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## SCIENCE AND CHRISTIAN HOPE: A DIALOGUE AND INTEGRATION OF THEIR END-TIME NARRATIVES

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### Abstract

Ruminations about how the world will end continuously stir the curiosity and imagination of a lot of people. These thoughts mostly deal with the possible end-story of history. Science, on one hand, surmises history's tragic end in its theories about cosmic death. On the other hand, Christianity believes in existence that transcends personal and cosmic death. On surface, the two seem to contradict each other. For some, this confirms the notion that science and Christianity cannot go hand and hand or, worse, that they are adversarial to each other. This paper argues that while the scientific and the Christian end-time narratives are not identical, still they do not essentially contradict each other. Science and Christian hope must respect their given distinctions, i.e. their fundamental epistemological and methodological differences. But, nonetheless, the two could dialogue and mutually enrich each other's understanding of reality. Therefore, one does not have a limited choice of believing only either the scientific or the Christian-hope narrative. A Christian may opt to acknowledge what science validly says while remaining faithful to one's conviction and hope for an eschatological future.

**Keywords:** Science and Eschatological Hope, End-time Narratives, Dialogue, Integration, Epistemology of Science, Epistemology of Hope, Life after Death, New Heaven and New Earth

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## 1. Introduction

Today, even though the former anxieties and predictions about the end of the world were proven to be farce, people continue to wonder about the imminent possibility of the end of time. Considering the extent of the global problems we have today, like global warming, climate change, overpopulation, diminishing resources, and the impending nuclear war, people have become more anxious about the looming extinction that has become a real threat to all of us. In this paper, we shall not be concerned solely about the end of the world or literally the extinction of our planet. We shall extend our curiosity to the possible end-story of our universe. It may be argued that this likelihood is still very far from our present, but our human curiosity continues to wonder what could possibly happen when our own universe expires. Will chaos and death have the last say or will it be order and life?

The distinguished theologian of science and religion, John Haught, categorizes the views about the end-time narratives into three.<sup>1</sup> The first is what he calls *cosmic pessimism*. This view foresees the destiny of the entire universe into cosmic death. There will be no life, consciousness, or any form of subjective survival after death. There will be a complete state of unconsciousness in the end and all the loss shall be ultimate and everlasting. This position is commonly held by science. There are several theories of how this cosmic death will take place. We shall deal with them one by one in the next section. The second view, according to Haught, is called *otherworldly optimism*. It recognizes the reality of physical death and the perishing of the material world. However, it believes in the existence of immortal souls that separate from the body once it dies. Thus, we can readily accept that this universe may be fading eventually since our ultimate destiny is what lies above, i.e. heaven. Since our ultimate goal is to be in this ethereal place or state, we may not be too concerned about this universe that is perishing anyway. Some people mistakenly think that this is the Christian position. In funeral wakes, you would often hear, "the dead is in a better place now." By this they mean that the departed person is in heaven. These people, who are mostly Christians themselves, are often surprised when they realize that in the bible, the ultimate eschatological destination is not heaven, or "life after death," but the new heavens and the new earth, which Wright calls as the "life after life after death."<sup>2</sup> This biblical vision is akin to

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<sup>1</sup>John Haught, *Resting on the Future: Catholic Theology for an Unfinished Universe*, New York: Bloomsbury: 2015, 115-120.

<sup>2</sup>Nicholas Thomas Wright, *Surprised by Hope: Rethinking Heaven, Resurrection, and the Mission of the Church*, New York: Harper Collins, 2008, 148-152.

Haught's third view of the end-time, which is known as the *cosmic hope*. Similar with the first view, *cosmic hope* acknowledges that this universe will eventually perish, but unlike the former, it believes that this is not the ultimate and permanent destiny of creation. But neither does it subscribe to what the *otherworldly optimism* claims as our lot, i.e. disembodied spirit-souls existing in an ethereal heaven. *Cosmic hope* believes in the resurrection. But how it understands it is not limited to an after-death existence of individuals, which may exclusively mean the resurrection of dead humans. It also encompasses the destiny of the entire cosmos. Thus, when Christians profess belief in the resurrection of the body, it should imply belief in the resurrection of the entire cosmos as well. This is the biblical vision of the new heavens and the new earth.

This paper aims to show how the Christian eschatological vision of the new heavens and the new earth relates with the scientific prediction of the end of our universe. It argues that the Christian hope is not necessarily in conflict with what science claims. It shall demonstrate how Christian hope can even further enrich our scientific understanding of reality in particular with respect to the end-time.

## 2. Scientific Predictions of Cosmic Death

If we are going to ask what science says about the finale of the universe, there are various possible answers that we would get. They are the theories of the *Big Freeze*, the *Big Crunch*, the *Big Change*, and the *Big Rip*.<sup>3</sup> One thing common in these four theories is that they all predict that the universe will eventually die. The only difference between them is their descriptions of how this death will take place.

The first theory, the *Big Freeze*,<sup>4</sup> is based on the findings of thermodynamics, the study of heat. According to the second law of thermodynamics, the amount of disorder in the universe is constantly rising. This amount of disorder is called entropy.<sup>5</sup> Basing itself on this principle, the *Big Freeze* theory predicts that it will die out of heat death. This will happen when we have reached the ultimate level of entropy. Right now, there is a continuous heat exchange happening all throughout the universe. But when we reach the point of heat death, everything will have the same temperature. The universe will

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<sup>3</sup>Adam Becker, "How Will the Universe End, And Could Anything Survive?," *BBC*, June 2, 2015, accessed April 18, 2017, <http://www.bbc.com/earth/story/20150602-how-will-the-universe-end>. See Gemma Lavender, "How Will the Universe End?," *Space Answers* (February 2014), <https://www.spaceanswers.com/deep-space/how-will-the-universe-end/>.

<sup>4</sup>Becker, "How Will the Universe End, And Could Anything Survive?"

<sup>5</sup> See <http://physics.bu.edu/~duffy/py105/Secondlaw.html>.

then become uniformly cold, dead, and empty. "Every star will die, nearly all matter will decay, and eventually all that will be left is a sparse soup of particles and radiation. Even the energy of that soup will be sapped away over time by the expansion of the universe, leaving everything just a fraction of a degree above absolute zero."<sup>6</sup>

If the *Big Freeze* theory is a by-product of thermodynamics, the second theory, the *Big Crunch*,<sup>7</sup> stems from Einstein's theory of general relativity. Einstein's theory postulates that the entire universe is either expanding or contracting. In 1929, the American astronomer Edwin Hubble provided sufficient evidence that supports the theory that the universe is expanding. This confirms the Big Bang theory, which pertains to how the universe began as something miniscule and then expanded rapidly. According to the *Big Crunch* theory, the universe will come to a point where the Big Bang will be reversed. The Big Bang has led to the expansion of the universe. This continuous expansion of the universe means greater mass and therefore greater gravity. The greater gravity within the universe will then slow its expansion. If the amount of mass goes beyond the critical threshold, it will pull everything back together causing the universe's contraction until it shrinks, gets hotter and denser, and finally becoming a compressed conflagration. This reversal of the Big Bang will then lead to the *Big Crunch*.

The third theory, the *Big Change*,<sup>8</sup> is based on Quantum physics. To explain it in simple terms, we could imagine a clear glass filled with super-cooled pure water. The water will stay liquid as long as it remains to be above 0°. But if we put a crystal of ice on it, it will quickly freeze itself. This can analogically happen to our universe. According to quantum physics, we can find a small amount of energy even in a hollow vacuum. But then, it is possible that another vacuum, which has lesser energy, may come out. This means, the universe is like that super-cooled water that is susceptible to freezing once the vacuum with lesser energy emerges. If that happens it will entirely change the old vacuum. Within this changed vacuum, things would radically be different. The properties of the building blocks of matter would be entirely altered, therefore modifying the rules of chemistry. Life cannot inhabit such a given condition. Moreover, it is not only life that will be annihilated. Planets and stars will also be destroyed when that big change happens.

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<sup>6</sup>Becker, "How Will the Universe End, And Could Anything Survive?"

<sup>7</sup>Becker, "How Will the Universe End, And Could Anything Survive?"

<sup>8</sup>Becker, "How Will the Universe End, And Could Anything Survive?"

The fourth possibility is called the *Big Rip*.<sup>9</sup> This theory stems from the idea of the presence of dark energy in the universe. Astrophysicists discovered that the expansion of the universe is speeding up. They hypothesized the existence of dark energy that causes it since normal matter and energy could not make the universe act like this. This dark energy pulls the universe apart. It is said that this dark energy is 70% of the composition of the entire universe and that this number is still increasing. What if the amount of dark energy grows faster than the universe's expansion? This creates "phantom dark energy." This can tear the universe apart once it becomes denser than the universe itself. It will literally rip apart all the heavenly bodies, the galaxies, the stars, the solar system, the planets, and including atoms themselves. That is why it is called the *Big Rip*.

The aforementioned theories can be categorized under the *cosmic pessimism* view. They all predict a tragic end for the universe, its death. It must not be left unmentioned, however, that there are some contemporary cosmologists who theorize a more optimistic view than the four theoretical constructions above. These cosmologists believe the existence of a multiverse. They claim that the death of our observable universe may not really be the end and therefore existence is still possible even after its passing. Some major proponents of this theory are Lee Smolin<sup>10</sup> and Andre Linde.<sup>11</sup> Although they have different theoretical models, still both of them agree that: our observable universe emerged from a universe that came before us; our universe will give birth to a new universe after us; and this is due to the evolution of universes toward self-organization and greater complexity just like how the evolution of organisms in our planet happen.<sup>12</sup>

How do scientists and cosmologists arrive at their theories about the end of the universe? Science bases its prediction on empirical observation and repeatable experimentation. The nature of its methodology dictates that it can only investigate objective sensory data and it is highly dependent on recurring events that follow

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<sup>9</sup>Becker, "How Will the Universe End, And Could Anything Survive?"

<sup>10</sup>Lee Smolin, *Three Roads to Quantum Gravity*, New York: Basic Books, 2001, 200-201; *Time Reborn: From the Crisis in Physics to the Future of the Universe*, Boston: Houghton Mifflin Hachett, 2013, 123-39.

<sup>11</sup>Andre Linde, "The Self-Reproducing Inflationary Universe," *Scientific American* 271, 5 (November 1994) 48-49.

<sup>12</sup>Heidi Ann Russell, *Quantum Shift: Theological and Pastoral Implications of Contemporary Developments in Science*, Collegeville, Minnesota: Liturgical Press, 2015, 154.

constant physical laws.<sup>13</sup> For this reason, any prediction it makes must be based on what it knows about these physical laws and that includes its prediction of the fate of the cosmos. We have seen above how the theories on cosmic death are derived from these scientific laws and theories. For instance, the *Big Freeze* is based on the Second Law of Thermodynamics. Since science has discovered the concept of increasing entropy, it could make a prediction that this could lead to the ultimate entropy of the universe. The *Big Crunch* is based on Einstein's theory of general relativity. Science has strong empirical evidence that the universe is expanding so it could infer that it is possible that it may lead to increasing gravitational pull that can result in the great crunch. Likewise, the theory of a new universe emerging from an old one is patterned after the theory of evolution. Cosmologists claim that a hint about the logic of life of the universe may be traced from the logic of life in us, organisms. We serve as the microcosm of the whole cosmos, the macrocosm.

In answering the question of what will be the end-story of the cosmos, one cannot simply say that science possesses the one and only right answer. People of faith (and hope), may opt to acknowledge what science says about the end-time but they are not obliged to believe exclusively on what science says. Science does not have the monopoly of all truth. Nevertheless, it points us to one valid dimension of truth. The Christian hope offers another.

### **3. Life after Death or Life after Life after Death?**

Most people think that the Christian view of the end-time is what Haught calls as *Otherworldly Optimism*. The world will pass away but the souls of the elect will be in heaven with God for all eternity. A number of people think this way. They believe that if there is such a thing as an afterlife, it has something to do with an otherworldly existence. The souls of good people go to an ethereal place, away from this world that they characterize as the "valley of tears"<sup>14</sup> while the unjust go to hell, the destination for the damned. There they get their penalties for the grave sins they have committed. Meanwhile, those who did not commit grave sins or did not have complete knowledge or consent in doing such will go to purgatory where they will receive their final purification before they can enter heaven worthily. These notions are prevalent among Christians. That is why it is very surprising for a lot of people to consciously realize that in

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<sup>13</sup>See Allan Day, "Ways of Relating Science and Faith," *Notes on Science & Christian Belief*, Huntingdale, Victoria: ISCAST (Vic), 2009, 5-9; John Haught, *Christianity and Science: Toward a Theology of Nature*, Maryknoll, New York: Orbis Books, 2007, 153.

<sup>14</sup>This is taken from the prayer Hail Holy Queen.

the Christian creed, the eschatological profession of faith pertains not to our belief in heaven, hell, and purgatory, but in the resurrection of the dead (the body) and the life of the world to come. The former pertains only to individual *eschata* while the latter is about the *Eschaton*. The *Eschaton* is not only about the personal destiny but it also encompasses the communal, i.e. of the entire humanity and the cosmos.<sup>15</sup> The Christian notion of the end-time, therefore, is not only limited to human destiny but also the destiny of the cosmos. Even in the scriptures, heaven and hell are not the ultimate eschatological end points. What the scriptures envision as the eschatological ultimacy is the total transformation, renewal, and unity that will take place when the new heavens and the new earth are bestowed by God (See Is 65:17, 20; 66:22; Heb 12:28; 2 Pt 3:12-13; Rev 21:1, 3).

Not even Jesus himself talked about heaven as the ultimate in his teachings. Wright puts it brilliantly in the second chapter of his book, *Surprised by Hope*, by recalling Jesus' public proclamation of God's Kingdom not as some postmortem otherworldly destination but rather God's sovereignty coming "on earth as it is in heaven."<sup>16</sup> Wright counters the Platonic and Gnostic misconceptions that have infiltrated most of the Christian minds, that is the belief that in the end our immortal souls that have escaped from our bodies and this world will reside in some ethereal heaven. Basing his assertions from the scriptures, Wright claims that our eschatological end is not such a disembodied existence but a bodily resurrection and a renewed creation. This is grounded in the resurrection of Christ wherein "what the creator God has done in Jesus Christ... is what he intends to do for the whole world – meaning, by *world*, the entire cosmos with all its history."<sup>17</sup> Moreover, Wright clarifies that "it is not we who go to heaven, it is heaven that comes to earth...God's kingdom will come and his will be done on earth as in heaven."<sup>18</sup> This leads to the total and final redemption of the whole cosmos, the victory of love and goodness over sin and evil, and the gift of eternal life to all. Thus, "What creation needs is neither abandonment nor evolution but rather redemption and renewal; and this is both promised and guaranteed by the resurrection of Jesus from the dead. This is what the whole world's waiting for."<sup>19</sup>

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<sup>15</sup>Cf. Dermot Lane, *Keeping Hope Alive: Stirring in Christian Theology*, New York: Paulist Press, 1996, 20, 132-148.

<sup>16</sup>Wright, *Surprised by Hope*, 18.

<sup>17</sup>Wright, *Surprised by Hope*, 91. See John Polkinghorne, *The God of Hope and the End of the World*, London: Yale University Press, 2002, 113.

<sup>18</sup>Wright, *Surprised by Hope*, 104.

<sup>19</sup>Wright, *Surprised by Hope*, 107.

For Wright, then, the Biblical eschatological concern is not about the “life after death” in as much as the “life *after* life after death.”<sup>20</sup> It is not so much concerned about a Platonic disembodied existence of soul-spirits in heaven as the *Otherworldly Optimism* purports. Rather, it is about the redemption of the entire person, body and soul and also of the whole universe.<sup>21</sup> What the Christian eschatological horizon entails is not just the resurrection of an individual nor of the human species alone but also of the entire created reality and history.<sup>22</sup> For Wright, this is what for Wright is the “life *after* life after death” is all about. Therefore, the heavenly *eschata* is only the “life after death” moment, an intermediate step towards the ultimate, which is the “life *after* life after death.” Heaven, as common Christians describe as the “better place” for the departed, is just “a temporary halt on a journey.”<sup>23</sup> It is not the final resting place for all but the new heavens and the new earth. There, God will put to right whatever went wrong in the world and its history, i.e. sin, evil, and death. The eschaton is the ultimate saving act of God for his creation.

It can therefore be argued that, grounded in the teachings of the scriptures and contrary to what some common misconceptions suggest, the Christian vision of the end-time is *Cosmic Hope*. This vision does not concern itself with an eternal now that discards time and frees souls from their connection with natural history. Rather, it anticipates the transformation of the cosmos and the renewal of all life.<sup>24</sup> What is the source of this kind of conviction and knowledge? Obviously, this is not coming from the positivistic epistemology of science where empirical data are prerequisites for assent. Such epistemology necessitates some directly measurable sensory data that could undergo scientific experimentation and scrutiny.<sup>25</sup> The Christian eschatological vision is not dependent on such reductionistic epistemology. Rather it acknowledges an “epistemology of hope.”<sup>26</sup> Hope must be understood not as “wishful thinking or mere blind optimism. It is a mode of knowing, a mode within which new things

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<sup>20</sup>Wright, *Surprised by Hope*, 148-152.

<sup>21</sup>Cf. John Polkinghorne, *Science & Theology: An Introduction*, London: Fortress Press, 1998, 115.

<sup>22</sup>Cf. Russell, *Quantum Shift*, 157. See also Juan Alfaro, *Christian Hope and the Liberation of Man*, Sydney: E.J. Dwyer, 1978, 206.

<sup>23</sup>Wright, *Surprised by Hope*, 150.

<sup>24</sup>John Haught, *Resting on the Future*, 126.

<sup>25</sup>Cf. Frederick Suppe, “Epistemology,” *The History of Science and Religion in the Western Tradition: An Encyclopedia*, ed. Gary Ferngren, New York: Garland Publishing, Inc., 2000, 27-28.

<sup>26</sup>Wright, *Surprised by Hope*, 72.



are possible, options are not shut down, new creation can happen."<sup>27</sup> It therefore presupposes an epistemology of metaphysics, i.e. epistemology of transcendence, of what is new or beyond what one can observe through the senses. According to Bernard Schumacher, "Hope cannot exist and flourish unless its subject is ontologically constituted by a *not-yet* that expresses the *temporality* into which he is projected."<sup>28</sup> This means that the epistemology of hope can only thrive if we do not allow the reductionistic tendency of scientific epistemology, which is limited to what is temporal, to rule out all possibilities. Moreover, Haught asserts that hope needs a kind of epistemology that is willing to wait "for new events and a richer coherence to show up" and it "fosters an epistemological patience and, hence, a refreshing realism that refuse to put premature limits on the possible."<sup>29</sup>

The epistemology of hope is grounded on and linked with the "epistemology of faith" and the "epistemology of love."<sup>30</sup> On one hand, Christian hope is grounded on our faith in the creator God who reveals Godself in Jesus Christ. The content of this hope is dependent on what God has done to him, i.e. in his life, passion, death, and resurrection. As mentioned earlier, this faith informs us about what God will do to us and his entire creation in the future. Dermot Lane, paraphrasing Edward Schillebeeckx, claims that "what had happened in the life, death, and resurrection in Jesus is a microcosm of what will happen in the macrocosm of creation."<sup>31</sup> It is our faith in the God of Jesus Christ that serves as the foundation for our eschatological hope. The epistemology of faith, then, enables us to believe in a new creation within and beyond the parameters of historical and scientific knowledge. On the other hand, it is the epistemology of love, being the deepest mode of knowing, that completely engages with reality other than itself, affirming and celebrating that "other-than-self reality."<sup>32</sup> Hence, it is love that paves the way to the recognition of the metaphysics of transcendence which, as pointed out earlier, is also a basis for hope. Christians believe that God is love (See 1 Jn 4:8). This serves as a foundation for their eschatological hope. According to Josef Pieper, "True love, which has its paradigm in divine love, is

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<sup>27</sup>Wright, *Surprised by Hope*, 72.

<sup>28</sup>Bernard Schumacher, *A Philosophy of Hope: Josef Pieper and the Contemporary Debate on Hope*, trans. D.C. Schindler, New York: Fordham University Press, 2003, 39.

<sup>29</sup>Haught, *Resting on the Future*, 126.

<sup>30</sup>Wright, *Surprised by Hope*, 71-74.

<sup>31</sup>Lane, *Keeping Hope Alive*, 181. See Edward Schillebeeckx, *Interim Report on the Books 'Jesus' and 'Christ'*, London: SCM Press, 1990, 126-8.

<sup>32</sup>Wright, *Surprised by Hope*, 73.

not capable of annihilating a thing that owes its existence to that love, but on the contrary wills that the thing exist for all eternity."<sup>33</sup> And for William Hubert Vanstone, "If creation is the work of love, its 'security' lies not in its conformity to some predetermined plan but in the unsparing love which will not abandon a single fragment of it and man's [sic.] assurance must be the assurance not that all that happens is determined by God's plan but that all that happens is encompassed by His love."<sup>34</sup> The relationship of divine love and the existence of creation leads to the hope for the eschatological future. So, it is faith that enables us to believe in the gift of the new heavens and the new earth and it is love that grounds this conviction in the reality of the Great-Other who, out of love, wills our existence now and forever.

For Wright, the epistemologies of faith, hope, and love are not in opposition to the epistemology of science yet they transcend what science can know and say. Thus, he claims, "All knowing is a gift from God, historical and scientific knowing no less than that of faith, hope, and love; but the greatest of these is love."<sup>35</sup>

#### **4. The Complementarity of Science and the Christian Hope**

For some people, there seems to be an utter incompatibility between what science conceives as the end story of the universe and what the Christian eschatological hope believes. At first glance, they may really seem to be contradictory. This is because of the differences of the scientific and religious narratives of the end-time stemming from their distinct epistemologies (and methodologies). For science, the end story of the universe is cosmic death. But for the Christian hope, after this cosmic death comes a cosmic resurrection.

I argue that the two, though distinct, are not essentially contradictory. Moreover, the faith-narrative of *cosmic hope* for the resurrection complements and supplements what the scientific narratives propose. This is because faith, as I have argued in the last section, can go beyond the limitation and scope of scientific investigation and knowledge. The world-renowned theologian-scientist, Allister McGrath, accurately captures the gist of my proposition, "Science tells us a story about the history and nature of the world which we

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<sup>33</sup>Schumacher, *A Philosophy of Hope*, 161.

<sup>34</sup>William Hubert Vanstone, *Love's Endeavour, Love's Expense: The Response of Being to the Love of God*, London: Darton Longman and Todd, 1977, 66 quoted in John Polkinghorne, *Science and Providence: God's Interaction with the World*, Boston: Shambhala, 1989, 97.

<sup>35</sup>Wright, *Surprised by Hope*, 74.

know and inhabit. But it does not tell the full story. Christianity is consistent with the story told by science, but it takes that story further. It tells the full story, of which science is but part.”<sup>36</sup> What science tells us about cosmic death as the end of history is not actually the ultimate. I would call it the provisional or transitional end. Science could only claim cosmic death as the end in its narrative given the limits of its provisional and transitive knowledge of reality.<sup>37</sup> But Christian hope can perceive reality beyond what scientific knowledge can grasp. It can open itself to what is transcendent, the *not-yet*. Thus, it can hope for the cosmic resurrection beyond cosmic death. The death of the universe, in a Christian hope perspective, is just the climax of the entire story. The resurrection is its resolution.

The model of understanding the relationship between the scientific and hope narratives of the end-time should be dialogical and integrative. In a dialogue, there is a recognition of differences of two perspectives and there is also an opportunity for mutual listening and learning. There has to be a clear delineation between the scientific accounts and the Christian eschatological vision. The latter does not intend to make the former’s position superfluous nor does it intend to assimilate its narrative to itself. The view of science and hope are considered as two distinct fields of epistemologies that provide different yet complementary answers to the same inquiry. The two can dialogue with each other to arrive at a holistic view of the truth. They can be likened as two sides of the same coin of truth.<sup>38</sup> This is similar to what Ted Peters calls as Hypothetical Consonance which indicates “a correspondence between what can be said scientifically about the natural world and what the theologian understands to be God’s creation.”<sup>39</sup> Again, this does not entail a fusion of hope and science but rather a dialogue and mutual interaction in their inquiry about reality. The confirmation of

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<sup>36</sup>Allister McGrath, *Surprised by Meaning: Science, Faith, and How We Make Sense of Things*, Louisville: Westminster John Knox Press, 2011, 44.

<sup>37</sup>The epistemology of science should acknowledge that its knowledge of reality is transitive and relative. This means, it is dependent on the knower and conditioned by his/her context and limitations. Scientific knowledge is not absolute. It is open to falsification, iterations, and further refinement depending on other available evidences, proofs, or disproofs. Therefore, its view of the end is conditioned by the limitation of its epistemology. See Roy Bhaskar, “Philosophy and Scientific Realism,” *A Realist Theory of Science*, London: Verso, 1975, 11-52.

<sup>38</sup>Day, “Ways of Relating Science and Faith,” 5-9.

<sup>39</sup>Ted Peters, “Science and Theology: Toward Consonance,” *Science & Theology: The New Consonance*, ed. Ted Peters, Boulder, Colorado: Westview Press, 1999, 18.

theological truths by scientific data does not mean the provision of scientific data of religion as an alternative source for scientific hypothesis.<sup>40</sup> These two remain to be differentiated and yet not totally apart from each other.

Thus, the relationship of science and Christian hope must not be deemed adversarial but rather mutual and complementary. For Dermot Lane, the “new climate of constructive dialogue between science and religion is one of the outstanding signs of the time in the latter half of this century.”<sup>41</sup> This is true because on one hand, theology cannot simply disregard what scientific studies have produced for a better knowledge and understanding of our reality. But on the other, science can neither claim to monopolize the knowledge of the whole reality and thus it cannot ignore the contribution of theology and the other disciplines in understanding reality holistically. And so, a constructive dialogue between the two is necessary.

One illustration of this paradigm comes from the renowned theologian of faith and science, John Haught. He says:

But what if the universe, considered as a whole, will perish, as contemporary cosmology and the laws of thermodynamics predict? This is an especially serious issue since... the ultimate evil in the world is the simple fact that things perish. That the entire universe will eventually be lost is a most sorrowful prospect. However, there is no reason for theology to be any more surprised that the universe will perish than that any particular thing in it will eventually perish. Indeed, Christian theologians should already have realized that everything other than God is perishable. They should not be too taken aback by current astrophysical predictions of a cold collapse of the originally hot Big Bang universe trillions of years from now. As long as the “secret essence” of the universe and consciousness is being “garnered” somewhere everlastingly, as Teilhard proposes, the cosmos need not be thought of as ultimately “pointless,” even if it will collapse eventually into an energetic deep freeze. The everlasting care of God can surely save the perishing world as a whole... reordering it and reordering it continually into wider patterns of beauty in the vision of divine glory that we “hope to enjoy forever.”<sup>42</sup>

Haught does not negate the scientific narrative of the end, but he neither retreats from acknowledging that this is not the absolute end of the entire narrative of the cosmos. He does not discount the possibility that the scientific theory may be true and binding but,

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<sup>40</sup> John Haught, *Science and Religion: From Conflict to Conversation*, New York: Paulist Press, 1995, 23.

<sup>41</sup>Lane, *Keeping Hope Alive*, 175.

<sup>42</sup>Haught, *Science and Religion*, 164.

consistent to our proposition of dialogue and integration, he claims that the Christian hope narrative can go beyond what science can predict. This hope emanates from the epistemologies of faith and love centred on the everlasting concern of God for us and the whole creation.

Science tells us about the entropic-end of our known universe based on what it knows and can know. However, Christian hope enables us to believe that chaos and death will not have the last say. Through the epistemologies of faith, hope, and love, we assert that ultimately it will be order and life that will prevail. While acknowledging the possibility of an entropic-end based on science, we may still proceed with the hope and conviction that God will not allow it to be the ultimate end. God will therefore bring about the new heavens and the new earth, i.e. the resurrection of the dead and the new birth of the cosmos.