How do Scripture and the Spirit of Prophecy address some of the puzzling questions that inquiring minds ask about Eden and the new earth?

In the original earth as it was created and in the new earth, was there and will there be no decay and no death of animals or plants? Do all living things live forever in a perfect world? To attempt to answer this question may seem arrogant or presumptuous. In fact it would be, since we haven’t been there and have been given very little information on the subject.

Instead, this will not attempt to answer the question so much as to clarify the issues so there will be less likelihood of settling for superficial answers. A survey of biblical and Ellen G. White accounts of the original creation and the re-created new earth, as commonly understood, helps to evaluate whether common ideas about paradise are actually supported by these sources.

Some of these accounts may not be meant to be taken as literally as they are often interpreted. For example, Isaiah 11:6-9 was actually part of a prophecy of the fall and restoration of Israel and uses a lot of figurative language. However, utilizing the most conservative reading of these texts, even if they were not meant that conservatively, will strengthen, rather than weaken, this evaluation.

One danger to avoid is the acceptance of a new idea or approach just because it is new and tantalizing. The other danger just as necessary to avoid is the persistent, unquestioning acceptance of an old idea just because it has been around so long.

In another article,1 I suggested that the best way for Scripture and science to interact is for science to challenge us to consider new ideas and then let Scripture be the standard to help us evaluate those ideas. This article will offer scientific information suggesting a variety of options that can be compared with what God has said about the original creation and the new earth. It could be argued that equal weight should be given to science and revelation and be willing to recognize that science can show us that revelation is wrong.

The more experience I have in science and the more Jesus becomes real to me, however, the more naive that approach appears. For instance, our experience with death has been limited to one ecological system that involves death for every creature. Our ability to analyze the issues scientifically is limited to that one ecological system. We can suggest some of the implications of a different system, but we have no ability to determine whether or not God could make such a system work.

The more I have in science and the more Jesus becomes real to me, however, the more naive that approach appears. For instance, our experience with death has been limited to one ecological system that involves death for every creature. Our ability to analyze the issues scientifically is limited to that one ecological system. We can suggest some of the implications of a different system, but we have no ability to determine whether or not God could make such a system work.

The Revealed Information About Paradise

The following quotations are often cited by Adventists who comment on this question:

“[T]he fair earth, as it came from the Creator’s hand, bore no blight of decay or shadow of the curse.”

“As they witnessed in drooping flower and falling leaf the first signs of decay, Adam and his companion mourned more deeply than men now mourn over their dead. The death of the frail, delicate flowers...
was indeed a cause of sorrow; but when the goodly trees cast off their leaves, the scene brought vividly to mind the stern fact that death is the portion of every living thing."

"I saw another field full of all kinds of flowers [on the new earth], and as I plucked them, I cried out, 'They will never fade.' Next I saw a field of tall grass, most glorious to behold; it was living green and had a reflection of silver and gold, as it waved proudly to the glory of King Jesus. Then we entered a field full of all kinds of beasts—the lion, the lamb, the leopard, and the wolf, all together in perfect union. We passed through the midst of them, and they followed on peaceably after."

"The wolf will live with the lamb, the leopard will lie down with the goat, the calf and the lion and the yearling together; and a little child will lead them. The cow will feed with the bear, their young will lie down together, and the lion will eat straw like the ox. The infant will play near the hole of the cobra, and the calf and the lion and the viper's nest. They will neither harm nor destroy another animal for food."

"He will wipe every tear from their eyes. There will be no more death or mourning or crying or pain, for the old order of things has passed away" (Rev. 21:4, NIV).

"Pain cannot exist in the atmosphere of heaven. There will be no more tears, no funeral trains, no badges of mourning."

Several specific conditions in paradise are described above: (1) Several mammals are listed that will not hurt one another or us. (2) Poisonous snakes will not harm us. (3) Lions will eat vegetable matter. (4) Animals will not destroy one another for food. (5) Serpents will eat dust. (6) There will be no pain or tears. (7) Flowers will not fade. (8) There will be no decay.

These observations are sometimes interpreted to mean that no creatures or plants will ever die in the new earth, and that there will not even be any decay of vegetable matter. Is this conclusion the only one consistent with the brief prophetic comments?

Three possible implications of this issue will be addressed in this article: (1) Will there be a decay process that recycles nutrients? (2) Will no animals at all be eaten, or might this apply only to higher animals? (3) Will mammals and other animals not only be free from predation, but also live forever?

If the new earth will be a re-creation of the original earth and its biological realm as it was before sin, then it is fair to compare our biological world with the biblical statements about the new earth and evaluate the implications of the changes that may have occurred as the result of sin. It is also assumed that God did not completely overhaul the nature of life after sin.

Decay

What became of apple cores in the Garden of Eden? It does not seem reasonable to suggest that they accumulated and lasted forever. Do the statements indicating no decay in Eden refer to the decay involved in recycling nutrients, or is that trying to make them mean much more than was intended? In Patriarchs and Prophets the first signs of decay are given as falling leaf and drooping flower, indicating changes in the plant world, and these were the beginning of the spread of death to things that did not previously die.
The falling leaves reminded Adam and Eve that they too would die. Does the use of the term decay in these references and others like them refer to the bacterial breakdown and recycling of organic refuse (apple cores, fallen twigs, dung), or is this more likely a general reference to the intrusion of death and suffering into the creation? Perhaps we tend to read our specific, technical definitions into words that were used with a more general meaning.

If we interpret the statements discussing decay as referring to the specific process of bacterial recycling, this has a number of implications that should not be ignored. The original diet of human beings included fruit and grain. All fruit begins with flowers, and the flower petals die and fall off to make room for the fruit. Then, after the fruit is eaten, there is usually some waste part of the fruit that is not edible. An analogous process is involved in the growth and eating of grain.

If “flowers never fading” means that each individual flower will last forever, then there could never be any fruit or grain. If flower petals do fall, they will need to be recycled, or they will accumulate indefinitely. There likely would be other organic waste matter as well. Will nobody ever accidentally break a twig from a tree? Or will there be twigs that need to be recycled? Today, trees lose small twigs and lower branches as the tree grows. All trees also make new leaves to replace old ones. Deciduous trees do this each year, but conifers are continuously replacing needles with new ones. Did this begin only after sin, or did trees always have a renewal process as conifers have? The same process occurs with animal hair (including human hair). Did animal hair never wear out in Eden, or were animals made to renew their fur coats periodically? What became of the old hair? Did every cell in the human body live forever, or were there continual renewal processes, as is presently true, with replacement of old cells and phagocytes that remove damaged cells?

Dung beetles have a life cycle centered on the recycling of dung. They form balls of dung that they bury in the ground, and then they lay their eggs in them. There are countless types of insects that live by recycling dung, dead wood, dead organisms, or other types of organic waste. Either they were designed for that function, or those adaptations have developed (evolved) since sin.

**The Limits to Predation**

The biblical statements indicating that mammals will not eat one another are certainly consistent with an absence of pain and suffering. Mammals and birds give indication of fear, pain, and suffering associated with predation. Also, those mammals and birds that have long-lasting pair bonds sometimes show evidence of a sense of loss after a mate or a parent dies. Does this mean that no animals ever will eat one another? What about bats and anteaters, which have very specialized adaptations for catching and eating insects? Will they still eat insects? Did they eat insects in the Garden of Eden; or were they originally quite different, and have their insect-eating adaptations developed (evolved) since sin?

One way to examine this question is to consider the highest level of life that can be eaten by other organisms without results that are evil in a moral sense: without causing pain and suffering.

What is it about death by being eaten that is evil? Since eating fruit was a part of God’s original plan for...
us, it must be all right to eat some types of living tissue. The question is, What feature defines the limit of what can be eaten without introducing evil into nature? Animals move and plants generally do not: Is the ability to move the dividing line? Probably not, since some plants have at least some parts that move, and it seems as if it would take more than movement to define the limit of what can be eaten. If a bat eats an insect, is that a morally evil action, or were insects designed to fill a role in nature equivalent to mobile plants? Insects and other invertebrates will instinctively try to escape from predators, but this does not mean they understand death, or that they suffer when caught, as higher animals do. Invertebrates certainly do not have any sense of what death is, nor is it likely that they feel any loss at the death of another insect. Death of any kind now reminds us of our own mortality, but when humans have immortality in the new earth, perhaps we will look at things more objectively and recognize that the death of insects has no moral significance and causes no suffering to the insect.

In contrast to insects, the death of mammals has much more significance. Since baby mammals are very dependent on their parents for a time, the death of a mother results in the slow and painful death of her young. Some mammals have very strong bonds between mother and young and between mates, and when a mate or parent dies, at least some mammals act as if they perceive something of the meaning of death. The pain and suffering caused by predation of mammals by other animals is certainly difficult to reconcile with a perfect creation, and all of the examples mentioned in the Scripture texts quoted above are mammals. Perhaps mammals were created with behavioral controls that prevented them from attacking one another, and these controls broke down as the result of sin.

If insects were subject to predation in Eden, where, between insects and mammals, was the limit of predation? The specific animals that are listed in the revealed descriptions of paradise are mammals, except for the statement that “one animal was not to destroy another animal for food.” In this statement was the word animal used in the precise zoological sense of animals as compared to plants? Or was the common layman’s use of the word animal to mean “mammal” closer to what she had in mind?

Some birds also have strong pair bonds, and according to Konrad Lorenz, some even react to the death of a mate in much the same way as a human would. Reptiles, amphibians, and fish are much more instinctive in their behavior, so perhaps their death does not have the moral sig-

An important question that still remains is: How much change is required to develop, from the created animals, the vertebrate predators that exist now? It is often assumed that this requires a lot of anatomical changes, but that is not necessarily true for many vertebrates. Possibly the change to a predatory lifestyle involved largely behavioral changes, with limited anatomical change.
The issue of the limits of death in paradise needs to be considered in its own right, aside from the question of predation. Some individuals believe that on the new earth, if we are about to accidentally step on an ant, an angel will be sure to move the ant aside. Surely angels are capable of being that alert, but is that really the way it will be?

The herbivore digestive tracts would have to have developed since the beginning of sin. Closer inspection doesn’t seem to support this conclusion. Mammals can be grouped roughly into four categories, based on what they eat:

a. Grass leaves
b. Fruit, roots, fungi, seeds, invertebrates, occasional meat
c. Carrion
d. Mostly live animals

The big difference in digestive tracts is between group a and b, not between b and c, or between c and d. The herbivores in group a (cow family, deer family, horses and their relatives, rabbits and hares, one rodent subfamily, etc.) have specialized features for dealing with the indigestible plant cell walls in grass and leaves. These features include longer intestines, and generally some type of fermentation system in which bacteria and protozoa break down the plant material into substances that mammals can use as an energy source. Some also chew the cud—chew and swallow the products from the fermentation chamber—including the cow family, deer family, and rabbits and hares. Perhaps the animals in groups b to d were originally all vegetarian (but not grass-eaters), and those that were anatomically capable of changing to meat eating made the change. The shearing and stabbing teeth of carnivores have perhaps been accentuated by natural selection, but their original function was the dismantling of fruit, etc. Some mammals that eat very little meat have large and powerful canine teeth. Also pet African lions and other carnivores have been raised on vegetarian diets and remained healthy—carnivores don’t necessarily need meat.

3. This option is like the last one, but includes some lower vertebrates on the menu. Perhaps cold-blooded vertebrates could be eaten by other animals in Eden—at least those types that do not exhibit any parental care or other bonding-like behaviors. And perhaps the carrion feeders like vultures have always been the garbage clean-up crew.

Death

The issue of the limits of death in paradise needs to be considered in its own right, aside from the question of predation. Some individuals believe that on the new earth, if we are about to accidentally step on an ant, an angel will be sure to move the ant aside. Surely angels are capable of being that alert, but is that really the way it will be? The discussion under the subject of predation is also pertinent here, in the sense that death has a different significance for invertebrates than it has for thinking, loving mammals. But other issues are involved as well. What does the tree of life mean for humans? We will need to eat of the tree of life in order to live forever. Patriarchs and Prophets says, “In order to possess an endless existence, man must continue to partake of the tree of life. Deprived of this, his vitality would gradually diminish until life should become extinct.” Is the tree of life just symbolic, or does it have some real function?

My favorite hypothesis is that the fruit of the tree of life contains a set of as-yet-unknown vitamins that activate a renewal or replacement mechanism in the cells of our bodies that prevents aging.

What about mice, lizards, and blue jays—do they live forever without eating from the tree of life? Perhaps the mice and other small animals gather from around the world periodically to eat from the tree of life, but that doesn’t seem highly probable. Was there an alternate source of the “tree of life vitamins” for non-human animals? Otherwise it would seem quite inconsistent that humans would have to eat from the tree of life, but other animals would live forever without doing so. On the other hand, another possibility is that humanity’s relationship to the tree of life is different from that of other animals, for the same reason that humanity has to use intelligence to accomplish many things that other animals do instinctively. If that is true, then perhaps humans need the tree of life, but other (non-rational, non-spiritual) animals live forever without the tree of life.

There are other implications, as well, if animals were originally intended to live forever. If that were true, then either the universe would have to expand forever, exponentially, so the excess animals could be moved to new homes, or else reproduction would have to stop when the earth was adequately supplied with animals. Of course this problem exists for humans no matter how other animal populations were controlled. If humans had not sinned, at some point human reproduction would have to have stopped unless the universe is forever

---

24

---

25
There was literally no decay, Some lower vertebrates, in insects and other invertebrates there was generally no decay, only plants could be eaten; no human animals were ever eaten, including invertebrates. Insect-eating plants and animals that are specialized for eating invertebrates, like anteaters and bats, spiders, and filter feeders, have developed those adaptations since sin.

Not only was there no predation, but no animals ever died. No insects will ever get accidentally stepped on, and even mice live forever.

2. Humans and other vertebrate animals (at least the higher, warm-blooded vertebrates) live forever. Plants and invertebrates all have a genetically determined life span (as is currently true), after which they die and are replaced by new offspring.

3. Humans (in addition to heavenly beings) live forever, and they do so because they eat from the tree of life. Higher vertebrates (perhaps all vertebrates) are not subject to predation, but all plants and most non-human animals have a genetically defined life span (as is currently true) and then quietly die and are recycled. Some mammals—and perhaps all—do not die. Carefully designed behavioral mechanisms limit predation to animals that do not suffer because of being killed, and death is limited to animals that do not understand the meaning of life and death. Synchrony in length of life within any given species reduces or eliminates the emotional pain of an animal losing a mate. Population control mechanisms are highly efficient and prevent overpopulation.

4. As in number 3, but all non-human animals are subject to death. They live out their genetically programmed lifecycle, then quietly die and are recycled.

Weighing the Possibilities

What do Scripture and the Spirit of Prophecy tell us about these options, at least if we accept the more conservative interpretations?

1. The following hypotheses, favored by many Christians, are consistent with a literal reading of what has been revealed, but may not be required by the prophetic writings unless we read something between the lines that is not truly there or insist on a literal meaning that may have never been intended by the authors. There seems to be no biblical reason to accept these hypotheses. The term decay can readily be understood as meaning the gradual degenerative effects of sin, not bacterial recycling. Ellen White’s exclamation upon being shown flowers in the new earth that “[They will never fade”” doesn’t sound like a theological revelation, but rather more like a spontaneous reaction to the beauty before her.

- There was literally no decay, and thus there were no animal wastes, no organism ever died, and each flower, plant, leaf, twig, and mosquito lived forever.
- Only plants could be eaten; no animals were ever eaten, including invertebrates. Insect-eating plants and animals that are specialized for eating invertebrates, like anteaters and bats, spiders, and filter feeders, have developed those adaptations since sin.
- Not only was there no predation, but no animals ever died. No insects will ever get accidentally stepped on, and even mice live forever.

2. The following hypotheses are not clearly refuted by even the most conservative, literal reading of the prophetic writings. We can only judge them according to our subjective concepts of what is morally evil about death and/or predation at various levels of life.

- There was generally no decay, but there were biological mechanisms to care for the occasional fallen twig or leaf or flower.
- The flower-to-fruit cycle, the replacement of leaves and hair, the production of animal wastes, the continual replacement of old or damaged cells in organisms (including scavenging of these cells by other cells designed to do so), and the recycling of these were normal processes in Eden. After sin began to affect the Earth, there was a gradual loss of strength, soundness, health, or beauty; trees began to lose more leaves than the normal replacement, and perhaps flowers began to wilt and look ugly before falling off to make way for fruit. Or, perhaps, the statements about fading flowers means that there will always be beautiful flowers, not that each individual flower will last forever.

- Insects and other invertebrates were part of the food chain, along with plants. No vertebrate animals were ever eaten by other animals. Behavior patterns that maintained this limit of predation began to break down after sin, along with human predation on animals.

- Some lower vertebrates, in addition to the invertebrates, were eaten by other animals—at least those that do not exhibit any parental care or other bonding-like behaviors. And, perhaps, the carrion feeders like vultures have always been the garbage clean-up crew.

- Humans and other vertebrate
The Book of Revelation comprises some of the most important—yet difficult—reading in the Bible.

Ten keys should aid the interpreter of Revelation in coming to terms with its unique nature: (1) the genre of the book; (2) the purpose of the book; (3) the structure of the book; (4) the roots of Revelation in Old Testament theology and prophecy; (5) the essential unity of the book; (6) the ethical dualism of the book, especially in the Great Controversy theme; (7) the important theological themes; (8) the book’s sanctuary emphasis; (9) the distinctions between the symbolic and the literal, with particular attention to numerology; and (10) the message of Christ, as opposed to a schematization of history.

*Edwin Reynolds is Professor of New Testament at Southern Adventist University, Collegedale, Tennessee, and Editor of the Journal of the Adventist Theological Society.