

The reinforcement syndrome ubiquitous in the earth sciences

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Many people are intimidated by the certainties claimed for the ages of the rocks, fossils, and events of the past, and the precision claimed for these details. The edifice of the geological column and timescale (figure 1) can seem so well established with copious data from the rocks, ‘fossils’, and dating laboratories, as to seem true. As a result, many Christian scholars think the millions and billions of years of the geological column and also as claimed for evolution, have been proven. However, the ‘reinforcement syndrome’ is a large part of this so-called precision in which concepts arbitrarily believed during the start of the Enlightenment in the 1700s are assumptions that go into all earth science data analysis.

The reinforcement syndrome

The reinforcement syndrome is a psychological phenomenon observed in scientific research wherein a concept or hypothesis is repeatedly reinforced by further data.¹ The concept was first developed by Watkins, who stated the reinforcement syndrome is an inherent weakness in many fields of the experimental and so-called historical sciences.² It is especially serious in the ‘historical sciences’ since it can be very difficult or impossible to disprove a claim about the past.

Usually the reinforcement syndrome works when a junior scientist wants to marshal data in support of a concept developed by a well-respected

senior scientist. I might add that the reinforcement syndrome can also work when scientists desire certain outcomes. Thus, the original hypothesis soon becomes ingrained into scientific thinking and is very difficult to dislodge. The hypothesis becomes an assumption and data is employed selectively to fit the concept. It is not difficult to eliminate disagreeable data, such as errors in measurement, contamination, reworking, or even the

accusation of faulty reasoning on the part of the scientist who stumbles onto contrary data. Many scientists who work in the specialty do not even notice the contrary data or else it is dismissed as a minor anomaly that will be solved with further research. Researchers from outside the relevant fields of science are unlikely to detect problems. All looks well from the outside.

The Enlightenment reinforcement syndrome is based on the assumptions

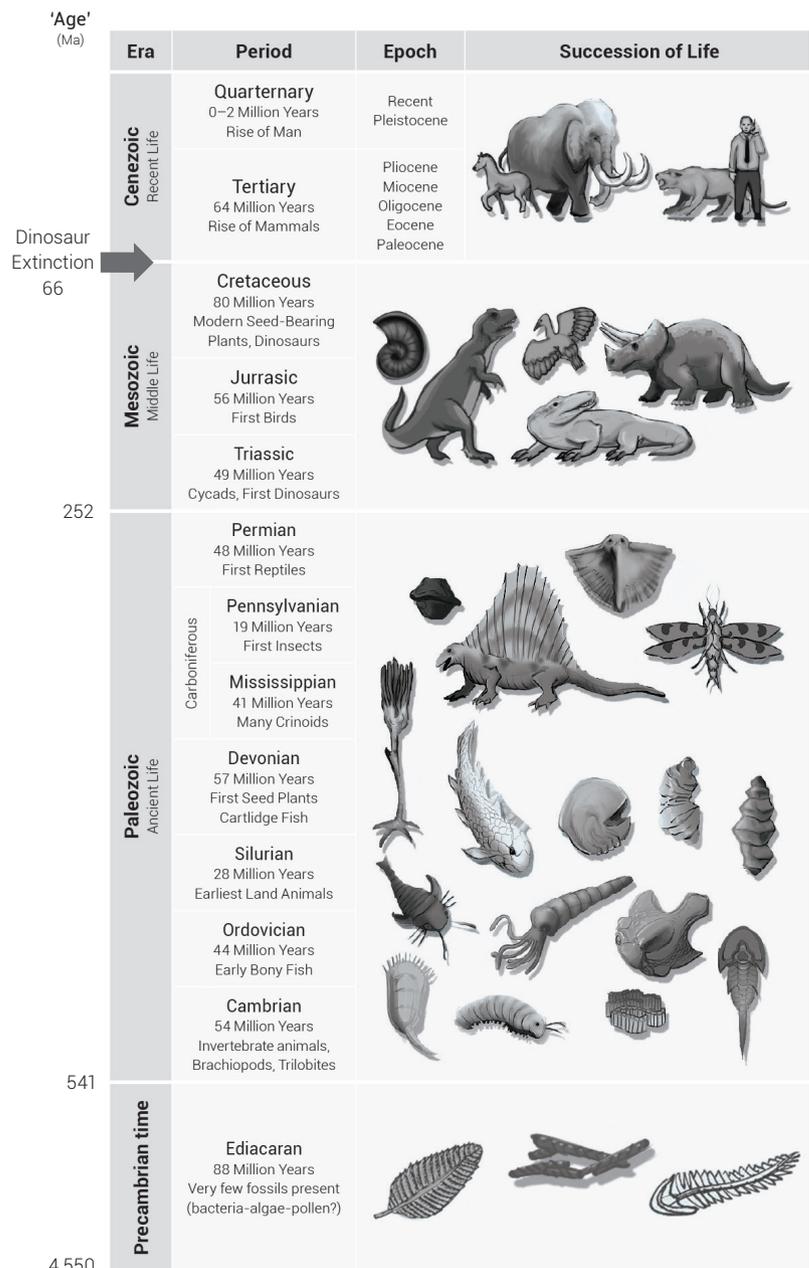


Figure 1. The standard long-age geological column.

of an old earth and a slow progression of events and fossils through time, i.e. uniformitarianism. All observed data from rocks and fossils is automatically fitted to that paradigm. The assumptions guiding the Enlightenment reinforcement syndrome are often claimed to be fact, a form of circular reasoning. It is often difficult to unravel the pervasiveness of circular reasoning in bolstering the Enlightenment assumptions, but with enough study it does become evident.

Examples of the reinforcement syndrome and circular reasoning

There are numerous examples of the reinforcement syndrome and the resultant circular reasoning. There are so many that I do not take much note of them anymore. Woodmorappe has documented many examples of circular reasoning.³ An example of the reinforcement syndrome is the clustering together of short geomagnetic polarity events (excursions) of doubtful validity into specific periods of geological time.² The four-ice-age model for Pleistocene glaciation is another example in which, whenever geologists analyzed glacial deposits between 1910 and 1970, four ice ages were seen. This reinforcement syndrome has been replaced by another one, the astronomical theory of the ice ages or the Milankovitch mechanism. Supposed pre-Pleistocene ‘ice ages’ are pigeonholed into one of four main timeframes, especially the concept of a ‘Permian ice age’.¹

Dinosaurs became extinct 65 million years ago

Another major example is the well-promulgated belief that the dinosaurs died out 65 Ma ago and were replaced by the mammals within the record of fossil changes through time.⁴ It seems that wherever uniformitarian scientists look for fossils, they always find evidence to reinforce this belief. Dinosaur bones and traces found in the Cenozoic

are either re-dated or explained away.⁵ An evolutionary scientist admitted the circular reasoning used to maintain the date of 65 Ma within the Enlightenment paradigm of evolution:

“Geologists themselves must take much of the responsibility for the dissemination of this concept [that dinosaurs went extinct in a few days or a few thousand years] because they have often defined the end of the Age of Reptiles or Mesozoic Era [about 65 Ma ago] as the exact time that dinosaurs became extinct. Ergo, reasoning in a tight circle, dinosaurs became extinct at the end of the Mesozoic time.”⁶

I am sure that such circular reasoning extends to many other organisms found in the fossil record.

Late Triassic ‘bird-like’ theropod tracks become late Eocene bird tracks

Tracks that looked as if they were made by birds were recently discovered in Argentina.^{7,8} Because the sedimentary rocks in which they were found were dated as Late Triassic, i.e. before birds are supposed to have evolved, the tracks were claimed to be from an unknown group of ‘bird-like’

theropod dinosaurs even though the tracks looked exactly like bird tracks. In a recent publication the authors attempted to retrieve their error by following the process described above; they now claim the sedimentary rocks are late Eocene in age based on U-Pb (Uranium–Lead) dates from zircons in tuff—a difference of about 180 Ma!⁹ Paleomagnetic data from the sedimentary rocks was cited to reinforce the late Eocene date, showing how other dating methods can be changed to agree with what is expected, again showing the reinforcement syndrome.¹⁰ However, paleomagnetism is not an independent dating method; a change in sedimentation rate or a hiatus can be postulated, whereby the vertical pattern of paleomagnetism in igneous or sedimentary rocks can be made to fit anywhere in the polarity timescale.¹¹

The previous Late Triassic dates on fossil wood and basalt lava were explained away. It was also ‘discovered’ that the particular formation contains several ‘thrust sheets’, which conveniently would explain any anomalous dates in the formation. Thus, by a series of manipulations, these bird-like tracks from an unknown theropod dinosaur have now become real bird tracks, as they undoubtedly were all



Figure 2. Palm fossil from the Chuckanut Formation northwest Washington.

along. The circular reasoning in all this is especially obvious.

From this example, it would appear that some strata can be ‘re-dated’ without doing damage to the assumed geological column. However, if the dates of the strata are constrained, it is not easy to ‘re-date’ the strata, as shown in the example below from southeast Colorado. The options that are then left to account for anomalous dates or fossils include:

1. postulating an overthrust
2. claiming that a ‘younger’ organism fell in a hole in ‘older’ sediments or sedimentary rock and was fossilized in ‘older’ strata
3. expanding the time range of the organism (which is commonly done), and
4. giving the anomalous fossil a new name so as to give the impression that it is not the same organism from the anomalous age.¹²⁻¹⁴

Eocene dinosaur-like track claimed from a giant flightless bird

Relatively large tridactyl (three-toed) tracks were discovered in the early Eocene Chuckanut Formation



Figure 3. Moa (*Dinornis robustus*) tracks exposed in August 1911 in New Zealand.

of northwest Washington State.¹⁵ The Chuckanut Formation varies from 3,000 to 8,300 m in thickness and is dated as early Eocene by paleobotany, palynology, fission tracks in detrital zircons, and U-Pb ages of interbedded tuffs. Such a great thickness of strata would place the early Cenozoic Chuckanut Formation well within the Flood chronology.¹⁶ I have collected palm fossils in this formation (figure 2). The ‘age’ of the formation cannot be easily changed given the volume of evidence cited. When a large three-toed track was discovered, it was automatically claimed to be from a large flightless bird, called *Diatryma*. Other bird and mammal tracks are also found in the formation, which reinforces the interpretation that these three-toed tracks were made by a bird. However, the authors admit that if the same tridactyl tracks were found in Mesozoic strata, they would readily be considered dinosaur tracks:

“The most spectacular trace fossils are numerous large tridactyl footprints. In rocks of Mesozoic age, tracks of this size and shape would likely be interpreted as having been made by a small dinosaur, but during the Cenozoic Era, the track maker could only have been a giant ground-dwelling bird... ”¹⁷

Giant flightless bird tracks are rare in the fossil record and are found only in the early Cenozoic of West Antarctica and the Pleistocene of New Zealand (figure 3).¹⁸ On the other hand, there are billions of dinosaur tracks,¹⁹ which would suggest that the tridactyl tracks are more likely from a dinosaur. Regardless, the reinforcement syndrome that dinosaurs lived before 65 Ma and giant flightless birds afterwards is evident.

From a creation science point of view, the Chuckanut Formation must have been laid down during the Flood,¹⁴ and the finding of bird and mammal tracks (and possibly dinosaur tracks) would place the formation in the

Inundatory Stage or early part of the Flood.^{20,21} Such ideas as the Cenozoic being deposited before Day 150 in some places is surprising to many creation scientists, but such discoveries point out how much we rely on the geological column for our interpretations of rocks and fossils, and how much we do not know about the Flood.

Mammal discovery causes Late Cretaceous date to become early Miocene

The volcanoclastic deposits of the Abanico Formation near Termas del Flaco, Chile, at 35°S were long considered to be of Late Cretaceous age.²² However, mammals have been found which place its age as Paleogene, which is either Paleocene, Eocene, or Oligocene, together considered the early Cenozoic. Then the age was extended upward to the early Miocene, the very early part of the late Cenozoic, by the discovery of a well-preserved skull of a platyrrhine or New World monkey. Apparently, the Late Cretaceous date was not so well established that it could not be re-dated by some 50 Ma to as young as the early Miocene. Thus, the reinforcement syndrome that mammals are almost totally found in the Cenozoic was maintained.

Late Triassic index fossils above Jurassic strata explained away

Triassic tetrapod fossils were discovered in the Picket Wire Canyonlands of southeast Colorado above what are considered Jurassic eolianites, which are consolidated wind-blown deposits.²³ However, the designation as ‘eolianites’ is an interpretation and the sedimentary rocks may not have been derived from wind. Nevertheless, the stratigraphy of the area had to be revised, and of course with the many available options, this is not difficult. The authors suggest that the fossils may either have been reworked or that

the stratum enclosing the fossils is not the assumed Middle Jurassic Entrada Sandstone. Despite the fragmentary nature of the fossils, they eliminate the possibility of ‘reworking’ because the enclosing conglomerates are dissimilar to other Jurassic formations nearby, but are similar to Upper Triassic conglomerates of Wyoming and New Mexico. Since the fossils are supposedly only known from the Late Triassic elsewhere and are used as ‘index fossils’, they do not even suggest expanding the range of these fossils upward to younger ages of the Jurassic. The authors therefore opt for ‘re-correlating’ the conglomerate. They eliminate the nearby Jurassic Entrada Formation and re-date the strata as Late Triassic based on lithologically similar Late Triassic strata from as far away as southeast Wyoming.

By this convoluted reasoning, the seemingly precise fossil order of the geological column was maintained and reinforced.

The raw data can be re-interpreted within the biblical worldview

There are many more examples of the reinforcement syndrome that can be documented, which goes to show just how strongly the beliefs of the Enlightenment shape the interpretation of data. Observed data on rocks, fossils, and events of the past is automatically pigeonholed into the old-earth uniformitarian and evolutionary worldview, whether they fit or not.

The raw data can be re-interpreted within the biblical worldview, and I have discovered in many instances that this worldview gives a much better and more straightforward interpretation of the data. The young-earth timescale derived from the Bible is not a side issue, but sometimes is crucial for finding a reasonable solution to the mysteries of the past that have existed for 100 to 200 years and

still show no sign of resolution.²⁴ For example, consider how the Ice Age might have been initiated. Scientists know that large volcanic eruptions can cause planetary cooling. If the copious volcanism, for which there is abundant evidence, is stretched out to the tens of thousands of years the glacial periods are supposed to have lasted, it becomes thermally insignificant. Conversely, if all of the Ice Age volcanism is telescoped into several hundred years, it becomes significant as a powerful cooling mechanism for the Ice Age.

Another example is the woolly mammoths buried in the wind-blown silt (loess) of non-glaciated low areas of Siberia, Alaska, and the Yukon Territory of Canada. Paleozoologists working in these northern areas stretch the deposition of all this silt into tens of thousands of years, and it becomes insignificant for explaining the many mysteries associated with the woolly mammoths. However, the accumulation of all this abundant loess (also called muck), if compressed into a few hundred years at the end of the Ice Age, can explain these mysteries.²⁴

Creation scientists and Christians must be aware that when we read geological and paleontological literature with their numerous old-age dates and the precision that is claimed, we are reading the interpretations of naturalistic, Enlightenment thinkers. We must be able to separate observed data from interpretation, and not get swept into the sometimes impressive arguments presented in the literature.

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