Letters

Conservation and the AEC

The conflict between "local" and "national" interests over conservation (*Science*, 28 Feb., p. 941) is developing a new twist in California that may be a portent of things to come elsewhere. With its rapidly expanding population, a major if not predominant exploitation of its natural resources is for living space. The individual homeowner wants this space to be as attractive as possible, California still has many areas of great natural beauty, and increasingly the "local interests" are making a determined effort to preserve what is left of this prized resource. By community action, planning commissions, and zoning ordinances, many are remarkably successful in these efforts.

Modern living, however, also requires facilities for transportation, power, education, and research. Public agencies, state and national, have been set up to regulate, supervise, or even construct these facilities. These agencies have funds comparable to those of the private exploiters of natural resources, and even greater power, including that of eminent domain. But their responsibilities are necessarily restricted, and their viewpoint may be similarly limited to immediate costs and benefits. The "national interest" as expressed by them thus can be narrow and short-range.

A case in point is the town of Woodside, California, which includes part of the scenic and heavily wooded coastal range west of the great San Andreas fault. Farther north, several sag lakes along the fault—the Crystal Springs Reservoirs—are parts of the San Francisco water-supply system, and their drainage basins are reserved against occupancy. At Woodside the steep slopes west of the fault are not unoccupied—you can see several narrow lanes winding up from the main roads, and at night lights twinkle in many unsuspected places of human habitation. But from the densely populated plains around San Francisco Bay, the people in tract homes, mansions, and automobiles see this ridge as natural and undespoiled. Thus there remains the appearance of a continuous greenbelt adjacent to and contrasting with the urbanized area that joins San Francisco with San Jose. Woodside, chiefly a rural area, was incorporated several years ago to preserve this appearance of natural beauty.

The Stanford Linear Accelerator, 2 miles long, is now under construction in the northwest part of Stanford University's 9000 acres under a contract of the Atomic Energy Commission at a cost of $114 million. An immense amount of power (300 megawatts) will ultimately be needed for this accelerator, and the cheapest way of providing it is by an overhead line and towers, over the skyline and over the town of Woodside and onto the adjacent Stanford lands. The Pacific Gas and Electric Company, which is to provide this power, has applied for permits for this overhead line, but these have been denied by the Woodside Town Council and by the San Mateo County Commission, on the ground that the overhead line would be detrimental to the public interest. An underground power line over the ridge and down the slope would cost probably $3.5 million additional—about the cost of the two Minuteman rockets that created an unusual glow in the evening skies of California last month. AEC feels that it cannot justify expenditure of public funds in anything like this amount, just to satisfy the esthetic whims of a few landowners. It has issued an ultimatum that, unless local jurisdictions can agree on a plan to share the additional costs by 16 March 1964, the Army Corps of Engineers will be ordered to proceed with constructing the overhead power line. In response, the Woodside Council voted to quadruple the town tax to $1 per $100 assessed valuation, but this will raise only $150,000. AEC says it can offer perhaps $220,000, and PG&E about $1 million. Stanford trustees, however, have stated they cannot use university funds for such noneducational purposes. It is unlikely that the ransom can be raised by the deadline date set by AEC.

The haste required by AEC reduces the chances of success in Woodside's endeavor to preserve the scenic greenbelt along the San Francisco Peninsula. But even if it ends up with a horrible example of the fruits of limited vision, it may provide ammunition for conservationists throughout the country in their battles to preserve something of value for future generations.

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Narcotic Addiction: The Neglect of Research

The interesting review by John Walsh of the President's Advisory Commission on Narcotic and Drug Abuse (14 Feb., p. 662) did not mention an important reason why so little has been done in research on the treatment of narcotic addicts. It stems from the fact that the Bureau of Medical Services, not the Addiction Research Center of the National Institute of Mental Health, has the responsibility for treatment of narcotic addicts at the hospitals at Lexington and Fort Worth. The physicians who treat the patients are commissioned officers of the U.S. Public Health Service (many thus serving out their Selective Service obligation), with little interest in addiction per se, and usually carrying a case load of over 100 patients. The result is that no long-range research on the results of varying the inpatient psychiatric treatment has ever been done. The many talented officers who have rotated through these hospitals have taken three paths: (i) They have resigned in disgust because of the refusal of the Bureau of Medical Services to develop an experimental approach to treatment. (ii) They have obtained transfer to positions where they no longer deal with addicts. (iii) They have stayed at the hospitals and, in contemplating the dangers of rocking the boat, have found their time more rewardingly spent in reading the seniority list.

The many efforts to develop research designs are uniformly met with encouragement at the hospital level and re-

sistance at headquarters, where they must be approved. When research proposals to NIMH are sent from these hospitals, they are stalled at BMS headquarters, rarely getting a chance for review at NIMH. A friend who had worked for 2 years on a research project at Lexington, on a design approved by the NIMH Addiction Research Center there, worked for another year on it at Fort Worth before being informed by the BMS that he should not start it. Is it any wonder that the morale at these institutions is low and that NIMH feels that funds should be spent at the local level?

For narcotics addiction, as with cancer, any promising approach to treatment must be tried, evaluated, modified on the basis of follow-up, reevaluated, and so on. The term "rehabilitation of addicts" implies only intent. There is no technique known to be effective. The need is not for further demonstration programs, for "demonstration" implies that one has some knowledge to demonstrate. We need frankly experimental programs, starting with patients already in our hospitals. A unique disease like narcotic addiction demands novel approaches, and the theoretical bias of most psychiatrists in the BMS blinds them to possibilities of other therapeutic approaches, for example, the use of operant conditioning procedures.

These opinions are based on my experience as a resident in psychiatry for 2 years at the Lexington hospital, and for 2 years as the deputy chief of the addict service at the hospital at Fort Worth.

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Walsh's statement that "There is no question that many physicians feel that the lines on legitimate treatment are blurred and that narcotics laws have been enforced in a way that has created what medical men regard as an atmosphere of harassment" is an understatement that grossly distorts the actual situation. The simple fact is that maintenance of an addict on narcotics is prohibited to any reputable physician. Legal intrusion into the treatment of drug addiction has forced the AMA to establish strict standards of "legitimate medical practice" that would be unthinkable in any other area of medicine. Radically different views exist on the proper medical management of coronary occlusion with anticoagulant medication, yet no one would even consider the suggestion that any one form of treatment should be prohibited. But this in effect has happened in the field of drug addiction. The standards have been set by high-level committees which have had limited practical experience in dealing with the drug addict as a patient. In fact, past criminal prosecution of physicians (not a mere "atmosphere of harassment") has prevented any reputable physician from having any experience whatsoever in the maintenance treatment of drug addiction. . . .

It is the historically legitimate function of the medical profession to alleviate human suffering irrespective of the therapeutic benefits that can be achieved. There is no medical ethic that states that self-imposed suffering should involve a different attitude from that taken toward other forms of suffering. Need it be said that we treat the melancholic patient who harms himself physically or with self-accusations without any critical reference to the fact that the torture is in a very real sense self-imposed. Accordingly, there is no justification in medical ethics for placing the entire emphasis on the "treatment" or "cure" of the drug addict to the complete exclusion of any consideration of the relief of his suffering—which is indeed very real, even though partially (and only partially) self-imposed.

While it may still be debatable whether legal intrusion into, and regulation of, the medical management of drug addiction is justifiable, there can be no doubt that such intervention is a serious obstacle to the development of a full range of programs for the medical and psychiatric management of the drug user.

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BSCS: A Happy Partnership

In his review of the Biological Sciences Curriculum Study publications (14 Feb., p. 668), J. K. Brierley says, "It is a little surprising that the school teachers on the various committees let some of the text through, but so often a schoolmaster is humbled into silence by a scientist. . . ." I admit to being one of the schoolmasters who worked with the scientists on the BSCS materials, but I certainly do not admit that we were "humbled into silence" during our 3-year partnership.

My first day on the project began with a lengthy and vociferous argument with G. Ledyard Stebbins about how evolution should be presented to high school students. I do not mean to imply that Dr. Stebbins's ideas on this matter were changed that afternoon, but the ice was broken, and the teachers held their own as regards what they knew best: the conditions in American high schools and the kinds of students who would use the new materials. Some teachers did remain silent the first summer at Boulder, but for the next summer's writing conference those shy people did not return. Perhaps it was the policy of BSCS to select articulate teachers to replace "humble schoolmasters." To put it bluntly, Arnold Grobman (the director) and his staff used loudmouths like me to keep the scientists aware of the reality of the classroom. And to their credit, the scientists were most cordial and most patient. The association resulted in making the scientists more aware of the kind of audience the materials would reach and the problems the high school biology teacher faces. And of course it was a great learning experience for the teachers, whose views of biology were brought up to date.

We may have made some mistakes in our selection of materials included in the texts. None of us thought there could be entire agreement about what should be included in a high school biology course. It was in part for this reason that three different courses were produced. At the very least, each of these courses broke the traditional taboos of high school biology by dealing with human reproduction and presenting a straightforward account of evolution. Trials in hundreds of schools with thousands of students indicate that the modern concepts presented by these courses can be successfully taught to tenth-graders. The excitement of the exploratory laboratory problems and of the study of science as an ongoing process of inquiry has proved contagious; other teachers and their students want to try out the new materials.

The success of the BSCS publications rests, in good part, upon a happy working partnership of the scientist and the high school teacher. Teachers are looking forward to a continuation of that happy partnership.

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