

Comments on ‘How to Get Expelled from School’ by Ian Plimer Version 2

by
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Overview

Ian Plimer’s new book, *How to Get Expelled from School* is presented as a shorter version of *Heaven + Earth*, being aimed at the under-20 audience. As such, *How to Get Expelled from School* claims (p229) that its assertions are “*underpinned by the thousands of references cited in Heaven + Earth*”. My analysis (referenced hereafter as [*Enting, on-line*]) shows that in many cases Plimer explicitly misrepresents the content of his cited references in *Heaven + Earth*, and in many other cases the references that are cited do not in fact support his claims.

On page 35, of *How to Get Expelled from School*, Plimer admits to just one serious technical error in *Heaven + Earth*: the chemical formula for plimerite was wrong. Presumably he stands by the weirder claims and his mis-citation of his cited references.

The analysis ([*Enting, on-line*]) is available¹ from:

http://www.complex.org.au/tiki-download_file.php?fileId=91

The current version is 2.2.²

¹The intent is that the URL will always address the most recent version.

²DISCLAIMER: This analysis of the errors in *Heaven + Earth* is incomplete. In particular, I concentrated on cases where *Heaven + Earth* mis-represents the content of the references that are cited. Professor Plimer notes that critics from the climate sciences had failed to check whether he had correctly given the formula for the mineral plimerite.

The [Enting, on-line] analysis notes a large number of inconsistencies in *Heaven + Earth*. Others have extended this by comparing *Heaven + Earth* with Plimer's earlier book *A Short History of Planet Earth*. A summary of various inconsistencies in Plimer's statements is given on the *Plimer vs. Plimer* website:³

<http://sks.to/plimervsplimer>

Scientific Errors

The main arguments about the science of climate change are in sections 3 (Carbon Dioxide) and 4 (Temperature) — pages 123 through to 167. As with *Heaven + Earth*, these sections have many flaws.

One of the main false lines of argument (as in *Heaven + Earth*) is that if some climate change is caused by factors other than CO₂, then CO₂ cannot be causing the climate change observed over recent decades.

As an extension of this line of argument is to exaggerate the amount of climate change over past centuries. My analysis in [Enting, on-line] shows that much of the evidence advanced by Plimer in *Heaven + Earth* does not support his claims of long-term globally-coherent climate shifts over the last 2000 years. In particular, Plimer's references in *Heaven + Earth* do not support his claim that “*temperatures in Roman times were 2 to 6 degrees warmer than today.*” In *How to Get Expelled from School*, Plimer generally avoids specifics and uses words like ‘far warmer’.

Some specifics

p113 “*Why did atmospheric methane start to drop like a bomb on the late 20th century?*” — actually methane levels did not drop ‘like a bomb’ — they stayed relatively constant for somewhat over a decade and have now resumed growing.

p131 “*However, measurements of increasing carbon dioxide from Hawaii (northern hemisphere) and the South Pole shows[sic] that there is no time lag difference between the hemispheres in the increase of carbon dioxide in the atmosphere.*” This assertion is false. As CO₂ has increased, annual mean concentrations in the southern hemisphere have consistently lagged behind those in the north.⁴

Misrepresentation of opponents

As with *Heaven + Earth*, *How to Get Expelled from School* is replete with misrepresentation of those who have had a high profile in climate change research and/or communication.

Gore On p77, *How to Get Expelled from School*, discusses Al Gore's file *An Inconvenient Truth* and the UK court case regarding distribution of the film to schools. The judgement can be found at:

³Thanks to John Cook of Sceptical Science for permission to announce this site prior to the official launch.

⁴A large number of data sets showing this are at <http://cdiac.ornl.gov/trends/co2/>

<http://www.bailii.org/ew/cases/EWHC/Admin/2007/2288.html>

Some important aspects of the judgment are:

I have no doubt that Dr Stott, the Defendants expert, is right when he said:
“ Al Gore’s presentation of the causes and likely effects of climate change was broadly accurate”

and, after summarising the defence case as

1. global average temperatures have been rising significantly over the past half century and are likely to continue to rise (“climate change”);
2. climate change is mainly attributable to man-made emissions of carbon dioxide, methane and nitrous oxides (“greenhouse gases”);
3. climate change will, if unchecked, have significant adverse effects on the world and its populations; and
4. there are measures that individuals and governments can take which will help reduce climate change or mitigate its effects.

he states:

These propositions, Mr Chamberlain submits (and I accept) are supported by a vast quantity of research published on peer-reviewed journals world-wide and by the great majority of the world’s climate scientists.

Plimer’s summary of the film is that it is “..*scientifically wrong. Nor arguably wrong, but hopelessly wrong and fraudulent.*” and that the judgement found that “*the film contained fundamental scientific errors.*”

Santer Similarly, on P79, *How to Get Expelled from School* misrepresents Ben Santer’s use of data.

The diagrams

As with *Heaven + Earth*, many of the figures in *How to Get Expelled from School* are not referenced in a way that enables the source of the data to be identified. On page 235, references are seemingly given, but checking these reveals that in most cases, either the cited paper does not appear in Plimer’s list of references (pp229–233) or the reference is to a large website, without any further detail as to where the plot and/or data may be found. Since *How to Get Expelled from School* uses author-year referencing while *Heaven + Earth* uses numbered referencing (1 to 2311), using *Heaven + Earth* to fill in the inadequacies of the data citation in *How to Get Expelled from School* is a hit-and-miss affair.⁵

Details for the 32 figures in *How to Get Expelled from School* are:

⁵Of course, scientists working in relevant fields may be able to make informed guesses about the sources of particular data sets and search tools such as *Google Scholar*

1. No reference in caption.
2. Reference (Hallam et al, 1983) given on p235 does not appear in reference list. No reference in caption.
3. Reference (Manuel et al, 2005) given on p235 does not appear in reference list⁶. No reference in caption.
4. No reference in caption.
5. References given on p235 (Schneider et al 2006; Beck 2007) do not appear in reference list. No reference in caption.
6. No reference in caption.
7. No reference in caption.
8. No reference in caption.
9. No reference in caption.
10. No reference in caption.
11. No reference in caption.
12. This is essentially fig 10 of *Heaven + Earth* but the *How to Get Expelled from School* version does not indicate which curve is which. No reference in caption.
13. Reference (Petit et al 1999) given on p235 does not appear in reference list. No reference in caption.
14. Reference given on p235 does not appear in reference list. No reference in caption.
15. This is essentially figure 5 for *Heaven + Earth* with the time axis changed (In *Heaven + Earth*, 'today' does not occur at zero in the 'time (years ago)' scale). In both *Heaven + Earth* and *How to Get Expelled from School*, the time scale is misrepresented. The original data appear to have been in terms of depth, not time. No reference in caption.
16. No reference in caption, but attributed to IPCC. Essentially the lower panel of fig 11 of *Heaven + Earth*. Page 235 of *How to Get Expelled from School* gives combined references for figs 16 and 17. This appears to be attributed to IPCC (1990) in *How to Get Expelled from School*. In *Heaven + Earth* the discussion preceding fig 11 refers to a diagram in the policymakers summary of IPCC (1996), but in reality that policymakers summary has NO diagrams.

⁶However, *Heaven + Earth* does cite (and plagiarise) a paper by Manuel et al., 2005 as the source of the claim that the Sun consists mainly of heavy elements such as iron.

17. No reference in caption. Essentially the upper panel of fig 11 of *Heaven + Earth*. The reference (no. 372 in *Heaven + Earth*) that Plimer cites for these data is clearly incorrect, since it only covers the last 600 years rather than the last 1000 years as plotted.
18. No explicit reference in caption, but the temperature data sets are identified as Had-CRU3v and UAH MSU (the CO₂ record is not identified). A number of significant differences from fig 4 of *Heaven + Earth*, which purports to show the same 3 records.
19. Reference given on p235 (Raymo et al, 1997) does not appear in reference list. No reference in caption.
20. Berner (2001, 2006) references given on p235 do not appear in reference list. No reference in caption. This is essentially fig 24 of *Heaven + Earth*, for which no reference is provided.
21. Cited references do not appear in the reference list. No reference in caption.
22. No reference in caption.
23. No reference in caption. The reference (Jawowski et al,1992) given on p235 seems implausible as documentation for plots that extend to 2004 and beyond. Credibility is further diminished by finding that Goggle Scholar does not identify any such reference. Possibly Plimer means (Jaworowski et al,1992) which exists (and is notorious for its misrepresentation of ice core data), but which, even apart from the time discrepancy, is of limited relevance to fig 23.
24. This is essentially fig 50 of *Heaven + Earth*. On p235, this figure is referenced back to fig 21, for which the cited references do not appear in the reference list. No reference in caption.
25. Reference given on p235 (Harl et al, 2006) does not appear in reference list. No reference in caption.
26. Reference in caption (Loehle, 2009) does not appear in reference list.
27. No reference in caption — data identified as from Vostok
28. No reference in caption — data identified as from EPICA.
29. Not included in list on page 235. No reference given in caption.⁷
30. References given on p235 do not appear in reference list.
31. ‘Eustatic curve’ (on p235) is a description not a reference. No reference in caption.

⁷A comparable map (with reference) appears as fig 30 of *Heaven + Earth*, but covers 9000 years rather than 6000, but essentially only for the east side of the Gulf of Bothnia, without the geological information and shows about twice as much uplift.

32. Neither (Berner, 2001) nor (Copenhagen Diagnosis, 2009) appears in list of references. No reference in caption.⁸

The questions

The final section of *How to Get Expelled from School* consists of 101 questions that are presented as being embarrassing to a hypothetical ‘environmental activist’ teacher.

Particularly important is

- Q33** “*Is carbon dioxide poisonous: No*”. This is dangerously false. In [*Enting, on-line*] I summarise the laboratory safety information (ChemWatch) giving the toxicity levels for CO₂.

In contrast, for a number of questions, the answers given in *How to Get Expelled from School* are in largely accord with mainstream science.⁹ This is the case for questions 1, 17, 19, 20, 21, 28, 32, 40, 42, 74, 75, 78, 79, 84, 94 and 96.

Many of the questions are based on false premises.

- Q72** “*Why are there 60-year cycles of warming and cooling over the last 2000 years?*” *How to Get Expelled from School* does not provide an answer. More importantly it does not provide any evidence of such 60-year cycles. For comparison, fig 22 of *Heaven + Earth* is a table of ‘known cycles’ that does not include a 60-year cycle.
- Q81** “*Why did the rate of sea level rise double as soon as satellites started to measure sea-level?*”. It didn’t. Fig 30 of *How to Get Expelled from School* distorts the data. the 1.6 mm/year from tide gauges is an average over the whole of the 20th century; the average for the decades immediately before 1993 (when satellite data began) is higher. See the last plot in:

http://www.cmar.csiro.au/sealevel/sl_hist_few_hundred.html

- Q91** “*How did aboriginal people get to Australia before boats were invented? They walked from Irian Jaya during the last deglaciation.*” This begs the question of how they got to Irian Jaya, since the lower sea levels still left several large sections of ocean between Australia and the Asian mainland. There were presumably crossed using primitive water craft. Plimer’s ‘before boats were invented’ is implausible at best.

A special case is the creation of a false dichotomy between.

- Q34** “*Is carbon dioxide a pollutant or is it used in photosynthesis?*” Plimer’s answers are “no” and “yes”, rather than ‘yes’ and ‘yes’. Just because carbon dioxide is essential for photosynthesis, does not prevent it being a pollutant. For example, for humans vitamin A is an essential nutrient but it can be fatally toxic in large quantities.

⁸In particular, no reference for curve attributed to RSNZ.

⁹Of course, there may well be teachers who do not know the answers to some of these questions.

Minor points

In addition, the volume reflects poor editing with a number of silly mistakes.

p78 (and index) The Frederick Sutz, refers to Frederick Seitz (1911–2008).¹⁰

p186: fig 14 The caption shows human emissions as mt C (millitounnes of carbon ?) rather than Mt C (megatonnes of carbon).

p231 The year of publication for Menne et al. is given as 2101.

p238 Index entries for ‘earth’, ‘Enting’, ‘Erlich’ and ‘eruption’ are placed between ‘freedom’ and ‘Finland’.

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¹⁰For more detail of Seitz’s activities, belying Plimer’s description as “one of the world’s most distinguished scientists”, see *Merchants of Doubt* by Oreskes and Conway.