

## Optics Journal: Editorial

Published 2017/09/13  
©Optics Journal (2017)

ISSN: 1936-9808

Excerpt from: J. C. Ward, *Memoirs of a Theoretical Physicist* (Optics Journal, New York, 2004)©

### On the H-bomb

*One day I had the idea of radiation implosion. As in all the ideas that have ever popped up in my head, there is no way I can trace the source. I think that one just goes through a mechanical process of trial and error”...*

As luck would have it, there was an important meeting held shortly afterwards. How important can be measured by the presence, among numerous senior staff, of a splendidly outfitted admiral, in full ceremonial dress, sitting to attention in true naval fashion. This had to be a committee established to review progress, if any. I cannot remember anything of the first hour or so of the meeting, but presumed it dragged on in an inconclusive way until Cook was forced to put the following question forward: “does anyone have any ideas on how it might be done?” After a few embarrassing moments of silence, I went to the blackboard and sketched out my proposals. I was surprised to see Pike leave the room and return with some rolls of blueprints which he unrolled on the long table. Everyone crowded around to see his first glimpse of a primary. I then drew what I discovered many years later was an accurate picture of the remaining parts, except for shielding and other minor precautions. Cook was quick on the uptake, and made very pertinent inquiries about shielding problems. I explained how important it was to move the energy fast to the other end, and emphasized the need for compression. There was then a great hush. Evidently, it was now Penney’s turn. I spell his words verbatim: “this is too much like a piece of clockwork. If this were wartime, we might consider something along the lines of these waveguides of yours.” Cook said, rather softly I remember: “this should be looked into.” The meeting was then promptly concluded. Several weeks later Keith told me that there had been another meeting in my absence. I have often wondered what happened this time, but unfortunately Keith died of cancer before it occurred me to ask. He did tell me once in Cambridge that “we did a lot of work after you left”... he went to say that they were “bang on.” This was after the successful test at Christmas Island in 1957-1958. This achievement, if true, had outdistanced all others, who, particularly the Americans, had vastly more computing power at their disposal.