

by
Margaret
Helder

Bring on the Sleuths!

Back in the days when television was new to North American society, there was a show called Perry Mason. This featured a lawyer who specialized in courtroom drama. In predictable fashion, Mr. Mason set out to defend an accused person, but the facts of the case looked very discouraging for the defendant. However, thanks to great sleuthing by Perry Mason's two assistants, some important new details were discovered. In the courtroom, as the show drew toward a close, Mr. Mason triumphantly asked a witness, "Isn't it true that?" And some new facts were revealed which changed the whole story. Everyone was all smiles when the defendant was exonerated. The point is that partial in-

formation can lead to wrong conclusions.

This situation reminds me of the practice of science. Many people think that mainline scientists are communicating truth based on their studies. However, on the origins' issue, if the public were to consult other experts, for

Continued on page 3



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Dialogue



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How Tiny Supervisors Make Life Possible

Some scientific words come from what was originally everyday language, but the concept has long been almost forgotten. Take the word 'chaperone' for example. Until recent times, a chaperone was a respectable mature lady who needed to be present on any social occasion to ensure that courting couples conducted themselves in a sedate and appropriate fashion. That certainly sounds old fashioned, doesn't it? There was even a play written, called *Charley's Aunt*, by Brandon Thomas (about 1890), that lampooned the efforts of two young Englishmen to entertain some

term chaperone was adopted for cell biology, presumably most people understood that the word represented a supervisory entity. The biological term applies to tiny protein structures in a living cell which supervise/encourage the appropriate folding of each new protein as it is manufactured in the cell. Just as there was no socializing allowed in English polite society without chaperones, so no new synthesized proteins can fold into their precise functional form without the presence of a suitable chaperone. The cell is a crowded place. The newly forming protein is a straight string that has to fold into a fancy three-dimensional shape if it is going to function in the cell. This is obviously hard to achieve, without help, in a crowded situation.



young ladies to tea. In order to do this, they needed a chaperone to be present. They therefore persuaded another male friend to masquerade as a rich aunt from Brazil so that the tea party could take place. Hilarious escapades and disasters followed (including the real aunt showing up).

That was then, and this is now. When the

headSTART



The interesting chicken and egg situation here is that no protein successfully folds without chaperones. But chaperones themselves are proteins folded in precise fashion. How did they achieve their functional form without the presence of chaperones already on scene? It takes a chaperone to fold a chaperone. The whole cell was irreducibly complex from the start. No chaperones, no cell! God created everything with precision and finesse right from the start.

**See Chaperone under
HeadStart**

Books add Value to Life

Small boys love stories about large earth moving equipment. They love to look at the pictures, identify the types of machine and hear the stories again and again. Other children love to identify dinosaur pictures or birds. Even long after the children have grown up, they value these books as important mementos.

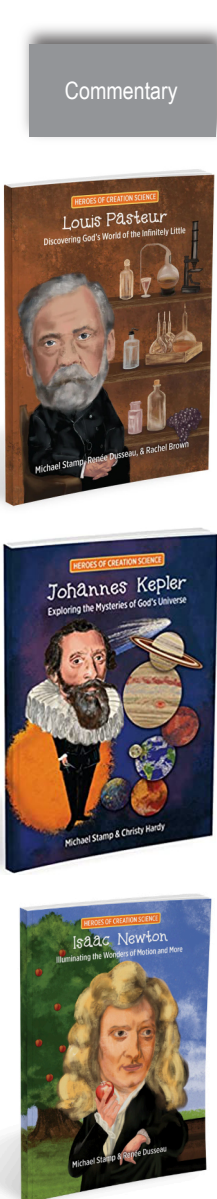
There is no doubt that books foster learning and remembering. Today there are many books, even books for learning, that are available in an online format. But their impact is not the same as a hard copy book!

As part of our mission, Creation Science Association of Alberta has always sold good quality books on science and origins. The few titles available long decades ago were nothing like the colourful attractive and informative books available today. The consumer has a cornucopia of wonderful books from which to choose.

In this context, for example, the Institute for Creation Research has recently published smaller, cheaper science books for youngsters so that families can afford a variety of topics and titles. For example, the *Heroes of Creation Science* booklets on Johannes Kepler (astronomy), Isaac Newton (physics) and Louis Pasteur (medicine and microbiology) introduce youngsters ages 8 – 11 to foundational concepts and their Christian implications in these disciplines.

The *God Created Series* books introduce children ages 6-8 to ways that we see the wisdom of God displayed in the biology of monkeys, insects and *T. rex*. There are other titles in this series too, but we have not purchased them yet.

Lastly in the *Creation Collection* we find small books that provide interesting information on volcanoes, sea creatures, human origins as well as *Universe: Surveying God's Created Cosmos*, and *Solar System: Proclaiming God's Heavenly Design*. Apparently, there are fascinating recent discoveries in these fields which high school and adult readers will enjoy. How do these recent discoveries display the amazing work of God? Read and find out.



Commentary

Dialogue

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Bring on the Sleuths! - Continued from page 1

example creation scientists, the public might discover details which point to a totally different conclusion. In order not to be misled, you need to know the whole story.

And that reminds me of a recent controversy in science. You have probably heard the popular claim that the DNA of chimps and humans is 98.5% identical. With numbers that close, many experts claim that the two groups must be closely related, with humans having recently evolved from chimp ancestors.

Of course, ever since Darwin, many scientists have considered apes such as chimps to be indeed closely related to humans. With biochemical analysis becoming fancier in the 1950s, scientists began to compare human proteins with those of various apes. The scientists discovered that many human protein components of cells are chemically identical to those of chimps. The scientists then declared that humans are shockingly similar to these apes, perhaps only 1% different. But these proteins were only certain components of cells (involving a small part of the genetic information in humans or apes.) Later, with DNA sequencing a reality, scientists insisted that human and chimp genomes were 98.5% similar and this proved that humans came from these animals ancestors, because otherwise how could they be so similar? Creationists objected, but few of the public listened.

Fast forward to 2025. A huge (17 page article) on the analysis of complete DNA sequences (genomes) of six ape species was published in Nature (May 8, 2025 pp. 401-418). The data were extremely detailed and sophisticated and much more reliable than previous sequencing efforts. The scientists used advanced long-read DNA sequencing technology and fancy algorithms to connect the fragments of DNA in a logical way. Their studies produced end to end (telomere to telomere or T2T) readouts of the various ape chromosomes.

This seemed like the perfect occasion to compare human and chimp genomes (DNA sequences). Did the results still show a 98.5% identity as has for so long been proclaimed in museums and scientific publications? It turns out that nobody even looked!

The 17 page paper said nothing about this issue, nor did a promotional introductory article. Still, the information must



have been there some place. And it was!! Buried in a 173 page Supplementary Information document online, accessible by a different URL link from the main article, on pages 33-36 and presented in two tables, inquirers discovered that the degree of similarity between human and chimp genomes was now measured at only 85.1 % similar instead of 98.5%. Moreover, the male sex chromosome of humans turns out to be only 10% similar to that of the chimp male chromosome.

Wow! While many of the cellular components of human cells and chimp cells are identical, there are huge sections of genome (involved in important processes like brain development and cell division) that are not at all the same. Did the authors of this article leave out this important comparison by mistake, or on purpose? Either way it does not look good. Did they have an agenda to protect evolutionary concepts?

Dr. Casey Luskin in Evolution News and Science Today sums up the whole issue (May 22, 2025) p. 5: “After the publication of this Nature paper, I {Dr. Luskin} don’t think it’s fair or meaningful to simply say that “most” of the human genome is only ~1 percent different without also acknowledging that 12.5 percent to 14 percent of the genomes are so different that they can’t even be aligned to make a comparison. The “1 percent” statistic is far from the whole story. Indeed, citing it without the further context [of the May 2025 Nature paper] is a blatant misrepresentation. This reality needs to be acknowledged – always.”

Obviously, we don’t need numbers to tell us that humans are clearly exceptional and specially created, gifted with so many unique talents. But the numbers in this study do cast evolution into a very negative light.

This story therefore shows us that we need to be aware about the tendency of some people to hide information unfavourable to their pet theories. Don’t believe popular scientific declarations without first considering whether there is important information that you have missed. Bring on the sleuths!

See Genome under HeadStart



headSTART

The importance of the mineral calcium phosphate to living organisms can hardly be overstated. It is used by many organisms, including humans, to build their bones and skeletons. This is especially true for fish, crustaceans, and some brachiopods. Besides that, and even more importantly, phosphate ions are required for major building blocks of life, such as DNA and RNA. It is also required for the production of adenosine triphosphate (ATP)—the molecular fuel of living cells.

Evolutionists struggle to explain how life could have arisen from non-life—a concept known as “abiogenesis” or “spontaneous generation.” One of the problems is the importance of phosphate ions for biological molecules and the prohibitively low concentrations of phosphates in nature for those molecules to form spontaneously. There just isn’t enough phosphate. Phosphate minerals tend to be insoluble under most conditions, so only trace amounts exist as dissolved minerals in seawater. In fact, on average, seawater contains only about 0.071 parts per million of phosphorous.

Phosphate rocks, called phosphorites, are a type of sedimentary rock. Most sedimentary rocks are made up of small particles of previously existing rock that has been broken up by weathering and erosion, carried to a new location, and redeposited. Secular scientists believe the calcium phosphate in phosphorites came from the mineral apatite (which is also the mineral in our bones and teeth) in igneous rocks like granite. The granite was broken up and eroded, and the phosphate minerals were dissolved in water and carried by rivers to the ocean. However, this is not how we observe phosphorites forming today.

Phosphates seem to be fixed and concentrated by biological processes. In other words, phosphorites require life as much as life requires phosphate ions. Off the west coasts of Africa and South America, upwelling of

nutrient-rich cold water causes algal blooms. The algae bring those nutrients, including phosphates, into the food web. Dead algae, fecal pellets, and other organic matter accumulate on the continental shelves near the coastal upwelling. Decomposition depletes oxygen, so anaerobic bacteria (that don’t need much oxygen) break down the organic matter and help precipitate the phosphate minerals.

76% of phosphorites are believed to have formed through these biological processes. Another 23% is derived from igneous rock—rock that was once molten and then weathered. The remaining 1% is said to be deposited in guano (bird droppings). The size of many of the phosphorite deposits on the Pacific Islands, such as on the island of Nauru, makes it unlikely that much of the 1% was produced by bird droppings. They were more likely formed in a shallow marine environment, similar to many other marine deposits (the 76%). So is this the only way to explain where the phosphorites came from?

One creationist explanation says that the geological activity of the Flood would have increased the rate of weathering and erosion of the originally created bedrock and resulted in disturbances in temperatures, sea levels, water currents, and chemical composition in the oceans. As the Flood waters receded off the continents, relatively high concentrations of phosphates, water circulation, and differences in solubility would have created conditions for the minerals to precipitate out.

Another explanation starts from the beginning of the Flood when “the fountains of the great deep burst forth,” (Genesis 7:11) so that there was a release of immense quantities of water from within Earth’s crust, even from as far down as water dissolved in the mantle. This massive geological event would have also included volcanic eruptions. When volcanoes erupt, they tend to release various gases that are dissolved in the molten rock. As magma rises and is extruded onto the surface as lava, the pressure decreases, and the dissolved gases bubble out. Volcanic gases are mostly made up of water vapour and carbon dioxide. Other gases include sulphur dioxide, hydrogen chloride, hydrogen sulphide, and hydrogen fluoride. These can dissolve in water, forming acid (Dickens and Snelling, 2015).

The torrential rain of the Flood resulted in huge numbers of animals and people being

drowned and swept into the ocean. Some creationist geologists think the water may have been very acidic near the fountains, dissolving vertebrate bones and invertebrate shells. This would have greatly increased the amount of dissolved phosphate in the ocean, which may have caused huge algal blooms during the Flood year. Further from the fountains, the lower temperature and higher pH of the water would have been closer to normal, allowing phosphates to precipitate out.

Phosphate fossils called Orsten have been found in even the deepest Flood sediments. Orsten-type fossils are tiny—less than 2mm. They are formed when calcium phosphate incrusts the remains of an organism encased in sediments, usually bitumen-rich limestone, forming a kind of cast of the organism. This can preserve some of microscopic organisms’ tiniest, most delicate details. Usually, the phosphate cast is hollow where the soft tissues have decayed away. Secular scientists believe that phosphatized fossils formed near the decaying soft tissues of bony fish or in the living chambers of

cephalopods, but there are problems with this.

Experiments have shown that phosphatization had to happen quickly before the organism decayed. It only takes one or two weeks for the filtering limbs of water fleas to decompose completely, so preservation has to happen within a few hours to a few days after death. Anaerobic bacteria appear to play a major role. Large amounts of decaying organic matter are required to reduce the amount of oxygen available and increase the growth of anaerobic bacteria, but the sediment layers containing Orsten-type fossils do not contain evidence of large communities of organisms. Another puzzling thing about these fossils is that they are found in rocks lacking any phosphate minerals except for the fossils themselves. This is interpreted as the result of “winnowing” and re-sedimentation. In other words, the fossils and other sediment particles are believed to have been picked up and carried in the water current away from the phosphate source, and then heavier particles fell to the bottom first as the current slowed, resulting in layers with lots of Orsten fossils and phosphate nodules.

However, some researchers have done other experiments to try to understand how anaerobic bacteria work to deposit phosphates. One of those experiments resulted in blocks of muscle tissue, individual muscle fibres, and

eggs of shrimp and prawns being replaced by calcium phosphate sourced entirely from the crustaceans’ carcasses. No other phosphate source was required. The mineralization process only took two to four weeks. Despite the speed at which this process occurred in the laboratory, secular researchers still believe it takes hundreds of millions of years in nature.

You would think evolutionists might question the “millions of years” paradigm in light of the evidence that fossils don’t need that much time to form. Not only can phosphorites form quickly, but the large deposits mined in the present show evidence of catastrophic Flood processes and the decomposition of massive amounts of organic matter.

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How typos tell an interesting tale!

Understanding genetics was so straightforward back in the good old days. I am not sure when those days were, but our picture of control systems in our bodies was easier when obvious stretches of DNA, called genes, were believed to control specific traits like eye colour and blood type. It used to be that we talked about genes and 'junk DNA'. Now there are genes and there are control systems. It was the use of supercomputers which changed our understanding of how the human genome works.

The story is as follows. As a result of DNA sequencing, computers can reveal the exact order of nucleotides in an organism's chromosomes. Most individuals in a population will exhibit the same sequence (order) of nucleotides in each chromosome as that specific chromosome in other individuals also displays. But the similarity is not 100%. Here and there, an individual exhibits a nucleotide that is different from those typical in the population. Basically, these are typos or mutations. On chromosome 3 for example, at nucleotide site # 136, we might find the nucleotide 'C' instead of the normal 'T'. (There

are choices A, T, C or G.) The scientists call this situation a single nucleotide polymorphism [or alternate choice for that single nucleotide position.] In scientific shorthand, they call these typos SNPs.

About 20 years ago, a team of scientists published an analysis of what SNPs might be involved with a common eye disease. They found that affected patients exhibited a lot of typos in common. Apparently, mutations at several spots were contributing to this disease condition. This demonstrated that expression of these sections of the genome in the normal non-mutated condition were essential for healthy individuals.

Thus, began programs to survey the genomes of large numbers of individuals (healthy compared to affected) for links to specific disease conditions. These programs of analysis were called Genome-Wide Associated Study (GWAS). Scientists love acronyms when the jargon is so cumbersome! As GWAS be-

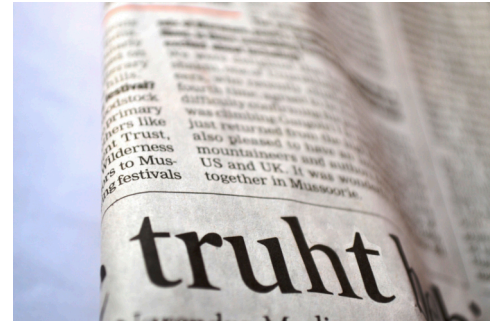
came more common, an interesting thing was discovered. Most of the relevant typos (SNPs) were located, not in the genes where scientists expected to find them, but in the DNA code between the genes (what scientists had been calling junk DNA!) The scientists had assumed that large sections of non-coding DNA (non-coding for genes that is) were left over from a long process of evolution and therefore had no function. But here the scientists were finding that the non-coding DNA was important to specific systems like blood sugar maintenance or prevention of cancer. Obviously the whole of the genome is important for the healthy functioning of individuals.

The more we study human genetics, the more we see how precisely organized human biology is. In honour of 20 years of GWAS, a recent article reconsidered the first analysis on age related eye disease. Apparently, chromosomes 1, 2, 3, 4, 6, 8, 9, 10, 13, 14, 15, 16, 19 and 22 all exhibit SNP sites connected to this disease. Some chromosomes exhibit several SNP sites with chromosome 6 exhibiting 20. However, chromosome 1 seems to exhibit the most important mutations.

Wow! These statistics show us how very complicated the control of any one system is in our bodies. It is common that multiple sites on multiple chromosomes control a given body system like maintenance of sugar levels in the blood. Random processes could never provide such coordination of distant parts of the genome. This shows amazing purpose and planning. Indeed, every aspect of our bodies testifies to the awesome provision and planning of our God, the Creator!

Lorraine Southam and Eleftheria Zeggini. 2025. Twenty years of genome-wide associated studies. *Nature* May 1 pp. 47-49.

In HeadStart (headstart.create.ab.ca) see SNPs and GWAS by searching for these terms in the search box on the top right side of the screen.



by
Moxie



Observing 100 Years of Scopes I

by
M. Jean
Masters

Commercial movies come and go and many are soon forgotten. Of those movies that I saw as a university student, there is only one that I remember. *Inherit the Wind* was the lesser feature on a double bill in a small theatre in Quebec. But the content packed a powerful message! The story line was about a trial involving Christian townsfolk in an American town who were ignorant and boorish, as opposed to evolution supporting educators there who were informed and civilized. Everyone understood that the movie claimed to portray an actual event, the Scopes Trial of July 1925 in Dayton, Tennessee. Thus, we reflect on the centenary of this trial which some claim represents the most significant trial of the century. What was it all about, and what is its legacy?

The events of 1925 began with the passage of the Butler Act in Tennessee which made it illegal to teach any theory that denies the divine creation of man as taught in the Bible or promotes the idea of evolution of man. This applied to all public educational institutions whatever their level. This act was generally considered non-controversial at the time. However Roger Baldwin, founder of the recently formed group of atheists and free thinkers, the American Civil Liberties Association or ACLU, set out to prevent such laws from being enacted ever again. His objective was to bring this challenge to the Supreme Court of the United States.

First the ACLU needed a teacher to defend the teaching of evolution (contrary to the law). John Scopes volunteered to serve. He was a substitute teacher who might have actually taught a class in biology and who might have actually mentioned evolution. The actual facts of the case seemed somewhat sketchy. What these people wanted was a court case to attack the Butler Act. Roger Baldwin himself picked Clarence Darrow, the most famous defense attorney of the time and one who rejected Christian norms of conduct. He had defended two perpetrators of a brutal murder on the basis that they were products of their biology and could not be blamed for their actions.

The prosecutor of the Scopes trial was William Jennings Bryan, an extremely popular three times Democratic candidate for the President of the United States. He did not know much science but he strongly supported the idea of parental control of education.

The trial was the first to be broadcast on radio and telegraphed around the world. The reporter was H. L. Mencken, very cynical and rude. He enjoyed labelling the Christian defenders of the act, especially Mr. Bryan, as buffoon, half-wit and Neanderthal man.

The court-case took some highly unusual turns including Mr. Bryan agreeing to serve as a witness and the judge

denying him the opportunity to make closing arguments. The court found John Scopes guilty, but an appeal never made it to Supreme Court.

The highly biased and non-factual movie/play of the trial has been very effective in keeping the memory of these events alive. David Coppedge (*Evolution News and Science Today* July 15, 2025)

says that he saw the movie in high school and that for decades it was required viewing in many high schools in the U.S. The unintended consequence of this controversy was to give evolution teaching a bad name in many school jurisdictions. For almost two generations in North America, the topic of evolution was largely avoided. Then in 1959, the centennial of printing of *Origin of Species*, geneticist Hermann Muller wrote "One Hundred Years without Darwin are Enough". Changes were coming to education.

In Alberta in the early 1970s, some teachers noted with concern the increasing emphasis on evolution in curricula and texts. They formed the Committee for True Education

which later morphed into the Creation Science Association of Alberta. Since then, throughout North America, the tables have turned and it is creation that many educators work to keep out of schools. But better information than ever before on nature and the creation is available. The instigators of the Scopes trial would not be pleased.

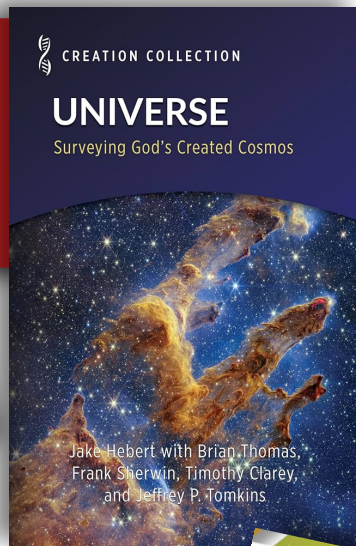


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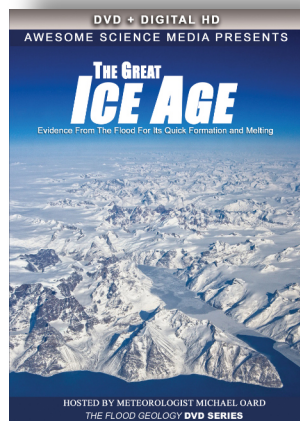
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Margaret Helder

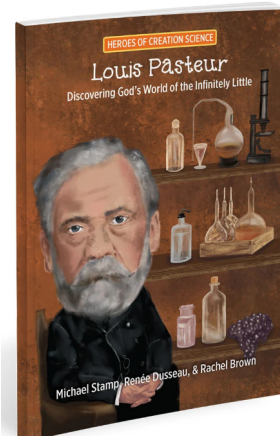
Tour Guide: Royal Tyrrell Museum (6th edition)

When you visit this museum, be sure to go armed with this booklet. It highlights interesting details and fascinating insights concerning the displays in the museum. All commentary is from a creation-based perspective. The booklet comes with a map of major dinosaur exhibits and links to further discussion online of some topics like extinct marine reptiles in Alberta.

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Michael Stamp, Renee Dusseau and Rachel Brown

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