

7th December, 1966.

Dennistoun,  
Bothwell, Tasmania,  
Australia.

Dr. Philip Morrison,  
Professor of Physics,  
Massachusetts Institute of Technology,  
Cambridge, Mass,  
U.S.A.

Dear Professor Morrison,

This letter is in reply to your book reviews in SCIENCE, 30th September, 1966, pages 1628-9. I was at Green Bank during the Ozma project. Special equipment had been purchased to try to find the Zeeman effect in a neutral hydrogen line associated with source in Cassiopeia. The effect was not detectable. By making minor changes in the antenna system and other parts of the equipment a device was produced which could be used for the proposed Ozma project. The frequency was about 1420 megacycles. The project seemed to have started as a lark or a gag when the originators had gone scientifically bankrupt. However the publicity people found it to be superb. They blew it up to such an extent the originators began to believe in cosmical intelligence themselves. Even the Director had the poor judgement to attach his name to the affair.

I am not inherently against wildcat studies, having done some rewarding ones myself. However I believe anything worth doing is worth doing well. Consequently, I pointed out that the whole region of frequencies around 1400 mc is covered by natural energy sources of very great intensity. Thus, no-one worthy of the name intelligent would consider using such frequencies for interstellar communication. Also I pointed out that when anyone had gained sufficient knowledge and technical ability to predict and exploit the frequencies associated with neutral hydrogen, such people would also have at hand suitable knowledge to predict and exploit the frequencies associated with neutral deuterium around 327 megacycles. Furthermore it is also known that we are living in a very abnormal environment with an exceedingly high deuterium content. This seems to be a result of our long and close proximity to the sun and its activity. The natural neutral deuterium in the cosmos is so very low it has never been detected. Thus the region around 327 megacycles is a fine clear channel of known frequency quite suitable for interstellar calling.

The purveyors of the Ozma project were obviously quite unaware of conventional earthbound radio communication procedures. In this part of the world 2148 kc is calling frequency for small ships. Everyone stays tuned to and monitors 2148 kc rather like a country party telephone line. When you wish someone, you open up on 2148 kc asking for the party you desire. Once contact has been established, both parties change to a nearby frequency, say 2182 kc and carry on the communication. This leaves 2148 kc clear for others. The large ships use 500 kc

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as a worldwide calling and distress frequency. My own Cosmic static observing frequency is 2085 kc. This is one of the small ship communicating frequencies which is rarely, if ever, used. Consequently I have sort of appropriated it for my own use. The radio authorities in this part of the world have been flatteringly vigilant in helping keep this frequency clear.

All the above I discussed in considerably more detail and suggested that if Ozma project was really interested in finding interstellar radio signals of intelligent origin, and not merely earthbound publicity; then they should carefully search around 327 mc. In reply, I was advised that their equipment didn't work at 327 mc. Thus the search went on at 1420 mc. Probably Frank Drake would like to forget the whole unintelligent episode. However, it should be dragged out at intervals and waved around for all to see. Thus future attempts to locate interstellar intelligence may be performed in a more intelligent manner.

Yours faithfully,

Grote Reber.

GR/JCA