

## AN ELEPHANT IN A CHERRY TREE

By Norm Kalmanovitch

Many of the points that “climate change alarmists” use to make their case, in fact prove them wrong.

The first temperature measurements that flagged the current warming trend were not due to the greenhouse effect, but reflected the encroachment of expanding cities onto the measurement sites. Expanding urban heat islands are in fact the most likely human contribution to the current warming trend.

The “hockey stick” temperature graph which has been proven to be an incorrect mathematical manipulation of proxy data, brings to light the significance of two of the recent past climate changes, “the Medieval Warm Period” which gave Greenland its name and “the Little Ice Age” that has clear historical documentation of water bodies freezing in winter that are ice free today. If simple proxy data can be manipulated to ignore these two real and significant events, the credibility of complex climate models must also fall under the same category of being prone to willful manipulation to produce a desired outcome.

Even though the only evidence is to the contrary, we often hear statements such as the “science is settled” and “global warming is mostly caused by human emissions of CO<sub>2</sub>” stated with absolute conviction. A confused public wonders why the “climate skeptics” have not been able to prove that warming is not caused by human CO<sub>2</sub> emissions and the simple answer is that we are up against a combination of rhetoric, alarmism, and a peculiar type of indisputable but faulty logic.

The logic is best demonstrated by a silly “elephant joke” that went something like this:

Why do elephants paint their toenails red? Answer: So they can hide in cherry trees. Question: Have you ever seen an elephant in a cherry tree? Answer: No. Comment: See how well it works!

No matter what argument you use, since you have never seen an elephant in a cherry tree, you cannot prove that there are no elephants with painted toenails in cherry trees because of the way the logic is presented.

To transpose this logic to global warming there are several indisputable facts. The global temperature is currently warming, CO<sub>2</sub> is a component of the atmosphere that has a strong “greenhouse property,” burning fossil fuels produces CO<sub>2</sub>, and atmospheric CO<sub>2</sub> is increasing, therefore human generated CO<sub>2</sub> is causing global warming. Just like the elephant joke it is impossible to argue with the logic, but just like the elephant joke when you put in some values of proportion and size, the concept becomes no more than a silly joke.

One of the earliest pieces of alarmist rhetoric used the “runaway” greenhouse effect on Venus as an example of what could happen on Earth “if we don’t do something.” The atmosphere of Venus is comprised of about 97% CO<sub>2</sub> with nitrogen making up most of the remaining 3%, so virtually all of the greenhouse effect on Venus is from CO<sub>2</sub>.

The atmosphere of Venus is very dense with a surface air pressure around 90 times greater than on Earth. This, combined with the predominance of CO<sub>2</sub> in its atmosphere, gives Venus over 229,000 times more atmospheric CO<sub>2</sub> than on Earth. Logically one would conclude that this would create a much stronger greenhouse effect and a much hotter global temperature than on Earth. This is the case, and the surface temperature on Venus is measured at up to 477 degrees C resulting from a greenhouse effect of about 500 degrees C. By comparison the mean global temperature on Earth is a pleasant 15 degrees C resulting from a greenhouse effect of about 33 degrees C.

This brings up an interesting point. If 229,000 times the CO<sub>2</sub> concentration on Earth is responsible for 500 degrees of greenhouse effect then CO<sub>2</sub> on Earth should only be responsible for 500/229,000 degrees of greenhouse effect or about 0.002 of a degree C.

If scientists were allowed to use this “elephant in a cherry tree” logic this could be used as a rigorous mathematical and physical proof that CO<sub>2</sub> is totally insignificant as a contributor to global warming on Earth. True scientists have to include all the facts; they are not allowed to only include appropriate facts to make their case. The truth is that Venus is in a very different temperature and pressure regime from Earth, and the physical characteristics of CO<sub>2</sub> in such high concentrations and pressures are very different than the 380 parts per million concentration on Earth. This physical regime has many different factors affecting global temperature, and comparisons to Earth are not valid. Alarmists can use misinformation about Venus to make their case, but scientists are not permitted to counter, even with a quasi valid case.

Fortunately Earth's other planetary neighbor Mars is similar enough to Earth that a rigorous mathematical proof can be made showing that at least 3/4 of the current warming comes from something other than CO<sub>2</sub>. (both natural and human generated).

The atmosphere of Mars is 95.32% CO<sub>2</sub> (compared to Earth at 0.038% CO<sub>2</sub>) with nitrogen, argon, and oxygen making up most of the remainder, resulting in virtually all of the Martian greenhouse effect coming from CO<sub>2</sub>.

Even though the atmosphere is mostly CO<sub>2</sub>, it is so thin and gravity is so weak that in total there is only 9 to 30 times more CO<sub>2</sub> on Mars than on Earth. (30 represents the concentration at the surface and 9 takes into account the total volume of the atmosphere which is substantially smaller than that of Earth).

The greenhouse effect on Mars is only 5 degrees C. If we use the "9 times" factor for comparison to the Earth, then the total greenhouse effect that we can attribute to all of the CO<sub>2</sub> on Earth is only 5 degrees C divided by the factor 9 or 0.556 of a degree C. (the "30 factor" would over state the case at just 0.167 of a degree C.)

Unlike many of the claims made on the basis of unsubstantiated conjecture, this value of 0.556 of a degree C is logically derived from well established physical values.

The IPCC official number for global warming is 0.60 +/- 0.20 degrees C. with carbon dioxide concentration increasing from 280ppm to 380ppm over the same time period.

If 0.556 of a degree C represents the greenhouse effect from the entire CO<sub>2</sub> component of the atmosphere and 380ppm is a sufficiently small concentration that a linear relationship is reasonable, then each ppm would have a 0.00146 degree C greenhouse effect and the 100ppm change in atmospheric CO<sub>2</sub> could only have caused 0.146 degrees C of the 0.60 degrees C identified by the IPCC.

**Over 3/4 of the measured warming is not caused by CO<sub>2</sub>! This makes any statement that global warming is mostly caused by human CO<sub>2</sub> emissions blatantly false.**

It is far easier to confirm that something is true in a scientific sense than to prove that something is false in a political sense. There is no conflicting evidence that the current warming is not primarily caused by anthropogenic CO<sub>2</sub>, in fact there is the large volume of evidence that has been presented by the "Skeptics" that supports this idea.

One of the most compelling pieces of visual evidence is a plot of Global Absolute Monthly Mean Temperatures. Global temperature increases are predicted in the range of 0.20 degrees/ decade yet monthly variations are over 3.8 degrees, over 150 times the predicted annual rate. Since there is no measurable CO<sub>2</sub> change over a month the change has to be due to other factors with the appropriate variability (such as cloud cover).

During the period from 1940 to 1975 CO<sub>2</sub> concentration was increasing but the global temperature was dropping. (The world was worried at that time about an impending ice age.)

**The theoretical gain from the Kyoto accord if successful in achieving a real reduction to below 1990 levels is about 0.07degrees C by 2050. This fits with the 0.556 degree C value.**

In 1991 the eruption of Mt Pinatubo spewed enough ash into the atmosphere that the temperature dropped by almost as much as it had risen in the past 100 years.

Cyclic changes in the sun's output combined with variance in the Earth's orbit have been shown to be the dominant driving force behind major climatic cycles.

In fact all the evidence points to natural causes as the dominant factor in climate change. Virtually all of the evidence for human contribution to climate change points to expanding urban heat islands and changes to the reflective properties of the land surface by human activity as being the most likely, not CO<sub>2</sub> emissions.

Is 0.556 degrees C a reasonable estimate for the contribution of atmospheric CO<sub>2</sub> to the Earth's greenhouse effect? It certainly fits well with all the data, but it is in conflict with the beliefs of a political consensus.

***The question comes down to whether the winner of a political debate is more correct because of consensus than those who oppose consensus with scientific fact.***

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