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choice almost impossible." Meanwhile, whatever changes occur will not be of short duration; the excess carbon dioxide may remain in the atmosphere for centuries.

Energy Utopias

"Reflections on the Energy Wars" by Alvin M. Weinberg, in *American Scientist* (Mar.-Apr. 1978), 345 Whitney Ave., New Haven, Ct. 06511.

The great energy debate, like great religious conflicts of the past, stems from two differing conceptions of the future: "the solar utopia and the electrical, i.e., nuclear, utopia." Both utopias, says Weinberg, director of the Institute for Energy Analysis in Oak Ridge, Tenn., are conceivable, and the most prudent planning will aim at some combination of the two.

Radical, pro-solar opponents of nuclear energy have yet to prove that an all-solar system can satisfactorily overcome the handicaps of the sun's intermittency (requiring storage of solar energy in some form) and the sun's diffusion (requiring the collection of solar-derived energy to serve a concentrated, largely urban society).

On the other hand, says Weinberg, an electrical utopia based on nuclear reactors requires the creation of a system "that is both acceptably safe and acceptably proliferation-resistant."

To reduce the danger of catastrophic accident and render the accident-risk rate for breeder reactors (about 1 in 20,000 per reactor per year, according to a 1957 U.S. reactor safety study) acceptable to the public, nuclear energy ought to be confined to as few places as possible—perhaps 100 centers in the United States plus a few waste disposal sites. Such a siting policy, says Weinberg, would limit the area exposed to the risk of contamination. It would permit the formation of strong, professional reactor operating staffs, and would minimize security problems. He also urges that the generation of nuclear electricity be entrusted to powerful industrial entities like the Yankee Atomic Electric Company or Tennessee Valley Authority that can provide long-term management.

The total hostility of the solar proponents to the nuclear option is shortsighted, Weinberg argues, especially when the full economic, social, and political costs of the solar alternative remain obscure.

Promoting Proliferation

"Nuclear Power, Nuclear Weapons and International Stability" by David J. Rose and Richard K. Lester, in *Scientific American* (Apr. 1978), 415 Madison Ave., New York, N.Y. 10017.

There are fundamental tensions between U.S. energy goals and U.S. nonproliferation objectives, say Rose, professor of nuclear engineering at M.I.T., and Lester, a Visiting Research Fellow at the Rockefeller Foundation. Electric utility companies are beset with uncertainties

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about the future of U.S. policy on nuclear power that make raising capital difficult. They are unsure about coal as an alternate fuel because of environmental and supply problems. They may finally be forced to return to oil-fired generating plants, thereby increasing world demand for oil and driving up prices.

Skeptics abroad wonder if U.S. nonproliferation policy is not really designed to curb the global shift toward plutonium and the breeder reactor until U.S. technology has caught up with Western Europe's. Such doubts about the motives behind President Carter's maneuvers, and the fickle nature of the U.S. decision-making process, provide more incentive for the rest of the world, including the less developed countries, to set up enrichment programs and to go nuclear with or without U.S. assistance.

What should Washington do? The authors offer only partial answers: Continue development of both light water reactors and a practical breeder reactor as a long-term option. Reduce uncertainty in the U.S. electric utility industry by easing licensing procedures for nuclear power plants. Take on the entire burden of managing the world's radioactive spent fuel. Explore with other nations the costs and benefits of operating the controversial Barnwell, S.C., nuclear fuel reprocessing plant as an international facility. Intensify efforts to increase the security of the world supply of uranium. And strengthen the inspection arm of the International Atomic Energy Agency.

The U.S. approach has been too self-centered and insensitive to the problems of other nations. The long-term solution to the nuclear-power problem and the larger problems of international stability, the authors contend, lies in mutually cooperative international action.

ARTS & LETTERS

Social Realism for the Ladies

"A Different View of the Iron Madonna: William Dean Howells and His Magazine Readers" by Laurel T. Goldman, in the *New England Quarterly* (Dec. 1977), Hubbard Hall, Brunswick, Maine 04011.

At the end of the 19th century, William Dean Howells—intimate of Mark Twain and Henry James, mentor to aspiring young writers, and a frequent magazine contributor—was the leading figure in American letters. Then, suddenly, his reputation waned as critics charged that he pandered to the bourgeois tastes of female readers.

Howells' eclipse, says Goldman, a doctoral candidate at University College in London, stemmed from an influential 1887 article, "Why We Have No Great Novelists," in which Hjalmar Boyesen argued that writing for magazines like *Harper's* and *Century* was "permanently injuri-