Hello everyone.

My name is Roy and with __ and __ today I will be presenting some ideas on evolution and how that relates to Yah's plan.

First, a bit of background on me as folk seem to want to know who is talking and what qualifications that person has to speak. I have been trained in medicine, physics and molecular biology. However, I do not hold myself out to be an expert in those fields since a lot of water has passed under the academic bridge since I obtained my degrees. However, the basics of science do not change – only more knowledge may have been added in my absence from academe. In fact one of the things I quickly learnt about acquiring knowledge – especially scientific knowledge – is that I came to realize how little I actually do know. I am writing this from a scientific perspective so ___ if you want to leap in to elaborate a point related to Yah's plan I'd appreciate it.

OK this talk is not meant to stand alone. It is meant to be considered in relation to a more detailed description I have given in a paper I have written on evolution complete with references to the work of many scientists. Neither is this talk meant to be a science versus God argument. In fact I am aiming to show that science comes from God while He is revealed from the science. Logic and reason has to underlie an orderly universe in which life can exist. God is logic and reason. He expects us to use our brains to find Him, understand Him and revere Him. Otherwise without a creator god our lives here are pointless; we are born, we have a good or bad time while here and then we die returning not only to dust but complete oblivion, knowing nothing more for all eternity.

So with that out of the way on to evolution:

Life exists on earth. That life had to have an origin since the earth has an origin. Therefore it was either created or sprang spontaneously into existence. Since Darwin's time, the development of socialist ideas and the corrupt and corrupting religions that exist on the planet have turned most scientists away from the idea of a creator god to the equally ridiculous notion that life sprang spontaneously into existence for no better reason than it could.

The idea of evolution is that systems change in adaptation to changes in the environment. It is not necessarily just organic life that changes and adapts to changes in circumstance. As oil becomes scarce, internal combustion engines become more efficient, the design of aircraft improves, changing from slow inefficient biplanes to the stream-lined efficient aircraft we have today. In keeping with man's nature, the ability to kill with firearms has evolved from muzzle loaded flintlocks to the powerful automated gattling guns we now possess. You will note that the evolution I have just described is directed. That is, it took intelligence to enable the evolution to occur. The link between intelligent direction and evolution is an important point that I will elaborate later on.

Charles Darwin, a naturalist who lived through the middle of the 19th Century, proposed the idea that life could adapt to changes in the environment through a process he called natural selection. Though this idea did not do away with the idea of intelligent direction it did, however, make such direction unnecessary. Though Darwin is usually credited with the idea, in fact there was a long line of those with related ideas from before the time of Aristotle. Anaximander, a Greek philosopher in 520 BC may have been the first to propose the idea of evolution – at least in a rudimentary form.

Darwin was born at a time soon after the industrial revolution when the growth of science was accelerating. The laws of nature were being deciphered with great intellectual effort and new ideas were being developed in the west about man's relationship to man. The Christian church with its lies, internal contradictions and past behavior was turning men away from God so many saw these developments as a way to explain our existence and reason for being that did not involve a god at all or at least one that was far distant and disinterested in events on planet earth. In a word Darwin was a god-send – pun intended. He came at the just the right time to be an answer to their prayers – again, pun intended.

However Darwin had some competition. Lamarck, a contemporary of Darwin proposed an idea – similar to Darwin's – that species adapted to a changing environment by changing a physical characteristic that would give them a survival advantage.

Many people believe Darwin was an atheist. In fact he attended a Unitarian church in his youth and only later in life became what he described as an agnostic. He remained a theist of sorts through most of his life.

At the time of Darwin's publication of his thesis "On the Origin of Species" Marx and Engels had published the communist manifesto, a document that eschewed any god but man. Darwin's work was gratefully received as further evidence of the push towards rejection of God, His Torah, and any association with the need for a creator.

In 1860 in Oxford's natural history museum a famous debate between Thomas Huxley (Darwin's bulldog) and Bishop Samuel Wiberforce occurred. This debate is considered a pivotal historic moment when science supposedly defeated religion on the question of the origin of all life and the laws governing human behaviour. Now mankind could formulate his own laws and live in freedom from a harsh and unforgiving god.

However, media spin is not new. The Huxley/Wilberforce debate was portrayed as a great victory for Huxley though, as usual, the reality was different.

At the time of the debate little was known of the cell. Though microscopes had been developed by then the cell was thought to be just like a lump of jelly with a surrounding membrane and a nucleus.

Had Wilberforce known what we now know - that the cell in fact is an extremely sophisticated machine shop with microscopic machines carrying out all its functions under the direction of one of the most remarkable coding methods ever devised – then he would have wiped the floor with Huxley and Darwin's ideas would have been stillborn. Had he known what modern science has shown in physics Huxley would have left the hall with his tail between his legs. An eloquently delivered speech does not overcome truth and facts no matter how much you may desire it.

However, Darwin's ideas were not without merit.

I'll backtrack for a minute here.

The ages of the universe and the earth were not known until recently. Only about 80 years ago the universe was considered steady state – that is as we see it now is how it was and how it will always be. Then Hubble showed through the red shift that the universe in fact was expanding so that if the clock is run backwards the universe would have originated from a point later called the 'big bang'. It was soon realized that the universe in fact was very old – not just the 6000 years – the bible allegedly said it was and as many Christians believe. The actual age of the universe is somewhere between 13.7 and 14.7 billion years from our point of view. The Hubble telescope has recently given a reading of about 13.7 billion years, though like all science of this kind there is no theoretical basis for determining the exact age of the universe so there is always uncertainty surrounding the quoted figure.

Likewise the earth is about 4.5 billion years old and as it was created from the same gas and dust cloud that made the solar system it is the same age as most of the other planets and the sun. (A planet such as Pluto may have been captured). Soon after its formation the earth was bombarded (as were the other planets) by the debris that remained in the primordial disc. This melted the earth's original crust, removing all traces of it so that by the time the cometary bombardment ceased the new crust cooled to the point where it could support life. That was around 3.8 billion years ago from our POV.

Modern ideas behind evolution are that life somehow started by random chemical combinations in pools of water on the earth's surface. From there life forms gradually changed under the forces of natural selection until eventually humanoids appeared. No supernatural input of any kind was required – only the laws of physics and chemistry. The early atmosphere was thought to be reducing – that is it contained little or no oxygen. Energy for chemical combinations was supplied by lightning bolts and/or UV radiation from the young sun. At the time the absence of oxygen implied the absence of ozone so that the entire UV spectrum could penetrate to the ground and influence the reactions occurring in the pools of water.

A consequence of this theory is that natural selection would gradually over time by progressive small advantageous variations change one species into another. Variations that were not advantageous would die out. Therefore there should be

something like a paper trail of intermediate kinds found in the fossil record. Instead, apart from one famous fossil – archaeopteryx – none have been found. What we do find are fossils of one species, then fossils of another that has supposedly resulted from the former. The absence of a continuous fossil record confirming Darwin's hypothesis was well known to him and was also the source of much anxiety for him. The absence of a continuous fossil record led to another theory of evolution called punctuated equilibrium in which species somehow changed from one to another very rapidly leaving no intermediates.

Whatever theory of evolution is chosen there are axiomatic requirements for the theory to be true. The first is that a disordered state can spontaneously go to an ordered state. In terms of life that is to say that randomly distributed elements can spontaneously combine to form primitive life that becomes self-sustaining. Second: this primitive life can then continue an upward path by natural selection to produce all the sophisticated life we find on earth today. The third is there must be eons of time to bring evolution about.

The first requirement is called abiogenesis which means spontaneous generation of life.

I will divide evolutionary theory into macroevolution and microevolution which correspond to the first two axioms that I have described. Time is a requirement for both.

There is, however, a side issue related to abiogenesis that needs to be dealt with first: Fred Hoyle, a British cosmologist argued a case for panspermia, an idea that earth was seeded with viruses and organic molecules from outer space thus avoiding the need for abiogenesis on earth and thereby allowing evolution by natural selection to proceed here on earth.

Hoyle, however, seemed to have been remarkably confused about creation, abiogenesis and evolution. I offer two quotes for your consideration:

Would you not say to yourself, "Some super-calculating intellect must have designed the properties of the carbon atom, otherwise the chance of my finding such an atom through the blind forces of nature would be utterly minuscule. A common sense interpretation of the facts suggests that a superintellect has

monkeyed with physics, as well as with chemistry and biology, and that there are no blind forces worth speaking about in nature. The numbers one calculates from the facts seem to me so overwhelming as to put this conclusion almost beyond question." (Fred Hoyle, "The Universe: Past and Present Reflections." Engineering and Science, November, 1981. pp. 8–12) and a part quote: "If one proceeds directly and straightforwardly in this matter, without being deflected by a fear of incurring the wrath of scientific opinion, one arrives at the conclusion that biomaterials with their amazing measure of order must be the outcome of intelligent design."(Hoyle, Fred, Evolution from Space, Omni Lecture, Royal Institution, London, 12 January 1982)

Since Hoyle believed in a steady state universe, there would have been an infinite amount of time in which these space-based viruses and molecules could have arisen and more than enough time for them to travel through the reaches of space to earth carried on comets or other interstellar bodies.

However, with final confirmation of the big bang theory of the origin of the universe and the subsequent deduction of the universe's age, Hoyle's thesis falls apart. His conclusion that I quoted above of the origin of life on this planet would preclude for similar reasons the development of life elsewhere and its transport to earth. In short there simply was not enough time. Panspermia simply puts the origin of life out of reach and doesn't solve any of the fundamental problems of evolution.

Nevertheless for a time his theory took hold aided by the experiments of Miller and the discovery of organic molecules and micro-organisms in comets and meteorites such as the Murchison meteorite.

In 1952 Stanley Miller and Harold Urey carried out an experiment that mimicked what was considered to be the conditions in the early earth's atmosphere. Volcanoes would have been erupting; lightning would have lit up the sky. The gases of the atmosphere would have contained carbon dioxide, hydrogen sulphide, sulphur dioxide, nitrogen, oxides of nitrogen and cyanides. The atmosphere would have been translucent but not the clear atmosphere we presently enjoy. In particular little or no free oxygen would have been present.

These gases were enclosed in a glass reaction vessel in which simulated lightning was produced by electrical sparks. After a week or two a brownish discoloration was found in the flask. Analysis showed this to contain many amino acids. With the addition of other constituent gases even more organic molecules were created, many if not most of those forming the building blocks of life. It seemed that abiogenesis had been shown to be true. Champagne bottles were uncorked and more organic molecules were poured into frothing glasses for the enjoyment of atheists.

In 1969 at Murchison in Victoria, Australia, a carbonaceous chondrite meteorite exploded and deposited fragments some weighing up to 7 kg across a wide area. Within these fragments were found 15 amino acids and a raft of other organic molecules including micro-organisms. More champagne bottles were uncorked and more organic molecules were poured into frothing glasses.

The presence of micro-organisms seemed to cement the idea of panspermia but even if panspermia were true it still didn't explain how life could spontaneously arise anywhere in the universe. The issue of micro-organisms in comets was discussed in my paper on evolution.

With time it became obvious that these organic molecules were ubiquitous, being easily made and found in other comets and meteors. In the same way that iron rusts when water and oxygen are present so these molecules would spontaneously form under the right conditions.

The one thing they were not was life. Slowly the atheist's ardor cooled.

But abiogenesis or macroevolution had other problems.

The first was the laws of thermodynamics.

We all know that a hot cup of coffee left on the bench cools until its temperature is the same as its surroundings. We know machines wear out, despite our best endeavours to keep them going. Our bodies age and fall apart, our genome deteriorates, mountains erode and disappear. All these and other events are manifestations of the second law of thermodynamics. The first law relates to the conservation of energy but the second law is the kicker. It says that with every energy exchange some energy is degraded and unable to do useful work so that in

the end we cannot win. These laws are a consequence of the large but limited amount of energy in the universe. Since the universe is expanding the average amount of energy per unit volume is decreasing so that information (which is energy and its handmaiden order) decreases while randomness and disorder increase.

This is called entropy and the second law states that it is globally increasing. We can stop or even reverse entropy in localized areas such as with air conditioning but the result is that we must locally use more high quality energy to do so with the result that globally entropy is increased. Again, please take note: achieving a decrease in entropy requires an intelligent input.

An obvious objection is that evolution – if it increases complexity – must by definition decrease entropy without an intelligent input. Both macro and micro-evolution rely on this idea for their validity. I shall deal with them later but to give you a hint I'll mention here the concept of front-loaded evolution.

What we see with entropy is a universal progressive loss of information and order with the passage of time. The reverse of this, for example – a cup of cold coffee spontaneously heating to a drinkable temperature – has never and will never be observed. Our chemistry is continually working against the second law to maintain as best as possible the ordered structure we call our bodies. For that we need energy – otherwise known as food.

So the whole universe is slowly winding down, localized sources of high quality energy are dissipated, stars burn through their fuel and die and the universe progressively darkens to the blackness of an eternal night. This is called the thermal death of the universe because we arrive at a point where there is not enough free energy to carry on processes – including thought.

Yet, despite all of this knowledge we still have people that tell us that order – not just order but order of a high degree - comes about spontaneously. They tell us that molecules self organize into an ordered structure, that stars form from randomly distributed dust clouds to radiate light and heat.

And indeed they do but at a high entropic cost. The spontaneous localized order causes entropy to speed up, burning the available energy in stars and degrading

that energy so it is no longer available with the result that globally entropy has taken a giant leap forward. The same is true of self-organising molecules. Under appropriate energetic conditions, crystals of – say, quartz , diamond or even salt will form but these structures adopt the lowest energy state for their configuration and immediately entropy starts breaking them down again when the conditions of their formation change.

Even so, self organizing molecules are a cause celebre of macroevolutionists.

The problem for the macroevolutionists is that the structures that form from these self-organising molecules are low in information and still require an energetic cost to form. Energy is either put in to make the structure or it's lost to the environment.

Many of the molecules that make up our bodies are high in information. Proteins have a specific sequence so that they can assume a functional form and carry out the job for which they were made. In every cell except RBCs DNA and RNA are found.

DNA is deoxy ribose nucleic acid and RNA is ribose nucleic acid. Both are found in various forms in the cell but most are concentrated in the nucleus. DNA is the main nuclear constituent. It is a double helix formed by a repeating backbone of a sugar called ribose and phosphate groups that join them together. (Deoxy means that a hydroxyl group on the sugar has been replaced by hydrogen which for chemical reasons means it cannot bind another molecule of phosphate at that site.)

The helix is joined together like a ladder by rungs of specialized molecules called purines and pyrimidines. On each rung one purine has just the right shape and length to mate with a pyrimidine on the opposite DNA strand to form the helix. Those used in the human genome are given the letters ATCG which stands for adenine, thymine, cytosine and guanine. Uracil -U - is found in RNA in place of thymine. The code the DNA carries is in the form of groups of three rungs. Each group codes for an amino acid. The code is not highly specific in that for some amino acids, a number of groups will code for the same amino acid. In addition the first two rungs of each group of three are most important, the variation mentioned above is always found in the last rung.

All of the molecules I have mentioned have been found in meteorites and made here on earth by processes such as the Miller experiment. This, of course, gave heart to the macros but the problem for them lies not in the ease with which these molecules are made but in the way they are assembled. If you leave a salt water solution to evaporate the water away what is left are crystals of sodium chloride. The crystal self-assembles quite easily in these conditions but the crystal is in a low information state i.e. if you were building the crystal from scratch you could choose any of the sodium chloride molecules to fit into the crystal lattice in any order and still come out with the same crystal. On the other hand, even when crystalized, large organic macromolecules have high or very high information.

To make a protein with a specific sequence so that it will fold into a specific 3D structure and be functional the order of the amino acids is important. Not all the sequence of amino acids is critical but there are places in the protein sequence where their order is critical. Change one of these and the protein becomes useless. The same is true but on a much grander scale for DNA.

As an example while working in a biochemistry laboratory I made a protein called apolipoprotein C1.

It was made by using a bacterial cell called E coli which contained a circular piece of DNA called a plasmid into which my sequence was inserted. The E Coli then made more of itself and in so doing made my protein bound up with the plasmid. My protein was then extracted (detail is not important), purified and characterized.

It was a small protein – 57 amino acids in sequence and it proved to be functionally identical to the naturally occurring protein in the human body.

Now it would seem that putting 57 specific amino acids into a line and joining them together should be simple but it is anything but. And that's in a laboratory under controlled conditions and with intelligent (some may dispute that) input.

Macro evolutionists think forming a protein in nature without any intelligent input should be a doddle. Richard Dawkins, a paleo biologist is one such. He is the author of Climbing Mount Improbable which I will show and others have shown is really climbing mount impossible.

The reason comes back to picking the winning numbers in gold lotto or powerball.

But it's worse than that. In Gold Lotto and Powerball you only need the winning numbers. The order in which they are drawn does not matter.

In molecular biology the order of selection is critical.

In our biology we use 20 different amino acids. All 20 of these can be made in primordial pools of water in a reducing atmosphere with incoming UV light and lightning strikes.

Let's say the first three amino acids in apo C1 are serine, glycine and threonine. Let's say all three AAs are present in multiple primordial pools into which organic molecules are falling from the clouds above. One of Richard Dawkin's UV photons strikes an amino acid in the pool, giving it the energy it requires to somehow covalently bind to another AA. There are 20 different amino acids to select from in the pool. Remember there is no intelligence directing this show, it is simply blind mother nature at work. She has 20 different ways of selecting the first amino acid. Let's say she's lucky and it's a serine. The next amino acid she must strike to get the correct sequence is a glycine – again a 1 in 20 chance of getting it right – and again with the third amino acid threonine. She has been lucky so far, but what is the probability she will get it right all the way to the end of the sequence? There are 20 ways of choosing the first AA, and 20 ways of choosing the second AA and 20 ways of choosing the third AA. The word 'and' means we multiply to get the number of possible ways of choosing just 3 amino acids in the right sequence. For this example it is 20x20x20 which is 8000. So to choose correctly the first three AAs is 1 chance in 8000.

Now consider the probability of making by random combinations all 57 amino acids in the correct sequence to make the protein functional. The probability is 1 divided by 20 multiplied by itself 57 times. Rearranging, this probability becomes 1 in 10^{74} as shown in my paper on evolution. That is for one small protein out of the thousands that are encoded in the human genome. The numbers involved for even a moderately sized protein are mind boggling. Then you have to consider that these proteins do not act alone. They require the right environment and associated proteins and sometimes RNA to be fully functional.

And there is a further sting in the tail for Dawkins and others like him. Entropy does not stand still. Once a protein is formed or partially formed, the same UV/lightning strike that formed it can just as easily destroy it. And finally neither can it reproduce itself.

Hoyle, wedded to panspermia inadvertently gave himself a home goal and Yah a victory for common sense: here I'm quoting from a Wikipedia article:

Published in his 1982/1984 books Evolution from Space (co-authored with Chandra Wickramasinghe), Hoyle calculated that the chance of obtaining the required set of enzymes for even the simplest living cell without panspermia was one in $10^{40,000}$. Since the number of atoms in the known universe is infinitesimally tiny by comparison (10^{80}), he argued that Earth as life's place of origin could be ruled out. He claimed:

The notion that not only the biopolymer but the operating program of a living cell could be arrived at by chance in a primordial organic soup here on the Earth is evidently nonsense of a high order.

There you have it. The fatal thrust against abiogenesis and not even delivered by some miserable, ignorant creationist but by one of the most eminent scientists of his age.

The other problem Dawkins has is time. There ain't enough of it.

The time available from the cessation of the cometary bombardment was about 3.8 billion years. Seems a lot, doesn't it? Yet professor Bargehorn found microfossils in rocks at least 3.4 billion years old. That means that soon after the earth's crust was cool enough to support liquid water and hence life, life sprang into existence. Cyanobacteria were one of many different versions of archaebacteria. We can still see them at work today in mushroom shaped mounds called stromatolites in Shark Bay Western Australia. These mounds have their counterparts in the fossil record in ancient gneiss in Greenland.

Cyanobacteria are not sophisticated cells such as we possess but they were nevertheless fully functional working organisms with their own genome and protein array capable of fixing carbon dioxide in the primitive atmosphere,

thereby releasing oxygen. This process can be seen in algae in ponds. These organisms formed microfossils that Bargehorn and others have identified.

When you consider the difficulties in forming just one protein let alone a whole suite of inter-relating proteins and the DNA/RNA structures that these organisms needed it becomes apparent that 400 million years is not enough time to make them by random chance.

With a desire to eliminate any god from consideration as the creator of life, various theories have been developed to try to get around the problems with abiogenesis that I have mentioned above. There are, for example, the RNA theory, the 'other type of nucleic acid theory' and the iron-sulphur theory. Their shortcomings are discussed in my paper of evolution.

From abiogenesis we move to microevolution which is the more popularly understood version of evolution.

Yah created the universe so that it was indeterminate. That is, neither He nor we could predict the future from the beginning.

If He intended to create life on this planet, then unless He was a fully hands–on creator He would have to devise life so that it would be self-replicating, self-sustaining and self-correcting otherwise it would simply cease to exist at the first or second serious challenge.

Quantum uncertainty, chaos and thermodynamics are the reasons the universe is unpredictable. Quantum uncertainty is just Heisenerg's uncertainty principle. The uncertainty principle sets a fundamental limit to the knowledge we can have of our 3D universe. It was originally stated in terms of conjugate variables such as energy and time, momentum and position in the subatomic domain. That is, the simple act of observing the position of a particle using some kind of a probe means the particle's momentum is disturbed by the probe so that we can't know what it is. In other words we can know one variable but not both simultaneously.

It turns out that the lower limit to our knowledge on a small scale is related to the Planck limit and is related in turn to what is called superposition of the wave function of Schrodinger's equation. As an aid to understanding what that means Schrodinger himself used the analogy of a cat in a sealed box. But the cat was not

the only thing in the box. There was a very small amount of a radioactive substance, a Geiger counter to detect any radiation given off and a poison that when activated would kill the cat. When the Geiger counter detects the radiation it activates the poison and kills the cat. Since radioactive decay is purely random we can't know from outside the box when the next burst of radioactive decay would occur and hence couldn't know whether the cat was alive or dead. To us the cat was both alive and dead at the same time. It was only when the box was opened that the two possibilities collapsed into one of two states – alive or dead but not both. This is superposition. The wave function comes from the fact we are considering subatomic particles, not cats (though cats do in fact have a de Broglie wave associated with them) and until we try to discover the location or momentum of a particle to us it can be in any of a number of states defined by the wave function.

In classical Newtonian physics electrons are modelled like billiard balls, having a discrete position and momentum that we could know. However physicists found that Young's two slit experiment was not confined to light. Electrons when substituted for light also produced the interference pattern found in Young's experiments. De Broglie showed that all matter had an associated wave-like characteristic. Applied to electrons we know they have a wavelike property which allows us to use them as a very short wavelength probe in the electron microscope. So an electron in an orbit around an atomic nucleus does not behave like a Newtonian billiard ball but has a smeared out location so that we cannot be confident of where it is or even how fast it is moving – until we try to discover one of those parameters by using a suitable probe. Then and only then, like Schrodinger's cat can we know just one of its possible states.

Chaos theory is a relatively new branch of science. Chaos is everywhere, even though we don't usually notice it. It is in the weather, the flow of traffic, the flow of fluids, people en mass, the stock market and biology to name a few of its manifestations. The cantor dust is another chaotic process that generates a type of random noise found in electronic circuits. Chaos exhibited by processes around us does not allow predictions, for example of the weather more than a few days in advance. Chaos exhibits sensitivity to initial conditions such that two parameters even very close together at the start may diverge into radically

different trajectories making prediction of the trajectories impossible. Even though on a small scale chaos makes accurate prediction impossible, on a much larger scale there can be islands of stability. For example in a roiling river, areas of calm water spontaneously appear and then just as spontaneously disappear as the parameters of the trajectory change.

When we add quantum uncertainty, chaos, thermodynamics and time we end up with an unpredictable universe. Another way to look at it is that if we consider the modified Young's two slit experiment using electrons or light, firing a single electron or photon at the slits at a time, over a period of time from chaos emerges form and order. It's as if the universe has emerged with form and order from a sea of chaos like a whale rising from the sea.

We have shown above that it was impossible for macroevolution to have occurred. Therefore there is a creator. His name is Yahowah and He introduced himself to us in only one place – the pages of the Torah. Why He did so we will examine briefly later on.

The reason He created an unpredictable universe is so that we can have free will. If the universe were clock-work as Newton proposed then everything would be pre-determined and so free will would be impossible. Why we were given free will is another question requiring an answer.

The consequence of an unpredictable universe is that not even the creator can see the end from the beginning. From His position in a higher dimension, His time flows slower than ours so that He can see in His past our future – or in other words how our universe turns out.

These concepts are important for **microevolution**.

You see, how would a designer design life when faced with all the uncertainties that go with an unpredictable universe? – and not be on hand at all times to keep life going when it meets an insurmountable hurdle. Clearly the ability to survive, prosper and to adapt to adverse circumstances must be built into the design of life from the beginning. A species of animal or plant that could not adapt would not be able to reproduce and would simply die out.

So immediately we have one of the design features for life – sexual reproduction. It is true that some organisms reproduce by parthenogenesis i.e. non sexual reproduction but the vast majority of living creatures use sex. The reason for this is to defeat the effects of quantum uncertainty and its hand maidens chaos and thermodynamics. The genes Yah has provided can be shuffled, cut and rejoined – as they are during sexual reproduction - so that out of all the individuals alive some will have the ability to overcome an existential challenge taking those individuals into the future with a slightly different genetic makeup. In this sense Dawkins was nearly right but instead of a blind mother nature randomly doing the gene shuffling, the genes were initially set up by the creator to allow just that survival mechanism to happen.

Atheists such as Dawkins, of course contend that there was no designer; that the natural laws of the universe would combine to cause evolution to go onwards and upwards to better things all by themselves, using only natural selection as the designer. His book Climbing Mount Improbable was premised on this description with the addition of eons of time.

Mutation of the genetic code is at the root of the small changes proposed by Dawkins and others as the basis for micro evolution. Those ideas I have dealt with in my paper and I won't repeat them in detail here save to say that despite the popular view that all mutations have a beneficial effect, it has been shown by Behe, Sandford and others that this is not so. Beneficial mutations are extremely rare and are 'beneficial' not by improving the genome but by a loss of information conferring a survival advantage (such as sickle cell anaemia).

However, there is an element of truth to Dawkin's ideas. We know just by looking around that species do change in response to the environment. We do know that natural selection occurs with the extinction of some species because of natural changes or the predations of mankind.

So, in addition to sexual reproduction is there another way to design life so that it will adapt to changes in the environment, be self-sustaining and be self – reproducing?

Mike Gene in his book The Design Matrix proposed what I think is the remainder of the pieces of the puzzle as to how life can be created and at the same time

evolve. His idea was that evolution was front-loaded into the genome when it was created or at the Cambrian explosion so that eventually all the forms of life that we have today would occur without further intervention on the part of the creator. This front-loading is in addition to the gene shuffling of sexual reproduction and relies on the chemistry the creator chose to build into our ancestor's bodies so that genes that code for one biochemical pathway may have hidden in them code for other protein structures that would give a survival advantage to organisms that expressed them at the right time.

Many examples of co-option, gene duplication and other methods by which front loading could be made to work you will find in Gene's book which I recommend reading.

As mentioned before we live in an island of stability in a sea of chaos. This stability combined with the nesamah Yah has given us has allowed us to advance very quickly technologically. In past eons these islands of stability in chaos would also have been present but could not have been exploited as we have done. Nevertheless a stable environment would have permitted a species to increase in numbers rapidly before most succumbed to a serious adverse event marking the return to chaos. Such an event could have been an extinction event based upon deterioration of the genome within the species. Sandford in his book Genetic Entropy and the Mystery of the Genome explains this very well.

Within that species a few individuals would have changed genetically so that they had the ability to survive and continue life as a slightly different species when the next island of stability came along.

How would such a form of evolution show up in the rocks? More or less as we see it. There are no Darwinian intermediates, just a series of jumps in the fossil record – punctuated equilibrium if you prefer.

Interestingly from the above discussion it is clear that if evolution was run again, the actual trajectory would be different but the outcome would be the same – i.e. the desired end-product of humanoids would eventually occur even though the creator Himself could not a priori predict the path that evolution would take.

Stepping back to look at the overall picture of Yah's creation we see an earth that formed 4.5 billion years ago, was bombarded by comets melting its crust until it cooled to support life 3.8 billion years ago. Then Yah created the genetic code that at first produced archaebacteria that over the next 3 billion years or so cleared the atmosphere to be the clear blue sky we see today where the sun and the moon are clearly visible. Then over a period of about 5 million years from our point of view (2.6 minutes from Yah's POV) Yah either modified the genetic code or made a new code at the Cambrian explosion at which time all the phyla that now exist sprang into existence. From then on life evolved in a somewhat pre-programmed manner until the time of Adam and Chavvah.

From there as we say the rest is history.

Finally I would like to quote the final paragraphs from my paper answering the questions I posed above.

You, the reader, are near the end of my short overview of the evolution of life on earth. Questions such as 'what is life?', 'what is a soul?' have not been addressed as they are not directly related to the physical development of life according to the parameters set by the theory of evolution. We have simply assumed that something called life exists as distinct from inanimate objects. The very word inanimate gives us a clue: not animated, not able to respond to the environment. Is life then simply the right ordering of molecules and atoms such that a creature exists that is able to respond to the environment?

If we look at the analogy of a computer that appears on the surface to be true. Ignoring how the computer came into being for the moment, we know there is an additional component that allows it to interact in a limited way with the environment – software. I say limited because our programs are still primitive. Software 'animates' the computer. Software is not physical. If you added a program to a computer you could not detect even the slightest change in mass. In religious terms you could call the software a soul.

Note that the software did not appear spontaneously in our example of the computer. So could software evolve? At the molecular level of life that is clearly impossible. Molecules simply interact according to the laws of physics and chemistry. (I suppose, upon reflection, you could call these 'laws' software.) At a

higher level of organization we know e.g. that an amoeba will move away from an unpleasant stimulus or towards a pleasant one such as food. As we have demonstrated that Yah created the most 'primitive' life, He doubtless included programs of animation. Logically then, since microevolution is front-loaded and there is no further input from the creator, then the ability to evolve a soul for all forms of life must have been front-loaded as well. Even some plants have very primitive avoidance mechanisms (though we don't have triffids yet). Thus the physical microevolution and the metaphysical microevolution must have gone hand in hand. Primitive man eventually evolved with a sophisticated program (soul) which in Hebrew is called a nepesh. In computer terminology this is an operating system. In man, a very advanced and sophisticated system but still only an operating system. To get past the point of responding only to the basic needs of food, shelter, sex and survival, primitive man needed something else. He needed in Hebrew the nesamah (in computer terms a plug-in). The nesamah was first given to Adam and from him the rest of humanity. This gave us the ability to think abstractly, to form concepts without apparent benefit and beyond the basic needs. It gave us the ability to wonder about the woods and trees around us without seeing them only as a source of danger or food. We could wonder at the sun, moon and stars and think about how they got there. We could think of a creator for everything we see, hear and feel. It gave the ability to detect the difference between right and wrong, good and evil and it gave the ability to choose between them. It gave free will. With a nesamah, we are still animals but with the ability to raise ourselves above the beast and to interact with the creator.)

The nesamah, then, would have been transmitted in the same way a nepesh is transmitted after Yah gave the nesamah to Adam and Chawah. So when they were ejected from the garden, they mated with the surrounding men and women, transmitting the nesamah down through their generations. To do this the nesamah 'gene' would have been dominant. The ability to think and plan ahead that the nesamah gave these people meant they could (and did) wipe out their human rivals both with the nesamah and without. So then we came to the time of Noah.

Evolution by definition is a brutal process. Life for most is short, brutal and over quickly. So why did Yah create the universe in this way? I believe He did because, to carry out His purpose, He had to. Muslims believe their 'god' (Satan) is unlimited in anything he can do. His will is arbitrary and fickle; to them he can make black white, 2 plus 2 equal 5.

Such a 'god' would be the very definition of chaos. Even the process of thinking, of logical thought, could not occur because in our world we rely on the laws of physics to remain constant and unchanging.

The real God is, in fact, constrained by parameters that could be called universal. Logic and reason must be universal parameters for order to exist; likewise 2 plus 2 must always equal 4, not around 4, not a fuzzy 4, just 4.

If Yah wanted to reproduce Himself by having a family, how would He do it? The duality of order and disorder (good and evil) are universal. God is a god of order. He wants an ordered family. He could just create a clone of Himself and get a family that way but that would be like addressing yourself in a mirror. Your other 'self' always answers back in the way you would (and you know exactly how even before the other 'self' has opened its mouth) and is to all intents and purposes identical in thought, actions and appearance. That is clearly pointless. You might as well stay alone as have an echo chamber of your own thoughts. In a way it might be another form of hell.

So a being slightly different from you to be interesting but with your desire for order (good) must be created. But how? By creating a being with your ability to use logic and reason and that has the knowledge of order and disorder and can make a choice between them. (Disorder doesn't necessarily mean total chaos. There is a continuum from order to chaos with mixtures of both good and evil - order and disorder - so the individual and system the individuals create can still function but at lower efficiency.)

Those who have an enquiring mind, imagination, enjoy discovery, have the geography and genes implying a family background that allows an open mind and are willing to invest time to seek out a creator will do so as they will come to know there must be one. His name is Yahowah and his means of communication is the Torah. Those without the above characteristics will not and will be

discarded. They may have a pleasant but limited life and after that they and their nepesh are no more (Mizmowr / Song / Psalm 1:4, 5:5-6, 103).

Those with the 'correct' characteristics are who Yah is looking for. They are like but slightly different from Him, able to think and act independently yet enjoying order all the time. So in this sense microevolution is a sieve filtering out the gold from the dross. He knows His family members and will act to protect each one. He doesn't know the rest because they do not know or want to know Him. Would you act to protect the family of someone hostile to you (someone who may be a member of Satan's family) when you have your own family to protect?

The dross is discarded. Yet the dross (thinking humans but with the wrong way of thinking) would, of course, like to live forever in the way they think is best. Who wouldn't? So when Yah appeared in diminished form as Yahowsha', He selected those with the right way of thinking and at the same time spoke to the others in such a way that they could not be saved as they did not understand who He was and certainly did not and could not know Him. (Mattanyah / Yah's Gift / Matthew 13:15, Yahowchanan / Yah is Merciful / John 12:40)

Much of the above is speculation on my part and therefore could be wrong. Yada (the author of Yada Yah, An Introduction to God and Questioning Paul) has made specific predictions based upon the Torah, Prophets, and Psalms. If you, the reader, decide not to accept some or all of what he and all those who have contributed to the understanding of Yah's word have written, that's Ok. That's your choice. You may recall that in the section on self-organization, I castigated those who put forward scientific hypotheses that could never be tested. Such ideas are science fiction, not science. However, what we have written is a testable hypothesis. Not directly but indirectly. You have to wait no longer than October 2033 to see if we are correct. If we are, Yahowsha' will return and any arguments about evolution physical or metaphysical will be moot. If we are wrong, then life will continue until we all die in a nuclear conflagration or we die naturally, after which we will know nothing and, of course, not care whether you think we're nuts or not. Either way there's only 18 years to go from the time this was written. Before then, I believe you will see signs along the way that should make you think.

One final thought: As a theory, macro-evolution is one of the Adversary's greatest triumphs. It gives those who hate Yah an intellectual basis for their belief in the religion of man and a convincing story to mislead children and students, leading them away from the greatest gift they could receive. For indeed, superficially and even at a deeper level, the theory is enticing. It is only when examined at the molecular level that it falls apart and its satanic origins become visible to those with eyes to see.