

March 5, 1955

Dear Reber,

Still no answer from you about the chapter I did about you. Is it that bad?

Actually, I know you are rushed and the above question is not the reason for this letter. The reason is partly another question and partly chatting.

The question. In your last letter you spoke of a hole in the ionosphere. As I understand it, you mean that there is a cone of a sort, an angular spread, outside of which radiation of one to ten megacycles would bounce back toward space and never reach us. But within the cone, there's a chance that some of the waves would get through (the cone, by the way, including the vertical) or at least might. I don't quite understand how this interpretation of mine which may be all wrong accounts for your statement that "the altitude of the hole can be adjusted by changing the frequency". Is Tasmania good for this work because it is nearer the south magnetic pole where the lines of force come in nearly vertically and radio waves can ride them into your hole??

I received a renewal of my fellowship last month which means I can go ahead now without worrying about money quite as much as I had been. I have just returned from Washington and visits to Hagen and his group at NRL and a member of the DTM gang. The nicest work is being done by two young fellows Lilley and McLain at NRL, studying 21-cm absorption of hydrogen in front of Cass and other radio stars. Baade had estimated the distance of Cass at about 300 parsecs; NRL now places it at least 3000 parsecs away--quite a difference! This ups the power at the source of Cass considerably. They also have some intriguing records of through-hydrogen pictures of Taurus, Cygnus and Orion but the records haven't yet been analyzed (they may be within a month or so).

Next week I am visiting Bok and Ewen at Cambridge. I shall give your best to them without being asked to do so. Incidentally, I am trying to have my manuscript finished by November ~~xxxx~~ first--for publication in the spring of 1956, about a year from now. This spring and summer, by the way, I am going to visit England and Holland again for further information and checking. I wish I could afford Sydney--and Hobart. By the way, is the Research Corporation still backing part of your work? Or are you now an employe of the Australian Government??

Yours,

