

## The American Physical Society and the Global Warming Question

### A Personal Recollection

*“It is in the admission of ignorance and the admission of uncertainty that there is a hope for the continuous motion of human beings in some direction that doesn't get confined, permanently blocked, as it has so many times before in various periods in the history of man.”*

– Richard Feynman

The accompanying open letter concerns an episode in the ongoing debate over the largest scientific question of our age – anthropogenic global warming. But the debate is really about the conduct of science itself, and the scientific process that has been put together by important thinkers and practitioners over the centuries.

The scientific process relies on the collection of observational evidence and the development, verification, and falsification of predictive theories. It also relies on free inquiry and free exchange of information between scientists, and on the freedom to debate the scientific evidence. Without these freedoms, science can become as corrupt as the worst of human institutions. It can be bureaucratic, engage in the suppression of dissent, attempt to speak with the authority of a single voice, and, perhaps worst of all, become the willing tool of political interests in exchange for the promise of support, just like any other special interest. Trofim Lysenko's hijacking and corruption of biology in the old Soviet Union and the eugenics experience of the 20<sup>th</sup> century are warnings of how science can “go rogue.”

With this backdrop, it is understandable that one of the most discouraging developments to emerge from the global warming question has been the co-opting of some American scientific societies, and indeed the National Academy of Sciences, by those intent on broadcasting climate alarm and on suppressing the dissemination of opposing scientific evidence. The American Geophysical Union and the American Meteorological Society have shed their traditional roles as supporters of science inquiry in favor of out and out advocacy. It is also widely known that scientists seeking to publish opposing scientific evidence experience great difficulty getting papers published in journals sponsored by these societies and others.

However the American Physical Society (APS) – the second largest society of physicists in the world, and my “home society” – had stopped short of this level of shrill advocacy and bias. Physicists, perhaps more broadly trained in their relatively mature field and having a somewhat broader perspective than some other science practitioners, might be expected to adopt a more hands off stance when it comes declaring a complex and difficult science question “settled.” And indeed this was the case...until the [2007 Statement on Climate Change](#) was issued.

So the story leading to the letter begins with the development and approval of the APS Statement. There is evidence that the process itself that produced the Statement was at least highly questionable if not downright illegitimate. It is known that a small group of individuals, not satisfied with the degree of alarm contained in the original draft produced by the officially charged committee, acted unilaterally and without authority to raise the level of alarm. A senior APS professional confides in writing that *“This [the original draft] was unfortunately changed ‘on the fly, over lunch’ by several [APS] Council members who were not pleased with the ‘mild tone’ of the drafted statement. Then the modified statement was voted on at the end of the Council meeting (probably as people were leaving to catch planes) [parentheses original].”* The overwritten Statement was far more radical, containing the antiscientific phrase that angered many members and provided a focal point for member opposition: *“The science is incontrovertible.”* The nature of science is such that nothing is incontrovertible; and indeed its history is replete with examples of how deeply held conviction was overturned by subsequent developments. Science pioneer, inventor, and Royal Society president Sir Humphry Davy put it as follows: *“Nothing is so dangerous to the progress of the human mind than to assume that our views of science are ultimate, that there are no mysteries in nature, that our triumphs are complete and that there are no new worlds to conquer.”*

Driven by concern over the Statement, in 2009 I joined a small team of APS members. We collected and submitted a petition signed by nearly 300 physicists calling for the Statement to be moderated. The signatures were gathered one-by-one and included nearly 100 Fellows of major scientific societies, 17 members of national academies, and two Nobel Laureates. A number had published major research on the global warming issue, authored books on the issue, or worked in contiguous areas of meteorology and climate. Nearly all had backgrounds in key science areas that underlie the global warming issue.

The APS response to the petition was the appointment of a committee that took months to review the 157-word Statement. Only one of the members was familiar with the climate science field, and more than one had a vested interest in continued climate alarm. The committee’s final report referred only to IPCC reports and its supporting material, and so we had the predictable outcome: not a single change to the original Statement. Thus, as is the practice of bureaucracies, a position once taken is rigidly adhered to, even when the process that produced it was flawed.

However, some 750 words were added to the Statement to try to explain what the original 157 words really meant. These explanatory words are included as the “Climate Change Commentary” of April 18, 2010 accessible at the link provided above. APS members were permitted to send in comments, but the comments were never made public. A survey was also conducted whose outcome we were told supported the Statement, but numerical results were never provided, and we know that a substantial fraction of the membership did not support it.<sup>1</sup>

Disgusted with these developments, some APS members quietly resigned or let their memberships lapse. The most publicly visible of these resignations were Nobel Laureate Ivar Giaever <http://www.ibtimes.com/nobel-laureate-ivar-giaever-quits-physics-group-over-stand-global-warming-313636> and distinguished APS Fellow Hal Lewis <http://www.csmonitor.com/Commentary/Opinion/2010/1019/Climate-change-fraud-letter-a-Martin-Luther-moment-in-science-history> .

Preferring to work within the Society to try to effect positive change, our group of petitioners and APS leaders of good will came to an agreement in 2010 to try to focus the discussion back where it belonged – on the science itself. Thus I joined an officially sanctioned committee to organize a new “topical group” within the APS. Bylaws were written and approved whose main characteristic was a declaration of focus on the science, and an avoidance of matters of policy, public opinion, or political views. Here is the key objective statement from the Bylaws: *“The objective of the GPC shall be to promote the advancement and diffusion of knowledge concerning the physics, measurement, and modeling of climate processes, within the domain of natural science and outside the domains of societal impact and policy, legislation and broader societal issues. The objective includes the integration of scientific knowledge and analysis methods across disciplines to address the dynamical complexities and uncertainties of climate physics.”* It was thus hoped that the disagreement among APS membership would be diverted from attack and defense of the Statement to a discussion and scientific debate of the science itself.

All well and good. But to achieve the objective, one cannot move to exclude scientists and their findings that do not support the contentions of the APS Statement. As letter relates, that is exactly what has happened. One should not conclude from the letter that all the APS people I worked with were of the same mind and wanted to exclude scientists who do not conform to the doctrine. A few tried hard to make the process scientifically inclusive, but they were far outweighed by the dominant influence which saw no reason to be inclusive.

At the end of the day, science progress does rely on the free exchange of information between scientists who may look at what nature is telling us and interpret these revelations differently. The practical outcome of exposing all the relevant science is the determination of the path to future critical experiments and improved theories. Without the freedom to do this, we have only authority and advocacy.

As I reflect on my experience, I cannot avoid the question of whether we have passed the point of no return, whether the descent of once grand scientific societies into advocating bureaucracies and self-satisfied clubs lobbying for funds can be arrested, reversed, and integrity restored; or is what we have now a permanent feature of modern science – a postmodern distortion of the best values of the

scientific tradition that has served humanity well for centuries. If it is permanent, the only alternative is the emergence of new alternative institutions that can recover what science once had. We shall see.

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*Footnote.*

<sup>1</sup> *Subsequently the APS did quietly modify the Statement itself. In footnotes accessible through the link provided above, certain "copy edits" entered in February 2012 suggest that the word "compelling" is more suitable than "incontrovertible." However, there is no mention of the most significant change to the Statement: the insertion of a paragraph break between Paragraphs 2 and 3. In the original Statement, these two paragraphs were combined. This new separation is intended to create the appearance that what is "incontrovertible" is only the fact of global warming, not its attribution to human activity and the consequences of inaction. The original Statement made it clear that the fact of global warming, and its attribution and consequences were "incontrovertible." This sleight of hand suggests a desire on the part of APS to distance itself from its own Statement without going through the formal step of revising or rescinding it and publicly announcing what it had done.*