Have You Done the Math?

By Anthony P. Feiger

Seventh Edition

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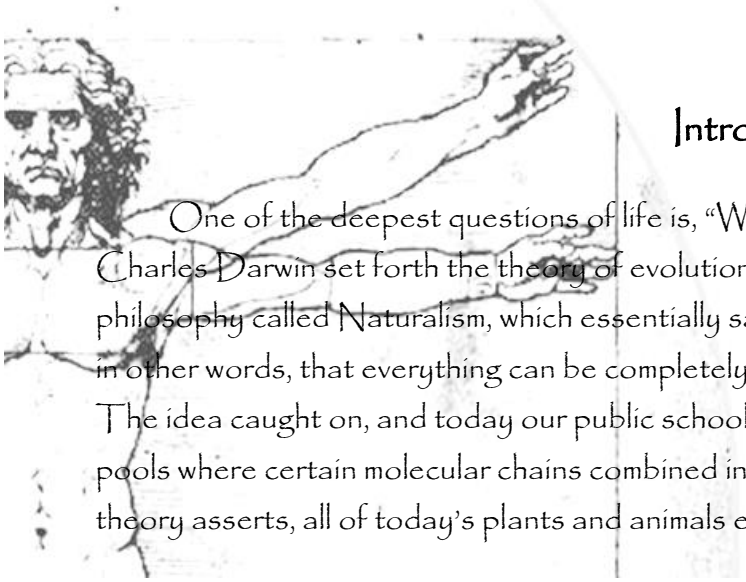
In all, many have helped to generate this compelling booklet on perhaps the most critical topic of life: Origins. Thanks again to all for your support!



Introduction

One of the deepest questions of life is, "Where did I come from?" In the mid nineteenth century, Charles Darwin set forth the theory of evolution. The theory fit well into the framework of a new philosophy called Naturalism, which essentially says that everything is the result of natural causes, or, in other words, that everything can be completely explained through the laws of science without God. The idea caught on, and today our public schools teach that the first living cells were formed in warm pools where certain molecular chains combined in a special way by chance. From this beginning, the theory asserts, all of today's plants and animals evolved.

Complexity

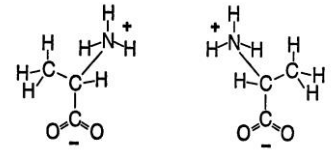
However, advances in microbiology reveal that even the simplest life form is very complex. A single-celled amoeba, for example, consists of thousands of proteins, sugars, acids, bases and other compounds all working together like a miniature factory. Each protein is formed of dozens or even hundreds of amino acids. In this booklet we will calculate the probability that these proteins came together to form life by chance as Naturalism suggests. Since a random chance origin is promoted in biology textbooks, how likely would you expect the event to be? Ninety five percent likely? Fifty one percent? Let's do the math and find out!

Astrophysicist Sir Frederick Hoyle, originator of the steady state theory of the origin of the Universe, calculated the chances of a simplified, hypothetical single-celled organism of just 2000 proteins forming by chance. The resulting probability was less than 1 in $10^{40,000}$, a number so small it defies understanding. His associate mused that it's more likely for a tornado blowing through a junkyard to build a 747 than for life to be the result of chance! Many others have produced similar calculations. The purpose here is to provide a concise yet convincing case that life is not the result of random chance processes.

In calculating the probability of life's undirected appearance, let's start with five assumptions.

Assumptions

First, we know that the proteins of life are formed only by L-amino acids although raw chemical processes produce D and L types in equal proportion. [1] As proteins are formed they undergo a complex, three-dimensional "folding" process. If a D-amino acid were included, the protein would not fold properly, prohibiting its function, rendering it useless. When both versions (L and D-amino acids) are used, the molecules needed for life don't mesh correctly.



D vs. L-Shaped Amino Acids

A few exceptions must be noted here. Recently, some examples of D-shaped amino acids have been found in animals[2]. Examples are mostly opiates and poisons produced by snakes, spiders and frogs, not the kind of stuff that encourages life! Furthermore, these do not affect the calculations at hand, as all are the result of complex reactions changing an L-shaped amino acid into a D-shape ***after*** the protein has folded. In the origin of life calculations we are trying only to get to the point of folded proteins. Designs using D-shaped amino acids require additional steps and more proteins.

However, it is conceivable that an alternate life system could have developed based on D-type amino acids instead of the L-type. Therefore, at the conclusion of the probability calculations we will allow for this possibility by multiplying our result by two. For now we will proceed by assuming a **50% chance of having the L-type amino acid at each bond site of the protein.**

Second, assume that **peptide bonds, also needed for proper folding, occur no more than 50% of the time in nature**.[2] Other bonds easily occur, rendering the molecule useless in supporting life. This compounds the probability by another 50% chance.

Third, instead of requiring a certain amino acid at each site as other authors have, let's **allow any L-type amino acid**. This way we don't require any protein to be built first, or even presume to know what that protein looks like. This is a very generous assumption since any "pre-biotic soup" would contain not only the 20 amino acids found in life forms, but also all sorts of other molecules which could bond to each site, destroying the possibility of it developing into a life form. Calculating in this way allows for a vast multitude of forms that could not live, but let's be generous here.

Next, assume that the proteins of our hypothetical organism consist of only **50 amino acids.** This assumption is also charitable to Naturalism, since proteins are made up of anywhere from 50 to several hundred amino acids.[3]

Next, assume that the organism has just **75 proteins**, significantly fewer and simpler than the 2000 of Hoyle's proposal.

At this point it is important to consider the characteristics that distinguish living from non-living matter. Origin of life scientists believe that living organisms have the following special abilities: to effectively harness and manage energy; to store and copy information; to reproduce accurately; and to protect themselves from the environment. I challenge the skeptic to show how less than 75 proteins could achieve these feats. A virus is much simpler, however, it acts as a parasite. Since it relies on a living host to function, it is not a candidate for the first life form. Remember, the simplest organisms today employ thousands of proteins, and Hoyle thought it would take at least 2000.

Next, we will **assume that once proteins are formed they have a 50% chance of finding and establishing a functional bond or relationship with the other proteins.** Again, this is a gratuitous assumption. First, consider that a newly formed protein is likely to be far, far from the others and would likely encounter many obstacles, chemical and physical, on its journey to the other proteins. Secondly, functional proteins interact according to geometry and the charges of its components. This means that certain amino acids of one protein must interact with other specific amino acids of another protein. Therefore, since we assumed that any amino acid could be used at each step, the likely hood of forming a functional bond or relationship between the proteins is extremely low.

Next, we will assume that if this arrangement of amino acids and proteins could come together, it would have **a 50% chance of living and reproducing itself accurately**. Again, since we have not specified the amino acids used to build the proteins, this assumption is exceedingly generous.

We also will assume that **amino acids were available in abundance**. This was not likely true, since the early Earth atmosphere was much different than the environment used to produce amino acids in the laboratory.

Objective scientists today believe the atmosphere of early Earth consisted of nitrogen, carbon dioxide and water vapor. Water vapor easily breaks down into free hydrogen and oxygen. Yet, in *The Creation Hypothesis,* we read:

> "Biochemists generally agree that the presence of free oxygen would, in the words of R.T. Brinkman of the California Institute of Technology, 'preclude biological evolution as presently understood.' Yet the evidence for an early oxidized atmosphere is increasingly so compelling that A. Henderson-Sellers, A. Benlow and A. Meadows concede that, despite the implications, it is 'becoming the new orthodoxy'." [4]

Some scientists believe the early Earth's atmosphere also contained high concentrations of methane and ammonia. Direct evidence does not support this view, but they hold it by faith because these compounds are required to produce amino acids, the building blocks of life, in the laboratory.

Not only is the evidence for a methane and ammonia-rich environment lacking, but this atmosphere would also be far too unstable to last the millions of years needed to get life started. In sunlight, methane quickly breaks down into oil, while ammonia breaks down into Hydrogen and Nitrogen gases.

Another problem to consider is the immense amount of energy needed to form the amino acids and proteins, especially in a less than optimum environment. Again, for this exercise, energy requirements are neglected, favoring the odds for life by chance.

Therefore, the whole idea of even forming amino acids is doubtful from the start. However, flying in the face of these realities, **in the calculations that follow it is assumed that abundant supplies of amino acids have already formed and continue to form at a breathtaking rate.** With this introduction, let's get to the fun stuff...the math!

The Math

According to the laws of probability, the likelihood of compounded, independent events all occurring equals the product of the individual probabilities. For example, the chance of rolling a "3" on a die is 1/6, but the chance of rolling two "3"s in a row is 1/6 times 1/6, or 1/36. Therefore, the probability of one of our theoretical organisms being formed *on the first try* may be calculated as follows.

The probability of joining two L type amino acids with a peptide bond is $.5^2 \times .5$, since we have a 50% of getting an L type rather than a D type twice ($.5^2$), and a 50% chance of joining with a peptide bond rather than another type of bond (see the first and second assumptions, above). Likewise, for the first protein of 50 L type amino acids and 49 peptide bonds, the calculation is $.5^{50} \times .5^{49} = .5^{99}$

The probability of forming 75 of these proteins is therefore $.5^{99 \times 75}$ or $.5^{7425}$. Now, since we assumed a 50% chance that each of these 75 proteins would find and bond or interact properly with the others, we have 74 interactions and the resulting probability is $.5^{7425 + 74}$ or $.5^{7499}$. Finally, we assumed a 50% chance that the resulting combination would live and reproduce accurately. Adding this factor, the probability shrinks to $.5^{7499 + 1}$ or $.5^{7500}$.

You may have noticed that your calculator cannot handle a number this small. (Also, beware of round off error!) The above result may be computed by breaking down calculations as follows:

$.5^{7500} = (.5^{100})^{75}$ and since $.5^{100} = 7.89E\text{-}31$,

$(.5^{100})^{75} = 7.89E\text{-}31 \times 7.89E\text{-}31 \times 7.89E\text{-}31 \times$... (Product of 75 terms)

7.89E–31 means the 789 is preceded by 30 zeros (.000000…789)

The above may be further reduced as follows to complete the calculation:

$7.89^{75} = 1.88\ E{+}67$ and $(1E\text{-}31)^{75} = 1E\text{-}2325$.

Multiplying the terms by adding exponents we get:

$1.88\ E\text{-}2258$

The probability of snatching a particular atom from the Universe is 1.0 E -79

Wow!!! That's an incredibly small chance. But when you consider time and space, the chances get much better...

Time

We have just calculated the chances of one of our organisms forming at a particular place, on the first try. However, this "experiment" could be run over and over again, assuming materials were available.

To begin, we must first assume a time period and a rate of repeated experimentation. A popular view is that the maximum time between the Earth's cooling and first life appearing is one billion years. Although evidence indicates much less time available, let's defer to this viewpoint and use the billion years in our calculations to once again be generous toward Naturalism.

For the experimentation rate, let's use a trillion per second. A rate that fast requires the proper catalyst (special proteins) at each step, and raw materials would be quickly consumed, but at this point as well let's be generous and assume a steady supply.

Calculations

The number of experiments in one billion years = 1,000,000,000 years x 60 sec/min x 60 min/hr x 24 hrs/day x 365 days/yr x 1.0 E+12 experiments/sec = 3.1536E+28 experiments in one billion years.

This is analogous to rolling many dice simultaneously. The probability (P) of rolling a five with one die is 1/6, but if rolling three dice at the same time, the calculations are a bit more difficult. You might be tempted to calculate the probability as 1/6 times 3 or 1/2. (We will call this the *expected number* from now on.) However, the means of obtaining the exact solution is to first calculate the probability of not rolling the five, and then subtract the result from one. In this three dice example the calculations look like this:

$$P = 1-(5/6)^3 = .421$$

Note that the exact solution is a little less than the expected number of 1/2.

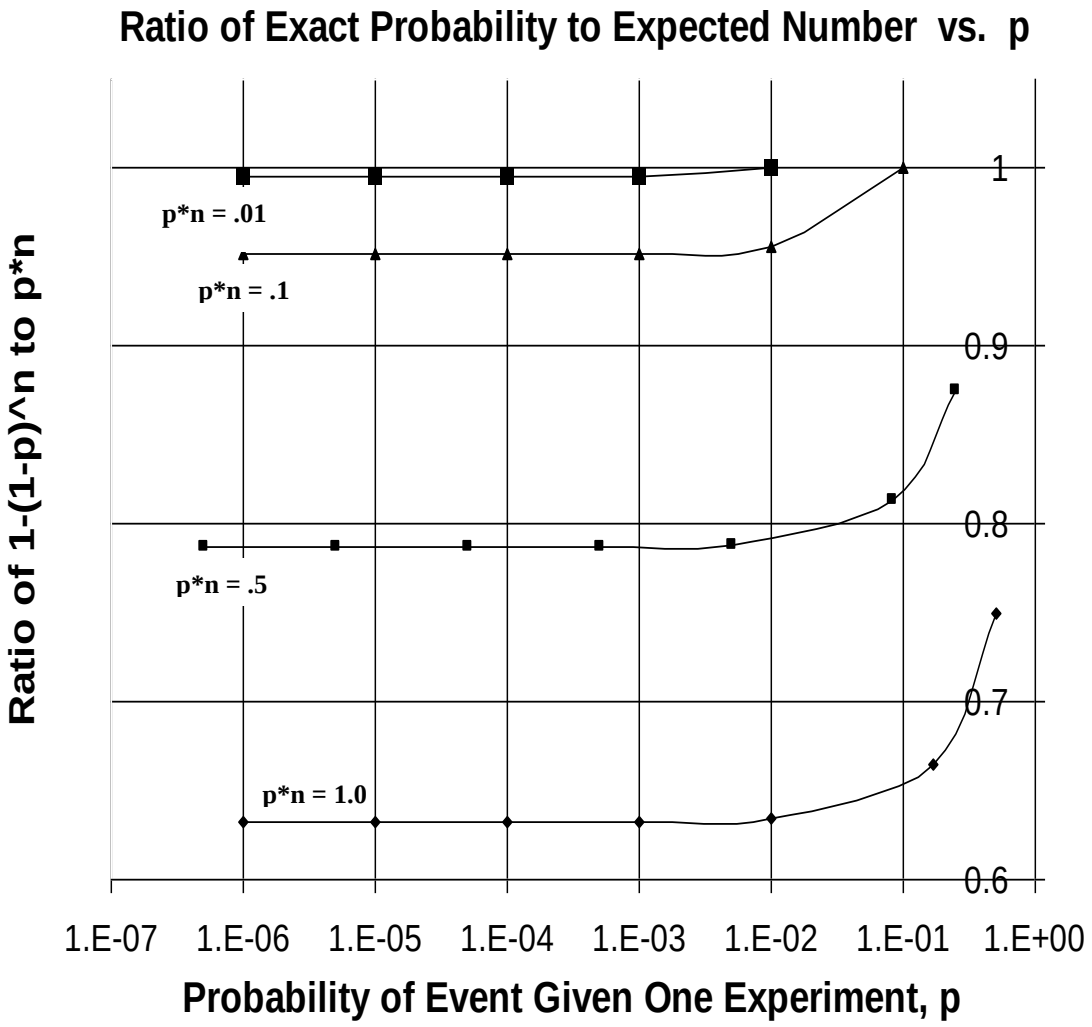
The exact solution for this step is $P = 1 - (1-1.88\ E-2258)^{3.1536E+28}$ which I couldn't solve (perhaps you can!). Fortunately, it can be shown that for unlikely events, as we are now studying, if the number of experiments (n) times the probability on the first try (p) is much less than 1, then the exact solution is very nearly equal to the expected number (see Chart 1 below). Since using the expected number favors naturalism, and since the calculations are much simpler, we will proceed by using the estimated solution method.

To find the probability of forming our organism at this site over a billion years, the above number of experiments is multiplied by the probability of forming it on the first try, or...

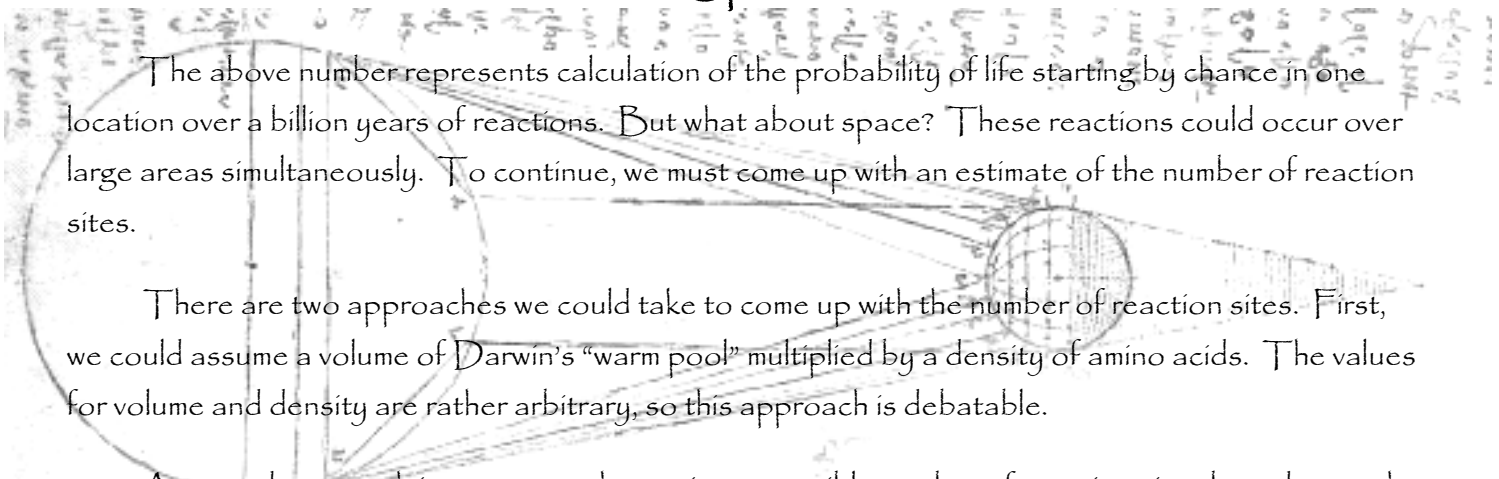
3.1536E+28 x 1.88 E-2258 = 5.94072 E-2230

That's still a miniscule chance. Now, let's consider space.

Chart 1



Space



The above number represents calculation of the probability of life starting by chance in one location over a billion years of reactions. But what about space? These reactions could occur over large areas simultaneously. To continue, we must come up with an estimate of the number of reaction sites.

There are two approaches we could take to come up with the number of reaction sites. First, we could assume a volume of Darwin's "warm pool" multiplied by a density of amino acids. The values for volume and density are rather arbitrary, so this approach is debatable.

A second approach is to assume the maximum possible number of reaction sites based upon the best estimates of the number of carbon atoms on Earth. As usual, let us bias the results toward Naturalism and use this approach.

Data

Grams of Carbon on Earth [5]	9.22E+22
Avogadro's Number	6.02E+23
Atomic Weight of Carbon	12.011

With these values, the number of carbon atoms on Earth may be calculated as follows:

$$\#\ \text{Atoms} = 9.22E{+}22 \times 6.02E23 / 12.011 = 4.62E{+}45$$

That's a lot of carbon atoms! The number includes all the carbon of Earth's biosphere, hydrosphere and atmosphere, as well as all carbon in ancient sedimentary rock. We know that all of this carbon would not be available as reactants, but again we will favor Naturalism.

With these liberal assumptions we can estimate the maximum number of amino acids possible, by dividing the number of carbon atoms on Earth by the least number of carbon atoms per amino acid. One amino acid, Glycine, has just two carbon atoms.

Plugging in the numbers, the maximum number of amino acids which could be formed is 4.62E+45/2 = 2.31 E+45.

Since it takes at least two amino acids to represent a reaction site, the maximum number of possible reaction sites is 2.31 E+45/2 = 1.16E+45.

To find the probability of forming our organism at these sites over the billion years, the above number of sites is multiplied by the probability of forming it at one site over one billion years. This increases the probability of life forming by random chance to
6.86E-2185.

Chances remain beyond the realm of possibility.

Other Planets?

Another theory holds that life began on another planet and was transferred to Earth. This idea, known as "panspermia", is doubtful. How could the life form survive a million+ year journey in extreme conditions across vast galaxies? But to be generous, let's entertain the idea and see how it would affect the calculations.

Now we must estimate the number of possible reaction sites in the Universe. Instead of calculating this from an estimate of the number of Earth-like planets in the Universe, it's more accurate (and generous to Naturalism) to use the number of carbon atoms. This number is based upon the work of astrophysicists, who estimate that there are 1.0E+79 atoms in the Universe [6], and .043% of them are carbon atoms. [7] Multiplying, this gives us 4.30E+75 carbon atoms in the Universe. If we calculate the maximum number of amino acids and reaction sites as before, we have 2.15E+75 and 1.08E+75, respectively.

Using the same generous reaction rate and assumptions as before, and allowing 20 billion years for life to start anywhere in the entire Universe (most scientists now believe the Universe to be 10 to 13.5 billion years old [8]), the probability of life forming by random chance increases to 1.28E-2153.

Although the probability is growing, it is changing relatively slowly. Life starting by chance is still far from possible. Let's now consider the final factor...

Other Organisms

To expand variety "to the max", we can include all organisms more complex than the 75 protein organisms already allowed in one grand calculation by applying a formula from infinite series mathematics. Calculating in this manner will actually include an ***infinite number*** of allowable life forms, most of which would not live, but also every life form we know, from amoeba to fish, birds, monkeys and humans!

For example, the calculations will include 74 proteins with 50 amino acids and one with 51, or one with 52. It will include 76 proteins, each with 50 amino acids. It will include 75 proteins with 51 amino acids each. It will include jellyfish, snails, frogs and pandas. Everything.

Calculations

Let's begin the infinite series calculation. We start with the initial calculated probability of $.5^{7500}$. This represents 3750 L type amino acids and 3749 bonds (or protein interactions) and the final 50% chance that the combination would live and reproduce. Another way to express the probability is $.25^{3750}$, where the .25 represents the chance of adding an L type amino acid with the proper bond at each step as the combination is built. (The final step is mathematically equivalent, consisting of the final 50% chance of an L type amino acid and the 50% chance that the combination would live and reproduce.) The next higher complexity has 3751 amino acids, and its probability is $.25^{3751}$.

To find the probability of everything more complex, we continue to add the probabilities together as follows:

$$.25^{3750} + .25^{3751} + .25^{3752} + \ldots$$

Which is equivalent to...

$$.25^{3750} (1 + .25 + .25^2 + .25^3 \ldots)$$

This arrangement is known as a geometric infinite series, which has the following solution:

$$1 + x + x^2 + x^3 + \ldots = 1/(1-x)$$

In the present case, x = .25, and the solution is:

$$.25^{3750}/(1-.25) \text{ or } 1.88\ E\text{-}2258$$

As you can see, the inclusion of each of the more complex arrangements changed the result very little, since they are even more unlikely.

If you run through the calculations of time and space as before, you will find a probability of 1.70E-2153. Allowing for a possible D-amino acid system, we multiply by 2 and get 3.41 E-2153, or a chance of 1 in 2.94E+2152.

This result shows that life starting by chance is not possible, even when Naturalism is favored in every assumption made along the way. At this time it seems good to review those assumptions. The

following is a summary of the assumptions used in our calculations that strongly favor Naturalistic thought:

1) We did not assume any particular arrangement of amino acids in the hypothetical first life forms. Thus we allowed a multitude of simple forms that would not live.
2) We assumed that the proteins were made of only 50 amino acids each. Many proteins are made of hundreds of amino acids.
3) We assumed that the first life form would be made of only 75 proteins. The simplest amoebas of today are made of thousands.
4) We assumed that newly formed proteins would have a 50% chance of finding and properly bonding or interacting with the other proteins.
5) We assumed that this combination of 75 proteins had a 50% chance of reproducing and establishing a sustainable colony of that life form.
6) We assumed that the environment was favorable to the formation of amino acids. Little evidence supports this.
7) Energy requirements were neglected. We assumed that the perfect amount of energy was always available to support reactions.
8) We assumed that the perfect catalyst was always available in the right place at the right time to support a reaction rate of a trillion per second.
9) In the calculations we assumed that all the carbon in the Universe was available in the form of amino acids. Obviously, much carbon would be tied up in other forms.
10) We assumed that all of these amino acids were constantly reacting with each other at a blazing speed, building proteins.
11) We assumed that a simple life form could survive launch, millions of miles of travel through space, and entry through Earth's atmosphere.
12) We assumed the Universe to be 20 billion years old; although most scientists believe it is 10 to 13.5 billion years old.
13) We allowed an infinite number of possible organisms, starting with hypothetical organisms of just 75 proteins and including everything more complex.
14) We ignored need for other supporting molecules, like sugars, acids, bases and other compounds.

Naturalism further assumes the following:

1) The first life form established a somewhat stable, sustainable colony of that life form.

2) The first cell mutated, and by natural selection and adaptation, its descendants eventually developed into the diverse, complex and beautiful life forms we see today. This too is doubtful, but beyond the scope of this document.

So, although we included an infinite number of possible life forms, and were generous to the skeptic at every turn, it is still inconceivably improbable that life started by random chance processes.

I encourage the reader to try the calculations using their own assumptions. For example, I've also run the calculations allowing either L or D type amino acids at each step (see sheet 2 of the spreadsheet at http://tonyandkaylene.com/math/spreadsheet.xls).

Or, if you think 75 proteins are too many, you could run the calculations again assuming only 5 proteins. Using even remotely reasonable assumptions as these, you will come to the same conclusion: **Life did not start by chance.**

How big is 2.94E+2152?

The chances of life starting by random chance were calculated to be 1 in 2.94E+2152. How big is this number? To grasp the immensity, let's pile up 2.94E+2152 quarters, stacked evenly over the area of the state of Michigan. Among them is one golden quarter. Could you select it if blindfolded? How tall would the stack of quarters be? Let's do the math!

Data

a. The area of Michigan is 96,705 square miles [9]

b. A quarter is 1" diameter x .050" thick.

The Math

= 2.94E+2152 quarters x 1 sq. in./quarter
x 1 sq. ft./12^2 sq. in. x 1 sq. mi./5280^2 sq. ft.
x Michigan/96705 sq. mi. x .050 in/Michigan
x 1 ft/12 in x 1 mi./5280 ft.

= 5.97E+2131 miles deep of quarters
piled on the entire state of Michigan!

How many light-years deep is this?

Data

The speed of light is 186,000 mi/sec

The Math

5.97E+2131 miles x 1light-sec/186,000 mi
x 1min./60 sec. x 1hr/60 min. x 1day/24 hr
x 1year/365 days

1.02E+2119 light years deep!

We are not getting anywhere in trying to grasp the probability we are dealing with. In fact, the chance of snatching a particular atom out of the Universe is only 1 out of 1.0 E+79!!!

Even with generous assumptions at every turn, we have calculated the probability of life starting by chance to be 1 in 2.94E+2152, an immensely smaller chance than trying to snatch a particular atom from the entire Universe.

We have calculated not 95%, not 51% but a 0% chance that random chance processes resulted in life. It takes a lot of faith to believe this theory. So why do college biology texts claim it is true? Apparently they hold this belief for philosophical, not scientific reasons.

Conclusion

Here we must face the facts. The assumptions used above for calculations were consistently generous, such that the actual chances are much less likely than calculated here. Life on Earth depends on a fine balance of multiple factors. Early Earth did not have proper conditions to start life. Neither the raw materials nor energy needed for reactions were available in the abundance needed. We have overlooked these serious problems and still found that there is no possibility of life starting as a result of random chance. You can run the calculations many ways, but I believe any reasonable assumptions would lead to the same conclusion: **Life is not an accident.**

What about Self-Organization?

Others realize life couldn't have started by chance. They say something like, "That's not how things happen in chemistry, anyhow. Life must have started as a result of the laws of physics acting upon the properties of matter." In fact, most origin of life researchers gave up on pure chance decades ago.

Dean Kenyon is a good example. He wrote, "Life must have been biochemically predestined by the properties of attraction that exist between its chemical parts...particularly between amino acids in proteins." [10] However, about five years after he coauthored a popular textbook, ***Biochemical Predestination,*** he realized there were at least two big problems with his theory.

The first problem was the lack of evidence for his theory. Dr. Kenyon discovered that although certain amino acids were attracted to each other in the test tube, those same pairs did not occur together any more often than other combinations in the real proteins of life.

The second problem, brought to his attention by one of his students, is the mystery of the origin of information. Structures organized by laws of physics have little information or "specified complexity". Many natural systems are capable of generating highly ordered structures, like crystals, but ***only intelligence is capable of generating information*** or "specified complexity" such as required in great quantity in the proteins and DNA of life.

Nancy Pearcey wrote, "Thus, it is futile for scientists to keep looking for some external law or force within matter to explain the origin of life. It's not just that experiments to create life in a test tube have failed so far [which they have]; it's that, in principle, law-like processes do not generate high information content." [11]

Confronted with this problem, Dr. Kenyon courageously began to consider that life had been designed by a super intellect. Fully convinced a few years later, he wrote another text, ***Of Pandas and People,*** now a leading biology text supplement promoting the idea of design in nature.

Neither Dr. Kenyon nor any other scientist has found an explanation for the enormous amount of information contained in DNA. Bill Gates, founder and CEO of Microsoft Corporation, said, "DNA is like a computer program, but far, far more advanced than any software we've ever created."

Information content in biology is a huge problem for evolution and key evidence for design.

Self-organizational theories have no hope of explaining the origin of life because of the inherent, opposing natures of information and natural law.

What about Natural Selection?

One day, I was reviewing "Have You Done the Math" with a brilliant physics graduate student. He objected, "I heard it said that if you have a thousand monkeys at typewriters, they could type at random forever, and none would have typed the text of the Bible." He continued, "But if you add just one rule, that they keep correct keystrokes and throw out wrong ones, they would soon finish the work. This is the power of natural selection, and it makes all the difference." While I agree that natural selection and survival of the fittest does allow for variation to occur, it does not apply in this case since we are considering the origin of life. The process of natural selection **implies** the existence of life.

Without life, without parents or offspring, there is no opportunity for natural selection.

The molecules and polypeptides with the most potential for life are rendered useless when the first wrong connection is made. Before life is established, there is no stable reproduction, thus no opportunity to build upon past successes. Therefore, natural selection doesn't help explain the origin of life.

Implications

The impossibility of a naturalistic origin of life leads us to conclude that we are not here without cause or reason. All current theories, including chance, self-organization, and the "RNA world" fall far short. Hubert Yockey, a Manhattan Project physicist and origin of life scientist wrote in 1980, "One must conclude that no valid scientific explanation of the origin of life exists at present." [12] His conclusion is still valid today. In fact, if anyone discovers a highly plausible, naturalistic theory of the origin of genetic information, they can win ten million dollars from The Origin of Life Prize at http://www.herox.com/evolution2.0. The fact that the prize, nor the former one million dollar prize, has not been collected in more than 20 years highlights the point that nobody has found a plausible explanation. The only alternative is that we were designed by a higher intelligence – the Bible calls Him God.

Although the foregoing does not prove the designer is the God of the Bible, it opens the possibility, and begs a careful examination. Upon honest investigation of the resurrection of Jesus Christ and surrounding events, you will likely conclude that, if there is a God, He was revealed to us in Jesus Christ. Although such an investigation is beyond the scope of this text, I encourage you to read *The Resurrection Factor* by Josh McDowell or *The Case for Christ* by Lee Strobel.

The Bible says, "that which is known about God is evident within men; for God made it evident to them. For since the creation of the world God's invisible qualities--His eternal power and divine nature--have been clearly seen, being understood through what has been made, so that men are without excuse." [13]

We, as God's creation, must respond to our Creator and His desires for us. As we investigate the evidence He has provided – through both the created world and His Word, the Bible – we discover that God is intentional in His concept and design of man and His world. He creates with purpose and provides for us, who are created in His image, meaning and purpose for our lives as well.

God is described as not only eternally powerful, infinitely wise, and perfect in His character, but He is also strikingly personal. He loves and cares for His wayward creation and seeks that we would trust Him and love Him in return.

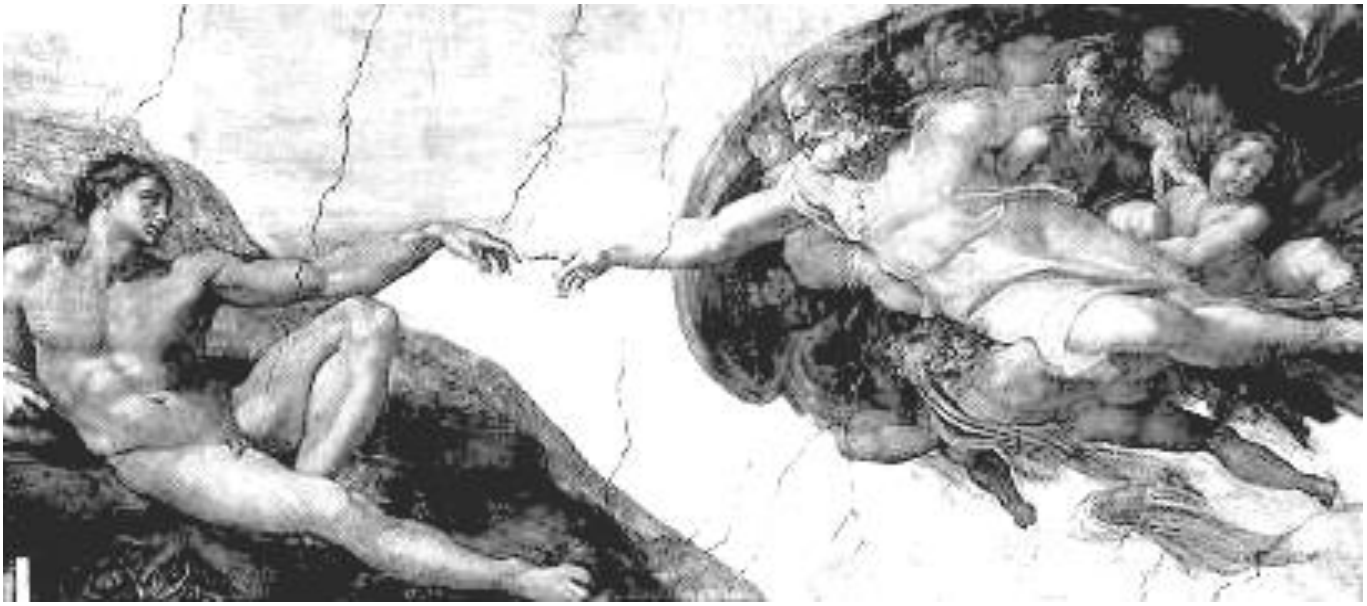
Recall the stack of quarters stacked light years high. God can easily find the one golden coin and, as your Creator, He is also intimately aware of every detail of your life.

In spite of this, many will reject the idea of purposeful creation, not on the basis of hard science, but on the basis of philosophy – it doesn't agree with their view of life. They would rather not face the thought that they may be accountable to their Creator.

Our culture places a high value on "freedom". Yet the freedom many pursue leads to bondage, not true freedom. In a paradox that many fail to understand, true freedom comes only in submission to our Creator. He made us and knows what is best for us.

Jesus said, "You will know the truth and the truth will set you free...Everyone who sins is a slave to sin...If the Son sets you free you will be free indeed." [14]

What would keep you from acknowledging God and trusting Him? Why not give Him a fair chance to work in your life? Investigate the evidence and discover for yourself the One who made you; the One who is so powerfully sustaining the Universe, who is intimately acquainted with every detail of that Universe. He is the One who knows you perfectly, loves you deeply and is truly worthy of your trust.



Endnotes

[1] *The Origins of Life*, by L.E. Orgel (John Wiley & Sons, 1973), p.162.

[2] Walter L. Bradley & Charles B. Thaxton, "*Information and the Origin of Life*", from *The Creation Hypothesis*, p. 179 (Intervarsity Press, Downers Grove, IL 1994).

[3] *Microsoft Encarta Encyclopedia*, *"Amino Acids"*, 1999.

[4] *The Creation Hypothesis*, p. 272 (Intervarsity Press, Downers Grove, IL 1994).

[5] Rubey, in *Biochemical Predestination*, by Dean Kenyon, 1969.

[6] Sacramento Peak website, *"The Universe"* at
http://www.sunspot.noao.edu/sunspot/pr/answerbook/universe.html#q70

[7] NASA website, *"Imagine the Universe"* at
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[9] Microsoft Encarta Encyclopedia, *"Michigan"*, 1999.

[10] Interview with Dean Kenyon on DVD *"Unlocking the Mystery of Life"*, Illustra Media, 2002.

[11] Nancy Pearcey - Philosopher - in *Total Truth*, p. 196, 2005.

[12] "Self Organization Origin of Life Scenarios and Information Theory", by Hubert Yockey, 1980, as quoted from *A Case Against Accident and Self-Organization*, by Dean L. Overman, p. 102 (Rowman and Littlefield Publishers, 1997)

[13] Romans 1:19,20

[14] John 8:32, 34, 36