

# Disclosure

of things evolutionists don't want you to know

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## THE MOLE'S THUMB

*An article in Nature about the mole's thumb reminded us of the classic evolutionary fairy tale about the panda's thumb.*

A current article about the mole's thumb caught our attention because it reminded us of the classic evolutionary argument about the panda's thumb. So, before we examine the mole's thumb, let's review the panda's thumb argument.

### THE PANDA'S THUMB

More than 30 years ago, Stephen Jay Gould wrote a classic column for *Natural History* magazine which later became the title essay for a collection of his columns published in book form. That classic essay claimed that imperfection is a better argument for evolution than perfection is.

The message is paradoxical but profound. Orchids manufacture their intricate devices from the common components of flowers, parts usually fitted for very different functions. If God had designed a beautiful machine to reflect his wisdom and power, surely he would not have used a collection of parts generally fashioned for other purposes. Orchids were not made by an ideal engineer; they are jury rigged from a limited set of available components. Thus, they must have evolved from ordinary flowers.

Thus, the paradox: Our text books like to illustrate evolution with examples of optimal design--nearly perfect mimicry of a dead leaf by a butterfly or of a poisonous species by a palatable relative: But ideal design is a lousy argument for evolution, for it mimics the postulated action of an omnipotent creator. Odd arrangements and funny solutions are the proof of evolution--paths that a sensible God would never tread but that a natural process, constrained by history, follows perforce.<sup>1</sup>

This is a philosophical, not scientific, argument. It's based on how Gould thinks God would do things. He thinks that God, unlike modern engineers, is not smart enough to employ reusable components in His designs. He thinks God would "reinvent the wheel" with each new creation. We don't care to debate or speculate upon how God would, or should, do things. We merely point out his argument is based entirely upon what Gould thinks God would do.

Which brings me to the giant panda and its "thumb."

Giant pandas are peculiar bears, members of the order *Carnivora*. Conventional bears are the most omnivorous representatives of their order, but pandas have restricted this catholicity [universality] of taste in the other direction--they belie their order by subsisting entirely on bamboo.<sup>2</sup>

### CLASSIFICATION DIGRESSION

We can't help but digress for a moment to point out the arbitrary nature of the biological classification system.

The modern biological classification system is a hierarchical structure with levels (top to bottom) named Kingdom, Phylum, Class, Order, Family, Genus, and Species. That is, several similar species are grouped into a genus. Similar genera are grouped into a family. Similar families are grouped into an order, *et cetera*.

What is it that makes living things similar? It's an arbitrary decision made by someone who thinks he is smarter than you.

All members of the order *Carnivora* are

<sup>1</sup> Gould, *Natural History*, November, 1978, "The Panda's Peculiar Thumb", [www.stephenjaygould.org](http://www.stephenjaygould.org)

[library/gould\\_panda%27s-thumb.html](http://library/gould_panda%27s-thumb.html)  
<sup>2</sup> *ibid*.

carnivorous. That is, they are all **exclusively meat eaters**, EXCEPT for those members that are omnivorous or vegetarians (like pandas) which are placed in that order because they obviously belong there.

Evolutionists generally believe that the most similar creatures have the closest common ancestor. Therefore, the biological classification system reveals "the tree of life." Creatures in a particular order should be more like other creatures in that same order than creatures in a different order (because they inherited most of the same traits from a closer common ancestor). DNA of creatures in the same order should be more similar than DNA of creatures in different orders (because they inherited their DNA from a closer common ancestor).

If the theory of evolution were true, then it would be relatively easy to classify living things, and the DNA comparisons would always confirm the relationships. The problem (for evolutionists) is that it is really hard to come up with classification criteria that work all the time. That's why biologists ignore their own rules (when it suits their purpose) and put herbivores (vegetarians) and omnivores (which eat plants and animals) in the carnivore (meat eating) category.

## BACK TO GOULD'S STORY

Goald was at the zoo one day, and observed some pandas eating bamboo.

I was amazed by their dexterity and wondered how the scion [descendant] of a stock adapted for running could use its hands so adroitly. They held the stalks of bamboo in their paws and stripped off the leaves by passing the stalks between an apparently flexible thumb and the remaining fingers. This puzzled me. ... So I counted the panda's other digits and received an even greater surprise: there were five, not four. Was the "thumb" a separately evolved sixth finger? <sup>3</sup>

He did some investigation, and learned this:

The panda's thumb is not, anatomically, a finger at all. It is made from a bone called the radial sesamoid, normally a very small component of the wrist. In pandas, the radial sesamoid is greatly enlarged and elongated until it almost equals the true digits in size. ... The panda's, thumb comes equipped not only with a bone to give it strength but also with muscles to sustain its agility. <sup>4</sup>

His conclusion:

The panda's true thumb is committed to another role, too specialized for a different function to become an opposable, manipulating digit. So the panda must use parts on hand and settle for an enlarged wrist bone and a **somewhat clumsy**, but quite workable, solution.

<sup>5</sup>

## SCIENTIFIC BIAS

Notice how **Goald's belief in evolution twisted his observation**. Initially, when he was watching the pandas eat, he was "**amazed by their dexterity**" because they did it "**so adroitly**." But when he came to believe that the thumb is just an accidentally enlarged bone that happened to be useful, their table manners were "**somewhat clumsy**."

Ironically, just after finishing the first draft of this essay, I received the (then) current issue of *New Scientist* in the mail which said,

Even so, **Goald harboured grave doubts about the ability of science to remain free from social pressures and bias**. <sup>6</sup>

The article was about a 19<sup>th</sup> century scientist named Morton who had measured the skulls of 670 people of various races and made some conclusions about the comparative intelligence of those races based on brain size. Goald thought that Morton's racial views had unconsciously affected his measurements. But when Lewis actually measured the skulls in Morton's collection (which Goald had not done), he found that Morton had accurately measured the skulls, and that Goald's suspicions about the measurements were racially biased.

Some commentators have observed that **Goald may have proven his own point about bias being inevitable in science, but with the bias merely being his own** rather than Morton's.

<sup>7</sup>

This explains **Goald's changing description of the panda's dexterity from "adroit" to "clumsy"** to support his evolutionary conclusion.

## WHERE'S THE SCIENCE?

The Panda's Thumb argument is **entirely philosophical, and isn't even consistent**. Goald says that if God had created the panda, He would have given it a better thumb for eating bamboo. But the panda has a perfectly good built-in wrist bone knife that slices bamboo with amazing ease, as if it were specially designed for that exact

<sup>5</sup> *ibid.*

<sup>6</sup> DeGusta and Lewis, *New Scientist*, 23 July 2011, "Taking the measure of Goald's skulls", page 24

<sup>7</sup> *ibid.*

<sup>3</sup> *ibid.*

<sup>4</sup> *ibid.*

purpose. But Gould says it really is somewhat clumsy because it must have evolved by accident. How can you argue with inconsistent “logic” like that?

### THE MOLE’S THUMB

Because the panda’s thumb is such an evolutionary icon, this headline in *Nature* drew our attention:

How the mole got its “thumb”<sup>8</sup>

That headline sounds like a Rudyard Kipling “Just So Story.”

The *Just So Stories for Little Children* were written by British author Rudyard Kipling. They are highly fantasised origin stories and are among Kipling’s best known works. ... The Just So Stories have a typical theme of a particular animal being modified from an original form to its current form by the acts of man, or some magical being. For example, the Whale has a tiny throat from a swallowed mariner who tied a raft in there to block the whale from swallowing others. The Camel has a hump given to him by a djinn as punishment for the camel refusing to work (the hump allows the camel to work longer between eating). The Leopard has spots painted on him by an Ethiopian (after the Ethiopian painted himself black). The Kangaroo gets its powerful hind legs, long tail, and hopping gait after being chased all day by a dingo, who was sent after the Kangaroo by a minor god whom the Kangaroo had asked to make him different from all other animals.<sup>9</sup>

The Just So Stories were published in 1902, and were clearly influenced by Darwin’s incorrect belief that acquired characteristics could be inherited.

According to last-month’s highly respected, peer-reviewed scientific journal, here’s the Just So Story of how the mole got its thumb.

Almost all land vertebrates have five fingers, but moles flout this rule. On top of their five digits, the creatures have co-opted a wrist bone to evolve a pseudo-thumb that increases hand-surface area for digging.<sup>10</sup>

The journal makes no mention of a minor god whom the Mole had asked to make him different

<sup>8</sup> *Nature*, 14 July 2011, How the mole got its ‘thumb’, page 142, <http://www.nature.com/nature/journal/v475/n7355/full/475142c.html>

<sup>9</sup> [http://en.wikipedia.org/wiki/Just\\_So\\_Stories](http://en.wikipedia.org/wiki/Just_So_Stories)

<sup>10</sup> *Nature*, 14 July 2011, How the mole got its ‘thumb’, page 142, <http://www.nature.com/nature/journal/v475/n7355/full/475142c.html>

from all other animals. ☺ But, then, the mole isn’t different because the panda has a similar protruding wrist bone which acts like a thumb.

The fact that the wrist bone exists and is useful is not evidence that it evolved for that purpose. (Nor is it evidence that it was intentionally created by a supernatural power for that purpose.)

Here’s the part that should cause a problem for evolutionists: Moles are not closely related to pandas, but they both have protruding wrist bones which serve a useful purpose. Such unique characteristics are generally considered (by evolutionists) to be evidence of a close common ancestor.

To make things worse for evolutionists, other creatures closely related to the mole don’t have this kind of “thumb” because they don’t have the gene for it.

Marcelo Sánchez-Villagra at the University of Zürich in Switzerland and his colleagues tracked key molecular markers in embryos of the Iberian mole (*Talpa occidentalis*) and the North American least shrew (*Cryptotis parva*), a close relative that lacks the long, sickle-shaped bone. They found increased expression of *Msx2*, a gene that promotes digit development, in the area of the developing mole paw in which a wrist bone becomes elongated. The gene product was absent from this region in the shrew.

The pseudo-thumb is not technically a sixth digit, because it comes from a wrist bone, and develops later than the five true digits.<sup>11</sup>

This is inconsistent with the evolutionary assumption that the most closely related individuals should have the most similar physical characteristics and the most similar DNA.

The Iberian mole has the *Msx2* gene which causes an elongated wrist bone. The closely related North American least shrew does not have that gene, nor does it have an elongated wrist bone. But the giant panda, which is not closely related, does have the elongated wrist bone.

Your friendly neighborhood evolutionist will probably say this is an example of “convergent evolution.” In other words, the fantastically improbable mutation happened twice, independently, in distantly related animals. That’s a cop-out.

For more detailed data about the classification of pandas, moles, and shrews, see the on-line supplemental information at

[www.scienceagainstevolution.org/v15i11s.htm](http://www.scienceagainstevolution.org/v15i11s.htm)

<sup>11</sup> *ibid.*

## ARCHAEOPTERYX ABANDONED

*Scientists now admit that Archaeopteryx was not a missing link between dinosaurs and birds.*

A DEITY couldn't have planned it better. Just two years after *On The Origin of Species* was published, a fossil found in Germany gave Charles Darwin's controversial ideas an almighty boost. *Archaeopteryx* sported a mouthful of teeth and armfuls of feathers - facts that Darwin's supporters immediately leapt on as evidence that birds descended from dinosaurs.

This week, Darwin's "strange bird" has finally lost its perch on the lowermost branch of the bird evolutionary tree (see "Archaeopteryx knocked off its perch as first bird").<sup>12</sup>

*New Scientist* seems to be admitting that scientists were biased by evolutionary prejudice and rashly jumped to the conclusion that *Archaeopteryx* was a missing link. It has taken evolutionists a mere 150 years to admit their mistake. ☺ Better late than never.

### DEFINITIONS

When reading the technical literature (as we hope you will), you will run into some confusing terms. Scientists try to make a distinction between bird-like dinosaurs and dinosaur-like birds, and aren't always certain about it. Both groups are called Paraves (which means, "like birds").

The main players here are an assemblage of bird-like dinosaurs — oviraptorosaurs and deinonychosaurs (including troodontids and dromaeosaurids) — and dinosaur-like birds that belong to the avialans. Deinonychosaurs and avialans together comprise a group known as Paraves, with oviraptorosaurs being a bit more distantly related. As more fossils of basal members of each of these groups have been collected, distinctions between the groups have predictably blurred, and some species have bounced around from group to group. For example, *Anchiornis*, which recently made headlines for its colourful plumage, was originally regarded as a basal avialan, then a

basal troodontid, and is now considered an archaeopterygid.<sup>13</sup>

### IMPORTANCE

But why is this such a big deal? *Archaeopteryx* has always been something of a celebrity and has monumental historical, sociological and even political importance. It was discovered, with perfect timing, in mid-1861, less than two years after Darwin's *Origin of Species* hit the bookstalls. With its blend of avian and reptilian characteristics (not to mention the charismatic beauty of the fossils themselves), *Archaeopteryx* was seemingly the ideal evolutionary intermediate, instantly entering the debates over evolution in Victorian England and elsewhere, and gaining prominence in textbooks.

Given this iconic role, *Archaeopteryx* has also been in the cross-hairs of creationists, and remains a lightning rod for political debates and legal proceedings about teaching evolution in schools. Of course, Xu and co-workers' finding only deepens the impact of *Archaeopteryx* by highlighting the rich evolutionary nexus of which it is a part, but how the ever-clever creationist community will 'spin' it remains to be seen.

Politics aside, the historical importance of *Archaeopteryx* stands, even if we need to add the footnote that current evidence no longer regards it as the oldest bird. The impact of losing *Archaeopteryx* from the avian clan is, nevertheless, likely to rock the palaeontological community for years to come simply because, for the past century and a half, these familiar fossils have guided almost all scientific thought about the beginnings of birds. The late John Ostrom, the most influential modern worker on avian origins, began his seminal 1976 article, itself entitled '*Archaeopteryx* and the origin of birds', with the statement, "The question of the origin of birds can be equated with the origin of *Archaeopteryx*, the oldest known bird." Indeed, virtually all our notions about early avian evolution have been viewed through the lens of *Archaeopteryx*. Hundreds of publications (including several of my own) draw on the structure of *Archaeopteryx* to formulate and evaluate hypotheses about birds. Some published phylogenetic analyses have even used *Archaeopteryx* as the sole representative of birds. To what species do we now turn to

<sup>12</sup> *New Scientist*, 30 July 2011, "It's been fun, feathered friend", page 3, [www.newscientist.com/article/mg21128233.000-we-shouldnt-mourn-the-demotion-of-archaeopteryx.html](http://www.newscientist.com/article/mg21128233.000-we-shouldnt-mourn-the-demotion-of-archaeopteryx.html)

<sup>13</sup> Witmer, *Nature*, 28 July 2011, "An icon knocked off its perch", pages 458-9, <http://www.nature.com/nature/journal/v475/n7357/full/475458a.html>

ground our understanding of early birds? <sup>14</sup>

These observations necessitate a re-evaluation of widely accepted hypotheses of paravian phylogeny; such an exercise will have significant implications for our understanding of avialan origins and related issues such as the origin of flight. <sup>15</sup>

The primary source is an article about the discovery of a fossil called *Xiaotingia*. Most of the article deals with a description of the fossil, including the number of teeth, the size and shape of its forelimbs, and various other skeletal elements. Based on all these measurements of *Xiaotingia*, they conclude that *Archaeopteryx* wasn't a bird at all. Here is perhaps the most important paragraph summarizing the analysis.

When Xu *et al.* ran a phylogenetic analysis combining the attributes of *Xiaotingia* with those of *Archaeopteryx*, other basal avialans, deinonychosaurs, and oviraptorosaurs, not only did *Xiaotingia* and *Anchiornis* cluster with *Archaeopteryx*, but these archaeopterygids now were yanked out of Avialae and placed in Deinonychosauria. In other words, *Archaeopteryx* was no longer a bird. Surprised by this outcome, the authors re-ran the analysis with identical parameters, but this time omitting *Xiaotingia*. The result was that *Archaeopteryx* was restored to Avialae as the most basal bird. This experiment affirmed how crucial *Xiaotingia* is to understanding the evolution of advanced theropods. <sup>16</sup>

Here's what that means. They wrote a computer program that compares selected physical characteristics to decide how closely related various species are and assigns them to various groups. The comparisons that the computer makes are all based on what the programmer tells it to compare, and how heavily to weight each feature. The validity of the conclusion depends entirely upon the subjective decisions made by the programmer.

When they ran the program without including data about *Xiaotingia*, the computer program said that *Archaeopteryx* was a bird. When they added *Xiaotingia*, the computer changed its mind and said that *Archaeopteryx* wasn't a bird.

Suppose someone wrote a program to

<sup>14</sup> *ibid.*

<sup>15</sup> Xu *et al.*, *Nature*, 28 July 2011, "An *Archaeopteryx*-like theropod from China and the origin of Avialae", pages 465-470, <http://www.nature.com/nature/journal/v475/n7357/full/nature10288.html>

<sup>16</sup> Witmer, *Nature*, 28 July 2011, "An icon knocked off its perch", pages 458-9, <http://www.nature.com/nature/journal/v475/n7357/full/475458a.html>

determine how beautiful a woman is based on physical features of many women. The program tells you that a Julia Roberts is a pretty woman. But then, you add data about Marilyn Monroe, and it says that Julia Roberts is no longer pretty.

It isn't the computer that decides if the woman is pretty or not—it's the algorithm chosen by the programmer that determines the outcome. The fact that adding data about one individual changes the classification of another individual makes the algorithm questionable. Julia Roberts may not be as pretty (in someone's opinion) as Marilyn Monroe was; but that does not make Julia Roberts ugly.

Witmer said, "This experiment affirmed how crucial *Xiaotingia* is to understanding the evolution of advanced theropods." We would say, "This experiment affirmed how subjective the thinking about evolution is."

Regardless of how similar *Xiaotingia* and *Archaeopteryx* are to modern birds or extinct dinosaurs, it doesn't prove anything evolved from anything else. They could just as easily been created with similar characteristics.

Evolution isn't science. It's opinion. It's speculation. It's prejudice. This is evident from Witmer's conclusion:

In truth, this chapter of the scientific story is just beginning. Just as *Xiaotingia* moved *Archaeopteryx* out of the birds, the next find could move it back in — or to somewhere else within this fuzzy tangled knot that makes up the origins of birds and bird-like dinosaurs. That said, during this sesquicentennial anniversary of *Archaeopteryx*, which is being honoured with exhibits and commemorative coins, the bitter irony may be that it may not have been the bird we've always thought it was. But *Archaeopteryx* will remain an icon of evolution, perhaps even more so now, providing compelling evidence that, as we should expect, evolutionary origins are rather messy affairs. <sup>17</sup>

They are messy because they are wrong!

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**You are also permitted (even encouraged) to send a donation of \$15/year to Science Against Evolution, P.O. Box 923, Ridgecrest, CA 93556-0923, to help us in our work. ☺**

<sup>17</sup> *ibid.*

# CREATIONLETTER.COM

<http://kcsq.wordpress.com/2009/01/16/why-evolution-is-not-foundational-to-science/>

## *Why Creation Is Foundational To Science – Not Evolution*

This month's web site review looks at a web site blog that I discovered while searching for a site to review for this month. If you are not familiar with blogs, a blog is a type of website or part of a website which is maintained by an individual with regular entries of commentary that are displayed in reverse-chronological order. Blogs usually are highly interactive and allow for visitors to leave comments.

For this month we are reviewing a blog entry made on January 16, 2009 that has the title "Why Creation Is Foundational to Science – Not Evolution". This entry provides quotes from many scientists and others that provide insight into the creation versus evolution controversy. Wernher Von Braun, the Creationist rocket scientist stated that "For me, the idea of a creation is not conceivable without invoking the necessity of design. One cannot be exposed to the law and order of the universe without concluding that there must be design and purpose...To be forced to believe only one conclusion—that everything in the universe happened by chance—would violate the very objectivity of science itself."

You will find quotes from CS Lewis, GK Chesterton, Michael Denton, Wolf-Ekkehard Lonng, Jonathan Wells, L. Harrison Matthews and Professor W.R. Thompson. All of them make for interesting reading.

At the end of the blog the author states that "If our children are to have a proper understanding of science, evolutionism mortal flaws must be published. Evolutionism must be placed critically under the microscope instead of being carefully guarded from criticism by a High Wall of Protection."

By looking through the Archives of the blog you can find many more interesting blog entries. The main blog page also has many links to topics of interest regarding creation and evolution.

### **Disclosure**

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