

**Evolution:
Possible or
Impossible?**

Introduction

... *the most golden of all molecules.*¹

—James D. Watson

IN THIS BRIEF volume the two most vital and interesting molecules present in every living thing on earth, namely nucleic acids and proteins, will be examined in some detail in plain language. The reader will also have a chance to become familiar with a few simple key rules of probability reasoning. These will then be combined to determine if it is possible that such molecules might possibly have had their origin in natural processes of evolution. These main subjects will lead to many related ones in biology.

The Golden Molecule

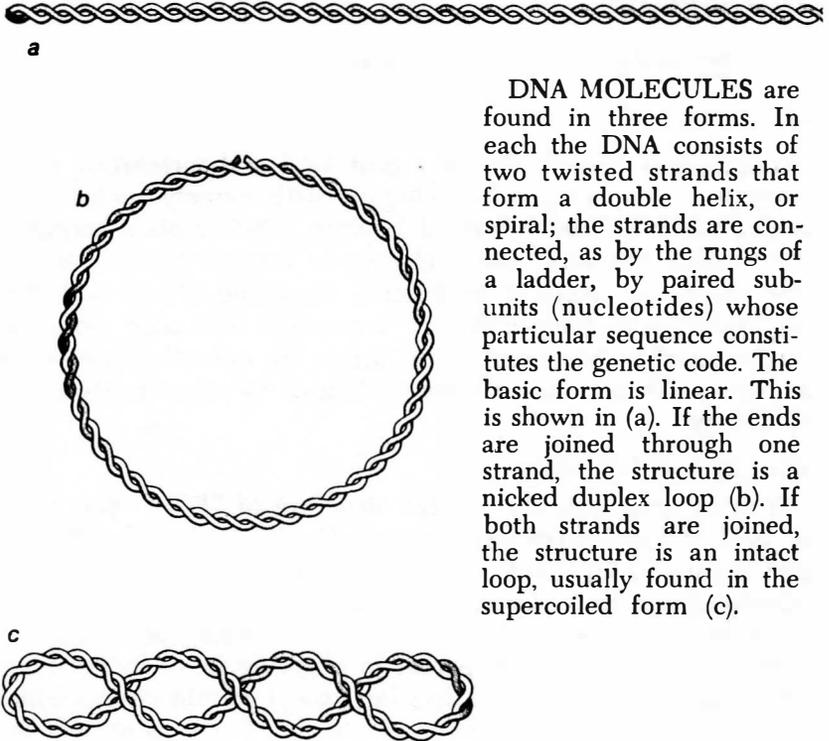
The exciting discovery of the structure of “DNA” was made in 1953 at Cambridge University in England by James Watson and Francis Crick. From then till now knowledge has increased rapidly about this cryptic substance. “DNA” is shorthand for “deoxyribose nucleic acid,” the molecule which carries the hereditary information from parent to offspring in all living things which have been examined thus far, except certain viruses which use RNA—a nucleic acid almost identical to DNA, as we will see.

DNA is the main component of genes and chromosomes. One writer in a scientific journal called it “the genetic scripture,” because this amazing chemical is in the form of a code or message.² With careful precision, this message directs the cell’s activities via protein synthesis. Figure 1 gives a preliminary idea of the shape of DNA. We will study its fascinating structure and function in chapters 8 and 9.

¹ James D. Watson, *The Double Helix* (New York: Atheneum Press, 1968), p. 18.

² Philip Morrison, *Scientific American* (in Book Reviews), Vol. 225 (October 1971), p. 118.

FIGURE 1
Forms of the DNA Molecule



DNA MOLECULES are found in three forms. In each the DNA consists of two twisted strands that form a double helix, or spiral; the strands are connected, as by the rungs of a ladder, by paired subunits (nucleotides) whose particular sequence constitutes the genetic code. The basic form is linear. This is shown in (a). If the ends are joined through one strand, the structure is a nicked duplex loop (b). If both strands are joined, the structure is an intact loop, usually found in the supercoiled form (c).

Adapted from Royston C. Clowes, "The Molecule of Infectious Drug Resistance." Copyright © April, 1973, by Scientific American, Inc., All rights reserved.

Such revelations have made the whole field of biology more popular with the layman. Some of the suspense and thrill of discovery have been transmitted to the public by several of the group of scientists who participated in the exploration leading to the original breakthrough. One of them, John C. Kendrew,

wrote the following in the preface of his excellent book, *The Thread of Life*:

We all find it natural to be interested in biology because we ourselves, being living organisms, are part of its subject matter; and, finally, molecular biology is advancing with such tremendous rapidity that it should be possible to communicate some of the excitement which scientists feel.³

Watson, in his popular book, *The Double Helix*, recorded how, working alone, he hit upon a key part of the plan of the DNA structure. He felt with deep emotion that the arrangement of the atoms was "too pretty not to be true."⁴

DNA consists of microscopic threads on which ride, in the case of human beings, a billion words of coded instructions.⁵ A copy of this entire encyclopedia of instructions for the whole body is provided for every individual cell of the many trillions of cells that make up your body.

Applying Probability Theory

During the early decades of this century, scientists in the field of physics began to learn about "quantum mechanics." They found that electrons and other elementary particles behave in ways that seem unpredictable in some respects. It was found that the statistical laws of probability could be used to average out these individual random motions. This brought order out of the confusion and made the behavior predictable *on the average*.

This has given rise to a large new literature on the "science of probability."⁶ The resulting rules of chance are now in wide use in industry, government, and especially science. French scientist Pierre Lecomte du Noüy said, "The laws of chance have rendered, and will continue to render, immense services to science. It is inconceivable that we could do without them."⁷

We will be applying the primary rules of probability to the

³ John C. Kendrew, *The Thread of Life* (Cambridge, Mass.: Harvard University Press, 1966), Preface.

⁴ Watson, *The Double Helix*, pp. 194-210.

⁵ Throughout the book, whenever we use the words *billion* and *trillion*, it will be with the value given to it in Canada and the U.S.A., where a billion is a thousand million (10^9) and a trillion is a million million (10^{12}). In Great Britain and Australia, a "billion" is a million million, and a "trillion" is a million times larger than the American trillion.

⁶ Darrell Huff, *How to Take a Chance* (New York: W. W. Norton and Co., 1959), p. 63.

⁷ Pierre Lecomte du Noüy, *Human Destiny* (New York: Longmans, Green & Co., 1947), p. 37.

formation of DNA and protein molecules: What is the chance that they might have become arranged and organized, unaided by intelligence? The odds, we will discover, are astonishing.

Do not be discouraged if you are not familiar with these two subjects, namely probability theory, and the major living molecules—DNA and proteins. There will be sufficient introduction to them in the chapters that follow.

Science and Philosophy of Science

Although many do not realize it, the pursuit of science is well-nigh impossible in the absence of a “philosophy of science,” or an overview of what science is all about. Distinguished physicist David Bohm wrote, “Metaphysics is fundamental to every branch of science.” By metaphysics he refers to one’s basic assumptions which attempt to explain the real nature of things. He continued:

It seems clear that everybody has got some kind of metaphysics; even if he thinks he hasn’t got any. Indeed, the practical ‘hard-headed’ individual who ‘only goes by what he sees’ generally has a very dangerous kind of metaphysics, i.e. the kind of which he is unaware . . . dangerous because, in it, assumptions and inferences are being mistaken for directly observed facts, with the result that they are effectively riveted in an almost unchangeable way into the structure of thought.⁸

Dr. Bohm then offered this interesting suggestion on how one might escape the wrong conclusions which result from confusing philosophy with scientific evidence:

One of the best ways of a person becoming aware of his tacit metaphysical assumptions is to be confronted by several other kinds. The first reaction is one of violent disturbance. . . . Nevertheless if he will “stay with it,” rather than escape into anger or unjustified rejection of contrary ideas, . . . he becomes aware of the assumptive character of a great many previously unquestioned features of his own thinking.⁹

It is not that we need rid ourselves of metaphysics or assumptions, according to Professor Bohm, because it is a necessity that we have such a philosophical viewpoint. “All of us,” he says, “will think more clearly when we frankly and openly admit that a lot of . . . ‘factual science’ is actually a kind of poetry,

⁸ David Bohm, “Further Remarks on Order,” in *Towards a Theoretical Biology*, ed. C. H. Waddington (Chicago: Aldine Publishing Co., 1968), p. 41.

⁹ *Ibid.*, p. 42.

which is indispensable to our general mental functioning.”¹⁰

There are two major philosophies of science current today. The one heard most often is the essentially materialistic belief that all phenomena can be explained by physics and chemistry without resorting to anything “supernatural.” The other major philosophy of science was expressed well by Wernher von Braun, the U.S. missile scientist who pioneered our moon rockets, a physicist by education, when he said in a 1969 interview:

Through a closer look at creation, we ought to gain a better knowledge of the Creator, and a greater sense of man’s responsibility to God will come into focus.¹¹

In that statement, von Braun went outside what is ordinarily considered the domain of science. If we wonder if he was being unscientific to speak thus, we need but reflect a moment. Let’s leave out the idea of anything “supernatural” while we consider the following hypothetical situation: Suppose it is discovered that some unexpected influence (like, say, a mysterious radiation) pervades our material universe. The evidence, let us assume, shows that this effect flows from a cause which can never itself be precisely measured or directly observed. Nevertheless, this cause has a real and concrete influence upon events and laws of our physical-chemical universe, an effect that is considerable.

It is clear that to ignore such a fact would keep one from being able fully to understand physics or any related science, since the cause that is involved is intimately related to the way things are in the material world. Even though that cause were beyond full scientific investigation, it would have to be taken into consideration in order for us to have a correct comprehension of anything. It would be artificial and restrictive to deprive any scientist from contemplating *anything* that is “outside his field” if it affects the subject of his study. To place such limitations would itself be unscientific as just seen from the postulated situation. (It is clear today that we likewise cannot draw absolute boundaries between scientific disciplines, e.g., between physics and chemistry, without limiting knowledge.)

A correct “world view” or general outlook is essential for accurate scientific comprehension in many cases. Consider how

¹⁰ Ibid.

¹¹ Wernher von Braun, in Associated Press Dispatch, *The Cleveland Plain Dealer* (Cleveland, Ohio, July 19, 1969), p. 5.

a scientist who believes the earth is flat will be limited by his outlook. When he interprets experiments or makes "scientific observations," the results will be colored by that erroneous notion. Much of his work will be invalidated, because his overview is not in line with reality. It may be even more of a hindrance in science if one fails to consider whether there is design in the universe. It is therefore logical in the introduction of our subject to take up this matter of a philosophy of life which will be adequate for scientist and layman alike because it is in tune with the real universe. In so doing, we should open-mindedly consider anything which may be deeply involved in the realities of our material universe and its laws.

In that view, "religion" is not necessarily involved at all in leading one to consider creation as a scientific theory to account most fully for what one sees in the universe about him. (If a person *does* arrive at such a conclusion, however, the only logical sequel is to honor the Creator who could engineer such a cosmos, and to seek to know more about the plan involved.)

There apparently exists in the minds of some individual scientists who do not share Dr. von Braun's outlook a reluctance to consider evidence beyond the substances and forces which can be examined in our laboratories or by scientific observation in a materialistic sense, and this results in nervousness about anything which might be called "religious" in any sense. Similarly, there is a corresponding uncomfortableness on the part of some who cannot accept the materialistic overview with regard to naturalistic evolution.

Reasonable individuals of either viewpoint have no cause for alarm if their honest desire is to follow where truth leads. One's philosophy of science (and philosophy of life) must be based solidly on what is true, insofar as that can be determined, or he is in for recurrent uneasiness and unhappiness, not to mention more serious consequences which may follow building on a false foundation. (Consider, for example, the consequences if von Braun and others had used incorrect formulas in calculating moon orbits as a result of some departure from truth because of wrong metaphysical assumptions.)

In view of what has been said, it can be seen that the research and writings and conclusions of any scientist are likely from time to time to mirror the overview he accepts. Although not always stated explicitly, the philosophy of a biologist, for example,

usually can be discovered from his writings. (It will not be difficult in this book, in that respect, to discern the author's esteem for science in general, his high regard for the scientific method, and an enthusiasm for widening the scope of present scientific knowledge. The overview will also be easily evident, since it is a philosophy of science which has proved most exhilarating and productive of a spirit of scientific inquiry.)

Before going ahead into the study of DNA, proteins, and probability, it may be worthwhile to look briefly at how an individual might go about building an adequate philosophy of science, which is part of one's philosophy of life or general outlook. For one thing, any viewpoint which leaves one in perplexity is undesirable.

The Value to You of Certainty

To succeed in the business of living, a person needs a feeling of confidence. It is important that one's philosophy of life provide a strong basis for assurance without lingering doubts on the main issues. If life is to be rich with meaning, it is vital to understand what life is all about. Only then is a person best equipped, logically, to undertake and understand scientific investigation. Otherwise it would be easy to spend time in fruitless directions.

Every modern person of normal intelligence sooner or later asks himself: Who or what made us and the universe? Is man just "an ape who made good"? Is the entire cosmos "a mere mechanical dance of atoms," as C. S. Lewis described the materialist view?¹² Is there no author, no reason for what exists? Or is there a Power beyond nature which created all things for some purpose or other?

It makes considerable difference what we believe on this subject. If our existence came about by chance, then we don't have to answer to anyone. In practical life, no rules would limit us except those we choose and those forced on us by other people and natural laws.¹³

If on the other hand we are the product of an intelligent

¹² C. S. Lewis, *Mere Christianity* (New York: The Macmillan Co., 1958), p. 21.

¹³ A study of human nature might lead us to expect this to issue in certain unhappy social consequences on the part of at least a percentage of the population. There is a story of a French agnostic of a past century who was discussing his philosophy with guests of like mind. "Don't let the servants overhear us," he cautioned, "or they will steal the silverware."

source, we need to be aware of it. There may be consequences for failure to cooperate, if the universe has an Owner.

Where can one begin his search for the truth on this key question? The most obvious source of information is the universe around us, or "Nature." Study of the physical universe, therefore, may help us in beginning a strong philosophy of life and of science. Since the discovery of the DNA structure, no doubt many a scientist has asked himself, at least secretly: Can this remarkable code of life and its complex translation machinery be accounted for without postulating a Designer possessing awesome intelligence?

If one does consider the possibility of an intelligent Power back of that universe, a logical question would then be whether he has revealed himself or his truth to his intelligent creatures in any more direct way than through nature, since it seems reasonable that such a result would follow.

There do exist many "sacred writings" which claim to have such a supernatural origin. Of these, only the Bible is satisfactorily vindicated from many standpoints. It claims, moreover, to be specially "inspired" by God, but then so do some other sacred writings, past and present. In the case of the Bible, however, Hal Lindsey, in the best seller, *The Late Great Planet Earth*, has made graphically clear how the Bible's many accurate, detailed prophecies which were written centuries or millennia before their exact fulfillment give strong objective reason to believe that the Bible is in fact what it claims to be.¹⁴

We have been discussing *objective* sources of evidence, in the quest for truth on which to build a philosophy of life and a sound metaphysics for a scientific overview. If we cross over into the *subjective* or inner realm, the situation can get hazy. Of course, a supernatural Being could easily reveal truth directly to a man's inner consciousness. Dramatic subjective experiences, however, may also proceed from quite natural or earthly causes, such as drugs or mental disturbances. It is important, therefore, that we have objective truth by which to check the validity of any inner experiences. A subjective experience originating from a supernatural source might be completely real and correct, but without some objective evidence by which to verify it, we would be in danger of error in attributing it to "God."

¹⁴ Hal Lindsey, *The Late Great Planet Earth* (Grand Rapids, Mich.: Zondervan Publishing House, 1970).

As a tentative conclusion before going on in our study of science, we may say that the two main objective sources from which we may draw information are nature and the Bible. Ideas from other people and from our own reasoning may be helpful also, if derived logically from these *primary* sources.

Both nature and the Bible offer help if we seek answers on the question of the origin of life. It might be noted in passing that the origin of life is a subject which is beyond the reach of observational and experimental science except for speculation based on present conditions. The subject has, nonetheless, occupied a great amount of the time and attention of many biologists and other scientists because of its interesting nature, and because some of them perhaps would prefer a naturalistic explanation.

With regard to the Bible, we live at a time when a great many people have not arrived at a settled faith regarding its accuracy and supernatural inspiration. This makes it impossible for them to begin their search with complete confidence in its authority as to truth on which to base their philosophy. It is interesting that the Bible itself recognizes that such individuals need a more tangible basis on which to *start* their structure of belief.

No one is likely to consider a Supreme Being in his philosophy of life, or in his philosophy of science, who does not believe there actually is a God, of course. "Anyone who comes to God must believe that he exists," says the Bible itself, in the book of Hebrews.¹⁵

By sensibly observing nature, one can find assurance that there is, indeed, a God. Notice again the statement by Wernher von Braun, perhaps the world's most outstanding missile scientist, quoted above on page 23. It accords perfectly with the following from the Bible:

For all that may be known of God lies plain before their eyes; indeed God himself has disclosed it to them. His invisible attributes, that is to say his everlasting power and deity, have been visible, ever since the world began, to the eye of reason, in the things he has made (Romans 1:19, 20 NEB).

Observation of nature, then, is the logical point of beginning

¹⁵ Hebrews 11:6 (from the translation known as *The New English Bible*, hereafter abbreviated NEB. If no translation is indicated, the reference is from the King James Version.)

for those who feel they cannot take anything for granted without concrete evidence. One should keep in mind that it is just the beginning, however. Nature can't take us all the way that we need to go. It may, nevertheless, lead to some knowledge of God and to an elementary faith. Sincere, open-minded individuals are then likely to consider the Bible as a source of more information about him, since it claims to be divine revelation and has reliable credentials. It seems logical that nature's God would give us a more complete revelation such as the Bible provides. The Bible and nature seem to go well together, and both may be essential to a satisfying and full-orbed philosophy of life. (Interestingly, one occasionally finds quotations or references to it even in scientific treatises, at the most unexpected places.)

It may be objected that it is being taken for granted that one will eventually believe in God if he is a reasonable individual. While this objection may in part be valid, perhaps the reader, if he happens to find difficulty in such a belief, may tolerate the assumption for the moment, and we will soon be into the more concrete subjects mentioned at the start.

As we pursue our quest for a meaningful and true philosophy of life by looking first at nature, there is a major barrier to any acceptance of belief in a Supreme Being. It is the widely held doctrine of evolution. The word "evolution" is used in many ways, so we will need to define it as used in this book.

As employed herein, evolution may be defined as *the belief that all living things, including man, resulted by natural changes from lifeless matter, with no supernatural intervention involved*.¹⁶ This is the common current understanding of the term in its general use by most biologists, though of course there are many exceptions. Like many other words, this one has numerous meanings. It will be helpful to remember this definition for this book.

Are Evolution and Science Synonymous?

Textbooks, literature, and the tacit acceptance expressed by seemingly almost everyone would give the impression that evolution and science are one.

Perhaps you, like most people, do not find it possible or con-

¹⁶ This definition substantially follows one given in the textbook, *Biology, A Search for Order in Complexity*, Ed.: John N. Moore and Harold Schultz Slusher (Grand Rapids: Zondervan Publishing House, 1970), p. 93.

venient to study extensively in all the fields of science to find out firsthand what is true. If you are constantly told in effect that science accepts evolution as a fact, you may naturally ask yourself, "Who am I to question science?"

Many who would like to believe in God or the Bible find themselves in the position of Dr. James Orr, a noted theologian of the late 1800's. He seemed to have been convinced "that the scientists had proved evolution to be true and that he had to do the best he could with it."¹⁷

A number of authors, writing as believers in God, seem to be in the same position—trying earnestly (some even desperately) to mold Bible teachings to fit the latest evolutionary assumptions. Many materialists scoff at this as an impossible task. More logically, it turns out to be a case of "either-or" rather than evolution "and" the Bible.

Still, many religious leaders have tackled the unenviable job of trying to work out a compromise, simply because there appeared to be no alternative. Unwilling to throw overboard all ties with religion, they find a temporary shelter in "theistic evolution" or some other type that lets God in on the process. While this may at first appear to have the advantage of making a person acceptable in both camps, it leaves him a citizen of neither, when the matter is examined.

Some otherwise great Christian thinkers have taken this adaptive position on evolution, believing that scientists have really proved evolution, and, of course, one can't argue with facts. Fortunately, we live in a time when more has just recently become known. Recent discoveries in biology make it clear that there was no reason to stretch the interpretation of Scriptures, after all.

At the moment, it can be noted that it would be difficult to keep confidence in any of the Bible if it is mistaken about origins. At the least, it would then seem to be merely a human book, containing some good perhaps, but not standing as the authoritative revelation of God, if it is wrong on that subject.

Later on, we will refer to an excellent study which examines theistic evolution. Meanwhile, let us first, however, proceed on the assumption of "either-or"—either the Bible account of creation is true, or evolution is true.

¹⁷ Bolton Davidheiser, *Evolution and Christian Faith* (Nutley, N.J.: Presbyterian and Reformed Publishing Co., 1969), p. 38.

“Is it proper,” someone may ask, “to compare the Bible account of creation with a scientific theory like evolution?” Not all scientists agree as to evolution’s scientific credentials. For example, R. Clyde McCone, professor of anthropology at California State University in Long Beach, wrote in 1973:

There are no data for evolution. Proponents use the idea of evolution to create or generate data by appropriating the synchronic data of science in an effort to use that very synchronic order to explain how it came into existence.

Dr. McCone went on to show logically the truth of his assertion, and concluded as follows:

The scientific study of the existing order of creation must necessarily be kept distinct from any consideration of how that order came to be. In attempting to ignore this necessary distinction, evolutionists follow an irrational approach to data that are products of their own speculation resulting in a value structure rather than scientific theory.¹⁸

Could chance account for life on earth through natural processes, or is it evidently designed? If designed, does that mean the individual human being (whether scientist or layman) has some kind of responsibility to the Designer?

It Is Now Possible to Be Sure

There is now a quick way to an accurate answer to this question. A person need not wait for years of study to discover whether life could have begun from nonliving matter by natural processes. It is not even necessary to build on the *opinions* of others, in becoming certain on this matter.

One also does not need to become expert in various fields of science, in order for his conclusions to be on solid footing that will be soundly logical and valid. The worth of such personal certainty is easily apparent, and may seem almost too good to be attainable. It will soon become clear how it is possible.

We should pause to note that there is also possible, as the reader may happen to know, a valid spiritual type of assurance on such matters as the existence of God. What we are discussing here, however, is the assurance arrived at by considering objective evidence. This is especially important in this scientific age. It can serve to encourage or to reinforce any spiritual as-

¹⁸ R. Clyde McCone, “Three Levels of Anthropological Objection to Evolution,” *Creation Research Society Quarterly*, Vol. 9 (March 1973), p. 209.

assurance one may already have, and it is in line with the Bible, as we have seen.

The reader is presumed to be a serious searcher for truth, either for his own assurance on the subject of this book, or in order to reassure others more effectively. If you are still in school getting formal education, you may find this prospective short-cut to certainty exciting and understandable. Because of what that certainty can mean to a person, it may also prove useful to those of all ages who are not satisfied with superficial answers. Many Christians, for example, feel a need to know whether they are on scientifically solid ground when they repose confidence in Christ and in the Bible—at least to know that true science is not contrary to this.

It will be evident to the reader as he progresses that the main approach suggested in this volume will stand on its own merits. Its logic is self-evident, not depending upon who says it. It will also be susceptible to any degree of further study or experimentation that one may choose. An open, inquiring mind, willingness to think and *persistence* are all one needs to arrive at certainty.

It is fortunate that during the past few years several highly intelligent scientists who are devout Christians have written on evolution. Men of extensive education and scientific background have dealt with many phases of the subject quite effectively. Some of these authors were naturalistic evolutionists themselves before conversion to their present faith in Christ as Savior. Their writings are in contrast to the approach mentioned earlier in which some have tried to mold Christianity to fit evolution, although the motives of many of the latter may have been admirable. We will be recommending some of the more excellent books later on.

Why This Particular Book?

The new and rewarding approach we have been mentioning is now possible because of two things. Some of the recent dramatic discoveries in biology can now be combined with the principles of probability to give a rewarding new advantage to the searcher after truth on this matter. In this study, we will merely introduce the reader to this combination. Together, we will apply it to a few interesting subjects. The idea can then be used on your own in countless ways when pondering the

things about you as time goes by. Serving merely to bring together these two existing ingredients more explicitly, this book introduces a practical *shortcut to certainty about evolution*.

It is undeniable that a great many well-known scientific volumes, including textbooks, promote the philosophy of evolution with ardent intensity. It is not out of order, therefore, that books also be written frankly from the overview of design or creation, calling attention to some of the vast body of scientific evidence which accords with such a view, much of which evidence disputes evolution.

The author claims no special knowledge and shares with many persons of varied backgrounds who write in biology the excitement and wonder involved in the discovery of how living beings are constructed and how they function. Hopefully, the reader will find that the evidence presented herein is obviously reasonable and/or accurately referenced, and the calculations may be checked.

The realm of science is not restricted to those of special pedigree. For example, Gregor Mendel, recognized rather universally as the father of modern genetics, was a monk and did his famous experiments in the small monastery garden while he was a part-time teacher. Much of his scientific knowledge was self-taught. Although sometimes called an "amateur scientist,"¹⁹ his ideas and conclusions have not been discounted for such reasons (nor have those of Charles Darwin, whose only degree was in theology!) The merits of any work on science should depend primarily on other criteria, such as the content of its evidence and its ideas.

Your Certainty Can Remain Up-to-Date

Regardless of what new discoveries in science may be announced tomorrow or years from now, *one's certainty need not become outdated*.²⁰ That is a bold statement, but it will become clear why it is true when we get into the main subject. It is readily apparent what an advantage that provides. It has be-

¹⁹ Eldon J. Gardner, *Principles of Genetics*, 4th ed. (New York: John Wiley & Sons, Inc., 1972), p. 3. Gardner, like others, praises Mendel's accomplishments.

²⁰ The research data and understanding of processes reported herein share the same risk of aging which is common to all writings of science in these days of fast-paced unfolding of knowledge in biology, physics, and space exploration. As more perfect information is learned, the partial knowledge is outdated. On the other hand, the general principles we will learn in applying probability reasoning are ageless.

come available because these recent scientific discoveries are ideal for applying the laws of chance. The certainty which can result is *in addition* to any spiritual or intuitive assurance one may have on this matter.

Many students and others with some background in biology would be perfectly at home with professional terminology. However, since most have not made it their field, we will largely be using nontechnical language. To do otherwise would confuse those new to the field, or as one scientist phrased it, would only "obfuscate the uninitiated." So, we will usually be able to avoid complicated jargon such as: "The probability expectation of the fortuitous non-enzymatic polymerization of a viable amino acid chain of 400 monomers. . . ." since this thought can be stated more simply in this way: "The probability that a usable protein molecule of average length would link up spontaneously. . . ."

The subject is alluring. Let us begin with a look at the simplest underlying rules of probability theory. The reader may need to concentrate at times, and to reread and ponder occasionally (unless mathematically trained or mathematically minded). It will be worth it, however. In the process, a high degree of certitude on this subject can develop. Any sound conclusions gained in this study should increase the value and richness of life, and will also benefit those you influence. Any difficulty or weariness involved in study can be offset, "If we let ourselves feel the thrill of such a series of facts as now unfold themselves before us."²¹

The Plan of This Book

Purpose: To invite attention to evidence which will enable the reader to arrive at the certainty that materialistic evolution cannot be true. To promote positive appreciation of the Creator, leading one (as the Creator's conditions are met) to a new awareness and rich meaning in science and life—meaning which is tragically missing from the barren land of naturalistic evolution.

Main Approach: (1) To learn the two first principles of probability theory, and to examine the interesting structure of proteins and DNA molecules, and the translation system from DNA to proteins. (2) To discover that natural selection could

²¹ Nathan R. Wood, *The Secret of the Universe* (Grand Rapids: William B. Eerdmans Publishing Co., 1955), p. 70.

offer no help toward the origin of these complex molecules, such that, if **intelligent design** is ruled out, only chance is left as the means for producing such order. (3) To use probability calculations which lead to discovery of the practical impossibility of the origin by chance of usable sequences for proteins or DNA. The first ten chapters are devoted to this main approach.

Removal of Obstacles: Two difficulties remaining in the path to certainty are these: (1) Why do so many scientists accept evolution? and (2) What about the convincing-sounding "proofs" of evolution that are widely heralded? These are dealt with briefly but definitely in chapters 11 and 12 and the reader is referred to more extensive works on these subjects.

Positive Given: To remove a negative and erroneous philosophy is a prerequisite if a positive philosophy of life is to be built in its place. To stop after finding that evolution could not be true would leave a vacuum. Chapter 13 points out a few of the exciting evidences in nature that add to the understanding of life and that encourage appreciation for the exalted privilege of being a conscious and rational part of such an amazing universe. Finally chapter 14 reviews briefly the probability calculations made by others from different directions and ties together the theme, to connect it with the overall purpose the Creator may have had for His human creatures as revealed in nature (and in the Bible).

Three Kinds of Use: (1) General reading by individuals, from a variety of backgrounds, who are consciously uncertain about evolution. (A large percentage of those who have had some exposure to religion, as well as many who question evolution from the standpoint of contrary scientific evidence, are unsettled in varying degrees on this subject.) Serious students who would be unsatisfied with a superficial treatment or the undocumented views of any mere author may find this approach especially rewarding. Readers may become convinced by verifying for themselves much of the reasoning and calculations without the necessity for specialized advanced study.

(2) Use by individuals or groups who disbelieve evolution already, but who wish to increase their confidence and information in order to help others more effectively.

(3) Possible textbook or collateral source material for courses such as: (a) "Evolution in the Light of Probability Theory" or (b) "Proteins, DNA, and Probability Theory."

About Quotations and References: When any author or researcher is quoted favorably in this book, this of course does not necessarily mean that we are encouraging the reader to agree with everything else he says or believes.²² Excellent writers on some subjects may possibly be quite mistaken on others. Chapter 11 explains in detail how it has come about that many otherwise fine and sincere people have been caught up in the evolutionary trend for unscientific and fallacious reasons. (Most of the references are merely to document the source of the data used, as is customary in writing on scientific subjects.)

It should be quite clear, too, that we claim no special knowledge or insights, but are merely pointing out evidence that is available and testable by anyone. The reader should accept only what is provably or logically sound.

The road to certainty is longer for some than others, depending on background and starting point. A short pamphlet might suffice for many. For others, however, to deal briefly with all the facets involved in achieving real assurance calls for more extensive treatment. This book offers a shortcut in the sense that in one comparatively short volume there is included the essence of a path by which open-minded individuals may likely be able to find that certainty which they desire. There is so much more helpful material that might have been included that the author's most difficult task was condensing even to this length.

In order to limit the amount of technical data in the main text, we have made much use of footnotes. For the noncasual reader, some of these footnotes will contain research information that may prove valuable as well as references where further details may be obtained. Others may prefer to bypass the footnotes except those which explain items in which they are interested. The dual purpose of the book is to assist in making access to certainty available to both the nontechnical reader and for the student or searching inquirer who wishes to study the subject more deeply.

²² Nor does it necessarily mean that he would agree with us in all that we say.

