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Theological and Scientific Arguments for the Occurrence of Death Before Human Sin

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When teaching about evolution, creation and origins, I use an approach in which various models of integrating science and faith are defined and contrasted. Students do not (nor do I) view the models with neutral feelings. Nevertheless, I explain as objectively as possible the unique beliefs, the underlying assumptions and the belief outcomes of each model. In one sense all models reduce to two -- those that posit a recent creation in the order of 10,000 years or less and any model involving an old earth. Recent creationists claim that physical death and suffering is the result of human sin, therefore evolution could not have occurred and the earth must be very young. In contrast, progressive creationists and theistic evolutionists, while disagreeing on the extent and efficacy of evolution in accomplishing God's objectives, do agree that the earth is very old and that there was death as evidenced by fossils during the entire history of life on earth - before man and hence before sin. Among evangelical Christians, the debate seems unending. For most of the pertinent issues, students have access to many good sources representing various viewpoints and, through discussion and reflection, may begin to make informed decisions. No single source, however, written from an old-earth perspective, responds adequately to common recent creationist theological arguments denying death and suffering prior to human sin. If no theological defense can be made for the occurrence of death, injury, disease, and suffering before human sin, then no old earth position is tenable. Six recent creationist claims concerning death, suffering, and disease will be critiqued in this paper with the goal of arguing that old-earth models such as progressive creation or theistic evolution are not only scientifically and theologically supportable, but indeed preferable to the recent creation model.

Old-earth creationists face a difficult challenge. It is often not enough to simply say that the weight of scientific evidence is on their side. As Johnson notes: "Most evangelicals have steered clear of interpreting the Genesis narratives other than as straightforward historical accounts. Underlying this hesitation is a deep-seated fear that once we have departed from tradition in this way, we will find ourselves on a 'slippery slope' that will lead ultimately to the denial of key doctrines such as the resurrection and the collapse of biblical Christianity" (1988, p. 134). This fear results in many Christians developing a schizophrenic attitude toward science. While deeply suspicious of scientific theories concerning origins, they are at the same time fully supportive of and enjoy the benefits of other scientific theories. But "It is dishonest to check oneself into a hospital expecting that modern science will be able to cure you -- and then to march out and demand that modern science be removed from high school textbooks" (Giberson, 1993, p. 220). The same thought processes underlie all scientific theories. A further goal of this paper, then, is to show that Christians need not fear scientific theories. In fact, Christian students should be called to careers as geologists, paleontologists, astronomers, and evolutionary biologists.

Claim 1: Death did not occur before human sin

This is the foundational claim of the recent creationist position. For example, Ham suggests asking church leaders "if they believe that physical death and bloodshed of man and animals only existed in the world as a result of Adam's sin, and not before sin..." (1989, p. b). Similarly, Morris states "There was no death in the world until sin was in the world..." (1997, p.

c). Accordingly, the entire fossil record of dead organisms was formed as a result of Noah's flood, God's judgement on sin. Fossils, therefore, represent post-sin deaths. Adaptations for carnivory are seen as post-fall developments with teeth and claws either being originally benign adaptations for tearing tree bark, etc. or else representing a physical change in the organism as a result of the curse. Morris explains: "I suspect that in His infinite wisdom, God completely changed creation, with all things dying and some animals quite vicious, from then on giving eloquent testimony to the awful consequences of sin. From then on, whenever Adam saw one of the animals kill another, he would have experienced remorse for what he had brought on creation" (1997, p. d).

Analysis

My basic premise throughout the paper, paraphrasing Galileo, is that the creation and the scriptures are the two books of God and as God is the author of both they cannot ultimately disagree (Hummel, 1986, p. 95). Carefully obtained information from the study of creation can help interpret scripture, a principle rejected by recent creationists. This principle is not new, however. It was held by the influential 4th century bishop, Augustine (Augustine, pp. 42-43).

The fossil record reveals a three and a half billion year history of death and life before there were ever humans to sin. The rationale and legitimacy of accepting an old age for the earth with its progression of life over time is convincingly argued by Christian geologists and astronomers (Young, 1982; Wonderly, 1977; Ross, 1994, Johnson 1988). Likewise, the impossibility of attributing the fossil record to a worldwide flood has been documented by Christian geologists since the 1800's (Hitchcock, 1861; Young, 1977). Rather than defending the standard interpretation of the geologic record, my goal is to add another layer of meaning to it by reviewing evidence that the pre-sin biological world functioned just like the post-sin (our) world in terms of disease, injury, predation, and parasites.

Paleopathology is the study of the diseased state as seen in fossils, mostly fossil bones. Fossil bones and teeth retain much of the original mineral matter with little change in structure or chemical composition (Simpson, 1983, pp. 18-21). Preserved too are many organic molecules and histological details (Rothschild and Martin, 1993, pp. 33-37). Fossils can be examined not only visually but also using Cat-scans, electron microscopes, Magnetic Resonance Imaging (MRI), mass spectrometers, and even DNA techniques such as PCR. Analysis reveals a variety of skeletal features of pathological origin including fractures (many which have healed indicating pathology as opposed to a change in the bone occurring after death), arthritis, gout, exostoses (bone growth abnormalities), dental pathology, infectious bone disease, vertebral fusion, and avascular necrosis (Rothschild, 1997). Fossils also reveal that the eating of one animal by another has an ancient origin. Fossils of fish and giant marine lizards called mosasaurs (Rothschild, 1993, pp.300-303), and of dinosaurs (Chin, 1997, p. 377) are known with skeletons inside their mouths, or inside them, of organisms they have eaten. In addition, wounds occur in fossilized bones that exactly match the shape of teeth of contemporary carnivores and in some cases broken off teeth are embedded in the bones of the supposed prey or competitor (Rothschild, 1993, p. 299; Chin 1977, pp. 374-376). It is difficult to always distinguish between carnivory

and scavenging. In some cases, though, partially healed bite wounds on bones indicate the bitten organism survived the wound. This is the case with sauropod bones with healed bite marks from large theropods (Currie, 1997, p. 227). Another example is a mosasaur with diseased caudal vertebrae with abscesses (in one of which was found a shark's tooth of a known contemporary shark genus) and a pattern of bite marks reflective of the shark's mouth (Rothschild, 1993, pp. 300-303). This same story in creation is revealed over and over at whatever size scale or time frame examined. Amber, for example, reveals an ancient world filled with small pathogenic, parasitic, and predatory organisms including mosquitoes, ticks, preying mantids, mites, fleas, and fungi (Poinar, 1992). Recent fossils consistently show evidence of injury and predation (Mestel, 1993).

These and other fossil evidences indicate a continuity of organismal relationships (i.e. predation, parasitism) and susceptibility to injury throughout the history of life. Recent creationists teach that before sin the planet's entire biosphere was an idyllic paradise free of death, suffering, carnivory, and disease. Comparing these views it is difficult to imagine the magnitude of the biological changes supposedly brought into existence by the sin of Adam and Eve. Sharks are exquisitely designed carnivores - what else could they have ever been? And carnivores are not such just because they have sharp teeth. There are a whole host of other anatomical and neurological requirements for stalking, capturing, eating, and digesting prey. Where did these changes come from? Animal defenses (antlers, great speed, coloration, herding, etc.) against predators are obvious. Are they post-sin developments? What about the host of subtle, complex and intricate biochemically-oriented interactions occurring between living organisms involved in predation, herbivory, competition, and parasitism (Agosta, 1996)? Would God suddenly convert two thirds of the world's species into parasites (Ackerman, 1997)? Did the incredibly complex vertebrate immune system come into being only after sin? Why would it be necessary in an idyllic paradise? What about the blood-clotting mechanism - a system so intricate that Behe (1996) presents it as one of the "irreducibly complex" systems giving evidence for a designed world. Were animals somehow protected from life threatening cuts before sin? Would a blood-clotting mechanism be needed before sin? Did God cause an increase in reproductive rates after sin to compensate for the increased mortality that He brought in after sin?

All of this only touches on the magnitude of the changes recent creationists envision as a result of sin. There would exist essentially a new creation - one brought into being almost immediately after the rapid production of the first perfect creation! Many theologians see little scriptural justification for this. Speaking of the extent of change in the physical world following sin, Blocher says "The Psalms which sing of God's creation as we now see it and the texts in the book of Job which celebrate its awesome beauty stand as a warning against the temptation to exaggerate the difference for nature in itself. Genesis 3:17f. considers the earth in so far as it responds to man within that relationship. It is permissible to think that the disruption affects that relationship before anything else..." (1984, p.183). The "curse on the ground" can be understood as a statement regarding the nature of agricultural toil and the broken relationship between humans and creation rather than a fundamental change in creation.

God brings life and death to the creation. He provides prey for the lions (Psalm 104:21; Job 38:39) and other animals (Psalm 104:27) not with a sense of misgiving but in a context of praise for the creation and the glory of God. Leviathan is a terrifying creature with its ring of fearsome teeth (Job 41:14), yet it is the work of God. In Psalm 29 the voice of the Lord is experienced in a tremendous thunderstorm with flashes of lightning, the breaking in pieces of cedars of Lebanon and oaks and the stripping bare of the forest. The Psalmist responds by saying "in his temple all cry, 'Glory!'" How many organisms died during God's storm? Romans 1:20 tells us that "since the creation of the world God's invisible qualities -- his eternal power and divine nature -- have been clearly seen, being understood from what has been made, so that men are without excuse." The creation points us to God. Where does the Bible state that as we look at creation we are to see "the awful consequences of sin" and "experience remorse"?

Genesis 1:29-30 together with Gen 9:3 is often cited by recent creationists as proof that God intended humans and all animals to eat *only* plants in a world without sin. Others see in this passage divine concern for the physical needs of human beings, the pinnacle of God's creation, and of animals. Sarna, for example, compares this passage to Near Eastern mythology where people are "almost incidental, fashioned as a kind of afterthought as a menial of the gods to provide them with nourishment and generally to satisfy their physical needs." (1983, p.166) Blocher, in reference to Genesis 9:3, concludes that "animal death, which is not an evil in itself" by anthropomorphic projection, "suggests the introduction of severe violence, etc. In its stylized representation of the original state, Gn.1 omits that feature in order to suggest the perfection of harmony; Gn. 9, on the contrary, adds it in order to convey the feeling that the peace has been broken" (1984, p. 209).

Recent creationists claim that the subjection and groaning of creation described in Romans 8 describes the physical changes (thorns, pain, death) that came about in creation as a result of Adam's sin. (Stambaugh, 1996; Ham, 1991). As Ross explains, though, the Romans 8 passage, while telling us when the bondage to decay will end, does not tell us when it began or what the nature of the bondage is. (1994, p. 66). Ross understands the "groaning" and "decay" to be the environmental degradation that results from the disruption of our relationship to God and to creation. The bible does link physical degradation of the land to moral decay (Isaiah 24:5, Hosea 4:1,3). As Blocher says, "If man obeyed God, he would be the means of blessing to the earth; but in his insatiable greed, in his scorn for the balances built into the created order and in his shortsighted selfishness he pollutes and destroys it. He turns a garden into a desert (cf. Revelation 11:18). That is the main thrust of the curse of Genesis 3" (1984, p.184). Pollution, greed, and ecological destruction are not new to modern mankind. Archeological evidence indicates that ancient civilizations were more than capable of destroying the ecological base on which they depended (Diamond, 1988; Perlin, 1989).

Finally, what about human death and suffering? Regardless of the fate of animals, many Christians believe that Adam and Eve were created to enjoy physical immortality in a physical paradise. But there is no physical evidence that this sort of world ever existed. "One of our most appealing and persistent myths is that of the Golden Age, a time before the discovery of good and

evil, when death and disease were unknown" (Magner, 1992, p.1). Sigerist, reviewing human paleopathological evidence concludes that "not only did man at all times for tens of thousands of years suffer from many kinds of ailments, but animals, millions of years before the advent of man, were also plagued with disease" (1951, p. 65). All available evidence indicates that humans have always experienced the kind of world we see around us now, a world which includes death, sickness, parasites, predation, storms, earthquakes, and the possibility of accidents. Bear in mind the human body is made of the same material as other mortal animals. We are subject to the same kinds of injuries and deaths that animals have suffered for millions of years. Would God protect all humans from being severely cut and bleeding to death, or falling from a height and being killed or paralyzed, or drowning, or choking to death, or being crushed by a falling tree or rock? Would humans, unlike any other organism, develop in physical perfection, reach young adulthood, and stop aging? Could no microbe or parasite do them harm? If it was God's intent for people to develop technology, would there be no chariot or car accidents? To claim that human beings, before sinning (but with our present physical constitution), would not suffer injury and mortality is to claim that human life would be constantly maintained by miracle. The implications of this claim are explored in the next section.

Claim 2: Death would not be part of a good creation created by a loving, caring, gracious, good, omnipotent, omniscient God

According to Stambaugh, "The Bible states that God created everything in an idyllic fashion ("very good," according to Genesis 1:31). The earth, animals, and man cooperated in harmony and peaceful coexistence. God gave man the freedom of choice – to choose to obey or disobey Him. However, if we view the timing of Romans 8:19-21 as dating from Genesis 1:1, we can offer no credible defense for a belief in a God who is good, loving, just, and merciful, for this "groaning" world was His plan" (1996, p. iii). Ham adds the idea that "death, bloodshed, and suffering of living creatures were not possible before the fall. It was a perfect world, sustained totally by the infinite Creator" (1991, p. c). Regarding old-earth progressive creationism, Morris declares "We literal creationists do see problems in this idea, however. The concept of an omnipotent, omniscient, loving, caring God devising such a scheme somehow seems to stick in our mental throats whenever they ask us to swallow it" (1994, pp. b-c).

Analysis

Ratzsch suggests "we have to be extremely careful here not to put undue weight on our own constructions of what *good* means. Creationists [recent] understand *good* as automatically implying lack of animal death, animal suffering or animal predation and as implying efficiency, economy and so forth. But it was God who saw the creation as good, and just as his thoughts are not ours and his ways are not ours, his judgements of good might be a bit beyond ours as well" (1996, p. 189).

Lodahl writes:

...the created order truly is capable of fulfilling God's purpose for it as the

place where relationship between God and human beings takes place. This points us toward the specific way in which creation is 'very good': because it is the sphere in which real relationship is possible with the Creator, because its real otherness is upheld, indeed cherished, by God. Philosophers have argued for centuries over whether this is the best possible world, and the only suitable answer is, 'That all depends.' If you think the best possible world would be one without pain, without threat or hurt or risk, where 'a good time is had by all,' then this is not it. If you consider the possibility that the best possible world would be one that best suits God's purposes of establishing real, covenantal relationship with humans, complete with freedom and the risks that entails, with the realities of struggle and pain and the growth those enable, then perhaps this world comes awfully close (1994, p. 66).

While recognizing the importance of relationship and free will, Christians shrink away from accepting as good those elements of creation that cause pain and suffering. In fact, theologians have labeled these undesirable aspects of creation as *natural evils* and attempt to understand their presence (as well as the presence of moral evil) by developing theodicies. A theodicy is the "theoretical justification of the goodness of God in the face of the presence of evil in the world" (McGrath, 1994, p. 502). With regard to the natural world, Reichenbach explains (1982, p. 87) "it is he who guided its evolution, so that in the created he might realize the purposes for which he created. But if God made and continues to work with the world, how is it possible to reconcile his perfect goodness with the apparently unwarranted and wanton suffering due to natural (i.e., non-human-purposed) causes which plagues human (and animal) existence? How can a God characterized by omnipotence, omniscience, and perfect goodness be directly or indirectly the cause of ...?" Here, the reader can insert as nasty a list of diseases, disasters, birth defects, or predators as desired. Reichenbach explores several types of theodicies that attempt to find a solution to the problem of natural evil. He favors a theodicy based on natural laws and free will.

An important presupposition for a theodicy based on natural laws is that "A world containing significantly free persons making choices between moral good and evil and choosing a significant amount of moral good is superior to a world lacking significantly free persons and moral good and evil" (Reichenbach, 1982, p. 47). This is essentially the Free Will Defense of Plantinga (1992, p. 118). Reichenbach's approach is to extend the free will defense, traditionally applied to moral evil, to natural evils. Swinburne agrees, explaining that "if the free-will defense works in explaining why God might permit the existence of moral evil, then it also provides an explanation of why God might bring about the existence of much natural evil" (1992, p. 304). Polkinghorne completes the parallel by naming this approach a "free-process defence" (1994, p. 85).

Reichenbach's argument "is that the natural evils which human persons (and animals) experience (by and large) are not willed by God, but are the consequences of the outworking

upon sentient creatures of the natural laws according to which God's creation operates. This creation, in order to make possible the existence of moral agents (in this case, human persons), had to be ordered according to some set of natural laws. Consequently, the possibility arises that sentient creatures like ourselves can be negatively affected by the outworkings of these laws in nature, such that we experience pain, suffering, disability, disutility, and at times the frustration of our good desires" (1982, p.101). Reichenbach further argues that the alternative, "a world operated by miracle is incompatible with a world inhabited by significantly free moral beings" and that, assuming the above presupposition true, "it was impossible for God, in creating, to create a world which was not operated by natural laws" (1982, p.117). He elaborates:

...in a world which operates according to divine miraculous intervention, there would be no necessary relation between phenomena, and in particular between cause and effect.... There would be no regularity of sequence, no natural production of effects.

But without the regularity which results from the governance of natural laws, rational action would be impossible. Without regularity of sequence, agents could not entertain rational expectations, make predictions, estimate probabilities, or calculate prudence. They would not be able to know what to expect about any course of action they would like to take.... Hence, agents could not know or even suppose what course of action to take to accomplish a certain rationally conceived goal....

But proposing action and acting on that proposal are essential for an agent's determination as a moral being. 'Good' is predicated of moral agents when proper intentions come to fruition in right conduct; 'bad' when improper intentions result in wrong conduct. But since they would be unable to rationally conceive what actions to take in order to achieve certain goals, and since they could not perform the actions, a world operated by miracle would prevent moral agents from formulating or carrying out their moral intentions. In effect, it would become impossible for agents to be moral beings (1982, pp. 103-104).

Lewis illustrates the problem of a world operated by miracle by inviting us to "conceive of a world in which God corrected the results of this abuse of free will by His creatures at every moment: so that a wooden beam became soft as grass when it was used as a weapon, and the air refused to obey me if I attempted to set up in it the sound waves that carry lies or insults. But such a world would be one in which wrong actions were impossible, and in which, therefore, freedom of the will would be void; nay, if the principle were carried out to its logical conclusion, evil thoughts would be impossible, for the cerebral matter which we use in thinking would refuse its task when we attempted to frame them" (1962, p. 33). Polkinghorne (1994, p.85) considers it likely that only "a universe in which we could entertain a free-process defence, would be one in which there could be people to whom the free-will defence could be applied."

Those who object to the above theodicy for natural evils often suggest that God could warn people of impending physical perils and thereby keep them from harm. But a world filled with divine warnings of physical danger and miraculous protection from physical hazards might as well be a world where God verbally warns people of every foreknown danger. Swinburne (1992, pp. 314-315) argues against this sort of world because this sort of world would allow humans to know for *certain* that there is a God. This kind of world would not "be a world in which men had a significant choice of destiny, of what to make of themselves and the world. God would be too close for them to be able to work things out for themselves. But the whole point of the free-will defense is that a good God might give to man a choice of destiny; if he gave to men verbal knowledge of the consequences of their actions, he would not be able to give that choice. Proximity to God is no doubt a good thing; but a God has reason to ensure that we only get to that state as a result of our choice (e.g., in another world as a result of our conduct in this one)" (1992, P.315). Swinburne concludes that "There must be natural evils if men are to have a significant choice of destiny; which is why a good God might well bring them about" (1992, p. 315).

God's creation can be considered good, then, in that it accomplishes his will – allowing rational, morally free agents to come into existence and make free choices to love and obey God and be in relationship with Him. Regularity of natural laws is essential to developing rational thought. In fact, it is essential to life on earth. For example, organisms require the predictability of gravity to learn to walk, run, swim, and fly effectively. But the same laws of gravity that permit learning to walk and run without falling also result in injury or death if one falls from a significant height or is struck by a falling tree limb. Similarly, water is essential for life but it can also kill us. Fire warms us and cooks our food but it can also burn and destroy. Note that regularity of natural law does not preclude miracles. Indeed, there must be an overall regularity for a miracle to be recognized. The inexorable regularity of natural laws allows cause and effect relationships to be learned and rational action to exist. Rationality, in turn, is prerequisite to being a moral agent.

In summary the Free-will Defense as applied to natural evils states that a world with moral agents is superior to a world without and that it would be impossible to create such a world without the regularity of natural laws. The occurrence of natural evil in such a world does not conflict with God's omnipotence. There is, then, a morally sufficient reason for natural evil.

Claim 3: Death before sin negates the atoning work of Christ

Ham tells us that "Death and bloodshed before Adam sinned makes nonsense of the whole basis of the atonement. It would mean that death was not the penalty for sin, (since it existed for millions of years *before* sin), and therefore death could not be used to atone for sin. This would destroy the reason why Christ died and the meaning of the resurrection" (1991, p. b). Speaking of the use of animals in the Old Testament sacrifice of atonement, Stambaugh (1989, p. iv) adds that "If there was animal death before the fall of man, then God and all those who followed His pattern did useless acts. One must observe that in the atonement the animal loses

its life in the place of the human. If animal death existed before the fall, then the object lesson represented by the atoning sacrifice is in reality a cruel joke".... and that "The New Testament has one sacrifice for atonement, for Jesus Christ is called the 'Lamb of God.' If we believe that death has always existed, then we make a mockery of the death of Christ.... If death is not the penalty for sin, then Christianity is meaningless. The death of Christ was made necessary because of man's sin. Man's sin brought death, which in turn brought God's Son to pay the penalty in our place." Finally, in reference to the fossil record of death leading up to man, Ham believes that "to accept death before man is to destroy the basis of the gospel message" (1991, p. b).

Analysis

There are difficulties at several levels with this understanding of the relationship between sin, death and the atonement. First, although human death is linked with human sin (Rom 5:12-13 and I Cor. 15:21-22), it moves beyond the clear teaching of the bible to claim that nonhuman death is also the result of human sin. The context of the passages above is exclusively human. Animals are considered amoral creatures, incapable of sinning, and therefore not under any penalty of death and not in need of a restoration of relationship with God. Animal death occurring for whatever length of time before the entry of sin cannot, therefore, be the result of sin. It is an unwarranted extrapolation to extend the consequences of human sin to the broader animal world. Animal death before human sin does not diminish or make a joke of or mockery of the religious significance of the Old Testament sacrificial system or the atoning sacrificial death of Christ. There was no need of atonement before there was sin.

Secondly, just because sin required atonement which was associated with the death of animals and Jesus' death, this does not mean that all death in all times and all places is associated with sin. Ross (1994, p. 64) states it this way: "While it is true that there is no remission of sin without the shedding of blood, Christ's blood, it does not necessarily follow that *all* shed blood is for the remission of sin. (To say there could have been no bloodshed before sin is to make the same exegetical error as made by those who claim there were no rainstorms or rainbows before the Genesis flood.)"

Thirdly, recent creationist thinking on atonement seems to confuse theory with doctrine. Atonement can be defined as the "bringing of people back into relationship with God" (Keeley, 1982, p. 463). It is the doctrine that Jesus' life, death, and resurrection saves us from sin and reconciles us to God. It is the restoration of relationship broken by sin. Theories or models of atonement attempt to explain *how* Christ's work on the cross accomplishes this restoration. "It is noteworthy that there has never been a single 'official' doctrine of the Atonement approved by church council or creed; rather, what we find are many different attempts to view the cross of Jesus from differing angles and from within different historical and social contexts" (Lodahl, 1994, pp. 158-159). Various models include *Christus Victor*, Ransom Theory, Satisfaction Theory, Penal (Punishment) Theory, Moral Influence Theory, and the Governmental Theory (Dunning, 1988; Grider, 1994; Johnson/Webber, 1993). Recent creationist language describing the atonement suggests adherence to the penal theory of atonement of the Calvinist-Reformed tradition. Penal theory "starts from the ideas of the inviolability of law and the justice of God.

God is perfectly just, and the divine law of punishment can never be set aside. Sin was seen as a breaking of law, and all such violations must be punished so that the law can be satisfied. God's justice is such that sin cannot go unpunished" (Dunning, 1988, pp.336-337). "God's justice will not allow Him to forgive without sin being fully punished" (Grider, 1994, p. 328). Finally, "because of the cross, believers have nothing to fear. The requirements of the law have been met. From this point of view the cross represents Christ's receiving of that penalty of sin that was our due" (Morris, 1983, p. 201).

Other theories of the atonement, however, do not link Christ's death to the paying of a penalty or being punished. Arminian-Wesley tradition, for example, holds the Penal theory to be inadequate and unbiblical (Dunning, 1988, pp.362-365). Grider declares that "Scripture never states that He was punished for us or that He paid the penalty for us. Scripture always states instead that He suffered for us" (1994, p. 329). Taylor adds that "The perfect unity of purpose which existed between Jesus and His father excludes all theories of vindictive punishment" (1959, p. 276). Differences in understanding extend to the meaning of the animal sacrifices of the Old Testament as well. Arminian-Wesleyan theologians speak of the person offering the sacrifice as identifying with the sacrifice as his representative before God (Dunning, 1988, p. 375; Taylor, 1959, p. 50) whereas the Calvinist-Reformed tradition speaks of the animal, in dying, "taking the punishment due the worshiper for his sins" (Morris, 1983, p. 47). The insistence of recent creationists on understanding all death as a penalty for sin may lead them to accept a *theory* of atonement as a *doctrinal* belief.

Claim 4: Long ages filled with death and suffering is not a process that an efficient, wise, and loving God would use.

"One of the hardest things to understand is how anyone who claims to believe in a God of love can also believe in the geological ages, with their supposed record of billions of years of suffering and death before sin came into the world. This seems clearly to make God a God of waste and cruelty rather than a God of wisdom and power and love" (Morris, 1998, p. a). Similarly, "Evolution is the most wasteful and most cruel process that one could ever devise by which to 'create' men and women (Morris, 1997, p. b). And, Morris asks, "Had God been experimenting, trying to find something He could call His image? Did He not know what He wanted? Was He not powerful enough to create it without so many missteps? If the creation and redemption of man was His purpose, why did He wait so long" (1998, p. d)?

Analysis

Recent creationists picture evolution as a wasteful, inefficient, hit-or-miss process of success and extinction dependent on chance that takes forever to accomplish anything. Here, too, we must be careful not to apply human parameters to God. We are time-bound creatures and, at least in this culture, quite concerned about wasting time and maximizing efficiency. Ratzsch (1996, pp. 189-190) responds: "Nor is it obvious that wastefulness would be a concern to God. Nature produces a lavish profusion of everything from beetles to grass blades to rocks to stars. Indeed, what would *wasteful* even mean in the context of omnipotent ability to create anything

and everything from nothing with a word? And the creation does not seem to be defined by ruthless efficiency. Why would efficiency be a concern to the eternal God? He is not going to run out of time, energy, or resources." If efficiency is an important part of God's character, why didn't He just bring the entire creation into existence in the blink of an eye? Why take six days? Why not six seconds? Why create the ostrich described in Job 39:13-18 that *wastes* its eggs by allowing them to be trampled and that treats its young as if they were not hers? Why lavish so much beauty on a flower that lasts but a day (Luke 12:27-28)? Why create a Leviathan that is of no use to people (Ps 104:26)? Ratzsch observes that "maybe God enjoys watching his creation operate. Maybe he delights in seeing processes he has designed unfold. Maybe a few billion years watching an incredibly intricate, complex, beautiful creation in exquisite operation does not strike him as a waste of time. And maybe we should be a bit cautious about humanly decreeing that it would be" (1996, p. 190).

Recent creationists claim that old earth models portray God as wasteful and cruel and allowing too much suffering. But if quickness in time is important to avoid these charges, the same accusations can be applied to post-sin history. As Ross observes, "God could do much right now to reduce our suffering. But a loving, merciful God allows the epitome of His creation -- humankind -- to suffer discomfort, illness, injury, and death. God even calls the death of His saints precious (Psalm 116:15). Could it be that God's purposes are somehow fulfilled through our experiencing the 'random., wasteful, inefficiencies' of the natural realm He created" (1994, p. 88)?

Claim 5: The future, in which there will be no death, is a restoration of conditions in Eden before sin

Here the claim is made that the images used by the prophet in Isaiah 11:6-9 and John in Revelation 21, 22 to describe a future reality are describing at the same time what God's intent was for Eden. Morris states concerning Isaiah 11:6-9 that this passage "must at least describe the ideal conditions intended by God for His animal creation" (1994, pp. a-b). Ham writes, "Could not the infinite God so design and sustain the creation so that there was no death and no wearing out before sin...? Is this not what is going to happen in the future, when there will be no death and no wearing out - just like it was originally (1991, p. c)? Stambaugh writes, "the two chapters in Revelation show that after sin is vanquished, death, pain and sorrow will be vanquished. If this is the restoration of the creation, we are left with a plaguing question about death if we believe in evolution. Why is death being done away with? If God originally intended death to be an integral part of His creation, then God should allow death to continue into eternity" (1989, p. iii).

Analysis

What is being described in these passages? Do these passages picture the earth as it functioned before sin? Are they describing a return to Eden? Apparently not -- a straightforward reading reveals marked differences. There will be no sun or moon (Rev. 21:23) or sea (Rev. 21:1). Following our resurrection we will be given the kind of glorified body given Christ; a body capable of being touched and of eating (Luke 24:39-43) but also able to enter into locked

rooms (John 20: 19, 26), and one that will be immortal (I Cor. 15:35-58, Phil 3:21, I John 3:2) There will be no marriage and presumably no procreation (Mark 12:24-25).

As for the peaceful associations of animals with each other and with people, are these literal descriptions of events in a future animal kingdom? In the biblical world, snakes were an ever present threat to well being. Wolves and bears and lions threatened peoples lives and livelihood by killing them or their domestic animals. All these images portray something harmful to human health or economic well being. It is worth noting that nowhere are two wild animals pictured in "peace". Even the lion eating straw like an ox, in the context of the passage, can be understood as no longer representing a threat to human well being. It is quite a stretch to claim these passages teach that lions and other carnivores will be changed back to the herbivores they are claimed to once have been. We don't even know if there will be animals and plants in the New Jerusalem. Interestingly, Isaiah 25:6 describes an eschatological feast featuring the best of meats! The point is that all these passages can be understood as describing a future restored relationship with God where the toil, danger, and strife of life is removed. This restored relationship is presented in figurative images taken from the context of their daily lives.

"There is an obvious parallel between the language of creation (in Genesis) and the language of climax (in Revelation). In both cases we are dealing with events that take place in a realm which lies beyond human experience. It is therefore to be expected that these events will be described in figurative language, or in language based on phenomena known to or experienced by the writer" (Johnson, 1988, 122-123). The message of these eschatological passages is that God is sovereign over history and that He will ultimately triumph over the human and satanic forces that oppose His kingdom.

Claim 6: An old earth with death occurring before sin undermines the authority of the bible

Morris compares recent creationism with old-earth creationist positions and declares that "we [recent creationists] believe the Bible must take priority over scientific theories, while they believe scientific theories must determine our Biblical interpretations.

It all seems to us to hinge on one overriding question. Do we really believe the Bible to be God's inerrant Word or not? If the Bible is *really* the Word of our Creator God, then – by definition – it *must* be inerrant and authoritative on every subject with which it deals" (1997, p. b).

Analysis

It is fair to ask, "In what sense is the Bible authoritative?" If we look at it to find scientific truth we will be disappointed - right from the beginning. Although big bang cosmology may not be the last word regarding the origin of the cosmos, we are not likely to replace it with biblical cosmology (or geology or biology). There are just too many examples, assuming the face-value exegesis of recent creationists, where God just didn't get it right. After all, there is no "solid vault" (Westermann, 1984, p. 76) or firmament (Gen. 1:6-8) separating the

waters above from below and containing gates (Gen. 7:11) allowing the rain to fall. Didn't God know that the sun and moon and stars were much farther away than the sky (firmament) into which they are described as being placed (Gen. 1:14,17; Rev. 6:13)? Did God really think the moon was a light rather than a satellite reflecting the light of the sun (Gen. 1:16)? Why did He cause us to think that the earth, rather than the sun, was in the center of the solar system (Psalm 93:1, 104:5)? Didn't he know that insects have six legs (Lev. 11:20-23), that rabbits don't chew their cud (Lev. 11:6), and that bats are not birds (Deut. 14:11-18)? Do these statements, written in the context of the biblical writers' worldview, invalidate the Genesis creation account - make it less true? The truth is, declaring the Bible to be authoritative in regard to science actually undermines the bible's authority as the "science" of the Bible is shown to be in error. Christians do believe the Bible is authoritative, however. How can biblical truth and authority be reconciled with scientific truth and authority?

The solution to this issue of authority is dependent on one's understanding of biblical inspiration. Giberson (1993, pp.162-163) reviews several approaches to understanding inspiration. A common evangelical view is plenary verbal inspiration, where the biblical writers are believed to record the exact words of God. God might as well have written it himself. A common outcome of this view is that the Bible is seen as an encyclopedia of absolute knowledge. All truth is religious truth. The naturalistic theory, on the other hand, sees God as having no significant role. The authors were simply motivated to write much as an artist is motivated (inspired) to create. In regard to origins, all truth is scientific truth. In between these extremes is the dynamical theory of inspiration which "suggests that God inspired the biblical writers by communicating some transcendent profound truth to them, which they then expressed within the context of their personal worldview. The profound and inspired truth is thus embedded in the author's words, but it is not equivalent to the author's words." The dynamical theory is also referred to as the grammatico-historical method of exegesis (Dunning, 1988; Hummel, 1986). Dunning explains further:

In transforming the locus of inspiration from the writings to the writers, the dynamical theory implies the historical character of biblical language. In this it is significantly different from dictation or mechanical modes of inspiration. In the latter, the words are given directly to the writers so that the words are God's and not man's....the crucial difference is that the words are the words of men who have their own understanding of what the words that they use mean. That is, they are historically conditioned by the writer's intellectual, cultural, and societal milieu. They are even limited by his *factual* knowledge or lack of it. But none of this is essential to the authenticity of the thoughts. The issue becomes one of determining by careful exegetical methods the intention of the writer through analysis of his historical and linguistic context. The scrupulous attention biblical scholars give to the study of words is precisely to discover the original intention or understanding of the writer so as to accurately recover the truth that he was intending to convey and so

determine what the text meant (1988, pp. 70-71).

For example, with regard to Genesis 1, one simple but profound theological truth being communicated is that God made the world. The dynamical theory suggests that different writers, writing at different times, would communicate this truth in the context of their worldview. "Thus an ancient Hebrew might mention the 'firmament' in his account, reflecting his primitive notion that one of the most important elements in the universe was this dome holding back the waters. A contemporary of Aristotle might mention the beautiful crystalline spheres that carried the planets around on their orbital paths. An inspired author in the age of Newton would praise the Creator for the infinity of the creation. A modern inspired author would incorporate the big bang into his or her creation account" (Giberson, 1993, p.165). The dynamical theory encourages the combining of timeless religious truths with our best understanding of scientific truth. All truth, then, becomes God's truth.

The theological truths of Genesis 1-11, including its polemic against idolatry, its radical monotheism, its identification of humans as not only creaturely but also uniquely spiritual, its account of sin and the universality of sin, and its teaching that God not only judges sin but also shows grace and mercy, are the authoritative truths that transcend the elements of the accounts which reflect the author's limited worldview. These truths are the answers to the types of questions pertinent to the ancient Hebrews surrounded by pagan cultures (Hummel, 1986). These are the same answers and questions we need to bring to these writings.

A further note concerning human death and suffering before sin

The possibility of human death and suffering before sin is a hard concept to accept. It is an old debate. As Hollinger notes, "Some have argued that the entrance of sin changed the nature of death and certainly brought spiritual death, but that even without the fall there would have been the natural biological process of the life cycle, which moves from the inception of life, through various stages, to its conclusion.... Other theologians, however, have contended that physical death per se, not just its sinister components, is the result of sin" (1998, p. 259). It is worth noting that theologians have wrestled with the question of death long before the advent of evolutionary theory. For example, in answering the question, "Why was man, created immortal, given food to eat in Paradise?" Augustine states that "It is difficult to explain how man was created immortal and at the same time in company with the other living creatures was given for food the seed-bearing plant, the fruit tree, and the green crops. If it was by sin that he was made mortal, surely before sinning he did not need such food, since his body could not corrupt for lack of it..." and that "no one will go so far as to say that there can be a need of food for nourishment except in the case of mortal bodies" (1982, pp. 97, 98).

We need to bring to this argument the conclusions of many biblical scholars that the Bible, particularly the primeval history recorded in Genesis 1-11, is not to be understood as teaching science or history as we understand it. As Galileo liked to say, the bible teaches us "how one goes to Heaven, not how the heavens go" (Hummel, 1986, p.106). The scientific study

of God's creation allows us to glimpse the "how" of God's creating. The validity of this complementary approach to science and the Bible has been vindicated time and again. The strength of extrabiblical evidence has convinced many Christians to reinterpret many aspects of the Genesis stories. For many, it is no longer an issue that the earth is not the center of the universe, or that the earth is very old, or that there was not a global flood, or that all ethnic groups and languages did not originate at the Tower of Babel. Shedding the belief that the Bible is an encyclopedia of modern science and history frees us to look for the timeless theological message the writer intended to teach. Insisting there really was an idyllic Garden of Eden, that all humans are genetically descended from Adam and Eve, that a snake talked and hence lost its legs, that childbirth before sin was painless, that weeds did not exist, and that there was no death before sin is once again forcing the Bible to teach science. And once again, these beliefs fly in the face of extrabiblical knowledge gained from the study of creation. Snakes in their present form have existed for millions of years before there were human beings to sin. Anatomically modern humans existed thousands of years before the Adam and Eve of Genesis 1-11. There is no evidence that childbirth was ever painless for anatomically modern humans. The plants we call weeds existed long before agriculturalists called them weeds. There has never been a time when humans (and all forms of life) never experienced disease, injury, and death.

Of course, the issue of human suffering and death before sin is complicated by other theological concerns because, unlike the animals, we are moral agents, the only creatures of God created in his image and accountable to him. Uniquely, then, human death is linked to human sin. As Hollinger notes, "Whatever our perspective on the theological debate, we must acknowledge that the Scriptures are clear in their linkage of sin and death. Death, at least as we all experience it in human life, is antithetical to God's original intention and to the resurrected life yet to be experienced" (1998, p. 259). Likewise, the Genesis accounts, on the surface, seem to describe a "fall from paradise" as God's judgement on sin. The New Testament draws parallels between Adam and Christ that link sin with death.

It is the subject of another paper to explore the meaning of these passages in the light of the strong evidence that humans always have been subject to the same natural laws, debilitations, and types of deaths that all other creatures of God are subject to. But if we have learned anything in the study of God's creation and the study of God's word, it is that theological truth is often not connected to the time-specific context, content, and understanding of the passage containing it. The position of the earth is not important, knowing that God created it is.

Conclusions

An old-earth position accepting of death and suffering before human sin is theologically compatible with accepted approaches to biblical interpretation. The integrative model presented in this paper is self consistent, preserves all doctrines, helps clarify what is important, allows us to better understand what questions to ask of the Bible, accords with the biblical record, and removes the conflict with science. It is incompatible, of course, with the recent creationist approach where, too often, it is a particular interpretation which is viewed as infallible rather than the Bible. Their viewpoint should not go unchallenged. "All Christians have a stake in the

successes and failures of the Creationists [recent], who cannot be allowed to hold the field as if they express the only Christian position. The primary concern is that they will ultimately fail because they reject not just the theory of evolution, but solid evidence from geology, biology, physics and astronomy as well. They do an injustice to God by rejecting the physical evidence of his universe when it conflicts with their interpretation of the Bible " (Zabicka, 1992, p. 142). This approach cannot ultimately succeed.

Many Christians will continue to shy away from anything other than traditional straightforward historical interpretations out of fear that not doing so will open the door to a slippery slope leading to the denial of key doctrines such as the resurrection. But there is no single approach to biblical interpretation. Hummel, when asked if he takes the Bible literally, responds by saying that "One should take the literal parts literally and the figurative parts figuratively, aware that the biblical writers use a variety of literary forms to convey God's truth" (1986, p. 171). "Adoption of a basically non-literal interpretive approach, coupled with a recognition that it is not the function of Scripture to teach scientific and historical facts as such, need not lead to any significant diminution of the religious instruction received from Genesis 1-11" (Johnson, 1988, p. 134). On the other hand the Bible does present historical belief of certain events as essential to the faith. The empty tomb and the post resurrection appearances established without doubt that Christ had conquered death and "vindicated his claim to be both Israel's Messiah and the divine Lord from Heaven" (Johnson, 1988, p. 135). Different types of literature demand different approaches to interpretation.

Some Christians will maintain that we should just accept traditional interpretations regardless of what science says. Should we then still teach a geocentric cosmology with a solid firmament holding the stars and a creation date of 4004 BC? To a Christian who holds that "all truth is God's truth", this is simply unacceptable. What obstacles to belief would this "head in the sand" approach present to the world. Rethinking traditional interpretations focuses attention on the relative importance of nonbiblical information in biblical interpretation. Commenting on the relationship between extrabiblical information and the Bible, Young commends interpreters who support "the principle that extrabiblical information should serve as a check to constrain the interpreter from indulging in exegeses that can no longer be credibly sustained and as a stimulus to intensified probing of the text in order to elucidate an interpretation that is faithful to the text. Indeed, ... extrabiblical evidence provides a marvelous opportunity for achieving an improved understanding of the Word of God" (1995, p.305).

Teachers in contact with Christian students should encourage them to pursue training and careers in all fields of science. Rather than perceiving certain scientific disciplines as enemies of the faith, more Christians should be at the forefront of knowledge in paleontology, geology, astronomy, and other fields that have bearing on origins. Why leave the challenge and excitement of discovering truth in the creation to the secular community. As Young says, "What marvelous insights into Scripture might await the church if from now on the theologians and exegetes would work side by side with biologists, archeologists, anthropologists, geologists, linguists, astronomers, sociologists, and paleontologists! In a world of burgeoning knowledge

about ancient literature, languages, civilizations, culture, and customs as well as about the workings of God's creation, biblical scholars must engage in dialogue with other representatives of the intellectual world they profess to want to influence with the good news...." of the gospel (1995, p.313). And why shouldn't this dialogue occur with increasing numbers of Christians representing all disciplines? Let's encourage more of our students, not to fear the conclusions of science as an attack on biblical authority but rather to welcome the insights each discipline gives to our understanding of God's world and God's word, and to be a participant in revealing and integrating these truths. As Noll notes, "evangelical thinking about science is still but a shadow of what God, nature, and the Christian faith deserve" (1994, p.233).

Creation, by whatever process it proceeds from God's hand, is to be affirmed and celebrated. This paper has dwelled on the undesirable aspects of creation, however necessary they may be. Perhaps some restoration of perspective is in order. There is much that is good about creation. From Lodahl: "There is an eminently proper biblical sensuality that invites us to enjoy this world: its delicious foods; its physical beauties, whether a star-filled sky, an ocean beach, or the human face or body; its good music; its delights of touch, whether stroking the cat's fur or lying down in the grass or touching another human being; its fragrant aromas, from that of the rose to that of freshly-mown hay. The world of senses is a world of delight, a world that is 'very good' in the Creator's eyes" (1994, pp. 65-66). And, one might add, a world experienced by and enjoyed by Jesus, the Incarnate God.

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