In 1992 Frank Drake and Dava Sobel published a book titled Is Anyone Out There: The Scientific Search for Extraterrestrial Intelligence in which there appeared the now-famous "Drake Equation":

\[ N = R \cdot f_p \cdot n_e \cdot f_i \cdot f_l \cdot f_c \cdot L \]

relating the hypothetical number of advanced civilizations (N) to a string of frequencies of various factors that, presumably, combine to limit N. That equation, along with the many scientific popularizes such as Carl Sagan and the media romance with alien life that continues unabated, became a symbol for the widely-held perception that it was only a matter of time before extraterrestrial life would be detected. Various efforts were made to specific the value of N, but most results were considerably greater than 1.

Support for that Search for Extraterrestrial Intelligence has fluctuated over the past decades during which it was paralleled by a growing sub-discipline of extra-solar-system planetary discovery. The catalog of such planets is nearing the millennial mark. Yet, no extra-terrestrials.

Spurred on by planetary hard data rather than the theoretical speculation involved with the factors of the Drake Equation, the prejudice in favor of alien inevitability is beginning to erode. In Alone in the Universe John Gribben presents a powerful set of arguments - based largely on recent exo-planetary discoveries and our improved understanding of Earth System Science - to support the conclusion that human technologically advanced civilization is, in fact, unique and that there is, simply, no-one else out there, period.

Gribben accepts the proposition that simple extraterrestrial life itself is very likely inevitable. However, he provides a set of very convincing arguments that there is a near-zero probability of evolution repeating itself from pro-karyotic cell to Steve Job.

Alone systematically dismantles the Drake equation all based on fairly uncontroversial cosmology and geoscience. Admittedly, each of Gribben's conjectures, convincing as they are, are as unprovable as are Drake's. And, of course, the first sign of intelligent extra-terrestrial life that is detected will relegate Alone to the trash heap. All of which might lead one to conclude that either position on extraterrestrial life is a waste of effort. However, assigning N a value of 1 (or even >1) in the Drake equation does provide a framework, comparable to Lovelock's Gaia Hypothesis, in which much fruitful science can be made.
Gribben does not expound much in this short volume on the implications of his conclusion. If you accept Drake's original hypothesis, then you might 1. support SETI research, or 2. keep very quiet. But can the human race be convinced to act on the implications of Alone? Will humans give up the hope of some *deus ex machina* bailing us out at the last minute as the Earth stumbles toward environmental oblivion or will humans accept that we are the last and only hope ever for beings aware of where they have been and where they are going?

*Richard R. Pardi     Environmental Science     William Paterson University*