

THE INTERPLANETARY OLYMPICS BEGIN
Gilbert V. Levin

Even in these remarkable times it seems incredible, but the race to Mars is on. At this moment, an American spacecraft is speeding on a seven and one-half month journey to pass within 6000 miles of the Red Planet and relay photographs of it. Eating cosmic dust from America's Mariner IV is Russia's Zond II, launched a scant two days behind our entry. Lack of details available on the Soviet spacecraft makes it impossible for us to anticipate who will win this first 5×10^{11} Meter Biennial Interplanetary Olympics.

Just prior to the two launchings, the National Academy of Sciences had recommended to the National Aeronautics and Space Administration the shape, extent, and timing for our interplanetary exploration program. The search for extraterrestrial life was cited as the most important objective of the program and was recommended as this Nation's first major space effort for the "post-Apollo period." Exobiology thus would take up the financial slack as Apollo phased out.

But even amateur scholars of Government programs wonder if such a successful moon landing would signal the *conclusion* of the Apollo effort. Rather, they believe, the fact that the moon had now become accessible to man might serve as the justification for an even greater Apollo effort. This would further delay the quest for extraterrestrial life.

Scientists tend to disdain political factors in designing programs. However, for better or worse, the political atmosphere has always been a major determinant of the course and level of scientific activity. The Apollo program is a prime example. Critics contend that its huge expenditures are dictated almost entirely by competition with the Soviet Union. They claim further that the political factor has subordinated scientific objectives to the desire of landing a man on the moon ahead of the Soviets. Perhaps in response to this criticism, our space agency has now begun a determined effort to incorporate scientific experiments into the manned spaceflight program.

Largely because of Apollo's fiscal appetite, U.S. efforts in exobiology have been miniscule (see *BioScience* editorial, June, 1964). The level of funding and scheduling evolved without any consideration of a possible Soviet effort in this area. For example, our pre-Apollo plans called for a life detection capsule to be landed on Mars by the current Mariner flight. This was changed to the present fly-by mission and, just several months ago, all plans for 1967 Mars missions were canceled. At the moment then, on the bases of current NASA scheduling and the National Academy of Sciences recommendations, a Mars lander seems relegated to 1971 or 1973, that is ignoring Zond II.

But will Zond II be ignored? The brief Soviet announcement of the launching mentioned a "capsule." This may indicate an attempt to land instruments on Mars. The spacecraft has failed to develop full radio transmission power which may preclude success for this particular mission. However, the increase in the Soviet effort, as cited by NASA Administrator Webb, makes it highly likely that the Russians will attempt to land instruments on Mars before 1971.

The majority of informed persons agree that the prestige to be enjoyed by the nation first detecting life on another planet will greatly outweigh and outlast the glory of being first to land on the moon. The same comparison applies to the respective scientific achievements. It would be less than surprising, therefore, if our pace in exobiology will now somehow increase. Soviet achievements have elicited this type of response from us in the past. Since Mars, the prime target for extraterrestrial life detection is attainable for only a relatively short period at two-year intervals, NASA will have to make any program changes soon.

Sharp disagreements are to be expected on whether funds for the interplanetary exploration program should come from reprogramming within NASA or from new appropriations. The political and scientific merits of competing medical, anti-poverty, and other social programs will have to be considered in making this decision.

Whatever the budgetary solution, it is unlikely that the United States will abandon this historic adventure to the Soviet Union. The exploration of the solar system primarily for a biological objective will add greatly to the already rising tide of excitement in the biological sciences. Biologists should take steps to insure that the impending biennial contests will be run with clean scientific consciences and, above all, with clean spacecraft.