If You Can Read This, I Can Prove God Exists
Language, Information, and Naturalism vs. Intelligent Design

Perry Marshall's talk at Willow Creek *Truthquest,* South Barrington, Illinois, June 3, 2005

This is a rather bold statement is it not? *If you can read this I can prove God exists.*

Tonight I'm going prove it. I am going to talk briefly about the technical end of this but for the most part this is going to be something that anybody can understand. And in the process of this discussion I'm going to prove that God exists and that life was designed by a mind. I'm going to prove that.

This is very important material I think it's very relevant to our culture today. Paul Cook brought in a stack of articles from the last few weeks of newspapers – people debating Intelligent Design, it's a huge issue in our culture today. It's a political battleground, it's an ideological, it's a religious and philosophical background and it's a scientific battleground.

For the most part what you hear out there in the world is a bunch of name calling and really not getting down to the bottom of anything. But we're going to get down to the bottom of some very basic things. So strap on your crash helmets, we're going to move fast. I'm really looking forward to this.

What Do Languages and Modern Information Systems Say About Evolution?

What we're going to talk about today is: What do languages and information systems say about evolution? I got pulled into this about a year ago because of a discussion I was having with a friend. You know this whole Intelligent Design versus Naturalism debate? Or if you want, you can call it the creation versus evolution debate. I had never really delved into it to really get to the bottom of things until about a year ago.

I started investigating this and I had this *eureka* moment one day. I think it was April of last year and I discovered some things about information theory linked to DNA. I'm not going to be terribly theoretical here, but there's a whole field of science called communication engineering, which is what I studied in school. I have an Electrical Engineering degree and I specialized in control systems and communication systems.

A couple of years ago I wrote an Ethernet book. Ethernet is that blue cable over here that is plugged into my computer, and hooks it up to the Internet. My book was published in 2002, it's in its second edition and is called *Industrial Ethernet*.

My eureka moment was when I realized that everything I had been writing about and studying in communication systems applied exactly to DNA and to life.

Do you realize that every one of you has billions of copies of yourself represented in the form of DNA? In every cell of your body there is a copy of you. It's an exact plan for your body and it is an exquisitely designed coding system.

So what? The so what is, all of the things that we know now about modern communication, all the things that make packets zing back and forth across the Internet, also enable us to understand DNA and what it is.

What do these things say about evolution? What is information? Where does it come from? Have you ever thought about that? What is information? Can you define information? We are going to define it.

Do patterns occur naturally? Does information occur naturally?

At the end I'm going to talk about new directions for the evolution debate, because we are going to get to the bottom of important issues. When we get to the bottom of these issues, we are going to be able to be looking the direction of where science needs to go to answer some unanswered questions.

The Key Issue: Patterns vs. Designs

The starting point of this entire discussion is to define the difference between a *pattern* and a *design*. A pattern could be a tornado or hurricane, but a tornado or hurricane is not design. Nature does have self-organizing properties. Not all patterns are designed, but all designs have patterns. And that will become a very important concept. So let's talk about some naturally occurring patterns.

This is a photograph that I took in Luray Caverns in Virginia last summer when I was on vacation. Has anybody ever been to cavern? Are they really amazing or what? They are just spectacular.

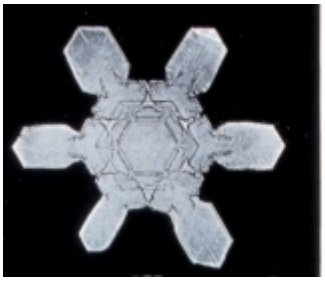
Some kids were digging around about a hundred years ago and there was this hole that all this mud seemed to be sinking into, and they got to exploring and they find this huge cavern under the ground.

The cavern has stalagmites (those are the ones that hang from the ceiling) and stalactites, which build up from the floor. And beautiful patterns formed totally naturally; nobody had to design this cavern. The cavern naturally happened.

Here's another naturally occurring pattern, a tornado funnel cloud. Does anybody have to design a

tornado? No. When you have the right weather conditions when you have the right temperature and pressure and moisture, and the right layers of temperature in the air. It forms and happens all by itself and it does amazing damage if it hits your house.

Snowflakes: every one is different, right? At home I've got a snowflake book and you can look in amazing detail under a microscope and you look at these exquisite patterns.



Did anybody have to design snowflake? No, not at all. Water + cold air + gravity + wind + time gives you snowflakes. In a cavern, water + minerals + gravity + time = stalactites and stalagmites.

Hot air + cold air + moisture + time = tornados and hurricanes, right? We all experience these things everyday.

Snowflakes, tornados, stalactites, stalagmites the behavior of those things are governed we now know as something that is called Chaos theory. Chaos theory is the study of how order forms naturally without design.

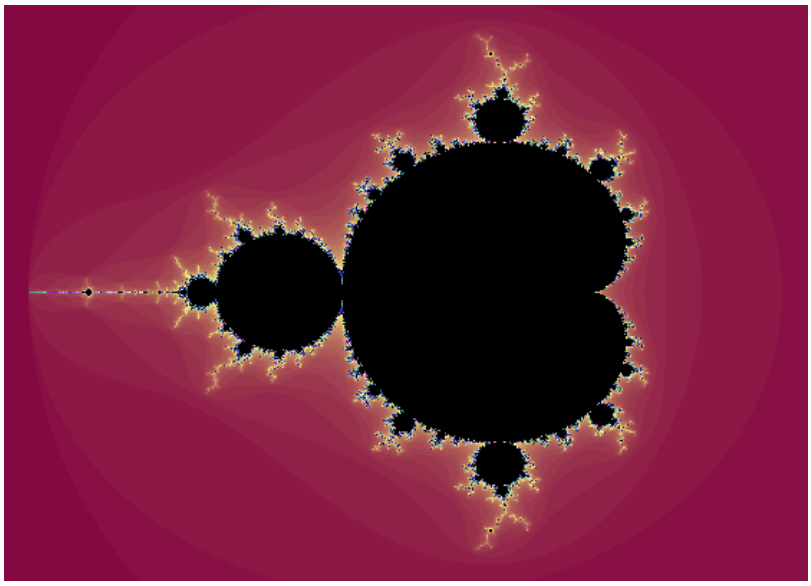
Chaos: An Eye-Opening Discovery

About fifteen years ago I was reading a book about it; my wife brought home this book from the library and it was about fractals and chaos. And when I read this book it opened my eyes to this whole set of patterns in the world that I had never recognized before.

Ever since then I have never *not* been able to see them. Every time I look out the window and I see a tree or every time I see a rainstorm or every time I see a stalactite or stalagmite or snowflake, what I think about is fractals and chaos.

Chaos is probably not the best word they could've picked, because chaos theory shows how natural processes produce order. Now fractals are a computer version of the same thing. A fractal is what happens when you take a pretty simple math equation and you plug a number into it and you get the number out, and you assign a color to it. Then you take it and you plug it back into the input and you run it through the formula again and again and again and again.... It starts drawing all of these pictures and so what you see right there is called the Mandlebrot set.

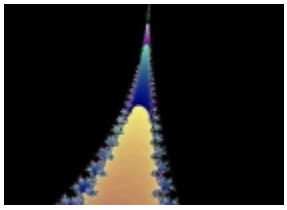
Fractals: The Mandelbrot Set – a computerized version of Chaos



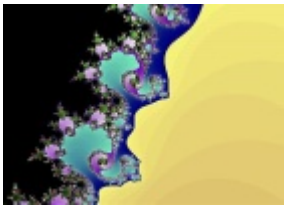
Those of you who are into geeky stuff, you would know about this. For those of you who don't, this is quite fascinating because fractals are a computer equivalent of chaos.

See this fractal? If you zoom in, I'm going to zoom in just below the center where these two circles come together and that's exactly what it looks like if you zoom in and there' more little spirals coming out of it.

If you zoom in 4X more, the spirals look like that and if you zoom in again it looks like that and if you zoom in again it looks like that. And if you zoom in again it looks like that and you can keep zooming and zooming and zooming in and you see the same patterns repeating with variations over and over and over again. You can't predict exactly how it is going to turn out before you run the programs. You just know that you are going to see very similar patterns over and over and over again.



Zoom: 4X



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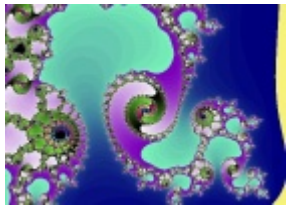

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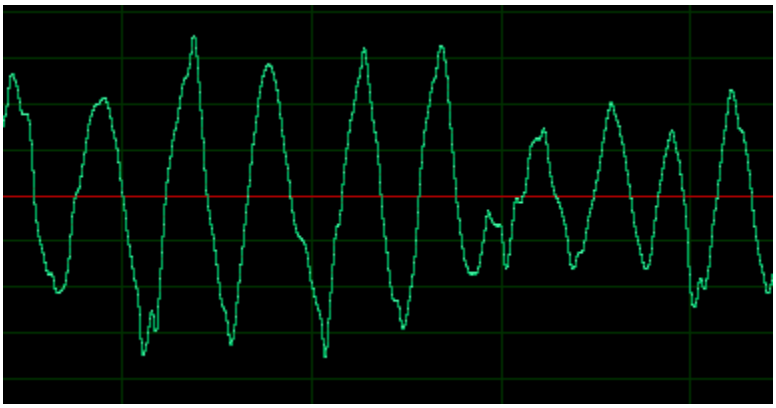
Weather is chaos driven. You cannot predict what the weather is going to be like a month from now. You can't get further than about a week. Because it's driven by chaos, chaos happens when very tiny forces build up into very big things and you never know which tiny thing is going to become big.

Now lets talk about designs.

Let me give you some examples of designs. Music - you can hear music, and we all know it sounds like. You see the musicians in the picture, and the sheet music here is a symbolic representation of that music. The sheet music corresponds to what you hear but music exists in two forms. It exists in the symbolic form the notes on a piece of paper. It

also exists in the physical form, which is the vibration in the ear. Both are equivalent to each other but they are in different forms, right?

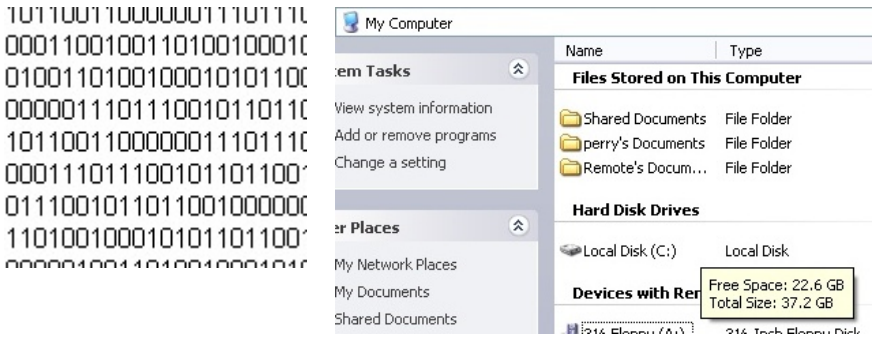


Music: Exists in symbolic form (sheet music) and also in physical form (vibrations in the air)

This is a map of Washington D.C. On the right is the actual Washington D.C.; On the left is a symbolic representation of Washington D.C.

Designs are always represented symbolically.

Microsoft Windows: On the right is a picture of what a screen looks like in Microsoft Windows. On the left are the ones and zeros that are actually on the CD ROM that has windows on it. There's the symbolic presentation of Windows, and then the actual windows code operating on your computer. There's a symbolic representation and there's a reality.



Again, in a design, there's always a representation of the thing in addition to the thing itself.

Chinese is a little bit different than English because Chinese characters represent ideas, whereas English characters represent sounds. So the t-h-e, the letters t-h-e represent the sound of the word *the*. But in Chinese a character represents you have a character for girl or a character for boy or a character for house.

拥抱 - yong1 bao4 = to hug
哥哥 - ge1 ge = older brother

So here we've got *yong bao*, which means *to hug*. *Ge ge* means older brother and there is the Chinese symbol for it. So you have the symbol of the word you have in the middle something called *pin yin* which is the English representation of Chinese.

The Fundamental Characteristic of Designs

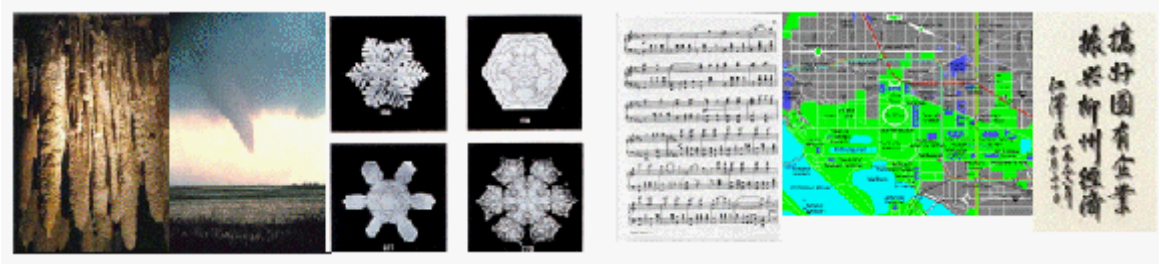
Chinese people don't normally use pin yin, but if you see Chinese signs written for English people you see pin yin. Then you have a translation into English. And you have two kinds of symbolic representation of Chinese. There's the word *ge ge*, which means *older brother*. So once again the design is always characterized by a plan that symbolizes what was actually created later.

That's the fundamental characteristic of a design. So here's what I want to illustrate: First we talked about patterns and chaos. Stalactites and stalagmites, tornados, hurricanes weather, snowflakes. On the right I've got information music, maps of Washington D.C.., Chinese symbols English letters.

Patterns Chaos: Purely a Result of Matter and Energy, Not Mental Processes

What is the difference between the two? Patterns are simply created by matter in energy. That's all that's there. In the world of patterns there is never an exact copy. That is an interesting little observation. It requires no thought from anybody, true?

Language and Design: Product of a Mental Process



Patterns **Designs**

On the right, all information is based on language. You cannot symbolically represent something without language. That's what language is. Language is a symbolic representation of something else.

To have information you have to matter and energy and will. Somebody has to decide to create information. Somebody has to write the music. The interesting thing about information is that you can have exact copies of it. You can have an exact copy of a book. I can send you an email and what can you do with it? You can read it on your screen. You can print it out on your printer. You can read it out loud. You could read it over the telephone. You could save it as a Microsoft Word document. You could post it on the Internet as a web page.

The Message is Not The Medium

Does the message change? No. The message is separate form the media that it comes in. That's what information is, and it requires thought. All information requires a thought process, which I will talk about.

So really the fundamental question if you want to frame the fundamental questions of evolution and the origins question. The question becomes:

Can patterns turn into designs?

Can stuff on the left turn into stuff on the right? Is there a natural process that allows that to happen?

And here's the big question:

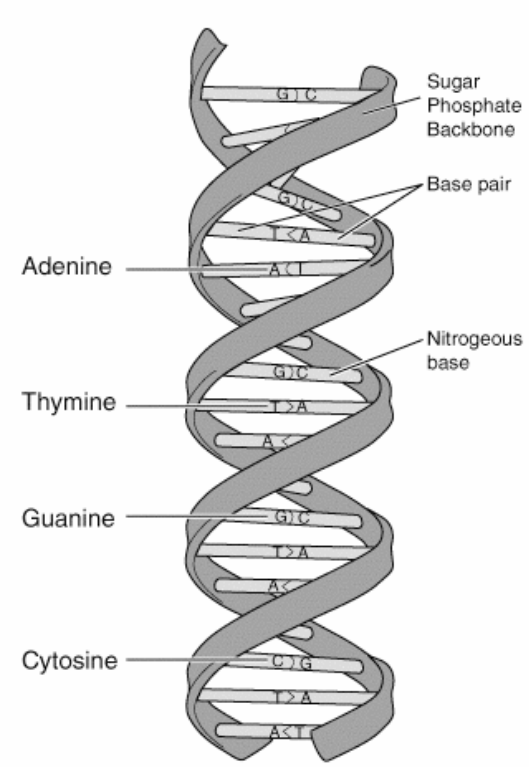
Is DNA a pattern or is it a design?

The whole argument rests on the answer to that question.

Tonight we are going to answer that question. And when you have designs how do they evolve? I'm going to discuss that towards the ends of my talk.

How DNA Works

I'm going to explain very briefly how DNA works. DNA is a molecule; it's a double helix. When it divides to multiply it separates in half, and a complementary chemical falls into place at every station and creates a new replica of itself.



So the bridge between the edges of the helix is made of a combination of four chemicals, Adenine, Thymine, Cytosine and Guanine. Which I will abbreviate as A, T, C and G. Those are the letters of the DNA alphabet. A, C, T, and G encode all information necessary for life. In the simplest tiny microorganisms it takes 500,000 letters to represent a living organism. It takes five hundred thousand A's, or C's, or T's, or G's.

In a human it takes three billion (3,000,000,000) of those letters to represents a copy of you, and there is one of those three billion letter messages inside every cell in your body. (By the way modern technology, to date, has not produced an information storage mechanism that is more dense than DNA.) All the information in your hard drive is a lot bulkier than the information in your cells.

So DNA is not just a molecule, DNA is a language. It is actually very comparable to English and human languages in the way that it is structured. Here is a little chart and it shows the comparison between human languages and DNA. The nucleotide is the A, T, C, G.

DNA Language	**Human Language**
Nucleotide	Character
Codon	Letter
Gene	Word
Operon	Sentence
Regulon	Paragraph

DNA is encoding, decoding mechanism that stores and transmits the message of the living organism. Biologists have actually been using linguistic analysis to decode the human genome. Tools that we must use to analyze languages are continually being used to figure out what all of those genes actually mean.

So if you read some article in the newspaper it says we found a gene that causes Spina Bifida or something like that, some kind of linguistic analysis was used to help figure that out.

So what makes a language?

Well the first thing about a language, any language, is it symbolically represents something other than itself. All of you have papers on the tables here, and the papers have paper and they have ink. But the message on the flier there on the table has nothing to do with paper or ink for the most part. Paper and ink is just the medium that carries it.

To have a language, to have information, you have to have a transmitter and a receiver. Somebody has to talk and somebody has to listen. And then it has these four characteristics; it has an alphabet, it has grammar, it has meaning, and it has intent.

Every language has those four things. DNA has them; all the stuff going on inside your computer has them. If dogs are barking and yelping, the communication has all of these four things. It doesn't matter if it's mating calls if it's pheromones between insects.

All Languages and Codes Have Four Components

Regardless of what kind of communication we are talking about those four things are present in that communication. Alphabet, grammar, meaning and intent. And nearly all languages have error correction or redundancy.

English is about 50% redundant, which means if you're talking on your cell phone and its cutting in and out and in and out, if you can hear every word you can still pretty much figure out what's being said. If you lose more than that you really can't.

Where does redundancy come from? If you take a word out, you can fill it in from the context. Your mind can fill in the difference. Most of you never thought of this, but in when you're on the internet or getting and receiving emails there's a whole collection of mechanisms that are put in the communication back and forth to ensure that errors are corrected before they get to you. This is common to almost all languages.

Is DNA a pattern? Or is it a language?

DNA is an encoding and decoding system. DNA molecule represents more than itself; it represents an entire living organism. It doesn't just represent Adenine. It represents you or it represents a rabbit or a squirrel or a snake.

It has alphabet and syntax and semantics and pragmatics, or to use less technical terms alphabet, grammar, meaning and intent. It can be copied and even stored in other media with no loss of information.

I used to work for a company that made DNA sequencers. Their machines would go through and figure out what all the letters were in a strand of DNA. You could store that on a computer disk, and somebody in the lab could take the right chemicals and they could put those back and they could end up with a clone of the organism. Because the information in DNA is information is something distinct and separate from whatever it is stored in.

So which is DNA more like?

Is DNA more like stalactites and stalagmites and tornadoes and hurricanes and snowflakes and fractals? Or is DNA more like music, maps, computer programs and Chinese?

It's definitely in the second category. Absolutely there is no question about it. So what we have here is that between the world of chaos and patterns and the world of designs and information there is a huge chasm. A *huge* chasm. The pattern of DNA is not *like* a language. It *is* a language. By any formal definition of language it is a language.

Chaos, fractals and natural processes do not produce languages or codes

Now usually if people try to disagree with this, this is where they try to disagree. I had a guy say "No, DNA isn't a language or a code, it's just a molecule." So I looked up Watson and Crick who discovered DNA, they got the Nobel Prize for it. I surfed the internet and the first thing I found was James Watson's Nobel prize acceptance speech. And the very first paragraph of his speech talks about the genetic *code*. Code, language, same thing.

I can make this argument quoting only books by atheists. You don't need any kind of special definition.

DNA is a language. The DNA molecule itself is an encoding decoding system. I talked about this a minute ago; all languages have alphabet, grammar, meaning and intent. I'm just going to illustrate this; you can change the alphabet and still have the same message.

When you type at your computer, your computer keyboard immediately turns those letters into ASCII code, I'm not going to go into what that is. Chinese can be represented in pin yin which is the English version of Chinese or it can be represented as characters; same thing.

All languages contain grammar; an illustration of that if I say

The car is red.

That's a statement, but if I move *is* to the beginning of the sentence the syntax changes. Now it says

Is the car red?

And a statement becomes a question. That's syntax. All languages have syntax, which is the rules about how you order things so that you determine what the meaning is.

Obviously all we need to do is move one word over and I completely change the meaning of the sentence.

Now semantics is the difference between saying;

DID he steal that car?

Did HE steal that car?

Did he STEAL that car?

Did he steal THAT car?

Did he steal that CAR?

That's semantics. Every one of those versions, just by accenting one of the words, changed the meaning of the sentence. Even though the letters didn't change. Right?

Intent Changes the Message

Let's talk about intent. You can have the same message with difference intent just by changing the context. For example if I say 'you've got a green light,' I could mean that your proposal got accepted. It could mean that you're holding a green light bulb in your hand. It could mean that you're sitting in your car waiting to go and you've got a green light, it means you can drive your car.

Three completely different meanings of the same sentence just based on intent. The intent changed but semantics and the grammar and the alphabet didn't change at all, right? These are properties that every language has.

As I said before, information is always distinct from the medium that carries it. This is really interesting if you think about it: Information can be stored and transmitted by matter, like in a book; or by energy like hearing the sound or seeing light on a computer monitor or seeing a TV screen.

Information is stored and transmitted with matter and energy. But information itself is

neither matter nor energy. Okay? Very important, as we'll get to.

If you only have an alphabet and syntax and you don't have meaning or intent than you have a meaningless sentence. There has to be other sentences around it so you know what I mean when I say you "You've got a green light."

This is the core problem with a naturalistic philosophy of materialistic science: ***Matter and energy all by themselves cannot produce information.***

Most of you have probably only heard the word cybernetics. When somebody says that word I always think of the Six Million Dollar Man, you remember the TV show with Lee Majors back in 1976? I was how old? I was seven. I thought it was a great show and he had the muscles that were motors installed in his arm and he could pick up cars and everything.

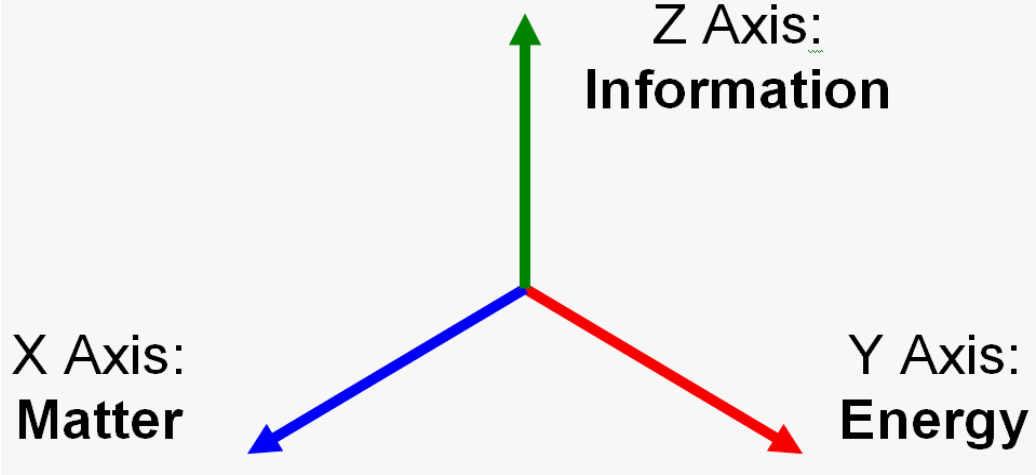
That's science fiction, but real Cybernetics is the study of the relationship between man and machine. It's actually a very important discipline that has infiltrated all parts of our society, all the way from basic science stuff to science fiction.

Norbert Weiner, who is considered the father of cybernetics, was a mathematician at MIT an absolutely brilliant guy and he made this statement. He said

"Information is information, neither matter nor energy. Any materialism that fails to take account of this will not survive one day."

That is a profound statement. You don't have to think about it very long to realize it's absolutely true.

So I frame it like this. If I drew a little three-dimensional axis with little x, y and z, matter is on the x-axis and energy is on the y-axis. But for any kind of information to exist I have to have another dimension, which is the dimension of *will*.



Matter, Energy and Information are three Distinct Entities

Information cannot be created without intent. There are no examples of information that is created without intent. You have to have the dimension of intent or will, which is a property of a conscience mind, in order to have any kind information. Otherwise all you have is chaos. All you have is tornadoes and hurricanes and stalactites and stalagmites and snowflakes. But you do not have any kind of language whatsoever.

So the problem with a materialistic, atheistic philosophy or belief is there is no way to explain where the language of DNA came from. Because all codes, all languages, all encoding, decoding systems come from a mind. No exceptions.

Paley's Design Argument vs. Hume's Skepticism

How many of you have heard of William Paley and the watch argument of Intelligent Design? And how many of you have heard of David Hume the philosopher from about two hundred years ago?

Let's look at Paley, whose book in 1802 is a book in natural theology. He said if you went for a walk in the woods and you found a watch, you would know that it was designed instead of just occurring naturally, because you know that a watch has the purpose of telling time. Therefore a watch has a designer. And since life has a purpose therefore life has a designer too.

Now I remember getting in this conversation with my friend's father who was a physics professor. I was asking him some questions about this. He said 'the design argument has been refuted.' What he was saying was that science has proven that this is not true. His statement was based on David Hume.

Now here is what David Hume said, Hume said, more or less, I'm greatly oversimplifying these guys; you'll have to forgive me for that. But Hume said "the analogy between the watch and life is weak. Because life's purpose cannot be proven. Therefore the design argument fails. If you can't prove that life has a purpose, you can't prove that somebody was purposely behind it, therefore you don't know whether life happened naturally or whether it was designed. So Hume said that Paley's argument fails.

Perry Marshall's Update to Paley's Design Argument

But now I have an improvement to Paley's design argument. This sounds audacious but I'm serious. I have an improvement that makes Paley's argument airtight:

- Element common to both watches and life is **language**
- The essential distinction between pattern and design is **language**
- Fundamental Property of all Designs: **Idea precedes Implementation**
- Idea must be represented by language
- All language comes from a mind

Life is preceded by DNA, and a watch is preceded by a plan where a blueprint or at least an idea in somebody's mind that preceded the building of the watch.

That is true of all things that are designed, an *idea* comes first.

The essential distinction betweens patterns and designs is *language.* Patterns don't have languages, but designs do. So the fundamental property of all designs is that *an idea precedes the implementation of the idea.*

The idea exists in a symbolic form before it's physically built. An idea, in order to exist, has to be represented by a language. Even to have an idea in your mind you have to talk to yourself and have images in your mind of what you want to do before you do it. So we know this:

- Ideas always precede implementation, always, no exceptions.
- All languages come from a mind. No exceptions.
- There are no languages that do not come from a mind.
- So we know that DNA was designed.
- A mind designed DNA, therefore God exists.

Can this be refuted? Yes, if any exceptions to this can be found. But a lot of people have tried to refute it, unsuccessfully. It's an airtight inductive proof that life was designed by a mind. If anyone can find a flaw in the logic, it fails. Until that happens, it stands. It's just like the laws of thermodynamics, or gravity, or conservation of matter and energy. If anyone can find an exception, the law fails to hold.

This leads to what I call The Atheist's Riddle:

"Show me a language that does not come from a mind."

It's so simple and a child can understand, but so complex no atheist can solve.

Part II: Evolution - A Christian and an atheist go to the zoo.

Now I like to say you don't need a zoo, a Christian and an atheist duking it out – that is a zoo!

Let's frame the question this way: "Did the antelope evolve into a giraffe?"

People get really emotionally charged over this, when you read all these articles like Paul brought in about Intelligent Design and evolution. Everybody gets emotional about whether humans evolved from apes. But how many of you are really emotional about whether antelopes evolved into giraffes or not? Can we use that? Is that a safer example?

You know what, I don't really care! Personally as a Christian I don't really see a problem one way or another. Everybody has different views. I don't have any problems with it theologically or otherwise. If giraffes came from antelopes that's fine with me!

So, did giraffes come from antelopes? That does summarize the question, right?

Now when you get into arguments and discussions, almost everything you hear about creation vs. evolution is *anecdotal evidence*. What I mean is, it's all after the fact stuff that may be useful, but it doesn't actually *prove* anything. 'Well I found this fossil and I found this fossil and I found this fossil, therefore this begot this which begot this.' That's anecdotal evidence. In a lot of cases nobody really knows.

So what happens is that people just argue back and forth and back and forth and they never reach any kind of conclusion. It's complete exercise of futility because it's my anecdotal evidence against your anecdotal evidence and we just have this big brouhaha.

Endless Arguing Aids Book Publishers

The book publishers like it because it's just a great way to sell books. What could be better than an argument that is un-resolvable because nobody actually produces any proof of anything? It's like selling missiles to the government. Whenever they get destroyed, someone has to buy more.

Anecdotal Evidence

The vast majority of what most people think is proof of Darwinian evolution is in fact anecdotal evidence and is not provable either way. If you are going to get to the bottom of this question you have to reduce it to first principles and to mathematics. So I'm going to move really fast.

First of all, we can all agree that evolution is everywhere. It's a household word.

Moore's Law is a concept in computer science, It says that for every 18 months computer power doubles. And it has been going on for the last 20 or 30 years and just as computer gets faster and faster and faster, that's evolution, right?

Businesses, technologies, markets and political movements they all evolve right?

Evolution is Everywhere!

If we didn't have the word *evolution*, it would be very hard to describe a lot of things. We evolve, we get smarter, we learn things. Well, let me point out three kinds of evolution.

Three Kinds of Evolution

1. Deliberate Mutation + Natural Selection + Time = Design

An example of deliberate mutation combined with natural selection and time is business and technology. Five guys start a company and they are all going after the same market. Four of them fail, one of them succeeds. That's evolution right?

That's *deliberate* mutation. It's not as though you start a company and throw darts at a newspaper and say 'well this is what I'm going to do today.' You dream and you scheme and you plan very carefully. You thoughtfully adjust your plans as you go. So four or five guys or gals dream and scheme or plan and then they deliberately go out in the marketplace.

Natural selection and time do their work. Some products and businesses prosper, others fail. That's the business and technology world.

2. Random Mutation + Deliberate Selection + Time = Design

An example of this would be a game of Scrabble. In Scrabble, you get a bunch of letters and you reach into the pile. You get your letters and then try to spell something with them. That's deliberate selection out of a random mutation.

3. Random mutation + Natural Selection + Time = Design.

No intention, no purpose, no planning, just a competition plus time equals design, that's Darwinism.

Now I want to point out something about what happens when we use the word *evolution* in daily language. The **only** time that we are referring to totally random everything, totally purposeless everything is in biological Darwinian evolution.

Any other time we use the world evolution, we are describing intent. One of my friends, a really smart guy named Tom Hoobyar, he came up with the best definition for evolution I've ever heard. He said, "Evolution is chaos resolved by intent." That's good.

How do designs evolve?

Designs correspond to language right? All designs have a language that represents them. So, if DNA is going to evolve, if a language of DNA is going to evolve, then it has to

increase its information.

Now Darwin was undoubtedly right about natural selection, that the stronger outperform the weaker, and they take over and the weak die off.

Does random mutation produce more information?

I'm going to show you something from my own work. I'm in the business of what is commonly called Scientific Advertising. The term comes from a landmark book written by Claude Hopkins in 1918.

There is a Madison avenue version of advertising, which is mostly what you see on TV. If Nike does a commercial and they show you a bunch of tennis shoes a bunch of smiling people, Nike doesn't usually have any idea if it worked or not. They just assume it does. They just assume that it makes people go to the store and buy Nike tennis shoes.

But there's a whole other part of advertising and the Internet is completely dominated by scientific advertising, where every action, every reaction is measured. Did you know Google is selling 5 billion dollars of advertising per year? That's because companies pay when people click on the ad to go to the advertiser's website. I'm in the business of helping people do that.

Scientific Advertising Examples

Here are two headlines:

Push Button Shave Cream
Vs.
Moisturized Shave Cream

In tests, "Push Button Shave Cream" outperformed "Moisturized Shave Cream" 2:1. *Push button shave cream* got twice as many orders, twice as many responses as *moisturized shave cream*. We know, because somebody measured it.

Advertising is a Darwinian competition of language right? Which language is more effective at getting a desired result?

What is Buffered Aspirin
Vs.
How to Stop a Headache Without Upsetting Your Stomach

In tests, "What is Buffered Aspirin" won by 50%. Once again it's a competition of language, with natural selection choosing the winners.

Darwinian Evolution of Google Ads

On the right side of Google you see all of these little ads. Google is the perfect Darwinian machine because if people click on your ads because they like your message, your ads show up and people go "Oh yeah I want that." If they click on it your ads move up. If your ads don't get clicked on the move down and they get disabled. So it's totally Darwinian all the way!

I consult people and companies everyday on how to play this game with Google. With Google you can write two ads and they will randomly show up back and forth one then the other one then the other and after a few hours or a couple of days you can see which one is more popular.

These two ads here, what's the difference between these two ads? Can anybody see?

Simple Self Defense	Simple Self Defense
For Ordinary People	For Ordinary People
Easy Personal Protection Training	Fast Personal Protection Training
www.tftgroup.com	www.tftgroup.com
Response: 0.8%	**Response: 1.3%**

We only changed one word. Right? We change one word and the response went from 0.8 to 1.3%, that's a 40% improvement by changing one word! What you are seeing here is the ABC's of scientific advertising. This is the world I live in every day.

So I decided to ask: "Can random mutation write a better ad?" To answer the question, I hired a programmer who created a random mutation generator, which randomly substitutes characters.

What is Random Mutation?

Mutation is the idea that when DNA copies, every once in a while there is a copying error and most of the time it's bad. But according to Darwinian theory sometimes it's good. Most of the time it's bad so those die off, some of the time it's good so the antelope evolves into a giraffe.

That's what's being claimed, so that you have big long string of DNA with a billion or two billion or three billion letters, and if you have enough of these getting copied and enough copying errors eventually improvements find their way into a species. And if it needs to reach a taller tree than it grows a longer neck over a millions of years. That's what is being claimed.

So I made a random mutation generator, www.RandomMutation.com. Can random mutation write a better ad? Here's my ad, so now I'm going to mutate it. If you go to random mutation.com it's there and you can play with it. It's really fun to play with. So after one mutation can you see the mutant letter?

Simple Self Defense
For Ordinary People
Easy Personal Protect0on Training
www.tftgroup.com

The mutant letter is in the word 'protection,' and it has a 0 instead of an i.

After five mutations it looks like this:

Simple Self Def4nse
For Ordinary Peopla
Easy Personal Protect0ov Traininf
www.tftgroup.com

After ten mutations it looks like this:

Simple SPlf Def4nse
For Ordinary Geopla
Emsy Personal Protect0ov Traininf
ww8.tftgroup.com

After fifty mutations it looks like this:

3iCpBxgfelf dezensqo
a3r OrdinausRmeopRe
BbsyM7ersonel NjiLeStBon0Tnaaning
wwwJEdtgroup63Om 5

By 50 mutations you can't even recognize it anymore. The information has been almost completely destroyed.

$1000 Challenge

Now I would bet anybody $1000, try using my random mutation generator to write better Google ads and I'll pay you the thousand dollars if you can actually win. Let's see if your ad goes up in the rankings or down in the rankings.

By the way this is not a silly little analogy. This is an *exact* analogy. Because it's the mutation of language subjected to a natural selection process. If somebody is looking for *Green Nike Tennis Shoes* and they see an ad that says 'Green Nike Tennis Shoes' and they click on it, that's natural selection at work.

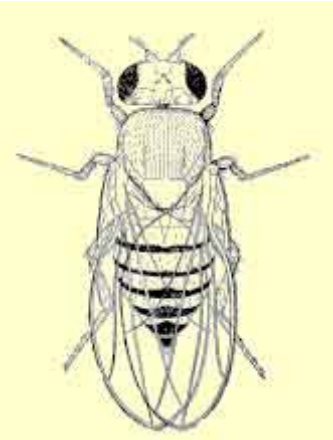
If they type in 'Green Nike Tennis Shoes' and they see an ad that says 'Red Wagons' and they don't click on it, that is also natural selection at work.

There is a parallel to this in biology, Theodesius Dobzhanski's fruit fly radiation

experiments. He did decades of experimentation starting in 1906; the hypothesis was if we take ultraviolet radiation and we bombard fruit flies with this, it will cause their DNA to mutate much faster than usual. If we do this long enough we should eventually come up with some other species of fruit fly. Some 'super fruit fly' or some improvement.

He got no new species.

What did he get? He got missing organs, deteriorations, sterility, reduced wings and legs, feet growing out of their mouths. Not one single improved fruit fly after decades of effort.



Dobzhanski's Fruit Fly Mutation Experiments: A Total Failure

So here is a new insight:

Random Mutation + Natural Selection + Time = EXTINCTION.

If you read the literature, there are some very interesting quotes by these researchers who spent 30 years of their life trying to get fruit flies to evolve by bombarding them with radiation. Suffice it to say it was very perplexing. Some of them came up with completely different, "spontaneous" theories of evolution.

Random Mutation causes birth defects. Random Mutation causes cancer. It causes incurable diseases, aging and death. So isn't it ironic that the naturalistic worldview gives it credit for creating new life forms?

So why does random mutation always destroy information?

Because information always exists in layers. You need an alphabet but also need syntax, you also need grammar, you also need meaning and it's created from the top down, not the bottom up.

Intent comes from the top down. Your intent results in an idea that you want to communicate which you form words in your mind and then you translate words into letters as you type them in to your keyboard or into sounds as you speak them through

your mouth.

A message starts with intent and it works its way down.

Then when somebody reads your email they read the alphabet, which they translate in to syntax and into grammar and into meaning. And then they understand your intent.

If you wanted to sit here for the next three hours, we could go into an engineering explanation of this. But I can tell you that in all communication systems the encoding decoding process starts at the top with intent, goes down to the alphabet; the alphabet gets coded into a file format. That's how information is created.

Random mutations violate the whole nature of how information is created. Language can only be improved from the top working down to the bottom. You can't randomly mutate a sentence into saying something more meaningful.

But mutations only work from the bottom up. They put fractures in to your intent, your syntax, your meaning and your grammar and you end up with theses silly little Google ads that we can't even read anymore.

Remember the line from the two ads?

Easy personal protection training
vs.
Fast protection training

That ad is an actual example from a real customer.

There's no way that random mutation and natural selection can get you from *easy* to *fast* in single steps. Why? Because there are no little steps between **easy** and **fast** that don't involve a mis-spelled word in-between.

E would have to evolve into **F**, and **y** would have to evolve in to **t**, at exactly the same time. And that's a pathetically easy example. In order to actually work at all, random mutation would have to change both of them, change them properly, and not change any of the other ones. If you wanted to change entire words or phrases, then they'd have to change in one single step, without affecting any of the other words.

Truth be told, there is a remote statistical chance (one in 43 million), that you could do this with this tiny Google ad that's only got 95 characters. You'd have to only change two specific letters, like in this example. (Remember that it would still be very, very expensive to run the other 42,999,999 versions of the ads while you waited for a good combination to show up!)

The shortest DNA strand in any form of life is 500,000 characters. If you wanted to improve just the eye or just the neck, let's take that giraffe. Those mutations have to be

all concentrated in the part of the DNA that describes the neck. But random mutation happens everywhere in the DNA, not just the part the codes the neck. And those random mutations destroy the information that describes the other parts of the body.

There is no feedback loop that says "Hey lets only change the neck part." NO. Random mutation doesn't work that way. That's actually a failed version of evolutionary theory called Lamarckian evolution, and it was disproved decades ago.

So language, like these little Google ads, is the simplest possible example of what biologist Michael Behe called *irreducible complexity*.

You Can't Get There In Incremental, Darwinian Steps

If you want to change the word **easy** to **fast**, you have this minimum amount of difference that has to change and everything else to be left the same and there is no way to get there in incremental steps. It has to happen all at once!

There's just no way to focus mutation on areas that you need them to be in. The odds of many mutations happening right next to each other is very close to zero. Any person with any statistics background can figure out if I have 3 billion letters in my DNA, what's the chances of only having mutations right next to each other, and all the other ones being left alone?

There is no feedback that says 'hey DNA you need to adjust.' If you're colorblind there is no way you can say, "Okay now when I have sex with my wife tonight I want all my sperm to have non color blind DNA.' You can't do it. The more genes there are, the worse the situation becomes.

Like I said my background is communication engineering, and from the standpoint of a communication engineer random mutation is *noise*. Now, how many of you ten years ago or maybe now, copy your CD's onto a cassette tape? That cassette tape has hiss on it and you can't get rid of the hiss. That's noise. Noise in engineering communication theory noise is *always always always* bad for communication.

In Engineering, Mutation (Noise) Never Improves The Signal

Nowhere in any communication engineering book or all the geniuses that built the Internet, none of those books have any formula where you ad noise to the signal and it makes it better.

Noise is always bad. Claude Shannon wrote this book right here, it's a copy of what is probably the most important paper ever written in the field of Electrical Engineering, it was written in 1948 and was called The Mathematical Theory of Communication.

If you open this book, it's full of integrals and all kinds of mathematical stuff and it's very complicated and I'm not going to bore you with that. But, Shannon really got this

figured out.

Shannon figured out, if I've got a telephone line that has this much noise on it, here's how much information I can shove through that telephone line, here's how much redundancy I have to have in the message in order to overcome the noise. He quantified all of that stuff, and made the digital communication age we live in possible.

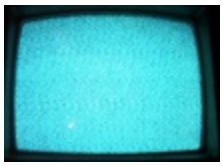
Mutation = Entropy = Destroyed Information

In 1948 Claude Shannon discovered that the mathematics of noise in digital communication is exactly the same as the mathematics of entropy of thermodynamics. And that noise equals entropy, and in fact in communication theory noise is called entropy.

I'm not going to go into a big lecture about entropy but basically entropy is an irreversible process. When something is hot and it cools off, and the heat spreads out and you can never put the heat back.

Same thing with noise. When you have noise on your cassette tape and it dulls some of the music and it takes some of the information away. You can't get the information back, It's an irreversible process of degradation.

So, Noise looks like this:



You see what noise looks like? It looks like that. It looks like your TV screen between channels. Now how many of you would add some of that to a picture to make it look better? Of course you wouldn't.

What does random mutation (noise) sound like?

Turn your radio between stations and you can hear that hissing sound. Noise creates uncertainty it's impossible to get information from noise.

Remember I said language never comes from merely matter and energy? You could turn your radio between stations, and you're just listening to the sun. What are the chances that all of a sudden in the middle of all that if you heard *Hey Jude* or something would you say Oh well I think the sun's noise just organized for a little while. You would know that somebody turned on their radio transmitter and decided to play *Hey Jude*.

What About Genetic Programs?

Just briefly, I want to talk about genetic programs are computer programs that simulate random mutation and natural selection to improve the design of something. The most famous one is one in Richard Dawkins' book *The Blind Watchmaker* where he starts with random letters and he runs them through a computer program. Every time it finds the wrong letter it throws it away. Every time it finds the right letter it keeps it. And he says, after only 30 or 40 iterations of his program he went from totally random letters to getting this sentence

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methinks it is like a weasel
```

which is a line from Shakespeare. He says it's therefore an illustration of evolution.

Now wait a minute… isn't there something just a wee bit wrong with that example? That's not Darwinian evolution, that's Scrabble! That's what it is. If you guys sat down and played a game of Scrabble, would that be an example of natural process or would that be an example of Intelligent Design? Absolutely. He programmed the desired result into his program first (the sentence 'methinks it is like a weasel') so he could get it! Dawkins' example doesn't prove anything except Intelligent Design.

Avida

There's another program that's all the rage now, it's called Avida. It randomly generates machine language algorithms, it rewards successes with more computer processing time and it penalizes failures with less. It is said to be a wonderful example of evolution.

There is a flaw in it, though, and the flaw is that only certain parts of the program are allowed to mutate. The rest of the program is fixed. The program that does the decision making is not allowed to mutate, only the ones that are in this confined area are allowed to mutate. The definition of success is also pre-programmed by the operator. The mutation is not truly random and the selection is not truly natural. So once again, AVIDA is really an example of intelligent evolution not naturalistic evolution.

Darwinian Evolution is the Only "Evolution" That's "Random"

So like I said, Darwinian theory is the only theory in which evolution refers to a truly blind random process. All the other uses of the word evolution that we have in our language are talking about Intelligent Design really, resolved by chaos. So all real evolution is *chaos resolved by intent*.

I mentioned this a while ago a long time ago about a hundred years ago there was a theory, Lamarckian evolution, which is the idea that learned traits are passed onto the offspring. It was the idea that if rats run in a maze and they become really strong super-rats, their children would somehow be stronger because of their life experience. That has been completely disproven.

Your life experience does not affect the DNA that you pass on to your offspring.

Random mutation cannot increase information, and natural selection cannot increase information either, so evolution of any kind still requires a mind.

So… Have I Disproven Evolution?

Now I must be fair here: I have *not* disproven evolution. What I have disproven is naturalistic explanations for evolution. Very important distinction. Like I said, I don't personally care; maybe the antelope did evolve into a giraffe but **if it did, I want to know how.** And random mutation is not how; absolutely not.

So what are the possibilities? We haven't disproven that antelopes evolved into giraffes. It's just that random mutation does not do it and current naturalistic explorations do not do it.

Junk DNA?

One of the arguments that you'll hear from people as, again, anecdotal evidence for evolution, is junk DNA. This is a real favorite of Richard Dawkins and some of the other fanatical evolutionists.

They say 90% of your DNA is junk. Now really, at this point in time they do not know that. How many of you would you like to just get rid of the DNA in your body that is 'junk'?

100 years ago they said that human beings had almost two hundred vestigial organs. How many of you would like to go to the hospital and have all the organs taken out that those people used to say you don't need? Any volunteers?

Today the list of vestigial organs is not two hundred anymore, it's closer to zero. We find that everything in your body has a use. There are just some people that haven't figured out what it's for or what it does. So they have pronounced it useless.

I really wonder if the ability to evolve might be built into some of that DNA that we don't understand yet. I'm not opposed to the idea that evolution can't happen. But you're not going to find out if you only proclaim that you already have all the answers and all these people that are questioning this theory should be silenced because they're all religious nutcases.

That's not science. *That's dogma.*

Let's Get to the Bottom of This Mystery!

We want to get to the bottom of things. We want to find out how and why. If you want to find out why something happens, you don't declare it useless; you research it. Maybe all the stuff that they are not sure about perhaps does have some kind of evolutionary function. Is there an information mechanism? Is there some mechanism through which

information comes from natural process?

Was it Divine intervention? Well the fossil record does match the Genesis story better than it matches Darwin's theory. You can read all about punctuated equilibrium and the sudden changes of the fossil record. The Cambrian explosion, is that divine intervention? I think it certainly could be.

Testable Predictions, Based on The Intelligent Design Hypothesis and Communication Theory

Based on everything I know about communication theory I would make some predictions about what we will learn about DNA in the next 20 or 30 years. I think that we will find that DNA is unrivaled in its sophistication and elegance, robustness and density of information. I believe that we will find out that it's not 97% junk.

Eventually we will find out it's the most exquisitely engineered communication protocol that anybody ahs ever seen. I think that junk DNA might have an evolutionary function.

A New Kind of Genetics?

Or maybe some new kind of genetics could be discovered that is kind of analogous to Newtonian physics giving way to quantum physics. And far more amazing than anybody ever previously thought.

I think it's very prescient that a bunch of Bedouins roaming around in the desert wrote down in the first chapter of the Bible where it says, "And God said, let there be light."

I think it's prescient that they said language was the formation and creation of what we know today. It wasn't light or movement or anything else, it was language. And then in 90 A.D., John wrote "In the beginning was the WORD."

In the beginning was words and language. In the beginning was information. The idea preceded the implementation. That He was in the beginning with God and He was God. Very prescient don't you think?

Questions from the Audience:

Paul: Use of the word *evolution* is not necessarily the most strategic thing, because the Intelligent Designers certainly don't disagree with it. With 'evolution', they disagree with macroevolution, but maybe not microevolution.

The public gets fogged over very quickly in this discussion. I do think that the Intelligent Design camp has a very good term for what they believe. I think you presented some very good arguments for why we should conclude that it is Intelligent Design, not it's opposite. So, what should we call this other opposite thing that is at the root of this other

belief?

What's the opposite of Intelligent Design? It's a stupid accident. Right? What we really have is it an Intelligent Design vs. Stupid Accident.

Perry: Which is a valid term indeed.

Paul: I'd like to point out though historically there was another term used called *spontaneous generation* and that the roots are really the same. That the belief of spontaneous generation was that individual life, not life forms, but individual creatures would come about naturally if the right conditions were there.

If you had just the right mixture of mud on the edge of a riverbank that spontaneously frogs would come out. Like spontaneous combustion for fire. If you have oily rags and just the right……

Well, what Darwin really did was to convert this belief from individual animal to the species. Now, he says, whole species just spontaneously generate. I'm wondering what your views are as a community when we engage in the dialogue so that we can be wise as serpents and harmless as doves? What words ought we to be using about this opposite view of Intelligent Design?

Perry: When I get into debates about this….. Bill mentioned my website www.CosmicFingerprints.com, and it's a multi-day email series. On the fourth day I send an email about information theory and evolution. It gives, in one page, an explanation of everything I just explained to you. And then there are links where people can go to read more.

A lot of people come along who really do not like what I said (big surprise). They reply back, sometimes they have very special words for me and they tell me how 'smart' they think I am. Some people come out with machine guns blaring and everything. But I can tell you that after thousands of people have gone through this email series, no one has punched a hole in this.

Not that they haven't tried! But nobody has found a flaw in this argument. The thing is, though, having an argument per se is not very productive.

But one thing that is useful is to point out that Darwin was at least half right. That's a good start isn't it? Darwin was absolutely right about natural selection, he just wasn't right about the random mutation part. It shines a light on this thing that has been completely glossed over. You never hear any discussion about where does information come from in a science textbook.

How is this argument traditionally won? It's won by drawing a picture of an ape that turns into a hominid that turns into a man or something like that. And oh, that makes a certain amount of sense. It's all argued at this very intuitive level.

But like Paul said, what is this really? Very few people have ever thought any of this stuff through. All they've done is lob arguments back and forth about the peppered moths in England or Piltdown Man or whatever. It just degenerates into this ridiculous discussion.

Getting Down to First Principles

But now we've got it down to first principles. DNA is a language. Where did it come from? Everybody wants to talk about where the molecules and the chemicals came from. Wait, where did the *plan* come from? Where did the *code* come from?

I don't know if I answered your question Paul, but it starts with what we agree on and what we do know. It also starts with *not* saying, 'I'm a creationist I don't believe in evolution.' Actually we all probably use the word evolution every day! So we do believe in some kind of evolution. So let's start on common ground and then let's find where there are unanswered questions.

Participant: I enjoyed your talk very much. In the 1920's there was a gentleman named Sir Ronald Fisher who is remembered as one of the best statisticians in the first part of the U.S. century. If one goes to the *Encyclopedia Britannica* it will say that Sir Ronald Fisher proved that this random variation can give you some types of improvements. I can't state it precisely. His language was probability distributions and sample theory. Do you have any comments on that?

Perry: I do. When you get into this discussion, as soon as you start talking about probabilities and statistics, the naturalist will immediately retort that you can't compute the probability because you don't know else might have happened instead.

If I say "What's the probability that these letters in my human genome came out the way they did?" They will say, "Well there are a trillion gazillion other combinations that could have resulted in a successful life form too, so you can't compute it."

And you don't know for sure.

But in the Google ad example, you can ask 'What's the probability of changing *easy* into *fast*? We can take specific examples and you can show that random mutation can produce teeny tiny increases in information. Obviously it certainly can.

Some of the adaptations of germs and viruses to resist things, I'm sure some of those things come from random mutations and not just the adaptability that was already there.

However, when you start doing the math on this and you start saying, 'I've got three billion letters in my DNA what is the chances of making some kind of change somewhere? And then, what's the chance of two of them three of them four of them five of them all happening next to each other?'

When you do the math, you end up with the biggest numbers you have ever seen in your life. Ever seen!

2000 Decimal Places: Not Enough

I got into a debate with a guy about this and I learned that my windows computer only goes to 2000 decimal places. That is not anywhere near enough!

I'm serious! The two thousand decimal places in Windows XP is not anywhere near enough to compute the probability of you having a fingernail instead of not having a fingernail, because of random mutation in your DNA. The odds against it are utterly phenomenal.

Monkeys and Typewriters

Do you remember that old monkeys and typewriters example? Someone said, 'If I had enough monkeys and typewriters typing along enough they would type all the words to Shakespeare,' I think Huxley said that.

You know what? That's nonsense! A whole universe full of monkeys, typing for the whole age of the universe wouldn't even get to page 5 and that is a fact. No good statistician would disagree.

What can randomness accomplish? Very little. It can have some occasional benefit and a statistician can show it, but if you really delve into it, you do find scientific papers like you're talking about. They're using all of the complex probability distribution functions and they are trying to figure out well maybe because the DNA folded over and it got transposed.

They keep trying to come up with approaches and they just keep hitting brick walls. What you said was valid but get out your calculator and all of a sudden the display says -EEEEEEEE- because it can't crunch a number bigger than that.

Jeff: First, going back to the world of computers, what about Neural networks? Computing power, feedback loops able to identify patterns that imitate artificial intelligence. How do you account for the rise or what's called artificial intelligence out of computers?

Perry: Artificial intelligence always has been, and I think may always be, only 30 years away. *(Laughter)*

There's a book by Ray Kurtzweil, called *The Age of Spiritual Machines.* Kurtzweil is from MIT and he's a brilliant guy. Kurtzweil says, computers double every eighteen months, so 20 years from now your computer on your desk will be smarter than you are.

He says that in 40 years from with the Internet and all of the computers being interconnected, the collective intelligence of all the computers in the world will exceed the human race and will all be interconnected. The merging of all of this information will cause us to reach this thing called The Singularity. Basically when you get right down to it he is saying that man will become God.

People actually believe this!

Think about it for a minute. That's my computer right over there, and it sits on my desk and it's got a 3 Gigahertz processor. That thing can process equations, it can do graphics, it can do all the things computers can do. But that computer is as dumb as a box of rocks. It cannot think, and it has no will.

One of the implications of information theory is that information always starts from will, and only living things have it. Computers do not have will, they do not have intelligence, they do not even have the ability, they are computational machines. Computational machines, by definition, cannot think. In artificial neural networks, everything has to be programmed in and it's only a response to what is programmed in.

The belief that if computers get fast enough, they'll eventually become conscious, is really based on a philosophical belief that information is created from the bottom up. But communication theory shows us that the exact opposite is true. People believe this, not because of science, but because of a philosophical assumption. Really I think Artificial Intelligence is a great way to extract Venture Capital from atheists.

Christian Religious Belief vs. Atheistic Religious Belief

I'm not trying to insult anybody, but this is not just a scientific matter, this is also a philosophical matter. If you philosophically believe that faster and faster computers are somehow going to start becoming conscious, if you believe that we are going to upload ourselves into a computer and become immortal, that's just a naturalist's version of heaven.

Christians believe in the virgin birth, the resurrection, and the second coming of Christ.

Atheists believe in the big bang coming from nothing at all for no reason; life coming from inorganic matter; and many of them believe in the singularity, when man becomes God.

It's really just an alternative *religious* view. I'm not saying artificial intelligence is impossible. But it is *not* possible with the kind of computing we have today, because you have to have some way of having **will.** I don't think anyone even knows where will and intent come from. What is consciousness? That's a huge question nobody can even get their arms around.

Did I answer your question?

Jeff: Yes, the second question has more to do on a comment on the scientific community. It seems like a lot of these insights are coming from outside the established biological community and the Ph.D.'s at Ivy League universities. Why is that? Why don't they see it?

Perry: In *any* industry, in *any* profession… and this is me speaking both as a business person and as a person who has a scientific education… in almost every discipline, innovations come from the outside. Almost every time. Rarely from within.

Did Bill Gates come from the world of IBM mainframe computers? No. He was a total outsider. There is a book *The Structure of Scientific Revolutions* by Thomas Kuhn and he explains this very well. That all scientific institutions create dogmas that explain things, and they continue to use the same explanation even though it doesn't fit, until a better one comes a long.

But then the better one comes along and smashes the old one. But it is still not even completely accepted until the old guys literally die.

That's the nature of things. What I see out there in this whole Intelligent Design versus naturalism debate, is a lot of people who are very, very frightened. They're thinking, "What happens if people out there find out that we haven't figured this all out yet?"

But I'm advocating open scientific discovery where we explore things and find answers. I'm open to whether the giraffe evolved or didn't. I'm open to that, but let's find out. Because that's how we are going to get progress.