

## *Increasing Your Certainty*

*Every age has its superstitions, and ours is the notion that science is an infallible and all-sufficient guide to truth.<sup>1</sup>*

—Louis Cassels

ALTHOUGH MANY SCIENTISTS do not hold the exaggerated opinion quoted above, Cassels explains, it is nevertheless a commonly held view of educated laymen. We all know that almost every pronouncement by every scientist tends to be accorded the status of absolute and final verity. This is especially perilous when it is realized that a number of scientists, intentionally or not, are promoters of an overview that is materialistic.

“All of us,” Cassels says, “have been conditioned by contemporary culture to reject uncritically the whole idea of a reality transcending the natural world of physical objects and forces.”<sup>2</sup> That conditioning is not a result of what we hear from scientists only, but it comes at us from every direction, whether from a National Park Service display at the Grand Canyon, a wild animal program on television, or a novel such as *The Call of the Wild*. Evolution, the main vehicle of this materialistic promotion, is treated as fact. Darrell Huff reminds us, however, that “people can be wrong in the mass, just as they can individually.”<sup>3</sup>

Darwin expressed on more than one occasion a feeling of

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<sup>1</sup> Louis Cassels, *The Reality of God* (Garden City, N.Y.: Doubleday and Co., 1971), p. 6.

<sup>2</sup> *Ibid.*, p. 2.

<sup>3</sup> Darrell Huff, *How to Take a Chance* (New York: W. W. Norton & Co., 1959), p. 122. (Huff was not discussing evolution.)

how much he did not yet know. He said in the Introduction to *Origin of Species* (later editions): "No one ought to feel surprise at much remaining as yet unexplained in regard to the origin of species and varieties, if he make due allowance for our profound ignorance in regard to the mutual relations of the many beings which live around us." He repeated this statement in chapter 4 of the same volume.

Although we too must be continually aware that there is much we have yet to learn, we are in a happier state than Darwin in that there can be an exhilarating certainty as to the overview that accords with the facts around us, through the principles of probability logic, as well as in more intuitive and spiritual ways. This assurance heightens the enjoyment of discovery and fills one with anticipation as he seeks to discern the plan so wisely built into nature. The fact that the Creator made things to run quite well without his having to step in constantly by direct intervention is more of an indication of design and infinite wisdom than if we could see Him physically at work in some visible form adjusting the machinery of nature. It gives a person the intriguing opportunity to try to figure out the amazing wisdom of the plan of operation of this organism and that galaxy, by using his own model of the Creator's masterpiece of design, the human brain.

In spite of the pressure from all this propaganda surrounding us all, the method we have been studying together in these pages can provide a reasoned and serene assurance of the truth that evolution is false. We have seen that the chain of reasoning on which it is based contains vital flaws which rob evolution of scientific validity.

### *Evolution Ruled Out by the Single Law of Chance*

Evolution, as defined at the start of the book and as usually understood today, includes the origin of life from nonliving matter without intelligent planning. It was seen in chapter 5 that natural selection could not have helped at all before the existence of an accurate duplicating system. Chance alone would have had to produce the first complete set of genes and proteins for minimal life. This is the only alternative to intelligent creation.

Allowing many extreme concessions to make it easier for chance to succeed, we arrived at the figure of  $10^{-236}$  as the

probability of a usable random sequence gene or protein. That is: one chance in a figure with 236 zeroes, for just *one* gene or protein molecule. Before life could exist, many would be required.

The *law of chance*, as stated by Émile Borel, is that "events whose probability is extremely small never occur."<sup>4</sup> He defined "extremely small" as, on the cosmic scale, a probability of  $10^{-50}$  or smaller. It can readily be seen that the probability of a gene or a protein, namely  $10^{-236}$ , is drastically smaller. (A larger negative exponent means a smaller probability.)

In order to make this "single law of chance" more absolute in its certainty, Borel then did some interesting calculating, giving chance some inordinate concessions as we have done. The great French mathematician first considered matter as divided into the smallest possible atomic particles. To pack the universe, he said, would require no more than  $10^{120}$  of these.

Next he divided time into the smallest intervals on the scale of atomic processes and said that  $10^{40}$  would be the total of these smallest intervals of time that could happen in billions of centuries, aiming at a generous approximation of the life span of the universe, including our solar system.

Borel said that, if one considers collisions between these minuscule particles at the tremendous rapidity of such extremely short periods of time, then, by multiplying the two figures together,

the total number of these infinitely small elementary phenomena does not exceed  $10^{160}$  in the entire universe and during the longest period of time we can assign to the duration of our solar system. It is thus impossible to imagine that the simplest event could recur more than  $10^{160}$  times, and it follows that a probability of  $10^{-200}$  is very largely negligible from the cosmic perspective.<sup>5</sup>

This single law of chance, according to Borel, "carries with it a certainty of another nature than mathematical certainty . . . it is comparable even to the certainty which we attribute to the existence of the external world."<sup>6</sup>

Pierre de Laplace, mathematician and astronomer of earlier

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<sup>4</sup> Émile Borel, *Elements of the Theory of Probability* (Englewood Cliffs, N.J.: Prentice-Hall, 1965), p. 57.

<sup>5</sup> Borel, *Theory of Probability*, p. 59.

<sup>6</sup> Borel, *Probabilities and Life* (New York: Dover Publications, 1962), p. 6.

years, believed that the utility of probability theory was to guide us in weighing assumptions.<sup>7</sup>

The world of living nature exists about us. Evolutionary doctrine assumes that it came about without the aid of intelligence from nonliving matter, which, as we have seen, is tantamount to saying it happened by chance. We have used "the science of probability" to weigh that assumption, and it has been found wanting. This began to be apparent from the moment we studied the multiplication rule and found that on the average it takes chance ten billion attempts in order to count to ten. Dr. John C. Whitcomb says: "Mathematics is deadly to evolution."<sup>8</sup>

The calculations we have studied together in these pages will not convince a *dedicated* evolutionist, of course. As we have seen, such a person's outlook is a chosen overview or faith and not a conclusion based merely on scientific evidence. We have written instead in the hope that calling attention to this evidence may be useful to openminded individuals in quest of the truth on this matter. A great many people among us are, to adapt a Cassels phrase, "reluctant evolutionists."<sup>9</sup> Evolution was accepted under the impression that it was proven science, but a lurking suspicion has persisted that all was not well on that subject.

If you are among the multitude of educated persons in that position, it may be noted that your certainty may not arrive in one lump sum. Instead, your assurance can grow as you continue to study and ponder these facts with courage. Those who earnestly seek will find. The half-hearted, of course, will not.

One's joy in finding God will be proportional to the urgency of the seeking. In athletic language, Cassels advises one to "hang in there and don't give up too easily."<sup>10</sup>

### *Applying the Principles We've Learned*

The approach which has been introduced in this book can be applied by the reader in countless situations. We have related the laws of chance to only a few particular facets of the living world. Now that you realize the helplessness of chance when

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<sup>7</sup> Huff, *How to Take a Chance*, p. 57.

<sup>8</sup> John C. Whitcomb, on a radio broadcast "And God Created," KBBI, Los Angeles.

<sup>9</sup> Cassels did not deal with evolution. He spoke of "reluctant atheists" and "wistful agnostics." (Cassels, *The Reality of God*, p. 1.)

<sup>10</sup> Cassels, *The Reality of God*, p. 4.

it comes to producing an ordered result, it will seem natural to apply that truth when you read of some new discovery in science, or when you personally happen upon some interesting fact in nature. Here is just one example of a case where this can be done (concerning the human stomach), reported by Dr. Horace W. Davenport, as a result of his work at Michigan Medical School:

The gastric juice contains hydrochloric acid, one of the most corrosive acids known. At the concentration secreted by the stomach lining the acid is capable of dissolving zinc and is deadly to cells. Yet in the stomach the hydrochloric acid ordinarily acts only to perform the useful functions of killing bacteria in the ingested food and drink, softening fibrous foods and promoting formation of the digestive enzyme pepsin. The corrosive juice is prevented from attacking the stomach wall by a complex physical-chemical barrier that is not yet fully understood.<sup>11</sup>

Dr. Davenport continued with this engrossing information:

The human stomach normally sheds about half a million cells per minute. Thus the surface lining of the stomach is completely renewed every three days. By virtue of this rapid renewal the stomach wall can repair even severe damage of the mucosal barrier in a matter of hours or days.<sup>12</sup>

It is patently absurd to try to find an adequate evolutionary explanation for such a system. Open-minded rational thought automatically suggests an intelligent Designer without whom such a plan would never originate. We might even consider that it could be dangerous attributing such a marvel as this to random mutations or any other nonrational source, since it would amount to a major insult to the Designer.

Your certainty will grow by continuing to apply probability thinking. Perhaps you, like many others, already realize that to get a clear grasp of some complex truths or computations, rereading and meditation are required.

#### *Probability Calculations by Others*

To date, I have found data on only three sound scientific calculations by others who applied probability reasoning to proteins, genes, or cells. The basic computations in this book were

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<sup>11</sup> Horace W. Davenport, "Why the Stomach Does Not Digest Itself," *Scientific American*, Vol. 226, (January, 1972), p. 87.

<sup>12</sup> *Ibid.*, p. 91.

done before these were discovered, except for the general conclusion of the first one listed below. We suspect that many evolutionists have avoided such investigations because they intuitively recognize that it will threaten evolutionary doctrine if they make such studies. In chronological order, here are the three mentioned above:<sup>13</sup>

Ulric Jelinek, who was chief metallurgist of the meter division of Westinghouse Manufacturing Company, wrote:

Consider the very sensitive balance of this whole business. The earth is exactly the correct distance from the sun. It is rotated at the right speed. Its very size determines the proper density of its atmosphere, all to make life possible.

In a protein molecule, there are two thousand atoms in definite arrangement. The mathematician has calculated in order for these to come in this particular arrangement by accident, he would have to vibrate them at the speed of light and then it would take you a time of 10 with 243 zeros<sup>14</sup> [meaning that many billions of years].

He referred to calculations made by Charles-Eugène Guye, the eminent Swiss physicist (who died in 1942). Professor Guye's computations were made long before the Watson-Crick DNA breakthrough, and were reported in detail in the book *Human Destiny* by Pierre Lecomte du Noüy to whom we have referred before.<sup>15</sup> His approach was from the fact of "dissymmetry" in a protein molecule in the sense that the atoms are not just evenly scattered like a quantity of thoroughly mixed black and white grains of sand. Using an oversimplification, Dr. Guye said that even if only two kinds of atoms were used in proteins, to arrive at a degree of dissymmetry of 0.9 would indicate a probability of  $2.02 \times 10^{-231}$ . This figure as applied in du Noüy's book results in the "10<sup>243</sup> billions of years" required to obtain one

<sup>13</sup> There are doubtless others, in addition to numerous casual applications of the idea that chance cannot produce complex order. Henry Quastlar was writing a book on the subject at the time of his death in 1963. Friends completed it the best they could from his notes: *The Emergence of Biological Organization*, (New Haven: Yale University Press, 1964). The book is difficult to follow at times, perhaps because of its unfinished nature. We will discuss it more at length in Appendix 3, beginning on page 257. Though apparently biased strongly for evolution, Quastlar gave figures which produce the two outer limits of the probability of life occurring by accident—between 1 chance in 10<sup>255</sup> and 1 in 10<sup>2,999,999,999,986</sup>. His other calculations are described in Appendix 3.

<sup>14</sup> Ulric Jelinek, in *Campus Challenge* (Campus Crusade for Christ, Arrowhead Springs, Calif., 1961, October), p. 6.

<sup>15</sup> Pierre Lecomte du Noüy, *Human Destiny* (New York: Longmans, Green and Co., 1947), pp. 33, 34.

protein molecule from a material volume the size of the earth, being shaken at the speed of light.<sup>16</sup>

A second type of study was reported in 1968 in the book *Energy Flow in Biology* by Harold J. Morowitz of Yale, whose important research has been mentioned throughout this book.

Being a biophysicist, Dr. Morowitz considered the probability of chance fluctuations that would result in sufficient energy for bond formation to make the molecules needed for a living cell.

Assume an ocean with a concentration of all the small molecules that are needed to build proteins, genes, etc., for a cell. Under "equilibrium" conditions (the stable state reached after initial reactions have balanced), the probability of such a fluctuation during earth's history would be  $10^{134}$  in  $10^{340,000,000}$  for a minimal cell.<sup>17</sup> This would be 1 chance in  $10^{339,999,866}$ . Such a fluctuation, of course, has a probability "vanishingly small" beyond words to express.

It may be noted that if, instead of an equilibrium situation, we had energy flowing through the system sufficient to provide energy for the bonds, it would do no more than put us in the position from which our own studies began—with chance trying to arrange the units in a usable sequence, and failing miserably, as always.

The third probability study was one reported by Frank B. Salisbury, of the Plant Department of Utah State University. In an intriguing article in *Nature*, he began thus:

Modern biology is faced with two ideas which seem to me to be quite incompatible with each other. One is the concept of evolution by natural selection of adaptive genes that are originally produced by random mutations. The other is the concept of the gene as part of a molecule of DNA, each gene being unique in the order of its nucleotides. If life really depends on each gene being as unique as it appears to be, then it is too unique to come into being by chance mutations. There will be nothing for natural selection to act on.<sup>18</sup>

Salisbury noted that in current evolutionary theory, during early stages there would come a time when a certain enzyme was required, and this was supposed to have been produced

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<sup>16</sup> Ibid.

<sup>17</sup> Harold J. Morowitz, *Energy Flow in Biology* (New York: Academic Press, 1968), p. 99.

<sup>18</sup> Frank B. Salisbury, "Natural Selection and the Complexity of the Gene," *Nature*, Vol. 224 (October 25, 1969), p. 342.

by mutations from existing genes. He calculated that if  $10^{20}$  planets had oceans of existing small DNA genes of 1,000 nucleotides in length, replicating a million times a second with one mutation each time, in 4 billion years only  $10^{85}$  of a possible  $10^{600}$  orders would occur. If by extreme concession it is allowed that  $10^{100}$  different sequences would work, the probability would be  $10^{-415}$  that the needed gene would occur in that time (one chance in  $10^{415}$ , a figure with 415 zeroes).

Dr. Salisbury called on the biological community to resolve this dilemma "if our teachings are to remain internally consistent."<sup>19</sup>

In commenting on this article, L. M. Spetner of Johns Hopkins University's Applied Physics Laboratory wrote (*Nature*, 1970): "Salisbury's contention still seems to stand,"<sup>20</sup> namely, that there is indeed this apparent contradiction between these two concepts which are basic in current neo-Darwinian evolutionary theory.

Each of these three studies and the one developed in this book have approached the matter from very different sides. Guye dealt with dissymmetry in contrast to an even mixing of atoms. Morowitz calculated probability of correct bond energies for a minimal cell in an equilibrium grouping. Salisbury studied the chances of mutations producing a needed new enzyme. Our own calculations which we have studied together had to do with chance arranging just the sequence of amino acids for a protein or of nucleotides for a gene.

In each of these widely different studies of different facets of molecular biology, chance failed by such a preposterous margin as to erase all doubt.

### *Schrödinger the Physicist and "the Lord's Quantum Mechanics"*

Erwin Schrödinger, the great Austrian physicist, made important contributions to our knowledge of the nature of matter, in quantum mechanics theory, especially with regard to the wave nature of atomic particles. In a famous series of lectures at Trinity College in Dublin in 1943, he stressed the fact that in physics at the atomic level, the only order known—except at absolute zero temperature—is the statistical type of order from averaging the motions of *large numbers* of atoms.

In "striking contrast," one finds that in living things "a single group of atoms existing only in one copy produces orderly

<sup>19</sup> Frank B. Salisbury, "Natural Selection," p. 343.

<sup>20</sup> L. M. Spetner, "Natural Selection versus Gene Uniqueness," *Nature*, Vol. 226 (June 6, 1970), pp. 948, 949.

events, marvellously tuned in with each other and with the environment."<sup>21</sup>

Continuing his glowing description of DNA, before its exact structure was fully known, Schrödinger said:

Every cell harbours just one of them (or two, if we bear in mind diploidy). Since we know the power this tiny central office has in the isolated cell, do they not resemble stations of local government dispersed through the body, communicating with each other with great ease, thanks to the code that is common to all of them?

Well, this is a fantastic description, perhaps less becoming a scientist than a poet. However, it needs no poetical imagination but only clear and sober scientific reflection to recognize that we are here obviously faced with events whose regular and lawful unfolding is guided by a "mechanism" entirely different from the "probability mechanism" of physics. . . . It results in producing events which are a paragon of orderliness. . . . The situation is unprecedented, it is unknown anywhere else except in living matter.<sup>22</sup>

When considered in view of the disruptive tendency resulting from thermal motion, Schrödinger said, "the gene structure . . . displays a most regular and lawful activity—with a durability or permanence that borders on the miraculous."<sup>23</sup>

The single chromosome fiber, or DNA as we know it, said the noted physicist, "is not of coarse human make, but is the finest masterpiece ever achieved along the lines of the Lord's quantum mechanics."<sup>24</sup>

Perhaps one reason Schrödinger waxed eloquent about what he called "the hereditary treasure" is that, as a physicist, he was sharply aware of the usual tendency toward disorder which is expressed in the second law of thermodynamics—the inclination for things to run down or to become scattered.

Dr. Joseph L. Henson applies this law to the geological time scale and the probability of order occurring:

If you have a tremendous period of time, does this make it more likely to happen? It is still statistically improbable and unlikely. . . .

Let's suppose this unlikely event happens, and we have

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<sup>21</sup> Erwin Schrödinger, *What Is Life* (Garden City, N.Y.: Doubleday and Co., 1956), p. 76. (Given as a series of lectures in Dublin, 1943.)

<sup>22</sup> *Ibid.*, p. 77.

<sup>23</sup> *Ibid.*, p. 20.

<sup>24</sup> *Ibid.*, p. 83.

order created out of disorder. Now what is going to happen next? It is going to degenerate. This is the most statistically probable thing that would happen: not its becoming ordered again, but its going back to disorder.

So you see that time is really not a solution. In fact, the longer time, the more statistically improbable.<sup>25</sup>

Small wonder that the order in living things seems amazing to physicists! The second law of thermodynamics is relied upon almost absolutely by scientists with almost no exceptions. In its technical form, it tells of the irrecoverable loss of heat to the environment. Its effect is the increase of disorder, which is called *entropy*. This "second law" stands in the path of evolution, blocking the way.

### *Sure Cure for Doubt Regarding Evolution*

When you and I are bombarded by ceaseless propaganda to accept materialistic explanations of the universe and its living things, here are a few examples of effective ways we may keep our reasoning straight:

On a night when the moon is bright, go for a walk alone where orange or peach blossoms are fragrant while mocking birds sing, and ponder how it could have come to be. By mere natural selection?

Or, watch a kitten playing—a lively, furry ball of fun—and consider how it would strain chance for millions of aeons just to perfect the curve of one whisker. Chance would utterly balk at the task of bringing about through natural selection the kitten's built-in coded ability to scratch its ear rapidly or to land on all fours from any position.

Or, look into the eyes of a friend or loved one—in fact, consider any person whom you can admire. Who but an infinite Creator could have made possible such a being?

Or, consider a beehive with its exactly geometrically engineered honeycomb and its social organization; or a watermelon, or an elephant, or the tail of a peacock, or any tree! Even a cricket has DNA coding so exact that it gives the precise number of nerve impulses for his specific signalling sound.<sup>26</sup> Clifford Grobstein, biologist at the University of California at San Diego

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<sup>25</sup> Joseph L. Henson, Bob Jones University, personal communication, December, 1971.

<sup>26</sup> David R. Bentley, "Genetic Control of an Insect Neuronal Network," *Science*, Vol. 174 (December 10, 1971), p. 1139.

has written of "molecular messages that underlie the entire fabric of life."<sup>27</sup>

The believer in naturalistic evolution must never have walked at 4 a.m. under a bright buttermilk sky—light white clouds patterned on blue background—and laughed with the absurd music of a rooster announcing, "Four o'clock and all's well," the message relayed like an African drum system across the countryside. The exotic call of a night bird winging his way through the darkness above the walnut trees adds to the crisp reality and glory of an unutterably exciting world.

The materialist must never have stood at dawn and watched the pink light begin to tinge the sky, spreading upward toward the brilliance of the morning star, as bright blue windows open up in the eastern clouds in anticipation of the sunrise.

A group of boys stood one night watching the huge yellow orb of the full moon as it came into view over the mountains in the east. It sounded sensible to them when a club leader commented, "If you can see a sight like that and not worship God, you don't deserve to be called a person!"

#### *With Certainty, One Can Now Be More Aware, More Alive*

Together we have looked at many interesting things in the realm of science, and have traversed, in this book, some of "that fascinating terrain where biology and philosophy meet,"<sup>28</sup> as did Schrödinger and many of the other scientists who have been quoted. This is a proper consideration for every scientist as an individual, since a person's overview will either help or hinder his research and its validity, as well as affect the meaning of his life and long-range destiny.

C. S. Lewis, after years of atheism, finally was forced by the evidence to admit the existence of God, alone in his room and quite reluctantly at first. He wrote a book about that. The title is *Surprised by Joy*.<sup>29</sup> Just discovering that there is a Creator was the beginning, which led on to joy in fuller measure through this Oxford professor's personal faith in Christ.

Knowing the basic laws of chance makes it possible for you to be more aware than ever before. This knowledge immedi-

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<sup>27</sup> Clifford Grobstein, *The Strategy of Life* (San Francisco: W. H. Freeman & Co., 1965), p. 111.

<sup>28</sup> Harold F. Blum, *Time's Arrow and Evolution*, 3rd ed. (Princeton, N.J.: Princeton University Press, 1968), p. 7.

<sup>29</sup> C. S. Lewis, *Surprised by Joy* (New York: Harcourt, Brace and World, Inc., 1955).

ately points one to the only adequate explanation of the wonders above and around us. Life is continually filled with awe and mystery, as one discovers more of the wisdom built in at countless times and places. The natural response is to offer praise in one's heart to the Creator who designed the dew-jeweled rose and the song of the whippoorwill.

You'll laugh with the comic bray of the donkey, and you'll know the Designer must have been smiling when He planned the method of locomotion used by frogs—and crayfish and amebas—and when He formed the face of the walrus.

Eating will be more fun as the variety of colors, tastes, and shapes of fruits, vegetables, nuts, and spices tell us that God must have made this diversity and the attuned ability to see and taste because He wanted us to enjoy it. So we give thanks, marvelling at this evidence that He cares about us.

Many things apparently were planned for the benefit of human creatures, but God had something more important in mind. He seems to have made us for fellowship with Himself on a scale that is unbelievably exalted. In the words of Tresmontant, "We shall be, according to an epistle attributed to Peter, *consortes divinae naturae, participatores in the divine nature*. The doctrine of divinization completes the doctrine of creation. It provides its key and meaning."<sup>30</sup>

A greater than Tresmontant stated that doctrine shortly before being nailed by Roman soldiers to a cross on a hill just outside Jerusalem. On the night of the Last Supper, Christ said it in these words, in his prayer to his Father: "That they also may be one in us" (John 17:21). He then voluntarily died to make this possible, in a cosmic plan we only partially comprehend.

Does this great privilege come about automatically or is there something we must do? Near the end of the Bible, this same Jesus, having risen from the dead on the first Easter morning, said to us all: "Behold, I stand at the door and knock; if any man hear my voice and open the door, I will come in . . ." (Revelation 3:20). He promised to enter the life of any person who as a humble penitent would make a definite life choice to welcome him, putting full confidence in him as Forgiver and Savior, Master and Friend.

Should anyone wonder about a treatise on science conclud-

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<sup>30</sup> Claude Tresmontant, *Christian Metaphysics* (New York: Sheed & Ward, 1965), p. 105.

ing on a religious note, there is hardly any other logical way to conclude. Religion need have nothing to do with the process of seeking the answer to the question of the title, whether evolution is possible or impossible. For that purpose, all that is necessary is to examine the facts about us and the facts from valid research data in the light of probability reasoning. When one has arrived at the conclusion that what now exists cannot adequately be explained without a Creator, he or she comes to the point of unavoidable decision on a simple question: "So what?" So what should an intelligent individual do about his relationship to this amazing and infinite Creator and Owner of all things?

It would be tragic to stop with the mere negative knowledge that evolution cannot be true. With the certainty that chance could not account for our existence, we are in position to look up and find our true potential destiny.

