This business-as-usual projection has many uncertainties associated with it. Probably the most significant is the extent to which solar energy is perceived as more than just another energy option, although one with relatively benign environmental and health impacts to balance its present economic limitations. A projection of 5 to 10 percent by 2000 is low to the extent that solar energy is increasingly perceived as a symbol of a new way of thinking about the future. This emerging mind-set or cultural paradigm would look to solar as an energy source with significance beyond narrow marketplace economics.

My other major point was that projecting that solar energy will provide 5 to 10 percent of the nation's total energy by 2000 does not mean that it is not an important part of the solution to our *current* energy problems. I find this attitude as unrealistic as a projection that the solar share of the market will be 25 percent by 2000.

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Paraquat Pyrolysis Products

R. Jeffrey Smith, in two recent articles (News and Comment, 24 Feb., p. 861, and 28 Apr., p. 417), describes a health hazard arising from the presence of the herbicide paraquat (1,1′-dimethyl-4,4′-bipyridinium dichloride) on marijuana supplies obtained from Mexico. Smith states that pyrolysis of the paraquat results in the formation of "bypiridine," which is not considered to be cause for concern because it is present in smoke from tobacco cigarettes. Actually, the pyrolysis product of paraquat is 4,4′-bipyridine, a compound which has never been found in tobacco smoke. The only bipyridines which have been detected in tobacco smoke are the 2,2′ and 2,3′ isomers (*1*). 2,2′-Bipyridine decreases gastric secretory volumes and pepsin output in rats (*2*). I am not aware of any studies on the pharmacology or toxicity of 4,4′-bipyridine, but it seems highly unlikely that it is completely innocuous.

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