

April 31, 1957

Dear Mr. Poles:

I want to thank you for your kind letter of April 8. I should apologize too for not answering, sooner, your request for Foster's reprints. I have just returned from Florida and somehow in the rush of things your letter got mislaid. Yesterday morning I got in touch with the BTL and got them to agree to send one of their few remaining copies of the Foster reprint. Even this called for some fast talking. I had forgotten about the cross of sources but now that I have thought about it, I have a vague recollection of such an arrangement. Your memory is good. I will look into the matter further when I am next at the BTL library. I gave much thought during the War to a cross as a radar antenna. In this case the cross was made up of waveguide sources. I feel reasonably sure that others also thought of the same arrangement. The objective there was a lobe that was fairly sharp without being involved in an arrangement having a high wind resistance.

It is my belief that the antenna problem was one of Foster's first jobs upon coming to AT&T Co. Dr. George Campbell had explored the field rather thoroughly and had applied for a patent. I think that he assigned to Foster the job of supervising the calculation of patterns and

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Arrived Hobart 8 May

exploring further the various combinations of promise.
Because Foster had contributed so much to the subject,
the paper was published in Foster's name.

Your solar work at 520 kc is very interesting
I have (n) questions I would like to ask but this seems
impracticable in a letter. No doubt having thought
much about the subject you have (n+n') answers.

I am interested in knowing (1) How you carry out the
receiving process. (2) How you avoid static (3) How you avoid
QRM? (n) Where does this noise level stand relative to just circuit
noise?

I can assure you that we want to see you
soon again up on this side but please don't leave
this work until it can be taken over by others.
You are working at a very important frequency frontier
and your phenomenon (let's call it Reber Radiation)
obviously has some kind of a variation, possibly a 11 year
cycle. It seems very important to me ^{that} the pattern of
this variation be sketched in in a rough way.

Is there a charm to 520 kc? Can it be observed
at other frequencies? As the "shutter" closes for one
frequency range, isn't it still open at other frequencies?
As the cycle progresses, do you expect that it is open for
higher frequencies or for lower frequencies? (These are
more of the n questions!) If you haven't already done so
I suggest that you prepare a "letter" for some periodical like
Science. This can give you more important results
and state that a more complete paper is in production.
Let me know when I can begin talking about it here.

Best regards

George Donlan