Disclosure

of things evolutionists don't want you to know

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Timeless Isochrons

Isochrons are graphs of the amounts of various minerals found in rocks. These graphs supposedly tell how old the rock is. This month we will look at how the method is supposed to work, and see why it doesn't.

The isochron method is considered by some to be the most accurate rock dating method (when it confirms evolutionary prejudice ☺). Most people, however, don't know how the method actually works. They just accept the results on face value. Here's a little tutorial about how ages are calculated using isochrons.

Minerals, Elements, and Isotopes

Rocks are made up of minerals. Minerals are specific chemical combinations of atoms. For example, table salt is a mineral called sodium chloride. The chemical formula is NaCl, which means it is made of one sodium (a.k.a. ***Na****trium*) atom, and one **Cl**orine atom.

Some atoms come in different varieties, called isotopes. You may have heard of uranium 235 and uranium 238. These are two variations of uranium which have slightly different weights. The numbers are measures of how much they weigh.

Elemental Analysis

An atomic mass spectrometer is a machine that takes powdered rock and divides it into isotopes. It can tell you how much gold, or iron, or silver, or whatever is in a rock.

The idea of "how much" can be expressed two different ways. If we are out prospecting and find a rock that we think might have gold in it, we can take a sample to an assayer to find out "how much" there is. The answer might be 0.1 gram. That is an absolute amount. But is that a lot of gold? It depends upon how heavy the sample is that we give to the assayer. If the rock only weighs 0.15 grams, then the rock is 2/3 gold. But if the rock is 3,000 pounds, then 0.1 gram is practically nothing. The second notion of "how much" is based on percentage. Percentage is independent of sample size, so it is often more useful.

Atomic mass spectrometers tend to give results as ratios of one isotope to another. This is effectively a percentage. Dividing the amounts of other isotopes by a common isotope effectively normalizes the sample, making the size of the sample irrelevant.

Remember that isotopes are differently weighted variations of atoms (elements). Sometimes the weight matters, and sometimes it doesn't. When it matters, we talk about the ratios of isotopes. When it doesn't matter, we talk about the ratios of elements.

Moon Rock Data

So, with that background, let's look at some actual data. The data we are going to look at is data from moon rocks brought back by the Apollo 11 astronauts. There are four reasons for using this particular data. First, this isn't data published by "crackpot creationists." It is data that was published by "real" scientists. ☺ Second, it isn't data about some insignificant rocks that was only published in an obscure geology journal that nobody ever heard of, and therefore can't be easily verified. Third, every geologist in the world wanted to analyze these rocks, so NASA carefully screened all the requests and let only the most qualified scientists take the measurements. Every precaution was taken to avoid contamination. The results were carefully peer-reviewed and presented at the Apollo 11 Lunar Science Conference, and the complete proceedings (335 pages) were published in the January 30, 1970, issue of *Science* (the most prestigious scientific publication in the United States). Fourth, we are going to write more about the findings of the Apollo 11 Lunar Science Conference next month, so we are laying some groundwork here.

Here is the raw data, expressed in tabular and plotted form, and some of the official explanation of the data from the Lunar Conference.

> The Rb-Sr [rubidium-strontium] isotopic data for the lunar samples are shown in Table 1. The total range observed in the $^{87}Sr/^{86}Sr$ ratio is 0.8 percent. From these data, we have attempted to determine the solidification ages of the lunar rocks. The data have been grouped in different ways on the basis of assumptions regarding their genesis and internal relationships and checked for the requirements of isochronism, that is, a uniform initial $^{87}Sr/^{86}Sr$ ratio and chemical closure for the same time. If these assumptions are satisfied, we should obtain a linear relationship between the present values of $^{87}Sr/^{86}Sr$ and $^{87}Rb/^{86}Sr$ ratios. From the best-fit lines corresponding to various groupings, both the initial $^{87}Sr/^{86}Sr$ ratio and the age can be obtained.
>
> The initial $^{87}Sr/^{86}Sr$ values, the slopes of the best-fit lines, and the ages thus obtained for various groups of lunar rocks are shown in Table 2. Although there is no *a priori* reason to group the data, this was deliberately done to search for any differences between the initial Sr-isotopic compositions and ages of the various types of rocks.
>
> All the lunar samples studied here can fit a linear relationship on the Sr-evolution diagram (Fig. 1) with an age of 4.43 ± 0.13 x 10^9 years and an initial $^{87}Sr/^{86}Sr$ ratio [($^{87}Sr/^{86}Sr$)I] of 0.69784 ± 0.00012 (Table 2). [1]

Table 1 tells how much of various elements and isotopes were found in the moon rocks. The eight moon rocks of interest are listed in the first eight lines of Table 1. The moon rocks were numbered 10045, 10044, 10058, *etc.* They were classified as Type A, Type B, *etc.* in another article. Those classifications are irrelevant for our discussion.

In the various columns of Table 1 they listed the number of micrograms of each element per gram of rock. The first column tells how much potassium (K) there was in each sample. The second column tells the amount of rubidium (Rb). The third and fourth columns tell the amount of strontium (Sr) and barium (Ba). The next three columns are simply ratios of data from the first four columns. The next two columns are isotope ratios. The final column is a measure of uncertainty.

Figure 1 is their plot of isotope ratios. They found the slope of that line, and inferred an age (4.43 billion years) from the slope of the line.

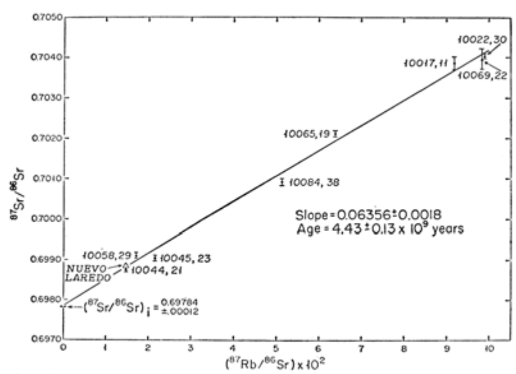

Fig. 1. Strontium evolution diagram for Apollo 11 lunar samples. The straight line represents the least-squares fit of all the lunar sample data points. The data point for the basaltic achondrite Nuevo Laredo falls on the lunar sample regression line (see Table 2).

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Table 1. Elemental abundances of K, Rb, Sr, and Ba and the $^{87}Sr/^{86}Sr$ ratios in Apollo 11 lunar samples.

Lunar sample	K (μg/g)	Rb (μg/g)	Sr (μg/g)	Ba (μg/g)	K/Ba	K/Sr	Ba/Sr	$^{87}Rb/^{86}Sr$ (× 10^{-2})	$^{87}Sr/^{86}Sr$*	Δ† (× 10^4)
10045,23(B)	424	0.823	109	69.4	6.1	3.9	0.63	2.17	0.69905	0.92
10044,21(A)	816	1.15	224	128	6.4	3.6	0.59	1.48	0.69876	0.56
10058,29(B)	853	1.23	201	124	6.9	4.1	0.59	1.72	0.69911	0.69
10084,38(D)	1020	2.88	162	162	6.3	6.3	1.00	5.13	0.70093	0.85
10065,19(C)	1406	3.69	168	200	7.0	8.4	1.25	6.39	0.70212	0.77
10017,11(B)	2207	5.33	169	290	7.6	13.1	1.67	9.18	0.70387	1.6
10022,30(A)	2289	5.57	163	277	8.3	14.0	1.67	9.90	0.70404	0.65
10069,22(A)	2295	5.60	165	277	8.3	13.9	1.67	9.84	0.70397	2.6
Nuevo Laredo										
	433	0.437	85.1			5.1		1.49	0.69882	1.8
Eimer and Amend reagent $SrCO_3$										
									0.70734	2.1

* Normalized to $^{86}Sr/^{88}Sr = 0.1194$.

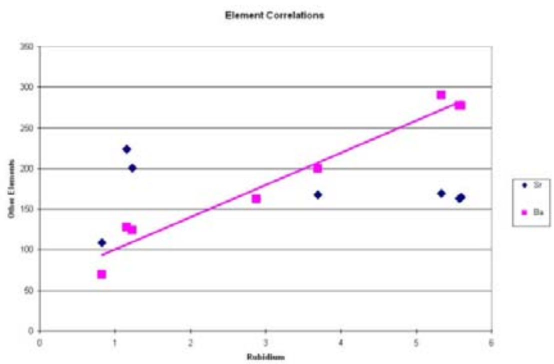
$$\dagger\ \Delta = 2 \times \left[\frac{\sum_{i=1}^{n} (\bar{X}_i - m)^2}{n(n-1)} \right]^{1/2}$$

where n is the number of sets of ten scans each, and ($\bar{X}_i$-m) is the difference between the mean value of the ith set and the mean of all sets.

[1] *Science*, 30 January 1970, "Rubidium-Strontium and Elemental and Isotopic Abundances of Some Trace Elements in Lunar Samples", pages 476-479.

What They Didn't Plot

Before we consider their assumptions and the conclusions they drew from their graph, let's look at something they did not plot.



On the X (horizontal) axis we have plotted the amount of rubidium in each moon rock sample. The black diamonds show, on the Y (vertical) axis how much strontium is in that sample. The pink squares show how much barium is in that rock. Notice that the pink squares tend to fall on a line that goes from the lower left corner to the upper right corner, but the black diamonds don't.

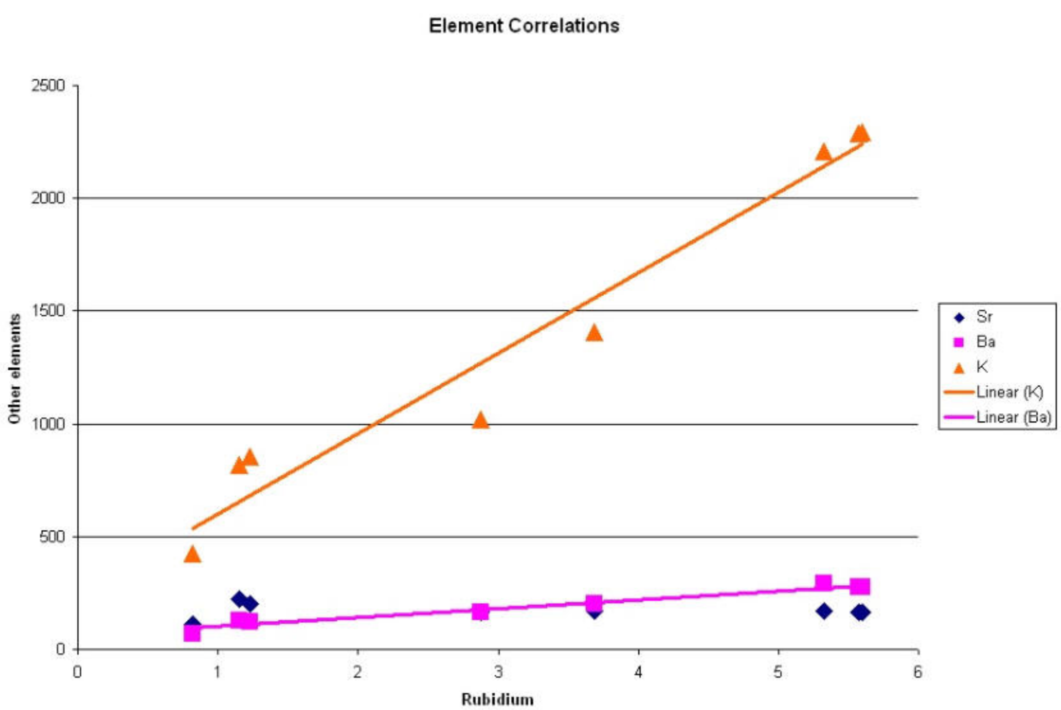
The pink squares show that there is a correlation between rubidium and barium in these moon rocks. If the astronauts had brought back a moon rock with 2 units of rubidium, it is a pretty good bet that it would have about 150 units of barium. If they had brought back a moon rock with 5 units of rubidium, there probably would have been about 250 units of barium. Knowing how much rubidium is in the rock helps us guess how much barium there is likely to be.

The black squares show there is no correlation between rubidium and strontium. Knowing the amount of rubidium in the rock doesn't tell us anything about how much strontium is in it.

Now, let's plot that graph again, and include the data about potassium. The potassium data points are shown as orange triangles.

Notice that we had to change the scale on the vertical axis because there is much more potassium than strontium or barium. Suppose you used a ruler to draw a straight line through the orange triangles (potassium) and another line drawn through the pink squares (barium). The slope of a line drawn through the potassium data points is much steeper than the slope of the line drawn through the barium data points. But some of the orange triangles would be farther away from their line than the pink squares are from their line.

The amount of difference between the data points and the best line you could draw through them is a measure of how well the data is correlated. The slope of the best line you could draw through the data points is a measure of how strong the correlation is. So, there is a better



correlation of rubidium and barium, but there is a stronger correlation between rubidium and potassium. There isn't any correlation to speak of between rubidium and strontium.

So What?

One reason for showing you these graphs is to explain the concept of correlation. A more important reason is to make the distinction between the facts shown on the graph and speculative inferences drawn from those facts.

It is a fact that the more rubidium there is in a moon rock (taken from the Sea of Tranquillity), the more potassium there is. But we can't say for sure **why** there is more potassium.

We don't know what process made the elements in the moon rocks; but whatever the process was, it put more potassium in the rocks whenever it put more rubidium in the rocks.

The existence of the correlation between potassium and rubidium is factual, but speculation about why there is a correlation is nothing more than speculation. We can't emphasize this too much. The data shows there is a relationship between the amount of rubidium and the amount of potassium in a moon rock, but it doesn't tell us anything at all about why that relationship exists.

What They Did Plot

Now, with that background, let's look at rubidium-strontium data that was graphed in Figure 1. The amount of rubidium 87 isotope is plotted on the horizontal axis. The amount of strontium 87 isotope is plotted on the vertical axis. They drew a sloping line through the data points using the "least squares" method. This is the standard way to do "linear regression." In other words, there is a well-known, widely accepted mathematical way to define the "best" straight-line fit to a set of data points. The "best" line is the one in which the sum of the squares of all the differences between the data points and the line is the smallest. The data points are properly plotted and the line showing the correlation between the data points is correctly drawn.

But there is something you might not have noticed about the graph. The Y axis doesn't start at 0. It starts at 0.6970. The top of the graph is 0.7050. The amount of rubidium ranges from 2 to 10, but the amount of strontium is never much different from 0.7. So, there isn't a very strong correlation. The line would be essentially flat at 0.7 if the vertical axis were scaled 0 to 1.

In the graphs we plotted, knowing the amount of rubidium helped us greatly guess how much barium and potassium is in the rock. Knowing the amount of rubidium doesn't really tell us much about the amount of all the isotopes of strontium. In particular, the amount of the strontium 87 isotope is always about 0.7 regardless of how much rubidium 87 there is.

The second significant thing is that some of the error bars don't touch the best-fit line. The error bars are those short line segments going up and down from the actual data points. They represent the amount of uncertainty in the data due to experimental error. It would be more compelling if the best-fit line went through all of the error bars; but the fact that it doesn't isn't a deal-breaker.

But what does this all have to do with the age of the moon rocks? It all depends upon an assumption about why the line is sloped (slight as that slope might be).

Slope and Age

How did the line acquire that slope? Rubidium 87 decays into strontium 87 very, very slowly. If we were to analyze those very same rocks billions of years from now, the amounts of rubidium 87 would be slightly less, and the amounts of strontium 87 would be slightly higher. Therefore, billions of years from now, the slope of that line will be just a little bit steeper.

Remember,

> The data have been grouped in different ways on the basis of assumptions regarding their genesis and internal relationships and checked for the requirements of isochronism, that is, a uniform initial $^{87}Sr/^{86}Sr$ ratio and chemical closure for the same time. [2]

In other words, the assumption is that when the moon rocks solidified ("chemical closure"), the amount of strontium 87 (the "uniform initial $^{87}Sr/^{86}Sr$ ratio") was 0.69784 ± 0.00012 regardless of how much rubidium 87 there was in the rock. In other words, they assume the line was perfectly flat when the rock solidified. They assume that the slope of the line was produced by 4.43 billion years of decay (they actually used the word "evolution") of rubidium into strontium.

There is no valid basis for that assumption. We know that rubidium does not decay (or even evolve ☺) into barium or potassium. Since the slopes of the rubidium-barium and rubidium-potassium lines are not the result of radioactive decay, why should one assume that the slope of the rubidium-strontium line is?

The data tells us that some moon rocks have more rubidium in them than other moon rocks do. The data tells us that some moon rocks have more potassium in them than other moon rocks

[2] *ibid.*

do. The data doesn't tell us why some rocks are richer in these minerals than other ones are. It just tells us that they are.

The data also tells us that the rocks that are richer in rubidium are richer in potassium. The data doesn't tell us why that is true—it simply tells us that it is true. It certainly doesn't tell us that rubidium decayed into potassium or barium.

The data tells us that the rocks that are richer in rubidium 87 are richer in strontium 87. It doesn't tell us why. There is no way to know how much rubidium 87 and strontium 87 were in the rocks to begin with. Therefore, there is no way to tell how much (if any) of the strontium 87 came from the decay of rubidium 87.

The isochron dating method rests entirely on the unsubstantiated assumption that the amount of strontium 87 was entirely independent of the amount of rubidium 87 when the moon rocks solidified. We know that the amount of potassium wasn't independent of the amount of rubidium when the moon rocks solidified. We know that the amount of barium wasn't independent of the amount of rubidium when the moon rocks solidified. Why should we assume that the strontium 87 was independent? What makes strontium 87 special?

If the isochron method is so reliable and accurate, shouldn't it give consistent results? Shouldn't the other "reliable" methods of dating rocks give the same ages? It seems like they should. So, let's look at the other dates given at the Apollo 11 Lunar Conference for these same moon rocks. But let's do that next month.

Email

NECESSARY EVIDENCE

What kind of evidence would it take for us to believe in the theory of evolution?

Adam's biology teacher asked him a very important question, which he wanted us to help him answer.

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   Hello,
   I am just wondering what kind of evidence
you would need to have in order to believe
evolution.  I am strongly against evolution as
well, but whenever I get into an argument with
my biology professor she says "Well what kind
of evidence would you need in order to believe
it, [be]cause I'm sure I can find it for
you..."  I am not too sure how to reply to
this comment.  I was thinking of saying "When
scientists are able to create life in the
laboratory" or "When the laws of
thermodynamics are proved wrong", but I think
that even then I wouldn't believe it.  I just
wanted to get your opinion on it and
appreciate you taking time out of your
schedule to read my email.  So, is there any
evidence that would make you think twice about
evolution?
   Sincerely,
   Adam
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We will answer Adam's question in a moment; but first let us stress the importance of asking a question like this. One should always ask oneself, "What kind of evidence do I need to believe [something or other]?" Two **unacceptable** answers are, "I don't need any evidence—everyone knows it is true," and "Nothing you can say can convince me it is true." We should all honestly think about what criteria we require to believe something, evaluate whether or not those criteria are reasonable, and decide if those criteria have been met.

In our essays we don't usually state our criteria; but they are implied. For example, "What would it take for us to believe that dinosaurs and man lived at the same time?" We think that reasonable criteria are (1) there should be reputable ancient historians who report sightings of creatures that look like dinosaurs, and (2) modern paleontologists who have found bones of that kind of dinosaur in the location where they were reported to have been seen. We believe those criteria have been met. [3] "What would it take to believe there are transitional fossils?" We listed some criteria that we think are reasonable. [4] We do not believe any fossils meet those criteria. "What would it take to believe radiometric dating is accurate?" We think it should (1) be based on reasonable, verifiable assumptions, and (2) give consistent results. In this month's feature article we explained why we think the assumptions aren't reasonable or verifiable. Next month we will look at all the discordant results that various radiometric methods gave when the Apollo 11 moon rocks were dated. That's sufficient reason to believe radiometric dating is inaccurate.

We do have reasons for believing what we believe, and not believing what we don't believe. On the other hand, we have had great difficulty finding an evolutionist who can give any logical reason for believing in evolution, despite our best efforts. The responses on our questionnaire at the 2007 Community Dinner were typical. [5] People who believe in evolution typically can't tell you why they believe. Then they get frustrated and angry when pressed for an answer more

[3] *Disclosure*, May 2002, "Dinotopia" and *Disclosure*, October 1998, "Unicorns, etc."
[4] *Disclosure*, Oct. 2001, "Parent of the Apes - Part 2"
[5] *Disclosure*, November 2007, "Evolution Election"

substantial than, “Everyone knows it is true!”

We are about to tell Adam, and his biology teacher, what evidence it would take for us to believe in evolution because we can; but our criteria really don’t matter. Everyone should make up his or her own mind, using his or her own criteria. If Adam wants to use our criteria, that’s fine with us, as long as he is convinced that our criteria are reasonable.

Actually, we have already explained many times what it would take for us to believe in evolution. Last month’s MythBusters parody [6] wasn’t just meant to be funny—it was actually a dramatization of how real scientists determine the truth. The theory of evolution requires three things: (1) Life originates from nonliving substances through purely natural processes; (2) the first living thing turns into lots of other living things; and (3) there is time enough for the first two things to happen. As Adam and Jamie found out in our parody, none of those three things are plausible for good scientific reasons.

The previous month, we presented 75 theses about the theory of evolution. [7] From this essay one can glean more impossible things that would have to be true if the theory of evolution were true.

Every month we present scientific reasons why the theory of evolution can’t be true, even though the burden of proof isn’t really on us. If someone wants our children to believe a tale as tall as the theory of evolution, the burden of proof is on the person telling the tale. Adam’s teacher is sure she can find compelling evidence for the theory of evolution. If so, we would honestly love to hear it. But we suspect her evidence would be nothing more than unsubstantiated claims such as, “The fossil record proves evolution,” and “Radiometric dating proves the Earth is old,” *etc.*

Evolutionists, at a minimum, need to set forth a plausible means by which life could have originated through purely natural processes. (That wouldn’t prove that it actually happened, but at least it would establish that it COULD happen.) Then they need to present some a good reason to believe living things can change into other living things. “Creature A looks a lot like creature B, so it must have evolved from it,” just doesn’t cut it.

The controversy would go away if evolutionists could do these things. They can’t. That’s why they want to censor the science curriculum to remove any reasonable criticism of the theory of evolution.

[6] *Disclosure*, April 2008, “Evolution Busted”

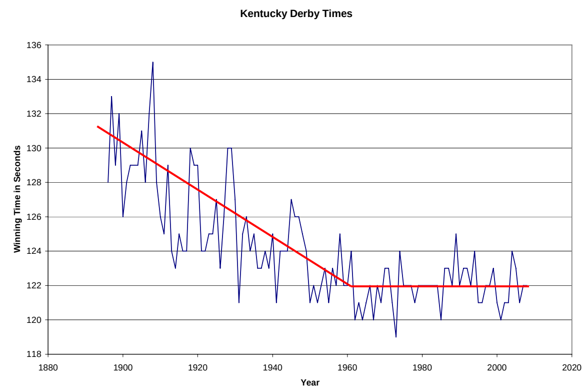
[7] *Disclosure*, March 2008, “Seventy-five Theses”

Big Brown and Eight Bells

The Kentucky Derby Limit still holds.

The theory of evolution depends upon the notion that selection can cause small changes to build up without limit over long periods of time. The problem with this notion is that it isn’t true. There is a limit to how much a species can vary.

The breeding of racehorses is a good example. Artificial selection (which is a much more powerful version of natural selection) has been used for more than 100 years to produce the fastest possible horses. In 1999 we noticed that the winning times for the Kentucky Derby generally improved from 1896 up until 1960. Then they leveled off. Each May we update the web page version of that essay [8] with the name of the winning horse and winning time. Big Brown won this year with a time of 122 seconds.



The past few years have underscored the limit in another way. This year, Eight Bells suffered a serious injury during the race, and had to be destroyed on the spot. Racehorses are bred for the strongest muscles and the lightest bones. There comes a point where the light bones aren’t strong enough to withstand the stress of the strong muscles. There seem to be more racehorse deaths in recent years due to broken bones. It is sad, but it should not be a surprise. It is simply a consequence of evolution running into a natural limit.

[8] *Disclosure*, June 1999, “The Kentucky Derby Limit”

Evolution in the News

No Longer Expelled

Mary Schweitzer, once expelled from the scientific community for publishing facts damaging to the theory of evolution, has been readmitted.

One of our members sent us an email saying that he had noticed the news media recycling the same old stories to try to prop up the theory of evolution. It just so happened that I was in Denver at the time, and the *Denver Post* published one of those old stories twice in two days, from two different sources. [9] [10] Normally we would have ignored the old news, except for the fact that it mentioned Mary Schweitzer, and this was exactly one week after Ben Stein's documentary, *Expelled: No Intelligence Allowed*, opened in theaters. Although she was not mentioned in the movie, Mary is one of the scientists who suffered the kind of persecution Stein documented. She, however, found redemption and is back in good graces.

Mary's trouble began when she found traces of dried blood in dinosaur bones. One would not expect proteins to survive for millions of years, so it naturally raised the possibility that dinosaurs have not been extinct for that long.

> Biological materials generally degrade in the environment, and scientists who work with ancient DNA feel lucky when they find a sample that is 100,000 years old. Yet the *T. rex* protein specimen is more than 100 times older than that. [11]

One might expect such an important discovery to be published in *Science* or *Nature*; but Mary published it in a minor, now-defunct magazine. [12] Why might that be? We can only guess. ☺

I went to Montana in July of 1999, partly to go on a dinosaur dig, and partly to talk to Mary myself. She was no longer there. I learned from one of her friends that a very famous paleontologist (who shall remain nameless) had her expelled for publishing that article. Mary was expelled simply because she published evidence that creationists used against the theory of evolution. [13]

Mary somehow managed to get a job at North Carolina State University. Remarkably, she even managed to get her research published in *Science* in March, 2005. [14] She did this by cleverly claiming that she had discovered a new form of fossilization that makes soft tissues that are millions of years old appear to be young. Not only that, it showed that dinosaurs were closely related to birds. We reviewed her article the following month. [15]

Mary has now become the darling of evolutionists because she has managed to spin her results to "prove" that dinosaurs evolved from birds.

> The results indicate that *T. rex*, chickens and ostriches are evolutionary siblings, all descended from a single unidentified predecessor. [16]

> The new work, being published today in the journal *Science*, builds on a 2007 analysis showing remarkably close similarities between *T. rex* collagen and collagen from modern-day chickens, but that work did not include comparisons to other living species. Collagen is the primary protein in bones. [17]

Should we be surprised that the proteins in dinosaur bones are similar to the proteins in bird bones? What were they expecting? Polycarbonate? ☺

Remember, it was 1997 when Mary first published her controversial discovery and was expelled by a famous paleontologist. That little fact seems to be forgotten when credit is given.

> The dinosaur protein was obtained [from] a fossil found in 2003 by John Horner of the Museum of the Rockies in a barren fossil-rich stretch of land that spans Wyoming and Montana. Mary H. Schweitzer of North Carolina State University and the North Carolina Museum of Natural Sciences discovered soft-tissue preservation in the *T. rex* bone in 2005. [18]

Oh, well. That must be the price one has to pay to get back in school.

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[9] Randolph E. Schmidt, *AP*, 24 April 2008, "Scientists study evidence modern birds came from dinosaurs"
[10] Rick Weiss, *Washington Post*, 25 April 2008, "*T. Rex* tasted like chicken?"
[11] *ibid.*
[12] Schweitzer and Staedter, *Earth*, June 1997, "The Real Jurassic Park", pages 55-57
[13] Carl Wieland, *Creation Ex Nihilo*, Sept.-Nov. 1997
[14] Schweitzer, *et al.*, *Science*, 25 March 2005, "Soft-Tissue Vessels and Cellular Preservation in *Tyrannosaurus rex*"
[15] *Disclosure*, April 2005, "Surprising Dinosaurs"
[16] Rick Weiss, *Washington Post*, 25 April 2008, "*T. Rex* tasted like chicken?"
[17] *ibid.*
[18] Randolph E. Schmidt, *AP*, 24 April 2008, "Scientists study evidence modern birds came from dinosaurs"

by Lothar Janetzko

Expelled: No Intelligence Allowed

http://en.wikipedia.org/wiki/Expelled:_No_Intelligence_Allowed

From Wikipedia, the free encyclopedia

This month's web site review looks at an article in WIKIPEDIA, The Free Encyclopedia, about the "controversial 2008 independent documentary film" *Expelled: No Intelligence Allowed*. From the tone of the article you get the impression that the contributors tried very hard to place this film in a negative light.

Similar to all articles in the WIKIPEDIA, after a brief description of the film, which is very negative, you find the Contents pane on the web page. You can hide this pane while reading the article. The Contents of this article is organized as follows: 1) Overview, 2) People presented in the film, 3) Claims that film producers misled interviewees, 4) Charles Darwin quotation issue, 5) Legal issues, 6) Academic Freedom Statue on Evolution, 7) Reaction, 8) Promotion, 9) Pre-release screenings, 10) See also, 11) References and 12) External links.

The Overview section of the article is divided into the following topics: 1) Promotion of intelligent design as an alternative to evolution, 2) Claims that intelligent design advocates are persecuted, 3) Portrayal of science as atheistic and 4) Claims that Nazism was inspired by acceptance of evolution. Numerous links, which are typical of all WIKIPEDIA articles, are found in all of these topics. This is really the major benefit of reading articles in the WIKIPEDIA, as it makes finding related information just a mouse click away. For this article, a total of 183 references are made.

If you are interested in looking behind the scene and learning more about how content is added or changed to an article in WIKIPEDIA look at the discussion tab on the main page. The history tab also provides insight into how article content has changed.

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