# A REVIEW/SUMMARY OF KURT WISE'S *FAITH, FORM, AND TIME*

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Kurt Wise has a B.A. in geophysical science from the University of Chicago and an M.A. and Ph.D. in paleontology from Harvard University, where he studied under Stephen Jay Gould. He is an associate professor of science and director of the Center for Origins Research and Education at Bryan College. Wise is one of the leading thinkers among young-age creationists and has long been known in that circle for his impatience with sloppy science.

*Faith, Form and Time: What the Bible Teaches and Science Confirms About Creation and the Age of the Universe* (Nashville: Broadman & Holman, 2002) is a nicely bound and printed 287-page paperback, excluding the 16 pages of prefatory material. It retails for $14.99. Included in the 287 pages are 5 pages of selected bibliography, 26 pages of endnotes, and 11 pages of glossary. The book's 16 chapters are distributed through the following 5 parts: (1) God's Word on the Matter, (2) The Dating Game, (3) Creation Week, (4) From the Garden to the Grave, (5) From Noah to the New Earth. Twelve sidebars on various items of bio-evolutionary evidence are scattered throughout the book.

This book is an outline of Wise's current conception of a recent-creation model. It is an introduction to the present state of the subject, not a detailed and thorough presentation, but it is loaded with information and insight. Wise combines broad knowledge with a refreshing willingness to think "outside the box." Everyone interested in the Bible and creation, except perhaps those closed to the possibility of a young creation, will want to read this book.

The book is written with a nonnegotiable faith commitment that the Bible is God's written communication to mankind and is therefore truthful in all that it affirms. Wise elaborates on this in Part 1, titled "Gods Word on the Matter." He believes the truth that is revealed in Scripture should shape and define the purposes, presuppositions, and values for all academic disciplines, including science. Science done within that framework is able to glorify God and teach us about him.

Part 2 ("The Dating Game") addresses the age of creation -- first from the Bible and then from science. Wise takes the Genesis account at "face value," which leads him to conclude that the creation week was seven 24-hour days, that 1656 years elapsed between the creation and the Flood, that 342 years elapsed between the Flood and the birth of Abraham, and that about 2000 years elapsed between the times of Abraham and Christ. He grants some margin for error, probably something on the order of a few percentage points, but denies there is any biblical indication "that the world could be thousands of years -- let alone tens of thousands of years older (or thousands of thousands of years older as suggested by conventional science)."

Wise lists twelve areas in which he believes the nonbiblical chronology currently accepted in the historical sciences contradicts Scripture. He states, "Old-age chronology and Scripture cannot both be true, and they cannot be reconciled." He then gives examples of how acceptance of old-age chronology forces theological distortions.

Wise believes "[a] face-value examination of the creation suggests it is millions or billions of years old," but he rejects the claim that this makes God guilty of deception. He shows from Scripture that God can and does create things that appear much older than they really are when it suits his purpose to do so. He suggests that God left the creation ambiguous regarding its age so that those who choose not to accept his revelation about its origin can construct an alternative, albeit erroneous, history.

This ambiguity cuts both ways in that creation contains evidence against hypotheses that contradict God's revelation. In terms of dating methods, each "runs into difficulty with at least some of the data -- not enough to falsify the method completely, but enough to question conclusions derived from it." After citing several examples, including problems among radiometric dating methods, Wise writes:

> The fact that any alternative theory has problems should suggest that something is not quite right with those alternatives. Although these provide insufficient evidence to prove them wrong, they do provide sufficient evidence to seek a better explanation. It would be reasonable simply to turn to the reliable Eyewitness and accept His Word for the fact that the creation is actually only about six thousand years old.

Wise notes that God's purpose in creating necessitated that he create things with an appearance of age. One example he gives is the light we receive from the sun. If fusion is the source of the sun's light, as is commonly assumed, it would take that light somewhere around 10,000 years to make its way from the sun's center to its surface. Thus, to create the sun and have it shine on earth within a single day is to make it appear at least 10,000 years older than it is.

In addition, an incorrect understanding of history may mislead us regarding the age of creation. Conclusions about age depend on various factors being the same in the past as they are today. For example, if the earth's initial magnetic field was many times stronger than it is today, many more cosmic rays would have been deflected, resulting in very low, pre-Flood C-14 production. The result would be falsely high ages as determined by C-14 dating.

Wise also points out several physical indications that the creation is only thousands of years old. He cites the young age of supernova remnants, the existence of certain kinds of comets, the presence in the solar system of certain-sized dust particles, and the decay of earth's magnetic field.

Part 3 ("Creation Week") deals, respectively, with the creation of the heavens, the earth, nonhuman organisms, and mankind. In the chapter on the heavens, Wise points out that the universe appears designed for human existence (the Anthropic Principle). So many things -- physical laws, constants, molecular characteristics, location in the galaxy and solar system, etc. -- have to be just as they are in order for humans to exist that the coincidence points to a Designer. In addition, the universe has characteristics that, while not necessary for existence, are convenient (such as its laws being understandable and capable of being expressed in the human language of mathematics).

Various lines of evidence suggest that the universe had a beginning. This event would seem to have a cause, and there are a number of indications that this cause had attributes possessed by the God of Scripture. This cause seems to have been mindful of mankind, very powerful, very intelligent, and to have had complete knowledge about the state and working of the universe. This cause also seems to have been independent of matter, space, and time.

Wise suggests that the heavens were created to declare the glory of God by reflecting his nature in various ways. The variety of heavenly bodies, as well as the vastness, beauty, and order of the universe reflect aspects of God's being, as does the presumed eternality of his initial creation.

Wise rejects the Big Bang theory as inconsistent with Scripture. The fact the microwave radiation is more uniform than the distribution of matter in the universe is a scientific indication that something is wrong with the theory. He does not believe, however, that any current young-age theory adequately explains the Big Bang's evidences. He notes Humphreys's white-hole cosmology but says it has "come under considerable fire."

The chapter on the earth begins with an acknowledgement that it is unclear how the earth's surface and atmosphere were originally arranged, how they operated, and exactly how they existed before the Fall and the Flood. Yet, enough is known to see God's power, mercy, glory, and wisdom.

The mass, orbit, tilt, and rotation rate of the earth were what they need to be for earth to be a suitable habitat for mankind. Because of God's love of diversity, the original continental regions probably had a wide variety of environments and topography, including mountains and possibly deserts and hydrothermal regions.

Creation of plants would have been accompanied by creation of a variety of soils, along with mineral cycles to stock the soils with minerals and a water cycle to keep plants supplied with needed water. Lightning activity was given to help maintain the soil quality. Bacteria may have been created to play roles in various earth cycles.

Oceans (and lakes and streams) were created with a balance of nutrients, minerals, and salt suitable for the creatures they contain. A variety of sediments were created on the ocean bottom for different creatures. Large volumes of lime mud were probably

formed to maintain the PH in the ocean, and cycles were created in the seas for the continuous provision of nutrients and minerals. Perhaps algae were created in relation to these ocean cycles.

The atmosphere was created as an environment for earth's organisms, which purpose involves a significant number of constraints. The earth was also created with some sort of water cycle, the exact nature of which is currently unknown. It had seasons and probably had springs on both land and sea. Temperature differences and the earth's rotation produced winds that drove currents that spread nutrients and organisms throughout the oceans.

God foresaw that he would have to curse the earth and judge it with a global flood. So in addition to designing the earth as the right environment for a multitude of creatures, he also designed it to be the right environment after the catastrophes of the Fall and the Flood.

The chapter on nonhuman organisms begins by showing how DNA, which exists in all organisms, shares a number of characteristics of human language. Since God is a communicating God, this should come as no surprise to creationists. The remarkable degree of integrated complexity at every level of biological organization bears further witness to God.

Successful interspecific crosses (hybridization) are more common and widespread than one would expect under standard evolutionary scenarios. The fact species of camels and llamas interbreed, for example, seems hard to reconcile with the conventional notion that they have been separated for at least forty million years. It seems more in line with a recent diversification within created kinds (baramins).

In keeping with the expectation of those who believe that God separately created distinct kinds of organisms, evidence of discontinuity among living things exists at many levels. For example, when one considers differences in such things as genetic codes, ribosomes, metabolisms, and tolerance of extreme conditions, bacteria can be divided into scores of distinct groups. Fundamental differences in the way other biological kingdoms (protists, algae, fungi, animals, and plants) reproduce and develop would likewise be difficult to derive from one another and thus suggest independent origin. Wise also considers it "likely that upon careful consideration, powerful evidence exists to suggest that each phylum . . . [had] a separate origin from the hundreds of known phyla of the earth."

God endowed separately created organisms with similar characteristics to indicate that they shared a common creator. However, these similarities can be reinterpreted as evidence of evolution by assuming they were the result of a common origin rather than a common creator.

One would expect members of separately created kinds that are similar in their adult forms to share similarities in development and chemistry. So it is not surprising

that phylogenies of genetically unrelated organisms that are based on the similarity of adult forms bear a general resemblance to phylogenies that are based on the similarity of development and various chemical structures. But since God also created organisms in a way to suggest that he created them, to suggest that different kinds are not genetically related, one might expect to find incongruities, differences in details, between phylogenies that are based on the these different traits. And that is what one finds. "[A] comparison of any two phylogenies will show differences in details that are difficult to explain in evolutionary theory, but that would be expected in young-age creation theory."

The young-age creation model would expect very few transitional forms in the fossil record, whereas evolutionary theory would expect multitudes. Wise writes:

> If most species living in the present are known as fossils, and if species have persisted for millions to tens of millions of years, it is reasonable to expect that a fairly large percentage of the millions of transitional species that have existed in the past would have been preserved in the fossil record. The rarity of transitional species in the fossil record seems to fit the expectations of young-age creationism better than it fits the expectation of evolutionary theory.

Indeed, there are no transitional species among the animals that are best represented in the fossil record -- the shallow marine invertebrates that account for roughly 95% of fossils. This is striking. In addition, entire organismal communities seem to appear suddenly in the fossil record. This is easier to explain under a young-age creation model than under conventional theory.

Wise explains the general similarity that exists between an organism's development (its ontogeny) and that organism's proposed evolutionary history (its phylogeny) by proposing that God designed ontogeny to efficiently derive the adult form from a single cell. Since evolutionary theory assumes that organisms evolve along an efficient path from a single cell to the organism in question (natural processes being most likely to take the easiest path), similarities between ontogeny and phylogeny are not surprising. On the other hand, God's love of diversity and his desire to be known might cause him to employ a variety of developmental details that would be unexpected if ontogeny was a product of evolutionary history. Such differences are in the fact well known.

The beauty of the biological world is difficult to explain in evolutionary theory. It usually takes energy for organisms to generate their beauty, and yet that beauty does not seem necessary for survival.

If mutations have been accumulating for as long as suggested by old-age models, that all organisms probably would have died out from catastrophic errors in their DNA. Since organisms do not seem to be going extinct because of high mutational loads, those loads are probably more in keeping with expectations of a young-age model.

One would expect the God of Scripture to employ the best design at every level, but since we do not know all the design constraints, we cannot be sure what constitutes the best design. The task is complicated by the changes that have occurred (in the Fall and the Flood) since the original creation. Given that generating optimal or near-optimal structures (to be available for natural selection) is a challenge for evolutionary theory, it seems imperfection would be more common than it is if evolution were true.

Under evolutionary theory, the classification of organisms should be relatively clear, showing few ambiguities. But ambiguities in biological classification are common. Incongruous traits (homoplasies) abound at both the morphological and genetic levels. Wise remarks, "Organismal similarity seems to be arranged in a complex multidimensional network such as might be expected in young-age creation theory -- and as indicative of the triune nature of God -- but not in the single, unambiguous pattern expected in evolutionary theory."

In the chapter on mankind, Wise explains that humans were created in the image of God and given dominion over creation. They began existence with the ability to speak, learn, and contribute to the culture.

Part 4 ("From the Garden to the Grave") addresses the time between the completion of creation and the Flood. In the chapter on the Edenian Epoch, Wise deduces from several texts that the upper limit of Adam and Eve's stay in the Garden of Eden was 70 to 100 years. He considers it likely that the world before the Flood had rain and climatic seasons.

The continental pieces at that time may have been a group of large islands, close together or possibly in contact, with extensive shallow seas between them and making up a large region of the tropical to temperate portion of one half of the southern hemisphere. The salinity of the oceans before the Flood is unknown, but Wise thinks they were probably salty. The prevalence of underground springs and their relationship to Edenic rivers are also uncertain and, given the destructiveness of the Flood, may always remain so. Wise believes the world's current earthquakes and volcanoes are probably residual effects of the Flood, so earthquakes and volcanoes may not have existed before the Fall.

The organisms during the Edenian Epoch were quite different from those on earth today. Though the baramins to which they belong existed from creation, the particular species with which we are familiar today probably did not. They are the result of changes that occurred in the baramins after the Flood. For example, Adam probably knew some kind of elephant, it is unlikely that he knew either the Indian or African elephant species.

In the Edenic world, plants served as food for both animals and humans. Death, disease, and suffering were not part of the world until the Fall. This does not mean that things like plants and cells in fruit did not die; those things are not "alive" as the Bible defines life. The death that entered the world at the Fall relates to animals and humans.

In the chapter on the Fall, Wise says the physical universe experienced a dramatic change as a result of mankind's sin. It was, for redemptive reasons, cursed so as to deteriorate. Wise does not believe this was accomplished by introduction of the Second Law of Thermodynamics, as that law is necessary for life to exist (e.g., it causes oxygen to pass into the blood from the air). Rather, he suspects it was accomplished by the suspension of some other law that counteracted negative effects of the Second Law.

Wise argues that the physical death that came as a result of mankind's sin was imposed on both animals and humans. This was part of the "bondage to decay" of Romans 8, as it applied to the biological creation. Since animals ate only plants before the Fall, they did not kill each other; and since young-age creation theory proposes there was no disease before the Fall, animals would not have died in that way either. Animal death serves as a reminder of the significance of mankind's sin.

After the Fall, genetic copying errors entered the world and began to accumulate in the DNA of organisms. Mutations transformed some organisms into parasites and pathological bacteria. The controls on the production of offspring that likely were part of the original creation may have been changed (i.e., overproduction introduced) to counter the threat death and disease posed to existence.

God intended the organisms he created to survive the post-Fall changes he knew were coming and thus endowed them with a great capacity to change and to pass those changes on to the next generation. This hereditary variation, combined with overproduction, resulted in what is known as "natural selection." In young-age creation theory, it is a means preserve the variety of organisms in the face of mechanisms that tend to destroy it.

It seems that thorns and tannins were given to protect plants from extinction threatened by overgrazing (that resulted from overproduction). Carnivory may have been introduced to limit the harmful effects of disease on a population.

It is not clear whether these changes were introduced immediately or over centuries after the Fall. Based on fossils in what Wise interprets as Flood sediments, carnivory and disease was widespread by the time of the Flood. Thus, the transformation occurred somewhere in the nearly 2,000 years between the Fall and the Flood.

In the chapter on the antediluvian world, Wise makes the intriguing suggestion that the pre-Flood world included a floating forest that was subcontinent-sized or even continent-sized. Somewhat similar to the "quaking bogs" of lakes in the upper midwestern United States, it was a complex, floating ecosystem, complete with bacteria, protists, algae, fungi, plants, and animals. The choppy seas of the Flood probably destroyed and buried the floating forest from the outside in. This hypothesis explains a number of features of the fossil record of the Primary (Paleozoic).

Dinosaurs were created on Day 6 and lived on earth at the same time as humans in the pre-Flood world. The fact dinosaurs tend to be found with animals and plants that are

absent or rare on earth today, suggests they lived at a separate location from humans. Wise suggests that one or more island continents housed the gymnosperm-dinosaur biome, while others housed the angiosperm-mammal-mankind biome. If the gymnosperm-dinosaur biome were located at a lower latitude or closer to the shore of the antediluvian world, it would explain why its members are consistently buried beneath members of the other biome.

The antediluvian world may also have had continent-ringing hydrothermal biomes. These wide zones of hot springs would have generated ideal living conditions for algae and bacteria to produce extensive stromatolite reefs. Perhaps the strange animals that got preserved in the lowermost Flood strata existed in warm lagoons between these reefs and the shore.

Wise thinks it probable that the decline in life spans following the Flood was related to genetic changes rather than to environmental changes. We do not yet understand how the genetic programming was altered, but it was probably done to curb potential evil.

Part 5 ("From Noah to the New Earth") addresses the world-changing catastrophe of the Flood in the days of Noah. Scripture is clear that the Flood was global. It came about through the breaking up in a single day of springs on the continents and in the oceans. It may have been at this time that the earth crust was broken into its present plates. The motion of these plates would be expected to produce certain effects, all of which are found in the geology of the earth's oceans. Wise states, "The evidence that continents have moved in the past and that plate tectonics is responsible for most of that motion seems strongly evidenced in the geologic record."

Over the last few years, a number of young-age creationists have developed a variation of the theory of plate tectonics called *catastrophic* plate tectonics. "It explains all the evidence answered by slow plate tectonics and more, producing directions and relative rates of motion that no other plate tectonics modeling has been successful in doing," and it does so within the temporal framework of Scripture.

A global flood seems better able to explain why Primary and Secondary (Paleozoic and Mesozoic) sediments "are often deposited in great thicknesses, with remarkably uniform compositions, spread over very large areas, and many times displaced hundreds of miles from their source area." It is also better able to explain why water currents evidenced in Primary and Secondary rocks flowed largely in one direction.

The fossil record favors Flood theory in that it is rare for organisms to be found in the order predicted by evolutionary theory, intermediates are rarely found between proposed ancestors and descendants, organisms usually show stasis through the fossil record, and organisms are markedly different from the very beginning of the record. The abundance of well-preserved fossils and fine sedimentary layers and the seemingly high percentage of species preservation in the fossil record are also more easily explained by Flood theory.

The tight folding of multiple sedimentary layers suggests they were laid down only months apart during the Flood rather than millions of years apart as indicated by radiometric dating (or they would already have turned to rock and been incapable of folding). The "missing" layers in the rock record are easier to explain by young-age creation theory, as are the number of earthquakes associated with mountain ranges like the Appalachians.

Wise recognizes that young-age creation geology has its own areas of weakness and that much research is needed to provide adequate reinterpretations of these issues. He nevertheless speculates briefly about possible answers to some of these challenges. He addresses fossil forests, coal beds and the trees associated with them, coral reefs, trace fossils, chalks and other microfossil accumulations, and the existence in Flood sediments of alleged desert dunes, tidal flats, mud cracks, soils, and caves.

There is evidence that the judgment of the Flood included a cosmic dimension. Flood sediments appear to have scores of craters created by meteors or asteroids, and there is some evidence that the moon was also bombarded at that time.

In the chapter on the post-Flood world, Wise says this may have been one of the most dynamic periods in all of earth history. In rebounding from the extreme jolt of the Flood, incredible amounts of energy were unleashed and the earth experienced several dramatic transformations.

There were massive earthquakes, and several types of volcanoes were created by changes generated by the Flood and its aftermath. This explains the huge volumes of volcanic ash in Secondary and Tertiary sediments and created ideal conditions for fossil burial and preservation. As expected by young-age creation theory, these volcanoes decreased in size and frequency through time. The earthquakes and volcanoes we experience today are largely residual effects of God's judgment of sin in the Flood.

The oceans that had been heated during the Flood generated huge amounts of precipitation, which caused accelerations in both erosion and sedimentation. The water could flow in sheets over the earth's surface thereby eroding sediments in some areas in a planar fashion. In other areas, it may slow enough to begin dropping its sediments. As the earth gradually dried in the centuries following the Flood (through less precipitation because of the ocean cooling), deposition and erosion would occur over smaller areas.

The high precipitation would produce lakes (many are evidenced in Tertiary sediments) and may have overfilled many of them. The result would be a quick cutting through the dams, rapid draining of the lakes, and spectacular canyons.

As the earth dried, there was a change in vegetation. Woodlands were caused to dwindle, being replaced by extensive grasslands. Eventually this drying created the current deserts, which explains why the Sahara Desert has evidence of rivers and forests beneath it.

When the oceans had cooled sufficiently, the precipitation at high altitudes and latitudes fell as snow. It fell so fast that it accumulated into huge ice sheets, which advanced over the course of a couple decades and then melted in another couple of decades. This Ice Advance model is better able to explain the data in a number of particulars.

God created organisms so they could adapt to the changing world conditions that he knew would follow the Flood. Toward that end, God may have created genetic elements with the ability to trigger favorable changes programmed into the genome. These beneficial genetic elements may have been designed to multiply and move around, both within and between organisms. Something like this would permit organisms to change quickly and dramatically in the centuries following the Flood. The sediments of the Tertiary and Quaternary may document some of these rapid changes (e.g., those within the horse, camel, rabbit, and elephant baramins).

Hip and leg bones that appear in some fetal sperm whales are vestigial structures suggesting that they might be descendants of whales that had limbs. The fact modern horses are sometimes born with multiple toes (a genetic throwback) suggests they might be descendants of horses that had multiple toes.

Since the genetic information needed to build complex structures that provide no advantage to the organism tends to get destroyed rapidly by mutation, the existence of vestigial structures and genetic throwbacks suggests that the transformations were made recently. If they occurred tens of million of years ago, as is conventionally believed, the information would likely be destroyed.

If the oceans of the post-Flood world were too choppy for the floating forest to redevelop, it would explain why all or nearly all of the plants and animals of that environment become extinct. If the hydrothermal zones of the pre-Flood world were gone, organisms that once flourished there may have been reduced to isolated places in the post-Flood world. The slower reproductive rate of gymnosperms may have led to their being crowded out by flowering plants, which could have made the dinosaurs prone to extinction.

It was God's will that the survivors of the Flood repopulate the earth, and the animals soon began spreading over the globe. This migration may have been facilitated by the existence of parallel climatic zones, a drop in sea level that opened land bridges, and the presence of plant rafts.

In the chapter on the Babel dispersion, Wise suggests that the event is pivotal in explaining the differences between the language and culture of people and the origins of the various races of mankind. He estimates that it occurred between the second half of the second century and the first half of the fourth century following the Flood.

Wise suggests that in the Babel event God divided not only the language of the people but their perspectives as well. This led to the rapid origin of the world's distinct cultures.

The breakdown in communication introduced at Babel caused the various families to spread across the earth in isolation from each other. Genetic drift within these populations caused unique combinations of essentially neutral traits (e.g., skin color) to develop. Once particular traits were fixed in a group, they may have influenced where that family chose to live.

After the Flood, food would have to be gathered where it could be found, tools would have to be fashioned from crude materials, and shelter would have to be secured in different ways and places. In the span of decades to centuries, these "primitive" societies would change into agricultural, copper-tool-based and then iron-tool-based, city-dwelling societies. This led to the foundation of Babel's civilization.

When the families were dispersed in the Babel event, each one would find itself in the same situation again. The process of cultural development (or recovery) would begin anew at each location, with considerable variation in rate. Cave paintings are rather sophisticated works "of a culturally capable people forced to survive in caves, forced for a time to eat what they could hunt and gather."

Because post-Flood humans initially congregated at Babel, in violation of the Lord's command, they arrived at locations around the world well after the animals that dispersed from the ark. That is why animal fossils, including ape fossils, are found below the first evidence of humans.

Fossils dubbed *Homo erectus* and archaic *Homo sapiens* are almost certainly humans who lived during the first couple of centuries after the dispersion at Babel. Their morphological differences from modern humans, which relate mainly to the skull, may be related to a slower rate of development (linked to their longer life spans) or to differences in diet and climate. Other fossils that have been interpreted as humans or as ancestors of humans are extinct apes that lived in the post-Flood world with humans.

The final chapter explains that this cursed creation will be redeemed when the Lord returns in judgment. It is an appeal for the reader to be prepared for that day.

Some will no doubt complain that the biblical and scientific issues are more complex than Wise indicates, but he is well aware of that. To delve into all the particulars on the topics he addresses would be to write a different book. Wise's hope is that when the "real volume -- the complete work" is written, as opposed to this "meager introduction," all of the issues will be explored in detail by a team of specialists. We all look forward to that.