

28th December 1961
C. S. I. R. O.
Stowell Avenue
Hobart, Tasmania, Australia

Dr. Alan T. Waterman, Director
National Science Foundation
Washington 25, D.C., U. S. A.

Dear Dr. Waterman:

Thank you for your good letter of 29th November. I hoped that Geoffrey Keller would set aside a couple of days in Australia to visit my installation here. It is a steerable array of new and different design, but in no way competitive with dishes.

Your new director, Dr. Pawsey, is a man of long experience and great competence in radio astronomy. I know him well, admire his leadership and have confidence in his judgement. You are to be congratulated on having him with the Observatory.

It is my suggestion that some money be set aside to build experimental models of various radio telescope designs. I drew up a long memorandum discussing the fundamentals of "Large Mirror Design" dated 12th March 1955. This was reproduced and given a limited private circulation under A.U.I. code "Appendix A-14-1". During January 1958 I tried again to discuss the section entitled "Possibilities Over 500 Feet". Part of my time at Green Bank was spent working out details. This design minimizes the ratio (rest of structure)/(skin surface) and thereby is inherently economical. It is the only design capable of being scaled up in a realistic manner.

I propose that a first class working model be built at Green Bank in some convenient vale on the other side of Deer Creek or perhaps in Hospital Run. When this has been completed, it will be possible to point with pride to working hardware and give convincing figures for cost and time of construction of larger structures. In a few years the Cornell people will be tired of the Arecibo adventure. At that time, this site could be renovated into something useful. Then we would be in a realistic position to build a very large successful radio telescope.

The most eminent plant physiologists have been unable to explain the results of my bean experiments at Green Bank. I brought some with me and am growing a good crop for a different scheme. Kipling wrote "A leopard cannot change his spots"; but I think a bean can!

I am,

Sincerely yours,

Copies to :
Jerome B. Wiesner
J. L. Pawsey

Grote Reber