Radiation Safety Counseling News

How We are Prone to Errors in Decisions for Radiation Safety - Part VIII

Dear Reader,

Ray Johnson

Flawed but persuasive stories of past experiences affect our decisions for radiation safety. In this series of articles we are looking at how quick decisions for radiation safety are prone to intuitive errors. Making quick decisions for safety is an important function of the subconscious mind for our survival. Such quick decisions, however, are typically based on stored impressions and images which may have little relevance to the real world of radiation. This article will continue to review how biases occur in safety decisions as described in Daniel Kahneman's book.

As always, your questions or feedback are welcomed. Feel free to contact us through email, our blog, or our Facebook page.

Regards,

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The Illusion of Understanding

Kahneman[1] describes narrative fallacy as the result of flawed stories of the past which shape our views of the world and expectations for the future. Narrative fallacies arise from our continuous attempts to make sense of the world. People find stories compelling which give simple explanations that focus on the concrete rather than the abstract, that assign a larger role to talent, stupidity, and intentions, rather than luck or random chance. The media feeds this process by promoting stories of a few striking events. Any recent salient event is a candidate to become the kernel of a causal narrative. We constantly fool ourselves by constructing flimsy accounts of the past and believing they are true. I have suggested many times that most of what people have heard and come to believe about radiation is mythology (a myth is something believed which is not technically true). How many people really understand radiation and its possible effects, and yet most have strong opinions about radiation?

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Good Stories are Persuasive

We are easily influenced by stories that provide simple and coherent accounts that explain people's actions and intentions. We are always ready to interpret behavior as a manifestation of general tendencies and personality traits. In Column No. 7 we discussed the halo effect where to achieve coherence we are inclined to match our view of one significant attribute of a person or organization to represent all of their qualities. For example, the halo effect helps keep stories simple and coherent by exaggerating the consistency of evaluations: good people only do good things and bad people only bad. We may idolize a celebrity and then experience great shock when we discover that they are fallible humans the same as us.

Deadly Radiation

These words commonly used for media stories about radiation have a profound halo effect. By association with stored impressions of radiation events, the word "radiation" now evokes expectations of terrible consequences. In the February HPS school on Fukushima, I raised the question about how many of the evacuees from the area of Fukushima Daiichi may experience severe stress and bodily effects, even cancer, because of expectations based on associated memories of Hiroshima and Nagasaki. Such expectations would be consistent with media stories of mutations, cancer, and death from radiation. These expectations do not require any technical knowledge about radiation and represent an illusion of understanding. Since by normal incidence as much as one third of the evacuees will likely get cancer as some time, how many will conclude that their cancer is the result of radiation from Fukushima? I suspect that most will attribute cancer and other health effects to Fukushima and will expect some form of compensation accordingly. The question may be, "If someone with minimal radiation exposure suffers psychosomatic effects, are those effects less attributable to the Fukushima accidents than the result of actual radiation exposures? What about the probability of causation? If the radiation exposure does not scientifically justify claims of causation, is that the final conclusion about cause and effect?

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[1] Kahneman, D., "Thinking, Fast and Slow."Farrar, Straus, and Giroux, New York, 2011

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