Eq. 1, namely, $N \approx 5$ billion, than to other estimates being made now by those who do not see the millennium arriving quite so early as we do.

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Crowding on Yosemite Buses

Lack of riders has plagued many public transportation systems around the country. However, the free Yosemite Valley shuttle-bus system in Yosemite National Park, California, had the opposite problem during the summer of 1974. Bus routes connect stores, trailheads, the visitor center, campgrounds, and motels in the valley. During the afternoon and evening hours of July and August, ridership averaged 80 percent of bus seating capacity. Often there was standing room only. On Friday and Saturday nights, bus drivers often had to leave many people stranded at bus stops because buses were full. Overloaded buses overheated and had to be taken out of service. At the busiest stops, visitors were frequently observed jockeying for position and pushing one another in preparation for boarding.

These and other findings were obtained in a study of crowding in natural settings funded by the National Science Foundation. Our research team recommended, and the Yosemite National Park Service has adopted, a number of changes which should help alleviate some of the problems described.

Given the general reluctance of people to use mass transportation, it is worth speculating on the factors which contribute to the popularity of the Yosemite Valley shuttle-bus system. These may include the following. There is no fare; the system is completely subsidized by the National Park Service. Some of the shuttle buses are double-decked, and all are open-air, thus providing unobstructed views of the scenic valley. Many younger visitors may have no alternative means of transportation (except walking). For adolescents and young adults, the buses provide a place for meeting peers and for "partying." Visitors who are unfamiliar with the park may not wish to risk becoming lost while driving. Visitors, being on vacation, may not be in a hurry to arrive at their destinations. The area served by the bus system is small (only a few square miles), and routes include stops at most points of interest. A few miles of one route are on roads not open to private vehicles.

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Scientists and Politicians

As a political scientist working at a scientific center (the National Center for Atmospheric Research), I am in general sympathy with some of the views expressed in Roger Revelle's farewell address as AAAS president (21 Mar., p. 1100). However, one point that he makes may in fact undermine the type of cooperation between scientists and politicians that he seeks to bring about.

Revelle writes that "The politician is publicly egotistical, gregarious, garrulous, and has a strong gambling instinct. The scientist, at least in his own image, is publicly modest, introverted, relatively inarticulate, and seeks certainty rather than risk."

Here Revelle compares two unlike things: the public (or realist's) view of the politician and the self-image (or idealist's view) of the scientist. In fact, the politician and the scientist are more like each other than Revelle leads the reader to believe. In the realist's view, politicians are seekers of votes, but not necessarily of sound policy or rational decisions, and scientists are seekers of grants, but not necessarily of truths. Scientists, just like politicians, are guilty of myth-making, "Appealing to the emotional and the irrational in other men as well as to their calculating self-interest." Revelle notes that "For the politician in a democratic society, infinity is the election after the next one." A realist might say that, for the scientist in a democratic society, infinity is the research grant after the next one.

What Revelle says about the real politician could be said about the real scientist and what he says about the ideal scientist could be said about the ideal politician. Awareness of this point is an important place to begin for those who seek to establish more cooperation between these two professions. The similarities are much more pronounced than are the differences.

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