

## Justification of Chapter 8

SIR — The letter from S. Fred Singer<sup>1</sup> continues to spread inaccurate and misleading information about the preparation and approval of the recently published Intergovernmental Panel on Climate Change (IPCC) scientific assessment on climate change<sup>2</sup>. As chairman of the key parts of the Working Group I plenary meeting held at Madrid in November 1995, I should like to explain the IPCC procedures and decisions which led to the acceptance or approval of different parts of the assessment.

At that plenary there were 177 delegates from 96 countries, representatives from 14 nongovernmental organizations and 28 lead authors representing the many hundreds of scientists who had been involved in the preparation and review of the eleven scientific chapters covering 450 pages that form the basic material for the assessment.

The main tasks of the meeting were to approve the detailed wording of the Summary for Policy Makers (SPM) of the report and to "accept" the background scientific chapters for which detailed approval at such a meeting is clearly not possible. According to the rules of procedure, "acceptance" by the plenary means that the meeting is satisfied that they had undergone a thorough process of peer review by experts and by governments and that they present a "comprehensive, objective and balanced view" of the science.

The draft background chapters were sent out to delegates in October in preparation for the November meeting. Subsequently, however, many review comments continued to be received. For instance, the US government, in submitting its points for review, commented on "several inconsistencies" and stated that "it is essential that the chapters not be finalized prior to the completion of the discussions at the IPCC Plenary in Madrid, and that the chapter authors be prevailed upon to modify their text in an appropriate manner following discussion in Madrid".

The Madrid meeting included many hours of discussion and debate about the draft chapter (Chapter 8) on the detection of climate change (which addressed the extent to which anthropogenic climate change has been detected in climate observations), with the object of finding the best and most scientifically accurate wording for the SPM. Unanimous approval both by the scientists and by the government delegates was eventually given to the SPM, which, regarding the detection of climate change, included the following crucial paragraph: "Our ability to quantify the human influence on global climate is currently limited, ... nevertheless, the balance of evidence suggests that there is a discernible human

influence on global climate".

During the plenary sessions, proposals for modification to the draft Chapter 8 were made by both scientists and government delegates. The plenary meeting finally "accepted" the draft chapters (including Chapter 8) subject to their revision by the lead authors to take into account the guidance provided by the meeting and in particular the need for overall consistency. The plenary meeting was, in fact, the final part of the very comprehensive and thorough IPCC process of peer review.

In accordance with IPCC procedures, the subsequent changes to the draft of the chapter were under the full scientific control of its convening lead author, Dr Benjamin Santer. All of us in the IPCC recognize the thorough and careful way in which Santer and his colleagues responded to the proposals made at Madrid. The changes were made with the sole purpose of producing the best possible and most clearly explained assessment of the science and were not in any way motivated by political or other considerations. The IPCC rules of procedure were strictly followed. Not one of the 96 countries represented at Madrid has challenged either the changes in the revised version of the chapter or the procedures.

The IPCC is a scientific body charged with producing scientific assessments. The meeting at Madrid was a scientific meeting whose purpose was to reach agreement on the science of climate change and on the best way of presenting the science to policy-makers with accuracy and clarity. Despite pressure from those with various political agendas, the IPCC has stuck strictly to its brief, refused to compromise its science for any political reason and maintained "complete integrity in the reviewing and approval process", which, as you stated in your leading article<sup>3</sup> and was emphasized by Singer, "is an essential element in assuring the credibility of the resulting conclusions".

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1. Singer, S. F. *Nature* **382**, 392 (1996).

2. *Climate Change 1995*. Vol. 1. *The Science of Climate Change*. IPCC Second Assessment Report (eds Houghton, J. T. et al.) (Cambridge Univ. Press, 1996).

3. *Nature* **381**, 539 (1996).

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## Hushed tones of the whistleblower

SIR — It is not surprising that "a group of prominent US scientific organizations" opposes the widening of the definition of research misconduct proposed in the report of the Commission on Research Integrity (*Nature* **381**, 263; 1996). The establishment, from which organization chiefs are drawn, is always against punishing the kinds of cheating its members do, typically the theft of credit from underlings and rivals and the misuse of peer review to keep competitors from being funded or published.

Because rank and file organization members are more likely to be victims than cheaters, the organizations' lobbying opposes the interests of their own rank and file. Alas, rank and file members get no chance to vote on the lobbying done in their name.

Ironically, the commission's report, adopted *in toto*, would serve the establishment, because it requires whistleblowers to respect confidentiality. This is not required by current regulation, but whistleblowers are routinely induced to agree to it, and misconduct cases are entirely secret unless the whistleblower wins. The authorities, in thrall to the establishment and unseen by the public, ignore rules and definitions when necessary to do the establishment's bidding. The only weapon whistleblowers have against such misfeasance is to go public. Silencing them by regulation would leave them defenceless.

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## The gentle touch

SIR — The protective function of the stapedial muscle has always been puzzling, as it cannot apparently tighten the ossicular chain fast enough for sudden noises, as Daedalus points out (*Nature* **381**, 742; 1996).

In fact, a physiological early-warning system already exists. The stapedius muscle contracts readily to light touch round the meatal entrance, as can be shown with a wisp of cotton wool and a manual acoustic impedance meter, provided middle ears are completely normal. Very occasionally, in some ears, the muscle reflex may be triggered as the wool approaches the ear and before it actually touches the skin. The blast wave from a loud noise or explosion, therefore, may trigger a tactile stapedial reflex in slight advance of the acoustic one, so attenuating the arriving sound.

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