

Science & Evolution

Preface

“When a white-robed scientist, momentarily looking away from his microscope, makes some pronouncement for the general public, he may not be understood, but at least he is certain to be believed. No one ever doubts what a scientist says. Statesmen, industrialists, ministers of religion, civic leaders, and philosophers are all questioned and criticized, but scientists, never! Scientists are exalted beings who stand at the top most pinnacle of popular prestige, for they have a monopoly on the formula—‘it has been scientifically proved’—which appears to rule out any possibility of disagreement” —(Anthony Standen; Science is a Sacred Cow)

The argument between creationists and evolutionists has been going on for many years now. Both sides spit and sputter using terms and quoting scientific laws and such stuff, as you have probably never heard of before. Neither side is consistently correct, however.

Because of the intense interest in this area I thought it would be nice to have an outline of the various arguments (pro and con) that a non-scientist could understand. I found lots of books on the subject, but they were either too technical, or too simplistic so I decided to write a summary of the positions myself.

“Anybody who has been seriously engaged in scientific work of any kind realizes that over the entrance to the gates of the temple of science are written the words: Ye must have faith. It is a quality which the scientist cannot dispense with.” — (Max Planck; Where is science going?)

Because I am a Christian you should not consider this an objective report. I am embarrassed, however, by some of the ‘Christian’(?) ideas about creation and how some Christians develop their ‘proofs’(?). I will *try* not to make the same mistakes.

Each subject will be studied only to the depth that the concepts are understood and highlights are covered. Obviously, more research can be done in any of the areas. In addition, this material will soon be dated since ‘scientific’ articles supporting evolution are being churned out rather rapidly. I have added an appendix so that I could add information without having to further repaginate.

My hope is that you will, through studying this material, be able to spot the same ‘pseudoscience’ taking place in future articles you may read.

Above all, it must be recognized that science has no soul. It is a means, but never an end.

“Life is served by the sciences, it is governed by wisdom.” — (Seneca; Epistulae)

What is the ‘Scientific Method’?

“The difficulty in most scientific work lies in framing the questions rather than in finding the answers.” —(A.E. Boycott)

- A. What exactly does it mean to be ‘scientifically proved’? There is a method used by science to demonstrate ‘truth.’ It is called the ‘scientific method’ and it has certain rules. Those who subscribe to this method are called ‘scientists’ and those who use any other method are called scientists only by the media.
- B. The Scientific Method consists of a number of logical steps in which data is manipulated. To illustrate the steps we will use the following scenario. An Eskimo travels to inland Oregon in the fall. It is the first time he has ever left his frozen home far to the north. The steps are as follows:
1. Observed Data
 - a. Something always initiates the scientific endeavor. Whether it’s dead fish in a lake or curious sub-atomic particles, some observed data always prompts the question, “Why did that happen?”
 - b. For our example; while in Oregon our Eskimo observes many birds flying (something he is not accustomed to in the Arctic).
 2. Generalizations—Correlate the observed data into generalizations by making inductions and deductions.
 - a. Deduction: Extrapolating known rules to a scenario to anticipate the outcome.
 - 1.) This form of reasoning depends on a core of rules and builds outwards by defining new rules on the basis of existing rules.
 - a.) Rules are ‘truth.’
 - b.) Example: Given two facts: (1) $A = B$ and (2) $B = C$, then I may expand my set of ‘facts’ to include a relationship between ‘A’ and ‘C.’ I deduce that $A = C$. Now I have three rules.
 - c.) Example: Given that the law of gravity exists, if I throw a ball into the air then gravity will return it to the ground. I can deduce this even though I have never seen a ball thrown into the air.
 - 2.) Obviously, this form of reasoning is only as good as the *rules* upon which it is based.
 - b. Induction: Interpolating from experience to anticipate the outcome.
 - 1.) This form of reasoning depends on observation and experience.
 - a.) Experience is ‘truth.’
 - 2.) A relationship between ‘A’ and ‘C’ can be *induced* by my long experience that ‘A’ and ‘B’ are always equal. My reasoning is based on my experience. I do not need any other ‘facts.’

- 3.) Example: Each time I throw a ball into the air it returns back to the ground. Therefore, every time I throw a ball into the air, it will return back to the ground. I can induce this even though I know nothing of the law of gravity.

“A man gets drunk on Monday on whisky and soda water; he gets drunk on Tuesday on brandy and soda water, and on Wednesday on gin and soda water. What causes his drunkenness? Obviously, the common factor, the soda water.” — (Anthony Standen; Science Is a Sacred Cow)

- c. For our example the generalizations might be that:

- 1.) While some birds flew individually, many flew in formation.
- 2.) All *observed* formations were flying south.
- 3.) Southern flying formations weren't limited to one bird type.
- 4.) There are very few birds ever seen around his home in Alaska.

3. Hypothesis—The formation of a statement that appears to satisfactorily explain all of the generalizations.

“It is a very good morning exercise for a research scientist to discard a pet hypothesis every day before breakfast.” —(Konrad Lorenz; On Aggression)

- a. For our example, the Eskimo's hypothesis might be that birds tend to flock together when flying. When the flocking occurs there is some force—perhaps instinct—that makes them fly south. This tendency explains why there are so few birds in the Arctic.

4. Predictions—Predict the outcome of experiments if the hypothesis is true and if it is false.

- a. Our Eskimo proposes the following experiment.

- 1.) An electronic beam would be placed in a field and pointed skyward to detect the presence of birds.
- 2.) A second beam would be positioned fifty yards further south.
- 3.) A video camera would be placed near the first beam and pointed straight up to record the movement of birds. The following rules would apply:
 - a.) The camera would only turn on when the southernmost beam first detected birds followed within a few seconds by the northern beam.
 - b.) If only one beam detected the presence of overhead birds, then the camera would *not* turn on.
 - c.) If both beams detected the presence of birds within a few seconds, but the northern beam sensed them first, then the camera would *not* turn on.

- d.) If both detectors sensed birds at the same time, then the camera would *not* turn on.
 - b. If the hypothesis is true, then the prediction for the experiment is that the camera will never turn on.
 - c. If the hypothesis is false, then the camera will record flocks of birds flying north.
5. Experimentation—Perform real time experiments to test the false prediction.
- a. Our Eskimo’s test is designed to spot flocks of birds flying north (thus proving the hypothesis wrong).
6. Test Results— If the test results fit the ‘false’ prediction, then you have proved the hypothesis is false and no further testing is necessary. If the test results fit the ‘true’ prediction, then you have proven only that the results were true for one case (circumstantial evidence) and additional testing is necessary.

“Scientific theories, if they are not falsified, for ever remain hypotheses or conjectures.” —(Karl Popper; Unended Quest: An Intellectual Autobiography)

- a. For our example, the test was designed to prove the hypothesis is wrong. As you can see, it is pointless to design experiments that test only the true predictions because you will produce only circumstantial evidence.
- b. It is essential that one recognize the difference between these two types of predictions and why the experiment must always be designed to prove that the hypothesis is wrong. By doing so we avoid a flaw in the application of logic known as the ‘Paradox of the Ravens.’
 - 1.) This paradox was first recognized in the 1940’s and is described as follows:
 - a.) Observations of black ravens (in the absence of any observations of ravens of other colors) would normally be taken as confirmation of the hypothesis that all ravens are black. Multiplying both sides of the first hypothesis by -1 results in a second hypothesis (‘converse’). The second hypothesis is that all non-black things are non-ravens. The observation of non-black things that are non-ravens would seem to confirm the second hypothesis.
 - b.) Since both hypotheses are logically equivalent, then evidence supporting one is evidence supporting the other. If the experiment were based on the second hypothesis (the converse), then the observation of a red car (a non-black, non-raven) would support the original hypothesis that all ravens are black. A number of observations of non-black, non-raven items would tend to be interpreted as strong evidence for establishing the hypothesis as a theory and eventually a law.
 - 2.) Applied to our Eskimo friend, the flaw would show up too.
 - a.) The hypothesis that all birds fly south could be massaged to form a converse statement that says that all non-birds fly non-south. Obviously, this is not an accurate converse, but you only know that because you are already familiar

with the truth (through inductive reasoning). If this were innovative research, you would not recognize this development of a converse as a flaw. For this hypothesis a plane observed flying in any direction but south must be interpreted as supporting evidence for the original hypothesis “all birds fly south.” Of course, the vast majority of observations (bushes, trees, people, etc.) would evidence that the original hypothesis was wrong. If my experiments were set up to test the false predictions of the hypothesis, then I will not have a problem with this converse hypothesis. If my experiments were incorrectly set up to support the true predictions of the hypothesis, then I may succeed in ‘scientifically’ proving (at least to the media) that all birds fly south.

- 3.) The trap involved in this paradox can be avoided if one is careful to always test the false prediction. The Eskimo’s converse hypothesis was that all non-birds fly non-south. If this hypothesis is false then I will find examples of non-birds that *don’t* fly south. The first bush, tree, house, or person that I see, or the first plane that I see flying south disproves both the converse and original hypotheses.
7. Theory— A hypothesis that has survived many valid attempts to prove that it is wrong earns the title of ‘theory.’

“Theorists almost always become too fond of their own ideas, often simply by living with them too long. It is difficult to believe that one’s cherished theory, which really works rather nicely in some respects, may be completely false.” —(Francis Crick; What Mad Pursuit)

8. Law—After all reasonable attempts (through experimentation) to prove that a theory is wrong have failed, then you have a ‘law.’

The Problems with the Scientific Method

- A. Okay, the scientific method is our best *natural* means of determining fact. It is obviously used (and misused) everyday by scientists (and those calling themselves scientists). It is also used every day in the legal system, engineering (root cause analysis), theology, and philosophy, etc. Yes, even theology and philosophy use the scientific method (they just have fancier names for it like ‘deduction,’ ‘induction,’ ‘hermeneutics,’ ‘apologetics,’ etc.). However, the experiments are done differently through the application of test scenarios rather than conventionally.
 1. For such a wide spread use of the method it seems incredible that so few people actually spot the flaws in the system. Perhaps this is a case of ‘*it’s-easier-to-believe-a-lie-you-have-heard-a-thousand-times-than-the-truth-you-have-only-heard-once*’ syndrome. However, there are flaws and here are the ones that I am aware of:
 2. There is no criterion for how much experimentation must be done before a hypothesis is established as a theory. In practice, proponents sometimes start calling it a theory before *any* experimentation while opponents will never admit to an elevation in status.
 3. The same problem exists for the elevation of a theory to the status of law. There is no criterion for the change in status.

- a. As an example, the classical physics ‘law’ of conservation of energy was held to be fact for some time until Einstein suggested (and Enrico Fermi proved) that the law had to be rewritten to account for direct transfers from energy to mass and vice versa ($E=mc^2$). This change recognized that mass was nothing more than ‘congealed’ energy [a step closer to recognizing creation for what it is, but—naturally—that wasn’t mentioned].
4. The next problem is also a logical flaw (like the paradox of the ravens) and is referred to as the “blue-green paradox.” It highlights our tendency to overlook assumptions in our method and goes like this:
 - a. I will define a new color that is time-dependent.
 - b. The color is called ‘grue.’
 - c. Grue is curious in that it alters its appearance with time.
 - 1.) It appears to be green if observed prior to time T^0 (say, midnight 12/31 in the year 2200), but after time T^0 it appears to change to blue.
 - 2.) If I observe an emerald today I would say that it is green. But, what if it is actually grue (meaning that at a New Year’s party in 2200 it will turn to the appearance of blue—actually remain grue)?
 - d. This is the official recognition of the problem of ‘uniformitarianism.’ Since we have no current evidence of the time dependent color grue, then rather than saying that the emerald is either green or grue (we won’t know for sure until 2201) we say that the emerald is green, ignorant of any evidence to the contrary.
 - 1.) What shall we predict about the emerald’s future color?
 - 2.) In our ignorance, we would predict that it would remain green because we don’t currently recognize a difference between green and grue?
 - e. Only the *example* is silly. The problem is very real.
 - 1.) A few hundred years ago, all the known evidence supported the contention that the earth was flat, and that draining blood from the body could cure sickness. Most scientists of the day *seriously* believed that.
 - 2.) Hundreds of years from now (and probably sooner), will people laugh at what we assumed to be true?
 - 3.) The only problem is that when it comes to medicine, food production, the design of Chernobyl-type nuclear plants, etc. it isn’t very funny.
5. This problem is referred to as the fallacy of “affirming the consequent.” One cannot argue backward from the truth of a conclusion to the truth of the premise.
 - a. If all mammals have hair (which they do) and whales are mammals (which they are), then we may logically *deduce* that whales have hair (which they do, but only in the embryonic stage).
 - b. However, it cannot be *induced* that since whales have embryonic hair and whales are mammals that all mammals have hair. This may seem obvious, yet you occasionally still have people proposing theories just like this (in fact, exactly like this).

1.) **Induction is *very* risky in a sea of uncharted facts.**

6. Another example of the danger of most induction can be pointed out using this example:
 - a. It has been estimated that 90% of all scientists throughout history are still alive today.
 - b. The overwhelming varieties of organisms today are also microorganisms.
 - c. The induction can be made that any scientist picked at random is likely to be a micro-organism. Obviously wrong to any reader, but maybe not so obvious if our topic is something like cosmology, microbiology, etc.

What is *not* the Scientific Method?

- A. Just as the term ‘Christian’ is used more extensively than its Biblical definition¹ would allow, ‘science’ is also used more frequently than the scientific method would allow. When the term is applied too loosely, then the product of the investigation is called ‘pseudoscience.’ The most common forms of pseudoscience fall into these categories:
 1. Assumptions That Remain Untested—The scientific process does not allow for any assumptions. However, some assumptions are hard to spot and are frequently overlooked. One of the most common assumptions is called ‘*Uniformitarianism*.’ It is a philosophy that states that all processes that are currently observed may be assumed to operate similarly in the past or future unless proof exists to the contrary. The scientific method would say that just because no evidence to the contrary is known to the investigator does not mean that the evidence does not exist. To prevent this subtle influence from producing false results, the true scientific method requires that all elements of a proof be scientifically established. The fallacy of Uniformitarianism is covered in detail in the section on Geology. Examples of pseudoscience which suffer from this problem are:
 - a. PALEONTOLOGY (assumes theory of evolution to be correct)
 - b. PALEOCHEMISTRY (assumes theory of evolution to be correct)
 - c. PLATE TECTONICS (since past processes can’t be reproduced, ‘proofs’ rely on Uniformitarianism)
 - d. TEXTUAL CRITICISM (relies on certain ‘givens’ which leave a lot to be desired - see study material on the Bible). [Yes, ‘Christians’ do it too.]
 2. Non-falsifiable Hypothesis—A hypothesis, which is so stated that no experiment can be designed to test for a false prediction. In other words, you cannot prove by experiment that it is false. Any hypothesis which cannot be proven by real-time experimentation may be classified as a ‘non-falsifiable’ hypothesis and has no claim to the term ‘science.’ Examples of such pseudoscience are:
 - a. COSMOLOGY (no one can roll back time to test past processes)
 - b. EVOLUTION (actually an outgrowth of Uniformitarianism applied to biology, but without any way to test the accuracy of extrapolating current processes back in time)

¹ Christian = disciple, but does not necessarily mean a believer [Acts 11:26].

3. Falsified Data—Because funding for research organizations frequently is tied to results, there is a powerful inclination to stretch the truth to show results consistent with one’s hypothesis so that funding will not be lost. This same effect shows up at the personal level too. Promotions, tenure, and prestige all require results. The effect may also be introduced by the *selective* use of data.
4. Inappropriate Statistical Associations

"There are three kinds of lies: lies, damn lies, and statistics." —(Benjamin Disraeli)

"Statistics is like a bikini. What they reveal is suggestive. What they conceal is vital." —(Arthur Koestler)

- a. Data studies are ‘statistical’ by nature.
- b. A few ‘data’ definitions are in order:
 - 1.) Interpreting data studies requires one to distinguish between accuracy, precision, bias, and confidence.
 - a.) Accuracy: The ratio of how close results are—on average—to the reference value or "true" result.
 - (i) Example: You have probably seen a deer crossing sign before that has been mutilated by buckshot (especially if you live in the South, like me). The distance between the center of the deer image and the center (average) of the pellet holes is a measure of accuracy. The pellet spread does not affect this value, since it is based on the ‘average’ result. Thus, a tight group or loose group does not impact accuracy.
 - b.) Precision: A measure of the repeatability of a result. It relates to how variable the results are compared to the average. This is often expressed as a 95% confidence limit or variance.
 - (i) Example: If the buckshot pattern was concentrated into a small circle, but significantly off-center, the precision would be high, and the accuracy would be low. Similarly, if the buckshot pattern is large, but centered on the deer, then the accuracy is high and the precision is low.
 - c.) Bias: A measure of any consistent difference between the data value and the "true" or reference value.
 - (i) Example: If a number of deer signs are encountered—each with a tight pattern offset above the deer, then a bias is evident (perhaps a sight adjustment is necessary). If the tight patterns appear randomly around the deer, then there is unlikely to be any bias.
- c. A few ground rules about statistics are also in order:
 - 1.) Statistical associations *do not* imply a cause and effect relationship.

- a.) A high percentage of U.S. cancer patients from 1960 forward ate Jell-O as children. This implies a statistical association between cancer and Jell-O. Obviously, there is no cause and effect relationship because nearly all U.S. non-cancer patients from 1960 forward also ate Jell-O. It's merely coincidence, but in areas where our knowledge isn't as extensive, the *implied* scientific link is often made solely based on statistical association and goes unchallenged.
 - 2.) Merely *saying* you have an adequate control group does not make it so.
 - 3.) Weak associations (<100% induced change) are not associations at all, but noise. [That is, if a study indicates a statistical association that implies an increased risk for, say, a form of cancer, then the new risk would have to be *at least* doubled.]
- B. If pure science were practiced, there would be very little (if any) opportunity for the results to be at odds with true Christianity, but because mankind's nature is involved, there are always abuses of the method for personal status and gain (of course, the same may be said of theology). The results, again, are pseudoscience. It looks good in the media, but that is only done to sway funding considerations and promote personal and political (or theological) agendas. It may have little basis in fact. It is clear that in our society perception and pseudoscience are more important than the true science of actual fact. We are truly a nation of sheep. Examples of pseudoscience include the following:
1. GLOBAL WARMING—Beginning in 1988, the fear of global warming because of industrial emissions of 'greenhouse' gases (carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, etc.) became so widespread that legislation and international agreements (i.e., '87 Montreal Protocol to phase out CFCs) were hurriedly made by politicians. Everyone seemed to be on the bandwagon. 'Scientific experts' (?) were lined up to testify to congress about the threat. It didn't seem that anyone spoke out against the call for drastic change. It was a play to the environmental sensitivities of Americans and it worked quite well. One result was the passage in 1990 of the Clean Air Act, which significantly increased the cost of fossil fuel power. The total cost to the public was \$55 billion per year (in 1991 dollars). Naturally, the public was charged for the increase by raising their power bills. Think of it as an additional tax.
 - a. What was the evidence for such drastic legislation (that you are now paying for)?
 - 1.) Climatologists scrambling for prestige and funding produced 'computer models' (5 in all) which would predict the effect on the environment if their theories on greenhouse gases were correct and no action were taken.
 - 2.) Even Carl Sagan chimed in (despite his 'nuclear winter' blunder based, in part, on the same 'computer models').
 - 3.) The 'final authority' was not truth, but what would secure more funding from the governmental purse.
 - b. What do we now know about global warming? It seems that during the media fiasco the 'real' scientists were quietly doing their research using—what else—the scientific method.

- 1.) In 3/91 the George C. Marshall Institute released their findings that the empirical data do not support *any* of the computer model's predictions (that's right—not one of them).

"[T]he known empirical data contradict the five climate-simulation computer models used by federal[ally-funded] and university climatologists and scientists who proclaim the greenhouse problem, develop its fingerprint, and forecast its impact. They are guessing . . . The simulations are flawed. They are not mature enough, nor are their computers powerful enough to provide useful answers to the future impact of greenhouse gases."

- 2.) The problems that the Institute found (which were so conveniently overlooked by the pseudoscientists because it would provide results different than those they wanted) included the following:

- a.) Nearly all of the observed temperature increase occurred before 1940, but most of the greenhouse gases were emitted into the atmosphere after 1940. How can greenhouse gases be the cause of a rise in temperature that took place before they existed?
- b.) According to the empirical data, the earth has actually cooled down since 1940. The cooling trend continued for 30 years until the '70's when temperatures began to rise again. If the greenhouse gases had any substantial impact on the temperature why then, during a period of rapid gas buildup ('40's-'70's) did temperatures go down?
- c.) All of the computer models predicted that the temperatures in the Northern Hemisphere should have increased more rapidly than temperatures in the Southern Hemisphere due to the industrialization of the Northern Hemisphere. The difference should have resulted in a 1°F difference in the hemispheres. Yet, for the last 100 years no difference has manifested itself. Why not?
- d.) The models also predicted high-latitude warming in the Northern Hemisphere as a result of the gas additions. That has not occurred. In fact, the opposite has occurred. After 1940, the lower latitudes warmed slightly more than the higher latitudes.
- e.) The models predicted nearly a 0.4°F increase in temperature in the '80's alone. NASA's satellite data show that no such trend exists. Models predicted that 1990 would be the warmest year on record. Measurements of surface temperatures taken on different continents seemed to bear that out. NASA's satellite data, however, show that temperatures have been warmer during five of the previous twelve years.
 - (i) The answer may lie in the location of the readings. Many of the readings are taken from metropolitan areas. As the size of these areas grows the 'concrete' warming effect they exhibit becomes more pronounced. This phenomenon doesn't affect satellite data.

- c. None of these studies alerts the reader that the global warming ‘problem’ may be a blessing in disguise. For the last two million years, the earth has rarely been as warm as it has been in our recent recorded history. In fact, the temperature has changed enough to alter sea level a total of 375 feet (we are currently at +300 ft.). The current trend is one of cooling (before the recent increase blamed on fossil fuels). The truth is that the earth goes through cycles of warming and cooling at intervals of 20,000 and 100,000 yrs. (earth’s closest approaches to the sun) and 40,000 yrs. (tilting of the earth’s axis).
 - d. The global temperature trends present a conclusion that has quite a large tolerance associated with it. Those tolerances are described below:
 - 1.) The thermal inertia of the oceans causes some uncertainty in the global warming results. The tolerance can be as large as $\pm 0.2^{\circ}$ to 0.3°C ($\pm 0.36^{\circ}$ - 0.54°F).
 - 2.) The sun’s output varies by $\pm 0.1\%$ in parallel with sunspot activity. This results in a variation of 0.24 watts/meter² absorbed by the earth. The extra energy added during sunspot activity could add as much as 0.08° - 0.24°C (0.144° - 0.432°F) depending on the timing of the ocean inertia swings.
 - 3.) The sun’s output also varies by other mechanisms less well understood. A dip in output of 0.2 - 0.6% occurred from 1645 to 1715 causing what is known as the “Little Ice Age.” This results in an uncorrected error influence of between 0.16° - 1.44°C (0.29° - 2.6°F) if one is attributing the temperature rise to greenhouse gases.
 - 4.) This all comes to a combined tolerance of $\pm 0.18^{\circ}$ to 1.05°C ($\pm 0.324^{\circ}\text{F}$ to 1.89°F). Considering that the greenhouse effects are estimated to cause an increase in global temperature of 0.5°C (0.9°F) and the tolerance for the measurement is larger than the estimate, then a large shadow of doubt is placed on any estimates of trend.
 - 5.) In April 1992, NASA published its newest findings. These studies were done by microwave radiometry at 60 MHz from TIROS-N satellites orbiting the earth. These radiometers can measure atmospheric temperatures to within an accuracy of 0.01°C per month. Their findings were very revealing. From 1982 - 1988 the warmest years were ‘88, ‘87, ‘83, ‘80. The coldest were ‘86, ‘85, ‘84.
 - e. This is not to say that greenhouse gases should be ignored. They are obviously bad for the atmosphere, but that a more careful balance of treatment versus economic effect should be considered in light of the uncertainty of the results. For example, little has been heard of the positive effects of increased CO². This includes an astounding increase in agricultural growth rate and the transformation of some currently arid areas into forests. Similar reports with impact on the debate are usually passed over.
2. **K/T ASTEROID IMPACT HYPOTHESIS**—The demise of the dinosaurs 65 million years ago has been unsuccessfully pegged to everything from poisoning and constipation to slipped disks, mystery planets, and infertility. The theory that is currently in vogue is that a large asteroid slammed into the earth and spewed enough dust into the air that the sunlight was blocked and nearly all plant life died (thereby killing animal life, including dinosaurs). This hypothesis is generally referred to as the K/T asteroid impact hypothesis.

- a. It is supported, generally, by sea floor core samples that show massive amounts of dust settling on the ocean floor at a time estimated to be about 50-55 million years ago.
 - b. According to Peter M. Sheehan, Curator of Geology, Milwaukee Public Museum, the Alvarez hypothesis (as it is also known) has a distinction—this one was testable [well . . . sort of]. The point is that most dinosaur extinction hypothesis will never get beyond the hypothesis stage in the realm of pure science simply because they are not scientifically testable. Do not for a moment believe, however, that those same untested hypotheses won't show up as legitimate science in magazines, newspapers, television 'science' (?) shows, etc.
 - c. One such untested hypothesis is that diseases transmitted between animal groups that mixed because of ancient land bridges caused the extinctions.
 - 1.) Few symptoms of disease show up in the fossil records, but that didn't stop it from being promoted as 'science' in a popular magazine.
 - 2.) The interesting thing is that the magazine made reference to both 'theories.' The testable KT hypothesis was referred to as "a religion" while the untested hypothesis was referred to as "plausible", "elegant", and "persuasive."
 - d. By the way, now that the K/T hypothesis is being 'tested' some evidence has surfaced that seems to support a modification in the hypothesis to say that it killed *most* (70%) of the dinosaurs. Apparently reliable dating(?) of dinosaur bones in New Mexico and in the Hell Creek rock formation of east-central Montana point to the survival of many dinosaurs up to 4 million years after the proposed date of the asteroid impact.
 - e. Strangely enough, impacts are not a new idea. The influence of comets on our history had first been proposed by William Whiston (see Glossary) in 1696.
3. MISREPRESENTED STUDY—Contributing significantly to the global warming scare was a report by the Intergovernmental Panel on Climate Change (IPCC).
- a. The report was titled 'Scientific Assessment of Climate Change' and included a non-technical summary written by a small steering group. It was this nontechnical summary that was given to politicians as an "authoritative statement of the international scientific community." It also received wide publicity in the media.
 - b. This summary was to contain the statement that this group had agreed that, "it is not possible to attribute all, or even a large part of the global-mean warming (of 0.5 C since 1890) to the enhanced greenhouse effect on the basis of observational data currently available." The problem was that the report did not say that. What was actually typed was, "the continued emission of carbon dioxide from burning oil, gas and coal enhances the natural atmospheric 'greenhouse' effect and automatically leads to a catastrophic temperature change in the next century." Quite a typo, I would say.
 - c. The difference between what was reported and what was really typed was brought out by two 'real' scientists (S. Fred Singer, Prof. of Environmental Sciences and Jay Winston, both of the Univ. of Virginia). What they found in the survey of the scientific community was that the community did agree on one thing: that the IPCC summary was grossly misleading.

- d. Why is it that the corrected information received so little press? Repetition is how activists promote their pet causes in the media. The fact is that it's easier to believe what you have heard 1000 times than the truth you have only heard once. Since there are few activists promoting the truth these days, it doesn't get much airtime. Why are there so few? Because the money follows the warming activists.
4. MISREPRESENTED STUDY—Concern over the acid rain issue grew to national prominence during the '70's. By 1980, the U.S. government established a massive scientific effort to determine the extent, cause, and best course of action. The program was called the National Acid Rain Precipitation Assessment Program (NAPAP).
 - a. During its ten-year life, it spent nearly \$550 million on research. It produced volumes (27 to be exact) of first-rate material concerning the issue of acid rain. Not one bit of negative scientific criticism was ever received. Ultimately, however, none of the material was ever used—a \$550 million waste.
 - b. There was criticism of the material, but it was based on the material's conclusion that downplayed the significance of acid rain based on the available scientific evidence. The result was blasted, not because of the scientific method, but because the critics didn't like the result (it didn't fit their agenda). Who complained? Why, it was the scientific community that stood to benefit from passage of legislation.
5. PILTDOWN MAN—Anthropologist Charles Dawson joined the jaw of an ape to the skull of a human and then aged both with potassium permanganate. He then claimed to have discovered the ancestor of early man. The fraud went undiscovered for 45 years.
6. HIMALAYAN HOAX—Prominent Indian Geologist Viswa Jit Gupta claimed to have discovered ancient, tiny invertebrate fossils. His continuing findings vastly influenced geologic theory since the first in 1964. In 1989, it was discovered that the fossils were actually from New York and Morocco. More on this later.
7. NOBEL LAUREATE FRAUD—On 4/25/86 an article in the journal *Cell* reported that transplanted genes seemed to produce new antibodies in mice—something many scientists thought to be impossible. So significant was the finding that it fast-tracked the careers of its authors including David Baltimore, then a senior scientist at MIT, now Nobel laureate David Baltimore, who is currently president of Rockefeller Univ. Later that same year Margot O'Toole, a postdoctoral fellow at MIT was run out of the science business after she reported what she thought to be errors in that same paper (published by her superiors and other senior MIT scientists, including Baltimore). An initial investigation of her claims found no *deliberate* fault by Baltimore. It did find a few technical errors that were corrected. O'Toole challenged those findings and the investigation was reopened in '89. The second investigation also cleared Baltimore of any deliberate wrongdoing. A few years later Walter Stewart, a scientist at the National Institute of Health in Bethesda, MD concluded after months of investigation using recently available computer software for mathematical modeling that O'Toole was correct in her assertions. In fact, the computer results made the fraud quite stark. The team of scientists had falsified the data from their experiment. The research paper has since been withdrawn, but the only other result was the labeling of Stewart as a gadfly in media. [They always seem to pick the wrong side of an issue.]

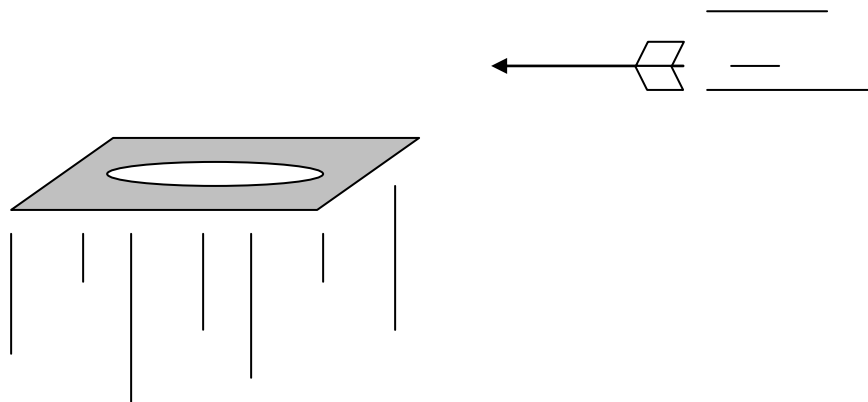
8. **FRAUD AT THE UNIVERSITY OF PARIS**—Stewart also investigated another case using the new computer tool on research conducted at the Univ. of Paris into Homeopathy. Homeopathy is a system of medical practice that treats disease by the administration of minute doses of a remedy that would in healthy persons produce symptoms of the disease treated. The doses may be as small as one molecule. It is looked on as quack medicine by most of modern science. After four days of computation the computer found that the 5000 data points recorded by the researchers were in better agreement than was allowed by the statistical Poisson distribution. Their data was ‘too good to be true’ literally. The Paris team had ‘proved’ that water retains the memory of a medicinal compound even after the solution had been diluted to the point that no molecules of the compound remained in the sample. The computer had proved that they fudged their data to fit the result they desired.
9. **RESEARCH LAB FRAUD**—on 6/22/91 the Dept. of Justice announced that the former executive vice president of a research laboratory had been sentenced to 5 years in prison and a \$20,000 fine for one felony count of manipulating data and test results and submitting false and fraudulent information to the government.
10. **SURVEY RESULTS**—In October ‘90 a survey of personnel in industrial research jobs revealed some startling statistics. Of those surveyed 56% had personal knowledge of instances where research data was fudged to produce results that are more favorable. 43% of those researched responded that they felt increased pressure to produce results that matched predetermined outcomes. Project managers—with or without the knowledge of the researchers—perpetuated the greatest degree of fraud. The managers frequently selected only the favorable data, or changed submitted data to make it more favorable. Respondents felt that this was done to save a project, gain financing, or save face on an over-sold project. Only about 30% of all research is for publication (and, therefore, less likely to be falsified). However, 70% of industrial research is ‘product research’ and is proprietary. Proprietary research rarely receives similar cross checking or peer review.
11. **ASSUMPTIONS AS FACTS**—Despite all the constraints of the scientific method there is an increasing awareness of what is called ‘canonical wisdom’—assumptions, in other words, that are frequently found masquerading as established fact.
 - a. Percival Lowell was held in such high esteem that when he concluded (unscientifically) around the turn of the century that the objects he observed on the surface of Mars were artificially constructed canals astronomy students began to be measured on their ability to arrive at the same very unscientific conclusion.
 - b. Nobel laureate Svante Arrhenius flatly stated in 1918 that “everything on Venus is dripping wet” based on the telescopic appearance of impenetrable clouds. He also jumped to a very unscientific conclusion.
12. **EINSTEIN’S SPECIAL THEORY OF RELATIVITY**—Einstein theorized that time, mass and space are *not* independent of one another as we are accustomed to thinking of them.

$$L = L_i \sqrt{\frac{1 - v^2}{c^2}}$$

Space is linked by the Lorentz contraction factor with speed such that the closer one approaches the speed of light the shorter the length of the object in the direction of travel when viewed from outside the object. This means that if I shoot a one-foot arrow at 99% the speed of light (c), then the arrow will only be 1-11/16" long as I photograph it flying past me. However, the arrow would still be one foot long if you were riding on it (and I—the photographer—would appear to you to be very skinny as you flew past him). [Probably the only scenario in which I would ever be described as skinny.]

Einstein also theorized that as the length of the arrow shortened it would also increase in mass (not volume) at the same ratio as its decrease in length. If the arrow were originally 2 oz., then it would weigh 12.5 lbs. to anyone but the person riding on the arrow (who would swear the arrow was still 2 oz., but that everyone else weighed 8.4 tons).

Whenever the mass of an object increases its inertia also increases. This means that ever increasing amounts of energy are required to accelerate the mass further. That relationship was the single most important result of special relativity. You have no doubt heard of $E = mc^2$. The concept that mass was nothing more than 'congealed' energy was nothing more than philosophically fascinating when it was first introduced. It remained for Enrico Fermi to apply it to explain the results of his experiments in nuclear fission. The formula explained the experimental results and the age of nuclear power was born. Today Einstein's special relativity theory is, perhaps, the most practical and best verified branches of physics.



A problem arose in 1974 when a British physicist proposed an experiment that proved that the theory was not without some curious inconsistencies. The experiment is easily described. Imagine a one-foot arrow rocketing through space at near the speed of light. At the same time, a zero thickness square plane parallel to the flat arrow is traveling at a small fraction of the speed of light perpendicular to the arrow such that they will soon collide. When this happens the centers of both the plane and arrow will occupy the same point in space. The plane has a one-foot circular hole in it. The center of the hole is also the center of the plane. If the arrow were placed within the hole in the plane when both were at zero speed, then the arrow would barely miss fitting (both being 1 foot). However, when these two objects collide at near-light speeds something unexpected happens.

First, let's examine what happens during this event from the perspective of a rider on the plane. The rider sees the arrow approaching on a collision course at near the speed of light. As a result the arrow is Lorentz-contracted to a fraction of its original length and at

the instant of expected collision the arrow passes right through the plane without touching the sides of the hole (still at 1 ft. since it was traveling at the same speed as the observer).

Now let's examine the *same* event from the perspective of a rider on the arrow. This rider sees the plane (and hole) approaching at near the speed of light. Because of speed of approach, the hole is Lorentz-contracted to a fraction of its original diameter. This time at the instant of expected collision there is no longer any room for the arrow to pass through the hole (now being only a fraction of the needed diameter) and impact occurs.

The problem is that the theory proposes that while the perspectives on what was observed may have been different, the result of the collision course *must* be either a collision or a near miss, but *not both*. If the same scenario were possible in automobiles, then one driver would have been killed in the collision while the other driver experienced a near miss *in the same accident*. This is, of course, impossible (but would make for a great science fiction movie).

You may recall from the previous description of the scientific method you need only show that a theory is wrong once for it to be disproved. That is not to say that nuclear power doesn't work. E still equals mc^2 , but it's a little less clear as to why.

13. PSYCHOLOGY—Researchers of personality and social psychology have a lot in common, says psychologist Rae Carlson; both groups have little of significance to say either about persons in society or individuals personality because they rely on faulty assumptions and inadequate research methods. According to Carlson, published studies routinely fail to define their groups properly to exclude mixing such diverse influences as religion, occupation, ethnicity, and social class. Almost 9 out of 10 social psychology studies failed to meet expectations. The picture was about the same for personality studies.
- C. CONCLUSION—Science is the ‘philosophy’ that *all* truth can be unveiled by inductive and deductive reasoning. That is simply not the case. The scientific method is, by design, quite adequate for determining physical, reproducible truth, but is wholly inadequate for determining metaphysical and past, non-reproducible truth.
1. Because the public has so little understanding of science in general and those that do understand it are not in the business of promoting its limitations science has, in the minds of many (particularly the young), become elevated to the status of religion.
 2. Our system of free enterprise has had another detrimental effect on scientific research. Science must show progress to justify continued funding (and salaries). The effect of this pressure is to prematurely elevate ‘hypothesis’ to ‘theory’ and ‘theory’ to ‘law’ to show progress. Progress becomes the goal rather than truth. This acts to promote a growing dichotomy between ‘truth’ and (pseudo)science. Because of the emphasis on progress rather than truth, research tends to take the path of least resistance—to under gird prevailing momentum. This reduces the risk that research may be judged eccentric relative to prevailing conceptions (rather than objective fact). Risk-takers are rewarded by the possibility of steering the current momentum in a *slightly* different direction (radical change is dismissed as eccentricity—the polite description) and receiving the honor and credit for doing so. The success or failure of the scientific risk-taker depends less on the merits of the research than on the political considerations, prevailing winds for change, timing, etc.

3. Science has run amok. However, so has religion! The same influences that taint scientific research are also active in Bible colleges, seminaries and University religion departments worldwide. The same abuses take place. The same personal or group agendas are at work. There is no safe haven to be found in ‘established religion’ (not even in ‘so called’ Christianity). Science and religion have become the extremes on the same philosophical line. It is humanity in general that has run amok (or, more accurately, “that is at enmity with God” [James 4:4]).

Timothy, keep that which is committed to thy trust, avoiding profane and vain babblings, and oppositions of science falsely so called. —[1 Timothy 6:20]

Evolutionary Philosophy

- A. Believe it or not, philosophy has a major impact on your life.
 1. Your own personal philosophy, the philosophy of your friends, boss, state legislators, federal administrators, world philosophy—all affect you directly or indirectly.
 2. Where do these philosophical ideas come from?
 - a. Usually through subtle influence throughout your life. Your parents were a strong influence. School teachers, military service, the media—all of these, and more, affect your thinking so that with time they are changed, or molded, usually to fit ‘the times.’
 - b. Try this next time you are with your friends. When you hear a social or political issue being raised say, “Well, if you want my opinion . . .” Since it’s rare that any two philosophies are alike, then that will generally invite a chorus of other opinions. Most of the opinions will differ, at least slightly, as each individual interprets the facts and draws a different conclusion from the same facts, based on their various philosophies.
- B. To examine the philosophies behind evolution we must first examine how you, as an individual, learn. Today, as you read this, and every day of your life, you are learning. You are doing so in many different ways, but I’ve lumped them together into three basic methods.
 1. The first is ‘empiricism,’ that is, learning through your senses.
 - a. Seeing, hearing, smelling, tasting, feeling, balancing are all methods we employ to learn by.
 - b. You learned that you disliked certain foods by their taste. That’s an example of empiricism.
 - c. When you talk of a ‘windy day’ to someone it conjures up memories of windy days of the past when that person say the effects of the wind: bending trees, newspapers blowing down the street and being pressed flat against a chain link fence, etc. If you say ‘bitter wind’ the person may recall the mental image a man or woman leaning into the wind, coat tail flapping, collar pulled up snug around their neck, hat pulled down over their eyes, squinting as they advance. ‘Bitter’ means little unless you have experienced ‘bitter’ wind, just as fear means little unless you have experienced fear.
 2. The second will be called ‘rationalism’.

- a. Rationalism is the ability to learn through logical reasoning. As an example, I'll use a hammer. I don't need to see a hammer fall to know that it will fall. I can deduce that it must fall if I drop it because as long as I am held to the earth by gravity, then the hammer will also be drawn to the earth by gravity.
- b. In mathematics this method of learning is predominate. We all learn to reason our way to a logical solution to math problems by the application of known laws through deduction.
 - 1.) Sometimes this is more difficult than it appears. In 'plane geometry,' you learned that a triangle has three sides and the sum of the enclosed angles was 180 degrees. So, if I told you that I could draw a triangle with three 90-degree angles in it you would 'reason' that I was wrong, that it couldn't be done. It can, of course, but I tricked you into making an assumption that was false. I never said that my triangle was limited to a plane. Solid geometry allows such triangle to be drawn (on the surface of a sphere). The lesson to be learned is while our reasoning may be perfectly valid we may be done in by our assumptions.
3. The third, and last, method of learning is by 'faith.'
 - a. As a child, you learned the names and locations of all the continents. You 'believed' your teacher—not because you had visited any of those places (and you certainly couldn't rationalize their existence), but because you had faith in your teacher. It was years later before you actually visited those places or recognized them on the evening news.
 - b. Perhaps as an adult you believe—as I do—that moon landings actually occurred. If you do, then you do so on faith and not because of rationalism (to many assumptions), or empiricism (you can't relate to their experience).
 - c. You still believe a great deal of information today based on faith.
 - 1.) Do you dress based on the weather report?
 - 2.) Do you avoid certain roads based on accident reports on the radio?
 - 3.) Do you believe your secretary when she tells you about phone messages?
 - 4.) Do you believe your children when they tell you they have a stomachache (assuming it's *not* a school test morning, or in front of food they don't like)?
- C. Okay, there you have it—the three basic methods of learning. Now let's see how it is going to affect our philosophy concerning the subject of evolution versus creation. The best way to do this is to examine, briefly, the arguments from both sides and then determine what method of learning was used to arrive at each viewpoint.
 1. (fade in as we join a debate—already in progress) . . .

EVOLUTIONIST: "If the god of the Bible does exist, then how come there is so much evil and misery in the world? How could a good and merciful god allow that to happen?"

CHRISTIAN: "Goodness and love mean nothing to us unless contrasted with evil and hate. God doesn't *cause* evil, He *allows* it. God tolerates it because it pressures us to make decisions between good and evil. God loves us and wants us to love Him and do good, but a love of God and doing good would be meaningless and mechanical if there

was no other choices to make.”

Concerning the law of cause and effect (i.e., the cause is always greater than the effect) explain the ‘effect’ of personality in animals and man without a greater cause?”

EVOLUTIONIST: “The cause was *need*. Fear and distrust are early examples of personality development required for survival. As society advanced the needs grew, therefore, personalities grew.”

CHRISTIAN: “If personalities grew as society changed, then we should expect to see personalities still growing today, still forming new traits. Yet, personality traits appear to be just as complex in ancient societies as they are today. Even remote tribes found today who have not developed the complex societies that we have still exhibit the same personality traits as we.”

EVOLUTIONIST: “The societies that are available for examination do not span a sufficient length of time to test our ideas, but we believe them to be true none-the-less.”

Creation is a holdover from man’s past. When there was no science to explain phenomena it was blamed on magical, mystical forces. Creationism is no different. Only people who don’t know any better believe it. I could just as easily say earth was created five minutes ago—including the appearance of age and your memories of the past and who could prove that I was wrong?”

CHRISTIAN: “If that were so, further debates on science and religion would be mute. As far as Creationists being ignorant concerning the truth about the world’s beginnings—not true! We believe that the Bible clearly states how the world began. What amazes us is that evolutionists have never attempted to answer the hard questions—Where did it all begin? How did mass and energy first come into existence? What keeps physical constants constant? Not only does the evolutionist not know, but he or she hasn’t any theories.”

EVOLUTIONIST: “Maybe so, but how can you believe in the absolute authority of a book written so many years ago and retranslated so many times? What authority does it have over science?”

CREATIONIST: “I believe the Bible because I have faith that it is the Word of God. Sure many different men over a period of thousands of years were used by God to write the Bible. Were they honest men or dishonest con artists pulling off the greatest con in history—the Christian faith? It’s easy to imagine honest men writing the Bible, but it’s hard to imagine dishonest men gaining anything by writing the Bible. By doing so, they guaranteed a life of persecution and hardship. As a con, it hardly seems like a worthwhile effort, does it? Since it is more reasonable to believe that good, honest men wrote the Bible, and then since good, honest men don’t lie, I believe them when they agree that God inspired them. It seems unreasonable to believe otherwise. Those same good, honest men who claimed to be inspired by God also claimed that God would maintain the accuracy of the Bible throughout time.

EVOLUTIONIST: “Then how come there are so many bibles out today, each claiming to be an improvement in accuracy over its predecessors?”

CREATIONIST: “God promised only that His Word would be always be here—not that He would prevent counterfeiting. It’s quite easy to eliminate most counterfeits. Simply read the introduction and/or preface. Do the editors claim 100% accuracy? Since God promises to maintain 100% accuracy, then any claim otherwise is admission that the translation is *not* thought by the editors to be God’s Word.”

EVOLUTIONIST: “What about the final authority question. Why should the Bible be a

higher authority than science? When there is a contradiction between science and Biblical assertions, which is more valid?"

CREATIONIST: "That situation shouldn't arise. Disagreements are the result of pseudoscience or misunderstandings of Scripture. True science and correct Biblical teaching would not disagree. They both are representing truth, right? I have never found a disagreement between science and the Bible [I teach science]. Any apparent discrepancies were either misrepresented science, or misrepresented scripture (both are prevalent).

- a. Having finished this fictional conversation, let us review their individual philosophies. To be honest there is little difference between the evolutionist and the creationist in this respect. They both believe based on faith. Evolution, like Christianity, is a faith. Neither can be proven by the scientific method.

"Our FAITH in evolution remains unshaken."—[Evolutionary Faith and Modern Doubts" lecture series by the American Association for the Advancement of Science]

"Our FAITH in the idea of evolution depends on our reluctance to accept the antagonistic doctrine of special creation." —[Prof. Louis T. Moore of the Univ. of Cincinnati speaking at Princeton Univ.]

- 1.) Examine these quotes and you will recognize evolution for what it is—a type of atheistic faith. It is the product of Humanistic faith (Humanism). Why is it so widely believed?
 - a.) The first reason is the total trust today's society places in the pronouncements of anyone who claims to be a scientist.
 - b.) The second is the lack of discernment by the general population between science and pseudoscience.
 - c.) The third is a general intellectual decline among theological institutions that manifests itself as various forms of neo-orthodoxy.
 - 2.) The 'faith' referred to by these quoted adherents of evolution is Humanism. Humanism must deny the creation of man and, therefore, the fall of man and the need for redemption. It aims to replace God with mankind's intellect as the controller of our destiny. It replaces fixed morals with situational ethics. The result is that evolution becomes the cornerstone from which humanism, then socialism, and finally communism spring. Communism is Humanism's answer to God's Kingdom theocracy. Does not history bear this truth out?
2. THERMODYNAMICS—Evolutionists avoid this subject altogether because it is of no use to them. This science, however, holds many truths with which the Christian may support creation.
 - a. KELVIN'S LAWS OF THERMODYNAMICS—Back in the days of Darwin lived another man named Lord Kelvin. Lord Kelvin was a scientist and was thirty-five years old when Darwin's 'Origin of Species' was published. Kelvin is best remembered for his contribution to the physical sciences. It was primarily through his effort

that the laws of thermodynamics were produced. Those laws are explained as follows:

- 1.) 1st Law—You can't get something for nothing. Energy is neither created nor destroyed—only altered in form. This holds true even in our 'nuclear age' where we find that mass can be treated as 'congealed' energy. How much congealed energy? That formula was given by Einstein's famous $E=mc^2$. The formula was applied by the scientist Enrico Fermi with the result that 932Mev (million electron volts) of energy were released per atomic mass unit (amu, or, $\frac{1}{12}$ th the size of a C^{12} atom). This means that there is enough total energy in one gram of material to power a typical household for thirty years.
 - 2.) 2nd Law—You can't break even either. There is no such thing as a mechanism, or process that is 100% efficient. This is the law that precludes perpetual motion machines. In even the most efficient process there is friction. Friction produces waste heat. This waste of energy that can't be recovered is given a name. It is called 'entropy.' Friction is one common example of entropy.
 - 3.) 3rd Law—At absolute zero the first two laws don't count.' Absolute zero is the coldest temperature that can exist (Yes, I know that I am flirting with the blue-green paradox). Since heat is a measure of molecular vibration, then it may be said that as you get colder the vibration of molecules in a substance becomes less energetic. For example, at 500°F the molecules of a substance vibrate randomly at a rate greater than 2000 ft/sec. When the temperature is lowered and all vibration eventually stops you are as cold as 'cold' gets. That temperature is at -463°F (0° Rankin), or, -273°C (0° Kelvin). Since heat is a form of energy and entropy is wasted energy, then it stands to reason that at absolute zero there is no entropy. Since the first two laws are based on the concept of entropy, then they simply don't apply at absolute zero.
- b. APPLYING KELVIN'S LAWS TO EVOLUTIONARY THEORY—Let's try a simple illustration.
- a.) If I impart kinetic energy to a ball by rolling it on the floor, then I have a simple process. The more kinetic energy I impart, the faster the ball rolls (all else being equal).
 - b.) The second law says that I must lose energy in every process. In this case, the energy is lost to friction between the ball and the floor. As long as the ball is rolling, friction occurs.
 - c.) The first law says that the energy must come from somewhere. The only available sources of energy are the kinetic energy of the ball and the mass of the ball. Since the ball doesn't undergo any chemical or nuclear reactions, then the mass can't contribute as an energy source. That leaves only the kinetic energy as a source.
 - d.) As I sap the kinetic energy to pay off the friction energy loss, the speed of the ball decreases until it finally stops.
- 2.) How does this apply to evolution?

- a.) The evolutionist claims that man evolved from microorganism to human—a process that, over a long period of time, goes from simple to complex. As each change takes place we move from a simpler organism to a more complex organism—evolving over billions of years from a single molecule of protein to the person we see in the mirror each morning. We have chance and random variation to thank for this uphill struggle.
- b.) This concept can be proven false by the applications of the thermodynamic laws.
- (i) By the first and second laws, chance and random variation do not produce higher order beings—they produce lower order beings.
 - (ii) Moving up the evolutionary ladder requires the application of *directed* energy, not chance and random variation. [This is where some evolutionists make their mistake in claiming that the earth is not a closed system because it is receiving sunlight and re-radiating energy back into space. The advantage to assuming an open system is that it allows ‘directed’ energy. Evolutionists must show that sunlight is directed energy if they mean to push the open system idea.]
 - (iii) To move up the ladder you need to properly apply enough energy not only to lift you to the next rung, but enough to overcome the loss to entropy. Here is where the issue of ‘directed’ energy becomes important. Undirected energy may push you in any direction (including down), not just up to the next rung.

Be careful here. This is not as clear-cut as it appears. Example: Wind is non-directed energy, but it can create wonderfully intricate patterns and dunes in sand. Do the intricate patterns developed indicate a designer? No, they don’t. The intricate patterns also do not represent an evolution of sand—just a curious (and beautiful) distribution.
 - (iv) What is the evolutionist asking you to believe? This illustration may serve to make it clear. Let’s disassemble a car halfway and put the half-car and remaining parts in a room. Now a large machine begins to shake the room (imparting random, ‘undirected’ energy). The evolutionist would have you believe that the pieces vibrating around the floor at random would eventually, by chance and random variation, reassemble into a functioning automobile. In fact, the car should work better! While it is true that the already loose car parts (and probably a few more that shake free of the car) may distribute themselves into intricate patterns on the floor as a function of the vibrational energy, the laws of thermodynamics say that not only will the pieces NOT reassemble themselves into a car, but the ‘half-car’ will shake loose parts until it has completely disassembled itself. The laws of thermodynamics say that the only way that the car could reassemble itself is to apply *directed* energy input (i.e., hire a couple of good mechanics).
 - (v) Which do you believe?

3. PALEOCHEMISTRY

“Once upon a time . . . perhaps two and one half billion years ago under a deadly sun, in an ammoniated ocean, topped by a poisonous atmosphere in the midst of a soup of organic molecules, a nucleic acid molecule came accidentally into being that could somehow bring about the existence of another like itself.” — [‘The Wellsprings of Life’; Isaac Asimov (1920-1992), 1962]

- a. In one sentence Mr. Asimov (famous science fiction author and Prof. of Biochemistry at Boston Univ.) had summed up the evolutionist’s theory of how life began. The choice of the words ‘accidental’ and ‘somehow’ are the key to recognizing the amount of proof to support the theory—none! While it is true that research plods forward and it’s also true that the media has tried to convince us that the origin of life question has already been solved (through their inability to differentiate between science and pseudoscience). We will take a hard look at what evidence *really* has come out of the evolutionist’s camp on this front.

1.) MILLER/UREY EXPERIMENTS

- a.) I suspect that every science enthusiast younger than I (and many older than I) will recall learning in school about the scientists who created life in a laboratory using a large glass bulb filled with the gasses suspected of being the building blocks of life and then zapping the concoction with electrical discharges to represent lightning.
- b.) Those experiments were called the ‘Miller/Urey’ experiments. The hypothesis was that by carefully sparking selected gasses like xenon, krypton, methane, ammonia and other organic gases (all thought to be components of a primal atmosphere by our two scientists) the all important chemical building blocks of life could be recreated as they were on earth billions of years ago. The result was some amino acids, a great deal of fanfare and a page in history.
- c.) What you were probably not aware of was the great deal of criticism they received from the scientific community—probably because the criticism never sells newspapers as well as the ‘discovery.’ The National Academy of Sciences (NAS) criticized the experiment’s ‘ideal’ environment saying that such environmental conditions would not be possible [pub. 55:1365,1966]. Why? Because:
 - (i) The content of the ‘primordial’ atmosphere is largely an educated guess.
 - (ii) Heavy gasses (like xenon and krypton) and light gasses (like methane and ammonia) would stratify in the atmosphere as they were formed.
 - (iii) Ammonia gas would be depleted by ultraviolet light from the sun at a rate faster than it could naturally form.

- (iv) These conditions would, according to the NAS render the implications of the Miller/Urey experiments meaningless since they had used an ‘impossible’ atmosphere rather than an ‘ideal’ one.

2.) LIFE AS A LEFT-HANDED AMINO ACID

- a.) Amino acids are complex molecules that, when linked together in the proper sequence, can form simple proteins. Proteins that become complex enough to reproduce themselves are properly called ‘life.’
- b.) *All* life forming amino acid chains are formed from 100% ‘left-handed’ amino acids. Although left and right-handed molecules are chemically identical (so far as we know) [That’s right, I’m flirting with the grue paradox again.] they are mirror images of one another. The ‘left’ and ‘right’ designation comes from each’s ability to bend polarized light. ‘Right-handed’ amino acids bend the light counter-clockwise.
- c.) The Miller/Urey experiments did not produce the required left-handed amino acids, so the claim by the media that life had been produced in a laboratory was false.
- d.) The highest concentration of left-handed amino acids to date was achieved by a man named Coppedge. He obtained a 60% left to 40% right ‘soup.’ [Through ‘directed’ energy, I might add.]
- e.) Science can say that they produced life when they reach the 100% left-handed concentration *and* coax the amino acid chains to form the required complex DNA proteins capable of reproducing themselves.
- f.) Mr. Keosain says that for years scientists have poked, prodded Petri dishes full of chemicals with light, sound, heat and radiation and the result has been Petri dishes full of poked, prodded, *still dead*, chemicals. [Not unlike my chemistry set when I was a kid.]
- g.) Even if scientists are successful what will it have proved? That man can coax life out of a Petri dish? The claim is that it occurred by random chance.

“The mystery may indeed be forever beyond human understanding.” —[World’s Work; Vernon Kellog]

“We admit this process, as long as it is not directly observed or repeated by experiment, remains pure hypothesis.” —[History of Creation; pg.348]

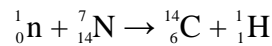
- 3.) SPONTANEOUS DNA GENERATION—The average protein cell has 300 amino acids must be linked in such a fashion as to allow reproduction. A DNA molecule controls this linking with over 1000 nucleotides in its chain. If we could somehow get the required amino acids spontaneously generated and in the same location as the spontaneously generated DNA then we would have a chance. The

possibility of either happening is pretty remote, but we'll examine the probability of spontaneous generation of the required DNA.

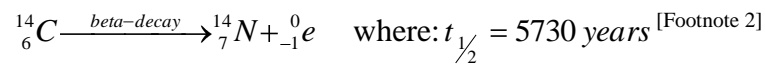
- a.) Since our DNA has about 1000 nucleotides in its chain and there are four types of nucleotides, then there are $4^{1000} = 1.15 * 10^{602}$ ways these nucleotides *could* combine. Since only one combination will suffice for our requirements, then the odds become 1 in $1.15 * 10^{602}$. That's one attempt in 1 with 603 zeros behind it!
 - b.) If astronomers are correct that the earth was formed by the 'Big Bang' (itself highly questionable) between 10 and 20 billion years ago. 15 billion years = $4.73 * 10^{17}$ seconds. Even with a combination rate of one billion attempts per second, then we have $(4.73e^{+17} \text{ sec.}) * (1e^{+9} \text{ attempts/sec.}) = 4.73e^{+26}$ attempts. The probability of the DNA occurring by chance after 15 billion years is $(4.73 E^{+26}) / (1.15 E^{+602})$, or, $4.11 E^{+576}:1$. How long are those odds? The odds would be the same as picking out the correct atom in a bucket large enough to hold more than 22 earths. Odds like that are enough to make even an atheist believe in God. [Yes, I'm kidding, I know that will never happen.]
- 4.) PROTEIN EVOLUTION—Now let's look at the probability that a protein could come into existence by gradual evolution.
- a.) Since the average protein molecule requires about 1500 bits of reproduction information we can calculate the odds of these bits occurring, one at a time (evolving), in the proper sequence as $3.5 E^{+451}:1$.
 - b.) That's the same as picking the right atom out of a bucket large enough to hold 17 earths.
- 5.) There you have it. Evolutionists would have you believe that they are right (without a close look at the odds) and creationists would have you believe that life was created in *nearly* its present form. Neither camp can prove their assertions. Both camps believe that they are right based on faith—a faith grounded either in humanism/atheism or Christianity.
4. GEOLOGY—The present science of geology owes a lot to a Mr. James Hutton who, in 1785, published a book titled 'Theory of the Earth.' The book was generally well received and soon became a prime teaching reference.
- a. UNIFORMITARIANISM—The significance of Mr. Hutton's book is that it introduced what is called 'Uniformitarianism' to the science of geology. What is *Uniformitarianism*? It is the idea that all processes we observe now can be extrapolated into either the future or the past. For example, if a geologic fault moved at a rate of about 2"/year and continued to do so for a few decades, then you might conclude that it has *always* moved at a rate of 2"/yr. and calculate the fault's motion over the last million years. You extrapolate the data. When you believe that extrapolation is a valid, scientific means of proof you can be said to believe in uniformitarianism. To include an extrapolation as part of a scientific proof is to assume that the process is uniform. Assumptions and proofs don't mix. Unfortunately, there is no such guarantee of uniformity in nature. Any proof that includes extrapolation is reduced to circumstantial evidence.

1.) RADIOACTIVE DATING AS UNIFORMITARIANISM IN ACTION—Let’s study radioactive dating as one example. A number of isotopic methods exist, but we will look at Carbon-14 dating since it is probably the most widely known.

a.) Here is how radiocarbon dating works. Energy from outside the earth (primarily the sun) is called cosmic radiation and is constantly streaming toward the earth in the form of gamma waves and subatomic particles. About 1% of this energy arrives at the earth as heavy nuclei (up to and including Iron— Fe^{26}). This causes reactions with atoms in the earth’s atmosphere that in turn cause showers of sub-atomic particles (about 3% neutron) to rain down from the atmosphere. Because there is a large percentage of nitrogen in the atmosphere, the neutron showers frequently interact with the nitrogen atoms. This interaction produces a radioactive isotope of carbon called C^{14} .



b.) While this C^{14} atom is still suspended in the air, it combines with two oxygen atoms to form radioactive carbon dioxide (CO^2). This radioactive version of CO^2 is chemically identical to normal CO^2 and is readily absorbed by plants, seawater, and animals. Eventually plants and animals will breathe, drink, eat, or otherwise absorb C^{14} as part of a routine ecological chain. If the production, absorption and decay rates of C^{14} are constant, then at some point an equilibrium concentration is reached as the absorption rate into living tissue (be it trees or people) exactly equals the rate of decay (where C^{14} beta decays back to a nitrogen with a half-life of 5730 years—shown below) and biological discharge.



c.) When the living tissue dies it ceases to absorb or discharge C^{14} . The amount remaining in the tissue at the time decreases with time as the C^{14} decays away at a known rate resulting in the half-life of 5730 years:

$$\frac{\ln\left(\frac{DPM/gm}{918}\right)}{1.7452E-4} = Age_{years}$$

d.) Since the decay rate of C^{14} appears to be constant, then it is assumed to have been constant forever. Thus, we can supposedly determine the age of once living materials by measuring the amount of remaining C^{14} and calculating the years required from equilibrium to their present level. Apparent ages over 70,000 yrs are beyond the range of this technique. Now, let’s examine the assumptions.

(i) It is important to note here that anything that impacts the production rate of 1_6C , the ratio of ${}^{12}_6C$: ${}^{14}_6C$, or the decay rate of ${}^{14}_6C$ will upset the equilibrium C^{14} .

² This is the predominant decay scheme. There is also a *very* slight chance that the C^{14} could alpha-decay to Be^{10} .

- (ii) For the period of history that we are extrapolating through the cosmic radiation levels must be constant. A significant change in cosmic radiation levels (by solar flare activity, star novas, gravitational strength changes, etc.) would change the amount of neutron/nitrogen reactions taking place and would alter the amount of C^{14} in the atmosphere to be absorbed by the living material. For example, an increase in the solar flare activity would act to increase the C^{14} levels in living matter. If the material died during or shortly after this period (and was checked thousands of years later) it would appear to be younger than it really was because it started with an initial C^{14} level higher than expected.
- (iii) The rate of reaction between neutrons and nitrogen in the atmosphere must remain the same. When a sub-atomic particle is acted on by a magnetic field the path of the particle will bend. The earth's magnetic field acts on the cosmic radiation causing some of the particles to either deflect away from the earth or be trapped into spinning around the lines of flux until they have given off all of their energy. At the equator (where the earth's magnetic lines of flux are the least dense) the least amount of cosmic shielding takes place. Nearer to the magnetic poles the density of the flux lines increases and the shielding effect increases. This effect produces the Van-Allen radiation belts and the Northern Lights. Because the magnetic field does not shield all of the radiation, some of the particles penetrate to the upper atmosphere and may react to eventually form C^{14} . Most of the C^{14} formation occurs at high geomagnetic latitudes and at altitudes of 30,000 to 50,000 feet.
- (iv) Any significant change occurring to the amount of radiation trapped in the atmosphere, any changes in the percentage of nitrogen in the atmosphere, the density of the atmosphere, etc. would act to alter the equilibrium C^{14} concentrations and render the dating method in error. Cornell Univ. and SRI International of Menlo Park, CA. and others have documented these changes. They linked large changes in the ionosphere to volcanic activity, earthquakes, tornados, seafloor hydrothermal venting, etc., thus, presenting a challenge to the presumed steady state reaction rates in the past.
- (v) In addition, another theory (called the Milankovitch theory) predicts that significant climate changes (and, thus, CO_2 levels) occur as the Earth undergoes periodic changes in its eccentricity, tilt, and procession. These changes create climate changes on 100,000, 41,000 and 23,000 years cycles. During these changes in climate, the amount of plant growth would vary considerably—and with it the amount of atmospheric CO_2 .
- (vi) Most geologists believe that because ferrous metals in apparently stable formations indicate reversed pole polarities (magnetic), then it is likely that the earth has changed polarities in the past. Since magnetic polarities are thought to be the result of strong electrical currents caused by magma movements under the earth's crust, then the changes would

not *normally* be instantaneous because this would call for an instant change in fluid motion. Some lengthy period (by our reckoning) would be required for the change in direction. Dr. Barnes of the Univ. of Texas at El Paso has strong evidence that the earth's magnetic field is changing (decreasing) and is doing so with a 1400-year half-life and a complete reversal every 500 thousand years. This means that with the passage of 1400 years the strength of the earth's magnetic field is reduced to one half of its previous value. If, as science says, the magnetic field isn't constant, then error is introduced into the determined age. That means a variation throughout history in the protection from radiation afforded. This does suggest serious ramifications for the accuracy of C^{14} radioactive dating. As the strength of the field increases less radiation occurs in the upper atmosphere (the Van Allen belts deflecting more radiation back out into space). This produces less C^{14} . Since ancient living matter absorbs less C^{14} to begin with, then it should be expected that less of the C^{14} remains today. Unfortunately, the smaller amounts of C^{14} are too frequently interpreted as an increase in age.

- (vii) The Earth's magnetic field does not act *that* predictably. Sudden, large, but short duration, fluctuations are frequently recorded in the strength of the magnetic field around the Earth. This is because the field itself is thought to be caused by magma motion under the earth's crust. The magma motion is not unlike that of the jet stream in the atmosphere. It twists and wiggles in sometimes-tortuous paths. Changes in the flow path cause fluctuations and warps in the strength of the magnetic field. The last reported fluctuation was a strong dip in 1969 that lasted for a year. Because these fluctuations can't be predicted, it throws into doubt previous dates that could not take into account either the timing or length of these fluctuations.
- (viii) Are we, in fact, at an equilibrium level of C^{14} in the atmosphere? If so, what is that level? Calculated production rates of C^{14} vary widely from 13.3 atoms/gm./min. to 27 atoms/gm./min. This translates into a *non-equilibrium* state of C^{14} production and to ages as young as 5000 years for the atmosphere. Again, serious threats to previous radiocarbon dating accuracies.
- (ix) The C^{14} absorption rates must remain constant. Plants absorb CO_2 to produce oxygen (O_2). The chemical process is independent of whether the carbon component of the CO_2 is radioactive or not. Therefore, as plants absorb CO_2 from the ecosystem a small percentage of it will contain C^{14} rather than the non-radioactive C^{12} (natural carbon). Any large-scale destruction of plant life by flood, ice age, volcanic activity, or any other climate changes induced by natural catastrophes would certainly alter absorption rates. It's a cinch that such calamities have occurred on numerous occasions: a 1975 study of the flying abilities of pterodactyls required a much denser atmosphere than previously thought (and a higher concentration of CO_2). The sea floor sediment contains a record of

the weather through tens of millions of years ago (assuming uniformitarianism, of course). While scientists previously thought that the earth was warm 30-60 million years ago, they also thought that it was tropical. Evidence that is more recent pointed toward warm, but arid weather.

- (x) Since the death of a specimen, the only change in the concentration of C^{14} has been due to radioactive decay. Nuclear decay is one method by which the C^{14} atom can change into another substance. Chemical reaction is another. To ignore the possibility of a change in C^{14} concentration due to chemical influence would be disastrous. The most prominent reaction is with calcium carbonate that dissolves to form bicarbonate in the presence of CO_2 . Experts do recognize this effect and make every effort to clean their samples, but they have no way of being sure that the cleaning was sufficient. The best they can do is minimize the possibility of error—not eliminate it. This error has resulted in the dating of living snails to 2,300 years old, growing trees to 10,000 years old, and 200-year-old lava flows to three billion years old. Unless someone had been standing around waiting to tell the researcher (as in those cases) that the snail was alive that very morning he would swear to this day that it was 2300 years old.
 - (xi) The decay rate remains constant. This may very well be true, but because you can't *prove* it's true, then some amount of doubt will always exist and, therefore, it cannot be stated as fact. Is it enough to say that you can't think of a single reason why it should change? Simply because we may be ignorant of the influences at work doesn't mean that those influences don't exist. [Remember GRUE?] After all, early scientists thought that the earth was flat and had no known reason to suppose otherwise. The same reasons always existed, but they were simply unaware of them.
- e.) To summarize our study of the radiocarbon dating technique we see that there are many assumptions being made. Because of the assumptions, the method can provide circumstantial evidence of age, but never fact. Other radio decay dating methods (potassium /argon, isotopic lead ratios, etc.) suffer from similar assumptions. They also render circumstantial evidence of age. In fact, when the methods are compared they often produce inconsistent results:
- (i) Volcanic rocks from Reunion Island in the Indian Ocean were once dated by multiple methods. Lead/Uranium and Lead/Lead ratios yielded ages of 2.2 to 4.5 billion years while Potassium/Argon results were 100,000 to 2 million years old (a 51% error band).
 - (ii) Lunar samples returned from Apollo 11 resulted in ages between 2.3 to 18 billion depending on the method used (an 87% error band).
 - (iii) Granite from the Black Hills has errors rates of 54%.
 - (iv) Some Russian volcanic rocks showed error rates of 99.6%.

(v) Volcanic rocks from Hawaii have shown error rates of 95%.

Puts radio dating into a completely new light, doesn't it?

- b. WHAT IF UNIFORMITARIANISM WERE TRUE—We have discussed the philosophy of uniformitarianism. We have also seen radiocarbon dating as one example. Just to show how this concept can be abused to prove anything you want (regardless of what the truth may be) let's examine the following uniformitarianist 'proofs' of the earth's age:
- 1.) Cosmic Dust: Since dust from space settles on the earth *now* at the rate of $4.38E-6$ "/yr (or, about $2E6$ tons/yr), then in the last $5E9$ years the earth would have accumulated $182'$ of cosmic dust ($9E12$ tons). Where did it go? If it were washed into the sea, then (because of the high nickel concentrations in the dust) the sea floor would be covered with 960 lbs. of nickel/ft². Therefore, the earth is quite young.
 - 2.) Cosmic Dust: Come to think of it, if the 'Big Bang' theory of the creation of the universe is true, then why does cosmic dust contain 300 times as much nickel and iron per pound than does the earth? If the universe is the result of an explosion of a homogeneous mass at the beginning of time, then all the planets would have similar concentrations, or, would have concentrations that would increase in the heavier elements as you got farther from the sun due to centrifugal stratification.
 - 3.) Sediment Redistribution: This year $27E+9$ tons of sediment will be transported by river erosion to the ocean. It has been reliably estimated that there is $3.83E+17$ tons of rock above sea level. At the current rates of erosion, the earth would be totally flat in $14E+6$ years—even accounting for fault action. This must mean that the earth is much younger than 14 million years.
 - 4.) Lava flows: This year approximately ten square kilometers of lava will be added to the earth's surface. Because the surface of the earth contains only $5E+9$ km² of lava, then the earth can only be $5E+8$ years old.
 - 5.) Earth's Magnetic Field: Since the earth's magnetic field decays to half of its original value every 1400 years, then only 10,000 years ago our magnetic flux would have equaled that of a magnetic star. Since the magnetic flux is thought to be produced by the motion of magma beneath the earth's surface then it stands to reason that the amount of motion required to produce the flux of a magnetic star would be enormous. That amount of motion would also generate enormous amounts of heat to be radiated out into space from the Earth's surface—way too much heat to support animal life on the surface.
 - 6.) Population Growth: The formula for real population growth is $P_f = 2 (P_o + R)^Y$ [Where: P_f = final population, P_o = initial population (>0), R = growth rate in percent, Y = number of years.]
The growth rate *now* is 2%/yr. (counting famines, wars, etc.). Assuming man is a modest $1E+6$ years old, then the population today would be $10E+2100$ (rather than the estimated actual population of $5E+9$). Solving for years and using the $5E+9$ number, then mankind must be only 563 years old.

- c. Do all of these ‘proofs’ seem ridiculous? No more so than the ‘scientific evidence (?)’ used to support evolution. What am I doing wrong? I’m *assuming* that measurements, like the rate of lava flow, dust accumulation, etc. can be extrapolated into the past without one shred of evidence to support the extrapolation as a valid one. Now that you have been queued in on what to look for you will be able to spot these same techniques when used.
- d. THE BIBLE’S ANSWER TO UNIFORMITARIANISM—What does the Bible say about the earth’s history? Unfortunately, the bible is not a geological textbook, but it does answer some fundamental questions.
 - 1.) Genesis teaches us that the universe was created out of the power of God—a direct transfer of energy into mass. [Remember $E=mc^2$?] It also teaches that this was accomplished in six ‘days.’ The English translation of ‘day’ is subjective as to its interpretation. This led to the promotion that the ‘days’ might have been tens of millions of years old (to correlate with the uniformitarianist view). The view was first promoted [to my knowledge] by Edmund Halley (who also dabbled in geology and proposed that the earth’s age should be determined based on the saltiness of the ocean).
 - 2.) The Hebrew word from which ‘day’ was translated is pronounced as ‘yowm’ and is literally translated as “to be hot.” It is used (without adjectives like ‘everlasting’) to mean the daylight hours, or sometimes to a 24 hour period. Without adjectives, we must assume (arrrrgh!) that the context of Genesis is 24-hour days.
 - 3.) Nowhere in scripture are we told how long ago the creation occurred, but we are told in 2 Peter 3:5 that the universe was created old (full grown) so that it could immediately support life (just as Adam was created ‘full grown’). It does reduce the question of how old the earth *appears* to be to an academic one since, Biblically, the *apparent* age of the earth has no bearing on the actual age of the earth. It’s like asking how old Adam was when he was first created. He may have *appeared* to be a young man, but by the end of his first day, he was still only one day old.
- e. THE CIRCLE LOGIC OF GEOLOGICAL DATING—How do geologists establish the age of a particular stratum?
 - 1.) According to geology experts, the geologist doesn’t determine the age—the paleontologist does. These experts maintain that the types of fossils found within determine the age of a stratum. Of course, other methods exist, but the fossil record takes precedence over the other methods.
 - 2.) How does the paleontologist know how old the earth is? Simple—he asks the geologist. Does that sound like circular logic? It sure does! In other words, the geologist relies primarily on the fossil record (evolutionary theory) to positively date rocks and the paleontologist relies on the geologist to tell him how old the rock is where the fossil is found. This is how the process was described by C. O. Dunbar of the Geological Society of America
- 5. PALEONTOLOGY—The science of paleontology is one that concerns itself with the study of ancient life forms and their apparent relationship to one another.

- a. These are the men and women who are responsible for keeping the theory of evolution alive because it is their livelihood—no evolution means no food on the table.
- b. DARWIN AND HIS THEORY—It should be stated that there are two types of evolution.
 - 1.) The first is called ‘microevolution’ and addresses the process of natural selection (evolution) among species of the same genera.
 - a.) A natural species may be defined as a group of organisms with common marked characteristics freely interbreeding to produce fertile offspring (i.e., canine, feline, etc.).
 - b.) The Bible does not disallow microevolution (in fact, that may be what is meant by “after their own kind”).
 - 2.) The other type of evolution is referred to as ‘macroevolution’ and addresses evolution across genera lines (e.g., canine to feline).
 - a.) Scripture stands against macroevolution (e.g., only one pair of animals would be needed on the Ark).
 - b.) Darwin agrees with microevolution and that’s good. He also espouses macroevolution and that’s where the problem arises.
 - 3.) Introduction—The following details of Darwin’s life and theory are from Origin of Species
 - a.) First, his views on microevolution . . .

“I can entertain no doubt . . . that the view . . . which I formerly entertained--namely, that each species has been independently created—is erroneous. I am fully convinced that species are not immutable; but that those belonging to what are called the same genera are lineal descendants of some other and generally extinct species, in the same manner as the acknowledged varieties of any one species are the descendants of that species.” [p.24]

“I do not believe, as we shall presently see, that the whole amount of difference between several breeds of the dog has been produced under domestication; I believe that a small part of the difference is due to their being descended from distinct species. In the case of strongly marked races [breed, or sub-species] of some other domesticated species, there is presumptive or even strong evidence, that all are descended from a single wild stock.” [p.34]

“With respect to horses, from reasons which I cannot give here, I am doubtfully inclined to believe, in opposition to several authors, that all the races [breed, or sub-species] belong to the same species . . . in regard to ducks and rabbits, some breeds of which differ much

from each other, the evidence is clear that they are descended from the common wild duck and rabbit” [p.36]

- b.) Darwin was influenced, to some extent, by ‘uniformitarianism’ in geology. He viewed the small changes to a species by natural selection as a process similar to geologic processes.

“..and as modern geology has almost banished such views as the excavation of a great valley by a single diluvial wave, so will natural selection banish the belief of the continued creation of new organic beings, or of any great and sudden modification in their structure.” [p.109]

- (i) Notice, Darwin is not trashing microevolution.
- c.) Was It Really Darwin’s Theory?
- (i) No. The idea can be traced back to the Greek philosophers Empedocles and Aristotle. By the generation before and during Darwin’s the concept had been fairly well defined by the efforts of Buffon, Lamarck, Saint-Hilaire, Wells, Herbert, Grant, Matthew, Von Buch, Rafinesque, Halderman, d’Halloy, Owen, Freke, Spencer, Naudin, Keyserling, Schaaffhausen, Lecoq, Powell, Wallace, Von Baer, Huxley, Hooker and Darwin’s grandfather—Erasmus Darwin. Darwin merely placed the puzzle pieces together in a public forum.
- d.) Variation: Domestication vs. Nature—The common understanding is that domestication and breeding (hence variety) is a fairly recent undertaking of mankind.
- (i) Darwin [p.48-50] points out that this is not the case, citing ancient Chinese references, Roman classical writers, and even the Bible.
- (ii) He cites similar practices reported by sociologists among native tribes in Africa and comes to the conclusion that much of the variety today among domestic animals is due to eons of man’s influence and not ‘natural selection.’
- (iii) Darwin’s observations in this area [pg.25, 82-92] was that there was clearly more varieties to be found among a cultivated species (or more species within a cultivated genera) than there was to be found among wild species (or wild genera). He suggests that Andrew Knight holds the key to this explanation in his theory that variety within a genera, or species, is proportional to the amount of food available.
- (iv) When macro evolutionists point to the variety of species produced under cultivation, they rarely remind their audience that harsher natural conditions aren’t so permitting. When was the last time you heard of, or saw, animals from different genera breeding without man’s direct influ-

ence? Even within a genus animals naturally tend to breed only with those of similar species. This was Darwin's conclusion, too.

“ . . . I can bring forward a considerable body of facts showing that within the same area, two varieties of the same animal may long remain distinct, from haunting different stations, from breeding at slightly different seasons, or from the individuals of each variety preferring to pair together.” [p.115]

- (v) In fact, in Darwin's example (a figure between p.128 & 129) he carefully traces 14 generations of 11 species of the same genera and never once records an example of cross species breeding. He eventually extrapolates his findings out to 10,000 generations with the same result. Does that make Darwin a racist, or a realist? That shouldn't come as any surprise to Americans who live in a plural culture, yet overwhelmingly tend to marry within their own racial stock. Far from being racist, it simply illustrates Darwin's finding that, for the vast majority of cases, a species is less likely to be attracted to those of a different species.
- (a) This observation also raises problems for religious humanists. While humanism seeks to better the lot of mankind (genus) so as to produce harmony (through homogenization of human species) it would seem that the better mankind's lot is the more diversity is produced. The resulting diversity is at odds with the harmonious objective. Since religious humanism recognizes only nature, then it finds itself at odds with its own law of 'survival of the fittest'—a product of its own 'science.'
- (b) Consider Darwin's remarks . . .

“...the truth of the principle that the greatest amount of life can be supported by great diversification of structure, is seen under many natural circumstances.”
[p.124]

Darwin was also careful to address the fact that 'natural selection' was not foregone conclusion.

“The mere lapse of time by itself does nothing, either for or against natural selection. I state this because it has been erroneously asserted that the element of time has been assumed by me to play an all-important part in modifying species, as if all the forms of life were necessarily undergoing change through some innate law.” [pg.117]

- 4.) DARWIN'S OWN OBJECTIONS—Darwin himself recognized that there were some serious problems with the theory, as it applies to macroevolution, that were not adequately explained by the available evidence. Nevertheless, he hoped that sufficient evidence would eventually surface to support the theory.

a.) Against the Hypothesis

“But, as by this theory, innumerable transitional forms must have existed, why do we not find them imbedded in countless numbers in the crust of the earth?” [p.179]

“To suppose that the eye with all its inimitable contrivances for adjusting the focus to different distances, for admitting different amounts of light, and for the correction of spherical and chromatic aberration, could have been formed by natural selection, seems, I freely confess, absurd in the highest degree.” [p.190]

“ . . . but I have felt the difficulty far too keenly to be surprised at others hesitating to extend the principle of natural selection to so startling a length.” [p.193]

“The electric organs of fishes offer another case of special difficulty; for it is impossible to conceive by what steps these wondrous organs have been produced.” [p.198]

“Natural selection will never produce in a being any structure more injurious than beneficial to that being, for natural selection acts solely by and for the good of each.” [p.213, emphasis mine]

b.) Then, strangely enough . . .

“I fully admit that many structures [organs] are now of no direct use to their possessors, and may never have been of any use to their progenitors . . . ” [p.210]

“...we have no good evidence of the existence in organic beings of an innate tendency towards progressive development . . . ” [p.228]

“Now what special difficulty would there be in natural selection preserving all the slight individual variations in the shape of the [bird’s] beak, which were better and better adapted to break open seeds, until a beak was formed . . . at the same time that habit, or compulsion, or spontaneous variation of taste, led the bird to become more and more of a seed eater?” [p.289]

- c.) The problem with such an assumption is that Darwin has already established that natural selection “acts solely by and for the good of each” on page 213. He now requires the beak to undergo numerous minor changes that, individually, are not adequate to allow the bird to eat seeds. Since the individual change would not benefit the bird, a violation of his premise exists.

“I cannot here give references and authorities for my several statements.” [p.21]

“No doubt errors will have crept in,…” [p.21]

“For I am well aware that scarcely a single point is discussed in this volume on which facts cannot be adduced, often apparently leading to conclusions directly opposite to those at which I have arrived.” [p.22]

“Darwin did not show in the Origin that species had originated by natural selection; he merely showed, on the basis of certain facts and assumptions, how this may have happened, and as he had convinced himself he was able to convince others.”³⁶

- 5.) THE NATURE OF DARWIN’S WORK—Darwin is held up as an example of how science is done. Unfortunately, the evidence leads one to a different conclusion. In one chapter (Chapter 4) covering natural selection the following unscientific phrases are used: “may have been,” “is supposed to,” “perhaps,” “if we suppose,” “may still be,” “we have only to suppose,” “as I believe,” “it is probable,” “I have assumed,” “are supposed,” “will generally tend,” “may,” etc. Not exactly the language of science.

c. THE FOSSIL RECORD

1.) Fruit Fly Experiments

*“And yet, the lowly fruit fly, which has been a mainstay of genetic experiments for more than seven decades and—despite mutations—has undergone some 2500 generations in that time, has not shown the slightest inclination to display itself as a new species.”*²⁹

2.) Amber Finds

- a.) The primitive insects found preserved in amber (cockroaches, ants, dragonflies, bees, mosquitoes (shown) etc.) show no significant changes (missing link data) from those same life forms today.^{37 38 39 46}
- b.) Consider the following statement:

*“The clear yellow, highly fractured sample looking just like smaller specimens of the amber type that I had collected, held insects, including one I could have sworn was a bee. But this would be impossible, I thought. Bees were unknown from the Cretaceous; the earliest known bee in Baltic amber dating from the Eocene, 40 million years ago, half the age of the globule I held in my hand. But under the microscope I confirmed my suspicion . . . It displays features shared only by one living ‘Trigona’ species, apparently its closest relative, which is found today from Brazil to Panama.”*⁵⁷

Grimaldi had found an 80 million year old stingless bee. He recognized it even through the fractured amber. On close inspection, he found it to be similar to living bees.

3.) Missing Link Fossils

- a.) British Naturalist Douglas Dewer claimed that the earliest fossils that exist of each class of species is not partially developed, as the theory of evolution would predict, but essentially the same as today.
- b.) Dr. Herbert Nilsson, Prof. of Botany at the Univ. of Lund in Sweden, says that his 40 years of experimentation to demonstrate evolution was possible was all failure. [Do you suppose he was testing a falsifiable hypothesis?]
- c.) Paleontologists at Harvard and also at the American and British Museums have stated categorically that to their knowledge no ‘missing links’ fossils in any species exist.
- d.) Dr. Austin Clarke of the U.S. National Museum, Prof. T.D. Cockrell of the Univ. of Colorado and Prof. Caullery of the Chair of Evolution at the Univ. of Paris have all publicly stated that there are *no* fossils of any transitional stages (missing links).

“If we confine ourselves to the positively ascertained facts, the total amount of change in the forms of animals and vege-

table life, since the existence of such forms is recorded is small.” [Thomas Huxley]

“Darwin clearly understood that the basic mechanics of natural selection offered no statement about progress . . . a case or two in the fossil record does not establish a pattern. Directional trends . . . do occur, but they scarcely cry for recognition from every quarry and hillslope. The overwhelming majority of paleontological trends tell no obvious story . . . concepts without percepts are empty . . . however interesting or elegant in the abstract, will have no power without empirical documentation from the fossil record.” [These statements are from the most outspoken advocate of evolution from my generation—Stephen J. Gould of Harvard Univ.]⁴⁴

“Yet when fossils are most abundant during substantial stretches of time, well-represented species are usually stable throughout their temporal range, or alter so little and in such superficial ways (usually in size alone), that an extrapolation of observed change into longer periods of geological time could not possibly yield the extensive modifications that mark general pathways of evolution in larger groups. Most of the time, when the evidence is best, nothing much happens to most species . . . when fossils are most common, evolution is most rarely observed . . . again, we note the paradox: nothing much happens for most of the time when evidence abounds . . . stability is the usual nature of species and systems at any moment.” [S.J. Gould]⁴⁶

“But how do you get from nothing to such an elaborate something if evolution must proceed through a long sequence of intermediate stages, each favored by natural selection? You can't fly with 2% of a wing or gain much protection from an iota's similarity with a potentially concealing piece of vegetation . . . we have so little firm, direct evidence for such functional shifts . . . How, in other words, can natural selection explain these incipient stages of structures that can only be used (as we now observe them) in much more elaborated form? . . . Mivart identified this problem as primary, and it remains so today . . . Darwin's theory is rooted in the proposition that natural selection is the primary creative force in evolutionary change . . . If new species arise all at once in an occasional lucky gulp, then [natural] selection has no creative role . . . He did not think that any old complex set of

changes could arise all at once by itself--that would be tantamount to miracle . . . [you bet it would—exactly what creationists have been saying all along] . . . If complexity precludes sudden origin, and the dilemma of incipient stages forbids gradual development, then how can we [evolutionists] get from here to there?” [S.J. Gould] ⁴⁷

- e.) In fact, *all* the well-publicized [Read as, “that I know about...”] ‘missing links’ in man’s evolutionary chain have proved to be untrue. That seems to be the conclusion of a Newsweek article (11/3/80) that stated the “*missing links between man and ape are phantom creatures. The more they look the more they are frustrated*” and of Dr. Kitt who claimed that there were “*nasty gaps*” in the fossil record “*that Paleontology can’t reconcile*” [Journal of Evolution, Vol.28,’74]

The problem is that no one recalls the publications and the general public never hears of the retractions. As if that wasn’t bad enough, the desire to show evolution to be true is so strong among some scientists(?) that information to the contrary is often suppressed.

“Many finds which have failed to satisfy the demands of science on one or more points of geological position, associated animal remains, associated implements of human manufacture and morphological form have been temporarily placed to one side to await the possibility of future discoveries throwing some light on their position.” [Prof. G.M. Price of the American Museum of Natural History]

- f.) Homo Erectus

- (i) The most complete skeleton of any human ancestor was found in 1984 in Kenya by Dr. Richard Leakey. They were determined to be of the class of ‘pre-humans’ known as Homo Erectus.
- (ii) The remains were of a boy (narrow pelvis) about 12 years old (based on tooth development) and already 5’6” tall. His estimated adult height was 6.’
- (iii) How does this fit in the evolution picture? Try this quote from Alan Walker of Johns Hopkins Univ. (Leakey’s partner).

“We can now say that we’ve looked like humans for 1.6 million years.” ⁶⁴

- g.) Neanderthal Man

- (i) In 1856 some men digging in caves in Western Germany uncovered most of the skull and several bones of what has since become known as the ‘Neanderthal Man.’

- (ii) His brain capacity was estimated to be 1330cc—somewhat smaller than the average American brain of 1600cc and much smaller than the Cro-Magnon brain.
- (iii) His bones soon became the basis on which fanciful paintings of what he must have appeared like began cropping up. These paintings showed a small man-like creature with hair covering his body and holding a stone utensil with eyes set into a sloping forehead (99% imagination and 1% fact).
- (iv) The truth is that he probably did have a sloping forehead. So did Lafayette. So what does that prove? Look in any college yearbook today and you will find examples of the same slope. Are they living links to the past? Of course not.
- (v) Yes, a 1330cc brain is smaller than the average American brain today, but it happens to be exactly the brain size of the average European male today (where the skull was found).
- (vi) Was he short? Yes he was. So what? You don't know any vertically-challenged people?.
- (vii) Of course, the hairy body is pure imagination at best and purposely deceptive at worst.
- (viii) Since the discovery, tooth enamel studies of Neanderthal remains indicate that enamel growth was similar to that of humans and not somewhere between that of human and great apes so there is no evidence that these remains were part of some 'missing link' to the past.²⁷
- (ix) Tooth enamel isn't all that has linked the Neanderthal to humanity, rather than an assignment as a missing link. The following statement was made by Karen Rosenberg of the Univ. of Michigan in Ann Arbor,

“The birth canals of Neanderthals are the same size as those of modern women of the same body weight. There is no evidence for major reproductive changes from Neanderthal to modern humans.”

h.) Java Man #1

- (i) The 'Java Man' (Pithecanthropus Erectus #1) was discovered by a man named Dubois in Sept., 1891 while digging in a Java riverbank.
- (ii) What he found was a molar tooth. One month later, he found a piece of skull 3 feet away. One year later, he found a thighbone 50 feet away. In Oct., 1892 he found a second molar tooth.
- (iii) All of this material was radio decay dated(?) as 500,000 years old.
- (iv) The release of this information, of course, drew out the artists and media again, but when Dubois brought the bones to the International Convention of Zoologists they gave him the thumbs down. Why? Be-

cause a riverbank is the feeding place for many animals and there was no established link saying the bones were even from the same creature.

- (v) Finally, in 1920 the Smithsonian Institute examined the remains and found all of it to be human—100% human (not half man, half ape), but still could not establish that they were from the same human. It would appear that the Java Man was nothing more than a collection of bones from early ancient, fully human ancestors who died somewhere in the vicinity or upstream (having their bones wash downstream).
- (vi) Naturally, none of the textbooks that were printed with the incorrect first reports were recalled.
- i.) Heidelberg Man
 - (i) In 1907, two workers found a jawbone in a sand pit in Germany. The bone was radio decay dated(?) as 250,000 years old. It became known as the ‘Heidelberg Man’ (Homo Heidelbergensis).
 - (ii) That one jawbone was later determined to be 100% human by the Smithsonian Institute and not a missing link.
- j.) Piltdown Man
 - (i) In 1908 some gravel yard diggers in the south of England were asked to keep an eye out for fossils. Sure enough, they shortly found what they thought to be a fossil of a skull fragment and turned it over to the man who had asked them to look. The man was named Dawson.
 - (ii) Over the next several years, Dawson found two more skull fragments and half of a jawbone.
 - (iii) A friend named Woodward found a third skull fragment.
 - (iv) Shortly afterward, a priest named Teilhard found a tooth in the same pit.
 - (v) These bones were estimated to be 500,000 years old and were called the ‘Piltdown Man’ (Eoanthropus Dawsoni).
 - (vi) The Encyclopedia Britannica called the discovery second only to the Java Man in importance (but they said it before 1920 when the Java Man hopes were dashed).
 - (vii) What was never emphasized was the fact that in this gravel pit were also found the bones of a number of other animals.
 - (viii) In Oct., 1956, a team of experts from the Univ. of London, the French Museum of Natural History and Yale Univ. had concluded that the teeth had been filed down and artificially colored to disguise their true source and age. In other words, the affair was a hoax.
- k.) Peking Man

- (i) Perhaps you have heard of the ‘Peking Man’? He was found in 1928 in lime pits, but was never allowed to leave China. Only plaster casts and models were allowed out.
 - (ii) During WWII, the bones disappeared and are presumed lost. What we do know is that based on the models and casts the remains are more likely to be those of a large monkey. We also know that true human remains were found at the same location.
 - (iii) The only two outside authorities, Abbe Breuil and Marcellin Boule, who were allowed to see the actual bones before their disappearance concluded that they represented the remains of lunch for true humans.
- I.) Nebraska Man (Scopes Trial)
- (i) Do you remember being taught about the Scopes (Monkey) trial? It was the 1925 trial of John Scopes for teaching evolution in the classroom contrary to Tennessee law.
 - (ii) The attorney for the defense, Clarence Darrow, introduced ‘expert’ testimony for the defense. The testimony centered around a man by the name of Osborn and his ‘missing link.’ This ‘so-called’ missing link was based on a discovery in 1922.
 - (iii) On 2/25/1922 H. Cook, a rancher and part-time geologist, wrote a letter to Henry Fairfield Osborn, head of the American Museum of Natural History, about a tooth that he had obtained from the Snake Creek Beds of Nebraska which appeared to be either ape or human.
 - (iv) Osborne received the tooth on 3/14/1922 and wished so badly (because of an on-going public debate with William Jennings Bryan—a gifted debater and committed creationist) that it was valid evidence of an early western anthropoid that he jumped the gun and declared that the ‘Nebraska Man’ (*Hesperopithecus*) had been found in three scientific journals^{51 52 53} (by comparing it to the Java Man).

“The animal is certainly a new Genus of anthropoid ape, probably an animal which wandered over here from Asia with the large south Asiatic element which has recently been discovered in our fauna . . . It is one of the greatest surprises in the history of American Paleontology.” [letter from Osborn to Cook prior to publication]

- (v) The defense lost the case and Scopes was found guilty of teaching evolution (a law which had recently been passed because of public concern over evolution stirred up by Bryan).
- (vi) It’s just as well, because not long after the trial Osborne funded expeditions for further information. Unfortunately, the expeditions discovered more bones in better condition and determined that the fossils were not those of an American ape, but an extinct pig. By 12/16/1927 it

was clear that Osborn's hopes were dashed and he threw in the towel, so-to-speak. Osborn simply never mentioned it again, preferring that his colleague publish the retraction (and take the heat).

m.) Java Man #2

- (i) In 1926, another 'missing link' was found. These remains were called Java Man #2 (Pithecanthropus Erectus #2) because they were found near the site of Java Man #1.
- (ii) Java Man #2 was based on a skull fragment. Again, the claims of 'missing link' were heard and the media and artists came out of the woodwork.
- (iii) After closer inspection, it was determined that Java Man #2 was part of an elephant's kneecap.

n.) Lucy

- (i) A more recently famous find by Dr. Leakey, these 'missing link' bones were found in Australia and were dubbed 'Lucy' (Australopithecine). The skull fragments suggested a brain size of 500 ml (similar to an ape).
- (ii) It was Dr. Leakey's considered opinion that these remains represented a small (3'8" tall, 65 lbs.) woman rather than an animal because of the tools found at the site.
- (iii) Thirteen years later, his son found 100% human bones underneath the Lucy site and the same tools. It is now believed that Lucy was a monkey known as Australopithecus and was dinner for the humans who had been in existence already for some time.
- (iv) Evidence has since surfaced that other fossil remains (Australopithecines) previously thought to be the earliest humanlike creatures turn out to be more apelike than humanlike. Thus indicating that these remains are not early human, but ape²⁷.

"Other scientists are also finding signs that human ancestors who lived over 1.5 million years ago were more apelike than human-like." [T.G. Bromage, University College, London, England]

- (v) More recent studies of Lucy indicate that her pelvis was much larger (for her size) than would be expected for a modern female. This indicates that the gestation period was much longer than 9 months (i.e., less parental care needed toward the offspring). It was also determined that the baby would have been the size of a baby chimpanzee, or smaller.

o.) Paluxy Creek Bed

- (i) You have probably heard creationists promote the apparent findings of both dinosaur and human footprints in the same strata of the Paluxy

Creek bed (near Dallas). Creationists claim that they are human footprints. Evolutionists claim that they are 'random depressions' (?), or dinosaur prints "without the toe impressions."

- (ii) It's hard to say what advantage the dinosaur would gain by walking on his heels (perhaps a smart dinosaur with sense of humor).
- (iii) While I would agree that the prints certainly don't look much like my footprints, I also note the deafening silence when the question is asked of the evolutionists, "Well, then, what *did* make the tracks?"

p.) Ancient Invertebrates

*"In what is being called the most serious case of its kind since the Piltdown hoax more than half a century ago, a paleontologist from India is being accused by colleagues of falsifying numerous fossil discoveries in the Himalayas . . . His fossil discoveries, published in hundreds of articles over the past 25 years, have vastly influenced scientific understanding of a region that is especially fascinating to geologists . . . The British journal Nature . . . said they 'will cast a longer shadow' than the Piltdown affair in Britain . . . this one involves numerous scientific reports that 'will be excised from the record only with much greater difficulty,' Nature said."*⁴⁸

- 4.) The conclusion from the fossil record is that there has been zero credible evidence of any missing links that would support macroevolution.

d. HEREDITY

1.) Macro Vs. Micro evolution (Natural & Hybrid Species)

- a.) If you will recall, there are two types of evolution.
 - (i) One is called microevolution and is supported by the Bible. This is referred to as evolution within 'natural species' (canine, feline, cattle, human, etc).
 - (ii) The other type of evolution is called macroevolution and requires successful breeding across natural species lines.
- b.) What happens when you try to cross breed natural species? Let's look at the example of a horse being bred with an ass (donkey), two animals that are not in the same natural species.
 - (i) A horse bred with an ass produces a mule (hybrid).
 - (ii) Male mules are sterile.
 - (iii) Female mules are usually sterile. On the chance that a fertile female mule results and this hybrid female is then bred with a horse or ass the resulting offspring is either a horse or an ass, respectively.⁶³
 - (iv) Future generations of hybrids return to the original line.

- c.) Another example is the hybrid of bison and cattle.
 - (i) Male bison bred with female cattle usually result in dead offspring.
 - (ii) Female bison bred with male cattle results in either a male or female hybrid known as a 'cattalo.'
 - (iii) If a hybrid cattalo is then bred with bison or cattle, the result, after a few generations, is that the offspring return to pure cattle or bison. The hybrid does not remain as an independent natural species.
- d.) The only hybrids that do exist are ones within a natural species (i.e., new canine species).
- e.) The importance of this natural tendency to eliminate new natural species is that it throws a wrench in the macroevolution theory.
 - (i) New natural species must be explained using microevolution.
 - (ii) Trying to explain the number of existing species today using microevolution as your evolution engine is indeed difficult since you must explain why the new natural species can't freely interbreed with its parent natural species.

2.) Acquired Traits

- a.) Some scientists would have you believe that evolution can occur by passing on of 'acquired traits' or characteristics. That through life's experiences that desirable traits are added to a species.
 - (i) An example would be for a wild dog to lose his tail in a fight and the loss of this tail allowed him to run faster, then he might be more likely to survive to produce offspring without tails.
 - (ii) The problem with this is that acquired traits are not passed on to future generations according to Mendel's Laws unless the trait that is acquired is a genetic one (i.e., radiation exposure that alters genetic material).
 - (iii) As an example of what this involves let's use an automobile to represent an animal. To simulate a random genetic change we will arbitrarily remove anyone of the more than 5000 parts of the automobile and then either leave it off altogether, or randomly install that same part somewhere else. What are the odds of a change of this type resulting in a more efficient automobile?
 - (a) What if I moved the radio antenna to the roof? That wouldn't work unless another change also lengthened and moved the antenna lead.
 - (b) How about removing one pin from the driver's side door lock cylinder and installing it in the radio?
 - (c) What if we moved the gas pedal to the trunk?
 - (d) How about removing the engine oil drain plug and installing it in the glove box?

- (iv) What if I installed, at random, a part from a non-automobile? Again, what would be the chances that a more efficient automobile would result?
 - (a) The only possibility for a better automobile would be to randomly swap a part from a different make of automobile (microevolution) and even then, the chances of the new part working better are slim (i.e. a different radio speaker might sound better, but the screw holes probably wouldn't line up).
- (v) Any genetic alterations done at random (such as radiation exposure) are *very* unlikely to produce a genetic mutation that is positive for the species. The odds are about 25 billion to one that such a change for the better would take place. Assuming a reproduction rate of once per year, then it would 25 billion years to see a change. A population of 1 million would need 25,000 years. The entire population of the USA would need 100 years to see *one* positive change.⁴³

3.) Comparative Anatomy

- a.) Some paleontologists point to 'comparative anatomy' as the proof of evolution. They say that because of the anatomical similarities between animals and man, we can draw the conclusion that we evolved from animals. In contrast the Christian viewpoint would be that such similarities point to a common designer--not common ancestry.
 - (i) Look at the famous architect Frank Loyd Wright. His buildings are distinctive in that many share a common style, yet no one would say that his buildings 'evolved' from a simpler structure. Their similarities are the result of a common designer.
 - (ii) The problem with comparative anatomy is that the evolutionist uses selected comparisons without reminding you that for every comparison he or she makes to link us with a non-human ancestor there are at least as many, if not more, anatomical un-similarities making the link more imagined than fact.
 - (iii) The whole art of comparative anatomy is questionable as to its validity owing primarily to its reliance on inductive reasoning. In order to illustrate this I am going to make some anatomical comparisons just like some evolutionists do.
 - (a) Man's thyroid most closely matches, in composition, that of a sheep. Thus, it can be said that we evolved from sheep.
 - (b) Because female breast milk most closely matches that of the ass, then we can assume that the ass is part of our evolutionary chain. [No jokes here, please.]
 - (c) Since the Black Plague only affected humans and rats, it can be surmised that we are related to rats.

- (d) Since Malta fever affects only humans and goats, then we must add a goat to our list of relatives.
- (e) The platypus lays eggs like a bird. It must have descended from birds.
- (f) The Monarch and Viceroy butterflies are so similar in appearance they must be close relatives. In fact, they are not. Their internals differ radically.
- (g) Since the Criorhina *looks* like a bumblebee (even to another bumblebee) does that imply that they are related? No. The Criorhina internals most closely resemble those of a fly.
- (h) - and so on and so on.
As you can see, these examples make extensive use of logical induction (as does all of comparative anatomy). We saw earlier that induction is quite dangerous and this is an example of why.

4.) Vestigial Organs

- a.) The whole idea of vestigial [unused] organs as a means of proving evolution has gone the way of the hula-hoop for lack of credible evidence.
- b.) As an example of how quickly (and wrongly) we jump to conclusions about the nature and functions of given organs we need only to observe a couple recent discoveries.

“Zoologists now suggest that blubber and underlying connective tissue act as a drive shaft linking an animal’s motor—the powerful muscles around surrounding the body cavity—with its propeller—the tail . . . In sharks and other fish, the skin acts as the drive shaft” ⁶¹

- c.) The same was reported in dolphins and sperm whales
- d.) Another example is of ‘legs’ in whales. There is a popular line of reasoning among evolutionists that the bone structure of the genital area of whales indicates that they once had legs. More reasoned estimates of their function have centered on a system of support for the genitals. Evolutionists would have you believe that whales were once land mammals. They are strangely silent when asked to support the claim by producing the remains of a ‘land whale.’ [No jokes here either, please.]

5.) CONCLUSION—No one could say it better than Darwin himself:

“Nevertheless, so profound is our ignorance, and so high our presumption, that we marvel when we hear of the extinction of an organic being; and as we do not see the cause, we invoke cataclysms to desolate the world, or invent laws on the duration of the forms of life!”
[Origin of Species ²¹, p.87]

GLOSSARY

Amber: Amber is tree resin that has hardened over many years to form a hard red or gold substance. The youngest amber is referred to as copal and is only a few thousand years old (and not as hard). Amber ‘proper’ ranges from, supposedly, through tens of millions of years in age.

Areas known to be rich in amber include New Jersey, Staten Island, Cape Cod, Maryland, the Baltic, Lebanon (source of the oldest known amber) and the Dominican Republic.

The significance of amber is that it is clear (after it is soaked in oil to fill in the fissures) and clearly reveals any insects that were trapped in the resin as it seeped from a tree. The oldest known ant and bee were found in New Jersey amber. In 1986, a complete frog was found incased in Dominican Republic amber. In all cases the insects and small animals found in the amber are easily recognizable and are essentially unchanged (small variations within natural species boundaries being the only change).

Apologetics: Systematic argument in defense of a position.

Big Bang Theory: An astronomical and cosmological theory suggested in 1956 stating that the universe originated billions of years ago from the explosion of a single material mass so that the pieces are still flying apart today. The theory does not discuss the origin of such a mass.

Bryan, William Jennings: Known as the ‘Great Commoner,’ Bryan was “sweet, friendly, direct, warm and sincere pacifist (even according to his enemies⁵⁶). However, he was also called a “tin pot Pope in the Coca Cola belt” by his enemies.

This Harvard graduate and fiery orator won the Democratic presidential nomination in 1896 at the young age of 35 with his popular (for Democrats) cry for abolition of the gold standard. He unsuccessfully tried twice more for the presidency advocating Philippine independence and American imperialism in the election of 1900. Bryan quite the U.S. Secretary of State post because of his opposition to the America’s involvement in WWI.

He was also a strong advocate of the women’s suffrage movement, direct election of senators, progressive income tax (he apparently believed the promises that it would only be applied to those with incomes in the top 2%) and of Biblical literalists. He was responsible for the passage of state anti-evolution laws through his legislative efforts. He also was big on Florida real estate.

Many accused him of abandoning his ‘progressive’ views without understanding that his ‘progressive’ views were based on his understanding of God’s plan for him. Evolution was not, in his view, ‘progressive’ from a Christian’s perspective.

“If you ask me if I understand everything in the Bible, I answer no, but if we will try to live up to what we DO understand, we will be kept so busy doing good that we will not have time to worry about the passages which we do not understand.”

To a cartoonist who asked how he would like to be represented he said,

“If you would be entirely accurate you should represent me as using a double-barreled shotgun, firing one barrel at the elephant as he tries to enter the treasury and another at Darwinism—the monkey—as he tries to enter the schoolroom.”

Bryan was the picture, it seems, of a man who felt compelled to check the advances of evolution and its impact on American culture despite his personal position,

“I do not carry the doctrine of evolution as far as some do; I am not yet convinced that man is a lineal descendant of the lower animals. I do not mean to find fault with you if you want to accept the theory . . . While I do not accept the Darwinian theory I shall not quarrel with you about it.”

He saw the problem as one of defeating evolution by allowing parents the opportunity to teach their own values to their children. He frequently cited studies showing that only 15% of college freshmen doubted Christianity’s precepts, but that 40% of college graduates did. This may have been close to home since he also passed through (successfully) a period of doubt while at Harvard.

He truly understood the long-term implications:

“ . . . it was Darwinism that was at the basis of that damnable doctrine that might makes right [referring to natural selection/survival of the fittest] that has spread over Germany . . . paralyzing the hope of reform, it discourages those who labor for the improvement of man’s condition . . . Its only program for man is scientific breeding, a system under which a few supposedly superior intellects, self-appointed, would direct the mating and the movements of the mass of mankind—an impossible system ”

He died five days after winning the Scopes trial, but only after being humiliated in a public cross examination by Clarence Darrow. I suspect he died knowing that he had fought the good fight. Not necessarily right about all aspects of the theory, but dead on about how elements of society would apply such information.

The last of Bryan’s influence disappeared in 6/87 with the affirmation by the Supreme Court of a lower court summary judgment striking down state laws requiring equal time for creationism in public schools. The last holdouts were Arkansas and Louisiana.

Cause and Effect: A phrase used to bring attention to a scientific relationship between a result or condition and the action or motive behind it.

Competitive Exclusion: An evolutionary doctrine holding that two existing species that are too close in their ecologies and mode of life cannot both persist in the same local. The “single species hypothesis” is an example. This (and similar doctrines) were held in high esteem in the 1960’s and 1970’s but have now been “disproved.”⁵⁸

Darwin: Darwin was born at Shrewsbury, England, 2/12/1809 and the son of a physician. His grandfather was Erasmus Darwin, the author of The Botanical Garden, a well-known publication. He failed at his local college studies and attended Edinburgh Univ. instead. His two-year study of medicine there also ended in failure. Next, he was on to Cambridge and an attempt at religious studies. That, too, was unsuccessful and before long, he had moved to London and hopped a ship (the Beagle) to pursue the only thing that ever really interested him—geology and zoology.

He convinced the captain to sign him on as a ‘naturalist.’ He married (1839) after his return from the Beagle’s five-year voyage. In 1842, he moved to the ‘suburbs’ (Down, England, 16 mi. from London).

Darwin’s and his father were both active abolitionists. Consider this passage from Voyage of the Beagle,

"...I thank God, I shall never again visit a slave-country . . . I lived opposite to an old lady, who kept screws to crush the fingers of her female slaves . . . I have seen a little boy, six or seven years old, struck thrice with a horse whip (before I could interfere) on his naked head, for having handed me a glass of water not quite clean . . . And these deeds are done and palliated by men, who profess to love their neighbors as themselves, who believe in God, and pray that His will be done on earth! It makes my blood boil, yet heart tremble, to think that we Englishmen and our American descendents, with their boastful cries of liberty, have been and are so guilty."

Yet, Darwin wasn't entirely devoid of all racist attitudes. Consider this passage from Origin of Species,

"Why have not apes acquired the intellectual powers of man? Various causes could be assigned; but as they are conjectural, and their relative probability cannot be weighed, it would be useless to give them. A definite answer to the latter question ought not to be expected, seeing that no one can solve the problem why, of two races of savages, one has risen higher in the scale of civilisation than the other; and this apparently implies increased brain-power."

Deduction: Process of extrapolating to a specific conclusion based on known premises.

Gould, Stephen Jay: Harvard Prof. of biology, geology, and the history of science. Stricken with cancer in 1983. S.J. Gould's familiarity with the Bible is evident from the occasional quotes from it found in his articles. Yet, it appears that he read it solely for the purpose of finding fault with creationists. I base that conclusion on an incident in April 1986 in which he quotes Bishop Wilberforce's contention that natural selection is the merciful work of God to eliminate misfits and, thereby, maintain the purity of created forms. Gould took great exception to this statement of Wilberforce's. Instead, he countered humorously that Wilberforce had not explained why the Creator built a world so subject to decay. In that single statement meant to ridicule Wilberforce, he revealed a profound ignorance of scripture. The problem appears to be that Gould isn't fighting Christianity as much as he is fighting religion, but he hasn't the knowledge to separate the two.

"Obviously, six days of creation and circa 6,000 years of biblical chronology will not encompass the earth's history . . . Of course the days of creation can't be twenty-four hours long. Of course the origin of light three days before the creation of the sun poses problems . . . science has foreclosed this possibility [of the literal truth of Genesis] to any Victorian intellectual . . . Genesis is a great work of literature and morality, but not a treatise on natural history"⁵⁹

Faith: A belief in something that cannot be proven by rationalism or empiricism. It is the "substance of things hoped for" and the "evidence of things not seen."

Gupta, Viswa Jit: A paleontologist from India who falsified numerous fossil discoveries from the Himalayas for 25 years.

Halley, Edmond: Halley was the first to propose a quantitative method of determining the earth's age. He proposed that the current level of oceanic salinity could, if one assumed the oceans started without salt, be used to determine the age. One could simply observe the amount of runoff to the ocean and its salinity and extrapolate backwards in time. Halley admitted his inability to perform

the calculation himself but hoped that someone else would apply his idea. The idea was flawed, of course, by:

1. Ignoring the loss of salt in the oceans' sediment.
2. Assuming uniformitarianism.
3. Not allowing for original saltiness (Halley recognized this possibility for error).

Halley held to the common religious belief of his day that man had been on the earth for 6000 years. He denied, however, that the earth came into existence in only 6 days (equating Peter's statement that a day with the Lord is as 1000 years). In fact, the whole purpose of proposing this method of measuring the earth's age was to "refute the ancient notion, some have of late entertained, of the eternity of all things."

Hermeneutics: Study of the principles of interpretive methods, primarily of Scripture.

Huxley, Thomas H.: (1825-1895) was born near London, studied medicine, and was a British naval surgeon (serving primarily near India and the East Indies. He fell into the 'famous zoologist' title after writing an article about jellyfish. Following the publication of Darwin's theory he was one of the first to jump on the bandwagon. He is best known as a forceful lecturer and writer in support of the Darwinian theory. He coined the term 'agnostic' to explain his own views.

"The Pentateuchal story of the creation is simply a myth. I suppose it to be a hypothesis respecting the origin of the universe which some ancient thinker found himself able to reconcile with his knowledge, or what he thought was knowledge, of the nature of things, and therefore assumed it to be true. As such I hold it to be . . . a stage in the mental progress of mankind."

It appears that when Huxley refers to things religious he is referring to humanism. In fact, one may trace humanism's impact to the popularity of Darwinism.

Thomas' grandson, the ornithologist Sir Julian S. Huxley, was (in)famous in his own right for having helped form UNESCO and furthering his grandfather's impact by producing studies sympathetic in both the areas of experimental embryology and education.

Induction: Inferring a generalized 'cause' or premise from specific 'effects' or results. This can be likened to interpolating from known experiences. The method frequently degenerates to an 'affirmation of the consequent' (an argument for the truth of a premise based on the truth of the consequence). The difference between true induction and consequent affirmation is obvious only when dealing with well-established relationships. When extrapolating in unknown areas of research it is logical heresy.

Isotope: Any of two or more atoms of the same chemical element and chemical behavior, but with differing atomic masses (varying number of neutrons) within their structure.

Isotopic: Relating to the difference in atomic mass between to atoms of the same chemical element.

Jordan, David Star: An ichthyologist and past president of Stanford Univ. Jordan was a leading disciple of Darwin.

Kidd, Benjamin: Kidd was a highly respected English commentator. He claimed that progress was to be displayed by the rejection of material struggle and individual benefit. His argument was as follows:

1. Darwin's doctrine rekindled the dangerous primal tendency that had been suppressed for centuries by the Christian doctrines of love.
2. Darwin's doctrine was being used to justify social exploitation by the elite in the name of natural selection.
3. Germany used the doctrine as justification for war.
4. Civilization advances by the practice of Christianity.
5. Civilization regresses by advancing evolution.
6. It's plain to see that Kidd's heart was in the right place, but all that is likely to be advanced by such a plan is not Christianity, but religious dogmatism not unlike the dark ages. The advancement of true science does keep false religion in check.

Kellog, Vernon: One of the most famous evolutionists in history. Kellog (an entomologist) was a professor at Stanford. He was the student of David Star Jordan. During WWI, prior to USA's involvement, Kellog was an official in the international, nonpartisan Belgian relief effort and was posted at the headquarters of the German war effort. He routinely was exposed to Nazi doctrine on which he commented,

“. . . is Neo-Darwinian, as are most German biologists and natural philosophers [now serving as officers in the Third Reich]. The creed of the 'Allmacht' [All-mighty] of a natural selection based on violent and competitive struggle is the gospel of the of the German intellectuals; all else is illusion and anathema . . . This struggle not only must go on, for that is the natural law, but it should go on, so that this natural law may work out in its cruel, inevitable way the salvation of the human species . . . That human group which is in the most advanced evolutionary stage . . . should win in the struggle for existence, and this struggle should occur precisely that the various types may be tested, and the best not only preserved, but put in position to impose its kind of social organization . . . on the others, or, alternatively, to destroy and replace them. This is the disheartening kind of argument that I faced at Headquarters.”

Finally, he left Germany convinced of the need to destroy her by force (experiencing human nature usually cures pacifism). Perhaps based on his experience of 'group personality' and its effects on even strong minds he is nearly alone in assuming a position of humility in view of the many unanswered questions of evolution.

“We are ignorant, terribly, immensely ignorant. And our work is, to learn. To observe, to experiment, to tabulate, to induce [?], to deduce. Biology was never a clearer or more inviting field for fascinating, joyful, hopeful work.”

Macroevolution: Evolution taking place across natural species lines. The development of a new natural species by cross breeding.

Mayr, Ernst: Thought by some to be the world's greatest living evolutionary theorist of the period 1960-1990. Advocate of the single species hypothesis (see 'Competitive Exclusion').

Microevolution: Evolution taking place with a natural species. Also called 'variation within a species.' The result of Mendel's laws of genetic dominance in practice.

Neutron: A theoretical, uncharged, elementary, sub-atomic particle with the same approximate mass as a proton.

Newton, Isaac: As much a theologian as a scientist, Newton was a conspicuously silent proponent of a view of scripture that denied the Trinity.

Northern Lights: (Aurora Borealis) A luminous phenomena in the northern sky caused by non-explosive nuclear reactions between the atmosphere and particles streaming from the sun. The same phenomenon occurs in the southern sky and is called the Aurora Australis.

Nuclei: The name given to any of the theoretical elementary sub-atomic particles existing in the center, or nucleus, of an atom.

Nucleotide: Any of several chemical compounds that consist of a ribose or deoxyribose sugar joined to a purine or pyrimidine base and to a phosphate group and that are the basic structural units of RNA and DNA.

Osborn:

*"Osborn, by the way, was probably the most pompous, self-assured S.O.B. in the history of American paleontology, a regal patrician secure in his birthright, rather than a scrappy, self-made man. He once published a book devoted entirely to photographs of his medals and awards and to a list of his publications . . . 'Osborn stories' are still told . . . wherever vertebrate paleontologists congregate . . . you know he was larger than life."*⁵⁴

Osborn was bound to tangle with William Jennings Bryan. Bryan had begun a campaign in 1920 to defeat the teaching of evolution by getting legislation passed to outlaw it. In the process, Bryan acquired the dubious title, 'the tin pot Pope in the Coca Cola belt.'⁵⁶ The *New York Times* granted Bryan an editorial platform from which he launched the first salvo.

"The real question is, Did God use evolution as His plan? If it can be shown that man, instead of being made in the image of God, is a development of beasts we would have to accept it, regardless of its effect, for truth is truth and must prevail. But when there is no proof we have a right to consider the effect of the acceptance of an unsupported hypothesis."

The *Times* then allowed Osborn to respond. Osborn claimed that the evidence for the hypothesis was abundant and that, in any case, evolution and religion need not be at odds (to support the second contention he quoted Job 12:8). The editorial was amusingly titled "The Earth Speaks to Bryan."

Paleochemistry: A branch of the science of chemistry dealing with the ancient earth.

Philosophy: The search for an understanding of values and reality by chiefly speculative rather than observational means.

Roosevelt, Teddy: Produced an article on the evolutionary significance of animal coloration.

Single Species Hypothesis: During the 1960's and 70's human evolution was thought to follow a 'ladder' type of evolutionary scheme. The thought was that no two human species could coexist without one eradicating the other. Fell out of fashion in the 1980's.

Strata: A geologic bed or layer.

Thermodynamics: The scientific study of the physics of the relationships of heat and mechanical actions and processes.

Whiston, William: In 1696 William Whiston, Lucasian Prof. of Mathematics proposed a treatise titled "A New Theory of the Earth from its Original to the Consummation of all Things, Wherein the Creation of the World in Six days, the Universal Deluge, and the General Conflagration, as laid down in the Holy Scriptures, are shewn to be perfectly agreeable to Reason and Philosophy." It was said "Whiston was so wed to the few thousand years of Moses' chronology that he had to postulate *absurd catastrophes via cometary collisions* [emphasis mine] in order to encompass the earth's history in so short a time."⁵⁵ Now, that was a quote from S. Gould, an outspoken advocate of evolution. The problem is the statement was made 2 years *after* the K/T theory was proposed. Whiston's contemporaries were ruthless (mostly in their contempt of religion). One enemy said,

"[Whiston] retarded the progress of truth, diverted men from the investigation of the laws of sublunary nature, and inducing them to waste time in speculation on the power of comets . . . "

How would you like to be best remembered for that mistake?

Perhaps the most famous satire of Whiston's view was Johnathan Swift's book Gulliver's Travels. The Laputan's love of mathematics and fear of cometary calamity was a thinly (for that time) veiled insult (not unlike Animal Farm as a commentary on communism to our culture). Whiston was eventually dismissed from his Cambridge professorship, was tried twice for heresy and eventually died in 1752 as an intellectual recluse.

This is not meant to solicit pity for Whiston. He publicly denied the Trinity and it was the combination of both of these events that ostracized him from both intellectual camps. Of course, Isaac Newton also denied the Trinity, but was smart enough not to do it publicly.

Wilberforce, Bishop Samuel: A fiery orator, degreed mathematician, and opponent of Darwinism—not so much on the actual faults of Darwinism, but on his biased, unfair, unscientific understanding of Darwinism. Of course, that's easy to say now that we have had nearly 200 years to reflect on Darwin's work. Wilberforce may have been reacting only to what was then currently understood of the theory. Wilberforce accused Darwin of racism [Well, okay, there is some evidence of that.]. In fact, so twisted is Wilberforce's logic it is easy to believe that Wilberforce had no intention of being fair and honest. However, one may interpret his intentions (I am satisfied that his "zeal" was rightly placed, but "without knowledge"), his summary of Darwin's Origin of Species was still accurate.

“In the name of all true philosophy, we protest equally against such a mode of dealing with nature, as utterly dishonorable to all natural science, as reducing it from its present lofty level as one of the noblest trainers of man’s intellect and instructors of his mind to being a mere idle play of fancy, without the basis of fact or the discipline of observation . . . We cannot open the august doors of the venerable temple of scientific truth [emphasis mine] to the genii and magicians of romance Man’s derived supremacy over the earth; man’s power of articulate speech; man’s gift of reason; man’s free-will and responsibility; man’s fall and man’s redemption; the incarnation of the Eternal Son; the indwelling of the Eternal Spirit—all are equally and utterly irreconcilable with the degraded notion of the brute origin of him who was created in the image of God, and redeemed by the Eternal Son . . . Nor can we doubt, secondly, that this view, which contradicts the revealed relation of creation to its Creator, is equally inconsistent with the fullness of His glory”

Instead, we find that Wilberforce contending that natural selection is divine providence.

“In this law we see a merciful provision against the deteriorations, in a world apt to deteriorate, of the works of the Creator’s hands.”

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APPENDIX

RECENT INFORMATION

Rather than trying to revise the preceding material as new information becomes available I will simply add the information to this appendix. This appendix contains material that I have read or was given to me by readers.

“Sex Contradicts Evolution” [Science News, 9/8/84]—“Sex is the queen of problems in evolutionary biology,” wrote G. Bell of McGill Univ. (Montreal) in 1982.

Norton Zinder, a molecular geneticist at Rockefeller Univ. (NY) puts it this way: “How could an organism that only passed half of its genes to its offspring [through sexual reproduction] ever have competed with [an asexual] progenitor that passed all of them? It seems unlikely that the offspring produced sexually were ‘fitter’ than their asexually produced relatives.”

George C. Williams wrote his book ‘Sex and Evolution’ “from a conviction that the prevalence of sexual reproduction in higher plants and animals is inconsistent with current evolutionary theory.”

Edward Adelberg of Yale Univ. (New Haven, CT) states that: “We have no knowledge of intermediates between these two [karyotic and eukaryotic] groups . . . there’s no fossil evidence, nothing living today that’s an intermediate.”

“Origin of the Universe” [Science News, 8/3/85] —Alexander Vilenkin of Tufts Univ. (Medford, Mass.) proposed at the Third Loyola Conference on Quantum Theory and Gravitation @ Loyola Univ. (New Orleans) that “the universe was created from nothing . . . an idea that is very old in the context of theology.”

He shows that the scientific version of this idea surfaced in 1973 with a suggestion by Edward P. Tryon of Hunter College of the City of New York. Tryon found that over the whole universe many of the conserved quantities of physics add up to the algebraic sum of zero. Because these quantities are conserved it appears that their origin must have been . . . zero!

Now Vilenkin and other scientists have found more evidence of creation.

Alan Guth (M.I.T.) theorizes that “the universe arises by quantum tunneling from nothing, a state with no classical space-time.

Vilenkin has calculated that there is a fairly interesting probability that the universe began by coming through an energy ‘tunnel’ and exiting into existence as we know it. Of course, no one quite had the answer for how the ‘tunnel’ got there and where it went afterward. The article says, “the participants had something of a difficult time keeping God out of it.

In fact, Don. Page of the Institute for Advanced Study (Princeton, NJ) asked if that might not have been the meaning of “without form, and void” from scripture. Page is the partner of Stephen Hawking, the famous cosmologist of Cambridge University in England. They have calculated that the chances of such a ‘tunnel’ effect resulting in our universe by accident is $1:10^{134}$ [and again there is talk of ‘God’].

“America’s understanding of science” [Science News, 2/86, p.118] —The U.S. public has little idea what the scientific terms mean when they are bombarded with them by the media. The National Science Foundation conducted a survey that found that only a small portion of people had a clear understanding of technical terms:

50% are interested in new technology

75% however, say that they don’t understand the technology

31% understood ‘radiation’

27% understood 'gross national product (GNP)

24% understood 'computer software'

40% believe that rocket launches affected the weather

40% believe that aliens have visited the earth

40% believe in 'lucky numbers'

"What we have is a large number of people who believe in science, who have unrestrained faith in it, but who haven't the foggiest notion why it happens . . . The biggest problem is not hostility to science, but that people deal with it as if it were magic . . . [and] tend to confuse real or likely technologies and fictional ones" [John. D Miller, Northern Illinois Univ.]