

The Liberal Agenda Of Ice Cubes

There is a difference between heat and temperature. Heat is the real stuff, the energy that bakes your bread, warms your home, and melts the steel in blast furnaces. Temperature is just a number that tells you where the heat wants to go.

Most people don't think of temperature in this way, but from the viewpoint of physics, that's all it is. Heat always flows from hot to cold, so if it is two degrees cooler over *there* than it is over *here*, then the heat will flow from *here* to *there*. It does not matter if we are talking about the heat from a forest fire or a single match: if it is a smidgeon cooler over *there*, then *there* is where the heat will go. Heat can be thought of as a flow of energy, whereas temperature is more like the slope of a hill. If heat were rain, then temperature would be the gentle tilt of the parking lot that channels the rain towards the storm drain. Whether the rain is heavy or light, clear or muddy, the slope of the parking lot doesn't change.

All of which brings us to global warming, a subject certainly involving temperature and heat. Political conservatives (in the USA) have downplayed the evidence for global warming for 30 years. This isn't necessarily a bad thing. A good dose of healthy skepticism never hurt anyone. However, for 30 years they have also consistently obliterated the difference between heat and temperature, and that *is* a bad thing. As the late Daniel Moynahan once said, everyone is entitled to their own opinions, but no one is entitled to their own facts. I would be kind and blame the factual inexactitudes on simple ignorance, but alas. When you hear them coming from expensively dressed oil executives who have PhDs from MIT, then either the oil executives have an agenda, or the admissions standards at MIT have undergone a truly dismaying decline.

Example: I was watching a talk show some years back when a top-level oil executive said, with just the perfect touch of condescending dismissal, that global temperatures have risen by only 0.4 degrees since 1935. Hence global warming is a myth, or at best a wild exaggeration created by the eco-liberal left. The well-intentioned but non-scientifically educated host said, that is amazing. She asked him for his sources, and he was pleased to tell her that his data came straight from the U.S. weather service. Even the most arch of arch-liberals cannot refute this, he concluded with a superior smile. (He did not go into an end-zone touchdown dance, but I think that's mostly because it might have ripped his nice suit.)

I will mince no words. I know bald-faced lying when I hear it, and this was bald-faced lying, as bald as a billiard ball. First we have the small point that the number the executive mentioned – 0.4 degrees – is the global warming since 1935 in degrees *Celsius*. Then we have the not-so-small point that the executive very, very, carefully never said anything about this to the TV host. Even when she started chatting about temperatures and clearly said "*Fahrenheit*" several times, *still* the executive didn't clarify himself. He just nodded his head and let her talk.

If it has been a year or two since your high school chemistry, one °C = 1.8 °F. So, the executive knew that as long as he always said "one degree" he could claim perfect accuracy on his facts – yet be guaranteed that almost everyone listening would misunderstand him to mean 1° *Fahrenheit*, which is about half as much. Slam and dunk. He was telling the truth, yet still lying, cutting the global temperature change in half via verbal tactics that were sheer fraud. Once you saw what he was up to, it was quite amusing to see him catch himself now and then when old habits *almost* tripped him up and he *almost* said "degrees Celsius" by reflex.

But he never did. He knew perfectly well what he wasn't saying. His intent was to deceive, and the precision omission of one fact can achieve that goal just as surely as any falsehood.

And now that I've shot him full of holes, I will admit that this particular falsehood is very picayune. He might as well have openly quoted his temperatures in either °C or °F, because the overall temperature of the Earth *isn't* changing much. No one has to exaggerate this. It has risen by only 0.7 °F since 1935, and by only 1.4 °F since 1860. I point out his devious word-play mainly because it tells you more about his mindset, and his willingness to mislead the public, than any harsh words I could summon.

Let's get to the real game. That oil executive wasn't on TV to play verbal bait and switch with °C and °F. His real game was to brazenly broadcast the non-factual notion, to as many millions of people as possible, that if the average air *temperature* of planet Earth isn't changing, then there can be no global *warming*. In other words, he was deliberately confusing the difference between heat and temperature, and clearly doing so to mislead the non-scientific public. This little non-argument has been a favorite of the far political right for a long, long time, and it originated with oil industry types exactly like this one, way back in the 1970's. (In its own way, the oil industry has lied about global warming just as callously and just as relentlessly as the tobacco industry ever did about cancer.)

It all boils down to clever miswording and clever confusion of concepts. If that oil executive had tried to claim that it is impossible for a tiny match to grow into a giant forest fire – because the match and the forest fire have the same temperature – then his host would have laughed at him. But let him rephrase this exact same nonsense to imply that if there is no temperature change then there can be no heat flow, and thus no global warming, and the host says, oh my. And apparently believes him. Which is exactly what he wanted.

Needless to say, those paragons of science also known as conservative political commentators have long ago picked up on the oil industry's non-logic, and have been parroting it for decades.

Exhibit A: I have heard George Will repeat it many times on ABC-TV, eloquently informing the other panelists (in a very convincing voice, might I add) that it is simply fact that the average temperature in the U.S. has barely changed in 30 years. All this hand-wringing over global warming is little more than ludicrous liberal overstatement, he contends.

Exhibit B: On the very day after Albert Gore was awarded the Nobel Peace Prize, political commentator Fred Barnes of FOX News spent the better part of 15 minutes disparaging the Swedish Academy for their choice and blustering that global temperatures have barely changed in the past decade. Stabbing his finger into the table for emphasis, he declared that he would “like to see Al Gore explain that”.

Personally, if I were in disagreement with a five-year United Nations study signed by 53 scientists from 15 nations, as Mr. Barnes is¹, I would hesitate to proclaim all of them wrong and myself right, particularly when they have PhDs in geology, chemistry, physics, oceanography, biology, and meteorology – and all I have is a

¹ P. Forster, V. Ramaswamy, P. Artaxo, T. Berntsen, R. Betts, D.W. Fahey, J. Haywood, J. Lean, D.C. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz and R. Van Dorland, 2007: Changes in Atmospheric Constituents and in Radiative Forcing. *In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

lot of attitude and a TV camera. Thus we see that my timid self-doubts have held me back in life, with the result that I am merely a teacher whereas Fred Barnes is a nationally famous personality who probably makes twelve times what I do. Mr. Barnes has a very, very high opinion of his opinions. No question, his breathtaking self-absorption has served him well.

But, in the spirit of free speech, let us give Fred a break and treat his opinion as equal to that of 53 renowned scientists. Fred wanted to know why global temperatures aren't changing, if global warming is as bad as Al Gore says. (This was a pretty safe challenge on Fred's part, given that Al Gore wasn't on the show.) I cannot say whether Al Gore would have been able to provide Fred with a good answer or not, because Al Gore is not a physicist.

But I am, and I can.

Short answer: The idea that the Earth should get hotter, for no better reason than because it is being heated, is just junk science. Actually, it is more like magician's patter. Like David Copperfield using mirrors and a red silk handkerchief, the idea that more heat *must* equal higher temperature draws your eye to the fact that heat can make the temperature rise – and away from the fact that heat can also have no effect at all on the temperature. I live in Chicago, and in the winter my apartment radiators put out the heat 24/7. As the weeks pass I burn gallons of oil to keep the heat coming, and I know it because I'm paying for it. Yet – does the temperature inside my apartment rise without end? Does it hit 100°, then 200°, then 300°?

Not exactly. The problem is, the heat refuses to stay put. The winter weather is colder than my apartment, so the heat just flows away. Heat is like that. It loves to flow. You cannot stop this. You can slow it down, but you cannot stop it. Heat is not a quantity so much as it is a process. It is always moving. It rarely makes sense to talk about heat unless you talk about both ends: how much heat is entering a system, *and* how much heat is leaving. In a cold house we want the heat to stay put, so we keep the doors closed to contain it. But it flows away anyhow, so we burn enough fuel to replace it. Heat in = heat out, and the inside temperature does not change. Hence, contrary to Fred's considerable confusion, is it possible for enormous heat *flows* to exist simultaneously with little to no temperature change.

Longer answer: Fred Barnes is a refutation of his own words, if he had imagination enough to see it. I am reasonably sure Fred eats now and then, so that means his body is taking in thousands of calories per day. Most of those calories are burnt in his body, resulting in the release of heat – but does his temperature rise? One would hope not, since a change in body temperature of even half a degree °F is an indicator you are ill. There is a flow of heat into his system, but no temperature change, because heat is also flowing out of the system. If the outward heat flow is too swift, Mr. Barnes no doubt puts on a coat to slow it down. If the outward flow is too sluggish, he may turn on a fan to speed it up.

There are heat flows everywhere on the Earth, but more or less, heat flows from the equator to the poles. The Earth is much more complex than a house, and so is its heat flow: 1) The sheer size of the planet means that heat can take months to move across it. 2) As heated air moves north and south from the equator, it is deflected by the rotation of the Earth into east and west currents – hurricanes are the most spectacular manifestation of this. 3) Mountain ranges, oceans, and other barriers scatter the heat transfer via both air and water. 4) The tilt of the Earth and other astrophysical factors scramble the input of solar heat to the Earth and cause differing amounts of it to land here and yon.

We egg-head scientists have a specific, technical term for this complex system of heat-carrying chaos: we call it *the weather*.

Now, the evidence that the polar regions are melting has become so overwhelming and so irrefutable that even the oil companies don't try to lie about that anymore. Instead they take advantage of the fact that few people live in the arctic (hence few people can see the evidence with their own eyes), and so they just brush over the polar melting thing. Instead they lie about temperature. Whenever the scientific community says that greenhouse warming is dumping untold megajoules of energy into the air above Muncie, Indiana, then the willfully obtuse on the far political right invariably shriek that such megajoules cannot exist because the temperature in Muncie is *not* changing. If there were *really* any significant global heating, so their non-argument goes, then Muncie's temperature would soar.

To which I say: greenhouse warming can only make Muncie hotter if the heat *stays* in Muncie. And how exactly, Fred and George, do you propose that we arrange that? Shall we attach the excess heat to the ground with super-glue? Construct a giant glass dome over Indiana? Ask Congress to pass a resolution suspending the atmospheric circulation above Muncie?

The amusing truth is, temperature changes in Muncie, Indiana (or the lack thereof) are not a good argument either for OR against global warming, because Muncie's temperature isn't going to change much in either case. Any excess heat dumped on Muncie will soon slip away to the coldest place it can find (such as, say, Greenland?) because heat is like that. Heat has been flowing in vast quantities from the equator to the poles ever since the Earth first formed, and no addition of man-made greenhouse gas is going to alter it. All the greenhouse effect can do is add a little more baggage to the heat train as it rumbles by.

To put it another way, the scientific illiterates who argue that the arctic cannot be melting because the temperature in Muncie is not changing have got it *exactly* backwards. The temperature is not changing in Muncie precisely *because* the Arctic is melting, and taking away Muncie's heat.

To Fred Barnes, in response to his lazy demand that someone else explain his lack of understanding of his own dogma to him, I say: think, for a change. Look at the world. Surely you have enjoyed a nice glass of ice tea on some summer day? Haven't you noticed that *first* the ice cubes melt, *then* the tea gets warm? What makes you believe the Earth is any different? It takes heat to melt ice. When heat flows from the summer sun into your tea, it hardly even slows down on its way to the ice. Heat is like that. It likes to move towards the cold. Hence, until the ice is gone, the tea doesn't change temperature.

So it is with planet Earth. The arctic is melting ever faster even as the temperature in Muncie stays within a degree or less of what it has always been. This tells us that the heat *flow* onto planet Earth has increased, but that so far the atmospheric conveyor belt is more-or-less keeping up with the extra demand as it dumps the heat onto the ice caps. The ice in our glass of tea is melting faster every minute, but until all of it is gone, our tea remains cool.

If you wish to know the Awful Truth About Global Warming, here it is: were the polar ice caps not there (and other sources of cold, such as the deep oceans), then the global temperature of planet Earth would indeed be rising, swiftly and terribly. But our civilization is probably not capable of melting all the polar ice

in less than maybe 2000 years, so fortunately we still have time to reconsider our current lethargy in the war on global warming. We still have a little ice left in our tea . . .

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