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2 Sycamore Terrace,  
Corstorphine,  
~~Mathematical Institute~~  
~~16 Chambers Street~~  
Edinburgh.

Apr. 3, 1931.

Dr R. A. Fisher,  
Rothamsted Experimental Station.

Dear Dr Fisher,

I have your letter of yesterday regarding the tests of interpolation formulae. As you doubtless know, my slight part in the discussion arose from a letter from Dr Wishart to Professor Whittaker, which was handed to me by the Professor, since the question was of mechanical computation. Subsequently I exchanged letters with Dr Wishart upon the matter. I had hoped to make extensive tests on the machine with which I am most familiar, the "Archimedes", but I was insufficiently recovered from two months of illness, and was only able to practise the technique of Jordan's method during the week or ten days preceding the meeting of the Tables Committee. Consequently the tests were not extensive, though to my mind they seemed sufficiently conclusive.

It is to my mind very important that you mention the "millionaire", a machine vitally different from the "Archimedes", and one which would doubtless give a very different comparison of efficiencies in this matter of interpolation. And I ought to say that perhaps I am not

fitted to carry out mechanical tests, for in youth I practised mental arithmetic and memorizing of numbers to an extent which makes me dispense with much of the copying down which a sound routine should perhaps include.

It so happens that I am on vacation and have an "Archimedes" machine at home. If you would be so kind as to draft a scheme of interpolation tests of the kind you think most necessary in practice, I would do my best to meet your wishes in carrying these out - on the "Archimedes" - and would give you a personal account of the whole matter, of which you could make any use you deemed most in the interests of computers and computing.

I cannot help feeling the strong conviction that the Everett, even without differences, is faster than Jordan's. On the "Archimedes" at least the even central differences required are found at once from the data by linear combination with binomial coefficients, there being no necessity to write the complete difference-table. But I shall give Jordan's any amount of practice, and shall be only too glad to come to a different opinion, if the tests warrant it.

Yours sincerely,

A.C. Aitken.