the planets from Venus to Neptune. In our simulation, we found that a few percent of the martian particles struck Earth, having typical transfer times of several million years; ALH84001's measured transfer age of about 15 million years is unusually long.

Although terrestrial bacteria are known to have survived in vacuum for several years (*2*), transit times of millions of years may preclude safe passage. Our simulations show, however, that a small fraction of martian ejecta launched just marginally faster than the martian escape speed could be found immediately on Earth-crossing orbits. Our simulations show that the rate of Earth deliveries was almost constant for the first 10^7 years, which implies that on the order of 1 in 10^7 of the martian meteorites that reached Earth could have spent less than half of an orbital period in space (less than a year). The dozen recovered martian meteorites, the majority of which have been on Earth for much less than 10^5 years, represent only a tiny fraction of all the pieces of Mars currently on our planet and, when one considers the much higher impact rate early in the solar system's history, an even smaller proportion of those that have arrived throughout Earth's history. Therefore, fast transfers (taking less than a year) from Mars to Earth must have occurred numerous times during Earth's past. We leave to others an appraisal of the likelihood of survival of martian organisms in the rigors of space and their fiery entry through Earth's atmosphere. Because such an entry would hardly affect the center of a meteorite, terrestrial weathering would eventually have exposed the pristine interior. If martian microorganisms can survive a year in space, many may have already arrived.

Large impact events could also have liberated some pieces of Earth at high speeds and simultaneously could have cleared an atmospheric channel through which a few particles might have slipped to Mars. Our simulations show that about 0.1% of these rarely liberated terrene meteoroids could have found their way to Mars, but even fewer than 1 in 10^7 of these would have had rapid transfer times.

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Sociobiology's Successes

In a highlighted text box (Random Samples, 19 July, p. 315), the headline " 'Sociobiology' to history's dustbin?" is placed over a photograph of E. O. Wilson. The "news" is thin: a specialist journal has changed its name.

Sociobiology was originally envisioned as the comparative, evolutionary study of the biological bases of social behavior, integrating traditional ethological approaches with new advances in population biology, behavioral ecology, demography, and life history theory (*1*). A few politically motivated critics then invented and promoted a caricature of the field, which they criticized as "sexist," "racist," and "determinist." In response, many researchers did indeed shrink from the label "sociobiology," but sociobiological research programs (by whatever name) have prospered.

One easily forgets, after 20 years, how

profoundly the sociobiological synthesis has transformed the study of animal behavior and large parts of biological anthropology (3). More recently, it has influenced research in many other fields, including botany (4), reproduction and development (5), genetics and molecular biology (6), neurobiology and psychology (7), women's studies and political science (8), art and philosophy (9), and economics and law (10). Oddly, this vigorous interdisciplinary research enterprise remains largely defined in public consciousness by its detractors rather than by its practitioners.

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Rethinking AIDS and Cancer

When a person points to the full moon, some will look at the moon, others at the