

Global Warming: The Complete Briefing

John Houghton

Cambridge: Cambridge University Press, 1997

ISBN 0-521-62932-2 (PB) £12.95. xv +251pp.

This is the second edition of an introductory text for undergraduate students which is more a good summary than a complete briefing, due to some gaps that I shall point out. The added interest for readers of this journal, and those interested in climate change, is the author, who is the Co-Chairman of the Scientific Assessment Working Group of the Intergovernmental Panel on Climate Change (IPCC). Thus, his comments and coverage of issues, such as reasons for taking action, the state of our knowledge, responsibilities to future generations and so on, have an added significance. The scientific and impacts chapters are largely summaries of IPCC reports and useful for those unfamiliar with their content or frightened away by the size of the originals (although the originals do have summaries at the beginning of each volume and chapter). More novel is Houghton's discussion, although brief, of his own motivations for scientific research, which are explicit in Chapter 8.

Houghton is open about the Christian beliefs underlying his concern for nature and future generations. His open confessions of values he associates with scientific work are highly unusual. Many scientists appear loath to see colleagues take such an open position, and avoid phrasing themselves in terms of their opinions or beliefs. Yet, according to the introduction to this edition, while being 'surprised' or finding confessions of religious belief 'startling' in a scientific context, most of his peers accepted them as useful background information. That is Houghton's position was, he believes, accepted on the grounds of his supposition that they are arguments as to 'why' systems operate and seen

as separable from the scientific quest for 'how' they operate (a rather unclear classification to me). Even with the apparent support of his colleagues, Houghton notes the need he felt to revise the specific chapter mentioning his Christian beliefs for the second edition: 'I have been somewhat more objective and less personal – which I felt was more appropriate for student readers from a wide range of disciplines, for whom the edition is particularly suited' (p. xv). A statement which is reminiscent of the colloquialism 'not in front of the children', but at least the issues are posed by the volume.

In terms of linking this concern for environmental values to his understanding of science and economics the book is disappointing, and the failure here is perhaps partially our own. That is, Houghton is obviously genuinely concerned about environmental degradation and the attitude of some politicians towards the future. For example, he cites a senior member of a former Conservative Cabinet responding to his presentation at Number Ten with the remark that as the problem would not become serious in his lifetime the solution could be found by the next generation (p. 144). Yet, when discussing values the fallback is to shallow economic numbers, and I intuit a feeling of bewilderment as to what might be done about ethical concerns in the policy arena (beyond invoking the mantra Al Gore). Houghton is open to the debate of this journal but almost totally unaware of the literature.

As a believer in Christian stewardship his statement of beliefs in right and wrong are straightforward. 'We have no right to act as if there is no tomorrow. We also have a responsibility to give to those who follow us a pattern for their future based on the principle of sustainable development.' However, as noted with the desire to define 'why' as distinct from 'how', the link of such values to the content of scientific research is absent. At the same time Houghton admonishes those who pursue science and technology 'with a clinical detachment and without thinking about the ethical consequences' (p. 149). The content and nature of faith in science is apparently important but the role of that faith in forming science unexplored and undoubtedly taboo.

Uncertainty is an issue at the heart of complex environmental problems and it is given a chapter. However, this is a superficial treatment. After six pages, largely devoted to the IPCC peer review process, he states 'so much for uncertainty in the science of global warming'. The key points are that scientific consensus is necessary for policy impact and uncertainty can be 'narrowed' by more research.

The first point seems to amount to a fear that, without everybody agreeing to the knowledge base, science is flawed. The essential implicit point is that science on this issue has been motivated by the need for political impact, but how this affects science is again unexplored. The tedious negotiating process of which the IPCC is now a part is described as 'lively discussion ... achieving the most informative and accurate wording' (p. 158). Even the over three hours spent negotiating the wording of one sentence is seen as necessary for statements to be worded 'as clearly and as unambiguous as possible'. Which presumably means those sentences which had less time spent on them remain unclear and ambiguous.

The second point is totally flawed. In 1987 I was at a meeting in the US where lead climatologists reported their models would be refined enough for predictions at the regional level within ten years. Here Houghton makes a very similar statement a decade later: '...it will probably be almost a decade before large strides towards more complete certainty can be made and before the required detail on the regional and local scales can be provided' (p. 160). The idea of complete certainty is itself mythical in proportions as many have been at pains to convey (see Wynne 1992, Faber et al. 1992). However, Houghton is himself aware of this as, a few pages later, we are told surprise events cannot

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be ruled out, and 'the risk posed by such possibilities is impossible to assess' (p. 165). Unfortunately, rather than making the link between the 'possible impossible' and the concepts of partial ignorance and indeterminacy he uses the inappropriate insurance analogy borrowed from some misguided economists.

Confusion, again aided by economists, also appears as Houghton moves to 'some global economics'. A basic cost-benefit approach is rationalised with inappropriate expansion of simple microeconomic concepts far beyond their theoretical limitations. This is of course not Houghton's fault but that of the economists he cites. The interesting point here is that Houghton feels he must use the money numbers coming from economic cost-benefit studies. He ignores the controversy over issues such as valuing life, which was a major event in the last IPCC assessment. He also seems at a loss to include other concepts of value, although he notes the importance of both 'intrinsic value in the natural world' and the inappropriateness and impossibility of expressing 'this value in money'.

Overall there is some useful material here both for teaching and raising issues which are key to the debate on environmental values and climate change due to the enhanced Greenhouse Effect. The failings are in linking the various value concepts which Houghton expresses. However, in part this may be due to a failure to communicate the kind of debate in this journal to policy forums and other disciplines. Certainly, although narrow in his perspective, Houghton is one scientist who is aware of and prepared to discuss the importance of environment values and would benefit from the engagement.

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References

- Faber, M., R. Manstetten and J. L. R. Proops (1992) 'Human kind and the environment: An anatomy of surprise and ignorance', *Environmental Values* **1**: 217–41.
- Wynne, B. (1992) 'Uncertainty and environmental learning: Reconceiving science and policy in the preventive paradigm', *Global Environmental Change* (June): 111–27.