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The chance that conditions under such widely divergent conditions, would have a civilization resembling our own is extremely remote. It is particularly unlikely that their civilization would be within a half century of our own state of advancement. Yet in the last 30 years we have just started to see spacecraft and in the next 50 years we will almost certainly start exploring space.

Thus it appears that space travel from another point within the Solar system is possible but very unlikely. Odds are at least a thousand-to-one against it.

This leaves the totality of planets of other stars in the galaxy as possible sources. Many modern astronomers believe that planets are fairly normal and frequent features in the life history of a star (rather than cataclysmic entities) so that many planets can be expected to exist in space.

To narrow the field a little, some loose specifications can be written for the star about which the home star planet would revolve. Let us say that the star should bear a fairly resemblance to the Sun, which is a member of the so-called "main sequence" of stars, i.e., as illustrated with dwarfs, red giants and supergiants. For a description of these types, see reference 1, chapter 3. There is no specific reason for making this assumption except to simplify discussion: we are still considering the majority of stars.

Next, true variable stars can be eliminated, since conditions on a planet attached to a variable star would fluctuate too wildly to permit life. The number of stars deleted here is negligibly small. Reference 3, pages 76 and 83 indicate that the most common types are too bright to be in nearby space unnoticed. Lastly we shall omit binary or multiple stars, since the conditions for stable planet orbits are obscure in such cases. About a third of the stars are eliminated by this restriction.

As our best known sample of space we can take a volume with the Sun at the center and a radius of 16 light years. A compilation of the 47 known stars, including the Sun, within this volume is given in Reference 4, pages 22 to 27. Classified according to the above discussion, there are 15 dwarfs, eight giants, eight supergiants, 13 stars and two trinarys account for 6 more. The remainder, 23 stars, can be considered as eligible for habitable planets.