

## **The Reluctant Warriors: Scientists vs Public Relations Spin Doctors**

John Cairns, Jr.

Department of Biological Sciences, Virginia Polytechnic Institute and State University,

Blacksburg, Virginia 24061, USA

Scientists routinely listen to a variety of analyses based on existing evidence. When the discussions are over, they usually know which analysis is supported by a preponderance of evidence. If no preponderance of evidence emerges, judgment is delayed until an adequate information base is available. Public relations (PR) “spin doctors” take on the responsibility of presenting evidence that supports the goal of their client. If contrary evidence exists (as it usual does or the PR specialists would not have been employed), PR specialists treat such evidence as the responsibility of someone else to present.

Peer-review examination by qualified persons for professional journals is taken for granted by scientists. A manuscript with inadequate or inappropriate evidence will be rejected by reviewers. Even after acceptance and publication, quality control continues — other qualified scientists comment on the weaknesses and strengths of both the evidence and analysis. The scientific process is not perfect, but it does detect and correct errors quite well.

When I started my professional career at the Academy of Natural Sciences in Philadelphia, PA, USA, in 1948, I naively believed that if I showed people the evidence that I felt was persuasive from my investigations then they would also be persuaded. *Wrong, wrong, wrong.* Personal experience trumped scientific evidence every time. As a consequence, Rachel Carson’s book *Silent Spring* (1962) was a wake up call for me – a senior, woman scientist was strongly attacked in the media far beyond the norm of a research investigator. Since my mentor Ruth Patrick sometimes heard “female scientist” comments related to her research, I was prepared for what I might hear about Carson. However, the July 1962 *New York Times* headlines – “*Silent Spring* is now Noisy Summer” – exceeded any denigration I had observed. Carson died at age 56 in 1964 and never realized the major, positive impact her book has had.

This PR situation was important to me because I had begun doing environmental toxicity testing (now referred to as *ecotoxicology*) in 1949. Pressure was great from industry, regulators, and the press in those days to call a no-observable-response concentration a “safe” concentration. Clearly, such a declaration was inappropriate since all conditions likely to occur were not represented in the test nor were all possible species likely to be exposed. In addition, the science was not robust and, within a few years, “safe” was replaced with more appropriate wording (e.g., *no-observed-deleterious effects*). My problems with different agencies and the media were nothing compared to those discussed by Hansen (2009) in his volume *Storms of My Grandchildren: The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity*. Of course, people have been exposed to the Orwellian version (unclear language) of English – “thermal pollution” was rephrased to “thermal enrichment” and “black coal” became “clean coal.” In between was the tobacco “debate.” Most scientists have been trained to use language for effective, concise communication and are uncomfortable with PR terminology.

Ironically, one of the most comprehensive books I have read on the PR of global climate change was written by Hoggan (2009), the owner of a successful Vancouver, Canada, PR firm. Hoggan (2009, p.2) states:

*. . . I think that PR is a good thing. It connects people and builds understanding, and I generally have a high regard for my professional colleagues. It's true that there have always been bad actors in my business – the tobacco apologists and the partisan political spin doctors – but I have always regarded them as obvious exceptions. In my career, examples of spin-doctoring seemed episodic, not epidemic. Or that's what I thought before I started looking closely at the climate file. . . . I started doing a lot of reading and was surprised by what I discovered. Where I expected a blistering controversy, I found an overwhelming scientific consensus. Mainstream media had been reporting that doubt lurked in every report, that for every scientist warning of global warming there was another saying it was all bunk.*

Scientists and their organizations have not been very successful in explaining science and the scientific process to the general public. The amount of evidence on global climate change at the beginning of the 21<sup>st</sup> century was persuasive but small, and the present amount is huge, but less persuasive. McKibben (2010) likens the present situation (amount of evidence is huge) to the O. J. Simpson defense team: “If anything, they

were actually *helped* by the mountains of evidence. If a haystack gets big enough, the odds only increase that there will be a few needles hidden inside.” In 2010, the “needles” have been emails from Phil Jones, a research scientist at the University of East Anglia’s Climate Research Unit (Agence France-Presse 2010). Climate change skeptics claimed the emails showed that scientists were manipulating climate data to exaggerate the case for human-made global warming as world leaders met at Copenhagen to strike a new accord on climate change. In fact, the emails did nothing to alter the findings of the IPCC and those of other climate scientists. Jones commented that the fallout from the affair prompted him to consider suicide (Agence France-Presse 2010).

Senator James Inhofe’s committee minority report “Consensus Exposed: The CRU Controversy” (CRU refers to the University of East Anglia’s Climatic Research Unit) has listed 17 scientists to be investigated for possible referral to the US Justice Department for prosecution. Inhofe’s committee maintains that the scientists “. . . violated fundamental ethical principles governing taxpayer-funded research and, in some cases, have violated federal laws” (Piltz 2010): Raymond Bradley, Keith Briffa, Timothy Carter, Edward Cook, Malcolm Hughes, Phil Jones, Thomas Karl, Michael Mann, Michael Oppenheimer, Jonathan Overpeck, Benjamin Santer, Gavin Schmidt, Stephen Schneider, Susan Solomon, Peter Stott, Kevin Trenberth, Thomas Wigley.

Such actions call to mind the witch hunts of Senator Joseph McCarthy from the late 1940s through the late 1950s. In that instance, the purpose was, ostensibly, to uncover subversive communists. The present witch hunt is attempting to discredit global climate research scientists and demonstrate a conspiracy involving them, the IPCC, and the University of East Anglia. This denigration of science and scientists is not unique to the United States – for example, a group of 55 leading Dutch scientists working in the field of climate change, energy, and the environment has written an open letter to The Netherlands parliament defending the science in climate change investigations ([www.sense.nl/openletter](http://www.sense.nl/openletter)).

Scientists, especially those with families, have little or no time to respond and counter the massive disinformation campaign of well funded, anti-science skeptics who can spend all their time on disinformation. Scientists are paid to teach, do research, and improve predictive models, which, for most, is more than a full time job. In the case of the present witch hunt, scientists are guilty until they prove their innocence. If they take time to do so, they will be forced to do less research, which may well be the objective of the present skeptics.

Scientists are far from being a unified, homogenous group. However, they strongly support the scientific process that produces probabilistic conclusions based on verified evidence. In the United States in the first decade of the 21<sup>st</sup> century, the biggest weapon in the anti-global warming debate has been uncertainty in

science, as if uncertainty were unique to this profession. However, uncertainty is common in politics, investments, sports, and all other parts of life. People either ignore or forget that all of life is uncertain. In the purported interest of a “balanced” view, both “sides” have been given “equal” attention in the media. Scientists are often quoted on one side of the issue of climate change and a non-scientist spokesperson on the other. In short, “balance” gives a greatly distorted picture of both numbers and the qualifications of the two “sides,” leaving the biased impression that a serious controversy exists in science and that the preponderance of scientific evidence is not on one side. Credentialed scientists spend a huge amount of precious time trying to overcome this biased viewpoint (Hoggan 2009). This situation results in an ill-informed, increasingly hostile public that is disturbed by the evidence and wants to “feel good” about the future. Although President George W. Bush asked the National Academy of Sciences (NAS) to report on the risks of climate change and NAS reported that the risks are real and increasingly dangerous, this assurance has had little or no effect on the public debate. When the Intergovernmental Panel on Climate Change (IPCC) pronounces an event as “very likely,” it means a 90% probability of change and a 10% probability of no change – such action is not “uncertain.”

Political calls for compromise on the “middle ground” of global warming and other types of climate change ignore the fact that no “middle ground” exists in the natural laws of physics, chemistry, and biology. Serious, even catastrophic, penalties result from ignoring natural laws, with no court of appeal.

To further muddy the waters, critics of the teaching of evolution in US classrooms are linking that issue to the global warming one, which serves as yet another attack on science/scientists (Kaufmann 2010). Arguably, each issue has a preponderance of evidence to support its hypothesis. This attack is yet another case of bias masked by the pretense of “balance.”

## **Conclusions**

The preponderance of evidence indicates that climate change is real and that the consequences for human society will be catastrophic if “business as usual” continues. The assertion that scientists are conspiring by manipulating data on anthropogenic greenhouse gas emissions and climate change implies that the scientific process is not sound and lacks quality control. No robust evidence supports these implications, which have been stressful for scientists who have been named as conspirators and who were involved in the University of Anglia’s “tempest in a teapot” over a few emails that were illegally obtained and that had no effect on the preponderance of evidence. The association of climate change accusations with the teaching of evolution in some US schools indicates that the assertions of misconduct were ideological rather than scientific.

Scientists should be spending their time on generating additional scientific information, and quality control should be left to credentialed scientists. The news media must cease treating accusations of uncertainty and dishonesty as a form of entertainment and base their news on the preponderance of validated data. Scientists and their organizations need to make a more concerted effort to inform the news media and the general public about the scientific process.

**Acknowledgments.** I am indebted to Darla Donald for transcribing the handwritten draft and for editorial assistance in preparation for publication. Paul Ehrlich and Paula Kullberg called useful references to my attention.

#### LITERATURE CITED

- Agence France-Presse. 2010. British scientist in climate controversy admits emails were 'awful.' Grist 2Mar  
<http://www.grist.org/article/2010-03-02-british-scientist-in-climate-controversy-admits-emails-were-awful/>
- Hansen, J. 2009. *Storms of My Grandchildren: The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity*. Bloomsburg, New York.
- Hoggan, J. with R. Littlemore. 2009. *Climate Cover-up: The Crusade to Deny Global Warming*. Greystone Books, Vancouver, Canada.
- Kaufman, L. 2010. Darwin foes add warming to targets. New York Times 3Mar  
<http://www.nytimes.com/2010/03/04/science/earth/04climate.html>.
- McKibben, B. 2010. The attack on climate science in the O.J. moment of the 21<sup>st</sup> century. Grist 25Feb  
<http://www.grist.org/article/2010-02-25-attack-on-climate-change-science-is-oj-simpson-moment/>.
- Piltz, R. 2010. Sen. Inhofe inquisition seeking ways to criminalize and prosecute 17 leading climate scientists. Climate Science Watch 23Feb  
[http://www.climate-science-watch.org/index.php/csw/details/sen.\\_inhofe\\_inquisition\\_seeking\\_to\\_criminalize\\_climate\\_scientists/](http://www.climate-science-watch.org/index.php/csw/details/sen._inhofe_inquisition_seeking_to_criminalize_climate_scientists/).