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Invasion from Mars

In the United States, Halloween has evolved into a celebration of fantasy, costumes, ghosts and goblins and things that go bump in the night and scare us. The television networks replay vintage horror movies and new ones are prepared to be televised or shown in theatres for the first time during the last week of October.

Fifty-seven years ago on Halloween, the then unknown Orson Welles, who, subsequently, was acknowledged as a legendary actor, writer, director and producer, produced and played a prominent role in a radio drama entitled "Invasion from Mars." This entertainment realistically portrayed media coverage of the events following such an invasion. Despite announcements to the contrary, the suspension of rational thinking required to accept the broadcast as valid seemed to dominate: Many listeners believed that an invasion had occurred. Many panicked, some fled, others contemplated suicide.

Last year a television broadcast on Halloween night chose to entertain and frighten us with a realistic report of an impending collision between earth and an asteroid. The television station, police and news media were besieged with telephone calls from anxious viewers who had incredulously believed the improbable. The worst had come.

Well, all of this interesting, but what has it to do with us?

If the adult population of a developed country is ready to accept that Martians have invaded the earth or that a giant asteroid is on course to collide with the earth, what chance do we have to reach rational assessments of risks involved in the real choices we face as a society? What kind of dialogue can we have about the need for and location of nuclear power plants or transporting nuclear waste and siting disposal facilities? What about radiation exposure to workers and patients from nuclear medicine and radiology procedures?

Even educated physicians have a phobic response to the widely pervasive radiation boogey man. I have seen a radiologist run through the nuclear medicine area. When questioned about the hasty passage, she told me that she had not meant to come into the nuclear medicine area because she was several months pregnant and did not want additional radiation exposure.

Ultrasonographers refuse to study patients who have received diagnostic radionuclides because detectable radiation is present and

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Scatter

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radiation safety officers nod approvingly to committees assembled to develop policy for this practice. I have met oncologists who will not schedule patients for an office visit on the day of a bone scan because they are anxious about their own exposure to the radiation from the patient.

Although I do not argue with prudent radiation safety procedures, regulatory agencies and radiation safety personnel have fostered the erroneous notion that all detectable radiation is dangerous, that regulatory limits indicate dangerous levels of exposures and that risks exist at all levels of exposure. This evolves into the notion that all detectable radiation is dangerous and represents meaningful risk and that some cancers are caused by any exposure above background. No mention is made that background levels may vary in magnitude in various locales and that the incremental background exposure in certain areas is many times the exposure received from certain occupational activities. Despite intense scrutiny of these high background areas for many years, no adverse effect on the population has been observed.

I wonder what the Martians think of all this?

Stanley J. Goldsmith, MD

Editor-in-Chief, The Journal of Nuclear Medicine

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