

The Mathematical Impossibility of The Theory of Evolution

The DNA code

The DNA code determines whether a creature is a small bug or an elephant. Whether a plant has the ability to survive in water or survive in desert regions. The position, size and function of all parts in living things is determined by the DNA code.

Charles Darwin (1809-1882), considered by many to be “the father of the theory of evolution”, wrote, “*On The Origin of Species*” (1859). He also produced a ‘tree of life’ sketch in which he imagined a simple life form over many generations developing into many kinds of animals through natural selection.

It is true that selection has brought about different breeds of cats and dogs. It has produced greater yields for farmers, however, there are huge limitations on what can be achieved through selection. You can’t for instance, over many generations and careful selection, change a frog into a kangaroo; that is because the DNA code for kangaroo is completely missing in all frogs.

Those who reject the role of God in the creation of life - the atheists - are left with the idea that the human body with all of its complicated parts is simply the result of an accidental arrangement of the genetic code. Darwin and the atheists of his day did not have to face the problem of the DNA code, because the amazing information storage system was not understood until the 1950s. What I will demonstrate in this paper is that it is not realistic on purely scientific grounds to expect that two simple interconnected organs can come about through an accidental arrangement of the DNA code. This will be demonstrated through maths.

For those who are not keen on maths, I will first put the problem which the theory of evolution faces in simple terms with a story.

A man named Tony works as a computer programmer for a large company with several others. One day he announces to his colleagues that he is going to prove that random accidents can produce a workable genetic code. Tony programmes his computer to produce on the screen random letters one hundred positions long. The letters randomly change to another letter at the rate of ten times per second.

The computer is programmed to recognise valid words and sentences which will be saved and displayed at the bottom of the screen when they are produced. The computer will run every night for a period of thirty nights, and the results will be checked in the mornings.

In the afternoon of the first day at knock-off time, everyone gathers around Tony’s computer. They see the letter ‘a’ displayed on the screen one hundred times in a row. With great fanfare, he hits ‘Go’, and the string of letters change to a new combination at a rapid rate - ten times per second.

The next morning, Tony eagerly goes to his computer to see if a meaningful sentence has been produced. It is found the computer has produced a few instances of two and three letter words such as, ‘to’, ‘on’, ‘of’, ‘the’, etc., but nothing of any value. Every morning, people gather around the computer

to see if an intelligible sentence has been produced, but each morning the computer is found to have produced nothing but gibberish. Finally it is announced that the experiment is facing the last night of the trial.

The next morning, everyone is astonished to discover a short sentence has been produced, it appears to be in German, it says, “Guten morgen! Main name ist Harry, was ist ihr name?” Tony is furious; it is obvious that someone has been meddling with his computer. He has the message translated into English; it says, “Good morning! My name is Harry, what is your name?”

Tony looks around the office for anyone who has a connection to Germany, and finds a couple of guys who had recently paid a visit to Germany, chatting over a cup of coffee with smirks on their faces. They confess that they had interfered with his computer for a bit of fun.

Tony was quite right to suspect interference when his computer displayed a viable sentence. Left to itself, the computer could only produce nonsense, even if it could be left to run for billions of years, it would still only produce nonsense - as the maths will prove later in this paper.

Copying errors

The atheistic theory of evolution view asserts that the very first forms of life were very simple. As copying errors in the genetic code grew, valuable complex information was added. The continual addition of copying errors resulted in a single celled organism gaining over many generations, a heart, liver, kidneys, spleen, lungs - along with many other parts, so that today, we have insects, cats, dogs, birds, fish and humans.

The copying errors idea can be likened to a small number of scribes working in dark conditions producing copies of a children’s fairy tale such as, “*Little Red Riding Hood*”. After many copying errors over two thousand years, the end result is a German translation of the “*Encyclopaedia Britannica*”.

A German translation of the *Encyclopaedia Britannica* would be complicated, but so is the human DNA code with its 2.8 billion letters. The letters must be in the right order; mistakes in the code can result in severe health problems, or even death for the person concerned.

The DNA code

The DNA code is an amazing information storage system. It is far more efficient than the information storage system of a computer in terms of the large amount of information it holds in a very small area. The very thin strand of code can only be directly observed with the aid of a very powerful electron microscope.

In addition to the amazing design of the biological machinery which holds the code, we have the fact that the code is far more efficient than computer code. Computer code is binary code because of the physical limitations of the computer. At the heart of the computer is a central processor which on a microscopic scale has many switches - typically more than a billion. The switches can be at just one of two

positions; on or off. The switches very rapidly change position as per the instructions from the software programme.

While the computer is an amazing device for many of us, its design is by far, greatly inferior to that of the DNA information storage and retrieval system. To store the human DNA code on a computer requires a bulky hard drive, while the biological machinery which stores the DNA code is so minute that it can not be seen, even with a small microscope.

In addition to the above, DNA code is far superior to binary code in that it has four possible positions instead of just two. There are four letters (which stand for four substances) which make up the code; A, T, C and G. To illustrate the different possibilities between the two codes, lets imagine we have a blank square in which we can mark a letter A or B. In that situation, the maximum amount of information possible is two. If we add another box, the possibilities expand to: AA, AB, BA, BB. A choice of four different pieces of information with our binary code, A and B. With a third position, we can have:

AAA, AAB, ABA, ABB, BAA, BAB, BBA, BBB. A maximum of eight different pieces of information. In summary:

Positions	Maximum pieces of information
1.	2
2.	4
3.	8
4.	16
10.	1,024
20.	1,048,576

With each position of the DNA code, we can have one of four options. A, T, C, or G. Using just two positions on the DNA string, we can have:

AA, AC, AT, AG, CA, TA, GA, CC, TT, GG, CG, CT, GC, GT, TC, TG. (sixteen different pieces of information).

The DNA code in summary

Positions	Maximum pieces of information
1.	4
2.	16
3.	64
4.	256
10	1,048,576
20.	1,099,511,627,776
40.	120×10^{22}
50.	126×10^{30}
100.	160×10^{60}
200.	258×10^{120}

Please note that a string of binary code twenty positions long has just over one million possibilities, while the same amount of DNA code has just over one trillion possibilities.

The number of options in a string of DNA code two hundred letters long is 258×10^{120} (258 followed by 120 zeroes), that's greater than the number of atoms in a big bang model universe, which is estimated at 10^{85} atoms. Clearly, the

code God uses in his creatures is far superior to the code mankind uses in computers.

At this point, we are starting to get to the heart of the problem with the claim by atheists that the genetic code for humans, or any other creature for that matter, can be in the right order by accident. We must bear in mind that the DNA code for humans is around 2.8 billion letters long. Even with a code just one thousand letters long, there will be many instances of error, given the enormous number of possibilities with that length of code. Furthermore, getting rid of all the erroneous code without intelligent intervention is not possible in one trillion years. We will now prove this point with maths.

Two organs

Lets imagine for a moment that we have a very primitive creature which is developing on an evolutionary path from a single celled organism. The creature needs to develop many organs in order to survive in a new form. We will look at the mathematical possibility of accidentally producing just two organs. We will use very generous parameters in favour of the atheists. The two organs will have very short genetic codes; just 1,000 letters long (animals typically have a code more than 2 billion letters long). We will also allow that the code changes in our creature at a very rapid rate; one billion times per second in an area of the code which is set aside for the new organ. The rest of the code will not change in order to maintain the survival of the creature. The changing code will not do a repeat of a previous code, and we will further allow that the code will immediately stop changing when the correct code for the desired organ is achieved. We start with a random code such as:

ATAGCGAAATGGTAGTTGGATTTGAGTT ... etc. one thousand letters long. In just one second, the letters randomly change to a new unique code one billion times, and keep changing at that rate.

At this point, I must explain the maths involved here. If I have ten small objects marked one to ten, and determine that I want to pull the number four out of a hat while wearing a blindfold, the chance that I would randomly pick the correct piece is one in ten. Each time a wrong number is chosen, it goes back into the hat, and another choice is made. On average, I would need to go through the exercise ten times in order to choose the correct number.

If I need to randomly choose the number forty-eight, the odds are one in one hundred of choosing the correct number. If I choose four, then put the number back and attempt to get the number eight, but choose six instead, I will need on average to keep selecting ten times to again get the number four, then select ten times for the next number. So the odds are $10 \times 10 = 1$ in 100. If three numbers are required, the odds are $10 \times 10 \times 10 = 1$ in 1,000.

From the above, we can see that it is very difficult to accidentally come up with the right code when it is long. Our genetic code is 1,000 letters long, which means the number of possible combinations is 114×10^{600} (114 followed by 600 zeroes). In an attempt to get through all of the possible combinations, not only will we move at the rapid rate of one

billion trials per second, we will also keep the exercise going well beyond 13.7 billion years - the age of the universe according to big bang model assumptions. The trials will hypothetically continue for three hundred billion years.

Trials per second	10^9
Seconds in one year	33.55×10^6
Trials in one year	33.55×10^{15}
Trials in one billion years	33.55×10^{24}
Trials in one hundred billion years	33.55×10^{26}
Trials in three hundred billion years	10.65×10^{27}
To simplify things, we will round that number to	10^{28}
That is well short of the number of trials which we need to go through,	114×10^{600}

Lets speed things up further. We will divide all of the atoms in the universe into groups of 1,000 and have it in our exercise that there will be a change of a letter in each 1,000 pieces of code at the rate of one billion times per second.

Number of atoms in the universe	=	10^{85}
Number of groups at 1,00 per group	=	10^{82}

With this arrangement, we can get through the various combinations many times faster; actually, one followed by eighty-two zeroes times faster.

We must now multiply the total reached so far by the new arrangement. $10^{28} \times 10^{82} = 10^{110}$

The number one followed by one hundred and ten zeroes is still well short of the number required, which is, one followed by six hundred zeroes.

To get an idea of the scale of the failure here in reaching our target of 10^{600} trials, we will mark our progress on a long ruler. We will use a *very* long ruler - the maximum possible width of the (big bang model) universe.

Progress line

The maximum possible distance across a 'big bang' model universe is the distance light has travelled since the 'big bang'. Light travelling in a vacuum at 299,792.458 klm/s (kilometres per sec.) for 13.7 billion years (4.32×10^{17} seconds), will reach 1.296×10^{23} kilometres (the radius of the universe). That means the maximum possible distance across the universe - the diameter - is 2.59×10^{23} or 259×10^{21} kilometres.

Length of line

259×10^{21} kilometres
259×10^{24} metres
259×10^{27} millimetres
259×10^{30} microns (1,000 microns to a millimetre)

Distance travelled on progress line

To calculate the fraction of the distance along the line that we have moved, we need to divide the number of combinations completed 10^{110} , by the number of combinations we need to complete the task, 10^{600} which represents the end of the line at 259×10^{30} microns.

In summary:

1 divided by $10^{600} = 1/10^{600}$ The beginning of our journey along the line.

10^{600} divided by $10^{600} = 1$, the end of the line at 259×10^{30} microns.

Please note from the table below that as each number of trials is reduced by one tenth, our position along the line is also reduced by one tenth.

No. of trials	Position on line	Exp.
10^{600}	End of line	
5×10^{599}	half way	
10^{599}	one tenth	$1/10$
10^{598}	one hundredth	$1/10^2$
10^{597}	one thousandth	$1/10^3$
10^{596}	one ten thousandth	$1/10^4$
10^{595}	one hundred thousandth	$1/10^5$
10^{594}	one millionth	$1/10^6$

As can be seen from the above, 10^{594} completed combinations is just one millionth of the combinations that we are aiming to achieve, however, we have completed only 10^{110} combinations.

We will now calculate our progress along the universe-wide long line by dividing the number of calculations achieved by the number of calculations required.

10^{110} divided by $10^{600} = 1/10^{490}$

So the fraction of the universe which we have progressed along is one over one, followed by four hundred and ninety zeroes. To put this small fraction in perspective, it will be worthwhile to look at the table below:

Fraction of the universe

• $1/259 \times 10^{21}$	= 1 kilometre
• $1/259 \times 10^{24}$	= 1 metre
• $1/259 \times 10^{30}$	= 1 micron
• $1/10^{490}$	= The fraction of the distance along the progress line.

The bigger the exponential number, the smaller the fraction or distance along the line.

Please grab the electron microscope!

With a fraction smaller than $1/259 \times 10^{30}$, the distance covered is less than a micron, but the fraction we have is $1/10^{490}$. That means, with all of the atoms in the universe moving at the rate of a billion trials per second for 300 billion years, we have not moved beyond the width of one atom on our astronomically long line. We must also consider the fact that one thousand letters of DNA code is ridiculously simple in comparison to the simplest of organisms.

Code generation and code elimination

According to the atheistic theory of evolution story, code has been randomly added to the genome of all living things to produce the necessary complicated parts. To overcome the argument that a lot of harmful code would be added by a random process, they claim that the great bulk of the harmful DNA code is removed through the process of selection -

natural selection. However, when this idea is put to the test of solid science (a mathematical test) it fails completely.

We will imagine for a moment that we have a device called a 'Random Code Generator' - the RCG. As the RCG moves along at a rapid rate, it spits out random code one millimetre apart. To the advantage of the atheist, we will give our RCG a high velocity - the speed of light in a vacuum (299,792.458 kilometres per second). Every second, the RCG will produce 299,792,458,000 pieces of code.

As soon as the RCG produces three billion letters of code (in a small fraction of a second) another device takes off - an 'Erroneous Code Eliminator' (ECE). This device eliminates code which is not correct for the new organ. It also moves at the speed of light, removing false code at the rate at which it is produced (299,792,458,000 pieces per second). Both the RCG and the ECE travel across the entire width of the universe after a time span of just over 27 billion years.

We saw previously from 'length of line' that the amount of code produced by this method will be large, 259×10^{27} , however, we need to produce *all* of the possibilities - a correct code which is not present can not be selected. The number of possibilities is quite astronomical at around 10^{600}

Problems multiply

The problem with trying to *accidentally* obtain the right code for one organ is bad enough, but when a second supporting organ is required, the problems multiply; quite literally. We saw earlier that if I pull a number out of a hat where the odds are one in ten, then pull another number out of the hat with the same odds, then the chance of success is:

$$1/10 \times 1/10 = 1/100.$$

The chance of success where two organs, each with a code of 1,000 letters is required is roughly $1/114 \times 10^{600} \times 1/114 \times 10^{600}$ which equals one over $12,996 \times 10^{120000}$

Amazing accidents

The atheistic theory of evolution story requires a lot of amazing accidents in the genetic code. If we start with a single celled organism and progress in a theory of evolution manner, it is obvious that a huge amount of astonishing accidents in the code are required to arrive at an air breathing animal, even one as small as a mouse. Some of the accidents in the code according to atheistic thinking are:

The lungs accident, the heart accident, the veins accident, the blood accident, the coagulation of the blood accident (to prevent bleeding to death when there is a small cut to the skin), the liver accident, the stomach accident, the kidney accident, etc.

As I have said in another article, there are more amazing accidents in the atheistic theory of evolution story than you will find in the entire account of "*Grimm's Fairy Tales*".

The world population

While on the subject of proof through maths, it is worthwhile to consider if the current world population supports the idea that mankind has been on the earth for around one million years as proposed by the theory of evolution. Alternatively, has man been on the earth for less than 10,000 years as indicated by the Bible?

Some estimates put the world population at the time of Christ at 300 million. That number requires a population

growth rate of only 0.75% since the Great Flood at around 2,500 BC when just eight people emerged from the ark. That is a doubling of the population every 92 years. Dr. Don Batten makes the following point. "What if people had been around for one million years? Evolutionists claim that mankind evolved from apes about a million years ago. If the population had grown at just 0.01% per year since then (doubling only every 7,000 years), there could be 10^{43} people today - that's a number with 43 zeros after it."

The Bible presents a much more realistic picture, "The Jews are descendants of Jacob (also called Israel). The number of Jews in the world in 1930, before the Nazi Holocaust, was estimated at 18 million. This represents a doubling in population, on average, every 156 years, or 0.44% growth per year since Jacob. Since the Flood, the world population has doubled every 155 years, or grown at an average of 0.45% per year. There is agreement between the growth rates for the two populations. Is this just a lucky coincidence? Hardly. The figures agree because the real history of the world is recorded in the Bible." For more information on the population question, go to the link below. (Don Batten, <http://creation.com/where-are-all-the-people>).

Our declining genes

Our genetic code is not perfect. There are thousands of errors in the code, and the number of errors is increasing. With each succeeding generation, at least one hundred errors are added. This fact is explained by Dr J Sanford (inventor of the 'gene gun') in his book, "Genetic Entropy & the Mystery of the Genome". Mostly, the errors are not a big problem because the genetic code of both the father and the mother is involved in the production of the offspring. If for instance, an incorrect code from the mother is encountered, a correct code from the father can be used, and vice versa.

Because close relatives will have roughly the same genetic errors, it is not legal to marry a close relative because of the increased chance of abnormalities in the offspring.

The fact that errors are accumulating in the genetic code is troubling to say the least, particularly if mankind is to remain on this earth for a hundred or more generations. However, there are many indications in the Bible that our time on this earth is soon coming to an end. God will not abandon his people to come to a slow genetic death. He has a plan which is far better than a simple genetic fix up, and that plan is revealed in the Bible.

Further reading: *Can The Theory of Evolution Survive The Attack of Science?* by David Holden. (Available from defenceofthefait.org web site).

Genetic Entropy & the Mystery of the Genome, by Dr J. Sanford.

David Holden

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