

## Comment on Brian Martin's "Extinction politics"

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[Brian Martin's article "Extinction Politics", appeared in *Update* No. 16, May 1984.]

It is unfortunate that Brian Martin, in *SANA Update* (May 1984) and elsewhere, uses such emotive terms as "extinction politics" and "doomsday beliefs", which display a lack of respect for, and a tendency to make categorical generalisations about, many and varied statements and positions about the effects of nuclear war held by sincere and thoughtful people.

It is ironic that Brian notes disapprovingly that "By the 1950's, a large number of people had come to believe that the killing of much or all of the world's population would result from global nuclear war", when in point of fact it was in the mid-50's that the combined arsenals of the superpowers probably did reach the level at which they were for the first time capable of causing a global climatic disaster (Sagan, 1983). It is arrogant of scientists to dismiss people's gut feelings when scientists themselves were then, and may well still be, largely ignorant of the effects. In the face of scientific ignorance "common sense" is often a good guide.

Brian quotes Nevil Shute's novel *On the Beach* as if it had no shred of scientific basis, completely ignoring the explicit scenario which Shute drew up in which large numbers of nuclear weapons coated with cobalt were exploded with the deliberate intention of increasing nuclear fallout. Again, it is ironic that a recent study conducted at the Lawrence Livermore National Laboratory (Knox, 1983) shows that fallout estimates for a major nuclear war have been under-estimated by about a factor of five hitherto, and that attacks on nuclear power stations and fuel cycle installations could increase long-term fallout by another factor of ten or so.

Next Brian attacks Jonathan Schell for discussing the implications of human extinction in *The Fate of the Earth*. Brian never acknowledges that Schell quite explicitly said that human extinction is not a certainty (see Schell p. 93), and ignores the powerful arguments which Schell advances for regarding the mere possibility of human extinction as important. These are developed further in Schell's more recent articles in *The New Yorker* (Jan. 2 & 9, 1984).

Brian then claims that the scientific basis of the ozone depletion problem has "almost entirely evaporated". In fact, while we now know that the nuclear winter effect is almost certainly far more serious than ozone depletion, the ozone depletion problem has not been dismissed except in so far as the trend to smaller warheads may limit the quantity of oxides of nitrogen injected into the

stratosphere by the nuclear explosions themselves. Ozone depletion could in fact end up being more serious due to injections of combustion products, including smoke, into the stratosphere.

Brian claims that the impact on populations nearer the Equator, such as in India, "does not seem likely to be significant". Quite to the contrary, smoke clouds are likely to spread into the tropics within a matter of weeks and would probably lead to below freezing temperatures for months on end. Populations and the ecology in such regions are the least able to withstand such a climatic onslaught and must be very seriously affected.

Then he says that major ecological destruction "remains speculative at present". Is he suggesting that a sudden and prolonged plunge to below freezing temperatures, with insufficient light for photosynthesis, might have little harmful effect, or is he denying the reality of "nuclear winter"?

There have been a number of specific criticisms of the various published papers on nuclear winter, but after more than two years in print there has been no criticism which has substantially altered the basic conclusions. The most prominent criticism has come from John Maddox, editor of *Nature* (307, 121: 1984), who completely failed to take account of the vital difference in optical properties of soot and volcanic dust (La Marche and Hirschboeck, 1984).

Principal uncertainties exist as to the war scenarios, the fraction of soot in the smoke, the height of injection of the smoke, the amount which would be removed by washout in the initial plumes, and the later rate of removal. In most cases the published papers made assumptions which tended to under-estimate the effects, especially with regard to the height of injection of the smoke and its lifetime. Two possible exceptions are the war scenarios, in which the so-called "baseline" case may be too large by a factor of 2, and perhaps the particle coagulation rates if the initial plumes are not rapidly dispersed. My judgement now is that the initial effects would be much as described in the published papers, even with a 2,000 megatonne war, except that the lifetime of the effects could well turn out to be years rather than months. I will discuss the technical details elsewhere.

Brian goes on to suggest that the worst effects might be avoided by "migration to coastal areas, away from the freezing continental temperatures", but fails to realise that the huge temperature gradients induced between the continents and oceans will cause violent storms to lash these coastal zones, which in any case are likely to be subject to a strong outflow of cold air from the continental interiors.

Brian then invokes the advantages of turning to grain rather than meat to extend "reserves of food". The fact is of course that in the event of a nuclear winter any human survivors will have little choice but to eat whatever food is available, be it meat or grain. But where are there huge grain reserves sufficient to feed the survivors for one or more years, and will such reserves survive in convenient proximity to the human survivors? Is Brian going to seriously

advocate creating grain reserves sufficient to feed a couple of thousand million people for one or two years?

It is difficult to assess the motivation behind Brian's consistent bias towards dismissing the possibility of extinction, but perhaps there is a hint at it in his protest that believing in such a possibility fosters resignation.

In my experience most people already feel rather helpless to influence the political process - what they need in order to act politically is the motivation of feeling personally threatened or outraged to the point of anger, plus a sense of hope which we in the peace movement must provide.

The key political impact of nuclear winter and the possibility of extinction, however, lies in the way it forces proponents of reliance on nuclear weapons back on deterrence as the only possible rationalisation, and at the same time makes the risks inherent in nuclear deterrence unacceptable to rational human beings. There can in my view be no more radicalising realisation than that the logic of reliance on nuclear weapons leads to extinction, if not now, then some time in the foreseeable future. The possibility of extinction makes a qualitative difference to how we view nuclear weapons.

To sum up, I am in broad agreement with most of the positive things Brian advocates here and elsewhere, but I disagree with the way he has, in my opinion, biased the evidence on the effects of nuclear war to fit his psychological theory as to what motivates people. I believe it is time he faced up to the grim realities of nuclear war, worked through psychological denial, and gave other people credit for being able to do likewise.

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