



How to be a real sceptic

— gavin @ 19 December 2005

Scepticism is often discussed in connection with climate change, although the concept is often abused. I therefore thought it might be interesting to go back and see what the epitome of 20th Century sceptics, Bertrand Russell, had to say on the subject. This is extracted from the Introduction to his 'Sceptical Essays' (1928):

I wish to propose for the reader's favorable consideration a doctrine which may, I fear, appear wildly paradoxical and subversive. The doctrine is this: that it is undesirable to believe a proposition when there is no ground whatever for supposing it true.

First of all, I wish to guard myself against being thought to take up an extreme position. ... [\[Pyrrho\]](#) maintained that we never know enough to be sure that one course of action is wiser than another. In his youth, ... he saw his teacher with his head stuck in a ditch, unable to get out. After contemplating him for some time, he walked on, maintaining that there was no sufficient ground for thinking that he would do any good by pulling the old man out. ... Now I do not advocate such heroic scepticism as that. I am prepared to admit the ordinary beliefs of common sense, in practice if not in theory. I am prepared to admit any well-established result of science, not as certainly true, but as sufficiently probable to afford a basis for rational action.

....

There are matters about which those who have investigated them are agreed. There are other matters about which experts are not agreed. Even when experts all agree, they may well be mistaken. Nevertheless, the opinion of experts, when it is unanimous, must be accepted by non-experts as more likely to be right than the opposite opinion. The scepticism that I advocate amounts only to this: (1) that when the experts are agreed, the opposite opinion cannot be held to be certain; (2) that when they are not agreed, no opinion can be regarded as certain by a non-expert; and (3) that when they all hold that no sufficient grounds for a positive opinion exist, the ordinary man would do well to suspend his judgment.

So does this provide any clarity? Russell clearly doesn't support an extreme where everything must be continually doubted and nothing can ever be known. As he later suggests, that kind of position would make it philosophically troubling to ever get out of bed in the morning. This extreme attitude does however rear up in climate discussions where an interesting debate on the impacts of human-related increases of greenhouse gases on, say, the atmospheric circulation, often becomes bogged down in how do we know that GHGs are increasing at all, whether they are affected by human activity, and how it's all down to the sun anyway. Since all of these things have been discussed *ad nauseum* [here](#), [here](#) and elsewhere, that kind of 'scepticism' (more accurately described as contrarianism, or 'la-la-la-I-can't-hear-you'-ism) serves only to waste time. Since working scientists are all busy people, this is usually why we tend to cease communication with such contrarians very quickly.

If we relax the above-mentioned constraint requiring 'all experts' to agree (something never achieved in practice) to 'the overwhelming majority of experts', we can substitute in the IPCC for 'experts' in the quote. It's important to note that Russell does not claim that if all experts are agreed, then one must agree with them, but solely that being certain of the opposite opinion in such circumstances is not wise. It is implied by his opening statement then that having 'all experts' agree something is reasonable grounds for supposing something to be true. Similarly, if the IPCC concludes that something is highly uncertain (such as the magnitude of changes in aerosol indirect effects), then there are no good grounds for assuming otherwise.

Can someone be productively sceptical? Of course. Firstly, one needs to be aware that scepticism about whether a particular point has been made convincingly is not the same as assuming that the converse must therefore be true. Sometimes scientists just don't use the best arguments they could (particularly if they are a little out of their field of expertise) and these points can, and should, be challenged. One example would be the use of an incorrect 'correlation implies causation' argument. For instance, the strong correlation of CO₂ and temperature in the Antarctic ice core records does not *in and of itself* imply that CO₂ has a radiative impact on climate. However, additional analyses that look at the factors controlling temperature during the ice ages give strong [grounds](#) for believing that CO₂ does play an important role. Therefore while the use of the correlation argument alone is wrong, the converse of the conclusion is not necessarily true.

Secondly, it helps to have done the homework. It is highly unlikely (though not impossible) that the sceptical point in question has not already been raised in the literature and at meetings. If a particular point has been argued to death previously and people have moved on (either because it was resolved, moot or simply from boredom), there is little point bringing it up again unless there is something new to talk about. Obviously, a good summary of how the point was dealt with can be educational though. Arguments about whether the current CO₂ rise is caused by human activity fall clearly into this category.

Thirdly, scepticism has to be applied uniformly. Absolute credence in one obscure publication while distrusting mountains of 'mainstream' papers is a sure sign of cherry picking data to support an agenda, not clear-thinking scepticism. Not all papers get the peer review they deserve (or require) and the literature has many [examples](#) of dubious logic and unsupported interpretation. Sometimes this becomes very clear (for instance, the Soon and Baliunas saga at Climate Research), and sometimes it goes unmentioned upon. But what about Galileo? Wasn't

he an obscure scientist persecuted by an entrenched mainstream? Yes, but Galileo is celebrated today because he was correct, not because he was persecuted. If an idea is right, it will be supported by additional evidence and will lead to successful predictions – at which point it will likely be accepted. The ‘Galileo’ defence (and its corollary the ‘establishment conspiracy’) are usually a sign that the additional evidence and the successful predictions are lacking.

Finally, it should be understood that constructive scepticism is a mainstay of the scientific method. The goal of science is to come closer to a comprehensive picture of how the real world works, with scepticism essential to toughening up scientific ideas, though alone, it is insufficient to move understanding forward. It isn’t essential that every true sceptic have an alternative theory ready to go, but they should bear in mind that our picture of how the world works, though incomplete, rests on many different foundations. If it sometimes seems that the scientific consensus is resistant to new ideas, it is because that consensus has already been tested in many ways and yet still stands.

Much of what passes for ‘debate’ on climate change in the popular media, is often framed as the ‘scientific consensus’ vs. the ‘sceptics’. A close examination of these arguments (for instance, as outlined in a recent [Wall Street Journal editorial](#)) doesn’t reveal much that could be described as true scepticism since they often use the fallacious reasoning that we discuss above. However, since scepticism has a (justifiably) long and noble tradition in science, the framing device is quite powerful (despite the lack of connection with any actual scepticism). As with the intelligent design controversy, agenda-driven opposition has often managed to cloak its contrarianism with the mantle of scepticism. So, while many contrarians pay lip service to the legacy of Russell (or even Pyrrho), forgive me if I remain a little sceptical...

[Comments \(pop-up\) \(210\)](#)

210 Responses to “How to be a real sceptic”

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1. 1

Don Flood says:

[19 December 2005 at 9:41 AM](#)

It must be admitted (based upon the evidence) that most scientists are atheist and/or agnostic (with ‘weak atheism’ being an extension of agnosticism):

<http://kspark.kaist.ac.kr/Jesus/Intelligence%20&%20religion.htm>

As with the ‘debate’ on evolution, I think it is clear (or, at least ‘suspect’) why many people do not take global warming seriously. Of course, only experts in psychology,

sociology, anthropology, etc., can know for sure. Perhaps more research needs to be conducted in this area!

2. 2

[Barton Paul Levenson](#) says:

[19 December 2005 at 9:58 AM](#)

Re #1 — I'd like to point out that I am a born-again Christian, and I have a physics degree, and I support the scientific consensus on both global warming and evolution. I can sympathize with Mr. Flood's reaction to a piece quoting Bertrand Russell and the suspicion that "skepticism" of the anti-religious type is, if not directly mentioned here, at least implied. But I honestly don't think this article went over the line. Please, let's not turn this into one of the many thousands of pro- and con- theism boards. We could get a thousand comments in which no one ever convinces anyone else. This site is about climate change, the evidence for it and the opposition to it, and I really feel we ought to stick with that. There are many other venues for debating theism v. atheism.

[**Response:**Indeed. This post has nothing to do with that debate - gavin]

3. 3

[Mark A. York](#) says:

[19 December 2005 at 10:45 AM](#)

Science doesn't even ask that question.

4. 4

Mark Frank says:

[19 December 2005 at 11:35 AM](#)

Most of the sceptics I know would object to "we can substitute in the IPCC for 'experts' in the quote". It is not just the number and eruditeness of the experts that matter, but the culture and organisation in which they operate. It is this issue which keeps me wondering.

[**Response:**You are certainly right that a particular group of scientists may not be representative of the actual position of experts at large. For example, one would rightly be skeptical of claims by tobacco-industry scientists about the safety of cigarettes, no matter how many of them there are. It happens, though, that many many scientists that work on climate (myself, for example) are not part of the IPCC working groups, yet

consider the IPCC documents to be good representations of the current state of knowledge on climate change. -eric]

[Response: I'm a first-time participant as a lead author in the IPCC process. I've been to three author meetings so far, and I've found that there is a culture of very open and critical discussion of the science, with no top-down interference whatsoever. We write what we agree on after thorough discussion. I asked around the room amongst the authors of our chapter who has been a lead author before, and it turns out that it's the first time for all of us. None of us feels any need to stick to some "party line" or defend what the IPCC (i.e. a different group of people) wrote in the last report. The idea promoted by some sceptics that the IPCC is some kind of closed-shop organisation is completely wrong. The IPCC is simply a process where a large bunch of scientists, chosen for their demonstrated expertise based on their publication record, get together to assess the published scientific literature as best as they can. (And that without pay in their free time, i.e. sacrificing a lot of nights and weekends.) -Stefan]

5. 5

Tony Noerpel says:

[19 December 2005 at 12:12 PM](#)

Re #4 Naomi Oreskes wrote an article in Science which reported on the papers about global warming published between 1993 and 2003. She found no papers contradicting the view that anthropogenic global warming is underway. I don't know if her study was exhaustive or accurate, but if true, then those authors would constitute a group of "experts". I don't know why papers by contrarians like John Christy may have been excluded.

6. 6

Tony Noerpel says:

[19 December 2005 at 12:13 PM](#)

Oreskes "The scientific consensus on climate change", Science 306, 5702 #686, 2004

7. 7

Don says:

[19 December 2005 at 1:21 PM](#)

Small point, Galileo was hardly obscure. The civil and military engineering products of his science made him an important figure during the early decades of the 17th century in Italy and beyond. Although sentenced to house arrest for the Dialogues, his persecution was not nearly as painful as that of Giordano Bruno some 30 years earlier. Bruno was

burned at the stake for intellectually similar defiance of authority to that of G. While we remember Bruno for his persecution, his philosophy cum science was actually substantial. The different treatment of B from G illustrates how rapidly science was being integrated into society by Galileo's time.

Apropos the comments of the fundamentalist Christian commentator, your reasoning that G is celebrated today because he was correct, not because of his persecution or contrarian stance, is pertinent. Your reasoning is also pertinent generally to discussions with non scientists about how science works and why. Your reasoning applies perfectly to science's appreciation of Newton. Newton was devout and professed piety. He thought and wrote hugely about the relationship of his work to the designs of the Creator. However, he is celebrated today because he gave us the fundamentals of physics. The contributions to knowledge of his devotion and piety are to scholarship about the divorce of science from Christianity. Newton's science cum religion continues to be meat for philosophers, historians and sociologists of science; it made no contribution to religion or to religious philosophy, the most important of which doesn't care much about science. Were it only for his religious writing, Newton would be no more than an historical curiosity. His agonies over doing physics to know the "mind of the Creator" illustrates the death throws of Scholasticism, when the Siamese twins objective and subjective were separated. By the time of Newton, science was the objective. Religion inherited the "subjective".

8. 8

Steve Bloom says:

[19 December 2005 at 3:20 PM](#)

Re #5 (TN): I believe Christy's papers (in recent years, anyway) have been limited to the UAH satellite stuff, discussed on this site at length recently. He has certainly had no problem getting them published, although their subject matter can't be called skeptical in a strict sense (but have been used as ammunition by skeptics). So far as I'm aware, Christy himself hasn't written anything that can be called contrarian. His co-author Roy Spencer is a different story, but Spencer's skeptical/contrarian material has been written for the popular press rather than peer-reviewed publications (which is what Oreskes surveyed).

Broadly speaking, legitimate papers that support skeptic positions don't seem to have a problem finding a publisher in the peer-reviewed literature. Certainly some are rejected, but then lots of papers get rejected. As Gavin noted with regard to the Soon/Baliunas fiasco, sometimes the peer-reviewed press goes a bit too far in allowing skeptical/contrarian views.

9. 9

Tony Noerpel says:

[19 December 2005 at 4:39 PM](#)

So if we restrict ourselves to peer-reviewed journals then certainly we can construct a body of Bertrand Russell experts. Further, I assume they all agree on anthropogenic global warming as per Oreskes' research. Thus the contrarian view on anthropogenic global warming cannot be held to be certain. Was Oreskes' result correct?

[**Response:** The Oreskes result doesn't really tell you anything you wouldn't have already picked up by going to a big meeting like AGU in San Francisco or EGU in Vienna. Out of the thousands of people talking about various aspects of climate change, the number of contrarians could be counted on one hand. Even if these few were prodigious writers of peer reviewed papers they still might not come up in a survey such as Oreskes. - gavin]

10. 10

Steve Bloom says:

[19 December 2005 at 4:56 PM](#)

Other than to point out that there is actually a wide range of skeptic/contrarian views, those conclusions seem fair. Of course there are skeptics/contrarians who dispute Oreskes' findings, but that is no surprise.

11. 11

[Francis MASSEN](#) says:

[19 December 2005 at 6:27 PM](#)

I would be better off if more of the climate scientists were more sober and less alarming in their statements. Everybody has ample examples that alarmism (being justified or not) pays back well in publicity and funding. Non-alarmism does not. So we really have here a soft spot that in my opinion is more extreme in politically entangled climatology than for instance in plain engineering. We should just reflect on this: what if every major climate research result from the last 50 years (being it an impending ice age or an overheating planet) had been directly transformed into politically action? Would these actions all have been wise? I think an intelligent "wait and see, let the dust settle down and then act" behaviour is good scepticism, not boring "contrarianism".

[**Response:** I don't know of any example where 'alarmism' has been good for funding as opposed to media attention (and even then, that is the exception). I have served on many program panels where money is given out and in no case was money given because a proposal was 'alarmist'. In general, the money goes to the best thought out, interesting and tractable proposals, and since there are more of those than can be funded, it is indeed rare that poor proposals, even in an exciting area get funded. I don't think anyone advocates significant policy action based on individual studies or results - it is the weight of

evidence from hundreds of studies that have formed the basis of the IPCC conclusions and that is what is propelling policy action, not the paper-de-jour in this weeks Nature or Science. - gavin]

12. 12

Lynn Vincentnathan says:

[19 December 2005 at 6:28 PM](#)

I think your distinction between expert and layperson (non-expert) is good. However, with Pascal, laypeople have a better way of deciding what practical thing to do with the knowledge (at its various levels of acceptance) scientists give us.

Because I don't know enough science to debate contrarians scientifically, I usually fall back on: Suppose the mainstream climate scientists are wrong & the contrarians right, and we act as if the scientists are right, then we have nothing to lose & something to gain in terms of reducing other environmental harms (acid rain, local pollution), resource depletion, and increasing national security (re oil wars & protection), and lots of money to save from energy/resource efficiency & conservation, and increasing from alternative energy.

On the other hand, if the climate scientists are right about AGW happening, and the contrarians are wrong, and we act as if AGW is not happening, then not only will we lose all those other benefits, but we will allow the world to sink into great catastrophe (greater than you may think, when we figure how people may start turning nasty against each other as their material lives deteriorate – Katrina gave us a microcosm of that).

Pyrrho should have figured out whether his teacher might die or be harmed, if he did not pull him out. And since we can never be totally sure about anything ('cept death & taxes), he couldn't have known beforehand he'd be unsuccessful. At least he could have stayed and given company to the man. OTOH, maybe he didn't like his teacher, the way contrarians seem to (perhaps at a subconscious level) hate the world, or there was a big test coming up & he was ill prepared for it.

BTW, science only strengthens my belief in God, mainly because my premise (faith, not evidence-based) is in God, so that everything in the world only wows me more about God's greatness, including evolution. I find intelligent design offensive in its reduction of God to a David Copperfield magician (a god of man's image, rather than beyond our comprehension, and allowing God to reveal himself). Perhaps God may be offended by ID, too. The way I see it is everything is a miracle. Some miracles have scientific explanations, and some do not....yet. And the fact that we are destroying the earth through AGW is proof to me God gave us free will. (What was God thinking, anyway, when gave us free will to us bratty children?)

13. 13

Hans Erren says:

[19 December 2005 at 7:47 PM](#)

My skepticism is about fact finding, so far I found:

- 1) Business as usual is more likely the SRES A1T scenario, although the next ten years have an absurd emission growth.
- 2) I have not seen evidence for carbon sink saturation, CO2 doubling is unlikely this century.
- 3) Transient CO2 sensitivity is low.
- 4) Warming is net beneficial in the colder areas
- 5) Desertification is caused locally by deforestation and mismanagement.
- 6) The polar bear population is increasing. Climate change is not likely only good for bad animals and bad for good animals
- 7) The glaciers are disappearing, so what? It takes 3000 years to melt Greenland
- 8) Educated women have less children

Action points:

Stop real pollution, increase efficiency, fight corruption, educate girls.

14. 14

Roger Albin says:

[20 December 2005 at 12:04 AM](#)

To give credit where credit is due, the Bertrand Russell analysis quoted above is essentially a gloss of Hume's epistemology, the position usually termed mitigated skepticism.

[**Response:** Thanks - gavin]

15. 15

Anthony Kendall says:

[20 December 2005 at 12:34 AM](#)

I'm reviewing Tom Bethell's political book "The Politically Incorrect Guide to Science" on my blog, and I've found that the cherry picking aspect of "skepticism" is definitely at work. His signature tactic throughout his book is his willingness to dismiss the efforts of thousands of probably very brilliant individuals because someone sometime published a paper that disagrees.

Thank you for the excellent piece on skepticism, and the quote from Russell. This will be a post I refer back to often.

16. 16

Andrew Dodds says:

[20 December 2005 at 5:04 AM](#)

Re: 11

It is extremely hard to find genuine climate scientists who ARE alarmist; whereas it is of course easy to find 'skeptics' who claim that all AGW research is alarmist, and that this is essential for funding.

On the subject of getting rich and famous, Bjorn Lomborg and Michael Critchon have done very well out of global warming, of course.

Of course, the idea that there was some major consensus in the 1970s that an ice age was coming on in the immediate future is simply an urban legend. Any real skeptic – i.e. one who was both honest and informed – would not try that one.

I would actually cite things like Near Earth Asteroid research and Supervolcano research as far stronger examples, but even in this case it is the journalism that is 'alarmist', far more so than any of the scientists.

17. 17

[Barton Paul Levenson](#) says:

[20 December 2005 at 6:39 AM](#)

Re #7 — We theists do not consider our beliefs as being somehow intrinsically "subjective." This board is supposed to be for discussing climate change, but by God if people diss my beliefs I WILL respond to them.

[**Response:** Any further comments on religion rather than science will be removed as being off topic. - gavin]

18. 18

Chris Reed says:

[20 December 2005 at 8:54 AM](#)

Re #4 Mark Frank. For what it's worth: Up until about February this year I was sceptical. I had found that in the midst of conflicting views in the media and on the net I had only one option: To learn the science as well as I could and form my own opinion.

What I now see is that we have a good general idea of what is where we are and the direction we're headed. Not a detailed map. Much of what I had previously thought was doubt about the direction, (or indeed whether we're 'moving' at all!) is actually inflation of doubts about what the 'map' actually looks like. I now have no doubts that we're warming the planet primarily by CO2 emissions (but not exclusively) and consequently disturbing our climate.

The only doubts I have are about what is actually going to happen in detail. But that's always the case when considering the future. However I remain 'very concerned' about what we've started.

My advice: If in doubt; learn! Arguments such as the 'cultural' one, and the 'it's all hype to secure funding' are, in my opinion, lazy. The evidence and arguments are out there and laid bare. But learning takes hard work. And those purveying the 'culture/hype' angle seem to me to be taking advantage of the fact that most people won't learn the science.

19. 19

Lynn Vincentnathan says:

[20 December 2005 at 11:18 AM](#)

RE #11, I completely disagree that scientists are alarmists. It's their findings that are alarming, and it's almost surreal that scientists present them as they would any other findings — in a mundane, erudite way with the usual caveats. Just read some of those boring science journal articles (not the editorials, but the ones with abstracts and data).

We lay people should be alarmed by AGW. Why aren't more of us alarmed? That's a real bafflement.

When I first came to realize we may be putting our life world at great risk from AGW back in 1990 (5 years before the 1st studies had reached .05 significance on GW), I thought all I needed to do was reduce my own GHGs (I was willing to sacrifice to do so, since the threat certainly warranted sacrifice in my mind), and simply tell others about the problem, and they'd follow suit. Then I could get back to my regular life.

But it didn't work out that way. Instead of sacrifice, I found myself saving lots of money by reducing GHGs, without lowering our living standard. The real shocker, however, was that many people seem to be totally recalcitrant about acknowledging (much less doing anything about) the dangers & harms we're facing. They don't want to believe it, no matter how much evidence pours in, or they socially construct it as just like any other problem (to be ignored & left to the problem-fixers).

I would hope the public & politicians & contrarians sober up, roll up their sleeves, and start saving money by reducing GHGs. Otherwise, I'm beginning to think people are crazy or something.

20. 20

John F. Bradley says:

[20 December 2005 at 1:14 PM](#)

Regarding the issue of whether some “mainstream” scientists are “alarmist” in their discussions of global warming, it is well to remember that, in any controversy, scientific or otherwise, there will be extremists at both ends of the spectrum. While the reality of global warming is well established, there is ample room for disagreement about just how seriously it will impact the world. Those who anticipate the most extremely dire consequences are the ones most inclined to be alarmist on this issue.

Also, it should be remembered that scientists differ in terms of temperament, and in terms of their feelings about the duty to influence public opinion and public policy. Some scientists can readily accept that the people, in a democracy, have the ultimate right to decide whether we should take precautionary action, or whether the risk of doing nothing about global warming is an “acceptable risk”. Other scientists may feel that it is so essential to make sure that the public decides this issue “correctly”, that hyperbolic tactics like inflammatory rhetoric, and exaggeration of the scope of the true danger are morally acceptable.

[**Response:** Who are these people? Give me an example of a scientist using 'inflammatory rhetoric' to exaggerate the true danger if you can. There may be some cases, but the accusations of 'alarmism' come much more frequently than any actual incidence.... - gavin]

21. 21

Harry Pollard says:

[20 December 2005 at 2:07 PM](#)

Perhaps the Trenberth Press Conference in which the connection of hurricane frequency and intensity to GW was affirmed is an example of “alarmism”.

The Press Conference was announced as “Experts to warn global warming likely to continue spurring more outbreaks of intense hurricane activity”.

Needless to say, this and other media exposure made for scary headlines directly connecting hurricanes to GW.

As Chris Landsea was to say:

“I found it a bit perplexing that the participants in the Harvard press conference had come to the conclusion that global warming was impacting hurricane activity today. To my knowledge, none of the participants in that press conference had performed any research on hurricane variability, nor were they reporting on any new work in the field. All previous and current research in the area of hurricane variability has shown no reliable, long-term trend up in the frequency or intensity of tropical cyclones, either in the Atlantic or any other basin. The IPCC assessments in 1995 and 2001 also concluded that there was no global warming signal found in the hurricane record.”

I regard the IPCC contention as an hypothesis. Crucial to any hypothesis is testing. I don't think that the IPCC is an adequate vehicle for testing their hypothesis. In fact, I have found little or no evidence against the GW hypothesis on the IPCC website.

So, one must go outside the IPCC to find any adequate testing of the hypothesis.

Yet, anything outside the IPCC is considered “contrarian”. While paying lipservice to scepticism – the necessary part of science – in fact, anything outside the completely surrounded truth is given short shrift.

With Landsea out of the way, I'll offer my own hypothesis. The big push as we move toward the next Report will be to link hurricanes and GW in the minds of the public.

[Response: We don't need to get into specifics (but see our [previous post](#) on this subject) but linking hurricane intensity to sea surface temperatures has a strong theoretical (Emanuel, 1987; 2005), modelling (Knutson et al, 2004) and observational (Webster et al, 2005) basis, and so it can hardly be 'alarmist' to discuss it. It is true that the attribution of recent trends in intensity has not (yet) been made, but it is a valid subject for research and discussion. 'Alarmist' is defined as 'a person who alarms others needlessly'; yelling 'fire' in a crowded theater when there is no such fire is clearly alarmist, pointing out an actual plume of smoke is not. - gavin]

22. 22

[Michael Tobis](#) says:

[20 December 2005 at 3:37 PM](#)

Regarding the use of the word “alarmist”, I would like to concede that there is some need to identify a position that is more alarmed than is the consensus.

For one thing, I'd like someplace to hang my own hat.

More important, though, is the absolute urgency and necessity of communicating to the public that the IPCC reports represent a median position, not an extreme.

The scientific discussion is misframed in the press, in the public mind and in the policy sector, as being between the consensus position and the “skeptics” who are so confident that nothing of consequence is at stake in anthropogenic climate change that they feel comfortable advocating an essentially trivial policy response to it.

At least equal weight should be given to scenarios which are worse than the consensus as to those which are more benign than the consensus. “Skeptics” is a misnomer for the latter group as much as “alarmists” is a misnomer for the former, but as I argued with little success here exactly a year ago, [“global warming” is a misnomer as well](#).

It is a shame to let politically adept people with preconceived agendas choose names so as to confuse the discussion, but on the other hand it’s better to have names for things than no names at all. This is called framing the debate, and indeed in at least that sense we’ve been framed.

Anyway, please let’s not ignore the possibility of worse-than-consensus scenarios!

23. 23

Lynn Vincentnathan says:

[20 December 2005 at 4:23 PM](#)

Re #22, I’m with you, Michael. We need to get some environmentalists & victims (potential or actual) of AGW in on the larger debate — people who are SKEPTICAL that the scientists are not telling us the worse, or don’t really know yet; people who don’t relish maintaining a “wait-and-see, do-nothing policy.” It is really too narrow a debate between moderate science and extremist “know-nothing” contrarians.

However, I’m glad this site is here to propound & discuss the mainstream science on AGW.

We just need to be aware that there are other views that may or may not be as bonkers as contrarian views, way on the other side of the debate (to which environmentalists & worry warts are not invited). The view that things might become much worse than what scientists can tell us with certainty right now. The view of people who expect the worse (& strive to avert it in “no regrets” ways) and hope for the best (that the contrarians are actually right).

Why is this such a ridiculous position in the mind of skeptics, contrarians, the media, and our government? Do I smell.....?

24. 24

[Pat Neuman](#) says:

[20 December 2005 at 5:22 PM](#)

NYC indymedia article and comment...
Alarmist or not alarmist. Helpful or not helpful?

At: <http://nyc.indymedia.org/en/2005/12/62001.html>

NASA: "The observed rapid warming thus gives urgency"

An important message from NASA

By pat neuman

The observed rapid warming gives more than just an "urgency to discussions" ..., it gives urgency to reduce greenhouse gas emissions as much as we can.

"Recent warming coincides with rapid growth of human-made greenhouse gases. Climate models show that the rate of warming is consistent with expectations (5). The observed rapid warming thus gives urgency to discussions about how to slow greenhouse gas emissions (6)".

<http://data.giss.nasa.gov/gistemp/2005/>

By pat neuman <http://groups.yahoo.com/group/ClimateArchiveDiscussion/>

Comments:

Polar bear family tree – researched by NWF

Dec 19, 2005 09:47AM EST

by Pat Neuman

Related science on climate change

National Wildlife Federation (NWF)- Bear family tree

Snips – polar bear

There are only eight species of bear living in the world today.

All eight species have a common ancestor, Ursavus, that lived more than 20 million years ago.

The Ursavus family line split into two subfamilies of what are considered ancestral bear-dogs: the Ailuropodinae (which ultimately evolved into the giant panda (*Ailuropoda melanoleuca*) that lives in China today) and the Agriotherium (which ultimately evolved into the Ursidae lineage).

About 15 million years ago, Ursidae diverged into two new lineages: the Tremarctinae, known as short-faced bears; and the Ursinae, known as true bears.

Ursinae gave rise to the six other bear species that exist in the world today. About 3.5 million years ago, early Ursine bears began migrating to North America by way of the Bering Land Bridge. These bears evolved into the American black bear (*Ursus americanus*).

The brown or grizzly bear (*Ursus arctos*) began to evolve 1.6 million years ago. Brown bears were once found throughout Europe and Asia and eventually wandered into North America, following the same route taken by ancestors of the black bear.

Scientists believe that the brown bear lineage split over 300,000 years ago to form the polar bear (*Ursus maritimus*), theorizing that a group of early brown bears became isolated in colder regions and ultimately adapted to life on ice.

National Wildlife Federation (NWF) link at:
<http://www.nwf.org/wildlife/grizzlybear/familytree.cfm>

—

What we choose to do about how we use energy resources will have consequences, some of them unforeseen.

<http://nyc.indymedia.org/en/2005/12/62001.html>

25. 25

Liisa Antilla says:

[20 December 2005 at 7:30 PM](#)

RE: Comment within #8: “So far as I’m aware, [John] Christy himself hasn’t written anything that can be called contrarian”.

In response I’d like to point out a few published comments of John R. Christy, University of Alabama in Huntsville. While these are not taken from peer-reviewed literature, they are insightful nonetheless:

“[N]umerous studies indicate the present biosphere is being invigorated by the human-induced rise of CO₂. In and of itself, therefore, the increasing concentration of CO₂ does not pose a toxic risk to the planet. ... CO₂ is not a pollutant”.

(May 13 2003) John R. Christy, Written Testimony. U. S. House Committee on Resources; Kyoto Global Warming Treaty's Impact on Ohio's Coal Dependent Communities.

“Has human activity been responsible for some of the last century's temperature rise? The IPCC 2001 claims the following:

There is new and stronger evidence that most of the warming observed over the past 50 years is attributable to human factors.

Note carefully what the preceding IPCC quote actually says. The evidence is “new and stronger”. But is this evidence truly ‘convincing’ or ‘beyond doubt’ or ‘stronger than a DNA test?’ The evidence is described only as “newer and stronger” and hides the fact that uncertainties and inconsistencies are not only still present but in some cases growing.

...

The alarmist media reports ... become the source of downstream hysteria promoted by those with extreme environmental agendas. Such pronouncements by ideological environmentalists that the globe's weather is worsening are actually false.

...

The types of bad weather people really care about are not changing enough to notice.”

(2002) John R. Christy. “The global warming fiasco”. In: Competitive Enterprise Institute/Ronald Bailey (Ed.) Global Warming and Other Eco-Myths: How the Environmental Movement Uses False Science to Scare Us to Death. Roseville, CA: Prima.

26. 26

[CapitalistImperialistPig](#) says:

[21 December 2005 at 3:03 AM](#)

You say: “Finally, it should be understood that constructive scepticism is a mainstay of the scientific method.” The word constructive is extraneous. Constructive and destructive criticism both play crucial roles and I think a look at the historical record will show that the destructive version was usually more important. New ideas kill off old when the old are shown to be unsupportable.

Additionally, you make the point that few climate scientists could fairly be called alarmists, and that fits my experience too, but the same is not true of the many political groups who want to wield these results as weapons against various entrenched interests. Fairly or unfairly, climate scientists are better known for the views of their ostensible political supporters than for their own.

Finally, I would like to discourage the rather juvenile practice of referring to sceptics as “septics.” It damages your credibility more than theirs.

[**Response:** I have the trademark on that. And I think its a good idea. But you've misunderstood. No-one is labelling genuine skeptics as septics. We/I am labelling those who are not skeptics, but who have an irrational and prejudiced disbelief against GW. Milloy for example. They need a label - what would you propose? - William]

27. 27

Mark Frank says:

[21 December 2005 at 3:36 AM](#)

Re #18 – Chris thanks for responding. I have been learning about this topic for about 5 years now (as a part-time hobby – so very far from expert). I am convinced that there is a degree of warming caused by anthropological introduction of greenhouse gases. But I am not at all sure how much warming, what the consequences will be, or what is the appropriate response.

I also believe it is vital that the IPCC not only operate an open culture – but that it make a bigger effort to be perceived as open. Sceptical opinions should be welcomed, taken seriously, and answered (politely) in a way that is accessible (they are even more guilty of course). Every reported failure of openness should be treated as private organisation treats a complaint. Handled well, complaints are great opportunities for improving service and customer relationships. Seen this way the Barton committee is an opportunity, not a threat.

These are onerous requirements but we are talking about a process and institution with massive consequences and surely we can find the resources. It doesn't matter how good the science is if it doesn't have the appropriate communications structure to support it.

This web site is a great contribution but it is manned by volunteers in their spare time. It is too important for that. And a brief glance at climateaudit will give examples of sceptical postings that are within the comment policy that somehow don't get posted on to this site. These are no doubt accidents – but that doesn't matter – a little bit more damage has been done to the credibility of the process.

28. 28

amazingdrx says:

[21 December 2005 at 3:53 AM](#)

Why the urgency to prove that global climate change is substantially a result of fossil fuel combustion gases? Russell in fact consistently argued in his work that very few if any statments that say something about the real world can be proven.

Does one need to prove that a meteorite will not crush one's car before driving to work?

Global climate disaster is not the only reason to shift from fossil and nuclear power to green energy. It is one of many.

Sound familiar?

The existence of the Iraqi WMDs was not the only reason to invade Iraq, even when it was disproven, it did not invalidate the many other reasons for the war. (those other reasons can ALL be defeated separately, heheh).

So what is the answer to the question: Does human combustion of fossil fuels significantly contribute to global climate change? Probably, and it constitutes enough probability that along with the other reasons to replace fossil fuel combustion, it tends to indicate that the shift to renewable energy is worth pursuing.

Just as it is probably worth going to work and ignoring the possibility of a meteor strike on one's car.

This is the same false dilemma behind creationism versus evolution. The creationists claim that evolution is "just a theory". That it can't be proven, and therefore should not be taught in schools.

So the argument goes, unless evolution can be proven, it should not be taught. Furthermore, since creationism is supported by the bible, an infallible text constituting the word of god, it should be taught instead.

But of course no scientific theory can be proven in the same way that bible doctrine is allegedly proven. To prove a bible argument one refers to the text itself, proving only consistency within it's own text, totally independent of any real world.

To prove a scientific theory, like evolution or global climate change due to fossil fuel combustion, one collects evidence from the real world and makes a case based upon probability.

That case is not a vote amongst experts, every last expert could be wrong, as history has often proven. The search for what is true does not involve an appeal to experts or a voting process on what the consensus of experts think. (The zen of truth seeking is dialectic..aum)

It is for every observer to consider the evidence and the argument to see if the case has been made. Then we can debate the merits of the case to decide on a course of action. The tactic of the anti-green faction is to demand a biblical standard of proof..or keep studying the problem without acting.

But to demand absolute proof before adjusting one's view of reality, is a dangerous approach, notably favored by the portion of humanity dedicated to obtaining their proofs from tautological religious and political philosophies. They are the true believers.

29. 29

Hans Erren says:

[21 December 2005 at 7:00 AM](#)

I would like to emphasise the difference between contrarians who have arguments like “co2 is not a greenhouse gas”, and sceptics who say that “the surface record has substantial errors”

I know it is difficult to draw the line between contrarians and sceptics. But likewise it is difficult to draw the line between sceptics and “warmers”. Where would you place me?

BTW I have seen some good work by you against climate alarmism on this site.

30. 30

Mark Frank says:

[21 December 2005 at 9:13 AM](#)

As you know from elsewhere, Hans, I believe you to be a paradigm of constructive scepticism, willing to take on the sillier arguments of contrarians as well as question the detail of climate science. :-)

31. 31

Jeff Alexander says:

[21 December 2005 at 2:48 PM](#)

Re #26 – The label I prefer is “denier” as in Holocaust denial. It indicates someone who deliberately misinterprets or ignores the evidence.

32. 32

CapitalistImperialistPig says:

[21 December 2005 at 3:32 PM](#)

William of the many names: “They need a label – what would you propose? – William]”

I lean toward “minions of Exxons evil empire,” but that doesn’t roll quite trippingly off the tongue. Maybe “Minions of Exxon’s Oligarchy of the World” or MEOW? ;) There’s got to be a Syriana catspaw joke in here somewhere.

33. 33

[Michael Tobis](#) says:

[21 December 2005 at 4:58 PM](#)

Re #13, I agree in substance with some of the numbered points and not others. But I am struck by this:

7) The glaciers are disappearing, so what? It takes 3000 years to melt Greenland

I find this attitude deeply disconcerting. Whether it is 3 KA or more or less is not the issue. The question raised here is whether we are behaving responsibly in committing future generations to such enormous changes.

Economists have an argument that things further into the future should be discounted, and while this may be useful in managing private investments it is not obviously sound as a strategy for public policy. Why should our interests in wealth and comfort outweigh those of our descendants for a stable environment?

Economic theories are abstractions from social constructs, unlike physical facts. I am confident that if the ice caps begin to collapse in earnest, economic theory will shift around to assert that we should not have put our descendants at risk in the way we are now doing.

One reason anthropogenic global change is interesting and challenging as a policy question is because it raises the issue of our responsibility to future generations. Most of the predictive efforts of climate science are being directed out to about a century, but the effects of our current behavior are likely to be felt for several centuries and perhaps millenia thereafter.

This is why I find the “so what” in Hans’s posting so peculiar. It appears to be based on moral presumptions that at least ought to be made explicit and examined.

34. 34

[Hans Erren](#) says:

[21 December 2005 at 5:35 PM](#)

Michael, the the quote “the glaciers are disappearing, so what” is a translation of the title of an interview by Vrij Nederland with IPCC lead author Hans Oerlemans.

<http://www.vn.nl/vn/show/id=45983/framenoid=39914>

“De discussie over klimaatverandering begint hysterische trekjes te vertonen,”
zegt Hans Oerlemans

(‘The discussion about climate change is starting to show hysterical symptoms’
says Hans Oerlemans)

Is a melting glacier bad? Look at Toronto and Amsterdam, both located on places where there used to be glaciers.

[Response: In and of itself, a glacier melting is not 'bad'. Significant numbers of them melting are a clear sign of a warming world, and projections of the ice sheets melting have big implications for sea level rise. I would argue therefore that the implication of melting glaciers is more likely to be bad than good. - gavin]

[Response: A little postscript: Glaciers reappearing where Amsterdam is now, or Greenland melting and Amsterdam disappearing under the sea, would actually be equally bad. We've had both situations in the past - "Amsterdam" under ice about 20,000 years ago at the last glacial maximum, and "Amsterdam" under water in the Pliocene, 3 million years ago, when CO2 and sea level were higher than today. None of these past climate states were 'bad'. But the difference is: we now have Amsterdam and many other coastal cities in the world, and losing these through our own fault would be stupid. -Stefan]

35. 35

Jenkins says:

[21 December 2005 at 5:40 PM](#)

As long as scientists are trying to understand the mechanisms of climate change they are functioning as disinterested assayers of knowledge. But any kind of evaluative judgment about human intervention in natural processes is unscientific and is only ideological opinion. What does Global Warming mean? It means that there will probably be more thunderstorms of somewhat greater severity, probably more hurricanes of somewhat greater severity, alright coastal cities will have to move further inland and use stronger building materials in their architecture, more dykes will have to be built. It means that it might be warm in December and cold in July, that's nothing to worry about too much. What else? Some flora and fauna will become extinct or they will adapt to the changing environment, Deep Ecologists will not like this but sane individuals will not be very concerned about it nor should they. It was ordained by the Judeo Christian God that Humans should have Dominion over the Earth. Science and technology are methods for expanding the Dominion of Human Empire, and all matter in the universe is only there for the exploitation by humans for their own selfish benefit, eventually all matter and energy in the universe will be harnessed to serve the interests of human beings. And

humans are the only important life on the planet Earth possessing High Intelligence and self consciousness as the Brutes do not. From that objective outlook Global Warming is not something to be dismayed about but proof of humanities power and greatness.

[**Response:** And now back to our regularly scheduled progams.... - gavin]

36. 36

[Pat Neuman](#) says:

[21 December 2005 at 5:49 PM](#)

In “Our elves, our selves”, Kay Harvey, St. Paul Pioneer Press, said:

“Just when things are looking bleak, elves come to the rescue.

“When the old shoemaker became too poor to buy more leather, elves sneaked in at night to stitch such fine shoes buyers lined up at his door. And when Santa could no longer grant all children’s Christmas wishes, elves took over and ran his workshop all year long”.

Donna Casella, a professor of film, fantasy and pop culture at Minnesota State University (Mankato) said: “The real world is messy, Crime often pays, and some people die for no reason. In the alternative reality of elves, things can be fixed.” ...

“Our collective consciousness yearns for things more basic, things close to nature and the idea that whatever dies come back again,” Casella says. “It’s very comforting.”

Lise Lunge-Larsen, a student of folklore who lives in Duluth and has written children’s books exploring the fairy kingdom, said:

“People are attracted to mystery, the things that are not always explicable,” ...

“There has always been this sense the universe was inhabited by forces you could not see but you knew were there.”

Above taken from: “Our elves, our selves”, by Kay Harvey (Dec. 16, 2005).

<http://www.twincities.com/mld/twincities/13416417.htm>

If it’s true that “People are attracted to mystery,” then why aren’t more people interested in the mystery of climate change on Earth?

I think most people know that global warming is serious, happening and primarily man-made. Thus there isn’t much of a mystery about it anymore. Furthermore, “In the alternative reality of elves, things can be fixed”, but in the reality of global warming, people know things won’t be fixed. Thus they don’t want to think about it, not interested.

At first it was unclear to me what Hans meant (in 29) by saying “I have seen some good work by you against climate alarmism on this site”. After reading “Our elves, our selves”, it seems clearer to me now.

37. 37

Lynn Vincentnathan says:

[21 December 2005 at 7:46 PM](#)

RE #25, that CO₂ is not a pollutant. Tell that to the disintegrating fish in the acidifying (from CO₂) ocean. I don't know if it actually causes fish to disintegrate, but up until last year when the ocean acidification evidence came out, I would have agreed that CO₂, which plants need, was not a pollutant in the same way SO₂ & N₀x (+ sulfuric & nitric acids) and other pollutants are. Now I think, not only does excess CO₂ warm the earth, creating (net) havoc, but also does other harms not directly related to GW. Yep, in my mind it is a regular pollutant (in excess).

38. 38

Vaughan says:

[21 December 2005 at 10:17 PM](#)

Okay, finally something this ecologist can comment on semi-intelligently. Environmentally speaking, the definition of a pollutant is “a resource out of place”. CO₂ is lethal if it is in too high a concentration in your bloodstream. In the right concentration in the air, it is food for plants. Nitrogen is necessary for plant growth—but too much in a body of water causes eutrophication.

Transfer of millions of tons of Carbon from the lithosphere to the atmosphere in a few generations—yeah, I'd call that pollution.

39. 39

Hans Erren says:

[22 December 2005 at 3:46 AM](#)

re 34:

projections of the ice sheets melting have big implications for sea level rise.

Which is exactly the fine line of alarmism. What's the likelihood of the compound ifs?

40. 40

Terry says:

[22 December 2005 at 11:04 AM](#)

Having observed these discussions for quite a while now, I offer my two cents as to two important factors in the debate.

1) A little snark can easily render the discussion unhelpful. There is an anti-Rasmus thread over at Climate Audit that is abnormally snarky and which I find quite off-putting. It is hard to resist the snark temptation, but in the end, posts are much more persuasive without the snark. Snark just makes it seem like you are cheering your team over theirs — that gets old real fast.

2) Ignoring legitimate counter opinions is very destructive to credibility. When a reader finally hears the other side of the debate (usually somewhere else), he feels betrayed and much less inclined to believe future assertions. A good example of this was the recent post(s) here on the relation between hurricanes and AGW which elided Landsea and the earlier hurricane activity data.

[**Response:** Agreed. There appears to be something inherent in the blogosphere that encourages that kind of thing, and we should be more vigilant at controlling it. Apologies. With respect to the Landsea criticism of the Emanuel paper, that has just [come out](#) as a Nature brief communications and we will likely post something on that soon. -gavin]

41. 41

Michael Jankowski says:

[22 December 2005 at 4:39 PM](#)

Yep, in my mind it is a regular pollutant (in excess).

If you want to define a “regular pollutant” as such, you can make a case for practically every physical to be a pollutant (Paracelsus: “The dose makes the poison”).

A fun site to visit along the same lines <http://www.dhmo.org/>

42. 42

[Eli Rabett](#) says:

[23 December 2005 at 1:00 AM](#)

If one wished to discuss the moral implications of climate change you would have to start by deciding the responsibility of the present to the future, and the gratitude that the present owes to the past. To frame this in religious terms you have to decide whether G_d

gave dominion over the earth to mankind as a caretaker in G_d's stead or to do with as wished.

As you may guess, I detest heedlessness that lives only in the present for itself. Worse, I find it dangerous.

43. 43

Steve Bloom says:

[23 December 2005 at 5:48 AM](#)

Re #40 (T): RP Jr. has kindly posted the entire Nature exchange at <http://sciencepolicy.colorado.edu/prometheus/archives/nature04477.pdf> . Don't anyone tell Nature about this, as they'd probably have his guts for garters. :) I await with eagerness the new RC post on all of this.

BTW, am I misremembering or has Emanuel said here for the first time that there's now a clear connection between global warming and hurricane activity (albeit not yet detectable in the North Atlantic basin when taken on its own)? I don't recall that he went quite that far before. Previously he seems to have used words like "probably" and "suggests"; now it's: "I maintain that current levels of tropical storminess are unprecedented in the historical record and that a global-warming signal is now emerging in records of hurricane activity."

44. 44

Michael Jankowski says:

[23 December 2005 at 2:47 PM](#)

Previously he seems to have used words like "probably" and "suggests"; now it's: "I maintain that current levels of tropical storminess are unprecedented in the historical record and that a global-warming signal is now emerging in records of hurricane activity."

Maybe that's a difference between a paper and a communication response. In the former, you need to have evidence to support any claim you make. In the latter, you can speak with opinion.

45. 45

PHEaston says:

[23 December 2005 at 7:14 PM](#)

Bertrand Russell's advice clearly applies to those who feel unqualified to make their own judgement. A genuine scientist, of whatever discipline, will be capable of assessing both sides of the argument and making his/her own judgement. The apparent aim of the article to use Russell to argue that no-one should question the 'consensus' seems a little surprising for a scientific website. In any case, IPCC does not represent a simple consensus, as illustrated by the well-known resignation of Dr Landsea.

46. 46

Terry says:

[23 December 2005 at 7:19 PM](#)

Re: #40 and #43.

I don't understand.

Landsea's conclusions on the relationship between AGW and hurricanes have been well known for many years. Yet, they weren't mentioned in the recent RC posts on the topic. Shouldn't a website that seeks to reflect consensus science have at least mentioned Landsea? If only to acknowledge the existence of his conclusions so as to dismiss them?

[**Response:** Re-reading the relevant post and the associated comments, I note that we linked to the NOAA NHC summary which claims that everything is a natural long term cycle, and that Landsea comment's and paper's made numerous appearances in the discussion. The topic is still very much under discussion. - gavin]

47. 47

[Pat Neuman](#) says:

[24 December 2005 at 12:12 PM](#)

re 46.

The Response by gavin says: "I note that we linked to the NOAA NHC summary which claims that everything is a natural long term cycle", ...

I'm not sure about that. Anyway, what might having NHC under DOC mean for NHC scientists doing R and D, predictions and post event summaries on hurricanes? Taking a view that frequency and strength of hurricanes are influenced by GHG emissions and global warming may not seem to be in the best short term interest or mission of the DOC. What kind of changes might there be in all this if NHC and National Weather Service were in a different department, like the Department of Defense?

Link to nhc: <http://www.nhc.noaa.gov/>

48. 48

Tony Noerpel says:

[24 December 2005 at 12:29 PM](#)

There seems to be two discussions regards AGW and its related problem, peak oil. The discussion that interests readers and contributors to realclimate.org is among very knowledgeable people with very specialized knowledge. But the far more important discussion takes place in the mass media among all people. While, hopefully, the former frames the latter, it is the latter which determines actual policy. Evolution has won the former debate but is fighting tooth and nails in the latter. Senator Inhofe's star expert witness at his recent global warming hearings, Michael Crichton, was not even a scientist. Most Americans, whom I talk to, sincerely believe that AGW is a controversial theory with voluminous science on both sides. I've used Oreskes paper to show that this is not the case, thus my query regards how valid an assumption that is. Realistically, most people are not going to attend AGU meetings, nor would they understand the scientific jargon and acronyms enough to appreciate the scientific opinion. Unlike other problems, such as Y2K, in order to tackle peak oil requires immediate alternative solutions. In absence of AGW and other environmental degradation, one might assume that nuclear and the oxymoronic "clean coal", are solutions. Unfortunately, if the majority can agree that AGW and peak oil are acute problems which need to be addressed, then conservation and "life style" sacrifice are going to have to be the largest contributors to the solution space. I believe that Japan (4200 kgoe/p/y) and Europe (3600 kgoe/p/y) demonstrate that Americans (8000 kgoe/p/y) can cut energy consumption in half without sacrificing Quality of life (life expectancy and infant mortality, for example). By the same measures, Cuba, which has a lower infant mortality rate than the USA, demonstrates that energy consumption can be cut even further. However, life style cannot be maintained. In order to convince Americans that living in a desert, farming chemically, driving Hummers and heating 5,000 sq. ft. homes with cathedral ceilings is unsustainable, it needs to be "prove" that AGW and Peak oil really are real in the larger debate. Unfortunately, I think somebody has to be an alarmist and everybody else has to panic. :+)

49. 49

[Pat Neuman](#) says:

[24 December 2005 at 2:45 PM](#)

re 48. Tony wrote: "Most Americans, whom I talk to, sincerely believe that AGW is a controversial theory" ...

Tony, where do you think "Most Americans" you talk to get their information about global warming? For many years, managers and forecasters at NWS offices and State Climatologists have been telling people that global warming is too controversial and too far outside of the mission of responsibility for them to comment. Some have been more

direct, actually downplaying any global warming significance. It seems that most people end up getting their information from non official sources, but some have been also getting their information from official sources expressing a “skeptical” view, like that given by Senator Inhofe and his “star expert witness” Michael Crichton.

50. 50

Hank Roberts says:

[24 December 2005 at 5:12 PM](#)

Thanks for comment #40 and Gavin’s followup. Blogging may feel like a conversation among intimates in which snarkiness — based on a lot of shared background ideas — is easy to slip into.

But blogging is a public conversation — and those with no way to decide who has the facts right form opinions based on demeanor.

Back in the 1960s, I attended a college debate between two scientists — one working for the chemical industry, an old seasoned public speaker, very professional; the other a young academic with expertise in bird reproduction. The question was whether DDT could possibly hurt birds. The chemical industry pro “won” in terms of the naive audience’s response to his well crafted barbs and arch ploys, as he goaded the biologist into being snarky and angry, then deplored his behavior, tsk tsk...

Those of us who’d actually read the published research knew the chemical industry speaker was selectively lying — but few in the audience had a clue — and before the web, there were no footnotes and links in public discussions.

Now, that kind of PR distortion can be caught out — trolls don’t footnote; PR types eventually get caught if they do, or exposed if they don’t and their opponents are careful to footnote references.

My wish — for the mentioned climateaudit writers who comment there after reading here, as well as for those writing here — footnote even the snarky, witty, insider jabs — remember those of us who aren’t insiders on the science do pay attention to how it’s presented, and value the effort made here in public to talk about it as it’s being researched.

Hard argument is good.

“For a successful technology, nature must take precedence over public relations, for nature cannot be fooled.” – Richard Feynman

[source: <http://www.realclimate.org/index.php/archives/2005/12/how-to-be-a-real-sceptic/> - May 5/2010]