THE UNIVERSITY,
GLASGOW, W.2.
TEL KELVIN 2231

13th December, 1951.

Dr. W. Cochran,
Crystallographic Laboratory,
Cavendish Laboratory,
Cambridge.

Dear Dr. Cochran and Crick,

I thank you for your letter of 12th December.

I started a numerical calculation for the Pauling helix some time ago by preparing a few graphs of C_n functions, intending to try them on the data of Mrs. Hodgkin for insulin. However, I did not get very far beyond this stage, so that if you are going ahead with numerical calculations, it would be a pity to duplicate them here.

I think that a graphical method might be quite adequate, the evaluation being done by superimposing over the C_n graph a sheet of tracing paper with a properly oriented square net drawn on to it, the scale of the net depending on r and its orientation on the z co-ordinate of the atom. In this way the values of C_n are evaluated on points of a standard square net in reciprocal space, and contributions from different atoms are thus rapidly added at each point of the net.

The S_n values can be obtained from the C_n graphs by providing a separate angular scale, say in red. I am sending you a part of my Co graph, in case you have not already plotted one; the evaluation is, as you will see, very rapid. Do you think a graph like this should be included in the paper, or in some subsequent papers dealing with numerical results?

Yours sincerely,

V. Vand.

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Encl.