the quality of research at Sloan-Kettering was deteriorating. Nevertheless, it was constantly in the news, often with claims that were more dramatic than substantive. Furthermore, at a time when many institutions were losing money, it looked as if we were not being hurt at all. It made people resentful.

Good was brought in, at an income reported to be in the $100,000 range, to turn Sloan-Kettering around. The first thing he did was reorganize the research program around what he considers the most important approaches to cancer. Now, instead of having disciplinary departments, they have eight divisions, including ones on cell surfaces, oncogenic viruses, immunobiology, and communication of scientific information. "This reorganization is intended to impart more flexibility, and focus attention on the free interaction of investigators in different disciplines . . .": says a document describing the administrative changes. Several persons think that whatever the merits of the reorganization, free interaction is not among them. One senior Sloan-Kettering scientist complains that he and many of his colleagues who were there before Good came now feel like second-class citizens in the face of the many new scientists Good has brought to the institute during the last several months. And, he says, access to Good is limited to those few persons close to him who are working in areas in which he has been involved. "It is," he concludes, "as though there were two institutions in the same building." Even Summerlin, presumably one of the in-crowd, felt the environment at Sloan-Kettering was somewhat chilly. Compared with what he thought was a friendly environment in Minneapolis, he finds Sloan-Kettering extremely "isolating."

Sloan-Kettering these days is not a happy place. It is rich, and getting richer, but not happy. In 1972, the research institute and its affiliate, Memorial Hospital, received about $7 million in government grants and contracts. According to the National Cancer Institute, the Memorial Sloan-Kettering Cancer Center will get about $20 million in fiscal 1975, more than any other cancer center in the country. For that amount of money, people are going to expect to see results, whether in clinical or basic research. If the present crisis generated by the Summerlin case is any indication, it appears that a high pressure environment that drives individuals to exaggeration and fosters hostility is not ideal for the kind of achievements in research that Good, like everyone else, would like to see. Sloan-Kettering may want to say what it is doing.

—BARBARA J. CULLITON

Breeder Reactor Debate: The Sun Also Rises

In effect, the AEC may be involved in another Washington cover-up—this time an attempt to cover up the sun.
—BARRY COMMONER, in a speech in New York, 30 March 1974.

Barry Commoner, the militant environmentalist and banner bearer of the Scientists Institute for Public Information (SIPI), was complaining that the Atomic Energy Commission (AEC) had withheld important information from the public. The AEC, Commoner said, apparently had suppressed an optimistic report on the potential usefulness of solar energy that undermined the AEC's case for proceeding with its nuclear breeder program.

The AEC promptly and stoutly denied that it had done any such thing, maintaining that the report in question had been available in the agency's public documents room in Washington since last December, shortly after the report was written. Commoner nevertheless repeated the accusation on 3 April in Los Angeles and again on 23 April at a Washington news conference called by SIPI. There is little reason to doubt the AEC's denials, but, as it happens, the AEC has sat upon or bowdlerized enough internal reports that were inimical to its interests over the years to lend plausibility to SIPI's allegations. And plausibility seems to be what this curious squabble is all about.

During the past couple of years a number of environmental groups that are either critical of or clearly opposed to nuclear energy—SIPI among them—have gradually intensified their advocacy of solar energy as a credible and preferable alternative to the atom. This is not an easy case to make, but if a federal agency covers up an optimistic report on solar power or other alternative technologies, then the agency must be worried that the environmentalists are on to something big. And therein lies a measure of plausibility to be gained for the alternative vision of a "clean energy" economy.

Hand in hand with the growing advocacy of solar energy and other renewable resources has come a subtle shift in criticism of nuclear power. Two years ago few nuclear critics of any prominence would openly acknowledge that his or her opposition was directed toward an ultimate goal of closing down reactors and, in effect, of abandoning the technology. Instead, the pattern was one of illuminating doubts among experts and of drawing much-deserved attention to uncertainties in the technology, such as the questionable adequacy of emergency cooling systems.

These days, perhaps in emulation of consumer advocate Ralph Nader's bold frontal assault on nuclear energy, there is a growing tendency among environmental activists to press not just for full and open debate but for a moratorium on conventional nuclear plants and death for the liquid metal fast breeder reactor (LMFBR).

Commoner, for instance, says he thinks that reliance on the breeder would be nothing less than a "disastrous mistake." It is a risky position to take, one open to accusations of blind opposition to progress in the manner of latter-day Luddites. Hence the search for a credible alternative.

The flap over the AEC's solar energy report is a direct outgrowth of the larger controversy swirling around the breeder program. Last year, through a suit brought by SIPI, the AEC was obliged to throw out its first attempt to write an environmental impact statement on the breeder program, as required by the National Environmental Policy Act (NEPA). The AEC said it was sufficient to discuss only the impact of the lone demonstration plant

it was building in Tennessee, rather than elaborating on all the effects of a commercial breeder industry; SIPI and a federal appeals court disagreed.

Now, 1 year and $2 million later, the AEC has produced a 2200-page impact statement that SIPI says is no better than the one it started with. At a news conference called 2 days before the AEC began public hearings on the new document, Commoner said the AEC's treatment of such issues as the consequences of a major accident, the toxicity of plutonium fuel, and the risk of nuclear theft were so superficial as to make the entire document "frivolous and shallow." (During the hearing, AEC officials responded to each such accusation by saying they had carefully considered comments previously supplied by environmental groups and had addressed them "generically" in the document, although sometimes only in footnotes or references.)

Moreover, Commoner said, the AEC was misleading the public by asserting that solar energy was unlikely to make a "measurable contribution" to energy supplies by the year 2000. This, he said, constituted a failure to abide by NEPA's requirements for a "full and candid" discussion of alternatives to the breeder program. An objective discussion of solar energy, Commoner maintained, would have reflected or at least mentioned the findings of a report submitted to AEC chairman Dixy Lee Ray last October by one of the 16 panels of scientists and engineers that the AEC organized to help Ray prepare the $10 billion energy R & D plan she sent to the White House in December. "The report," says SIPI's testimony submitted to last week's AEC hearing, "concludes that solar energy could contribute 21 percent of the needed electric power by the year 2000 at an economically competitive cost." The solar energy group was headed by Alfred J. Eggers, Jr., the National Science Foundation's assistant director for research applications.

Relying almost exclusively on this report (which is somewhat more optimistic than one prepared for the Office of Science and Technology 2 years ago), SIPI presents its alternative energy policy: by the year 2000, a combination of solar energy, wind power, geothermal steam, and aggressive conservation measures could satisfy 37 percent of the nation's projected demand for electricity. This, Commoner says, would take care of the breeder's projected 23 percent contribution with enough left over to close down some existing nuclear plants.

Renewable resource contributions to the nation's electric power supply as projected by SIPI for the year 2000.

Energy source	Generating capacity (millions of kilowatts)	Projected demand (%)
Solar technologies		
Photovoltaic	140	7
Solar thermal	40	2
Heating and cooling of buildings	35	2
Wind	170	9
Ocean thermal	Not estimated	Not estimated
Bioconversion	25	1
Total, solar technologies	410	21
Geothermal	80	4
Conservation of electricity	236 (minimum)	12 (minimum)
Grand total	765	37
LMFBR program (AEC estimate)	435	23

The solar energy report, Commoner contends, was withheld by the AEC until late March, when, at his request, Senator James Abourezk (D–S.D.) demanded its release under provisions of the Freedom of Information Act. In a news release of 30 March, the AEC said the report had been available since December, along with the 15 other panel reports.

A clerk in the public documents room in downtown Washington says he remembers someone from Abourezk's office coming by to see the report, and he also remembers giving it to him. The report is 169 pages long and, said the clerk, the senator's aide "seemed to think there was too much to Xerox."

The AEC's analysis of solar energy's prospects may have been as pessimistic as the Eggers panel was optimistic. But it is worth wondering whether SIPI itself would meet the high standards of full and candid disclosure and "rigorous exploration and objective evaluation" that it is holding up to the AEC.

SIPI, for instance, represents solar energy as being "essentially devoid of significant environmental impact . . . thus eliminating the environmental effects and mining, operational emissions of pollutants, or waste heat."

The Eggers report, however, notes that solar thermal-conversion concepts "require a substantial amount of earth-moving for construction, and, when built, shadow a substantial fraction of the land. Moreover, like any other power station, waste heat must be rejected."

Solar electric power plants that convert sunlight directly to electricity would alleviate the waste heat problem. But photovoltaic technology is less well advanced and, when employed, would require "large land areas" and "careful siting considerations," the panel said.

Although the panel generally found solar energy's future exceedingly bright, it did foresee several major uncertainties, none of which SIPI addresses. These are: problems of public acceptance; legal rights to unshaded sun; establishment of a supporting industry; and methods of financing and marketing the first, relatively expensive heating and cooling units for buildings.

Does the Eggers panel subscribe to SIPI's interpretation of its work? Eggers, an avowed advocate of solar energy, says he hasn't followed Commoner's comments closely, but he welcomes converts to the fold.

Even so, Eggers said in a conversation, the panel's estimate that up to 30 percent of the nation's energy needs could ultimately be met by solar energy "was an estimate of the potentialities, and should not be construed as a statement that 30 percent of our needs would be met if we decided to go ahead with an aggressive R & D program. Some folk tend to forget the difference between potentialities and realities."

Eggers said the panel did not mean to suggest that solar technology should be substituted for any other source of energy. "The country needs real options from which to choose, and neither solar [energy] nor the fast breeder are going to be real options unless you develop the technological base for both."

Barry Commoner says he's not concerned about advertising solar energy and other renewable resources as a panacea to what Alvin Weinberg once called the Faustian bargain of nuclear energy. "There's always a danger anybody will see anything as a panacea," he said last week. "The antidote is a full disclosure of the facts."

On the whole, that seems like good advice.—ROBERT GILLETTE