

~ NEW BOOK ADVANCE INFORMATION ~

“I have no axe to grind, I have no links with the nuclear industry, I just want to see the truth out there. So many people have been under a misapprehension for so long.”

RADIATION AND REASON

The impact of science on a culture of fear

By Professor Wade Allison, MA DPhil

A clear, positive scientific account of the effect of radiation on life

For more than half a century the view that radiation represents an extreme hazard has been accepted. This book challenges that view by facing the scientific question

How dangerous is ionising radiation?

and the related historical and sociological one

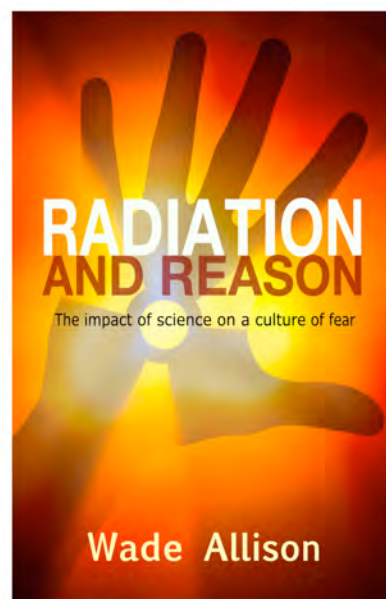
Why are we so worried about radiation?

The first question is answered in accessible language and related directly to modern scientific evidence and understanding. Briefly, radiation is about a thousand times less hazardous than is suggested by current safety standards. For many this will come as a surprise.

Four facts illustrate the need for a new understanding.

- ❖ The radiation levels in the nuclear waste storage hall at **Sellafield**, UK are so low that anyone would have to stay there for a million hours to receive the same dose that any patient on a course of radiotherapy treatment receives to their healthy tissue in a single day.
- ❖ The radiation dose experienced by the survivors of the **Hiroshima** and **Nagasaki** bombs caused 0.6% to die of radiation-induced cancer between 1950 and 2000, about 1/20 of the chance of dying of cancer anyway and less than the chance of being killed on US highways in that period.
- ❖ The wildlife at **Chernobyl** today is reported to be thriving, despite being radioactive.
- ❖ The mortality of **UK** radiation workers before age 85 from all cancers is 15-20% lower than comparable groups.

The case for a complete change in attitude towards radiation safety is unrelated to the effects of climate change. But the realisation that radiation and nuclear energy are much safer than is usually supposed is of extreme importance to the current discussion of alternatives to fossil fuels and their relative costs.



BOOK DETAILS

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“This book is based on recent scientific data that is now established, and it brings good news – but are the people of the world ready to re-examine past assumptions in the light of current science? It is important that they do, because, without nuclear energy, the future for mankind looks bleak.”

About the Author

Professor Wade Allison, MA DPhil, is a Fellow of Keble College and a Professor of Physics at the University of Oxford where he has studied and taught for over 40 years. His earlier research work was in elementary particle physics, in particular the radiation field of relativistic particles, but his interests and expertise have spread much wider. He recently published *Fundamental Physics for Probing and Imaging*, an advanced textbook for his course at Oxford on medical physics, which includes radiation and its use in clinical medicine and the wider environment.

Wade Allison speaking about why he decided he had to challenge the status quo...



“This book is an expedition into the “no-go” area of radiation and nuclear physics. The reader who joins this expedition need bring no special scientific skills, just an open mind and a readiness to think in the light of the evidence. He will encounter few other travellers in this land and will have much to recount upon his return.

Why did I write this book? Firstly, I did it because I should. Climate change is no idle threat, and no other book aimed at a wide audience has asked significant questions about radiation and why there is apprehension of the nuclear option as an alternative to fossil fuels. I am not driven by any vested interest in these matters and I have no personal agenda to

express. Journalists may hasten to label the matter as controversial, but in reality it is a question of misunderstandings between three groups of people –

- the scientists close to the matter who now widely accept the truth (many of whom are quite vocal about it in the scientific literature);
- the authorities responsible for safety who have worked hard for fifty years to remove all risks from radiation (which is what society, mistakenly in retrospect, asked them to do, and which they have done rather successfully);
- the press and general public who have never been told the truth.

This book is intended to be a reconciliation between these views, a first step in understanding and re-education firmly based in the science.

Secondly, I did it because I could – as Bill Clinton said in a somewhat different context. For a start, the effect of radiation on life involves the overlap of a number of different disciplines, and that excludes many fellow scientists from attempting such a task. When I discuss radiation safety with colleagues in physics and medicine they usually say “Well, of course!”, and then add ruefully “but the press and popular opinion as a whole will never accept the change.” I do not think that this is acceptable – some faith in public opinion should be maintained. It is true that sticking your neck out on a heated public topic, like the fear of radiation, about which people are understandably confused, is not something that a young academic is well advised to do – there are no Nobel Prizes for setting the record straight in such matters. But that should not affect an academic later in his career, like me.

I admit that this situation makes me angry – I dislike untruths, especially when they distort the future prospect for mankind and the environment, not for me perhaps but for my grandchildren. I cannot stand idly by and see such serious mistakes being made. I am really alarmed at the sight of mankind running away from tiny risks straight into the arms of much larger ones. But anger is not persuasive, even if justified, and early drafts of the book were binned as I sought to find the right perspective and the right language that embraced both science and native common sense. So “because I could”? Well, the reader will be the judge of that, but the task was certainly more challenging than I had expected.”