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Cover: Three giant Martian volcanoes rise along the crest of Tharsis ridge. To the northwest, Nix Olympica towers above the "ocean" floor. To the south of the ridge is the "chandelier" and great rift valley dissecting the relatively smooth tablelands. See p. 104 for equatorial map of Mars. (Photo: NASA/USGS)

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Beyond the Ehrlich-Commoner dispute

The increasingly acrimonious dispute between Paul Ehrlich and Barry Commoner over the roots of today's environmental problems has gone far enough. A personal dispute between two scientists is in itself of little consequence to the outside world. This one, however, is over important issues, and Ehrlich's and Commoner's steadfast adherence to their opposing points of view at the expense of any more moderate melding of the two seems likely to threaten the cause of a better environment that they and most other responsible persons espouse.

Ehrlich, a Stanford University population biologist and author of *Population Bomb*, holds that population growth is the core of the environmental problem. Commoner, probably the most publicly visible ecologist of the last decade, believes that the population issue has been greatly exaggerated and that the real culprit is changing patterns of technology. Neither scientist is known for a reluctance to advocate his ideas at every opportunity, and both contributed immeasurably to the general rise of environmental awareness in the last five years.

But they have continually been at each others' throats over the population vs. technology argument in the past two years. The most recent manifestation was a publications incident. Publication of an article by Ehrlich and colleague John P. Holdren on "One-Dimensional Ecology" was, at Commoner's request, delayed by one month by the editors of the BULLETIN OF THE ATOMIC SCIENTISTS to allow Commoner a chance to write a rebuttal for the same issue. Then, to the great surprise of Ehrlich and the BULLETIN's editors, the Ehrlich-Holdren article suddenly appeared without their permission in the magazine ENVIRONMENT, with which Commoner is associated. In an angry letter in the June BULLETIN, Ehrlich and Holdren berate Commoner for his actions in the "pirating" of the manuscript.

The pettiness of these actions symbolizes the intensity of the Ehrlich-Commoner conflict. But the substance of their disagreement is far more important than its mechanics, and what has been troubling to large numbers of scientists and others concerned about the environment is that neither of the two disputants seems to acknowledge the possibility of any middle ground. Most reasonable persons would believe that *both* population growth and new polluting and energy-consuming technologies contribute in important ways to environmental problems. Ehrlich's and Commoner's insistence that it must be one or the other is needlessly confusing the issues and delaying necessary solutions.

Kendrick Frazier

Issues of the eye in the sky

Two quotes from our recent articles on earth resources technology satellites (June 24 and Aug. 5) succinctly express the scope of the issues they raise for the future. One is by NASA Administrator James Fletcher: "We are dealing with a new technology that will revolutionize both human knowledge and behavior. I do not believe any of us fully realize what ultimately will be at stake in the decisions we make, the actions we take and the policies and precedents we establish." The other is by Armin Spaeth, a West German space-policy administrator: ". . . Remote sensing by satellite and traditional nationalistic attitudes are totally incompatible."

In the articles, we have begun to explore in a small way some of the implications for national and human affairs that future generations of operational earth resources satellites may pose. The issues stem not so much from the experimental ERTS I, now in orbit, or ERTS II, planned for next year, as with expected future operational satellites that will monitor earth resources on a global basis in the latter 1970's and 1980's. Who should operate them? Who should have use of their data? The questions posed are endless. It is not too early to begin a full consideration of them.

K.F.