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Almost like a science fiction writer's dream is this daring concept for the future, presented with authentic detail by one of Britain's foremost scientists in the field of space travel.

Sometime in the near future, perhaps before the turn of the century, man will take his first step into space. Scientific curiosity and the love of adventure for its own sake will be sufficient motives for the first exploratory voyages.

Nevertheless there must be many apostles of space flight to whom these two motives are only a small proportion of the whole purpose. There must be many who cannot derive complete spiritual satisfaction from the picture of mankind spending its whole existence on one single infinitesimal planet with no contact with other species who may people countless other worlds of the Universe. Many

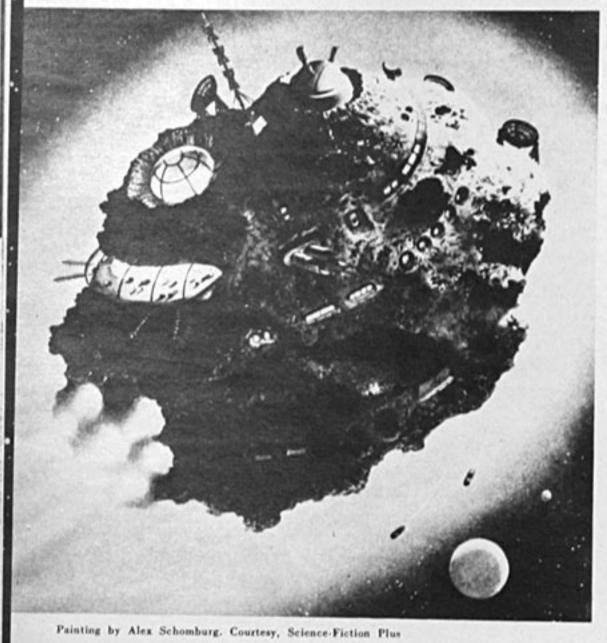
who hold to a more materialistic outlook may see in man's confinement to a single planet a factor reducing his probability of survival. Humanity dispersed over many worlds would appear more secure than humanity crowded on one single planet.

We are going to examine the possibilities of interstellar flight mainly from the latter viewpoint, viz., the possibilities of the human race establishing colonies in other stellar systems, always assuming that there are worlds suitable for mankind to be found in such systems. We are concerned with the problem of getting small colonies across the almost endless interstellar gulfs, safely, but

The gigantic space ark described in this chapter would carry a pair of "space jeeps" and send these off to explore whatever strange planets might be encountered in some distant solar system. Here a "jeep" is moving across the Great Andromeda Nebula, an island universe almost 2 million light years away from Earth.



All astronomical photos in this chapter are from Mount Wilson and Palomar Observatories



Artist's concept of space ark shows it built into a tremendous meteor hollowed out for the purpose. But actually, it will be constructed much more scientifically.

Detailed diagram of ark shows how it will be a self-contained civilization in miniature, designed to travel through endless space for a thousand years or even longer.

ultimately, no matter how or in what time. It is not necessarily a question of getting an individual from one stellar system to another, but rather a question of getting an adequate community to another system. It is important to stress this point because this profoundly affects our interpretation of what is possible and what is impossible. For if we interpret the problem of interstellar flight as the problem of transporting a man from one system to another during his lifetime, then it is a much more difficult problem.

The problem of interstellar flight is one of vast distances and interminable transits which may demand a completely new philosophy of exploration. If we accept the more general interpretation of interstellar travel then the

explorer or colonist setting out for some distant system may do so in the knowledge, not only that he will never again see his native planet, but that he will not even see the planet of his destination-a privilege reserved for his descendants. Thus the philosophy of the explorer may be that of the soldier or airman setting out on a suicide raid, doing so in the knowledge that for him there can be no personal gain, only the dying knowledge that some will survive to benefit from his action. Indeed, interstellar colonization may call for the sacrifice of whole generations in the lonely reaches of space. Colonies once established may have to exist for generations in a state of complete isolation, and such communication as may exist between systems may be a

