

cover) for at least 2 to 5 years. Support equipment is based on shore, eliminating the need for a surface vessel. Spartan facilities include a shore shack, electricity, hot water heating for divers and habitat, and low and high pressure compressors on the site. An umbilicus leads underwater to *Sublimnos* to supply air, communications, and heat for support of four men in the habitat. A portable substation is placed near the experiments for diver-to-diver communications.

Scientists are invited to submit to me outlines of projects (including a summary of methods, equipment, personnel, and proposed timing).

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### **Serratia marcescens: A Pathogen**

Laboratory manuals are still being published with directions for rubbing suspensions of *Serratia marcescens* directly on the hands of students in experiments which demonstrate, with handshaking, the dispersal of a micro-organism. *Serratia marcescens* has been indicted as the infectious agent in urinary tract infections, pneumonia,

empyema, lung abscess, meningitis, wound infection, sinusitis, endocarditis, and a frightening variety of other diseases.

Any instructor who plans to use this organism in his laboratory should read the papers by Gaughran (1) and Dodson (2).

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### **Alaska: Ground-Level View**

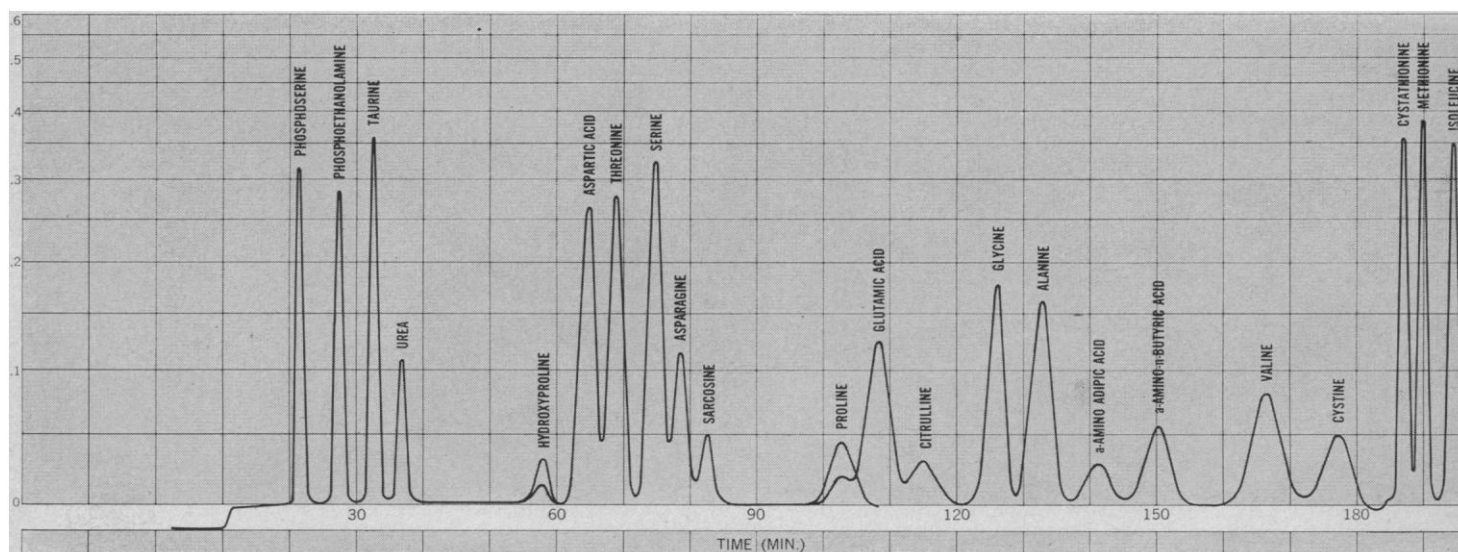
The purpose of my letter is not to contest the privilege of a marine geologist to express his opinions on the recovery of terrestrial ecosystems ("Rape of Alaska can be rational," Wright, Letters, 5 Dec.). However, such opinions must be based upon a more ground-level view of the ecosystem rather than a view from a slow flying airplane.

A more thorough examination must be made of Wright's examples of how the land has been "raped in a rational manner." He maintains that areas

dredged 50 years ago are now completely recovered, but it was not until 1928 that gold dredging commenced in the Fairbanks area (1). Even if the "raped" areas are 41 years old, it is hard to imagine that a spruce forest that takes 100 to 150 years to mature after a burn (2) could possibly achieve a stage of "complete recovery" or successful healing in that period of time. I have personally walked over the barren expanses of coarse gravel of many of the dredged areas of the interior. With the exception of a few willows and an occasional spruce, I would describe the tailings as barren piles of rock. It is not true that these rocks have even begun to recapture the completeness of the food web that was once represented before the dredging. Wright's statement that gold mining is an example of "how an area can be exploited without permanent damage" is unfactual and at least 100 years premature. In short, gold dredging is one of the most blatant examples of irresponsible exploitation in Alaska.

Wright's description of the widespread burning of interior Alaskan forests by the early miners and the assumed beneficial effects for moose overlooks the fact that fire has been a dominant ecological factor long before man's influence (3). Even today lightning fires account for the greatest proportion of

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acreage burned annually (4). While fires may have beneficial effects for moose under some circumstances . . . the intensity and frequency of burns is an important factor influencing the vegetation that follows (2). Also fires may be detrimental to many species of wildlife which are dependent upon climax vegetation types. Fire is considered to be responsible for the extinction of caribou on the Kenai Peninsula around the turn of the century and the drastic decrease in their numbers in interior Alaska in the early 1930's (5).

In Alaska the muskox has become the subject of a controversy between those promoting its domestication and advocates of the muskox as an element of the native fauna subjected to conventional wildlife management practices. The successful exploitation of the muskox in the Arctic is subject to the same biological, social, and economic problems that have plagued the reindeer herding industry. The muskox appears suitable for a cottage economy such as existed in northern Scotland 100 years ago, but the lack of an animal husbandry tradition in the North American Arctic and the rapid acculturation of the native peoples do not favor acceptance of pastoralism as a way of life in the future (6). With these observations in mind, I find it hard to

accept Wright's assumption that muskox herding is a "sensible" technique for exploiting the Arctic barrens.

I realize that Wright does not favor blind destruction of Alaska in the process of oil development. However, if the examples he cited are the most rational support available, I can only envision Wright's rational rape as the birth of a monster.

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#### References and Notes

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3. E. V. Komarek, *Proc. Tall Timbers Fire Ecol. Conf. 1968* (Tall Timbers Research Station, Tallahassee, Fla.) pp. 169-197.
4. R. J. Barney, *Interior Alaska Wildfires, 1956-1965* (Institute of Northern Forestry, Juneau, Alaska, 1969).
5. A. S. Leopold and F. F. Darling, *Wildlife in Alaska* (Ronald, New York, 1953), p. 58.
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#### Realities of Physicians' Income

Kramer's report (28 Nov., p. 1126) on the soaring costs of Medicare and Medicaid raises many good points but unfortunately includes a false statement which we have been hearing recently

with increasing (and depressing) frequency: "Doctors fees have been increasing more than twice as fast as they were before Medicare and Medicaid were enacted." Kramer states that this is a major factor in the soaring costs.

While it is probably true that there are isolated instances of undesirable or even unscrupulous fee manipulation under these programs by certain individuals, as would be anticipated in any human endeavor related to the profit motive, I am quite certain on the basis of personal experience and many professional contacts that most physicians have raised their fees not at all or considerably less than would be justified by the cost-of-living increases. Kramer refers to overall payments to physicians. What has been occurring with the development of Medicare and Medicaid is that more patients have been seeing doctors more often, which is expensive. For example, as a consultant in neurology, I am now seeing many patients that I would not have seen in the past, because the patient could not afford a consultation. In some of these cases, I do not add substantially to the diagnosis and treatment already undertaken by the referring physician; in others, I make important suggestions for the subsequent management of the case. Most of us think that this constitutes better

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