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LETTERS

Advice on Project Seafarer

The article "State scientific advisers: The effort in Michigan" (News and Comment, 26 Nov. 1976, p. 923) features William C. Taylor, science adviser to the governor of Michigan, and his role in the evaluation of Project Seafarer; but deficiencies in the structuring and performance of this role were not mentioned.

The panel on Project Seafarer included several members from academic departments already engaged in sponsored research on Project Seafarer or in direct contact with the Navy to obtain funding for such research. The information used to assess possible environmental problems came almost exclusively from the Navy, and the panel was briefed by the Navy. No attempt was made to contact personnel from the state of Wisconsin, who had previously examined such questions, and no attempt was made to involve the public before a recommendation was made. No public hearings sponsored by the state government were held in the Upper Peninsula until a year later, when they were forced by public pressure. The panel met once for a couple of hours before recommending that the Navy prepare an environmental impact statement.

The timetable for the environmental impact statement was apparently established for the convenience of the Navy and in accordance with the Navy's plans for a public relations campaign in the summer of 1976. This has been postponed until the summer of 1977, again for reasons apparently related to Navy public relations requirements rather than the need to answer questions raised by affected residents. The elaborate procedures involve several agencies with administrative, rather than scientific, competence in many of the areas involved. There is little evidence of any serious effort to have an in-depth review made by qualified scientists appointed for the purpose. The National Academy of Sciences study was included at the request of the Navy after opposition to Project Seafarer developed.

The emphasis given by Taylor to the environmental impact statement ignores questions raised by Congressman Philip E. Ruppe (R-Mich.) and others concerning land use and legal easements as well as many other concerns raised in public discussions.

Taylor's statements that science advisers should adopt "more of an advocacy position" and that a referendum is an unfortunate political commitment represent political advice which discredits the

role of the science adviser. These statements are untenable in view of the fact that eight counties in the immediate area of the antenna system have already voted by more than a four to one margin that they are opposed to locating Project Seafarer in Michigan. The continued effort to call for public opinion polls or a second referendum involving counties outside the proposed area has resulted in a loss of confidence in both the science adviser and the governor.

There are lessons to be learned by other states considering uses of a science adviser. The science adviser needs to operate within a system of checks and balances and to be constrained by some form of public accountability. A one-man operation that is political as well as scientific is unlikely to result in good scientific advice or a gaining of public confidence. Certainly the office of science adviser must be structured so that the adviser does not appear to serve primarily to sell government programs. In Michigan, the congressman for the district involved, the new senator, both houses of the state legislature, and major newspapers have called upon the governor to "veto" Project Seafarer. President-elect Carter has stated that Project Seafarer would not be built in Michigan against the wishes of the people and has noted that referenda have been held. The office of science adviser, by locking its operations in inflexible procedures requiring at least 2 years before involving the public in any significant way, has failed to provide information in the continuing debate and has left the governor standing alone.

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Animals and Ethics

The letters from Aronson and Cooper and from Sachs (19 Nov. 1976, pp. 784 and 786) take exception to several statements in Wade's article (8 Oct. 1976, p. 162) on the cat experiments at the American Museum of Natural History. The letters are, unfortunately, in no way unusual in their failure to face squarely the broader ethical issues involved in animal experimentation. Speaking of Henry Spira, one of the leaders of the action against the museum, Aronson and Cooper remark: "In none of his articles does Spira acknowledge that any animal should ever be used for any experiment, no matter how crucial it may be judged for human welfare or survival." If it is true that Spira has deliberately evaded the problem, this is a

valid criticism. By the same token, it is incumbent on scientists not to deserve the converse criticism: "In none of their writings do they acknowledge that any experiment should not be done, regardless of how much suffering it entails for the animals used."

Aronson and Cooper refer to the "simplistic, reductionist idea that 'alternatives to live animals' . . . can be substituted for animal experiments. . . ." and to the "quasi-moralistic claim that animals have 'rights' equal to the sociopolitical rights of women and minorities." They complain that Wade does not indicate that "many see such statements as being antiscience." I would like to point out that most of the "alternatives to live animals" (many of which are used very successfully in some areas) were developed for purely pragmatic, not humane, reasons; that evaluating the "rights" of living things, far from being an obvious and simple decision, is a difficult philosophical problem; and that raising moral questions is not "antiscience."

Sachs states that "The public's right to challenge the ethics and economics of animal research is unquestioned." He then goes on to say: "The present peer review system, as fallible as it may be, has been largely successful in curbing unethical excesses and in fitting research priorities to available funds." The peer review system, to my knowledge, is devoted almost exclusively to determining the scientific merit of a proposal and the capability of an investigator to carry it out. The "economics" (funding) of the proposal is considered also. But the review committees, regrettably, do not include members designated specifically as spokesmen for the experimental animals, to "challenge the ethics . . ." of the proposed research.

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Recombinant DNA Research

According to the National Environmental Policy Act (NEPA) of 1969, alternative policies for recombinant DNA technology were supposed to be under consideration last fall. Despite this requirement, it is widely believed that this technology will inevitably proliferate and that the real policy decisions have already been made. An article in *Science* (News and Comment, 15 Oct. 1976, p. 303) reflects the prevailing view: "The nuclear genie is now out of the bottle for good or ill, and the crucial time of grace for instituting control over the recombinant DNA technique is probably over."

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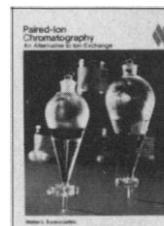
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