

A Glacier in my Orange Juice; Arguments on Global Warming

David Berrade for Vex magazine, Calgary, draft Jul07

I'm sunbathing. It's hard to imagine a more perfect afternoon except that the lake is overrun with motorized vessels. A horn sounds and I crank my head sideways to scrutinize a motorhome pull into the camp area. It's bigger than my house in Calgary and it's towing an SUV that rivals a tank in size and fuel economy. The traveling behemoth parks itself beside another city-on-wheels that could pass for its twin brother. Other gas-guzzling siblings litter the campground, towering over many of the trees and overpowering the natural surroundings.

Okay, so maybe I'm not exactly in the depths of nature, enjoying the exclusivity of the unexplored, untouched regions of the world but I have removed myself from the standard pollution of the urban centre where I normally reside. Just then a cloud relents its position in the sky allowing my body exposure to a particularly soothing ray of warmth

"Aah, that feels good." I should probably smear on some sun block; the temperature approaches 25 degrees. My cell phone displays the time; 9:00 am. Is that possible? In the middle of May?

Looking for relief from the heat I reach towards my plastic cup filled with the sacrificial juices of a dozen oranges. Thankfully, I can feel the coolness of the liquid against my hand. What only minutes earlier had been a solid chunk of ice filling half the glass has been reduced to a penny-sized dollop floating on the surface of my drink unknowingly clinging to the last few moments of existence. I imagine that piece of ice once being the size of a glacier and now easily fitting on the tip of my tongue before melting into nothingness. So goes the circle of life I surmise and my head collapses back onto the beach towel.

That very same weekend it snowed in Calgary.

The climate is a funny thing. Am I qualified to make such a bold statement? I say 'yes'; retaining the right to do so based on my years of inhabiting a climatically-awkward city like Calgary. For those of you not living in a hermetically-sealed setting void of media and conversation you probably realize the large-scale concern, advocacy and hoopla surrounding this very topic of climate and in particular global warming. Now, before you organize the welcoming committee for the increased temperatures, hoping that milder winters and longer summers will turn your 'view of the beach' property into 'beachfront' property, you could probably do with an injection of expert input. I am not the expert.

That is where Mr. Bramley and Mr. Howell come in. Although, I don't doubt each would put very little merit towards the claimed expertise of the other. Matthew Bramley is the Climate Change Director for the prestigious Pembina Institute. The organization is the largest environmental, non-profit institute in Canada concentrating on policy research and advocacy. "There is rapid warming occurring in the world today and a key cause of this warming is human activity." He boldly states, putting into words the mainstream idea about climate change...man is causing the warming of the Earth.

Bill Howell is a chemical engineer who has spent countless years in both the private and public sector. He was sent from the Friends of Science, an organization of scientists and others that believe the impact that humans have on temperature is minimal and instead natural causes are far more

predominant sources for climate change. They are not supporters of the Kyoto Protocol believing it is based on questionable science. "Too much focus has been placed on the belief that human activity drives climate change when there are other factors such as the sun and moderators which are the driving force behind climate."

Regardless of their opposing views I consider both Matthew and Bill experts on their own climate change positions evidenced by the Alphagetti quantity of initials that follow their names, recognition of professional and educational designations.

My own knowledge of the topic is rudimentary at best and probably situates itself somewhere on the same level of the majority of the population. I don't pretend to be an educator of the field but this is what I understood to be true about climate change and glaciers being reduced to the size of ice cubes.

- There is great concern that the temperature is rising worldwide;
- Greenhouse Gases are considered the primary source for this rising temperature as they trap heat from the sun's rays within the Earth's atmosphere;
- Greenhouse Gases include; CO₂, Methane and Water Vapour, amongst others.
- Greenhouse Gases can be caused by human activity...CO₂ gets most of this blame (I blame the cows for methane...or the dog when my girlfriend is around)
- More responsible, eco-friendly human behaviour would reduce the amount of CO₂ emissions hereby reducing the rise in temperature because there would not be as much greenhouse gas trapping heat within the Earth's atmosphere.
- The Kyoto Protocol is the leading mandate, an amendment to the international treaty on climate change, which assigns mandatory limitations on Greenhouse Gas Emissions.

This is what I, as a layman, understood to be true and what the majority of the population believes to be true. This stance is probably best presented in Al Gore's hugely popular documentary "An Inconvenient Truth", which has gone a long way in mainstreaming this theory. I say 'theory' because there are also other hypotheses that speculate towards alternative explanations about global warming, which would render everything I just said about as useful as an armless man in a snowball fight.

I started with Friends of Science; first watching the documentary 'The Great Global Warming Swindle' and then sitting down with Bill (he with his beer me with my Ice T...no glaciers). In a manner of seconds he launched into a rant on the stagnation of the current Canadian science community. "Scientists exaggerate greatly the role of anthropogenic (man-made) CO₂ because if they didn't than most of these guys would be out of jobs. They create the media hype which in turn guarantees their employment." The link between anthropogenic CO₂ and rising temperatures has never been confirmed. If there is a link the impact is so minimal that it doesn't warrant near the amount of attention it receives now."

Its views like Bill's that would probably leave the Pembina Institute's Matthew without a job. I better contact him to let him know his subsistence is in jeopardy. He has a candid reply on my acknowledgement of conversing with the Friends of Science.

"I'd like to convince you not to include anything from Friends of Science as their views cannot meet the universally accepted scientific standard of being published in the mainstream peer-reviewed academic journals. Friends of Science have next to no credibility among climate scientists who do meet that standard."

Hmm, I'm starting to get the feeling these two groups wouldn't play nice on a melting polar ice cap.

Matthew sees the rapid increase of temperature caused by greenhouse gases leading to a catastrophic end. "In Bangladesh alone the effects of a 1-meter rise in sea level (caused by glacier retraction and the melting of the polar ice caps) would cause the displacement of a million people. The costs would be astronomical and there would be additional fresh water concerns. And how would it affect the food production in Africa?"

I wonder if Bill knows this. He wouldn't turn his back on Africa, would he?

"The environmental movement is the biggest movement to prevent development in the developing world" because the curbing of CO² emissions would lead to the inability to industrialize. "It is not CO² that is driving temperature. If history shows us anything it is temperature driving CO²."

Bill, maybe an example would help...for us slower people.

"There was a large industrial increase after the Second World War and if temperature was a direct result of CO² emissions then we would have seen global warming during this period but the global temperature did not rise during this period. Instead, for approximately three decades, global temperatures fell, to the extent that some even talked about the next ice age."

Interesting point. Bill wants to help Africa too. I guess they are both nice guys. I take this information back to Matthew. He explains that there has never been such rapid temperature in such a short period of time and it is only looking to get worse. "Computer modeling shows that CO² emissions are very likely (somewhere in the area of a 90% correlation factor) the cause of global warming."

But Bill says that over history solar activity is more of a critical factor on the Earth's temperature and not Greenhouse Gases. My response to that is that the sun is good; it makes cold beer taste better and brings bikinis out to play.

Confused? I certainly had no idea that what I thought was 'hard science' could have so much room for interpretation. The same information is out there for both parties yet two different conclusions are drawn. No doubt the argument has been deliberated over many times before; the clear winner being that the rising Greenhouse Gas emissions are very bad. This does not mean the debate is closed. Both Matt Bramley and Bill Howell did mention one thing in common. That the science is not without gaps and neither would concede that their position on the topic was 100% guaranteed by scientific data.

I posed a final question to my gracious participants. "What should Canada do next?"

Bill, let's go to you first.

"There needs to be a massive shift in the focus of science. We need more astronomers and geologists. There are only two full-time solar physicists in the country. There needs to be some work on alternate modeling, apart from the correlation of human produced CO² and temperatures. There is a need for new modeling methods. As for the government, well, policy analysts have 10 different issues and it happens that 4 or 5 of them align up...and climate change is a great example...climate change and the CO² concept are very tightly tied to fossil fuel consumption. So if you have strategic energy concerns that map really nicely onto the CO² field you can kill two birds with one stone. From a policy perspective it does make sense to link CO² and climate change...put them together because you want to make sure you get the full benefits and you get the pollutants. But in Science (which is influencing policy)...what the hell are you doing mixing up concepts like some schmuck. That is ridiculous. Look at the pollutants in the air. Do not call CO² a toxin! That is insanity. It is totally unscientific. There is no excuse on the scientific level for calling CO² a toxin. That is ridiculous. If you are concerned about the pollutants, analyze the pollutants. Don't do a policy screw-up on science...which is what they (policy analysts) have done."

Matthew, on the other hand, believes that the stance the government is taking is too feeble to affect the decisions of businesses. In Alberta, the leading CO² emitter in Canada, stricter regulations must be pursued. A minimal sacrifice by industry would have far-reaching benefits. "There is technology that exists that would effectively reduce CO². The possibility that this technology is adopted by industry on a large scale would probably only occur if it is government regulated." He further explains that currently, the government is suggesting a cost of \$15 a tonne levy on emissions when what is needed is probably closer to a cost of \$30 a tonne cost on emissions for industry to consider CO² reduction. In the end, if industry chose the more environmentally friendly alternative it would mean a marginal reduction in profit margins of Oil companies; somewhere in the area of \$1 a barrel. "We are not suggesting that the oil industry shuts down but rather that the companies be more responsible for their actions."

Finally some agreement; both Bill and Matt think the government is doing a poor job.

Throughout my correspondence with Matthew Bramley and Bill Howell it became very apparent just how passionate each was about their climate change position; Bill Howell's concern about CO² is tantamount to a big brother worrying about his lil sister's reputation, while Matt Bramley is trying to ensure the misbehaving lil sister gets the proper reprimand now so that her future is brighter. In the end I don't think either person was really looking for a different ultimate conclusion although their routes were far from parallel. And I, like most people, want a similar conclusion; a world that would support a healthy living, fresh air to breathe, food on the table, money in pocket, the love of a good woman, and a cold beer every once in a while. Not too much to ask, really.

David Berrade

----- Original Message -----

Subject: Re: global warming piece
Date: Thu, 05 Jul 2007 09:06:04 -0600
From: Joni Avram <joni@causeeffect.ca>
To: David Berrade <dberrade@hotmail.com>
CC: Bill Howell, home email, Calgary <Bill@BillHowell.ca>

Understood. I'm happy to see this information reaching this audience. I thought you did a very good job with it. Loved the boxing match tone. Joni

On 7/5/07 8:56 AM, "David Berrade" <dberrade@hotmail.com> wrote:

Thanks for the input Joni. To be honest I really enjoyed the interview with Bill...it was much more easy going than the one with Pembina Institute. It is nice that he is clarifying certain things although I cannot guarantee these changes will be made. The conversation was recorded but I know how when people get on a run talking and then listen back on the conversation they would like to modify some of their statements. Unfortunately with deadlines the changes, are unlikely...although I will try to get some of them in.

As I said before the Magazine is not a Scientific magazine at all. Our readership is males 18-40. There are women in bikinis, cars and gags in the mag. The name of the Magazine is VEX.

Please thank Bill for his input and feedback.

Dave

----- Original Message -----

Subject: RE: global warming piece
Date: Wed, 04 Jul 2007 23:39:24 -0600
From: Bill Howell, home email, Calgary <Bill@BillHowell.ca>
To: Joni Avram, Marketing & Strategy Consultant, Calgary <joni@causeeffect.ca>

Joni - I'm kind of swamped lately, and have a BIG day tomorrow. But just in case your deadline doesn't permit any additional time, here are some quick replies.

1. I like his article - it has a great tone and he mentions beer several times (and bikinis).

Personally, I don't mind being portrayed as ranting (product of beer or not). If it helps his article from his point of view, go for it. FOS may not feel the same!!

2. Compliments to the author

a) By far the most important point is that the opinions I presented were my own and not those of any of my previous or actual employers, nor necessarily those of the Friends of Science. I am extremely happy with Berrade that he didn't mention my employers. That was very professional of him, and it is fair to my employers (who certainly don't share my

opinions)!! This is also important for the Friends of Science (Berrade clearly states that I was "sent from FOS" - but it would be best if the independence of view was more strongly stated). My statements aren't "official", and not everyone in the FOS would agree to them. There is, however, a very strong frustration on the part of FOS members with much of what they see.

b) Berrade's summary of HIS impressions of the Climate Change issue are actually very well put, and I agree that much of the population (not to mention scientists) probably has the same impression.

3. Important corrections:

a) The only major "flaw" I see is a very strange one. Perhaps I did say this, but frankly I invariably say this as a non-primary driver: "Scientists exaggerate greatly the role of anthropogenic (man-made) CO₂ because if they didn't then most of these guys would be out of jobs. They create the media hype which in turn guarantees their employment." I do NOT believe that funding is the main driver of the positions of the scientists at all, although funding, the media, and environmental releases and lobbies certainly have some secondary or tertiary role for some of the scientists (a lot of scientists in number, but not necessarily an overwhelming percentage of all scientists with a strong Kyoto Premise viewpoint).

What I typically say is that there are very serious flaws in the **thinking** of the strong (or vast) majority of the scientists... The main issue is best summarised by the phrase "genesis and propagation of belief systems"... science fashion -> science cult -> science religion. Of course, I am (gradually) writing a paper on this, and you can't get into much detail on that train of thought, but it would misrepresent my thinking (if not my actual comments at the interview) to put my main point as the funding point.

Besides, the **thinking** aspect is more controversial and aggressive, and perhaps better in line with a boxing match approach to the article. It also addresses a far more universal and challenging theme (who we really are and how we think, scientist or not).

b) What I mean and not what I say: I'd prefer to see the phrase modification "The environmental movement is one of the biggest potential impediments to development in the developing world". My theme here is usually that (like in many areas) it seems that progress cannot always skip stages, and that we cannot demand the same standards of the developing world. I think that actually political systems, corruption, trade barrier and financial constraints are actually far bigger challenges for the "third world" (antiquated term).

4. Light-hearted corrections (but these could be important for "wrighters and readers")

a) While I may have stated that there are 2 "real full time" scientists focussing on solar physics in Canada, it's better to use the 2.5 number. The half-solar physicist (statistics and signal processing other half) is an awesome scientist, and he's really part of the gang.

b) Actually its CO₂ with a subscript (not superscript). However, it may be best to leave it as a superscript and let the purists freak. <grin>

c) I'm not sure if I said the phrase "That is ridiculous" once or five times, but I think I have to leave the final decision to the author.

d) "We need more astronomers and geologists" - actually, what I should have said is that we need more astronomers (especially solar and solar system physicists), and more profile for the work of geologists. More geomagnetics and atmospheric physics types perhaps, but there are quite a few geologists in research. My fear is that there is a HUGE shortage of solar physics support/ researchers etc, and a SAD lack of appreciation for the central role of geologists in the climate change issue. (Note: My friends did not pay me for these comments, not even a beer).

5. Tit for tat - as Berrade sees fit

Presumably Berrade doesn't want a drawn out tit-for-tat, so I'll restrain my comment to mentioning two points:

a) Pembina's "prestige" hasn't resulted in any notable scientific publications that I can remember (I obviously can't read ALL climate change literature), but the Pembina material that I have glanced at didn't leave me with any desire to see any more of it. I think FOS does a far better job of looking at science than Pembina - and we are a much, much smaller group with none of the lavish funding available to Pembina. We are not a primary producer of scientific data/ analysis. (Keep in mind that huge mounds of cash don't always produce good research). As FOS doesn't focus on policy, I'm sure that they feel that way about our (almost non-existent) policy position.

b) The statement "Friends of Science as their views cannot meet the universally accepted scientific standard of being published in the mainstream peer-reviewed academic journals" ignores that the FOS views ARE dominantly based on peer-reviewed literature, many by leaders in their field. We don't produce primary research, we circulate and comment on it. We also circulate new and alternative ideas and concepts - not being afraid to constrain our thinking to the UN-IPCC box. As not all ideas pan out, perhaps it is best that Pembina stay in their box so as not to damage their prestige. <grin>

If Berrade does want a tit-for-tat, I'm game. I doubt that Matthew Bramley can actually support his religious beliefs in the Kyoto Premise from a scientific point of view, other than waving his bible around (here I mean no insult to THE Bible, I am referring of course to the UN-IPCC serial yarn). I could be wrong as has happened before, but he's going to have to show SOMETHING, and the comments provided fall short of that.

6. Next topic that I'd like to see (out of my area of expertise, but...) Here's a suggestion for Berrade...

Within ten years, will Alberta be buying petroleum manufactured in China, instead of fully developing our tar sands?

This theme really came to mind today - it was stated that the current (fully costed, I think) cost of tar sands production (recent projects) is approaching 54 \$US /bbl (actually, I haven't had a chance to read the article yet, but I will this weekend or when I get a chance). I think that the answer is really NO, but it does make for an interesting story, and might make a few Calgary readers choke on their coffee. A year and a half ago or so, two US projects were looking for financing for Fisher-Tropsch (or related) projects that would

be profitable at 50 and 60 \$US/bbl long term pricing (mind you, with inflation that's up a tad). China stated, if I remember correctly, process varants at 25 \$UDS/bbl cash operating cost, with capital cost maybe 35-40 \$/bbl? but I'm guessing.

Anyways, the process has been used at economy-wide scale for over 60 years, and it was critical for the very famous German (you ALL know him) Mr. Schecklegruber. (Actually, I have no idea of how to spell his original name, and hope that I haven't got it wrong).

Mr. Bill Howell
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NOTE: I am away from internet access typically from 13:00 on each day (until 23:00 or later) so my responses will be delayed.

----- Original Message -----

Subject: FW: global warming piece
Date: Wed, 04 Jul 2007 11:02:34
-0600
From: Joni Avram <joni@causeeffect.ca>
To: William Howell <Bill@BillHowell.ca>

Bill - how does the attached look to you - any factual errors?

----- Forwarded Message
From: David Berrade <dberrade@hotmail.com>
Date: Wed, 4 Jul 2007 08:58:02 -0600
To: 'Joni Avram' <joni@causeeffect.ca>
Subject: global warming piece

Joni,
Here is the unedited version of the article.
Dave
----- End of Forwarded Message