Session 3

Part I – Understanding What Evolution Teaches

3. From Darwin to the Present

Public Reaction – two main sectors

For the next sixty years Darwinism and evolution were largely the preserve of scientists and researchers. The teaching of evolution was not permitted in schools and the general public had a chiefly negative reaction to it.

The two largest groups comprising Americans of the 19th and early 20th centuries were church-going families and nominal Christians.

Church-going Public

The average American had a family and went to church in these decades. Many more in that average could be counted as born-again - believing the Bible as true and reliable.

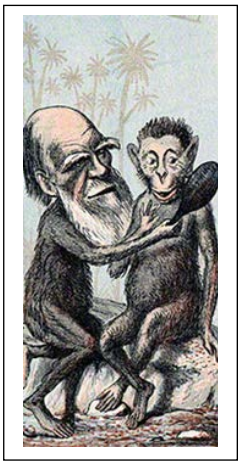
Realistically, some in this group were not born-again believers as we know the term today but were instead family Christians.

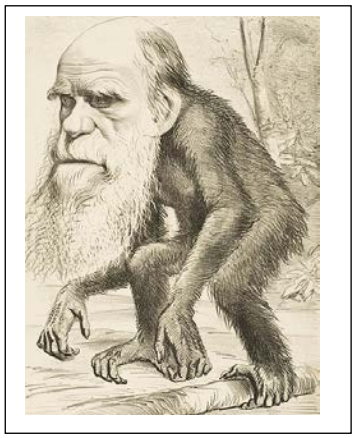
Quite naturally, this group universally repudiated Darwin, perceiving it to be a brazen denial of creation and biblical teaching

Nominal Christians and Secularists

Most nominal Christians were not true born-again believers, but they espoused and approved of Judeo-Christian values in their society. They were secularized socially and in business but more often than not believed the very general claims of the Bible that God exists and created the world.

This group was not opposed to Darwin on religious grounds as much as the repugnance of evolution from animals, especially the viral implication that we were descended from apes.





Images like these in the daily newspapers horrified society in general whether Christian or secular

Scopes Trial

In 1925 a Dayton Tennessee school teacher, John Scopes, was arrested for defying the Butler Act by teaching evolution in a public school. In actuality the State Board approved texts and teaching of evolution, but parents wanted it outlawed. The Butler Act enacted the will of the conservative majority.

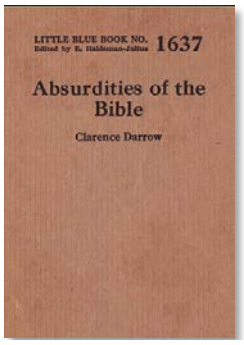
In reaction, the ACLU offered to pay for the defense of anyone indicted by this "unconstitutional" law.

The town staged a much larger affair to condemn the teaching and publicize the community as a model defender of the new law.

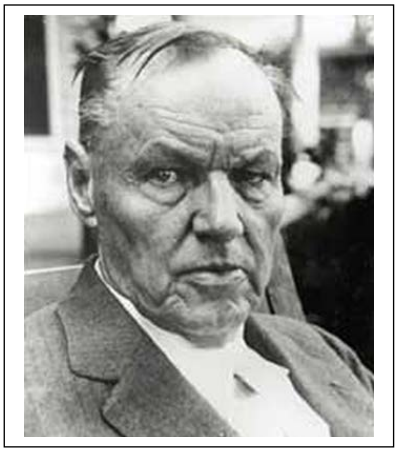
Uncovering this ulterior motive was the fact that Scopes had actually skipped over the evolution section in class. His accusers were in fact coached to fabricate the case against him.

Accordingly, John Scopes was quickly moved to the background as the litigants commenced an ideological war in the news and on radio.

Famed lawyer Clarence Darrow took the defense for Scopes. The choice of Darrow was based on his established animosity to the "absurdities of the Bible."



The prosecution began with the state attorney general – Thomas Stewart – who was replaced by the powerhouse personality, William Jennings Bryan.



Even though Darrow and Scopes lost their case, Scopes remained an iconic symbol of the dangers of parochial influences from religious ignorance.

As Christians today, we would be obligated to join the Dayton citizens against Mr. Scopes, given the general antipathy evolutionists display toward biblical teaching and the problems with legitimizing evolution as a fact of science.

However, today's creationists need to avoid the approach of the Bible-belt citizenry of the twenties that garnered such ridicule for religion. The winning side under the leadership of William Jennings Bryan came out as almost medieval in their denunciation of anything not taught in the Bible.

Bryan's chief claim was that the Bible was sufficient for all his needs and he didn't need to consult the science of mere men. Bryan's chief mistake was letting himself be interrogated by the defense. Darrow effectively destroyed Bryan on the stand.

The mischaracterization of Christians in the person of Bryan for the general public served only to begin a period of alienation and distrust of church and church-goers.

The irony of the Scopes Trial is that while Darrow defeated Bryan's position against evolution, the jury had to eventually return to what the case was about and ruled against Scopes in favor of the law. It was in the end a ruling that more represented public opinion of the times than the success or failure of the theory.

Christians desired to affirm their love of the Bible. Society at large wished to decry the control of education by religious beliefs.

The Christians of those times lacked the scientific expertise they do today to debunk evolution on technical grounds. So it was perceived that the laws were not about finding and protecting truth where it may be found, but in preserving the fundamentalism, and thereby the ignorance of a religion-based society.

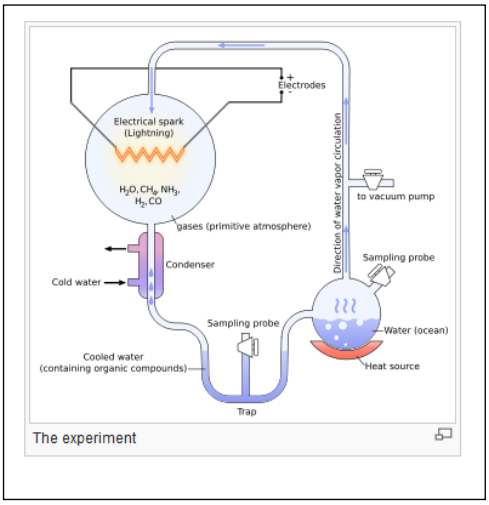
Scientific Developments – *Creating Life in the Test Tube!*

Along the way to modern versions of evolution was the Stanley-Urey experiment in 1953. The claim was that life had been created artificially without supernatural intervention. Life was in the form of amino acids from pure chemicals and energy. Amino acids are the building blocks of proteins which some see as the essential engines of life and living processes. This is also called abiogenesis.

Originally the experiment was designed by Stanley Miller at the University of Chicago. His superior Harold Urey requested that they perform and publish as a team, so the experiment is called Miller-Urey today.

The experiment consisted of recreating primitive earth gases, combined with steam from ocean water, an electrical spark, and a means to condense the gases into cooled water.

Although it was observed that human intervention was needed to set up the experiment, the point was forwarded that these conditions would have existed in nature and could converge by chance.



The experiment

Critique –

The amino acids were not identical to those that beget life in several important ways.

First, the acids were of 50-50 ratio for left-hand, right-hand acids. This is the ratio in organisms that have died. The ratio must be 100% one type or the other to support life.

Second, the bonds between acids were of mixed type. In proteins, they must be peptide bonds to make a viable protein.

Third, if proteins did manage to form from these amino acids (something not claimed in the experiment) they would have to *fold* in very specific ways to become proteins that support life.

Critical Reviews – The Theory's Expectations

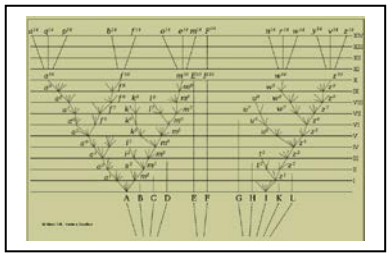
Problem A – Predictions of Common Ancestry

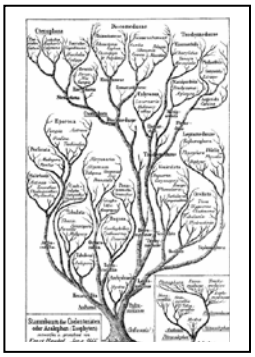
All Species Have a Predecessor

The macroevolutionary path is the hardest to demonstrate from the data because no single organism can be traced through all ancestors back to this common source, or even very primitive sources. All modern animal life forms (birds, reptiles, mammals) must come from an ancestor among the dinosaurs. But showing that lineage can't be conclusively done without unproven assumptions to connect them.

The hope of going back further to a one-celled organism for all is even more daunting.

Early attempts at a tree of life are shown at right. Interestingly, after 150 years since Darwin, scientists cannot form a universally agreed tree of life.



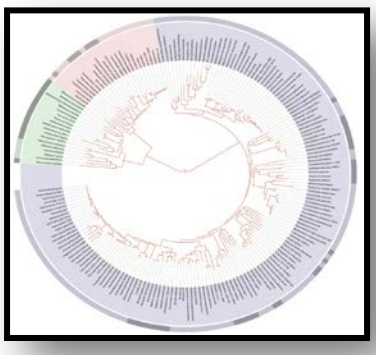


As of 2009,

"[the tree of life] lies in tatters, torn to pieces by an onslaught of negative evidence." New Scientist January 2009

"We've just annihilated the tree of life. It's not a tree anymore. It's a different pattern entirely. What would Darwin have done with that?" Michael Syvanen - New Scientist

This comment is based on a couple of developments since Ernst Haeckel's drawing above. Firstly, with the advent of DNA analysis and comparison of the genomes of many organisms the tree has taken on the following appearance, hence the statement, *"a different pattern entirely."*



Secondly, researchers are finding that organisms that are not vertically related evolution-wise have similar DNA that would ordinarily have placed them in such a relationship. The concept, called *horizontal gene transfer* observes that organisms with near identical DNA are on discrete horizontal paths with no pedigree or genealogical links whatsoever.

Hence, what we have is something that looks more like the view at right:

Animals that exist on isolated parallel horizontal development paths are showing unexpected identity of DNA sequences

Another statement of the unresolved state of high level phyla in the tree is the following:

". . relationships for most metazoan phyla remain unresolved" Antonis Rokas, - Science Dec 2005

Transitional forms

When you combine gradualism with common ancestry, every life form becomes a transitional form. All are related along a very long path of myriads of slight mutations to a common primitive ancestor. Even if some dead-end in extinction, their path up to that point would still have transitionals before it. So the issue of life forms distinct from transitionals in the fossil record would disappear.

And if every specimen in the record is a transitional form, the lineage of forms ought to be richer than it is.

However another view is that transitional periods are brief compared to stasis, and transitionals normally mean species that are in a noticeable intermediate position between forms.

The Proof Needed

The expectations of *gradualism* is that many fine gradations of changes between species millions of years apart would demonstrate that microevolution accounts for the end result we call macroevolution.

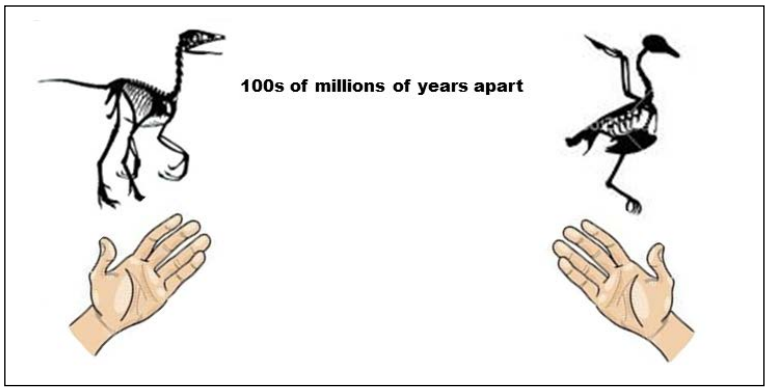
But ironically, fine gradations do not exist among the fossils. Instead, rather large gaps exist between the kinds of change needed to demonstrate macroevolution.

Science then has the challenge to demonstrate that Species X (millions of years later than Species A) is related by evolution. One would therefore expect to see:

- Species A and Species X have both visible similarities and remarkable differences.
- evidence that Species X lived along a path produced by Species A
- replication of this evidence across other sufficiently numerous life forms

The grand question is how does anyone, lacking the evidence of gradations between them, tell that Species X lived along a path leading back to Species A?

In other words, when a researcher holds fossils in each hand that are hundreds of millions of years apart in geologic time, how is he able to publish and claim that Fossil B evolved from Fossil A?



Two methods are used in general:

- anatomical morphology (study of body parts)
- genetic comparisons – DNA to discover convergence.

Morphology *(comparisons of physical similarities)*

For fossils this can only be done for the bones, so even here important comparisons of soft parts that have evolved is very limited and exceptional (Burgess Shale).

> So if the flying squirrel were now extinct, how would we have known merely from its bones that it was a flying squirrel?

Evolutionists seeing common skeletal structures assume this proves evolution because later species would not be expected to have gotten identical parts and mechanics on an independent coincidental development path.

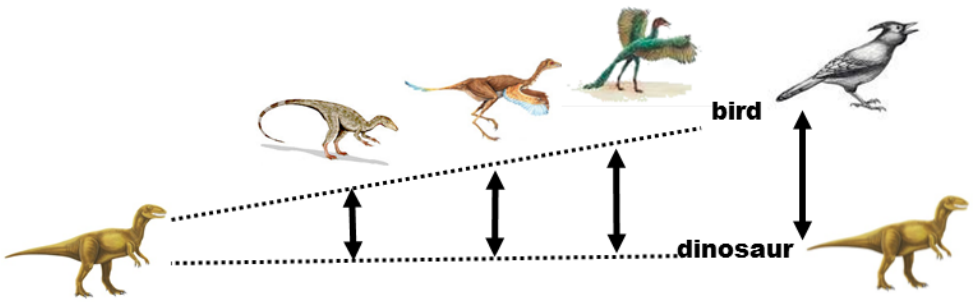
Creationists claim that Intelligent Design explains this better on the basis of efficient re-use of body plans and features because they serve the function and don't have a requirement to be made unique each time. We readily assert this in the case of vehicle engineering.

As below, many proven mechanical designs are re-used on machines and vehicles simply because they are good designs. In evolution, having the same good design develop virtually identical on separate evolutionary paths is inconceivable.




Genetics – DNA Comparisons

Complete DNA sequences from fossils believed closely related reveal a divergence-convergence path going back in time, ancestor to ancestor. The graph suggests a point of convergence – the location of the common ancestor to both organisms.



Issue: How are the fossils selected for comparison. Is the selection comprehensive?

How can we read DNA millions of years old?

Inadequacy of DNA Over Time

Being able to count the number of chromosomes in certain cells is difficult enough. Finding reproductive cells distinct fromsomatic cells increases the odds. But more than counting chromosomes, one must analyze the sequences themselves, and this places a major expectation on the quality of DNA to be compared.

While some claim this can be done in some rare cases, a convincing case for evolution must involve readable specimens from the many lines of descent, for which the fossil evidence is gravely problematic.

Plaguing this is the precarious nature of readable DNA over time. The oldest DNA that could be read is 700,000 years old (ancient horse). That doesn't mean all DNA that old can be read or that all the DNA sequence in a specimen should be readable. It does mean that DNA older by millions of years has yet to be demonstrated as fully readable.

In the case of the Pleistocene horse, its DNA yields a form of horse hardly discernable from modern horses, which is to say that DNA this old gets us no closer to radically ancient forms like Jurassic dinosaurian ancestors.

Many factors cause DNA to deteriorate: exposure to water and heat, contamination with other DNA. Also, the half-life of DNA at 521 years means the likelihood of finding enough DNA still available in sequences millions of years old is nil. (521 years means half the DNA has deteriorated. Example: 3 billion base pairs become 1.5 billion, etc.)

With most cases being mere fragments of fossil DNA, one would have to be incredibly lucky to discover the very sequences that establish the kinds of correlations that make the case for the evolution of all life forms.

A lack of that kind of luck is in fact what we have today – connections that are largely affirmed by numerous assumptions.