LETTERS

Rape of Alaska Can Be Rational

Carter's essay "North Slope: Oil rush" (3 Oct., p. 85) was a most rational and well-balanced discussion of the complex problems that we are facing now in Alaska, a fine example of enlightened scientific journalism. There is also one relevant problem, however, which was brought out effectively in Fahnestock's letter in the same issue. This is the fundamental problem of conservation and exploitation that can be stated, less delicately: "When rape is inevitable, relax and enjoy it." Certainly, if not this decade, then the next will see the mass exploitation of Arctic petroleum and minerals. We, as a society, *must* have large quantities of raw materials. Whether the extraction is done by private enterprise or by state corporations is quite immaterial. "Rape" in this sense is inevitable in the foreseeable future. Conservationists' pleas for total protection are laudable but fundamentally irrational. With radionuclides, pesticides, and other atmospheric pollutants, we have already saturated the entire environment of the earth; in other words, rape has already occurred.

Instead of attempting to prohibit exploration and exploitation, we must devise ways to accomplish these goals without totally destroying the environment. The Alaskan interior provides some interesting lessons. During the gold rush era, just before World War I, most of the interior (between the Alaska and Brooks Ranges) was prospected intensively for minerals. In the course of exploration, accidental or intentional fires cleared the major part of the Taiga forest from the area. Later, exploitation of the placer gold was by dredging, which completely chewed up the alluvium of the river valleys and left nothing but coarse gravel tailings behind. It is instructive to take a low, slow airplane flight around the Fairbanks area now. The Taiga itself in the area is almost completely restored. The flood plain forest here is an alternation of scrub-dominated "moose pasture" and tangled black spruce forest, an ecology adjusted to periodic fires, just like the vegetation of the California coast ranges. As it happens, the moose require such a situation—both the shelter of the spruce and the forage of the willow in recent burn areas to survive the winter. The nearby valleys dredged between 1920 and about 1960 are also instructive. During the first couple of decades after mining, these valleys appear as gross scars upon the countryside, with bleak, neat piles of coarse gravel to mark the path of the dredge. Then, suddenly, in areas that seem like beaten earth, a cover of willows appears and then the normal succession becomes established. You can roughly date the dredged areas by the color of the vegetation. The more recent tailings are brown and raw, then they are masked by the pale green of willows and alders. This pale green darkens as spruce become established until you cannot superficially distinguish the dredged and undredged river bottoms. Areas worked 50 years ago now are completely recovered.

The Alaskan interior displays—quite by chance—how an area can be exploited without permanent damage. Conservation was the last thought in the minds of the miners; they just wanted to get back to the Lower 48 to spend their money, but the countryside was given the opportunity and has successfully healed itself. What we must do, I believe, is study the environments where exploitation is inevitable (and this means literally any area with a valuable resource, including "wilderness") and plan for the maintenance of a viable natural balance while we plan the exploitation. Wilderness, in areas of economic resources, is an impossibility, but the perpetuation of a decent environment, at least for human beings, should be possible.

Again in Alaska, we have an example of another, more rational attitude toward resource development. At the University a team headed by John Teal has successfully domesticated musk-oxen and is attempting to develop techniques for the commercial use of their wool, qiviut, a wool finer than cashmere. Musk-oxen are the largest Arctic herbivore, and as domestic animals have proven to be quite docile and even friendly. The domestication project has been emphasized as a device to provide an economic base for Eskimo villagers, but musk-ox herding is also a sensible technique for exploiting the Arctic barrens without destroying their original character. As it happens, the musk-oxen now being reintroduced in Alaska (they had been extinguished by aboriginal hunting a century ago) are filling an empty ecologic niche. The other large herbivore of the tundra, caribou, is a moss-sedge feeder while the musk-ox prefers grasses and willows. The musk-ox project is an example of well-reasoned resource management and development. As well, it is specifically adjusted to the Arctic environment. . . .

Perhaps Arctic Alaska, because it is being opened at a time of national awareness of pollution and conservation problems, can serve as a laboratory for the development of techniques and a philosophy of rational exploitation without ruination.

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Reno: Appraisal of DRI

The short article "Trouble at Nevada research center" (29 Aug., p. 880) errs in that it presents an incomplete picture of the research climate at Nevada. The Desert Research Institute at Reno, from which Wendell A. Mordy was asked to resign last spring, is only one branch of the University of Nevada system which also includes the Reno campus, the Las Vegas campus, and the computing center. The article gives the impression that the difficulties and the resignation of Mordy were due to a conflict between two strong-willed men over monetary policies, that research at the university was the loser, and that the university chancellor was the villain.

Actually, the trouble goes much deeper. At the time DRI was authorized in 1960, several academic departments of the university at Reno were beginning to develop Ph.D. programs. It was understood that DRI would encourage research within the academic departments of the university, help build up research competence and potential by attracting outstanding personnel, and help procure research grants and contracts, along with some administrative duties.

DRI started to do some of these things, but before long began to spend all its efforts on building up its own research projects, sometimes in direct competition with established programs. Eventually it split off from the university at Reno and became an entity in itself as a separate branch of the university system. (The conflict over the administration of the computing center arose at that time.) One of its original purposes—that of stimulating research within academic departments—was either discontinued or at least cut to a minimum. Administration of grants and contracts was turned back to the university.

As a result, Mordy's relationships with faculty members on the Reno campus left much to be desired. Many of us feel that very few of the academic departments have benefited appreciably, except in an indirect manner, by the existence of the DRI. Some have even suffered. We feel that so much more could have been done to benefit research throughout the university system if the administration of the DRI had been different, and we are not convinced that the resignation of Mordy will have an adverse effect on established research on the Reno or Las Vegas campuses.

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Postage Meter Technology

In his letter Feeny (3 Oct.), exhorts his fellow scientists to use commemorative postage stamps on their letters. In this way, he reasons, one adds sparkle to his mail and, possibly, vitality to his publications. Aside from these gains, there may also be an educational benefit arguing for the use of postage stamps rather than metered mail.

When your secretary mails a half-ounce airmail letter for you to a colleague located say, at the University College of Dar es Salaam in Tanzania, she must affix 25 cents postage to the envelope. Given a postage meter this is done quite simply by engaging the lever for 25 cents. However, using postage stamps it becomes necessary to affix four 6-cent stamps and a 1-cent stamp, two 10's and a 5, or some other combination totaling 25 cents. This operation requires that she reinforce her skill in arithmetic, a proficiency which might well become vestigial by continuously relying upon the postage meter. For this reason alone—the educational value of reinforcing basic quantitative skills—we should encourage the use of ordinary postage stamps and resist mulishly the stealthy inroads of postage meter technology!

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. . . Unfortunately, our institution discovered years ago that some of our correspondence was not getting through because of postage stamp thieves. We use a machine stamp and now our losses are almost nil.

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