Frequently Asked Questions
Commentary by Dr. Robert W. Clayton

On various subjects relating Religion and Geology

I’m presenting these things because I’m asked about them so often.

* The following views are mine only, and do not necessarily represent the views of the BYUI Geology Dept., BYUI administration or Board of Trustees, the Church, or even my wife—so don’t represent them as such!

A General Statement About Science

As one of thousands of faithful Latter-Day Saint scientists, I’m baffled when I hear of a Church member who is skeptical of science and scientists. When I hear or read their reasons, invariably I discover that they have been mislead somewhere along the line. Some things they believe about how science works or what motivates scientists are just plain false.

The “Scopes monkey trial” is in part to blame. It pitted an atheist lawyer against a fundamentalist Christian lawyer, neither of which represented the overwhelming majority of his “side” accurately. And yet somehow, some of the same false arguments are still being tossed about 80 years later, mostly by the creationism and intelligent design advocates. When I hear them, I cringe.

I have had the privilege of working along-side hundreds of scientists in my career before coming to BYU-Idaho. Of those, only one was an agnostic. The rest were Christian or otherwise religious, believing in God. Geologists are as religious as any other group in American society. It is a terrible insult to categorize either scientists or science as atheistic or anti-religious. If someone implies it, do not believe it! Such a statement only demonstrates utter ignorance on the part of the speaker.

Basis for Discussion

A discussion of these topics can only be productive when the following are observed:
1. Use only sources of official Church doctrine and positions. For these topics, the only official sources are First Presidency Statements. The BYU Library Packet on Evolution represents BYU’s official position as endorsed by the Board of Trustees (which includes the First Presidency) in 1992. [From time to time, the First Presidency of the church has issued declarations of the Church’s doctrines or positions on special topics. These are called “First Presidency Statements,” and are signed by each member of the 1st Pres. These do not include just any word uttered by a member of the 1st Presidency.]
2. Properly define evolution. Evolution is the change of life forms through time. That change is a fact observable in the rock record and modern biological studies; the theory is how changes occur. Evolution is not atheism, Darwinism, eugenics, the Scopes trial, etc. Evolution concludes nothing about God or man’s relationship to him.
3. Properly define “theory.” As used in science, a theory is an idea so well-established by data, testing, evidence, and experimentation that it is routinely regarded as true. It is still subject to modification by new information. A theory explains all the evidence, and is therefore as close to “true” as we can get.
4. **Understand the dividing line between Science and Religion.** Science addresses questions of “how.” Religion addresses questions of “why.” That’s why evolution can conclude nothing about God, and why the Church takes no position on purely scientific questions.

**How old is the earth?**

The Church has no official position on the age of the Earth.

The most recent relevant statement in General Conference was by Russell M. Nelson, who quoted Bruce R. McConkie to say that a “day” in the scriptural Creation accounts is “a division of eternity.” Simply put, the word “day” in the Creation accounts has no boundaries—it is of unspecified duration. This view specifically rejects a six thousand year Creation or a six-day Creation (a central tenet of “Creationism” and “Intelligent Design,” which the Church does not endorse).

Why argue for a young earth, anyway? It accomplishes nothing doctrinally. God is eternal, so why force His creations into a small window of time?

**The origin of Man.** The First Presidency statements are decidedly neutral on the role of evolution in the origin of Man (and they do not address evolution of plants and animals at all).

Sound science is truth. Revealed religion is truth. They should agree. “Our religion is not hostile to real science,” said Pres. Heber J. Grant (BYU Packet) specifically in relation to evolution. “That which is demonstrated, we accept with joy; but vain philosophy, human theory and mere speculations of men, we do not accept nor do we adopt anything contrary to divine revelation or to good common sense.” Evolution has been thoroughly demonstrated, much more so today than when that statement was issued over 70 years ago.

I find it significant that when we limit ourselves to the sources of official positions of the church (scripture, First Presidency statements), no conflict is apparent between science and our religion. It is only when we turn to opinions from other sources that conflicts, real or perceived, arise. I believe that revelation and scientific truths will always agree. It is my considered conclusion that evolution is compatible with all that has been revealed.

Where no revelation has been given, opinions are invariably diverse. No revelation has been given on the origin of Adam and Eve’s bodies, and so naturally on the topic of evolution there is no unanimity among the General Authorities past or present. Quoting their opinions would, therefore, be fruitless; quoting only one view would be dishonest.

The First Presidency statements make it clear that what makes us the children of God is not the origin of our bodies, but the origin of our spirits—man is of divine lineage, and Adam and Eve were the first of that lineage. Such lineage clearly refers to our spirits, not our bodies. Christ was the only begotten of the Father—the details of how Adam and Eve’s physical bodies were created really does not matter to whether we are God’s children. The 1909 Statement states the obvious that evolutionary ideas “are the theories of men,” but here where Pres. Smith had the opportunity to say what he thought, he stopped short of saying they are false. The “evolution” that concerned the First Presidency in their statements (especially 1909) is atheism that would seek to deny the divine lineage of mankind, the role of the Creator, the Fall, and the Atonement. But that brand of atheism is a religious belief extrapolated from science; it is not scientific itself. We must not confuse atheism with the science of evolution, which says or implies nothing about God or the spirits of mankind.

The scriptures say “God created man in his own image.” Evolution would not deny this. It would simply place man at the end of the long, divinely guided creative process that resulted in
Adam and Eve’s bodies in God’s image. This statement cannot be used to infer that evolution is incompatible with scripture.

The details of how Adam and Eve’s bodies were prepared or how they received them has never been revealed—“out of the dust of the ground” is all that has been given. My personal opinion—shared by thousands of faithful LDS scientists—is that evolution was a process used during the Creation.

**Isn’t evolution “just a theory?”** It is critical that Church members know that in science a “theory” is an idea that is so well-proven by data, experiment, and observation that knowledgeable experts routinely regard it as true while the theory is still subject to update by new information. Evolution is one of the best-proved scientific theories; therefore, out-of-hand rejection of evolution as “just a theory” is unwise, unsupported, and without merit. [Keep in mind, too, that evolution is much more well-established and understood today than when some popularly quoted anti-evolution statements were made 50-plus years ago.]

Evolution is fact; that is, something that is observed happening today and that is demonstrated undeniably in the rock record (life forms change through time). The “theory” part is about how changes took place.

Because science can only operate through observation, testing, experimentation, and detection, it literally cannot say anything about God, faith, or belief. To say otherwise would be to say that science can make conclusions about faith-based matters, which would be ridiculous. *The scientific theory of evolution concludes nothing about God.* This point has been misunderstood by many Church members, and yet is essential to the discussion of evolution and religion. It was misunderstanding of this point that made the Scopes trial the sensational farce that it was and continues to muddy the discussion of teaching evolution in schools today. Evolution only conflicts with certain literalist religious interpretations, none of which is the position of the Church.

**What about Death?** Fossil evidence is undeniable that plants and animals lived and died long before the time of Adam; therefore, an interpretation of scripture to the contrary would be a precarious and untenable position. Such an interpretation would not represent the official position of the Church, as it is not found in any of the official sources (see introduction to the Bible Dictionary in relation to the entry on “death”). See *Supplement* below for an example of differing interpretations.

Interpretations that nothing—including plants & animals—died before Adam seem to be based primarily on 2 Nephi 2:22:

22 And now, behold, if Adam had not transgressed he would not have fallen, but he would have remained in the garden of Eden. And all things which were created must have remained in the same state in which they were after they were created; and they must have remained forever, and had no end.

23 And they would have had no children; wherefore they would have remained in a state of innocence...

The meaning of this scripture must be carefully evaluated. “The state in which they were after they were created” (for plants and animals) is not defined anywhere in scripture. “And had no end” does not necessarily mean eternal life, just a continuation of state. It could mean the creations were mortal and would have continued mortal forever, with no hope of eternal continuance. The word “they” refers to Adam and Eve throughout the chapter, but the meaning...
of “they” is grammatically unclear in verse 22. Verse 23 picks right back up with “they” referring to Adam and Eve, suggesting that it is Adam and Eve in verse 22 who would have “remained forever and had no end.”

I would punctuate the verses this way:

22 And now, behold, if Adam had not transgressed he would not have fallen, but he would have remained in the garden of Eden, and all things which were created must have remained in the same state in which they were after they were created.
23 And they must have remained forever, and had no end, and they would have had no children; wherefore they would have remained in a state of innocence.

Other scriptures (like Moses 6:48) state that death came into the world by Adam. Given that the focus of the scriptures is on Mankind and not on the state of plants and animals, we can conclude that the scripture means Adam brought about the death of Mankind and not necessarily death of plants and animals. If scriptural truth is to agree with scientific truth (and vice-versa), we must interpret the scripture this way.

Death of plants and animals before Adam is a fact observable in the record of the rocks, and I conclude that it does not in any way reduce the importance of the Creation or the Fall nor lessen the need for or significance of the Atonement. It does not conflict with the Gospel in any way.

This scripture illustrates the careful, thoughtful approach we should take with science in relation to scripture. The evidence that plants and animals lived and died before Adam and Eve is overwhelming and undeniable. Why, then, would we force an interpretation on the scripture that contradicts all the evidence? To do so would rest our faith on a precarious perch, easily toppled.

What about “early Man”? Whatever we believe about the origin of Man, we must take the existence early Man into account because the paleontological and archeological evidence is abundant and undeniable. Some even farmed at Jericho long before the plausible time of Adam and the appearance of written language. It would be illogical to try to dismiss their existence. By a little thought, one can come up with various possibilities for the origin of Adam and Eve’s bodies, but nothing has been revealed, and the question is unanswerable. And so we should leave this one to science as Pres. Grant admonished.

What about creation from parts of other planets? This idea originated when Pres. John Taylor speculated out-loud, offering a “what-if” for extinct life like dinosaurs. It was in no way a statement of Church position or spoken as scripture. It was a simple “what-if?” that has been taken far afield to try to force-fit unfounded ideas.

Revelation says that matter is eternal, and science heartily agrees. But you still have to look at the facts. Dinosaur bones, for example, are often found in siltstones or sandstones bearing ripple-marks created by flowing water. Those same rock layers are intricately interlayered regionally with others laid down by water or wind, and some are traceable across the continent. The sources of the sediments can sometimes be located, still preserved. Stream channels, levees, and floodplains in the same rock layers all demonstrate that the sediments were deposited in-place. Earth was created from pre-existing elements, but not planetary chunks.

In conclusion, real science cannot and does not address God or spiritual matters, and Church members should look to the Prophets and Apostles for the answers to spiritual questions.
By the same reasoning, the First Presidency under Heber J. Grant declared to the General Authorities of the Church, “Leave geology, biology, archaeology, and anthropology, no one of which has to do with the salvation of the souls of mankind, to scientific research, while we magnify our calling in the realm of the Church...” (BYU Library Packet on Evolution) and members should look to science for the answers to scientific questions.
Supplement

Observation: The General Authorities of the Church, past and present, have different opinions about the role of evolution and other processes in the Creation.

Examples:
A) Elder Joseph Fielding Smith wrote there was no death of anything before Adam (Doctrines of Salvation*, 1:108, original emphasis):

“I do not care what the scientists say in regard to dinosaurs and other creatures upon the earth millions of years ago, that lived and died and fought and struggled for existence. When the earth was created and was declared good, peace was upon its face among all its creatures. Strife and wickedness were not found here, neither was there any corruption….

All life in the sea, the air, on the earth, was without death. Animals were not dying. Things were not changing as we find them changing in this mortal existence, for mortality had not come.”

B) Elder James E. Talmage (a Ph.D. Geologist) wrote there was death of plants and animals before Adam (“The Earth and Man*,” quoted in “I Have a Question,” Ensign, Sept. 1987, 27):

“Geologists say that these very simple forms of plant and animal bodies were succeeded by others more complicated; and in the indestructible record of the rocks they read the story of advancing life from the simple to the more complex….The whole series of chalk deposits and many of our deep-sea limestones contain the skeletal remains of animals. These lived and died, age after age, while the earth was not ready for human habitation.”

* Doctrines of Salvation was not published by the Church. The Earth and Man was published by the Church, and was republished in the Instructor magazine (predecessor to the Ensign) in 1965.

Conclusion: Because no revelation has been given on the topic of the origin of Adam and Eve’s bodies and evolution of plants and animals, the General Authorities of the Church have diverse opinions. Teachers in the Church should not pick and choose which of them to quote on the topic. To do so would be intellectually dishonest, misrepresent the positions of the Church, and cause students to be confused when they encounter conflicting opinions.

To instructors at BYU, the BYU Library Packet on Evolution states “…if one included statements by LDS apostles in a handout on evolution, the range of views would include some statements against evolution, some sympathetic to evolution and several shades of opinion in between. We want to avoid the implication that a greater sense of unanimity or resolution of this topic exists than is actually the case, and we are eager to avoid contention.”

In the Geology Dept. at BYU-Idaho, we take this counsel to heart. I plead with others who teach LDS students to do the same and not misrepresent the position of the Church and the university, and cause such confusion in our students. Instilling skepticism of science and scientists will only harm (even cripple) them as Church members, voters, consumers, and as contributing members of society.
**A couple of other common questions asked of LDS Geologists:**
(Again, these are my personal views only. None of this is important to our welfare or salvation.)

Q: Is there evidence of Noah’s flood?
A: No. I subscribe to Hugh Nibley’s view that the Flood was a regional event, probably in the Mississippi River valley, where regional-scale floods do occur. Everyone and everything Noah knew of was flooded, and so what he wrote was true: “the whole world was flooded.” This does not mean 30,000 feet of water covered the earth (this is impossible since Earth does not contain that much water). Neither did the ark contain absolutely every animal on earth (quite impossible—consider the Koala), but all he knew of in the region in which he lived. I like this interpretation because the scripture is true and so is the scientific basis—truth agrees with truth.

Lesson learned: don’t try to stretch the scriptures farther than their writers intended.

Q: Did the continents divide in the time of Peleg? (Genesis chapter 10)
A: No. The physical evidence is clear that the continents divided while dinosaurs roamed the earth (their remains are found on matching sides of the Atlantic, for example, and in identical rock layers). I don’t think any rational being would say there were dinosaurs in Old Testament times (and remember, Peleg was **after** Noah). Genesis chapter 10 is about the descendants of Noah becoming politicized and dividing up the lands according to their tribes. There are three phrases equivalent to “the lands were divided” in the chapter beginning, middle, and end. Read it for yourself—it’s clearly about politics, not geology.

It is interesting to note that ancient historian Josephus clarifies for us: “Heber begat Joetan and Phaleg [Peleg]: he was called Phaleg, because he was born at the dispersion of the nations to their several countries; for Phaleg among the Hebrews signifies division.”

Q: Will the continents be moved back together in the Latter Days? (D&C section 133:24)

24 And the land of Jerusalem and the land of Zion shall be turned back into their own place, and the earth shall be like as it was in the days before it was divided.

A: Overwhelming evidence says No. Because Genesis chapter 10 is about political division by Noah’s descendants, D&C 133 must be about the opposite—political unification under the Savior’s reign. The phrase “turned back into their own place” means something like “returned to the state they ought to be in.” It all comes together in the next verse:

25 And the Lord, even the Savior, shall stand in the midst of his people, and shall reign over all flesh.

Another important point: the chapter heading of D&C 133 is not part of the scripture—it contains an interpretation by the heading’s author. The word “continents” used there or a synonym does not appear in the section. Read it for political-social-religious unification, and the chapter makes perfect sense.

Q: Is the earth hollow?
A: No. Seismic waves allow us to obtain an “ultrasound” of the earth every time there is a large quake (almost daily). We can “see” all the layers in side the earth—crust, mantle, outer core, inner core. The earth is not hollow at all, anywhere. There is also no basis in revelation for this crazy notion.