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> Cover: Quantum mechanics lies at the basis of physics, and so many scientists believe it ought to lie at the basis of cosmology. Written on the sky here is the time-dependent version of Schröedinger's equation, the basic formula of quantum behavior. Problems of time dependence and temporal sequence are particularly acute in quantum cosmology. Solutions tend to lead to a history that encompasses many worlds and many options.



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Letters

Head in the sand?

I found the "Nuclear war? Head for the basement" (SN: 4/11/87, p.233) to be incredibly naive. I think it is irresponsible to answer the question, "If nuclear war rained devastation and fallout upon the United States, how would the surviving population fare?" solely from the standpoint of acute radiation illness.

First, there is no mention of the millions of people near the 1,444 detonations who would perish instantly. Even those in the "heaviest fallout regions" are ignored (nonsurvivors)?

Second, most of the food, water and soil would be contaminated. What would the survivors eat? Canned and other preserved foods could last for a while, but much of that would be destroyed along with the urbanindustrial areas.

Third, what kind of life could the survivors expect? With a breakdown of government, utilities, transportations, etc., I would guess an "every man/woman for him/herself" attitude would prevail.

It looks like a pretty bleak situation, without even getting into questions of nuclear winter, increased cancer risk or other longterm problems.

Daniel Tomaro Chemist Vermont Dept. of Health Laboratory Burlington, Vt.

Calico defended

James G. Duvall (Letters, SN: 4/11/87, p.227) attacks Bruce Bower for dragging up old arguments for the Calico early-man site in the Mohave Desert ("Flakes, Breaks and the First Americans," SN: 3/14/87, p.172). The fault is quite the opposite. Duvall is clinging to conclusions demonstrated to be based on false premises

Duvall and his colleagues demonstrated that the Calico material was not like the Paleo-Indian material in edge angle and other

attributes. James Bischoff's age for the base of the Calico site, determined from carbonate rinds on the artifacts using the closed-system uranium method, is 200,000 years. The Paleo-Indian material has an age of around 12,000 years. Therefore, no close relationship is expectable. Moreover, Duvall's analysis was almost instantly shown to be erroneous by L.W. Patterson (JOURNAL OF FIELD ARCH-AELOGY, 6, 1979).

Duvall compounds his errors when he states that there are millions of broken rocks found in the alluvial fan, and that selection of fewer than two thousand has led to a psuedoartifact assemblage. The fundamental fact is that there are not millions of broken rocks in this or other alluvial fans.

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