

Evidence Meltdown

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The green movement has misled the world about the dangers of radiation.

By George Monbiot

Over the past fortnight I've made a deeply troubling discovery. The anti-nuclear movement to which I once belonged has misled the world about the impacts of radiation on human health. The claims we have made are ungrounded in science, unsupportable when challenged and wildly wrong. We have done other people, and ourselves, a terrible disservice.

I began to see the extent of the problem after a debate last week with Helen Caldicott (1). Dr Caldicott is the world's foremost anti-nuclear campaigner. She has received 21 honorary degrees and scores of awards, and was nominated for a Nobel Peace Prize (2).

Like other greens, I was in awe of her. In the debate she made some striking statements about the dangers of radiation. So I did what anyone faced with questionable scientific claims should do: I asked for the sources. Caldicott's response has profoundly shaken me.

First she sent me nine documents: newspaper articles, press releases and an advertisement. None were scientific publications; none contained sources for the claims she had made. But one of the press releases referred to a report by the US National Academy of Sciences, which she urged me to read. I have now done so – all 423 pages(3). It supports none of the statements I questioned: in fact it strongly contradicts her claims about the health effects of radiation.

I pressed her further and she gave me a series of answers that made my heart sink – in most cases they referred to publications which either had little or no scientific standing, which did not support her claims or which contradicted them. (I have posted our correspondence(4a,4b), and my sources, on my website). I have just read her book *Nuclear Power is not the Answer* (5). The scarcity of references to scientific papers and the abundance of unsourced claims it contains amaze me.

But it gets worse; much worse. For the past 25 years, anti-nuclear campaigners have been racking up the figures for deaths and diseases caused by the Chernobyl disaster, and parading deformed babies like a mediaeval circus. They now claim that 985,000 people have been killed by Chernobyl, and that it will continue to slaughter people for generations to come. These claims are false.

The UN Scientific Committee on the Effects of Atomic Radiation (Unsear) is the equivalent of the Intergovernmental Panel on Climate Change. Like the IPCC, it calls on the world's leading scientists to assess thousands of papers and produce an overview. Here is what it says about the impacts of Chernobyl.

Of the workers who tried to contain the emergency at Chernobyl, 134 suffered acute radiation syndrome; 28 died soon afterwards. Nineteen others died later, but generally not from diseases associated with radiation(6). The remaining 87 have suffered other complications, included four cases of solid cancer and two of leukaemia. In the rest of the population, there have been 6,848 cases of thyroid cancer among young children, arising "almost entirely" from the Soviet Union's failure to prevent people from drinking milk contaminated with iodine 131(7). Otherwise, "there has

been no persuasive evidence of any other health effect in the general population that can be attributed to radiation exposure.”(8) People living in the countries affected today “need not live in fear of serious health consequences from the Chernobyl accident.”(9)

Caldicott told me that Unsear’s work on Chernobyl is “a total cover-up”(10). Though I have pressed her to explain, she has yet to produce a shred of evidence for this contention.

In a column last week, the Guardian’s environment editor, John Vidal, angrily denounced my position on nuclear power(11). On a visit to Ukraine in 2006, he saw “deformed and genetically mutated babies in the wards ... adolescents with stunted growth and dwarf torsos; fetuses without thighs or fingers”. What he did not see was evidence that these were linked to the Chernobyl disaster.

Professor Gerry Thomas, who worked on the health effects of Chernobyl for Unsear, tells me that there is “absolutely no evidence” for an increase in birth defects(12). The National Academy paper which Dr Caldicott urged me to read came to similar conclusions. It found that radiation-induced mutation in sperm and eggs is such a small risk “that it has not been detected in humans, even in thoroughly studied irradiated populations such as those of Hiroshima and Nagasaki.”(13)

Like John Vidal and many others, Helen Caldicott pointed me to a book which claims that 985,000 people have died as a result of the disaster(14). Translated from Russian and published by the Annals of the New York Academy of Sciences, this is the only document which looks scientific and appears to support the wild claims made by greens about Chernobyl.

A devastating review in the journal Radiation Protection Dosimetry points out that the book achieves its figure by the remarkable method of assuming that all increased deaths from a wide range of diseases – including many which have no known association with radiation – were caused by the accident(15). There is no basis for this assumption, not least because screening in many countries improved dramatically after the disaster and, since 1986, there have been massive changes in the former eastern bloc. The study makes no attempt to correlate exposure to radiation with the incidence of disease(16).

Its publication seems to have arisen from a confusion about whether the Annals was a book publisher or a scientific journal. The academy has given me this statement: “In no sense did Annals of the New York Academy of Sciences or the New York Academy of Sciences commission this work; nor by its publication do we intend to independently validate the claims made in the translation or in the original publications cited in the work. The translated volume has not been peer-reviewed by the New York Academy of Sciences, or by anyone else.”(17)

Failing to provide sources, refuting data with anecdote, cherry-picking studies, scorning the scientific consensus, invoking a cover-up to explain it: all this is horribly familiar. These are the habits of climate change deniers, against which the green movement has struggled valiantly, calling science to its aid. It is distressing to discover that when the facts don’t suit them, members of this movement resort to the follies they have denounced.

We have a duty to base our judgements on the best available information. This is not just because we owe it to other people to represent the issues fairly, but also because we owe it to ourselves not to squander our lives on fairytales. A great wrong has been done by this movement. We must put it right.

www.monbiot.com <<http://www.monbiot.com>>

References:

1. http://www.democracynow.org/2011/3/30/prescription_for_survival_a_debate_on
2. <http://www.helencaldicott.com/about.htm>
3. Committee to Assess Health Risks from Exposure to Low Levels of Ionizing Radiation, National Research Council, 2006. Health Risks from Exposure to Low Levels of Ionizing Radiation: BEIR VII – Phase 2. National Academies Press. <http://www.nap.edu/catalog/11340.html>. The PDF costs \$34.
- 4a. Here's the correspondence:
<http://www.monbiot.com/2011/04/04/correspondence-with-helen-caldicott/>
- 4b. And here are my responses to what she says are her sources:
<http://www.monbiot.com/2011/04/04/interrogation-of-helen-caldicotts-responses/>
5. Helen Caldicott, 2006. Nuclear Power Is Not the Answer. New Press, New York.
6. United Nations Scientific Committee on the Effects of Atomic Radiation, 2011. Volume II, Annex D: Health effects due to radiation from the Chernobyl accident. This is the latest section of the 2008 report Sources and Effects of Ionizing Radiation: Report to the General Assembly. See Paragraph 2, page 1 and Figure VII and paragraph 63, page 14.
http://www.unscear.org/docs/reports/2008/Advance_copy_Annex_D_Chernobyl_Report.pdf
7. Para 33, page 8 and para 4, page one. As above.
8. Para 99, page 19. As above.
9. Para 100, page 19. As above.
10. http://www.democracynow.org/2011/3/30/prescription_for_survival_a_debate_on
11. <http://www.guardian.co.uk/commentisfree/2011/apr/01/fukushima-chernobyl-risks-radiation>
12. Professor Gerry Thomas, Chair in Molecular Pathology, Department of Surgery & Cancer, Imperial College, London, pers comm, 1st April 2011.
13. Committee to Assess Health Risks from Exposure to Low Levels of Ionizing Radiation, page 6. As above.
14. Alexey V. Yablokov, Vassily B. Nesterenko and Alexey V. Nesterenko, 2010. Chernobyl: Consequences of the Catastrophe for People and the Environment. Annals of the New York Academy of Sciences. I have this in pdf form, sent to me by the NYAS.
15. MW Charles, 2010. Review of Chernobyl: consequences of the catastrophe for people and the environment. Radiation Protection Dosimetry (2010) 141(1): 101-104. doi: 10.1093/rpd/ncq185.

<http://rpd.oxfordjournals.org/content/141/1/101.full>

16. The authors announce that they reject this method in the introduction to the book. Alexey V. Yablokov, Vassily B. Nesterenko and Alexey V. Nesterenko, as above, page 2.

17. Sent to me by Douglas Braaten, Director and Executive Editor, Annals of the New York Academy of Sciences, 2nd April 2011.

Meltdown is a hardware vulnerability affecting Intel x86 microprocessors, IBM POWER processors, and some ARM-based microprocessors. It allows a rogue process to read all memory, even when it is not authorized to do so. Meltdown affects a wide range of systems. At the time of disclosure, this included all devices running any but the most recent and patched versions of iOS, Linux, macOS, or Windows. Accordingly, many servers and cloud services were impacted, as well as a potential majority of smart x MELTDOWN. Obama administration. The slump will continue, since none of these tricks has the slightest thing to do with the underlying problems in the economy. All we'll have to show for them is an empty Keynesian bag and a lot more unpayable debt. Meanwhile, who's being ignored during this crisis? The free-market economists of the Austrian School of economic thought, the very people who predicted not only the Great Depression, but also the calamity we're dealing with today.