All the standing CRS committees met during the day on Friday. The entire board met on Saturday to finalize the year's business and planning.

The following board members were present, Jerry Bergman, Rob Carter, Gene Chaffin, Tim Clarey, Don DeYoung, Danny Faulkner, Robert Hill, Russ Humphreys, Jean Lightner, Gary Locklair, Michael Oard, Ron Samec, and Glen Wolfrom. VACRC director Kevin Anderson and professional staff member Diane Anderson were also present.

The 2017 minutes were amended to include this footnote: "Subsequent to the board meeting, Mark Horstemeyer was nominated for a board position. The 2018 election will include 6 names on the ballot for 6 board positions."

For the 2018 board of directors election, 185 ballots were received. All 6 candidates were elected to a 3-year term on the board.

Only selected highlights of board activities and actions are presented here.

Jerry Bergman led a devotion based upon Romans 1:20. Jerry indicated that



**CRS Board members. L-to-R back row: Gene Chaffin, Rob Carter, Russ Humphreys, Michael Oard, Jean Lightner, Danny Faulkner, Tim Clarey, Glen Wolfrom, Gary Locklair**

**L-to-R front row: Jerry Bergman, Diane Anderson\*, Kevin Anderson\*, Robert Hill, Don DeYoung, Ron Samec**

\* CRS staff, not board members

the most cited evidence for belief in God is the design seen in the natural world.

Rob Carter helped put together a business plan and provided it to the Working Title agency for review and feedback.

Gary Locklair, internet committee chairman, reviewed our current online presence (website, Facebook page, CRSnet listserv email reflector). Two procedures dealing with expenditures and website requests were approved. The board thanked CI-Design for the website redesign. The board also thanked our volunteer webmaster, Fred Williams. The board recognized the foresight of Glen Wolfrom, who brought the CRS into the information age many years ago.

Gene Chaffin, periodicals committee chairman, shared information relat-

ing to the CRSQ and *Creation Matters* (CM). The committee is looking for a new editor as the current editor is approaching his term limit. The CRSQ is behind its publication schedule, and the committee presented a plan to get the CRSQ back on schedule. CM editor Glen Wolfrom noted that CM continues to be well received by the membership.

Mike Oard, publications committee chairman, presented information about book sales. He indicated there are two books in progress. The Society has a large number of books in inventory.

Rob Carter, membership committee chairman, provided information on the state of the Society. Our most recent year-to-year retention rate was 50%. The CRS consists of 1652 members and subscribers, with 623 being voting



Dr. Gary Locklair (20 years), Dr. Gene Chaffin (30 years), and Dr. Glen Wolfrom (35 years) received certificates from board president Dr. Don DeYoung in recognition of their years of service.



Matters are discussed for the upcoming year.

members. Rob identified several regions that the Society should investigate for new members. A small fee increase takes place this June.

Gene Chaffin, research committee chairman, reported the Society received a gift of \$23,000 to support research projects this year. A call for geology research projects was issued, and 15 proposals were received. All of the proposals were worthwhile, but only a few could be funded. The committee revised the research contract. Gene reported that, on average, a paper is submitted within a year of research funds being granted.

Gary Locklair, constitution committee chairman, reported the committee considered changes to the qualifications for voting membership and to the current age limit imposed on board members. The committee presented ideas for constitution and bylaw changes. No board action was taken on these issues. The committee recommends that we hold a secret ballot for board nominations, beginning at the 2019 board meeting. To be included as a board candidate, a nominee must receive a majority vote of the board. This process was approved.

Treasurer Danny Faulkner reported that the Society operated at a small deficit this fiscal year. A few significant designated gifts have helped the financial situation.

Financial Secretary Bob Hill shared that a conversation with Raymond James about our financial goals resulted in changes to our investments. Because of these changes this past year, our investments are earning more interest.

The board approved an expense budget of \$290,900 for the coming fiscal year. The board authorized Diane Anderson to withdraw up to \$20,000 of funds without executive committee action. Usually a withdrawal is to assist with Society cash flow concerns.

The board elected Dr. Russ Humphreys and Dr. Gary Locklair as Fellows of the Creation Research Society.

The board submitted the names of Don DeYoung, Gary Locklair, and Ron Samec as candidates for the 2019 board of directors election. Current board member Russ Humphreys will not be eligible for reelection due to the age limit in the bylaws.

Board elections resulted in the following:

- President – Don DeYoung
- Vice-president – Gene Chaffin
- Recording secretary – Gary Locklair

The following officers were elected for a 3-year term (to be confirmed in years 2 and 3 of their service):

- Financial secretary – Bob Hill
- Treasurer – Danny Faulkner
- Membership secretary – Rob Carter

Dr. Glen Wolfrom was honored for his 35 years of service to the board.

Dr. Gene Chaffin was honored for his 30 years of service to the board.

Dr. Gary Locklair was honored for his 20 years of service to the board.

Dr. Kevin and Mrs. Diane Anderson were honored for their 15 years of service to the Society.

The next annual meeting of the CRS board of directors will be 30 May through 1 June 2019 in Denver, Colorado.

Respectfully submitted,

*Dr Gary H Locklair*

Prof. Gary Locklair, PhD  
CRS Recording Secretary

## Letters to the Editor

The policy of the editorial staff of CRSQ is to allow letters to the editor to express a variety of views. As such, the content of all letters is solely the opinion of the author, and does not necessarily reflect the opinion of the CRSQ editorial staff or the Creation Research Society.

### Philosophical Considerations on Biblical Creation Science

As a relative newcomer to the remarkable vistas offered by the biblical sciences of nature, I have found the following considerations helpful in understanding the significance of these sciences. The considerations are philosophical, and since their subject is biblical creation science, they fall under philosophy of science.

(1) Since biblical sciences are accountable to the same *natural* data as are their secular competitors, and since they employ the same mathematical methods, it is only their choice of hypotheses/theories from *scriptural* data rather than sheer conjecture that distinguishes their practice from secular standards. The biblical sciences are essentially operating under an alternative *paradigm* of natural science (Kuhn, 1962). Namely, at the stage of the scientific method in which the human mind is supposed to make an imaginative leap, to formulate a hypothetical scenario (elaborated mathematically) for the explanation of natural data, the scientist instead turns to Scripture for a framework.

(2) In the optic of the four Aristotelian causes (efficient, material, formal, and final), the practice of the biblical sciences can be considered thus: the *efficient* cause is the regenerate intellect of a baptized scientist, the *material* cause

is the data of nature, the *formal* cause is the data of Scripture, and the *final* cause is the glory of God. In other words, the pursuit of these sciences can be seen as the activity of baptized intellects, deriving theoretical forms from biblical data to explain natural data, thus glorifying God the Creator. The mathematical methods available to all scientists can be considered with the material cause, since the data of nature are structured mathematically, or with the formal cause emerging from the data of Scripture.

(3) Being the “Queen of the Sciences” (as Henry Morris rightly held), theology has a legitimate concern that the certitude of faith shall not come to *depend* upon rational or scientific evidence, however much it may be supported by the same. It is therefore important not to blur the distinction between the queen on one hand and her court of sciences on the other—as when it is suggested that the biblical sciences of nature are actually branches of theology. First, the chief data of theology, indeed its principle, are revealed Scripture, the written record of the word of God, while the natural data studied by the sciences represent a record of the Fall, since we know that nature as we find it is ontologically distorted from its original state, which God called “good.” Second, there

is a metaphysical line between theology and the biblical sciences of created (and fallen) nature: The subject of theology is the uncreated order, which is infinite, in its relation to human beings; the subject of the natural sciences, however biblically conceived, is the created order, which is finite. The principle of theology is Scripture as the record of the revelation by the infinite Creator to His finite creatures for the sake of our salvation. Now Scripture is also a principle of the biblical sciences of nature, since it is their formal cause, but in these sciences the indications of Scripture pertain to God’s creation, whereas Scripture as the principle of theology pertains to the infinite Creator and the human relation to Him in faith.

Perhaps these considerations will be of interest to the biblical creation science community, for whose hard and ingenious work the writer has great respect.

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## Did Adam and Eve Converse with God in Their Respective First Hours?

Did God not treat the respective hours-new Adam and Eve as the fully normal humans that He designed them to be? Doyle (2019) says that, in Genesis 2, Adam first “becomes an active agent ... only at God’s behest ... when God brings the animals to Adam for him to name,” and that this is when Adam speaks “for the first time.”

The deduction here seems to be:

1. Scripture neither plainly records, nor plainly states, that God and Adam ever conversed.
2. No such record or statement is given in all of Genesis 2, not even between verse 7 and the end of the account.
3. Therefore, either (a) God and Adam never conversed within the event-span from Adam’s creation (Genesis 2:7) to when God brought Eve to him (v. 23); or (b) the author or narrator, in regard to the idea that God and Adam did converse within that span, *in any case* intended for the reader *not* to make any inferences from what the account does spell out—that is, even if, in fact, God and Adam did converse in that span, we cannot know this from any or all of Scripture, and therefore all parts of the account must be interpreted *without regard for whether they did or didn’t*.

In other words, the argument, in its own favor, seems to ask and answer:

How was Adam to know what, if anything, God wanted for Adam to do in bringing the animals to Adam unless God outright told him? Therefore, God must have told him outright, whether as a command (i.e., “Adam, name these animals”), or as some more companionly suggestion (i.e., “Adam, what do you think of your naming these animals? Would that be something you would like to do?”).

This deduction is valid, but the data of the Genesis 2 account cannot

unambiguously support it. In fact, a far more biblical and human-normative explanation exists: that God and Adam had been conversing from virtually the first moment that Adam began (Genesis 2:7), and that this naming of the animals was simply the ultimate stage in that conversation, not the first time in that event-span at which Adam uttered any vocal communication.

I argue in favor of this pro-conversation position. Specifically, I suggest that the first two humans each had a first language by way of:

1. Developing it from conversational scratch.
2. This beginning was between God and Adam and God and Eve respectively.
3. The conversation involved a providential awareness, on their parts, of the sevenfold pairing logic according to which the entire cosmos coheres (shown below).
4. The conversation surrounded Adam and Eve’s respective concerns for a mate of their own.

I reason this from a sevenfold logical progression:

1. Universe and its special dependent: Earth
2. Earth and its special dependent: its abiding maximal abundance of liquid water
3. Abundant water and its special dependent: the water cycle
4. The water cycle and its thereon-dependent special membership: life
5. Life and its thereon-dependent special membership: animal life
6. Animal life and its thereon-dependent special membership: human life
7. The man and his woman.

By a most terrestrially natural reading of Genesis 1, the first six parts of this sevenfold logic are found plainly stated in Genesis 1. The plainness of it is analogous to the description of a woman, as

such: female face, hair, female arms, etc. So, the fact that Genesis 1 does not come right out and summarize the resulting system as such is no more justification for assuming that the text is not meaning to describe that system than is the total sequential description of a woman justification for assuming that it is not meant to be describing a woman.

Morris (2000) seems to hold to the no-conversation deduction of Genesis 2 shown at the start of the previous section. Morris states that God outright “told” (p. 23), and even “commanded” (p. 35) Adam to name the animals that God brought to him. But the text does not say that God outright told Adam why God was even bringing the animals to him (Genesis 2:19a). It says only one thing: that God brought the animals to Adam “to see” what Adam would name them. That this verse says this is quite suggestive, and even more so in face of the fact that it does not report that God in any way outright informed Adam of the possibility of naming them. Specifically, it very strongly suggests that the author’s point is that, here, God is treating Adam according to Adam’s own initiative: what *Adam* will call these animals, as distinct from the fact that God could or would call them the same things.

Given what the reader plainly is informed in verse 18, there also seems to be a deeper point of the account’s specifically saying only that God was intent “to see” what Adam would name these animals. I suggest that the author is emphasizing to the reader

1. Just how special Adam is of all creatures thus far
2. That Adam was fully aware of this
3. That Adam still completes this final stage of his linguistic efforts
4. That Adam realizes that he has only one hope of obtaining a wife where no wife yet exists for him

Notice that the account says that God then put Adam into a deep sleep,

but that it does not even hint at the idea that he might find this an odd action on God's part. Some might want to claim that Adam may well not have seen this sleep coming, since they will suppose that he needn't have seen it coming before he was asleep. But this supposition is biblically groundless and not only because Adam's future type, Christ, knew of His own sleep in death on the cross.

The idea that Adam and Eve each had a respective first communion with God prior to their meeting is the only normal expectation, since God had created them to be fully functional human adults, and the ideal both in biological-neurocognitive function and in cultural inheritance-context. So, the God-designed, humanly normative point that I think the author is making in Genesis 2:19a is a point that I think is very out of sorts from the odd-but-valid deduction that God had to outright tell Adam why God was bringing the animals to him. This point is not strictly at odds with that odd deduction. Nevertheless, there is no sure information in the account, nor in all the Bible, on which to assume that God had to outright tell Adam to name anything. In fact, all scriptural and providential information on the matter solidly favors the idea that Adam and God had already been conversing from virtually the same moment that Adam began his life just hours earlier. I do not think he was conversing every last second, as I think he would have been very intently exploring as well. But I think he was conversing.

So, Genesis 2's seeming utter silence on whether or not God had to tell Adam outright to name the animals cannot be

precedent for any remotely conclusive idea that God had to do so. This is because that silence is entirely ambiguous without wider and deeper normative information on the matter.

If we then admit that God was at all treating Adam according to Adam's own initiative in what to name the animals, then there seems little basis for saying that God had to outright tell Adam that He wanted Adam to name them. Finally, if we are expected to make any deductions at all from what the account merely spells out, then there is even less basis for presupposing that the account's silence on whether Adam ever spoke prior to that stage means that Adam never did speak prior. The account already is admittedly condensed a bit, since it seems to require that we make from it some inferences, as such.

Morris himself assumes that at least Genesis 2 is a condensed account. But he assumes this partly because he makes an even less supportable deduction: that Adam's knowledge of the physical source from which Eve was made (Genesis 2:21-23) was by God having outright told Adam of this fact (Morris, 2000, p. 24). Specifically, Morris states that Adam's "information" as to that source "must, of course, have been imparted to Adam by God in later discourse with Adam." "Later" makes little sense of the plain reading of verses 22-23, as the reader normally expects that Adam uttered his famous words right then upon meeting Eve, not at some later point outside the bounds of the narrative. But Morris knows of no more normal option for explaining why the verse clearly implies Adam's knowing the material source of

Eve. A similar option is to say that God told Adam the source at some prior stage. But presumably Morris finds this similar option unappealing to the simple flow of the narrative up to that point.

But the "later" option that Morris chooses is presented by him as a quite solid deduction of "of course." Had he simply admitted its deeply speculative nature, he might have humbly wondered if he really knew all of the possible options. But his project seems to have been to rather strictly fulfill the title of his book: *What Each Book of the Bible Teaches about Creation and the Flood*. This makes his book something a bit less wisely instructive than it could have been, because in it he takes a parastudent, and clearly authoritative-istic, approach to its more basic and good aim.

So, Morris's combined two deductions—the one on Genesis 2:19 and the other on Genesis 2:23—effectively reject one of the truest conceivable parts of the divine-image bearing that Morris explicitly claims for Adam: an "extraordinary" observational ability and a "giant intellect in comparison to our own."

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## On the “Waters Above”

I enjoyed the article by Jake Hebert and James J. S. Johnson in the Summer 2018 *Creation Research Society Quarterly* (Hebert and Johnson, 2018). In addition to Psalm 29:10, may I suggest three more verses supporting the “waters above” being the containment of our temporary universe: Psalms 29:3; 104:3; 148:4?

I also think that these waters are the “sea of glass, like crystal” (ice?) (Revelation 4:6), or “a sea of glass mingled with fire” (Revelation 15:2). This “fire” brings to mind Faulkner’s (2016) explanation of the cosmic microwave background (CMB). The bronze basin in the tabernacle (Exodus 30:18), later replaced in the temple by a bronze sea (1 Kings 7:23–26), represents this sea of glass. God instructed Moses, “See that you make all things according to the pattern shown you on the mountain” (Hebrews 8:5).

The above explains John’s attestation in Revelation 21:1 that “also there was no more sea.” God’s new heavens and

earth are free from the curse of sin. As such, a barrier is no longer necessary. Sin has served and completed its purpose of guiding us to receive forgiveness and the rebirth in Jesus Christ (Ephesians 2:4–10). This rebirth is the gift of God’s holy nature in that our reborn soul (not our flesh-based consciousness) can no longer even conceive of sin. “We know that whoever is born of God does not sin” (1 John 5:18). “It is impossible for God to lie” (Hebrews 6:18). “Most assuredly, I say to you, unless one is born again, he cannot see the kingdom of God” (John 3:3). This gift qualifies you and me for entrance into God’s kingdom. “Then comes the end, when He delivers the kingdom to God the Father, when He puts an end to all rule and all authority and power” (1 Corinthians 15:24).

The authors also make a compelling case for both the throne of God being located upon these waters in the direction of the north ecliptic pole and that the seven thunders in Revelation

10:3–4 describe God’s voice conveying cosmic truths. May I add to this that when Paul, after being blinded by the light en route to Damascus, during the three days which he spent out of body in this same throne chamber being taught by Christ Himself, also received cosmic revelation as John would (Acts 9:3–9; Galatians 1:12; 2 Corinthians 12:2–4).

By the way, the front and back covers of this issue are awesome!

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## How Do Men Come to Faith via Apologetics? A Response to Steven Chisham

A discussion has been going on in the pages of *Creation Research Society Quarterly* (CRSQ) in the last couple of issues about a topic that is very relevant to the creation/evolution debate. As members of the Creation Research Society, our task is twofold, first, to glorify God through science, and, second, and just as importantly, to witness to nonbelievers so that they can come to faith and believe in our Creator, the Lord Jesus Christ. The discussion started off with Steven Chisham's paper titled, "Getting Worldview Wrong: Philosophical Mistakes in Understanding Worldview" (Chisham, 2018a). The debate centers around the role that evidence and presuppositionalism play in our outreach to nonbelievers with the gospel through apologetics (such as showing them evidence from creation). More specifically, I would like to respond to comments he made in response to Tom Carpenter (Carpenter, 2018).

Though a nuanced presuppositionalism may not be shared by many in the conservative evangelical camp, still, the truth is not numerical, but rather is based on the witness of Scripture.

I would like to question Chisham's interpretation of Hebrews 11:1, as to whether it describes the faith of believers of all kinds of religions? We simply have to look at his verse in its wider context. Verse 3 says "By faith we understand that the worlds were framed by the word of God, so that the things which are seen were not made of things which are visible" (NKJV). This describes explicitly the faith of Christianity, beginning with faith in God as the Creator, and does not include any other kind of faith or belief system. The rest of Hebrews 11 continues by describing the history of this very faith and how it subdued kingdoms and worked righteousness, etc.

I suggest that Chisham might have misunderstood the motives of presuppositional apologetics. Of course, we must

be loving to the nonbeliever; of course, we must approach him with gentleness, in meekness and fear, without any bullying. We don't consider nonbelievers to be complete idiots. Many nonbelievers are brilliant scientists. But the Bible is holistic. Psalm 14:1 is also true, when it declares that "The fool has said in his heart, 'There is no God.'" The Bible also paints a picture of the state of the nonbelieving sinner in his direst of situations. Genesis 6:5 records this even by the early time of Noah in human history "the Lord saw that the wickedness of man was great in the earth, and that every intent of the thoughts of his heart was only evil continually." Jeremiah 17:9 proclaims, "The heart is deceitful above all things, and desperately wicked; who can know it?"

In Matthew 22:37–40 Jesus describes how all the Law and the Prophets hang on loving God with all our heart, soul, and mind, and our neighbor as ourselves, but first comes the love of God.

This leads to the very heart of the problem: How can a carnal sinner understand the ways of God and choose Him, if he does not yet have the Holy Spirit within him? First Corinthians 2:14 describes this with precision: "But the natural man does not receive the things of the Spirit of God, for they are foolishness to him; nor can he know them, because they are spiritually discerned." As creationists we all fully affirm that on the day that Adam ate of the fruit of the tree of the knowledge of good and evil, he died, both spiritually and physically (Genesis 2:16–17). We are also to take all thoughts captive to make them obedient to Christ (2 Corinthians 10:5).

This leads to my next point: If man is spiritually dead, is there any point of contact of understanding between the believer and the nonbeliever? Chisham writes, "Humans, however, communicate out of their finite worldview and into others, parts of which are not shared, and

communication requires finding points of commonality."

Jesus Christ describes sinners as sons of the devil, and that they do what their father desires them to do (John 8:44). And the devil certainly does not want men to make a choice for God in order to be saved. There is no point of contact, no neutral ground between God and sinners. There is no commonality between darkness and light, or between the truth and falsehood. God's thoughts are not our thoughts (Isaiah 55:8). Jesus says, "He who is not with Me is against Me, and he who does not gather with Me scatters abroad" (Matthew 12:30). Man is not an independent spirit who attains knowledge independently of God. This constituted the original temptation of Adam and Eve in the Garden of Eden (Genesis 3:1–7).

It is not that man only has to add a little extra something to the knowledge that he had already attained (Van Til, 1955, p. 229). Man interprets the world according to his worldview. Since we do not know everything, all men must accept a set of initial, unproven assumptions, or axioms, on which this worldview is built (Cserhati, 2016, pp. 7–10). Atheists may claim that they stand on the ground of total neutrality, but this is not the case; they deceive themselves (Pratt, 1979, pp. 58–59). Atheists cannot accept any kind of supernatural factor in their worldview. The atheist Bible consists at least of three words: "Nature is everything."

Therefore, it is not as if an atheist is chanting, "I believe in science, but you believe in religion." It is more like comparing both the atheistic and theistic worldviews, and evaluating which one is supported better by the evidence. This is the way evidence is used in presuppositionalism. We as creationists know very well that the evidence speaks massively for creation. We may also use Francis Schaeffer's tool of showing the atheist

view as being “unlivable,” but that is only to demolish the atheist viewpoint.

However, we need to put something else in its place as well. We must think God’s thoughts after Him, as a well-known astronomer of old said. That is why we will never attain knowledge of God, unless it is revealed to us by His Holy Spirit. That is exactly why Scripture is self-attesting. This is why, for example, we believe from Scripture that Jesus rose from the dead, and not from history or elsewhere. God is not like a policeman who needs to verify Himself to us by showing us His policeman’s badge. In John 21:12 we read, “Jesus said to them, ‘Come and eat breakfast.’ Yet none of the disciples dared ask Him, ‘Who are You?’—*knowing that it was the Lord.*” It is the testimony of the Holy Spirit by whom we recognize who Jesus is. God can certainly use evidence for this—evidence is not entirely useless, because God uses means, but ultimately it is God who presents Himself to us when we first believe.

Chisham writes: “Bahnsen would not release his view that the Bible is self-authenticating any more than a confident skeptic would be disposed to giving up insisting empirical science is the only possible rational source of truth. Moreover, it would run epistemically counter to reason to expect either to just concede without compelling evidence.” I would disagree here, because we are comparing apples with oranges. The

atheist is relying on his own finite mind, his own (at times faulty) human reasoning to attain truth. Since the atheist is only finite, he does not know everything and thus cannot reach ultimate knowledge. Why, as a skeptic, and if he is consistent, he would have to constantly doubt his own scientific conclusions (Sagan, 1996)! This even led the French philosopher Descartes to conclude that the only thing he can know for sure is that he exists. Hence the famous, but possibly completely useless words, “*Cogito ergo sum*” (I think, therefore I am) (Descartes, 1637). This way atheism leads to no knowledge at all (maybe this is what Psalm 14 is referring to!).

This way, is it even possible for atheists to build up a consistent worldview, much less refute the Bible? Isn’t it so wonderful, when Jesus Christ declares, “Heaven and earth will pass away, but My words will by no means pass away” (Matthew 24:35). On the other hand, God is omniscient and completely objective as opposed to the finiteness and subjectivism of humans. That is why He revealed His truth for us in His Word. We can trust God’s Word completely and entirely. Science always changes and will never refute the Bible. Why, even the majority of scientific findings is subsequently refuted (Ioannides, 2005). We can be confident in trusting God’s Word.

In summary, when approaching nonbelievers through apologetics, there is a place for evidence and also a place

for our presuppositions. Evidence is important, but we must not forget that people interpret evidence through the lenses of their worldview. The Christian worldview is the only one that most powerfully makes the best sense of all of the evidence. It is great to serve an omniscient, omnipotent, loving God and to trust unquestioningly in His Word. *Soli Deo Gloria!*

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Matthew Cserhati

## A Response to Matthew Cserhati: Finitude Necessitates Worldview

CRSQ has been kind enough to publish two articles of mine recently regarding worldview. The Winter 2018 article (Chisham, 2018a) spoke to things that *could* be properly said about worldview, which was followed by the Spring 2018 article (Chisham, 2018b) addressing a total of seven examples of things that *could not* be properly said about worldview (i.e., philosophical mistakes). In response, Tom Carpenter and I interacted in the Fall 2018 edition (Carpenter, 2018; Chisham, 2018c) regarding one of those seven examples. While not intending to provoke the presuppositionalist apologetics camp, the notoriety of the individual given in that example seems to have struck a nerve, for Matthew Cserhati has now come challenging my response to Mr. Carpenter on the same example. In context, my argument was quite narrowly focused, alleging that Greg Bahnsen had simply overstated his case in a debate against R. C. Sproul by suggesting the presuppositional apologetics method was somehow *epistemically* (i.e., rationally) superior to straightforward classical evidential arguments for the faith (e.g., the historicity of the resurrection). Of relevance here, the apostle Paul insisted the entirety of our Christian faith rests in the historical factuality of the resurrection (1 Cor. 15:12–19), not presuppositional constructs. It is historicity demonstrating God's real work in the real world that sets the Christian faith apart from all others, with the unique exception of Judaism, on which the truth of Christianity is predicated.

In a nutshell, the presuppositionalist rationalizes a construct that Scripture is “self-attesting,” based on the concatenation of several Scriptures that both Mr. Carpenter and Mr. Cserhati have offered. They, along with Bahnsen, assert this somehow carries more epis-

temological weight producing greater certainty than direct examination of the evidence for the resurrection. Moreover, the presuppositionalist then insists the sequence of Scriptures he concatenates for his construct can and must only be understood from his worldview construct, making the proof of his construct the unquestionable nature of the construct itself, which clearly not every orthodox evangelical Christian agrees with—in fact many, including myself, would reject it. I'm sure this must be disappointing to some presuppositionalists, but many of us consider the dogmatic assertion that every nonbeliever must be assumed to be a fool as absurd, at the very least. (Some of us would take Ps. 14:1/53:1 as speaking specifically of those in active denial of God, whereas the presuppositionalist appears to generalize it to include *every* non-Christian, including a Hindu, who believes in God, albeit of a very different nature.)

Regardless, *what is being examined here is not whether presuppositionalism is true* (I presume I am entitled to my own opinion in that regard); the primary matter at issue here is whether the presuppositionalist, à la Bahnsen, is justified in claiming *epistemic superiority* over straightforward classical use of logic and data to establish the truth of Christianity, which is a very narrow argument that I suspect seems to escape both gentlemen who have taken time to disagree with me. Essentially, the presuppositionalist asserts that he can bypass his own finite cognitive perceptual powers and tap directly into the mind of God by allowing God-defined Scripture to bypass his own finite cognitive apparatus, therefore he “knows” not with just greater but *perfect* certainty and authority, as opposed to straightforward appeal to fact and logic (which he derogatorily suggests only results in “probabilities”)—an argument

which, in and of itself, cannot escape being a logical argument (albeit thereby self-defeating).

How is it the presuppositionalist claims his construct of the “self-attesting Word of God,” as interesting as that may sound, somehow elevates his *own* rationality, when he must *use* his rationality operating within his language base framework to even understand and respond to the words used to construct it? In order to consider whether the proposition even has merit, he must have already acquired a language and worldview framework to understand and evaluate the truth of that argument. He may choose to modify his worldview (i.e., to accept the argument), but he cannot *escape* his own worldview; rather, he must *exercise* it to engage the rationalization! The point of the entire Spring 2018 paper (Chisham, 2018b) is that absolutely no human of any faith or education can escape his own finitude, period—that is, with the possible exception of being in God's presence (i.e., post-death)! The frustrating fact that seems lost here is that even if the “self-attesting Word of God” is the basis for their statement (and is more than just a construct), the presuppositionalist must use his own human rationality (i.e., using language) to understand the proposition, which requires linguistic/logical arguments, just as the classical apologist must in arguing straightforward, direct evidence for the resurrection. So, where is the *epistemic* advantage?

To repeat, the presuppositional argument attempts to suggest an epistemic path to bypass human rational finitude, as if he is somehow replacing his worldview with God's worldview. We should be reminded, however, that God *has* no worldview; rather He has a *perfect* view of truth. Only in God can personal viewpoint, knowledge, and truth be perfectly

one in the same. A worldview perspective (Christian or not) is by nature a finite human construct attempting to grapple with infinite reality. It is not enough to recommend that our worldview, as good as it may be, is superior to someone else's. This is a misunderstanding of our own finitude. In fact, what is salvation if it is not exchanging one worldview for another (not "yours" for "mine" but "my" old one for "my" new one)? Why would someone accept another human's finite view in place of his or her own? Children will do that to begin with as a boot-strap to rational adulthood, but they will quickly develop a personality of their own. A rational adult must, of his own, become convinced of the need to relinquish his current view for a better, more perfect explanation of truth. The common point of contact is reality itself—the factuality of God's existence and Christ's resurrection, which God has "made plain" (Rom. 1:19). Facts (real facts) are the only things that transcend human rational finitude, because truth, by definition, never changes, while worldviews are in constant flux, as we try to grapple with reality. The entire activity of a worldview is an attempt to come to understand what is true so that right decisions can be made.

To Mr. Carpenter's credit, he seemed careful to try to understand and address my ideas in context. Unfortunately, whether Mr. Cserhati actually read my work in context is unclear, for he either misunderstood or misrepresented that I suggested that presuppositionalists "consider nonbelievers to be complete idiots," which may have been hyperbole but in any case exactly turns my point on its head. In fact, in doing so he made the common unfortunate worldview mistake of switching from the other person's perspective back to his own, when the whole point of my argument was to urge the believer to consider how his mental presuppositions play out in his body language,

attitude, and verbal cues to someone of a different persuasion (any persuasion, not just atheism). If you think someone to be a fool, it will not be hidden from any perceptive person because it plays out transparently as lack of concern for issues they struggle with. Respect yields a more convincing posture when trying to convince someone.

Moreover, I am completely puzzled why Mr. Cserhati bothered to take issue with my use of Hebrews 11:1. I never said it was the writer's intent to comment on non-Christians. I understand the context of Hebrews 11. Again, *in context*, what I said was,

Dr. Bahnsen was correct regarding "matters of ... faith"; however, the faith certainty Hebrews 11:1 describes applies to every faith, including atheism (because it is an accurate definition *per se*). Where Bahnsen was incorrect was in asserting epistemological certainty. (Chisham, 2018b, p. 248; cf. regarding my usage of Hebrews 11:1, Chisham, 2015, p. 15)

In carefully choosing the term "*per se*," the implication was that the writer had (albeit unintentionally) exactly defined what faith is in human experience, not just Christian experience. A human, any human, intrinsically treats faith beliefs as factual knowledge for purposes of decision making in guiding his life. He will thereby treat his belief as real *substance* and *evidence*, which is why evolutionists can appear so animated in the paucity of actual demonstrable fact (just as creationists can be, if they are not careful). If nothing else, someone like a Richard Dawkins exhibits certainty that his beliefs are evidence (though he would loathe to admit his circularity)! Moreover, it is quite odd, almost bizarre, that a presuppositionalist would take exception to the suggestion nonbelievers operate on the basis of faith presuppositions. If Mr. Cserhati took only a mo-

ment to see the point was that everyone operates "by faith," not just Christians, he would surely have agreed. (The obvious definitive difference comes down to the factuality of what the individual puts his trust in.) Thus, the non-Christian who says "You believe in faith, but I believe in science" is every bit as guilty of operating by faith as the person he is attacking, for the only other option is to claim omniscience (i.e., to possess perfect knowledge). The Spring 2018 paper (Chisham, 2018b) intentionally gave examples from a variety of viewpoints, not to criticize their beliefs, but to warn that no human can escape the consequences of his own finitude on his own knowledge of any truth. That does not result in Cartesian despair, but it does result in a realism that does not overstate its case. A great many mistakes can be avoided if we can simply recognize, appreciate, accept, and admit that we are inescapably finite beings. We are not thereby committing heresy by suggesting God or His attributes are finite. We are able to know, but we are only able to know finitely.

In closing, it seems the presuppositionalist/classical apologetics camps often seem polarized on what methods of argumentation are most likely to "win" against the nonbeliever and "force" him to inescapably repent and come to Christ or admit defeat. I would like to remind readers of something else I said, which presuppositionalists should be quite comfortable with, specifically, that rational argumentation is at best only one-third of the evidence a person would normally require to come to faith (Chisham, 2018a, pp. 185, 186). That Jesus said we must love God with all our heart, soul, and mind (Matt. 22:37) obviously means a person must embrace God and His truths with more than just rationality, although this is an important piece. Worldview is not solely formed by rational logic. Intuition regarding

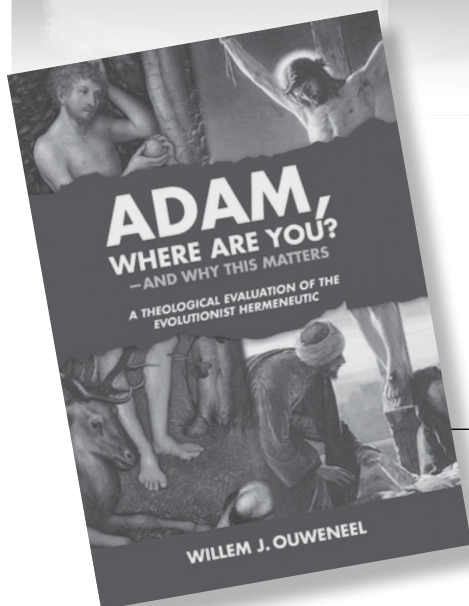
any truth also requires a sense of duty to act and a desire to engage. Worldviews are complex entities, and there are no guaranteed arguments or infallible rational pathways (i.e., 5 easy steps) to convince someone of God's truth. People do not come to God without His participation, and it requires our faithful prayer, obedience, and trust as we speak to others "with gentleness and respect" (1 Pet. 3:15).

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# Media Reviews



## *Adam, Where Are You? And Why It Matters*

by Willem Ouweneel

Paideia Press, Ontario, Canada,  
2018, 406 pages, \$24.00

European creationist Willem Ouweneel has written one of the most well-documented books in print about theistic evolution. In over 400 pages he shows that the goal is neither logical nor factual and cannot be forced to agree with a straightforward reading of the Scriptures.

The author holds a doctorate in biology from University of Utrecht. He also holds PhDs in Philosophy from the Free University of Amsterdam and in theology from the University of the Orange Free State, South Africa. When not earning degrees, he writes and teaches in various colleges.

The chapter titled *The Theory of Evolution and Evolutionism* documents major disagreements concerning the basic theory of the evolutionary mechanisms. Proponents have major disagreements about how a natural unguided means could create everything existing from nothing (as the big bang model proposes). Ouweneel concludes that if leading evolutionists cannot agree on even the

most basic ideas theorized to explain what he calls neo-neo-Darwinism, the theory has major problems. Ouweneel quotes Stanford University Nobel Laureate Professor Robert Laughlin, who wrote that evolution is not only not science but is actually anti-science, a view Laughlin documents in detail in his books, including *The Crime of Reason: And the Closing of the Scientific Mind* (pp. 58–59).

The evolution core is that genetic variety produced by mutations is selected by the natural selection, survival-of-the-fittest process, producing slightly more fit organisms each generation or so. Major problems with this scenario include proposed fixes that range from neutral mutation theory to punctuated equilibrium. Ouweneel's assessment is that none of the fixes begin to provide large enough patches to salvage evolutionary theory. It is also clear that the author has read widely, concluding evolutionism is a belief often held "even when all of the evidence for it disappears" (p. 65).

Ouweneel provides a list of 17 alternatives to Darwinism, each of which highlights the lethal problems with the theory. These alternatives are held by

leading Darwin dissenters, all of whom accept the evolutionism worldview (pp. 65–66). The advocates of these theories include numerous biologists teaching at leading universities, including Harvard. As Ouweneel documents, each of these theories faces many more problems than that faced by neo-neo-Darwinism, the theory they attempt to replace. The fact is, "even if every biological explanation of supposed general evolution were to fail, faith in evolution itself will remain unshattered," at least for decades, because evolution is itself a faith (pp. 63–64).

The only viable alternative is creation, which includes intelligent design by an intelligent creator, and that view is unacceptable in our academic age. Another approach is to attempt to accept, not one or the other, but both worldviews in spite of their contradictions. Ouweneel is especially critical of organizations that attempt to harmonize Scripture with neo-neo-Darwinism, an approach that not only lacks compelling evidence, but in which the overwhelming evidence is against it. One leading example is BioLogos, a well-funded project which attempts to harmonize biological evolu-

tion and Christian faith contrary to what the late Harvard Professor Stephen J. Gould acknowledged: “Evolution substituted a naturalistic explanation of cold comfort for our former conviction that a benevolent deity fashioned us directly in his own image” (p. 71).

The rest of the book documents in detail the thesis that all attempts to harmonize a disproven theory with the biblical account is worse than irresponsible. The problem is, the “theologians feel pressured to incorporate into their work a scientific hypothesis that appears to them to be a fact proven by neutral, objective, unbiased natural science instead of what it really is: *the most religiously colored element within all of natural science*” (p. 80). Ouweneel points out the

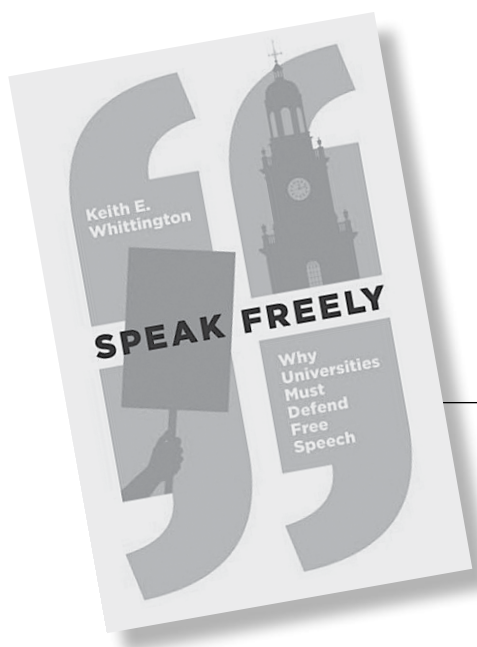
problem that “biologists are generally more willing to listen to and engage opposing arguments than are theologians. This is because biological generalists are often somewhat aware of the weaknesses in the theory of evolution, whereas theologians are not” (p. 3). Consequently, one theme of the book is why ministers and clergy are prone to accept a theory that not only sorely lacks evidence, but that has overwhelming evidence refuting it. The fact is, “neutral, objective, unbiased science (including theology) does not exist” (pp. 79–84).

All attempts to harmonize Darwinism with biblical Christianity have convincingly shown the fact that two irreconcilable ideas cannot logically be reconciled. These attempts have

been made by many persons, including ex-young earth proponent Karl W. Giberson. Other examples include Denis Lamoureux, Dennis Venema, Deborah Haarsma, and Loren Haarsma. This is only a small sample of theologians and scientists “who were once orthodox and conservative [and who] are now publicly defending the theory of evolution even though they seem to be aware of the consequence” of its acceptance, such as rejection, or at the least, compromise of the most basic teachings of historic Christianity, including the Fall and the redeeming work of Christ (p. 7).

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## *Speak Freely: Why Universities Must Defend Free Speech*

by Keith Whittington

Princeton University Press,  
Princeton, NJ, 2018, 232 pages,  
\$25.00

The author is a professor of politics at Princeton University. He argues in this book that the core value of the modern American university is free inquiry, not indoctrination. It was in this collegiate environment that the idea of academic freedom emerged. The goal is to provide

an environment where students and professors can grow and thrive, an environment that requires the open exchange of ideas, especially controversial ideas. Academic freedom is not a concern when discussing the facts of math, physics, or engineering but is of concern in an environment where agreement does *not* exist, such as the subject of origins.

The core of the academic environment tradition of free thought is, according to Whittington, “the liberty of religious conscience . . . The liberty

of conscience was first and foremost a liberty to seek the truth . . . [especially in] discovering the truth about religious obligation . . . [an area in which] dissenters of all types should be tolerated” (pp 21, 36). This includes dissenters who reject dogmatic Darwinism.

An excellent case history that summarizes the theme of Whittington’s book involves when Nobel Prize physicist, William Shockley (1910–1989), became a vocal exponent of the genetic inferiority of blacks. He often participated in

campus debates with psychiatrist Frances Cress Welsing, who actually argued that white people's racism derived from their own genetic inferiority. After one contentious debate that was sure to upset just about everyone on both sides of this issue—which it did—resulted in demands for censorship, a faculty committee led by historian C. Vann Woodward produced a now celebrated defense of “freedom of expression at Yale” to preserve academic freedom. The report concluded:

“The history of intellectual growth and discovery clearly demonstrates the need for unfettered freedom, the right to think the unthinkable, discuss the unmentionable, and challenge the unchallengeable.” Universities had a particular responsibility to uphold a commitment to free expression, to provide “a forum for the new, the provocative, the disturbing, and the unorthodox.” ... Members of the campus community had an overriding duty to preserve and respect an untrammelled freedom of speech and had no right to obstruct others from exercising that freedom or from hearing the views of controversial speakers. (p. 55)

There is probably no greater example of the need for this policy than in the origins debate involving opposing worldviews, design and Darwinism. Ironically, the courts have consistently thrown out

the academic freedom clause in these cases. They have, in every one of the over 100 cases I have studied, concluded that only nontheistic evolution can be taught in government schools. Even information opposed to this worldview must not be taught because this approach is considered teaching creation by the back door and thus unconstitutional.

The problem with this approach to censorship, as related by Michael Ruse, who testified against creation in the court case endeavoring to block enforcement of the so-called “*balanced treatment*” bill, was noted by Duane Gish:

The trouble with you evolutionists is that ... [you] want to stop religious people from teaching *our* views in schools. But you evolutionists are just as religious in your way. Christianity tells us where we came from, where we're going, and what we should do on the way. I defy you to show any difference with evolution. It tells you where you came from, where you are going, and what you should do on the way. You evolutionists have your God, and his name is Charles Darwin. (Wein, 2000)

At that time Ruse rejected Gish's views, but after thinking about it, Ruse stated that Gish's views ended up guiding much of his research for the next twenty years. Ruse wrote:

I now think the Creationists like Mr. Gish are absolutely right. ...

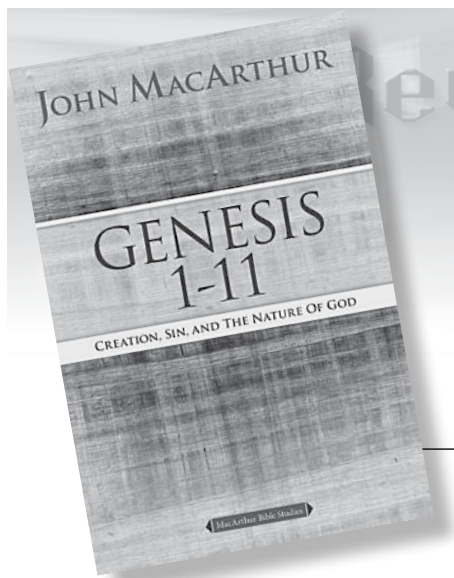
Evolution is promoted by its practitioners as more than mere science. Evolution is promulgated as an ideology, a secular religion—a full-fledged alternative to Christianity, with meaning and morality. I am an ardent evolutionist and an ex-Christian, but I must admit that in this one complaint—and Mr. Gish is but one of many to make it—the literalists are absolutely right. Evolution is a religion. This was true of evolution in the beginning, and it is true of evolution still today. (Wein, 2000)

Both Gish and Ruse make clear that the core value of the modern American university is commonly being violated. Indoctrination, not free inquiry, is the norm. Whittington never mentioned creationism by name in his book, but nonetheless carefully documents this conclusion in his book promoting academic freedom.

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Reviews

## Genesis 1–11

by John MacArthur

Thomas Nelson, Nashville,  
2008, 123 pages, \$10.00

Pastor John MacArthur is a longtime promoter of biblical creation. A graduate of Los Angeles Pacific College and Talbot Seminary, for 50 years MacArthur has pastored Grace Community Church, Sun Valley, CA. He has written 150 books, conducts the radio ministry *Grace to You* and is president of Master's University and Master's Seminary in Los Angeles.

This book includes the Genesis topics from Creation through the Babel dispersion. Two accompanying books cover Genesis chapters 12–33 and 34–50, all with material from MacArthur's preaching series. He is known for his expository, verse-by-verse teaching of Scripture.

To show the book's flavor, the following ideas are included: Concerning the literal days of the Creation Week, "Plants could easily survive for twenty-four hours without sunlight, but not for millions of years" (p. 5). It is true that the sun (Day 4) does not appear until a day after plants (Day 3) are created. However, one should not think simply of evening conditions for the pre-sun vegetation. Naturalistically, an earth with no sun would plunge to an ultra-cold wasteland. Clearly this did not happen; the entire Creation Week is

filled with supernatural care including earth conditions.

On Day 6, the land animals appear along with the creation of Adam. Adam names representative animal kinds and realizes he is alone. God then puts Adam to sleep and brings forth Eve from his side—all this on Day 6. The short, humorous book comment: "It was a very busy day" (p. 14).

Pastor MacArthur challenges overpopulation (p. 6), the self-esteem movement (p. 29), and radical feminism (p. 32). His preaching messages readily take on social issues.

Although this book was written a decade ago with material from messages preached earlier, many of the topics are timely: "The devil ... is working tenaciously to destroy the sacredness of the marriage bond. His goal ... to turn God's order upside down" (p. 22).

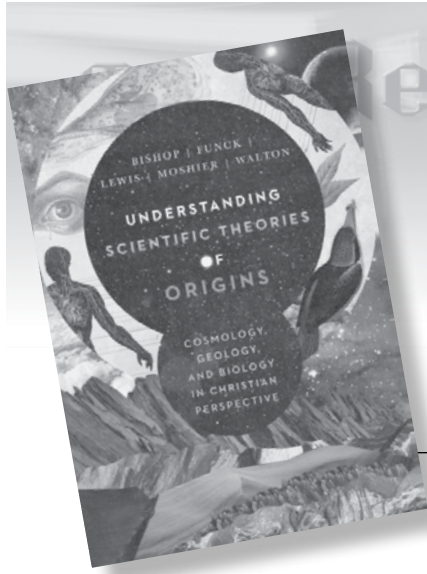
MacArthur includes many fascinating suggestions such as the following:

- The Fall of mankind may have occurred on the very first Sabbath, immediately following days one through six (p. 25).
- Snakes originally may have been equipped with legs and wings (p. 26).
- "When someone challenges the clear teachings of Scripture, do not waste time and energy debating with him or her" (p. 35). Regarding theistic evolution, "God's Word

simply will not tolerate any element of evolutionary teaching" (p. 118).

- Cain and Abel may have been twins (p. 40). Also, the brothers may have been married to sisters at the time of Abel's murder by Cain (p. 41). MacArthur states that other siblings are not mentioned in Genesis; however, Genesis 5:4 describes Adam's additional sons and daughters.
  - Regarding Noah and his family safely aboard the ark, "They never even got wet" (p. 65). It is also suggested that Noah previously "had never seen a rainstorm" (p. 66).
  - The water-vapor canopy theory is promoted on page 71.
  - MacArthur describes the world regions where Noah's sons Shem, Ham, and Japheth located, and he then challenges the reader to determine "From which of Noah's sons are you descended?" (p. 101).
  - There is some unfortunate sarcasm regarding the "ridiculous assertions" of evolutionary billions of years (p. 98).
- The paperback edition is convenient for group Bible study. Each chapter asks summary questions with generous blank spaces for written comments. Two Old Testament maps are provided.

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## Reviews

### *Understanding Scientific Theories of Origins*

by Robert Bishop, Larry Funck, Raymond Lewis, Stephen Moshier and John Walton

InterVarsity Press, Downers Grove, IL, 2018, 660 pages, \$75.00

This is the text for the Wheaton College course titled “Theories of Origins”; the five authors are Wheaton faculty. The college catalog describes the four-credit course as an “Examination of scientific theories of origins and development, such as Big Bang cosmology, earth’s formation and early history, origin of life, origin of species, history of life and human origins.” The book is an impressive hardback with 660 pages, each with two columns. There are hundreds of color figures, short science biographies and a glossary.

Alternative worldviews including young-earth creation are described with respect and fairness. As expected, progressive or old-earth creation is presented and promoted as the preferred Wheaton position. Several points follow which illustrate the book and Wheaton classroom discussions.

Genesis 3:2 describes the death outcome that results from Adam and Eve eating from the tree of the knowledge of good and evil. Considerable book discussion is given to this concept of death, concluding that it is spiritual rather than physical death (p. 59). In

fact, physical death is suggested as a normal occurrence even before the Curse. Thus, “God’s initial creation was neither perfect nor complete” (p. 56). This conclusion is consistent with old-earth creation, but it greatly diminishes the Genesis 1:31 “very good” description of creation.

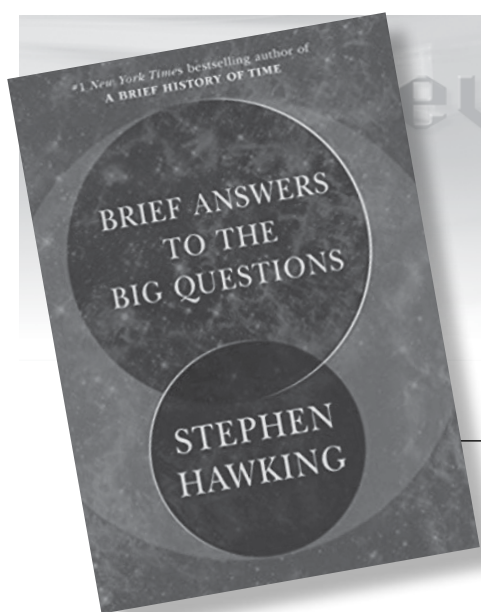
Regarding the Genesis Flood, standard arguments are given against its global extent: lack of sufficient water to cover Mount Everest, the impossibility of Noah gathering animals from Australia, far too much work for eight people to care for the variety of ark animals, etc. Of course, these and other challenges were answered decades ago but apparently are not shared with Wheaton students. The text also does not mention the Answers in Genesis Ark Encounter project or the work of the Creation Research Society. Instead, it is suggested that the biblical Genesis Flood description is rhetorical hyperbole rather than narrative history (p. 238). Furthermore, it is concluded that “geologic data to support a flood of massive proportion is lacking” (p. 241). There is irony in this statement since the Wheaton College campus, as well as most of North America, sits upon a platform of kilometers-thick sedimentary rock strata.

Traditional radioisotope dating results are given in support of an ancient earth. There is no mention of alternative views, including the RATE results. Support is also given to the concept that dinosaurs evolved into birds, which appears to extend Wheaton’s position from old-earth creation to theistic evolution.

Major detail is given to the origin and history of mankind. The old-earth view simply does not know what to do with its assumption of a multi-million-year collection of prehuman hominids. From this viewpoint, just when do Adam and Even literally appear, if ever? Several options are given, none of them convincing (pp. 556, 598). The supernatural creation of our first parents on Day 6 of creation remains a refreshing alternative. The text authors also see multiple bottlenecks in the progression of human populations. In their view, genetic limitations deny the reality of just two people at creation as well as only eight people following the Flood.

The text includes basic classroom discussion of electromagnetic radiation, stellar distance measurements, gravity, scientism, the rock cycle, and more.

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## Brief Answers to the Big Questions

by Stephen Hawking

Bantam Books, New York,  
2018, 230 pages, \$25.00

In this last book before his death, Stephen Hawking attempts to answer what he considered the most important questions humans can ask. The first three are these: Is there a God? How did the universe and life begin? and Does intelligent life exist elsewhere in the universe? Hawking notes the first two questions can be answered either by religion or science. He answers both by concluding the religion answer is wrong and his science answer is correct.

Hawking's prominence is indicated in the introduction by Kip Thorne. Hawking, an atheist, is buried in one of the most hallowed places in the world, Westminster Abbey in London between creationist Isaac Newton and agnostic Charles Darwin (p. xvi). Hawking's daughter Lucy writes about her father, that he was "dearly loved and respected ... by millions of people ... from all around the world," especially by scientists and many educated laymen (p. 214). He is also "one of the most celebrated and respected personalities of our century ... the Einstein of our time," and his "theories influenced ... heads of state, students, scientists, and even the Pope" (Lieth, 2018, p. 24).

Hawking's answer to how the universe began is the big bang. He explains that religion was an early attempt to

answer where matter and life came from until science addressed the question about 200 years ago. Now, he informs us, science has shown that religion was wrong. In his words, "Science provides better and more consistent answers, but people will always cling to religion, because it gives comfort, and they do not ... understand science" (p. 25).

Author Hawking ignores the fact that many people trust and understand science while accepting theological explanations. Hawking, just a page later, admits he "*prefers* to think that everything can be explained ... by the laws of nature," but he never attempts to explain their origin and what sustains these laws. These include the four forces that hold the universe together: gravity, the strong nuclear force, the weak nuclear force, and electromagnetism. Gravity always operates, but *why* and *how* action occurs at a distance, Hawking does not attempt to answer in this book or elsewhere (Hawking and Israel, 1987). Nor has anyone else explained gravity, even in a 1280- page book attempting to answer this question (Misner et al., 2017).

Hawking assumes that forces are self-sustaining, writing that these laws ultimately explain everything in the universe. Consequently, his conclusion is contrary to those who promote science and religion as separate and distinct fields of inquiry. Some claim that the query regarding God's existence "is a valid question for science" but Hawking

concludes it is a science question that has already been rejected by science (pp. 27–29).

Hawking attempts to show how life was created without a God: "somehow, some ... atoms came to be arranged to the form of molecules of DNA ... As DNA reproduced itself, there would have been random errors, many of which would have been harmful, and ... a few errors would have been favorable to the survival of the species—these would have been chosen by Darwinian natural selection" (pp. 73, 75). Thus, humans and all life are the result of billions of mistakes, an estimated 99.9 percent of which are harmful or near neutral, which, in fact, add up to produce genetic meltdown, not evolution. Evolution first produced organic molecules, then multicellular organisms which, after another few billion years, evolved into fish, which after another million years or so evolved into mammals, and after a few hundred million more years, into humans (pp. 75–76).

Since Hawking concludes that science has proven the origin of all life by biological evolution, the only question left for religion is how the universe began. This question, Hawking assures us, has been answered by the big bang. The big bang is *ultimately* the creation of everything from a point "perhaps smaller than a proton" (p. 34). Expansion of the universe continued with stars and planets following. Thanks to the big

bang, “you can get a whole universe for free” because “the fantastically enormous universe of space and energy can materialize out of nothing” (pp. 31–32).

The big bang, which hatched from the singularity is the ultimate black hole as described by Hawking in chapter 5 (pp. 99–122). In this chapter I was baffled as to how this point could produce the millions of stars and galaxies. Not only is the origin of the singularity unexplained, but also unexplained is why it behaved so much *unlike* a black hole, which does not allow light to leave.

Before the big bang there was no matter, space, energy, or time (p. 37). Hawking admits the big bang “is hard to grasp, but it’s true ... [and] you don’t need a God to create it,” because it (the universe) can create itself (p. 33). In an attempt to explain the idea that nothing produced everything, Hawking notes that matter and antimatter annihilate each other, producing gamma rays. Consequently, the reverse reaction produces matter, ignoring the fact that it is *energy* in this reaction that produces matter.

Hawking adds that before the big bang there was no time, thus this was the first uncaused cause, because there was “no time for a cause to exist in” (p. 38). As is obvious, this entire line of reasoning rapidly degenerates into speculative, often nonsensical, circular reasoning. The author writes, “When people ask me if a God created the universe, I tell them the question itself makes no sense.” The reason is because “Time didn’t exist before the Big Bang so there is no time for God to make the universe in” (p. 38). However, if God existed before the big bang, He could have created time, then, once time existed, he could have created the universe.

The issue of the origin of the universe was ignored for much of history because it was widely believed by the

Greeks, Romans, and other major civilizations that the universe, including time, space, matter, and energy *always* existed (p. 43). As Hawking correctly points out, if the universe has always existed, it would have heated up equally everywhere, producing uniform temperature throughout the universe due to entropy. Furthermore, the night sky would be lit up equally everywhere for the same reason (p. 45).

Hawking opines about another problem: “As far as we can tell, the universe goes on in space for ever and is much the same no matter how far it goes.” If it was infinitely old, it would go on forever, but if created by the big bang, depending on how long ago the big bang occurred, it must have limits. In the end, Hawking admits that “the origin of the universe [is] apparently ... beyond the scope of science,” adding “We haven’t solved it [the origin of the universe problem] yet, but we have made a lot of progress” (pp. 50, 53). His review of the problem documents my conclusion that natural science is farther from a natural explanation of the origin of the universe than ever. Hawking admits that “all we can do is assign a probability to a particular history of the universe” to explain its origin (p. 53). What is the probability—90 or 1 percent? This is a far cry from Hawking’s claim that we have answered the problem of the origin of the universe and the case is now closed (p. 33).

Hawking also reviews the evidence for the big bang, ignoring opposing explanations for this evidence (pp. 46–47). He admits that the big bang creates problems for atheistic science because this view requires one “to invoke an outside agency, which for convenience one can call God, to determine how the universe began” (p. 47). Since the worldview of scientists determines their interpretation of the facts they discover, the big bang is

reinterpreted by scientists to fit into an atheistic scenario.

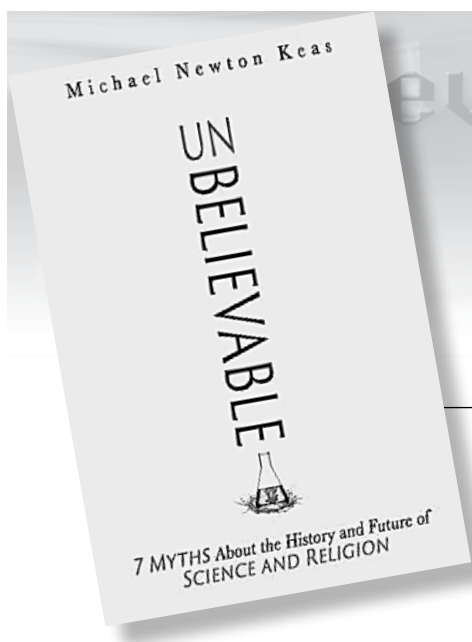
Hawking notes that the Soviets proposed, and attempted to prove, the theory that the universe which the big bang came from was only one of an infinite series of expansions and contractions. This “became an article of faith for Soviet scientists” because it fit into their Marxist-Leninist dialectical materialism (p. 48). In fact, it is clear that rather than being science, modern cosmology is a set of vaguely connected, just-so stories driven by an ideology, namely naturalism. The cosmological discoveries have only created more questions that naturalism cannot answer without matter, energy, time, and space popping into existence for unexplainable reasons.

This is a very revealing book written to convince readers of an atheistic worldview. However, to a critical reader, it does exactly the opposite. Unfortunately, the book will reinforce those true believers who want to believe in materialistic naturalism. Hawking’s daughter Lucy writes that the arguments reviewed have been used by her to reduce a vicar to tears with her [Lucy’s] close examination of his [the vicar’s] proof of the existence of God (p. 216). To critical readers, it illustrates the feet of clay of the theories of the world’s leading cosmologists.

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## Unbelievable: 7 Myths About the History and Future of Science and Religion

by Michael Newton Keas

ISI Books, Wilmington, DE,  
2019, 246 pages, \$28.00

Author Keas earned a PhD in the history of science from the University of Oklahoma. The focus of this book is to challenge the popular assumption that religion, and specifically Christianity, has historically been the enemy of science. Rather, science, actually scientism, has been opposed to Christianity and to theism in general for decades. To document his thesis, Keas selects the seven most common claims anti-Christian scientists and others use to denigrate Christianity. Then, using history, science, and logic, he shows they are all false claims.

Keas traces the myths back to their originators and shows they are based not on fact but largely wishful thinking, wrong information, or distortion of history. One false myth Keas covers is the idea that it was believed for eons that the universe was small and the heavenly bodies were only a short distance from the earth. According to the myth, this idea was corrected by science progress, showing the weakness of religion (p. 19).

In fact, the belief in an endless universe was held as far back in history as the atomists, a natural philosophy that originated in the fifth century B.C.E. The leaders of this movement included Leucippus and his leading pupil, Democritus. They proposed

that all matter was composed of small indivisible particles called atoms. The “atomists believed in an infinitely large universe within which random interactions among material atoms sometimes produced life” (pp. 61–62). Keas spends several pages documenting the fact that many church fathers also accepted the possibility of other worlds and life on these other worlds. These are ideas for which Giordano Bruno (1548–1600) was supposedly executed for promoting (pp. 62–67).

Keas documents that many Christian thinkers recognized the enormity of the universe far back in Christian history, and the writings of Copernicus further expanded the universe. This was a concern for many because anti-Christians believed an enormous universe made humans comparatively insignificant, not special as Christian faith taught. Conversely, Christian scientists believed an enormously large universe made God *more* powerful and more significant.

Keas documents that Bruno’s conflict was his denial of the central teachings of Christianity, and this determined his fate. One example is that Bruno believed “Jesus was just one more soul on an infinite transmigrating journey through an infinite number of bodies and worlds” (p. 69). In short, “Bruno was not a martyr for science” (p. 73).

Keas quotes a number of sources that falsely claim that “Bruno was burned at the stake—largely for supporting Copernicus, suggesting the sun to be a

star, and suggesting that space was infinite.” Also mentioned is anticreationist Randy Moore, who wrote that Bruno “was sent to Rome to stand trial ... for espousing a heliocentric and infinite universe” (p. 57). Keas then quotes science historian Thomas Kuhn, who gets it right, correctly noting that “Bruno the philosopher and mystic ... was not executed for Copernicanism but for a series of theological heresies centering on his view of the trinity” (p. 57).

Keas estimates that about one-third of all astronomy textbooks make the false claim that Bruno’s problems relate to his heliocentric beliefs (p. 61). In fact, Bruno was not executed by the church, but by the Italian government for sedition. Under Italian law, the church was not allowed to execute anyone.

A prime example of religion’s war against science given by those critical of Christianity is Galileo. Galileo, a devout Catholic, was the first modern scientist, and his main problem was his brashness, such as calling his former good friend, who was then pope and a fellow mathematician, a simpleton in a book Galileo wrote defending heliocentrism (pp. 83–84).

Actually, many of the most important Western scientists in history were Christians, a fact that negates the church-opposes-science claim. Examples include cleric Nicolaus Copernicus, who speculated the earth revolved around the sun; Gregor Mendel, who founded modern genetics; Louis Pasteur, the

creator of rabies and anthrax vaccines; and Alexander Fleming, who discovered penicillin and pursued his work largely as part of his religious faith.

Christians have a long history of scientific achievements driven by their worldview, including contributing to the pendulum clock design, pantographs, barometers, reflecting telescopes, and microscopes. They theorized the possibility of flight, how the moon affects tides, and the wave nature of light. Devout Christian Nobel Laureates in physics, medicine, and physiology include Erwin Schrodinger, John Eccles, and Alexis Carrel.

The charge that the church opposed scientific progress is impotent in view of recorded history. After Rome's fall, monasteries and convents remained key scholarship centers, and clergymen were the leading scholars. Catholic monasticism founded the great European universities including Oxford, Cambridge, Montpellier, Paris, Bologna, and Padua. Church-produced scholars include Roger Bacon and Thomas Aquinas, who helped develop the scientific method. Enormous contributions in math, the sciences, education, medicine, and psychology also came from other Christian branches. It was their sense of duty to seek God's truths that compelled them to do science.

Some claim that the church's opposition to science has a very checkered history, pointing almost exclusively to Galileo and Bruno (Martínez, 2018). They claim, without evidence, that there has always been an intellectual conflict between religion and science. Conversely, Christian astronomer Guy Consolmagno hails science as an "act

of worship" and a study of the creation as "a way of becoming intimate with the Creator" (Kurian, 2007). Science historian Ronald L. Numbers notes what historians have known for years, namely, claims of a religion-science conflict are more propaganda than history (p. 183). Yet this message has rarely filtered down to the common people and even many scientists.

Keas's chapter on the flat earth, now a topic of concern in the Christian community, is one of the best in the book. After noting that from "the time of Augustine, virtually no Western Christian scholars made biblical arguments for a flat earth," Keas shows it was widely claimed in contemporary venues that anti-Christians taught Christians believed in a flat earth idea (p. 44). Examples include an astronomy textbook that stated, fortunately, "for mankind the discoveries of Columbus silenced the senseless clamor of the Romish clergy" who taught the earth was flat.

One of the best and most important book chapters is titled "Preaching Anti-Theism on TV: Cosmos." In this chapter Keas shows how leading scientists use their power and position to preach anti-Christianity and even antitheism. One example is Carl Sagan's 1980 *Cosmos* series watched by a half-billion people, opening with "The cosmos is all that is, or ever was, or ever will be" (p. 139). In other words, no supreme being exists, and we are alone in the universe excepting only if life-form by chance happens to evolve somewhere else.

Neil deGrasse Tyson's follow-up *Cosmos* has already surpassed Sagan's in viewership and influence. It also sur-

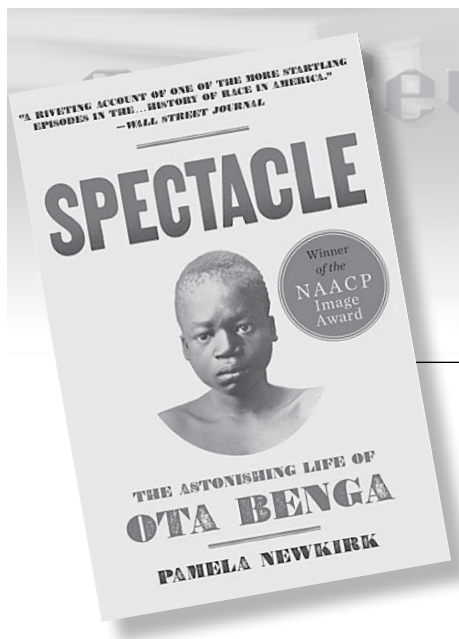
passes Sagan's rhetoric. Keas describes Tyson's "narrative between science and religion" as "pervasive" (p. 152). In one interview, Tyson described God as existing in "an ever-receding pocket of scientific ignorance," adding that science and religion are not reconcilable and will never be so (p. 152). One is true while the other is false, or worse, harmful to humanity.

When teaching college astronomy, I showed several of Tyson's *Cosmos* programs to my class and learned that most of the students had already seen the series, or significant parts. The cosmos, Tyson concludes, creates life by chance, time, and the laws of evolution. In short, both Sagan and deGrasse believe, as explained by Steven Hawking, that from nothing came the primordial egg, smaller than a proton, which expanded and produced the big bang that eventually created all heavenly bodies and life as well. Thus, in Hawking's terminology, nothing created everything (Hawking, 2018).

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## Spectacle: The Astonishing Life of Ota Benga

by Pamela Newkirk

Amistad, New York. 2015.  
298 pages, \$26.00

I have written in the past about Ota Benga, the pygmy put on display in a zoo, but after doing more reading, I located research by several historians that has shed much new light on this tragic historical event (Bergman, 1993). This research has corrected a major shortcoming of the major past work on the event which was cowritten by Phillips Verner Bradford, the grandson of the man who captured Ota and brought him to America (Bradford, 1992). The book reviewed here shows Samuel Verner in a very different and far less favorable light. We now have a much better understanding of some of the major events in the case, such as how the experience in the zoo seriously affected Ota emotionally, and the open support by the academic community for his display and against the movement to set him free.

Ota Benga, a 100-pound, 4-foot-11-inch, 23-year-old pygmy from Africa, was brought to the 1904 St. Louis World's Fair to be put on display as an inferior species of humans in an "anthropology" exhibit. Ota was one of a total of several thousand persons exhibited, and the pygmies were one of the most popular anthropology exhibits (p. 129). This was partly because they were among the smallest people and the "least advanced"

known then (p. 129). The inferior race headlines about pygmies soon filled the papers, such as one that said, "Pygmies Demand a Monkey Diet?" (p. 126).

The seven-month run of the anthropology exhibit was a smashing success. An estimated 12 million visitors paid to get in, and the often-cited total attendance was close to 20 million. The anthropology exhibits of primitive tribes would today be viewed as insensitive, even abhorrent racist displays. After the world's fair ended, Ota was eventually housed in New York's Bronx Zoo in the primate house. He was displayed with the monkeys as the "missing link" between humans and apes. In the eyes of many evolutionists, here was clear proof of Darwin's theory of evolution. The question has always been

"Ist das ein Mensch?" Is it a man? — one woman asked in German. ... Could this caged creature be ... the incarnation of one of the characters in best-selling books like ... *The Negro a Beast*, published in 1900, or the "half child, half animal," described in Thomas Dixon's *The Clansman*, published the previous year, "whose speech knows no word of love, whose passions, once aroused, are as the fury of the tiger"? Could he be the missing link, the species bridging man and ape that preoccupied leading scholars? (p. 9)

The pygmies and others that the "scientists described as subhuman, cannibalistic dwarfs" were captured in Africa as both children and adults to be exploited in the anthropology exhibits (p. 138). For

example, *Scientific American* described Ota as "a cannibal" — this by an author of an article who "put his unscientific ideas and racial biases on full display [claiming] ... their faces are coarse, features brutal, and [display] evidence of intelligence of an extremely low order" (p. 132).

Once Ota Benga was placed in the monkey cage, he was forced to endure "the gawking of spectators utterly indifferent to his feelings. They howled, gasped, gaped, pointed and jeered. Benga frequently walked to the door with eyes pleading for his keepers to release him from public view" (p. 12). Ota "could feel both the sting of their scorn and the pang of their pity" (p. 12). According to Professor Gump and documented by psychological research, Ota's was a "searing, painful experience ... not substantially different from the effects of physical torture" (Gump, 2000, p. 823). This research helps us to understand Ota's response as he endured the gawking of spectators who appeared utterly indifferent to his feelings. One motive of those clergymen who wanted to free Ota was their observation that his "sadness was palpable" (p. 33). Evidence also exists that later in life Ota suffered from post-traumatic stress syndrome due to "the trauma of being cadged, heckled, and attacked at the zoo ... by those determined to prove he belonged to an inferior species" (pp. 189, 198).

A focus of author Newkirk is on the ringleaders of the event, especially the scientists who caged him for public display so that the world could see with their own eyes what they labeled a lowly

creature. Not unexpectedly, Ota drew large crowds and earned a great deal of money for the zoo from visitors who paid to see this living proof of evolution. The fact is, the “exhibit” was

on the respectable grounds of a world-class zoological park [and] had been sanctioned by Hornaday, one of the world’s leading zoologists, and by Henry Fairfield Osborn, among his era’s most eminent scientists. As an undergraduate at Princeton University, Osborn had spent three months at Cambridge University under the tutelage of the famous British zoologist Francis Balfour; and a summer at London’s Royal College of Science with biologist Thomas Huxley, who became known as “Darwin’s bulldog” for his fierce championship of the theory of evolution by natural selection. Osborn went on to earn a doctor of science degree from Princeton, where for twelve years he taught biology and comparative anatomy. (pp. 13–14)

Furthermore, Ota was a Bushman, a “race that scientists do not rate high on the human scale” of evolution but, nonetheless, to the average nonscientific sightseers in the crowd “there was something about the display that was unpleasant” (p. 13). Newkirk detailed how leading academics, many with degrees from Ivy League colleges including Princeton and Harvard, supported racism based on evolution. She documents that the fight to release Ota from the cage included opposing many influential men who were opposed to helping Ota due to their Darwinian worldview. Many leading academics

applied Darwin’s evolutionary theory—and the notion of survival of the fittest—to race, insisting that it ... explained the plight of blacks and the supposed racial superiority of whites. ... Hornaday said that while he did in fact support Darwin’s theory ... “I am giving the exhibition purely as an ethnological exhibit.” (p. 35)

The story is not only about Ota Benga but also the society that existed in America when Ota was alive in the early 1900s. Robert MacArthur, the white pastor of the large Manhattan Calvary Baptist Church (1910 membership 2,300), led the fight against the scientists, taking on not only the director of the zoo, Hornaday, but also

challenging an esteemed institution whose cofounders included a president of the United States; an eminent scientist; and the high-society lawyer Madison Grant, the Zoological Society’s secretary. Moreover, Hornaday was himself the nation’s foremost zoologist and a close acquaintance of President Theodore Roosevelt, with whom he shared a love of taxidermy and wildlife conservation. (p. 29).

Anthropologist Madison Grant, a cofounder of the zoo, authored the enormously influential 1916 racist book titled *The Passing of the Great Race* (Spiro, 2009, pp.15–66).

[This book openly] advocated cleansing America of “inferior races” through birth control, anti-miscegenation ... racial segregation laws, and mass sterilization. He argued that Negroes were so inferior to Nordic whites that they were separate species and infamously warned: “...the result of the mixture of two races, in the long run, gives us a race reverting to the more ancient, generalized and lower type. The cross between a white man and an Indian is an Indian; the cross between a white man and a negro is a negro; the cross between a white man and a Hindu is a Hindu; and the cross between any of the three European races and a Jew is a Jew.” (p. 43)

Grant’s book also influenced the development of Hitler’s racist ideas (Ryback, 2011). The list of those who did nothing to help Ota, and even resisted efforts by others to help him, included progressive presidents Theodore Roosevelt

and Woodrow Wilson and others. Furthermore, “Echoing the sentiments of the esteemed Men of Science,” the newspaper editors were “confounded by the protests,” explaining that they did not

understand all the emotion which others are expressing in the matter ... Ota Benga ... is a normal specimen of his race or tribe, with a brain as much developed as are those of its other members. Whether they are held to be illustrations of arrested development, and really closer to the anthropoid apes than the other African savages, or whether they are viewed as the degenerate descendants of ordinary negroes, they are of equal interest to the student of ethnology, and can be studied with profit. (p. 38, from the *New York Times*).

Divesting Benga of human emotion, and ignoring the many accounts of his distress, a *New York Times* editorial claimed

it was absurd to imagine Benga’s suffering or humiliation. “Pygmies ... are very low in the human scale, and the suggestion that Benga should be in a school instead of a cage ignores the high probability that school would be a place of torture to him. ... The idea that men are all much alike except as they have had or lacked opportunities for getting an education of books is now far out of date. (p. 38)

This was the conclusion “espoused by generations of leading scientists,” including Louis Agassiz, the Harvard professor who “was arguably America’s most venerated scientist, [who] had for more than two decades insisted that blacks were a separate species, a “degraded and degenerate race” (Baker, 1994). More recently, the University of Pennsylvania professor of linguistics and archaeology, Daniel Garrison Brinton, in his address as outgoing president of the American Association for the Advancement of Science, rebutted

claims that education and opportunity accounted for varying levels of achievement along racial lines [concluding that], “The black, the brown, and the red races differ anatomically so much from the white, especially in their splanchnic organs, that even with equal cerebral capacity they never could rival its results by equal efforts.” (p. 38)

Another New York paper, the *Evening Post*’s headline was typical: “A Pygmy Among the Primates.” The *Minneapolis Journal* went farther, proclaiming that Ota “is about as near an approach to the missing link as any human species yet found” (p. 72). The Ota Benga case was not by any means unique. A Southern African woman, Sara Baartman, was exhibited barely clad throughout London and Paris for years as the “Hottentot Venus” (Holmes, 2007; Baker, 1994). She was also touted as the link between humans and the lower apes by scientists (Crais and Scully, 2010). The famous scientist, Georges Cuvier, the founding father of the vertebrate paleontology field, believed that

Baartman’s ample derriere was evidence that her people, the Khoikhoi, were oversexed. After her death he performed an autopsy and concluded that she and the so-called Hottentots were more akin to apes than to humans. He made a cast of Baartman’s body and preserved her brain, genitals, and skeleton, ensuring that even in death, she’d draw a crowd. While Benga was being exhibited in a monkey house cage, Baartman’s remains—her brain, genitals, and skeleton—were still on display in case number 33 at the Paris Musée del l’Homme. (pp. 16–17)

Today most people “would find such behavior both racist and morally contemptible,” but in the “era’s elite white circles Cuvier was generally considered an embodiment of scientific truth” (p. 37). Long after the death of Sara Baartman,

human zoos celebrating Europeans’ conquest of purportedly primitive people remained popular in Europe; these included zoos in Hamburg, Barcelona, and Milan. Carl Hagenbeck . . . exhibited Samoan and Sami people to great success in 1874. So popular was his 1876 exhibit of Egyptian Nubians that it toured Berlin, Paris, and London. A year later Geofroy de Saint-Hilaire, director of the Jardin Zoologique d’Acclimation in Paris, organized exhibits of Nubians and Inuit seen by one million people; and in 1885, King Leopold II of Belgium exhibited several hundred of his newly conquered Congolese people in Brussels to appreciative crowds. (p. 17)

Franz Boas (1858–1942) was one of the very few scientists who opposed racism based on evolutionary biology. He is regarded as one of the most prominent opponents of the then-dominant scientific racism ideology, the idea that race is a biological concept and that human behavior is best understood as caused by biology. Boas probably did more to combat race prejudice than any other person of his day (Gossett, 1963, p. 418).

Boas was appointed lecturer in physical anthropology at Columbia University in 1896, and promoted to professor of anthropology in 1899. For much of his career, he spoke out against Darwinian eugenics and the racism it birthed. Unfortunately, Boas “was drowned out by a chorus of American and European scientists who ranked the world’s races on a ladder of civilization, with Europeans at the top and Africans at the bottom” (pp. 44–45). Because Boas was a German Jew, it was alleged that his conclusions about race were neither objective nor factual.

### Other Opposition to Ota’s Confinement

The few persons determined to stop the mistreatment of Ota included mostly

black Christian ministers led by the Caucasian Rev. MacArthur, all of whom opposed Darwinism and thus were against putting Ota on display to prove a worldview they believed was both morally and scientifically wrong. The black ministers who supported freeing Ota concluded, according to a September 2, 1906 report in the *New York Times*: “We think we can do better for him than make an exhibition of him—an exhibition as it seems to us to corroborate the theory of evolution—the Darwinian theory” (p. 35).

Ironically, Hornaday “insisted that the exhibit was in keeping with human exhibitions in Europe, breezily suggesting the Continent had an “indisputable status as the world’s paragon of culture and civilization” (p. 16). As the opposition by the Baptist ministers increased, the *New York Times* finally took note with the headline “Man and Monkey Show Disapproved by Clergy.” Eventually, this turmoil, including the protest from creationist ministers, resulted in Ota’s release. In the end, Ota committed suicide. One can only wonder about the possible influence his experience of being displayed in a zoo with monkeys had on his tragic end.

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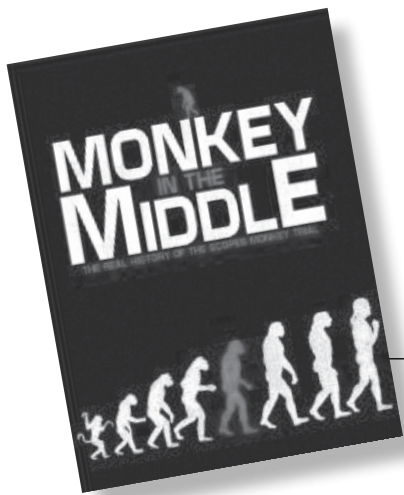
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## *Monkey in the Middle: The Real History of the Scopes Monkey Trial*

### 2016. DVD

Narrated by Gary North, directed by Tim Brown and Jerry Johnson. 2016, Three hours, NiceneCouncil.com. \$15.00

In this video Gary North explains what actually took place before, during, and after the 1925 evolution trial of John Scopes. In short, the basic issues were race, judgments of inferiority, and eugenics, plus the question of who controls the textbooks—the public who pays for the schools and the teachers or the elite experts. William Jennings Bryan (1860–1925) was openly opposed, both on scriptural and humanitarian grounds, to racism, while H. L. Mencken was strongly against the Bible and Christianity.

Mencken held disdain for the American South and what he considered the less-cultured common folk. Consider his sarcastic eulogy for Bryan, who died five days after the trial.

[Bryan's] last days were spent in a one-horse Tennessee village, beating off the flies and gnats ... The man felt at home in such simple and Christian scenes. He liked people who sweated freely, and were not

debauched by the refinements of the toilet. ... In the presence of city folks he was palpably uneasy. Their clothes, I suspect, annoyed him, and he was suspicious of their too delicate manners. He knew all the while that they were laughing at him—if not at his baroque theology, then at least at his alpaca pantaloons. But the yokels never laughed at him. ... Bryan lived too long, and descended too deeply into the mud, to be taken seriously hereafter by fully literate men, even of the kind who write schoolbooks (Mencken, 1925).

North narrates the history of the trial, giving insightful commentary on what led up to it, including a background of the participants, their motivations, and their worldview. The video begins with a short propaganda newsreel released in 1960 and made to appear to be a 1928 documentary that tells the story of the trial. The film clip is, in fact, raw propaganda. Gary North called the trial the greatest political stunt ever, which from our present perspective marks the transition from what North calls the old

Christian-dominated America to the new America, the secular-dominated America.

I found some of the quotes that North cited hard to believe, such as one by Francis Galton, Darwin's cousin, one of the most openly racist statements I have read by a leading scholar:

A modern European possesses in a much greater average share than men of the lower races. There is nothing either in the history of domestic animals or in that of evolution to make us doubt that a race of sane men may be formed [by eugenics] who shall be as much superior mentally and morally to the modern European, as the modern European is [now] to the lowest of the Negro races (Galton, 1892, p. x).

This conclusion of Galton was both acknowledged and endorsed by Darwin in his 1871 book on the origin of mankind.

North documents the central role that Mencken played in the trial. Namely it was a setup designed to embarrass for the purpose of suppressing Bryan, the

well-known defender of creationism in the early 1900s. Furthermore, in contrast to Bryan, Mencken was a staunch disciple of Nietzsche, whereas Bryan was an open opponent of Nietzsche (Bryan, 1922, pp. 123–125). Bryan opposed Nietzsche for many reasons, including that “Darwin’s doctrine leads logically to war and to worship of Nietzsche’s ‘Superman’” (Bryan, 1922, p. 133).

As North documents, writings by Bryan caused a torrent of caustic responses written by leading scientists and educators savagely mocking and lambasting Bryan and his valid concerns about the effects of Darwinism. There was name calling, including charges of flat-earth mentality of evolution deniers, people who Mencken argued should not control the content of public education.

Professor Conklin, then at Princeton University, focused on the challenge that mutations could not create new human races. Any denial was equal to the folly of the flat-earth belief (Conklin, 1922, p. 103). In short, Bryan’s writing gave the evolutionists an excuse to attack Bryan’s worldview and defend their own, namely Darwinism and secular progressivism.

A main focus of the video is Mencken’s opposition to Bryan’s position that parents who pay for schools and teacher salaries should have a say in what is taught. Mencken and his supporters believed that common folk should not have a major input because they did not have the education or intelligence to properly determine the proper nuances of the curriculum.

As North acknowledges, Bryan was not a young-earth creationist, adding that this view was rare in the 1920s, one major exception being George McCready Price. This was largely true until John Whitcomb and Henry Morris released their 1961 bombshell titled *The Genesis Flood*.

Price’s defense of creation science and criticism of evolution achieved wide exposure in 1925, when his arguments were used by Bryan in the Scopes Trial.

Bryan and Price had known each other for some time before this, so Bryan appealed to Price for help in preparing for the trial. Price advised Bryan to, if possible, avoid the science evidence at the trial because Price knew that the challenges presented by Darwinists required someone who was well versed in the creation worldview.

Because his main concern was for the common folk, Bryan was often called the “Great Commoner,” and he correctly foresaw the harm eugenics would cause. He was also bothered by Darwin’s teaching that the mind and body of males was superior to those of women, a claim he backed up by quoting Darwin’s writings (Bryan, 1922, p. 95). In his 1922 book, *In His Image*, Bryan detailed his two major concerns with Darwinism, eugenics and racism. For example, Bryan was appalled by Darwin’s statement in *The Descent of Man* (1871, p. 168), which he quoted and commented on in detail:

We civilized men ... do our utmost to check the process of elimination; we build asylums for the imbecile, the maimed, and the sick; we institute poor-laws; and our medical men exert their utmost skill to save the life of every one to the last moment. There is reason to believe that vaccination has preserved thousands, who from a weak constitution would formerly have succumbed to small-pox. Thus the weak members of civilized societies propagate their kind. No one who has attended to the breeding of domestic animals will doubt that this must be highly injurious to the race of man. It is surprising how soon a want of care, or care wrongly directed, leads to the degeneration of a domestic race; but excepting in the case of man himself, hardly any one is so ignorant as to allow his worst animals to breed (Bryan, 1922, pp. 107–108).

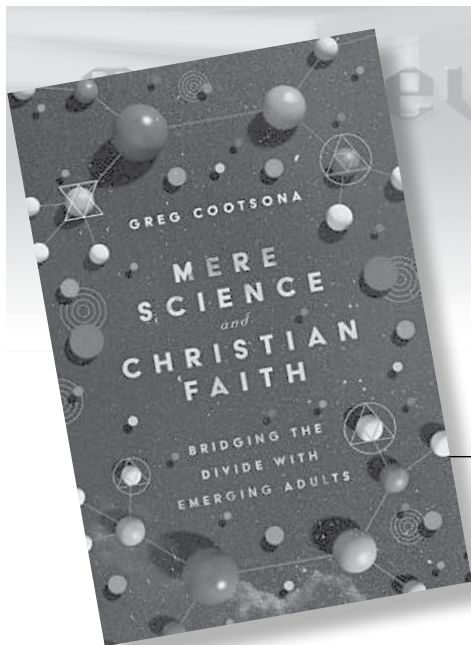
Bryan wrote that Genesis teaches all men were descended from Adam, thus, contrary to evolution, there exist no lesser-evolved inferior races. His main concern was not evolution in general, but human evolution. Bryan also recognized that “the Darwinian doctrine has been the means of shaking the [Christian] faith of millions” (Bryan, 1922, p. 88). Bryan was also concerned with the indoctrination effects of secular colleges, citing studies such as one by James Leuba who showed that “practically all American scientists of prominence ... more than one half ... teaching Biology, Psychology, Geology and History especially, have discarded belief in a personal God and in personal immortality” (Bryan, 1922, pp. 116–117; Leuba, 1921).

The video moves on from Galton to the American Eugenics movement, and from Margaret Sanger’s racism to its culmination in the Holocaust. North does an excellent job recounting both the trial, its impact, and its history.

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## *Mere Science and Christian Faith*

by Greg Cootsona

InterVarsity Press, Downers Grove, IL, 2018, 184 pages, \$17.00

The title is borrowed from *Mere Christianity* (1952) by C. S. Lewis, who in turn took the term from the writings of Anglican Richard Baxter (1615–1691). The reference is to the common ground in Christian faith while avoiding controversies.

This book's theistic evolution flavor is revealed by positive cover endorsements from BioLogos, Fuller Seminary, and InterVarsity. Author Cootsona is a graduate of Berkeley (BA), Princeton (MDiv) and Graduate Theological Union, CA (PhD in theology). Following 18 years of pastoring churches in New York and California, Cootsona now teaches Science and Religion at Chico State University near Sacramento, California.

A non-scientist himself, Cootsona has great respect for the scientific establishment. In his view, science should have a greater influence in church

settings. He has a passion for the faith of emerging adults of ages 18–30. Cootsona pastored this demographic, and the book includes many of their short testimonies. He finds this group highly interested in science and technology, comprising the majority of their careers.

Cootsona discounts those who challenge traditional science, and he clearly does not understand the credibility of contrary views: “Let’s not fool around with science that cannot be supported by scientists” (p. 7). His position then rules out the literal Adam and Eve, miracles, intelligent design, and the global Flood. The author does show some familiarity with biblical creation with his negative comments on the YouTube presence of Ken Ham and Ray Comfort. To be fair, he is also critical of Richard Dawkins (p. 51).

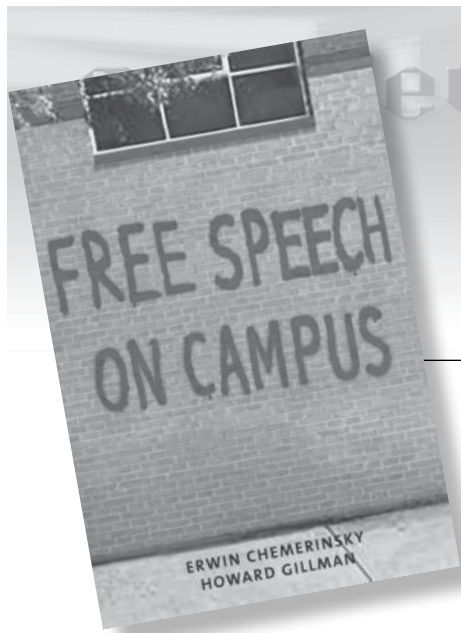
Regarding the origin of mankind, Cootsona is impressed that “98 percent of the members of the American Association for the Advancement of Science are convinced that humans evolved” (p. 61). So then, how does human evolution

square with the biblical references to our first parents? The author is not sure and prefers the term infallible (trustworthy) for Scripture rather than inerrant (error-free). The author’s conclusion: “The ideas of a young earth and a literal Adam and Eve who lived in a perfect state ... ate a fruit ... and experienced condemnation for their sin ... rejects mainstream science. For this reason, I’m convinced it’s not true and I won’t have much more to say about it” (p. 85).

With less controversy, the author also discusses the pros and cons of technology and the church. He has good comments regarding earth stewardship and prefers the term creation care to global warming or climate change (p. 136).

Greg Cootsona expresses a firm faith in Christ as his Creator and Redeemer. What is lacking is an understanding of the biblical creation worldview and groups like the Creation Research Society.

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Reviews

## *Free Speech on Campus*

by Erwin Chemerinsky  
and Howard Gillman

Yale University Press, New  
Haven, CT, 2017, 197 pages,  
\$26.00

I try to read everything that covers the issue of free speech on campuses, but this book is disappointing. The authors are law professors at the University of California, Berkeley and Irvine. Most of the material is handled fairly well except when it comes to Darwinism. The view of the authors is that speech is free for some people but not those who oppose Darwinism. According to surveys, close to half of Americans do not accept the idea that the origin of all life is a result of, as Michael Behe (2019) terms it, breaking genes (meaning mutations), and natural selection, or survival of the fittest.

Depending on the wording of the survey questions, about 70% of Americans accept some form of creation,

including medical doctors and biologists. The authors compare those who doubt the ability of Darwinism to turn amino acids into people with Holocaust deniers. They write approvingly that “at universities, a biology department may choose not to hire a creationist on the grounds that the person lacks professional competence” (p. 67).

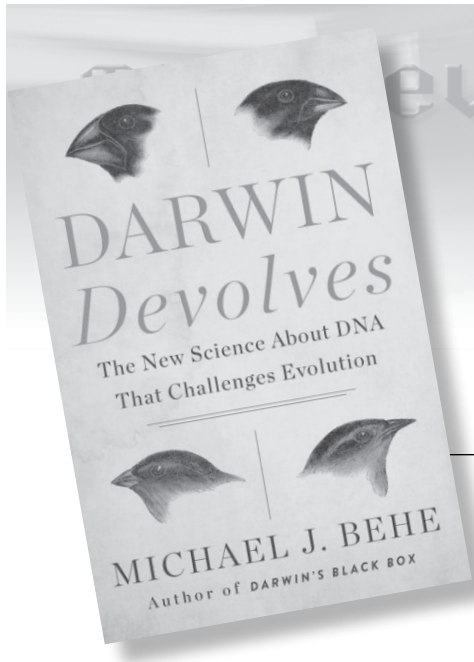
The authors take a middle road in attempting to balance free speech with speech that advocates violence. They even conclude that a university can refuse to hire a creationist, yet cannot refuse to hire a person who is “a member of a neo-Nazi party ... whose work is considered by scholars to be of high-quality” (p. 67). They add that, under their rules, a university “may not discriminate against a Republican” (p. 67). Their rules are obviously not followed at most colleges. A study of over 150 departments and upper-level administrations at 32 elite colleges by the *Center for the Study of Popular Culture* found that the ratio of registered Democrats to

registered Republicans was more than 10 to 1 (1,397 Democrats compared to 134 Republicans). In the U.S. the total number of registered Democrats and Republicans is roughly equal, but not a single department at any of the 32 schools even remotely approaches parity between the two parties. The researchers could not identify a *single* Republican on the faculty at Williams, Oberlin, MIT, and Haverford Colleges. Furthermore, the ratio of liberal to conservative professors has profoundly changed from 4 to 1 a few years ago to 17 to 1 today (<http://www.studentsforacademicfreedom.org/news/1898/lackdiversity.html>). So much for the guidelines.

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### Reference

Behe, M. 2019. *Darwin Devolves: The New Science About DNA That Challenges Evolution*. HarperOne, New York.



## *Darwin Devolves: The New Science About DNA That Challenges Evolution*

by Michael Behe

HarperOne, San Francisco,  
2019, 352 pages, \$19.00

In this book, biochemist Michael Behe considers research at the molecular level. The conclusion is that Darwinian evolutionary mechanisms are self-limiting and “incapable of building functionally complex molecular structures” (p. 251).

Chapter 2, “Fathomless Elegance,” illustrates the elegance, sophisticated structures, and brilliant organizational arrangements of life. Examples include the interacting gears of a plant hopper, fiber-optic cables that channel light to the rods and cones in the human eye, bacteria that use encapsulated iron-rich particles to align with earth’s magnetic field, and deep regulation within cells that has stumped investigators.

Chapter 3, “Synthesizing Evolution,” shows that comparative anatomy is insufficient for identifying related species. DNA sequencing is objective. Random mutations are inadequate for explaining variations since undirected adaptation is “restricted to modifying a few pre-existing features of an organism in uncoordinated ways” (p. 90).

Chapters 4-5, “Magic Numbers” and “Overextended,” consider extensions proposed to rescue neo-Darwinism (e.g., neutral theory, web of life, infinite mul-

tiverses, self-organization, eco-devo, and inclusive inheritance) and documents their weaknesses. Most contemporary Darwinists do not consider the source of helpful variation but assume that mutations are available when needed to build complex systems.

Chapter 6, “The Family Line,” discusses Peter and Rosemary Grant’s studies of Darwin’s finches. “Darwinian processes labored long and mightily in the Galapagos and brought forth ... a finch” (p. 147). The remnant population has nothing that the starting population didn’t have. Instead, it has *less* genetic variation. “Darwin’s mechanism has been wildly overrated—it is incapable of producing much biological change” (p. 155). Mutations and natural selection, working with already existing genetic material, support differentiation into species adapted to niches but cannot produce a different kind of entity where new genetic information is required. Additional examples (African Cichlids, *Drosophila*, Mecyclothorax beetles, Hawaiian lobelias, and Hawaiian honeycreepers) demonstrate that speciation results from changes to *existing* DNA sequences. “Minor random variations around a designed blueprint are possible and can be helpful, but are severely limited in scope. For new basic designs such as those at the biological level of family and above, additional information is necessary, information that is beyond

the ability of mindless processes to provide” (p. 169).

Chapter 7, “Poison-Pill Mutations,” discusses Richard Lenski’s longitudinal *E. coli* study. “After fifty thousand generations of the most detailed, definitive evolution experiment ever conducted ... it’s very likely that all of the identified beneficial mutations worked by degrading or outright breaking the respective ancestor genes. And the havoc wreaked by random mutation had been frozen in place by natural selection” (p. 179). “The almost oxymoronic ‘damaging but beneficial’ mutations are the poison pills of Darwinian evolution” (p. 187). An immunity to adult diabetes is caused by a mutation that “destroys a gene used by pancreas cells where insulin is made” (p. 192). Genetic changes in dogs are all largely degradative. “New life hasn’t evolved. Overwhelmingly it has *devolved* ... life lives on its generic patrimony.... it will never have greater generic wealth than what it inherited” (p. 197).

Chapter 8, “Dollo’s Timeless Law,” demonstrates that “relentless selection will tend to fit already functioning molecular machinery more and more tightly to its present task, with no regard for future use” (p. 203). Behe appeals for intelligent design. He refers to the claim of some Darwinists that gene reduplication can add new genetic information. Behe notes that the scientific literature remains devoid of testable explanations

for how molecular machinery arose. Behe also counters Richard Dawkins's use of irrelevant and mistaken math (Dawkins's own response to Behe's efforts to define limits to Darwinian mechanisms).

Chapter 9, "Revenge of the Principle of Comparative Difficulty," shows that new features could not possibly develop by small incremental steps. "A kind of system that strongly challenges Darwin's mechanism is one that is *irreducibly complex* (IC)" (p. 230). The IC concept is applied to molecular machines for which there is no plausible evidence to show how they could have been constructed by random processes. For example, no random process could account for the conceptually simple IC structure of two cystine groups forming a disulfide bond. Boosters of Darwinism support a "theory that labors mightily to explain a crummy two-amino-acid-residue disulfide bond" (p. 244) and therefore cannot account for more complex structures. The

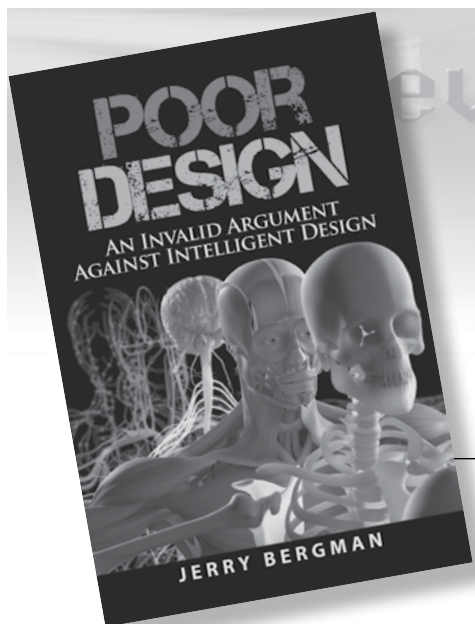
Darwinian mechanism is self-limiting, capable only of eliminating or modifying preexisting molecular systems but incapable of building functionally complex structures.

Chapter 10, "A Terrible Thing to Waste," considers how life's variety could have arisen and also theories of mind (e.g., materialism, idealism, and solipsism). We know the presence of a mind from artifacts it produces. Materialism undermines common sense. On the question of *whose* mind developed sophisticated molecular machinery, Behe states that he is a theist but leaves intellectual room "for people of widely varying philosophical inclinations" (p. 278).

"Clarifying Perspective" in the Appendix addresses responses to *Darwin's Black Box*, showing that there are no Darwinian explanations for how complex molecular machines developed. Michael Behe demonstrates the impossibility of life developing by random

mutations and natural selection. However, Behe does not hold to young-earth creation. He accepts long ages for the existence of the earth and evolutionary processes. For example, he states, "Billions of years ago photosynthetic bacteria appeared that produced oxygen" (p. 122). Behe also implies acceptance of intelligently directed evolution—i.e., theistic evolution, although he does not use the term. Furthermore, Behe states that all life has a common descent, inconsistent with God's statement that all life was created by its kinds. Behe implies a denial of the Genesis Flood as the source of fossils. For example, a polar bear fossil "is over one hundred thousand years old" (p. 15). Behe's arguments would be more powerful if he hadn't given credence to these commonly accepted myths.

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## *Poor Design: An Invalid Argument Against Intelligent Design*

by Jerry Bergman

BP Books, Tulsa, OK, 2019,  
230 pages, \$15.00

Evolutionists are aware of the power of the argument from design, but rather than explain how mutations and natural selection can produce any design, good, bad or indifferent, they attempt to question the intelligence of the designer they so adamantly oppose.

Aside from the hubris of critiquing systems that are imperfectly understood, their objection often comes down to “personal incredulity” and completely avoids exploring any possibility of a logical reason for the feature. It is akin to the vestigial organ/junk DNA approach: “I don’t know what this is, so it must be useless.”

Bergman first deals with evolutionary explanations for back pain, based on the assumption that we were originally intended to walk on all fours with an arched back. The “S” shaped (back to front) spinal curve that humans require to stand upright is thus felt to be the cause of back pain. Popular therapies for decades included attempts to restore the dome-shaped curve (kyphosis) and reduce the lumbar hollow (lordosis). In the process, the real causes of back pain in “the civilized world,” namely sedentary lifestyle and muscle weakness, were missed. Neither of these is helped by the obsolete advice to “avoid walking or jog-

ging” and “go to bed.” How much pain and suffering, even unnecessary and often unsuccessful surgery have resulted?

Bergman cites the analysis of a Professor Nathan Lents that the wrist “is way more complicated than it needs to be,” not stopping to marvel at the amazing abilities of the whole hand. This is an example of objection without analysis, like telling Mozart that his music has too many notes. But amazing engineering is admitted by evolutionists as long as they can attribute it to nature.

Is having a common pathway for the intake of food, water and air as well as the outflow of speech “the height of stupidity” as critics claim? To prevent choking, there is an efficient mechanism for closing off the air passages when swallowing, backed up by the ability to cough. Choking is rare and often related to inappropriate things mouthed by infants or neurologic problems in old age. If there were separate pathways, you could die of a stuffy nose, you could not increase your air intake when exercising and the mucus that sweeps the respiratory tract could not be swallowed and digested but would have to be blown into the environment.

The left recurrent laryngeal nerve is an inviting target for design skeptics. It travels with the vagus nerve into the chest, loops around the aorta, then ascends to the larynx. On the right side, the nerve loops under the subclavian artery

because the embryological right aortic arch is eventually absorbed. Richard Dawkins claims that this arrangement proves that humans came from fish and the larynx from gills. It does not seem to be of concern to the critics that the larynx functions at least adequately, and in the case of singers, exceptionally, even though the signals to each side have to travel different distances. Embryological development is important, not because ontogeny recapitulates phylogeny, but because the blood and nerve supply for each organ needs to function throughout development. Organs form and move to their final destination carrying those structures with them. Adding them in later in development is not an option.

The inverted retina looks like low hanging fruit to the design doubter, with the light-sensitive cells (the rods and the cones) behind a layer of bipolar and ganglion cells with their nerve fibers. Those fibers then pass through the retina and leave the eyeball as the optic nerve, creating a blind spot in each eye. Critics note that the squid and octopus have their light-sensitive cells facing the light with the nerve fibers behind them and wonder why the Creator gave an inferior system to his highest creation. But, of course, there is more to the story. Cephalopods live in low light. Might that have something to do with the question? Science ought to ask why, but often fails to do so when it is “just stupid.”

As it turns out, the extremely metabolically active vertebrate retinal cells need to be in close contact with the blood supply in the pigmented choroid layer for oxygen and nutrients as well as carrying off excessive heat. The choroid epithelial cells also recycle the used photoactive chemical, retinal, and prevent a toxic buildup of free radicals and super oxides. And is the presence of the nerve cells detrimental to vision? No! Vertebrate eyes work very well, thank you. And it turns out that the nerves are not only basically transparent but actually function like fiber optics. The blind

spots? They are in the peripheral vision and at different places in the two eyes.

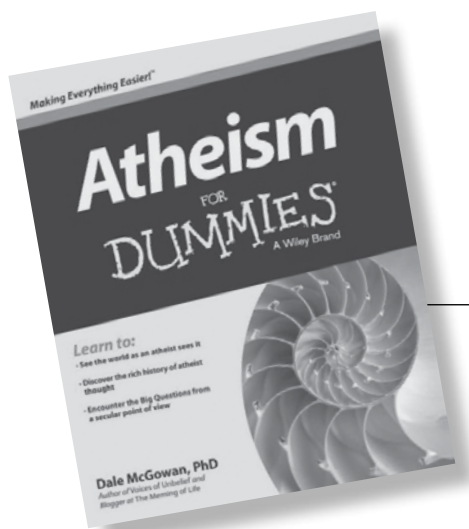
And to think, Darwin himself was distressed at the prospect of building an eye by small random steps and all he knew about was the optics. His disciples are much more arrogant and think that by pointing out “design flaws” they have proved the whole thing happened without intelligence. The most significant defects they reveal are their incomplete research and faulty logic.

Of course, biblical Creation does include the understanding that because of the Fall and Curse, some things have

gone wrong. The fact that systems still work so well is testimony to the quality of the original design and its backup systems. I picture the critics trying to answer God: “Where were you when I laid the earth’s foundation? Tell me, if you understand” (Job 38:4 NIV).

This book has some technical explanations that require background knowledge, but the fact that there are reasonable explanations for the evolutionary “gotcha” arguments is clear throughout.

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The author, who has a PhD in music, was a professor who now writes books supporting atheism and against theism and creationism. McGowan does not have a formal education in any life science, and it shows. Consequently, he relies heavily on Richard Dawkins and other militant anticreationists for his arguments, most

## *Atheism for Dummies*

by Dale McGowan

John Wiley, Mississauga,  
Canada, 2013, 366 pages,  
\$20.00

of whom he accepts and quotes uncritically. A major theme stresses the central importance of evolution as the doorway to atheism. The author covers in detail why evolution is a central reason in turning many scientists away from theism and why creation and intelligent design fail to explain biological origins.

McGowan concludes that despite “claims to the contrary by those driven by their own confirmation bias, evolution by natural selection is now as solidly established as the orbit of the earth around the sun” (p. 48).

Evolution, McGowan explains, works by natural selection of normal random variations, ignoring the fact that, as every breeder knows, normal genetic variation is very limited. We have failed to breed a dog as large as an elephant or a bear as large as a whale, as Darwin expected would be possible. The genome places clear limits on variety which can be overcome only with intelligent design by humans, such as CRISPR, an acronym for the Clustered Regularly Interspaced Short Palindromic Repeat system, which is

used to deliberately modify the genome of life.

Although McGowan never addresses from science the claims of intelligent design or creation, he does cite numerous accounts of the mocking of these worldviews such as the Flying Spaghetti Monster, as a third alternative to evolution and intelligent design. Satire, McGowan stresses, is a very effective way of using wit to attack human foibles such as creation and intelligent design (p. 204).

The author notes that for seventy years after Darwin, scientists squabbled about the validity of the Darwinian worldview, until the 1930s and 40s when, he implies, the “‘synthesis’ of genetics and biology solve[d] the legitimate problems that kept many scientists from accepting [evolution] up to that point” (p. 48). Thus, neo-Darwinism was born, to be later revised still further.

The “solution” that resulted in neo-Darwinism was an explanation for the source of genetic variety, namely damaging genes by mutations. The lethal problem with this solution, which McGowan ignores, is that the vast majority of mutations are near neutral or deleterious, and thus will only result in the deterioration of the genome, which is what is widely observed in the natural world. This is never mentioned, nor are the many other major problems with evolutionary theory.

The problem that impeded the acceptance of atheism, McGowan writes,

was answered only in 1859 when “British naturalist Charles Darwin published his theory of evolution by natural selection. ... Darwin’s theory, properly understood, finally provided a credible fit for the evidence” (p. 47). He then quotes Dawkins, who writes that “Darwin’s theory made it possible to be an intellectually fulfilled atheist” (p. 48). The expected result of the widespread acceptance of evolution was the demise of religion:

Evolution uprooted the tree of traditional religion in several ways. But perhaps the strongest blow was to the argument from design. For thousands of years, everyone from theologians to the person on the street found the complexity of life to be the strongest argument for the existence of God. Now a simple, powerful explanation was available, one that presented fewer problems than an uncreated Creator. (p. 48)

McGowan adds that many people have tried to reconcile evolution with religion by arguing that God used evolution to create life and the universe. This attempt absolutely fails, he writes, because evolution does not need any guiding hand whatsoever (p. 47). McGowan stresses that evolution explains everything and does so without the need for an intelligent creator, which was the goal of the theory. He admits that some people somehow find evolution and Christianity to be compatible, something he doesn’t see is possible, but is

glad the churches do, because “it’s nice to have their support for evolution education” (p. 50). In the end, the churches, in essence, are working to ensure their own demise, but until then they are useful idiots for the atheists (p. 50).

All the familiar arguments for atheism, such as the Inquisition and the Crusades, claiming that Christians have spilled gallons of blood, are covered. McGowan ignores the fact that the purpose of the Inquisition was to replace the old unjust system, trial by ordeal, which was banned by the church in the year 1215. Trial by ordeal forced the accused to endure some painful act, such as sitting in boiling water, and, if he survived, it was assumed that he was innocent. The new system also replaced the accusation system with the investigative system, in which an impartial magistrate would investigate the alleged crime by interviewing witnesses and examining the evidence to determine guilt. The new system was a major improvement over the old and slowly spread to secular justice systems. In fact, it worked so well that it has formed the backbone of criminal investigation in Europe and America to this day.

As a whole this book was very naïve. Because the core idea of atheism, evolution, fails, it is an illustration of the folly of imperfect humans.

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# Instructions to Authors

## Submission

Electronic submissions of all manuscripts and graphics are preferred and should be sent to the editor of the *Creation Research Society Quarterly* in Word, WordPerfect, or Star-Office/Open Office (see the inside front cover for address). Printed copies also are accepted. If submitting a printed copy, an original plus two copies of each manuscript should be sent to the editor. The manuscript and copies will not be returned to authors unless a stamped, self-addressed envelope accompanies submission. If submitting a manuscript electronically, a printed copy is not necessary unless specifically requested by the *Quarterly* editor. Manuscripts containing more than 35 pages (double-spaced and including references, tables, and figure legends) are discouraged. An author who determines that the topic cannot be adequately covered within this number of pages is encouraged to submit separate papers that can be serialized.

All submitted manuscripts will be reviewed by two or more technical referees. However, each section editor of the *Quarterly* has final authority regarding the acceptance of a manuscript for publication. While some manuscripts may be accepted with little or no modification, typically editors will seek specific revisions of the manuscript before acceptance. Authors will then be asked to submit revisions based upon comments made by the referees. In these instances, authors are encouraged to submit a detailed letter explaining changes made in the revision, and, if necessary, give reasons for not incorporating specific changes suggested by the editor or reviewer. If an author believes the rejection of a manuscript was not justified, an appeal may be made to the *Quarterly* editor (details of appeal process at the Society's web site, [www.creationresearch.org](http://www.creationresearch.org)).

Authors who are unsure of proper English usage should have their manuscripts checked by someone proficient in the English language. Also, authors should endeavor to make certain the manuscript (particularly the references) conforms to the style and format of the *Quarterly*. Manuscripts may be rejected on the basis of poor English or lack of conformity to the proper format.

The *Quarterly* is a journal of original writings, and only under unusual circumstances will previously published material be reprinted. Questions regarding this should be submitted to the Editor ([CRSQeditor@creationresearch.org](mailto:CRSQeditor@creationresearch.org)) prior to submitting any previously published material. In addition, manuscripts submitted to the *Quarterly* should not be concurrently submitted to another journal. Violation of this will result in immediate rejection of the submitted manuscript. Also, if an author uses copyrighted photographs or other material, a release from the copyright holder should be submitted.

## Appearance

Manuscripts shall be computer-printed or neatly typed. Lines should be double-spaced, including figure legends, table footnotes, and references. All pages should be sequentially numbered. Upon acceptance of the manuscript for publication, an electronic version is requested (Word, WordPerfect, or Star-Office/Open Office), with the graphics in separate electronic files. However, if submission of an electronic final version is not possible for the author, then a cleanly printed or typed copy is acceptable.

Submitted manuscripts should have the following organizational format:

- 1. Title page.** This page should contain the title of the manuscript, the author's name, and all relevant contact information (including mailing address, telephone number, fax number, and e-mail address). If the manuscript is submitted by multiple authors, one author should serve as the corresponding author, and this should be noted on the title page.
- 2. Abstract page.** This is page 1 of the manuscript, and should contain the article title at the top, followed by the abstract for the article. Abstracts should be between 100 and 250 words in length and present an overview of the material discussed in the article, including all major conclusions. Use of abbreviations and references in the abstract should be avoided. This page should also contain at least five key words appropriate for identifying this article via a computer search.
- 3. Introduction.** The introduction should provide sufficient background information to allow the reader to understand the relevance and significance of the article for creation science.
- 4. Body of the text.** Two types of headings are typically used by the *CRSQ*. A major heading consists of a large font bold print that is centered in column, and is used for each major change of focus or topic. A minor heading consists of a regular font bold print that is flush to the left margin, and is used following a major heading and helps to organize points within each major topic. Do not split words with hyphens, or use all capital letters for any words. Also, do not use bold type, except for headings (italics can be occasionally used to draw distinction to specific words). Italics should not be used for foreign words in common usage, e.g., "et al.," "ibid.," "ca." and "ad infinitum." Previously published literature should be cited using the author's last name(s) and the year of publication (ex. Smith, 2003; Smith and Jones, 2003). If the citation has more than two authors, only the first author's name should appear (ex. Smith et al., 2003). Contributing authors should examine this issue of the *CRSQ* or consult the Society's web site for specific examples as well as a more detailed explanation of manuscript preparation. Frequently-used terms can be abbrevi-

ated by placing abbreviations in parentheses following the first usage of the term in the text, for example, polyacrylamide gel electrophoresis (PAGE) or catastrophic plate tectonics (CPT). Only the abbreviation need be used afterward. If numerous abbreviations are used, authors should consider providing a list of abbreviations. Also, because of the variable usage of the terms “microevolution” and “macroevolution,” authors should clearly define how they are specifically using these terms. Use of the term “creationism” should be avoided. All figures and tables should be cited in the body of the text, and be numbered in the sequential order that they appear in the text (figures and tables are numbered separately with Arabic and Roman numerals, respectively).

**5. Summary.** A summary paragraph(s) is often useful for readers. The summary should provide the reader an overview of the material just presented, and often helps the reader to summarize the salient points and conclusions the author has made throughout the text.

**6. References.** Authors should take extra measures to be certain that all references cited within the text are documented in the reference section. These references should be formatted in the current CRSQ style. (When the *Quarterly* appears in the references multiple times, then an abbreviation to CRSQ is acceptable.) The examples below cover the most common types of references:

Robinson, D.A., and D.P. Cavanaugh. 1998. A quantitative approach to baraminology with examples from the catarrhine primates. *CRSQ* 34:196–208.

Lipman, E.A., B. Schuler, O. Bakajin, and W.A. Eaton. 2003. Single-molecule measurement of protein folding kinetics. *Science* 301:1233–1235.

Margulis, L. 1971a. The origin of plant and animal cells. *American Scientific* 59:230–235.

Margulis, L. 1971b. *Origin of Eukaryotic Cells*. Yale University Press, New Haven, CT.

Hitchcock, A.S. 1971. *Manual of Grasses of the United States*. Dover Publications, New York, NY.

Walker, T.B. 1994. A biblical geologic model. In Walsh, R.E. (editor), *Proceedings of the Third International Conference on Creationism* (technical symposium sessions), pp. 581–592. Creation Science Fellowship, Pittsburgh, PA.

**7. Tables.** All tables cited in the text should be individually placed in numerical order following the reference section, and not embedded in the text. Each table should have a header statement that serves as a title for that table (see a current issue of the *Quarterly* for specific examples). Use tabs, rather than multiple spaces, in aligning columns within a table. Tables should be composed with *14-point type* to insure proper appearance in the columns of the *CRSQ*.

**8. Figures.** All figures cited in the text should be individually placed in numerical order, and placed after the tables. Do

not embed figures in the text. Each figure should contain a legend that provides sufficient description to enable the reader to understand the basic concepts of the figure without needing to refer to the text. Legends should be on a separate page from the figure. All figures and drawings should be of high quality (hand-drawn illustrations and lettering should be professionally done). Images are to be a minimum resolution of 300 dpi at 100% size. Patterns, not shading, should be used to distinguish areas within graphs or other figures. Unacceptable illustrations will result in rejection of the manuscript. Authors are also strongly encouraged to submit an electronic version (.cdr, .cpt, .gif, .jpg, and .tif formats) of all figures in individual files that are separate from the electronic file containing the text and tables.

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### Letters to the Editor:

Submission of letters regarding topics relevant to the Society or creation science is encouraged. Submission of letters commenting upon articles published in the *Quarterly* will be published two issues after the article’s original publication date. Authors will be given an opportunity for a concurrent response. No further letters referring to a specific *Quarterly* article will be published. Following this period, individuals who desire to write additional responses/comments (particularly critical comments) regarding a specific *Quarterly* article are encouraged to submit their own articles to the *Quarterly* for review and publication.

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Occasionally, the editor will invite individuals to submit differing opinions on specific topics relevant to the *Quarterly*. Each author will have opportunity to present a position paper (2000 words), and one response (1000 words) to the differing position paper. In all matters, the editor will have final and complete editorial control. Topics for these forums will be solely at the editor’s discretion, but suggestions of topics are welcome.

### Book Reviews:

All book reviews should be submitted to the book review editor, who will determine the acceptability of each submitted review. Book reviews should be limited to 1000 words. Following the style of reviews printed in this issue, all book reviews should contain the following information: book title, author, publisher, publication date, number of pages, and retail cost. Reviews should endeavor to present the salient points of the book that are relevant to the issues of creation/evolution. Typically, such points are accompanied by the reviewer’s analysis of the book’s content, clarity, and relevance to the creation issue.

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<input type="checkbox"/> Life member	<input type="checkbox"/> \$500	<input type="checkbox"/> \$500	<input type="checkbox"/> \$500	<input type="checkbox"/> \$500
<input type="checkbox"/> Student* [per year]	<input type="checkbox"/> \$38	<input type="checkbox"/> \$58	<input type="checkbox"/> \$75	<input type="checkbox"/> \$28
<input type="checkbox"/> Subscriber [per year]	<input type="checkbox"/> \$46	<input type="checkbox"/> \$66	<input type="checkbox"/> \$83	<input type="checkbox"/> \$36

\* Student members are required to complete the bottom portion of this form.  
 NOTE: Student members may qualify for the *Future Leaders Sponsorship* program.  
 See the CRS website at [www.creationresearch.org](http://www.creationresearch.org) for details.  
 \*\* Rates for the paper option include postage for First Class Mail International

‡ **PAPERLESS option:** You may opt out of receiving paper copies of the CRS periodicals (*CRS Quarterly* and *Creation Matters*). By choosing this option you may register for access to the Premium Area of the website, where you may view or download electronic (PDF) versions of these publications. Of course, regular members and subscribers may also have access to the Premium Area. Only members, however, will have access to the Members Exclusive Area of the website.

Member/Subscriber	\$ _____ per year
	x _____ years
<b>SUBTOTAL</b>	\$ _____
Optional contribution	+ \$ _____
Life membership	+ \$ _____
<b>TOTAL</b>	\$ _____
<input type="checkbox"/> Visa <input type="checkbox"/> MasterCard <input type="checkbox"/> Discover <input type="checkbox"/> American Express <input type="checkbox"/> Check/money order	
Card number	_____
Expiration date (mo/yr)	_____
Phone number (_____) _____	
Signature	_____

**Student Members are required to complete the following:**

School or institution now attending \_\_\_\_\_

Your current student status:  high school;  undergraduate; graduate program  MS  PhD;  other \_\_\_\_\_

Year you expect to graduate or complete your degree \_\_\_\_\_

Major, if college or graduate student \_\_\_\_\_

Signature \_\_\_\_\_

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29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	51	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	41	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	52	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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32	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	43	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	54	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Mail to: Creation Research Society, 6801 N. Highway 89, Chino Valley, AZ 86323, USA**

## Creation Research Society

**History**—The Creation Research Society was organized in 1963, with Dr. Walter E. Lammerts as first president and editor of a quarterly publication. Initially started as an informal committee of 10 scientists, it has grown rapidly, evidently filling a need for an association devoted to research and publication in the field of scientific creation, with a current membership of over 600 voting members (graduate degrees in science) and about 1000 non-voting members. The *Creation Research Society Quarterly* is a peer-reviewed technical journal. It has been gradually enlarged and modified, and is currently recognized as one of the outstanding publications in the field. In 1996 the CRSQ was joined by the newsletter *Creation Matters* as a source of information of interest to creationists.

**Activities**—The Society is a research and publication society, and also engages in various meetings and promotional activities. There is no affiliation with any other scientific or religious organizations. Its members conduct research on problems related to its purposes, and a research fund and research center are maintained to assist in such projects. Contributions to the research

fund for these purposes are tax deductible. As part of its vigorous research and field study programs, the Society operates The Van Andel Creation Research Center in Chino Valley, Arizona.

**Membership**—Voting membership is limited to scientists who have at least an earned graduate degree in a natural or applied science and subscribe to the Statement of Belief. Sustaining membership is available for those who do not meet the academic criterion for voting membership, but do subscribe to the Statement of Belief.

**Statement of Belief**—Members of the Creation Research Society, which include research scientists representing various fields of scientific inquiry, are committed to full belief in the biblical record of creation and early history, and thus to a concept of dynamic special creation (as opposed to evolution) both of the universe and the earth with its complexity of living forms. We propose to re-evaluate science from this viewpoint, and since 1964 have published a quarterly of research articles in this field. *All members of the Society subscribe to the following statement of belief:*

1. The Bible is the written Word of God, and because it is inspired throughout, all its assertions are historically and scientifically true in all the original autographs. To the student of nature this means that the account of origins in Genesis is a factual presentation of simple historical truths.

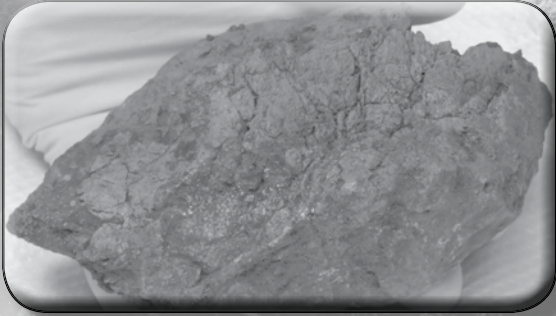
2. All basic types of living things, including humans, were made by direct creative acts of God during the Creation Week described in Genesis. Whatever biological changes have occurred since Creation Week have accomplished only changes within the original created kinds.

3. The Great Flood described in Genesis, commonly referred to as the Noachian Flood, was a historical event worldwide in its extent and effect.

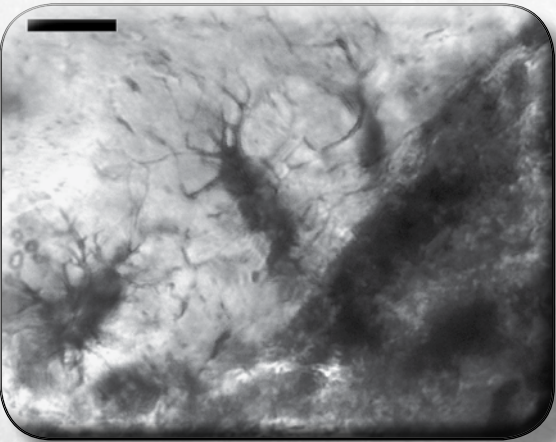
4. We are an organization of Christian men and women of science who accept Jesus Christ as our Lord and Savior. The act of the special creation of Adam and Eve as one man and woman and their subsequent fall into sin is the basis for our belief in the necessity of a Savior for all people. Therefore, salvation can come only through accepting Jesus Christ as our Savior.

# iDINO II

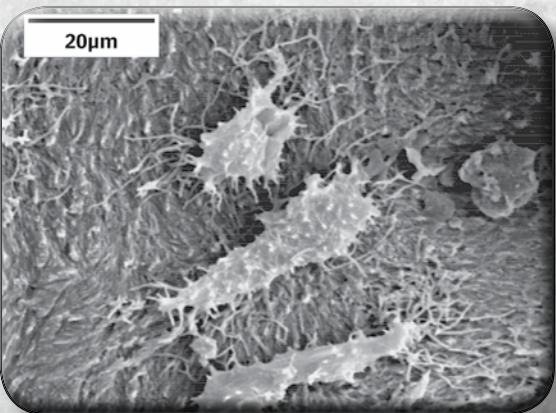
## Investigation of Dinosaur Intact Natural Osteo-tissue



A fragment of the *Triceratops* brow horn. Fragments, such as this one, still contain tissue and cells.



Microscopic examination of tissue extracted from a *Triceratops* horn reveals bone cells still present.



Electron microscope picture of intact bone cells still in tissue extracted from a *Triceratops* horn.

**How can pliable, stretchable tissue survive inside dinosaur fossils for over 65 million years?**

**How can this tissue still contain intact cells and even dinosaur proteins?**

**How can this fragile biological material survive for so long?**

The answer to these questions directly challenges the current, evolutionary-biased, geologic timescale.

The Creation Research Society began its iDINO research initiative for the purpose of studying soft tissue in dinosaur fossils. The first phase of the project detected pliable, unfossilized tissue in a brow horn of a *Triceratops*. Within this tissue were intact osteocytes (bone cells). Some results from the iDINO project have been published in a technical microscopy journal and presented at an international microscopy conference. The Spring 2015 issue of the *Creation Research Society Quarterly* also features a special report of the iDINO project. Plus, to further spread the important information about soft tissue, the Society is developing a video (Echoes of the Jurassic).

The **second phase** of the project (iDINO II) will look more extensively at the process of tissue preservation. Evolutionists have offered various theories of how this tissue could survive for millions of years. iDINO II will methodically investigate these preservation claims, assessing their plausibility.

The iDINO results have already provided a strong challenge to the evolutionary worldview. More extensive and detailed examination may provide even stronger evidence that the age of dinosaur fossils is far less than 65 million years. To this end, the Society continues to seek those willing to fund this project with either one-time gifts or monthly donations.

For more information contact us at (928) 636-1153 or [crsvarc@crsvarc.com](mailto:crsvarc@crsvarc.com).

Also visit <http://tinyurl.com/nphm2c4> for project updates and details.

