



Scientific Misconduct: A Response to Davies and Fielding

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Abstract

The author responds to criticism regarding his recent paper, "Scientific Misconduct: The Perversion of Scientific Evidence for Policy Advocacy," (Avery 2010).

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My recent paper, “Scientific Misconduct: The Perversion of Scientific Evidence for Policy Advocacy” (Avery 2010), appears to have provoked strong emotions, largely due to the brief discussion of the popularly known “Climategate” scandal revolving around released emails from scientists associated with the University of East Anglia’s Climate Research Unit (CRU). The theme of my original paper is that, like the profit motive, political and other intangible preferences can distort the scientific ethics of skepticism, honesty, and transparency. In reviewing the critiques, I find nothing to change my mind on that subject, and much to provide further confirmation. When issues provoke powerful partisan emotions, the tendency can exist to allow the value placed on preferences based on those emotions to take over the values placed on science. The paper provoked two external responses, neither of which truly challenges the point of the article, but each in its own way resorts to personal attack and obfuscation to try to avoid aspects of that article.

Shortly after publication of this article, Trevor Davies, the Pro Vice Chancellor (Research) of the University of East Anglia (UEA), contacted the editors of this journal and asked them to withdraw the article, a request which, to the shame of those who support free enquiry and my dismay as a member of the editorial board of this journal, the editor agreed to, at least on a temporary basis. What is ironic about this is that, among other charges made against the CRU circle based on these emails, the scientists involved in the scandal were accused of engaging over a six-year period in “efforts to intimidate editors into not publishing contradictory results that refuted their arguments,” the very action that Mr. Davies is attempting.

That such behavior has occurred is clearly in evidence in the released documents, which are available for public view at <http://www.climate-gate.org> (file names are given for cited email streams). This occurred on numerous occasions. Because Mr. Davies tries to allege that proof was not cited for allegations of scandalous behavior by CRU employees and others associated with him, it would be instructive to follow the history of this trend using the words of those accused.

The trend began in 2003 when physicists Willie Soon and Sallie Baliunas published an article taking issue with the characterization of the twentieth century as the warmest century in a millennium and a unique extreme. Michael Mann, then with the University of Virginia and now with the Pennsylvania State University, sent an email dated March 11, 2003 (1047388489.txt) in which he tried to raise a boycott of the journal *Climate Research* among the circle, which included CRU director Phil Jones and CRU scientist Keith Briffa. In an earlier email that day (1047388489.txt, included in the file), Jones suggested, with overtones of Henry II and Thomas Beckett, that efforts be made to rid the journal of “this troublesome editor,” noting that the

editorial board included a CRU employee. Six weeks later, after the journal published an article by climatologist Pat Michaels that raised questions about the work of the circle, Tom Wigley of the University Consortium for Atmospheric Research continued with the idea in an email dated April 24, 2003 (1051190249.txt), that he sent to Jones and CRU scientist Mike Hulme arguing that the group should attempt to intimidate the publisher into forcing out the editor, stating that

“One approach is to go direct to the publishers and point out the fact that their journal is perceived as being a medium for disseminating misinformation under the guise of refereed work. I use the word ‘perceived’ here, since whether it is true or not is not what the publishers care about—it is how the journal is seen by the community that counts.”

The group was not concerned over the technical quality of this work, but rather the political implications, as I implied in my paper. Mann, for example, wrote to Jones, Hulme, Wigley, and others in an April 24, 2003 email (1051202354.txt) noting that the primary concern was that publication would give legitimacy to contrary arguments, and noting that he had worked with David Halperin of the White House Office of Science and Technology to try to limit the damage. Earlier that day, Mark Eakin of the National Oceanic and Atmospheric Administration had emailed the group noting a need to provide Halperin with “ammunition” to “dismiss” the Soon paper which “the White House has shown interest in.” By August 5, *Climate Research* had withdrawn the paper not because it was necessarily incorrect, but rather that claims may have been overstated and addressed in a revision: “While these statements may be true, the critics point out that they cannot be concluded convincingly from the evidence provided in the paper. CR should have requested appropriate revisions of the manuscript prior to publication” (Kinne 2003). It should be noted that a review of the scandal commissioned by the UEA found that the paper had been reviewed by four reviewers, none of whom had recommended rejection (Russell et al. 2010, 65). Strikingly, this occurred after the resignations of three editors, including Clare Goodess, a UEA/CRU scientist who had published a number of papers with Jones and the employee he referred to on March 11. In a June 18, 2003 email (1057944829.txt), de Frietas noted that she was among the leaders of the attack on the review of the paper, and that she was from

“the Climate Research Unit of the UEA that is not particularly well known for impartial views on the Climate Change Debate. The

CRU has a large stake in climate change research funding as I understand it pays the salaries of most of its staff.”

These are not the only incidents. On June 4, 2003, an exchange involving Ed Cook of Columbia University and Keith Briffa of the CRU occurred discussing a fishing expedition to suppress a paper that the reviewer admits is probably sound science, but “could really do some damage” to the credibility of the clique’s models (1054756929.txt). The article pointed out data and statistical problems in the earlier Mann work which produced the famous “hockey stick” diagram used to illustrate global warming to non-scientific audiences (McIntyre and McIntrick 2003). In an exchange of emails on July 3, 2003, Wigley again proposed a boycott of *Climate Research* to a group that included Mann and Jones, this time because Ben Santer of the Lawrence Livermore National Laboratory complained that the journal published a paper contradicting earlier work he conducted with Wigley, and the two were not used as reviewers (1057941657.txt). Likewise, Wigley, in an exchange on January 20–21, 2005, discussed with a group including Mann and Jones ways to change the editorial control of the American Geophysical Union journal *Geophysical Research Letters* after a paper was published calling into question findings of earlier work by Mann (1106322460.txt). Concerns were raised by Wigley that the editor might “be in the skeptics’ camp.” In the exchange, Mann notes that:

“Yeah, basically this is just a heads up to people that something might be up here. What a shame that would be. It’s one thing to lose ‘Climate Research’. We can’t afford to lose GRL. I think it would be useful if people begin to record their experiences w/ both Saiers and potentially Mackwell (I don’t know him—he would seem to be complicit w/ what is going on here).
If there is a clear body of evidence that something is amiss, it could be taken through the proper channels. I don’t that the entire AGU hierarchy has yet been compromised!”

A November 15, 2005 exchange is particularly telling, in the way that the group responds to a poster presentation by Steven McIntyre (1132094873.txt). Both Mann and Briffa indicate that the findings in the poster are quite possibly correct, but that isn’t the point—they potentially have an adverse impact on the political consensus on global warming. CRU’s Briffa notes:

“As others have said, the dating of the chronology in the Urals is not wrong—but the magnitude of the extreme years in the early Urals reconstruction were not adjusted to account for

inflated variance related to low chronology replication—so they are sort of right that the emphasis on 1032 is probably overdone.”

Mann likewise states:

“The issue isn’t whether or not he’s right, as we all well know by now, but whether his false assertions have enough superficial plausibility to get traction. In this case, they might, so probably good to at least be prepared.”

Mann furthermore notes that the group has succeeded in “plugging the leak” through a change in editors at *Geophysical Review Letters* to keep conflicting results from being published in that journal:

“The GRL leak may have been plugged up now w/ new editorial leadership there, but these guys always have ‘Climate Research’ and ‘Energy and Environment’, and will go there if necessary.”

The pattern of disdain for an open debate of ideas in the peer-reviewed journal continued in 2007 when Jones was asked to review a paper for *Energy and Environment* alleging scientific fraud by circle member Wei-Chung Wang of SUNY-Albany. Jones consulted with Wang on how to respond to the request, and was advised by Wang in an email dated August 30, 2007 (1188478901.txt) that

“I think you need to respond by providing E&E with a simple answer of ‘false’ to Keenan’s write-up, based on the communication with me (but no mention of SUNYA confidentiality issue, it has to come directly from SUNYA). That will force E*E to contact either me directly or SUNYA. If the former, I can refer to SUNYA also, and let the university to handle it.”

Beyond the ethical questions raised by Jones involving Wang in the review of the paper, Jones went further and the same day advised legal action against the journal:

“1. Libel is quite easy to prove in the UK as you’re not a public figure. Perhaps when you’re back you ought to consider taking some legal advice from SUNY. Assuming the paper is published that is.”

Mann agreed in an email to Wang, Jones, and others on the same day, noting that such action could help “shut down” a venue willing to consider dissenting points:

“Secondly, we think you need to also focus on the legal implications. In particular, you should mention that the publisher of a libel is also liable for damages—that might make Sonja B-C be a little wary. Of course, if it does get published, maybe the resulting settlement would shut down E&E and Benny and Sonja all together! We can only hope, anyway. So maybe in an odd way it’s actually win-win for us, not them. Let’s see how this plays out...”

Jones went so far, as a review of CRU actions noted, as to contact Sonja Boehmer-Christiansen’s department head at the University of Hull to suggest that the University “dissociate itself from me as editor of *Energy and Environment (Multi-Science)* as I was causing difficulty for CRU” (Russell et al. 2010, 66).

In March 2009, a fourth journal became a target, when the Royal Meteorological Society journal *Weather* requested that CRU director Jones make available in a public archive the data for one of his papers before publication. The group had long been suppressing the release of their datasets to researchers trying to replicate their work, which is an ethical issue in and of itself, and prompted Jones to state in a March 19 email to Santer that

“I’m having a dispute with the new editor of *Weather*. I’ve complained about him to the RMS Chief Exec. If I don’t get him to back down, I won’t be sending any more papers to any RMS journals and I’ll be resigning from the RMS.” (1237496573.txt)

This prompted Santer to agree that

“If the RMS is going to require authors to make ALL data available—raw data PLUS results from all intermediate calculations—I will not submit any further papers to RMS.”

In a final example, Mann sought to bring pressure on the editor of the *Journal of Geophysical Research* in order to expedite review of one of his papers because of “press interest.” By this time, even a delay in publication resulted in consideration of efforts to bypass the editorial process, as evidenced in a July 30, 2009 exchange between Mann, Kevin Trenberth of the University Coalition for Atmospheric Research, Jones, and others (1249007192.txt). Mann argued:

“We probably need to take this directly to the chief editor at JGR, asking that this not be handled by the editor who presided over the original paper, as this would represent a conflict of interest. If we are told that is not possible, then we would at least want the chief editor himself to closely monitor the handling of the paper.”

While Trenberth replied:

“You have a go from me. By all means clean up. I think you should argue that it should be expedited for the reasons of interest by the press. Key question is who was the editor who handled the original, because this is an implicit criticism of that person. May need to point this out and ensure that someone else handles it.”

The pattern of attempts to manipulate the contents of the peer-reviewed literature in order to build a consistent narrative and exclude dissenting papers dates back at least seven years, and the complaint by Mr. Davies, if anything, provides further evidence of the willingness of this group to continue the practice. These allegations are not based on rumor or innuendo, but rather on the participants’ own communications. Ironically, by attempting to suppress my work, he provides further evidence to support the allegations, documented with the words of the accused, that such behavior occurred in the past, and that his institution has learned nothing from the experience of its revelations.

Mr. Davies asserts that five independent studies occurred that cleared the UEA circle. Careful examination of these studies finds that, in fact, many could hardly be called independent, and they certainly do not clear the group of the allegations against them.

Mr. Davies first cites a review conducted by a committee headed by Muir Russell (2010), which was commissioned and paid by the University of East Anglia, and included a long-time faculty member in the department housing the Climate Research Unit. Under Mr. Russell’s own definition of the requirements for an independent investigation, “given the nature of the allegations it is right that someone who has no links to either the University or the climate science community looks at the evidence and makes recommendations based on what they find” (Devlin 2009). By these criteria, his review panel lacked the necessary independence. While clearing the CRU staff of some of the specific charges that have been made by others, it found sufficient fault to support the allegations posed in my original article. Despite the obvious lack of independence, and the failure to interview anyone outside the UEA and CRU (Devlin 2009, 15), the

report of this committee is damning, noting that “we do find that there has been a consistent pattern of failing to display the proper degree of openness” (Devlin 2009, 11-12) that “On the allegation that references to a specific e-mail to a ‘trick’ and to ‘hide the decline’ in a respect to a 1999 WMO report figure show evidence of an intent to paint a misleading figure, we find that, given its subsequent iconic significance (not the least the use of a similar figure in the IPCC Third Assessment Report), the figure supplied for the WMO report was misleading” (Devlin 2009, 13) that “on the allegation that CRU does not appear to have acted in a way consistent with the spirit and intent of the FoIA or EIR, we find that there was unhelpfulness in responding to requests and evidence that e-mails might have been deleted in order to make them unavailable should a subsequent request be made for them” (Devlin 2009, 14), and that “given the significance of the work of the CRU, UEA management failed to recognize in their risk management the potential for damage to the University’s reputation fueled by the controversy over data access” (Devlin 2009, 14). This report specifically placed blame for the latter on the Vice Chancellor, *who is the very author of the letters seeking to suppress my paper* (Devlin 2009, 14). The committee noted that “we support the spirit of openness enshrined in the FoIA and the EIR. It is unfortunate that this was not embraced by the UEA” (Devlin 2009, 15). The committee notes that much of the challenge to CRU’s work failed to follow the method of replicating the results—which ironically was the reason critics like McIntyre sought the data which CRU and collaborators refused to release, a refusal which is responsible for the third criticism noted above! Furthermore, the committee notes that a robust exchange of ideas, including dissenting ones, is essential, which, as section one of this response has shown, was an area which the CRU staff and its collaborators sought to suppress.

The second review was conducted by an “International Panel” commissioned and paid for by the University (Oxburgh et al. 2010). This panel did not fully investigate the incident, limiting itself to a review of 11 papers published over 20 years. To cite this panel as clearing the CRU from the misconduct revealed in the Climategate emails is disingenuous, as it never reviewed those allegations.

Likewise, the independence and integrity of the Deutschebank review (Carr, Anderson, and Brash 2010) can hardly be taken for granted. First, the team contracted to conduct the review came from Columbia University, home of Dr. Edward Cook, implicated in the misconduct through emails cited above. The team dismisses the email releases because they were “criminally obtained” without addressing the underlying issue of whether they were accurate (3.1.b.2 of the report) and relies on reports from the RealClimate blog, a website established and managed by a group of those involved in the clique (including Michael Mann) for their evidence that they were not accurate. In addition, the report relies on other

investigations, such as that of the Russell committee and the House of Commons committee, claiming that they “have concluded that there is no evidence of scientific malpractice.” As is shown, these two reports did, in fact, find misconduct by the group, and the Oxburgh et al. report also cited investigated only 11 papers written by Jones, not the complete set of allegations (Oxburgh et al. 2010, 16). Beyond this, one has to ask why the Deutschebank felt the need to initiate the investigation, a question which makes one consider the possible influence of an investment portfolio based on “Green” investments—in fact, as Mark Fulton, the Global Head of Climate Change Investment Research for the fund, asserts in the preface of the report, the investigation was funded and directed by DB Climate Change Advisors, which is an investment fund based on Green investments and stands to suffer significant financial losses if the storyline pushed by Mann, Jones, and colleagues suffers damage to its credibility. If the argument that corporate financial ties can distort research, made by my second critic (and acknowledged as a reality in my own paper), is true, then this report should certainly be taken with skepticism.

A parliamentary investigation by the United Kingdom’s House of Commons Science and Technology committee (HCSTC 2010), cited by the Vice-Provost, did not clear the CRU researchers and colleagues as he claimed but rather found that there was deliberate misconduct by the UEA/CRU staff including Phil Jones, namely in violating Freedom of Information Act requirements by withholding requested data from those who wished to attempt to replicate results, which is supposedly a standard part of the ethical requirements under the scientific paradigm. This is consistent with the findings of the Russell committee previously noted.

Mr. Davies also cites a United States Environmental Protection Agency (USEPA 2010) response to reconsider findings of endangerment under the Clean Air Act, which included reference to these issues. The attention to detail in the response is indicated by the concluding paragraph, which states that “EPA agrees with the results of the various independent investigations into the CRU e-mails, which found that the scientists at issue conducted their research with scientific integrity and rigor, the research utilized methods which are fair and satisfactory, and that their actions were consistent with common practice in climate research at that time (USEPA 2010, 111).” Of course, that statement is not in fact, as shown above, true. The Russell committee noted one very specific case of what they labeled as deliberate scientific misconduct and a pattern of obscuring data and methods and the House of Commons found deliberate misconduct in violating Freedom of Information requirements to obscure data and methods. In contrast, the EPA report specifically clears the CRU circle of obscuring data and violating Freedom of Information requirements.

This is not a unique occurrence for USEPA air quality program officials. Edward P. Weber documents another case in his book *Pluralism by the Rules: Conflict and Cooperation in Environmental Regulation* (Weber 1998, 184-211). From 1989 to 1991, Amoco, the USEPA, and the Virginia Department of Environmental Quality conducted the Yorktown Pollution Prevention Project to identify sources of emissions at Amoco's Yorktown, Virginia refinery and identify cost-effective means to reduce them. The project found that 94.5% of total pollution and 87% of benzene emissions could be prevented at 20% of the annual expenditures required by existing regulations. Under the current rules, the Office of Air's regulations would, based on a flawed 1959 study that overestimated emissions from wastewater by a factor of 20, have required a \$31 million upgrade to a wastewater treatment plant. The most significant source of emissions, however, occurred at the plant's barge-loading facility and could be remedied for just \$6 million. At the last moment, the EPA Office of Air Quality Planning and Standards threw up spurious technical questions to try to block the project report from being issued, largely because it, in the words of an EPA official, "realized that their rules were going to look really stupid. They were inefficient in terms of dollars per pound of pollution reduced." Certainly, this case represents yet another example of the primary point of the original article that a threat to scientific integrity can be found in strong policy preferences held by scientists, funders, and public agencies.

In addition to these, other investigations were conducted. The initial investigation by the Penn State Inquiry Committee of Michael Mann was not independent, consisting only of Penn State faculty members, several of them from the same college in which he holds a distinguished professorship. This committee did not exonerate Dr. Mann, but found that

"given that information emerged in the form of emails purloined from CRU in November 2009, which has raised questions in the public's mind about Dr. Mann's conduct of his research activity, given that this may be undermining confidence in his findings as a scientist, and given that it may be undermining public trust in science in general and climate science specifically, and Investigatory Committee of Faculty Peers from Diverse fields should be constituted under RA-10 to further consider this allegation." (Assmann et al. 2010, 5)

The subsequent Investigatory Committee interviewed five "experts" on the subject. Two were faculty colleagues of Mann at Penn State, and one a faculty member and colleague of Edward Cook at Columbia. When one of the interviewees, Dr. Richard Lindzen of MIT, responded to a summary of the

charges “dismissed” by the inquiry committee, the report notes that he took note of the dismissal with the comment “It’s thoroughly amazing. I mean, these are issues that he explicitly stated in the emails. I’m wondering what’s going on?” The report notes that the committee responded by diverting him from those allegations to the fourth, from which he had not been exonerated (Assmann et al. 2010, 13). This is a revealing inclusion—that the conclusion by a truly independent expert of misconduct, based on Mann’s own words, was dismissed by the non-independent investigation because it diverged from earlier judgments. Even where the committee exonerated him, the exonerations can be questionable in light of evidence. For example, with respect to the committee’s second allegation, the report result lists:

“Allegation 2: Did you engage in, or participate in, directly or indirectly, any actions with the intent to delete, conceal or otherwise destroy emails, information and/or data, related to AR4, as suggested by Phil Jones?

Finding 2. After careful consideration of all the evidence and relevant materials, the inquiry committee finding is that there exists no credible evidence that Dr. Mann had ever engaged in, or participated in, directly or indirectly, any actions with intent to delete, conceal or otherwise destroy emails, information and/or data related to AR4, as suggested by Dr. Phil Jones. Dr. Mann has stated that he did not delete emails in response to Dr. Jones’ request. Further, Dr. Mann produced upon request a full archive of his emails in and around the time of the preparation of AR4. The archive contained emails related to AR4” (Assmann et al. 2010).

As Chris Horner (Horner 2011) of the Competitive Enterprise Institute notes, however, Mann’s own email trail clearly refutes this finding. When Phil Jones of the CRU contacted Mann (1212073451.txt) on May 29, 2008 asking the following:

“Mike:

- Can you delete any emails you may have had with Keith re AR4? Keith will do likewise. He’s not in at the moment—minor *family* crisis.
- Can you also email Gene and get him to do the same? I don’t have his new email address.
- We will be getting Caspar to do likewise.”

Mann replied, “I’ll contact Gene about this ASAP” (1212063122.txt). The Penn State committee report indicates that they never followed up with interviews of the recipients of the emails other than Mann, in this case, Eugene—Gene—Wahl of the National Oceanographic and Atmospheric Administration. This is critical because, since the original article I wrote was published, at least one report has been published indicating that Wahl has told an Inspector General from a federal research funding agency investigating the scandal that Mann did indeed forward the request. Wahl claims that the records were correspondence with Keith Briffa of CRU regarding the Fourth Assessment Report of the Intergovernmental Panel on Climate Change which involved no misconduct (Horner 2011). Regardless of that, the evidence clearly indicates that Mann did, in fact, “engage in, or participate in, directly or indirectly, any actions with the intent to delete, conceal or otherwise destroy emails, information and/or data, related to AR4, as suggested by Phil Jones?” in contradiction of the Penn State Panel’s findings.

Why the discrepancy? The “evidence” used by the committee to exonerate Mann provides a clue. The report explicitly notes that Mann’s success in obtaining funding was used as evidence that he “exceeded the highest standards of his profession” (Horner 2011, 16). Similarly, IPCC’s Nobel Prize, another potential benefit to Penn State’s reputation, was accepted as proof of his success without exploring any role misconduct by IPCC members like Mann and Jones may have played in gaining the attention that led to the award (Horner 2011, 18). Mann’s record of success in obtaining funding and the reputational effects of association with the IPCC Nobel Peace Prize provided benefits to the University that it may well have been unwilling to risk losing. Despite this, Mann did not receive a full exoneration, being criticized for improperly sharing unpublished manuscripts written by third parties (Horner 2011, 19).

Besides the investigations that I argue are mischaracterized by Davies, there are others that are worth noting. Ongoing are truly independent investigations by the Inspector Generals at a number of government agencies, who have yet to complete their work or release investigation reports. Others have been completed. Telling in its absence from the list is the report from the Minority Staff of the Committee on the Environment and Public Works of United States Senate (Minority Staff 2010) regarding their investigation into the issue. This report explicitly finds that:

“the scientists violated fundamental ethical principles involving taxpayer-funded research and, in some cases, may have violated federal laws.”

And:

“Rather, the e-mails show the world’s leading climate scientists discussing, among other things:

- Obstructing release of damaging data and information;
- Manipulating data and knowingly using flawed climate models to reach preconceived conclusions;
- Colluding to pressure journal editors who published work questioning the climate science ‘consensus’; and
- Assuming activist roles to influence the political process.”

Commentary in the peer-reviewed literature also contains significant criticism of the CRU circle’s actions. Consider the comments of climatologist Stanley Trimble (Trimble 2010) in a 2010 commentary in the journal *Academic Questions*:

“Beyond any scientific implications are the behavior of the East Anglia scientists and their correspondents—suppressing information, denigrating those who don’t agree with them, trying to deny access to scientific journals, questioning motives, and conniving to disfellow skeptical colleagues. While maybe not illegal, they are most certainly unethical. Civilized people, much less scientists, just don’t do those things—but then, apparently they do.”

“The apologists need to get a grip on reality. This stuff was not taken out of context: indeed, the context is quite clear. They were wrong and the climate warming establishment should acknowledge this.”

“Climategate leaves no doubt that at least some zealots connive to exclude skeptical environmental scientists from refereed scientific journals.”

“The environmental zealots like to paint skeptics or ‘deniers’ (or ‘denialists’) as on the make for money—money being generally characterized as coming from, you guessed it, ‘big corporations.’ But even if that’s so, it’s the science that should be on trial, not the funding. What we do know, and what many Greens don’t want the public to know, is that some of them are riding their own gravy train. Neither funding agencies nor

scientific journals want to hear about environmental successes. They want environmental problems, the bigger, the better.”

Likewise, philosopher J.R. Ravetz, an advocate of the concept of post-modern science and self-described leftist, offered the following criticism in *Futures* (Ravetz 2011):

“This new war, on Carbon, was equally simplistic, and equally prone to corruption and failure. Global Warming science had become the core element of this major worldwide campaign to save the planet. Any weakening of the scientific case would have amounted to a betrayal of the good cause, as well as a disruption of the growing research effort. All critics, even those who were full members of the scientific community, had to be derided and dismissed. As we learned from the CRU emails, they were not considered entitled to the normal courtesies of scientific sharing and debate. Requests for information were stalled, and as one witty blogger has put it, ‘peer review’ was replaced by ‘pal review.’”

“Even now, the catalogue of unscientific practices revealed in the mainstream media is very small compared to what is available in the blogosphere. Details of shoddy science and dirty tricks abound. By the end, the committed inner core were confessing to each other that global temperatures were falling, but it was far too late to change course.”

In light of the evidence, it is clear that the Climategate circle did, in fact, violate the norms of acceptable scientific ethics, and that Mr. Davies’ attempts to suppress the paper in fact are a continuation of a pattern by the circle of attempts to suppress embarrassing dissent, and a continuation of the Vice Chancellor’s failure to protect the reputation of his University—or at least, a misguided attempt to do so by sweeping the problem under the proverbial rug, rather than forthrightly acknowledging his problem and dealing with it in a manner designed to restore confidence in the institution. Given the high profile of climate change research and the tens of millions of dollars in available research funding, it may well be that Mr. Davies, like the committee from Penn State, feels that the research funding and “prestige” brought by CRU’s affiliation with the International Panel on Climate Change are ends which justify unethical means. That does not, however, justify suppression of dissent in the scientific community.

A second comment was received from Dr. Richard Fielding, a commentary that is notable for the personal vitriol it targets against me without ever addressing the primary theme of my article. For example, the fact that Koch Industries has donated to the Cato Institute, the Washington DC Libertarian policy institute that originally published my monograph, is used to attempt to paint me as a paid tool of polluters, in a logic reminiscent of the charts used by Senator McCarthy or the John Birch Society in the late 1940s and early 1950s to prove political opponents were tools of the Soviet Union. Koch Industries and the Koch brothers, as an observer of current American political rhetoric realizes, are a general bugbear for conspiracy theorists on the Left seeking to discredit their opponents, much like some on the Right point out billionaire George Soros' contributions to organizations such as MoveOn.Org or the Center for American Progress as evidence of a conspiracy on the Left. The tactic is an attempt to create guilt by association and an attempt to avoid more substantive issues. Such a theme is increasingly clear in the last paragraph of his paper, which consists of little more than a repetition of the typical Populist conspiracy theory that government is the slave of a conspiracy of strong economic powers, easily recognizable to one who has read Hofstadter's famous essay on the paranoid style in politics:

“The enemy is clearly delineated: he is a perfect model of malice, a kind of amoral superman—sinister, ubiquitous, powerful, cruel, sensual, luxury-loving. Unlike the rest of us, the enemy is not caught in the toils of the vast mechanism of history, himself a victim of his past, his desires, his limitations. He wills, indeed, he manufactures, the mechanism of history, or tries to deflect the normal course of history in an evil way. He makes crises, starts runs on banks, causes depressions, manufactures disasters, and then enjoys and profits from the misery he has produced. The paranoid's interpretation of history is distinctly personal: decisive events are not taken as part of the stream of history, but as the consequences of someone's will. Very often, the enemy is held to possess some especially effective source of power: he controls the press; he has unlimited funds; he has a new secret for influencing the mind (brainwashing); he has a special technique for seduction (the Catholic confessional)” (Hofstadter 1964).

Paranoid or not, in the interest of disclosure, I did receive an honorarium from the Cato Institute of \$500 after the monograph was published. I did not know that they would pay at the time I proposed the article to Michael Cannon of the Cato Institute, nor did I know a sum until after the monograph was in press. The article was originally proposed to look at the issue of the language in an early version of

the Patient Protection and Accountable Care Act bill discussed in the paper, and the discussion of the Climategate scandal was included only because the emails were released while I was writing the paper and appear to offer a supporting example on the broader theme. If a \$500 honorarium is enough to corrupt the scientific process, then science is hopeless, and certainly grounds exist to question institutes like the Climate Research Unit, which has received millions in funding for work on climate change, or the report of the Deutsche Bank fund, which has an investment portfolio of billions in “green” industries that would see significant losses if the idea of global warming were discredited or questioned.

Fielding takes issue with my characterization of the 2009 “swine flu” “pandemic,” alleging that “the only papers cited in support of Avery’s surprising claim that the public health community was desperately seeking something by which to save its neck is one publication by a graduate student in a religious newspaper, not an academic journal, and a second paper co-authored by Avery himself.” This statement is demonstrably incorrect. The paper cites a number of additional critics, such as Dr. Thomas Jefferson of the Cochrane Collaborative in an interview with the newspaper *Der Spiegel* (Der Spiegel 2009), infectious disease specialist Peter Gross (Gross 2009) in the peer-reviewed journal *BMJ Clinical Evidence*, a CDC presentation arguing for the strategy of overcommunicating risk (Nowak), and an investigative report from the Council of Europe (Flynn 2010) finding significant flaws in the manner in which WHO managed the epidemic. After this irresponsible attack, he comes around to what was one of the points I was illustrating with this example: conflicts of interest in the case undercut public confidence in science. As Fielding notes:

“There is no doubt that the funding of scientists by commercial organizations that stand to gain from health scares generates conflicts of interest, with increasing numbers of scientists seeking commercial funding as public funding is withdrawn. There is also little doubt that as these conflicts come to light, they further erode the credibility of science in the eyes of the public.”

Likewise, Fielding misrepresents what I presented with regard to the CRU scandal, as well as misrepresenting the reports that he argues vindicate the CRU circle. As noted previously, these reports do provide vindication on some charges, yet clearly find the group guilty on others. Of the specific allegations I mentioned, the Russell report (2010) found at least one case where the group manipulated data presentation for political effect, while both the Russell (2010) and the House of Commons (HCSTC 2010) reports, as has been shown, noted that the group had violated both scientific norms and freedom of information laws with regard to making data available. The reader is invited to review the emails cited previously

at length and make their own decision on the truthfulness and reasonableness of the allegations of a willingness to intimidate editors to keep dissenting work from publication.

Admittedly, I made no mention of any effort in the administration of previous presidents, Republican OR Democrat, to manipulate data. This was largely due to a conscious effort to use examples from current events in an effort to emphasize that the issue is of importance today, not a historical artifact. In the larger scheme, earlier examples simply were not necessary to make the point that policy preferences, not simply financial ones, could lead to violations of the fundamental ethics of science. Certainly they exist, and I was and am hardly unafraid to direct the reader to such discussions. The Doremus (2007) article cited in the original paper, for example, contains a number of examples such as those Fielding seeks. Frankly, given the nature of the personal vitriol with which he attacks me and my work, I believe it is not unreasonable to assume that even if such examples were explicitly included in my original paper his response would have been the same.

One final comment was received from an unnamed editor of the journal, regarding the issue of the suppression of Alan Carlin's internal report on the EPA endangerment ruling. The editor cited an article by John Broder in the *New York Times* (Carlin email 2009) purporting to discredit Dr. Carlin. I was unaware of the existence of this article at the time the paper was written (it was submitted to the journal at around the same time the article appeared). While the Broder article does make a valid point about the rushed nature of Carlin's work, it is full of inaccuracies and misstatements that call into question the validity of its arguments to discredit him. It labels Carlin as one "long known as a skeptic" on global warming, despite the fact that as recently as 2007 and 2008 Carlin published papers that clearly accepted global warming as established (Carlin 2007). It attempts to impugn the work because it did not meet the criteria for publishing in a scientific journal while overlooking that the primary goal of the paper was not publication in a journal, but to identify potential weaknesses in the two external findings that the EPA was basing the endangerment ruling on so that they could be addressed in the finding on a deadline of four days (Carlin email 2009).

On a petty level, Broder seeks to impugn Carlin's credentials by noting that he has a Ph.D. in economics, not the hard sciences. This creates a straw man by ignoring that there are other credentials that can indicate expertise. From his resume posted at <http://sites.google.com/site/carlineconomics/>, it is clear that Carlin holds a BS in Physics from the California Institute of Technology, has worked and published in environmental science and economics since the mid-1960s, his primary responsibilities at USEPA were to analyze the economic impact of environmental policy options—which requires familiarity with the technical aspects of the issues—and some of the criticism of research in the area

involve applications of econometric time series models to predict future trends (for example, see Ulph and Ulph 1997; Woodward and Gray 1993; Gordon 1991; Ghil and Vautard 1991; Koutsoyiannis and Montanari 2007; Green and Armstrong 2007), which is an area an economist may have greater expertise and training in than an atmospheric scientist. Similar pettiness can be seen in the email evidence from the Climategate scandal. In the August 2003 brouhaha over the Soon and Baliunas paper, for example, Mann and Jones make much over the fact that their expertise is in astrophysics, not specifically climate science—even though Baliunas had, as Mann notes, produced some well-cited work on solar variability, which was central and obviously relevant to their argument of the influence of solar fusion on global average temperatures (1061300885.txt). To be charitable, it is perhaps the case that the tactic is not an intellectually dishonest attempt to malign critics, but little more than an indication that the tendency to hyperspecialization in academia has hindered the ability of many to see connections between disciplines. That, however, does not mean the connections do not exist.

On a key point I made in the article, that Carlin was muzzled from presenting a dissenting view on a predetermined policy alternative, Broder (2009) relies on a statement from EPA spokeswoman Adora Andy that such allegations are “ridiculous” and denies he was ordered not to discuss the issue. It should have been patently clear to Broder, based on documents in the possession of the *New York Times*, that this statement was a falsehood. *The Times* has posted on their website an email from Al McGartland (2009b), Director of the National Center for Environmental Economics and Carlin’s superior, to Carlin dated March 17, 2009, which states, “The administrator and the administration has [*sic*] decided to move forward on endangerment, and your comments do not help the legal or policy case for this decision....I can see only one impact of your comments given where we are in the process, and that would be a very negative impact in our office.” This followed a March 12 email from McGartland (2009a) that clearly constituted a gag order on Carlin, stating

“do not have any direct communication with anyone outside NCEE on endangerment. There should be no meetings, e-mails, written communication, phone calls, etc.”

Ironically, given the attacks by the CRU circle on those they perceived as skeptics, one of their own provides what may be the most skeptical comments on the validity of the ideas they so desperately defended. Mike Hulme (2010) argues that “weather cannot be so forensically dissected into these different causal elements” and that “climate stability is an illusion; we are poorly advised if we are told that a return to some putative natural climate state is possible. As non-human

agents—the sun, volcanoes, oceans, trees—share power with the agents of humanity and together co-produce our climate, stability is one attribute of this hybrid climate system which will not be achieved.” Ergo, while we cannot say clearly that the predictions of the CRU circle are wrong, neither can we claim that they are correct. While it would be wrong to dismiss the claims based on dogma, equally incorrect is the argument that they should be accepted on an unskeptical faith, merely because they are proposed by “scientists.”

The proper role of science is to look upon the claims with a skeptical eye, identifying potential problems and retesting the theories for robustness, rather than attacking skeptics. Skepticism can play a tremendous role in advancing science and confirming theory, as was realized and utilized so well by British physician John Snow in investigating the Broad Street cholera epidemic and demonstrating that the disease was transmitted through contaminated water (Johnson 2006). We always assume that our results could be the result of measurement error, misspecification of the theory or hypothesis, flaws in design or sampling, artifacts of the underlying assumptions of statistical tests, etc. The purpose of skepticism is to acknowledge these possibilities so that we revisit the questions and retest the hypothesis, with confidence built on our ability to replicate the work directly and through different methodologies. To reject skepticism is to reject the empiricism underlying the concept of science and retreat to the prescientific world where we accept truth because it is spoken by an individual thought to be authoritative, even if it is contradicted by empirical findings. Aristotle might again trump Galileo; Galen’s work would be more authoritative than John Snow’s or Robert Koch’s.

Why then, given the inherent inability to establish causality that Hulme notes for this issue, why the vicious responses to those who disagree? Van der Sluijs, van Est, and Riphagen (2010) argue that the emphasis on consensus in decision making by the United Nations International Panel on Climate Change has reduced the ability of the scientific community to consider dissent and uncertainty, which has politicized the field of climatology. The reliance on consensus results in pressure to exclude dissent, which undermines the scientific ethic of skepticism. Skepticism, as Carl Sagan (1996) wrote, is the essence of scientific thought, the very character that separates the concept of science from that of faith. As a human endeavor, however, science is subject to being rooted in the potentially flawed assumptions of the human scientist. Kuhn (1963) notes that even in the sense of a broadly accepted scientific paradigm, a tension exists between innovation and the paradigm. Attempting to prematurely create a paradigm in an environment of inherent uncertainty through a process of forced consensus that limits the ability to incorporate uncertainty creates a conflict between the ethical paradigm of scientific skepticism and the politics of the disciplinary paradigm that require agreement. Such is the environment of modern

climatology, where the label “skeptic” becomes not the traditional badge of ethical scientific conduct, but a pejorative, and skepticism a goal not to pursue, but a vice to suppress. Rejecting skepticism is tantamount to rejecting science itself, an odd stance for scientists who must then ask that their work be accepted on faith because it takes the form of science. Whether the work is scientifically correct or not—and at no point have I claimed that the global warming hypothesis is necessarily wrong—rejecting and stigmatizing the value of questioning by skeptics undermines the credibility of science.

When science becomes politicized, defined in the words of Roger Pielke (2004) “as the use of science by scientists as a means of negotiating desired political goals,” it diminishes the value and credibility of both the science and the policy solution. Under these circumstances, the validity of Sayre’s Law, that “Academic politics is the most vicious and bitter form of politics, because the stakes are so low,” becomes exceedingly clear. Even clearer, to the reader of the documents released in the Climategate leak, is the bitter and unsavory manner in which participants in the CRU email circle chose to play academic politics.

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