for space heating has been made by Rabl and Nielsen (*4*). They conclude that the cost would be competitive with conventional heating systems over much of the United States. Recent increases in fuel costs have strengthened this conclusion.

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References and Notes

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Indeed, von Kalecsinszky (*1*) may have been the first investigator to observe the phenomenon of heliothermal lakes in a brine produced from leached Miocene salts in Rumania. Experimentally, he proved the solar origin of the heating process.

However, in our report we discussed a stratified lake produced by natural concentration of sea water without leaching of older salts. Such stratification has also been observed by Smith (*2*) in salt pools of the Siwa oasis in Egypt and by Por (*3*) on the Red Sea shore, but a comprehensive bibliography of all hitherto reported occurrences has not been attempted.

This gives us an opportunity to correct an error: the trapped energy in Lago Pueblo is 15×10^8 kg cal day^{-1} and not 15×10^6 kg cal day^{-1}, as we reported.

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Herbicide Use in Vietnam

Both the article by Deborah Shapley (News and Comment, 22 Mar., p. 1177) and the letter from Kenneth V. Thimann (19 July, p. 207) concerning the work (*1*) of the National Academy of Sciences (NAS) Committee on the Effects of Herbicides in Vietnam (of which I was a member) contain distortions. The real issues are the data, reasoning, and conclusions of the committee, not the areas of disagreement among the committee members, nor the personal characteristics of the committee members and the NAS report reviewers.

It is misleading and in some respects not correct for Thimann to say that the NAS committee failed to find evidence to support the claims of the AAAS commission.

1) The evidence regarding birth defects is still under examination, with support from the NAS.

2) Some herbicides persisted in the soil of some sprayed areas (*1*, Sec. V, pp. V-1 to V-8).

3) Although there was no direct medical evidence to support reports that Montagnard children died from spraying, it is inappropriate to label the reports "unsubstantiated rumor." The information received from numerous interviews with Montagnards from several areas was internally consistent, was verified as to time and place of spray, and was generally consistent with reports of illness in interviews with lowland Vietnamese [*1*, p. S-14, Sec. VII-B(2), and Sec. VIIC].

4) Although the NAS committee's estimate of damage to the inland forest was about one order of magnitude lower than previously published figures, the committee estimated that the equivalent of approximately 2 years of commercial lumber production was destroyed in South Vietnam. The report states clearly that there was also extensive damage to growing stock (below merchantable size) and to seed sources, especially in the multiply sprayed areas [*1*, Sec. IV-B(3), pp. IV-77 to IV-87].

5) The committee was unable to substantiate allegations of extensive areas being *seeded* by bamboo as a result of herbicide spraying, but bamboo stands, presumably from vegetative sources, were observed in some sprayed areas [*1*, Sec. IVB(2), p. IV-19].

6) If the total ecosystem, including human activities, is considered, the rapid cutting of pole-sized mangrove trees is clearly a result of the killing of most of the trees by herbicides (*1*, Sec. IVC and Sec. VIIC).

Some conclusions of the NAS report were overlooked by both Shapley and Thimann.

1) The committee investigated the hypotheses that illness might be associated with exposure to herbicides either from the direct physiological toxicity of the agents or directly from epidemiologically significant ecological changes caused by the herbicides. The reports of illness given by people exposed to herbicides have the ring of authenticity. They are large in number, widespread in origin, and collected and evaluated by experienced interviewers using generally accepted techniques. They describe a series of symptoms many of which could reasonably be expected to be associated with herbicide agents, and they do not conform to official propaganda lines of either side in the conflict. In at least one community where deaths were reported following the sprays we have independent medical evidence that children did die (of malaria) after the spray (*1*, Sec. VIIB and Sec. VIIC).

2) The evidence is completely consistent with the hypothesis that herbicide-induced alteration of the environment created conditions favoring reproduction of malaria vectors, and the conclusion is reasonable that malaria may be a serious and widespread secondary effect of widespread use of herbicides [*1*, Sec. VIIA(3)].

3) There may be debate on the exact value of destroyed crops and forest products, but there is absolutely no doubt that crops and forest products were destroyed, and that this destruction had (and may continue to have) important economic effects on people who depend on these resources.

The NAS committee was not in the business of evaluating herbicides as a weapon, and thus did not consider potential military benefits. Undoubtedly there were some military benefits to Americans, but anecdotes from some American military personnel suggested that herbicides also sometimes had negative tactical effects as well. Beyond this, of course, I wonder if it is appropriate to consider only *American* lives, and not think of the lives of the Vietnamese and Montagnard villagers whose land was sprayed and whose crops were destroyed.

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