

Nuclear safety ‘relative’ but debate should be based on facts, *Flying Shingle*, May 9, 2011, p.7

Dear editor:

While correspondent Tina Taylor (April 25) is right to be concerned about the hazards posed by nuclear radiation, I find her way of articulating these concerns disquieting. Helen Caldicott is a well-known anti-nuclear activist, but I really don't think that she presents an unbiased or dispassionate assessment of the hazards. To suggest also that scientists and medical experts who work for Health Canada hide and reveal scientific findings at the whim of the government is just being cynical and insulting.

A factor in the complexity of the issue is that the heat in the interior of the earth is generated in part by radioactivity -- we live on the crust of a natural nuclear power station; hence volcanoes. Added to the radioactivity from the earth is the bombardment of nuclear material from the sun and other stars; hence the radioactive carbon-14 in our bones and blood. Not that I'm advocating nuclear power, but it does seem generally agreed that coal-burning power plant waste is also radioactive. None of this is to say that natural radiation isn't dangerous; all of it is, and there is no such thing as a zero health risk. Small, yes, but never zero. Debate is needed, but let's base it on facts as well as divergent opinion. I've no idea what healing powers herbs might have, but that some plants concentrate actinide elements has been well known to uranium prospectors for a long time. Gathering mushrooms in southern Germany was halted because of their concentration of radionuclides after Chernobyl. Kelp too picks up radionuclides.

Chemical activity can re-distribute radioactivity, but can't eliminate it, which was why there was so much concern over strontium-90, which mimics calcium. Iodine-131 from Fukushima is very short-lived - it decays by a factor of a thousand every 80 days -- but cesium-137 is not. It mimics potassium in the biological world. The "good news" is that cesium compounds, like the compounds of potassium and sodium, are very soluble and so are easily washed out of the atmosphere by rain and "lost" in the vastness of the ocean. On land, cesium-137 is concentrated as ions in clay in the soil, mimicking sodium, which likely means our groundwater, which contains detectable amounts of arsenic, is pretty "safe", given that "safe" in all things nuclear, natural or otherwise, is a relative term.

Regards

BACKGROUND

Expert's opinion doesn't match that of Harper's Health Canada, *Flying Shingle*, April 25, 2011, p.6

Dear editor:

Here is a link to a press conference Helen Caldicott had on March 18:

<http://www.youtube.com/watch?v=ltr6GDuOOBY> . Caldicott is a widely respected knowledgeable voice regarding nuclear radiation dangers etc. Her opinion differs quite notably from that of Health Canada under Stephen Harper. Funny that, eh?

I would also just like to mention that at the end of this clip, Caldicott says there is nothing we can do. That doesn't sit well with me. Actually there are many things we can do using herbal remedies to detox our bodies and work to prevent as well as treat cancer.

Tina Taylor

Cats who live in black boxes have best advice on radiation, *Flying Shingle*, May 30, 2011, p.5

Dear editor:

Differing opinions over the safety of nuclear radiation are like differing opinions over the benefit of buying lottery tickets. For one group, buying lottery tickets makes sense because no matter how minuscule the chances of winning, the chances are not zero; somebody will win. For others, the chances of winning are so minuscule, that buying lottery tickets is a waste of money.

Similarly, for one group, the fact that just a single energetic sub-atomic particle might trigger cancer makes even very-low levels of radiation dangerous, because no matter how minuscule the chance, somebody could die. For others, the chance of very-low levels of radiation causing harm are so small, there is no need to worry. The facts can be agreed, but opinions on how to react to them may differ.

The analogy is not quite perfect because natural background radiation gives us some "lottery tickets" whether we want them or not. The question then is, should we "buy" another ticket or not? If the odds of you winning money, or losing your life, are, say, one in a million, then adding, say, one more "ticket" to, say, the five you already have, increases your chances of winning money (or losing your life), by 20%, which is terrific (or terrible), says one group. But the other group says it decreases your chances of not losing your life (or not winning money), by 0.0001%, which doesn't amount to a hill of beans given that it's already close to a certainty anyway.

The good news is that everybody can be right at the same time. Schrödinger's cat would, I'm sure, agree.

Regards

Nick Doe