

ULTIMATE ISSUES

The following observations are in the nature of a response to a book by Stephen W. Hawking, entitled *A BRIEF HISTORY OF TIME*. Stephen Hawking is generally regarded as “the most brilliant theoretical physicist since Einstein.”

As we understand the task of his book, written in lay language, so that we might understand, it is to explore ultimate issues from a scientific viewpoint. While the approach is scientific, Hawking is mindful of the implications of his exposition on the existence and nature of God.

But, while he is mindful of the divine implications of his examination of origin and time, he is not per se, concerned with a Biblical frame of reference. So far from detracting from the implications of his examination however, his lack of concern for Biblical manipulation makes his findings even more credible evidence for the substantiation of the Biblical account.

Ending up, as he does, in the pursuit of a unified theory, one is drawn to the conclusion that no theory is truly unified, which does not embrace the Biblical account. Admitting that he is yet short of the mark, where a unified theory is concerned, he expresses confidence that a unified theory might be found by the end of the 20th century. (Didn't quite make that target date.)

In response to the conclusions of that, which has been called “science,” the historic track record of the Church has been mixed at best. Too often, the Church, in its partial understanding of the revelation of the Scripture has sided with the ridiculous. But the Church's insistence on standing on the Word has been a bulwark against the collapse of everything that is of value in society. With the unfolding of time and scientific exploration, the Church can take great heart that man at his scientific best has only succeeded in confirming God's Word, not contradicting it. It is written, “*we can do nothing against the truth.*” Clearly, our best course is to encourage free scientific enquiry, not make war on it.

Any scientific theory is more or less useful as it describes and predicts the occasions of observable fact. Since, “*no man has seen God at any time...*” our revelation of truth about God must be subject to His Word, as revealed by His Spirit. God's word is the alpha and the omega, the beginning and the

end.¹ “In the beginning was the Word, and the Word was with God, and the Word was God.”² “Heaven and earth will pass away, but The Word of God goes on forever.”³ This is to say that, where observable fact is concerned, God's Word is and ought to be of greater substance than anything else, which might be observed. Our conclusion, therefore, must be that any scientific theory is only as good as it elaborates the eternal truth of God's Word.

This having been said, we would like to explore some of the partial conclusions of Hawking's book in Light of God's revealed Word about creation, and the nature of existence. Apparent consistency of present, and, admittedly, partial theory with God's word, may not necessarily be a validation of present theory, only that it is closer to the truth than any theory that contradicts God as revealed in His Word.

The topics of Hawking's book, which are of particular interest are: the big bang, Einstein's theory of relativity, black holes, and entropy.

Hawking, himself explains these theories and phenomena as follows:

THE BIG BANG

“At the big bang itself, the universe is thought to have had zero size, and so to have been infinitely hot.”⁴

ENTROPY

”...Entropy...measures the degree of disorder of a system. It is a matter of common experience that disorder will tend to increase if things are left to themselves... A precise statement of this idea is known as the second law of thermodynamics. It states that the entropy of an isolated system always increases...”⁵

¹ REV 1:8, 19:13, 21:6, 22:13

² JOH 1:1

³ MAT 24:35

⁴ Pg. 117

⁵ Pg. 102

THEORY OF RELATIVITY

”...The (Einstein's) theory of relativity put an end to the idea of absolute time.”⁶ “We must accept that time is not completely separate from and independent of space, but is combined with it to form an object called space-time.”⁷ “The old idea of an essentially unchanging universe that could have existed, and could continue to exist, forever was replaced by the notion of a dynamic, expanding universe that seemed to have begun a finite time ago, and that might end at a finite time in the future.”⁸

”...I showed that Einstein's general theory of relativity implied that the universe must have a beginning and, possibly, an end.”⁹ “Many people do not like the idea that time has a beginning, probably because it smacks of divine intervention.”¹⁰

This is the verdict: Light has come into the world, but men loved darkness instead of light because their deeds were evil.¹¹

BLACK HOLES

”...A star collapsing under its own gravity is trapped in a region whose surface eventually shrinks to zero size...All the matter in the star will be compressed into a region of zero volume, so the density of matter and the curvature of space-time become infinite. In other words, one has a singularity contained within a region of space-time known as a black hole.”¹² “According to the theory of relativity, nothing can travel faster than light. Thus if light cannot escape, neither can anything else; everything is dragged back by the gravitational field. So one has a set of events, a region of space-time, from which it is not possible to escape to reach a distant observer. This region is what is now called a black hole.”¹³ “...According to general relativity, there must be a singularity of infinite density and space-

⁶ Pg. 21

⁷ Pg. 23

⁸ Pg. 33

⁹ Pg. 34

¹⁰ Pg. 46

¹¹ JOH 3:19

¹² Pg. 49

¹³ Pg.87

time curvature within a black hole. This is rather like the big bang at the beginning of time only it would be an end of time for the collapsing body and the astronaut, (a figure of speech for a nearby observer). At this singularity the laws of science and our ability to predict the future would break down.”¹⁴ “The event horizon, the boundary of the region of space-time from which it is not possible to escape, acts rather like a one-way membrane around the black hole: objects, such as unwary astronauts, can fall through the event horizon into the black hole, but nothing can ever get out of the black hole through the event horizon.”¹⁵

THE BIG BANG

”At the big bang itself, the universe is thought to have had zero size, and so to have been infinitely hot.”¹⁶

By faith we understand that the universe was formed at God's command, so that what is seen was not made out of what was visible.”¹⁷

"COMMON EXPERIENCE" vs DIVINE INTERVENTION

*”In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters.”*¹⁸

ENTROPY

Roy Peacock has written a little book, responding to Stephan Hawking's book. Peacock's book is entitled *A Brief History of Eternity*. In it he makes some interesting observations about entropy.

Peacock points out that “The Second Law of thermodynamics, (the one on which entropy rests) is probably the most powerful piece of legislation in the

¹⁴ Pg. 88

¹⁵ Pg. 89

¹⁶ Pg. 117

¹⁷ HEB 11:3

¹⁸ GEN 1:1, 2

physical world...”¹⁹

Noting that entropy and time are inseparably bound up together, he speaks of time taking us in the direction of maximum entropy. In discussing beginnings, he notes that the beginning would have to be a time of minimum entropy. I would like to pursue this a step farther, redefining consistent with the implications of what Peacock has said. “Maximum entropy,” I suggest, can be identified as ultimate disorder, and “minimum entropy,” as ultimate order.

In the thinking of Hawking, and consistent with the Biblical account, disorder preceded the big bang.

The Biblical account begins with formlessness, emptiness, and darkness, the ultimate end of entropy. Scientific inquiry has drawn the same conclusion.

Since, as Peacock has pointed out, The Second Law of thermodynamics is the most powerful legislation in the known world, it can only be that the minimum entropy at the beginning had its origin in ultimate order.

The implication of these conclusions, as well as the account of Scripture, is that God is not subject to entropy, and more, contrary to everything else, is able to bring order out of chaos. Even ignoring God, however, it is interesting that after ten to twenty thousand millions of years, the estimated age of the universe, man, an upstart at the end of this period, is able to come to ordered conclusions.

This is not to say that the Word of God denies the principle of entropy, rather it affirms it, especially in the realm of human conduct:

”For forty years I was angry with that generation; I said, ‘They are a people whose hearts go astray, and they have not known my ways.’”²⁰

”We all, like sheep, have gone astray, each of us has turned to his own way; and the Lord has laid on him the iniquity of us all.”²¹

¹⁹ A Brief History of Eternity, Pg. 106

²⁰ PSA 95:10

²¹ ISA 53:6

*"Then it goes and takes with it seven other spirits more wicked than itself, and they go in and live there. And the final condition of that man is worse than the first. That is how it will be with this wicked generation."*²²

*"For God has bound all men over to disobedience so that he may have mercy on them all."*²³

*"You know that when you were pagans, somehow or other, you were influenced and led astray to mute idols."*²⁴

*"... While evil men and impostors will go from bad to worse, deceiving and being deceived."*²⁵

"That is why I was angry with that generation, and I said, 'Their hearts are always going astray, and they have not known my ways.'" ²⁶

Jesus, however, *"... is able to deal gently with those who are ignorant and are going astray, since he himself is subject to weakness."*²⁷ But, *"If they have escaped the corruption of the world by knowing our Lord and Savior Jesus Christ and are again entangled in it and overcome, they are worse off at the end than they were at the beginning."*²⁸

What we need to appreciate is that, from a Biblical perspective, *"In the beginning God..."* Before the universe, God was. The Bible tells us that, *"God is Spirit..."*²⁹ Before the existence of anything else, there was the Spirit of God. As we understand it, attributes of God's Spirit include both creativity and reproductivity. I Corinthians 15:46 tells us, however, that, *"The spiritual did not come first, but the natural, and after that the spiritual."*

Among other things, the Spirit of God, being reproductive, created a universe for the purpose of multiplying the fellowship, which existed in the

²² MAT 12:45

²³ ROM 11:32

²⁴ 1CO 12:2

²⁵ 2TI 3:13

²⁶ HEB 3:10

²⁷ HEB 5:2

²⁸ 2PE 2:20

²⁹ 10 JOH 4:24

Godhead before time began.

In the process, God began with the natural, having an ultimate goal in the spiritual, that which would be like Himself. The entropy, which we see in human behavior, mirrors the entropy that we see in the natural world. Just as the ten to twenty thousand millions of years, of entropy resulted in ordered conclusions, behavioral entropy is part of a process leading to spiritual character formation.

*"Who has known the mind of the Lord? Or who has been his counselor?" "Who has ever given to God, that God should repay him?" For from him and through him and to him are all things. To him be the glory forever! Amen."*³⁰

INTERNALIZING GOD'S CHARACTER

*"Therefore, I urge you, brothers, in view of God's mercy, to offer your bodies as living sacrifices, holy and pleasing to God--this is your spiritual act of worship. Do not conform any longer to the (entropic) pattern of this world, but be transformed by the renewing of your mind. Then you will be able to test and approve what God's will is--his good, pleasing and perfect will."*³¹

*"However, as it is written: "No eye has seen, no ear has heard, no mind has conceived what God has prepared for those who love him"--but God has revealed it to us by his Spirit. The Spirit searches all things, even the deep things of God. For who among men knows the thoughts of a man except the man's spirit within him? In the same way no one knows the thoughts of God except the Spirit of God. We have not received the spirit of the world but the Spirit who is from God, that we may understand what God has freely given us."*³²

ROMANS 8:20, 21 tells us that, "...the creation was subject to frustration, not by its own choice, but by the will of the one who subjected it, in hope that the creation itself will be liberated from its bondage to decay, (entropy) and brought into the glorious (self-disciplined) freedom of the children of God.

³⁰ ROM 11:34-36

³¹ ROM 12:1, 2

³² 1CO 2:9-12

This is to say that natural entropy is evidence of entropy at a higher level, and clearly seen in human action. The moral point of it all is that God enters the chaos of human action by his Spirit. The result is order.

In the first instance, against a background of chaos, then, comes the big bang, the origin of everything. The implications of scientific conclusion to this point being that, out of nothing came a burst of light. The “what” of natural origin and existence ultimately finds its rest in the “why” of spiritual destiny. The truth of the natural realm is God's flannel board, orienting us between origin and destiny in the Spirit.

”And God said, ‘Let there be light,’ and there was light. God saw that the light was good, and he separated the light from the darkness.”³³

”...Quantum mechanics tells us that all particles are in fact waves, and that the higher the energy of the particle, the smaller the wavelength of the corresponding wave.”³⁴ “Using the wave/particle duality.., everything in the universe, including light and gravity, can be described in terms of particles.”³⁵

The Bible tells us about creation that the first thing that God said was “*light.*”

”...Two theories about light: one which Newton favored, was that it was composed of particles; the other was that it was made of waves. We now know that really both theories are correct.”³⁶

If we understand it correctly, there seems to be divided opinion as to whether or not light is composed of waves or particles, it being useful to think in terms of particles for some purposes, and in terms of waves for other purposes. In the first instance, the original burst of light cooled as the circle of light expanded.

Hawking talks about the uncertainty principle, which holds that, “One can

³³ GEN 1:3, 4

³⁴ Pg.65

³⁵ Pg.66

³⁶ Pg.81

never be exactly sure of both the position and the velocity of a particle; the more accurately one knows the one, the less accurately one can know the other.”³⁷

The determination of the location of a particle requires, at least one quantum of light. “This quantum will disturb the particle and change its velocity in a way that cannot be predicted... In other words, the more accurately you try to measure the position of the particle, the less accurately you can measure its speed, and vice versa.”³⁸

Applying the uncertainty principle to the process of creation, he concludes that the burst of light was not absolutely uniform.

”God called the light ‘day,’ and the darkness he called ‘night.’ And there was evening, and there was morning--the first day. And God said, ‘Let there be an expanse between the waters to separate water from water.’”³⁹

Areas of greater concentration began to contract. As the light cooled, it began to coalesce into stars and galaxies.

”So God made the expanse and separated the water under the expanse from the water above it. And it was so.”⁴⁰

INFINITE SUPERHEATED DARKNESS

If we were to describe the perfect hazardous waste disposal site, it is doubtful that we could improve on a black hole, a place from which nothing can escape.

In the economy of God, there is also provision for waste, the by-products of a new creation, the afterbirth of spiritual reproduction. “...*the eternal fire prepared for the devil and his angels.*”⁴¹

”If anyone else thinks he has reasons to put confidence in the flesh, I have

³⁷ Pg.187

³⁸ Pgs.54, 55

³⁹ GEN 1:5, 6

⁴⁰ GEN 1:7

⁴¹ MAT 25:41b

more... but whatever was to my profit I now consider loss for the sake of Christ... I consider them rubbish, that I may gain Christ and be found in him, not having a righteousness of my own that comes from the law, but that which is through faith in Christ - the righteousness that comes from God and is by faith. I want to know Christ and the power of his resurrection and the fellowship of sharing in his suffering, becoming like him in his death, and so somehow, to attain to the resurrection from the dead..."⁴²

"These men are springs without water and mists driven by a storm. Blackest darkness is reserved for them."⁴³

"And the angels who did not keep their positions of authority but abandoned their own home--these he has kept in darkness, bound with everlasting chains for judgment on the great Day... They are wild waves of the sea, foaming up their shame; wandering stars, for whom blackest darkness has been reserved forever."⁴⁴

"The great dragon was hurled down--that ancient serpent called the devil, or Satan, who leads the whole world astray. He was hurled to the earth, and his angels with him."⁴⁵

"And the devil who deceived them, was thrown into the lake of burning sulfur, where the beast and the false prophet had been thrown. They will be tormented day and night for ever and ever... Then death and Hades were thrown into the lake of fire. The lake of fire is the second death. If anyone's name was not found written in the book of life, he was thrown into the lake of fire. And I saw a new heaven and a new earth, for the first heaven and the first earth had passed away, and there was no longer any sea."⁴⁶

The Lake of Fire is like a Divine garbage disposal. At the end of the age, everything that is no longer of use will be thrown there."⁴⁷ Some of these things are more obvious than others. Among the less obvious may be our acts of righteousness.⁴⁸

⁴² PHI 3:4-11

⁴³ JUD 12 - 13

⁴⁴ JUD 6, 13

⁴⁵ REV 12:9

⁴⁶ REV 20:10, 14, 15, 21:1

⁴⁷ REV 19:20, 20:10, 14, 15, 21:1

⁴⁸ ISA 64:6, 9:5

The interesting thing here is that, on the one hand, the Bible speaks of a “*lake of fire*,” and on the other, “*blackest darkness*.” In our mind's eye, and as popularly represented, the lake of fire, often confused with hell, is pictured as a dimly glowing place of reds and yellows and oranges. But the description “blackest darkness,” suggests something else altogether. A glowing blackest darkness would appear, at first thought, to be a contradiction. A black hole, on the other hand, embodies both the heat of fire, and the blackest darkness.

”For Christ died for sins once for all, the righteous for the unrighteous, to bring us to God. He was put to death in the body but made alive by the Spirit, through whom also he went and preached to the spirits in prison who disobeyed long ago when God waited patiently in the days of Noah while the ark was being built...For this reason the gospel was preached even to those who are now dead, so that they might be judged according to men in regard to the body, but live according to God in regard to the spirit.”⁴⁹

The only one who could ever go to anything like a black hole, and come back is Jesus, because He has the keys.⁵⁰

”This is the message we have heard from him and declare to you: God is light; in him there is no darkness at all.”⁵¹

Jay Ferris, June 1991

⁴⁹ 1PE 3:18-20, 4:6

⁵⁰ REV 1:17b, 18

⁵¹ 1JO 1:5