Dr A.C. Aitken,
    Mathematical Institute,
        16 Chambers Street,
            EDINBURGH.

Dear Dr Aitken,

I see in the current minutes of the British Association Tables Committee that you are quoted as having made tests of interpolation formulae, and finding that the Jordan method of central coefficients has no particular advantage over Everett's even when the latter has no differences provided.

It is I know a very difficult matter requiring a great deal of experimental patience and expenditure of time to test with sufficient precision the speed of alternative processes of computation. One needs in this case to obtain the three times for (a) Everett with differences, (b) Everett without differences, (c) Jordan with sufficient accuracy to obtain a ratio $(b - c)/(b - a)$, and to do this is certainly not a simple matter. It requires for example great care in making sure that the actual operations decided on shall be those necessary in practice; for example copying down the two actual values of the table to be interpolated to be used with the derived differences in method (b).

In my own experience with a "Millionaire" machine which is especially rapid for multiplication I found, and still find such substantially positive values for (b - c), that when I first heard that any doubt was felt on the matter, I asked a voluntary worker from Ireland, Mr Murray, who is a very competent computer, to test the case in which the advantage of the Jordan method is least, namely 8-point interpolation. After very thorough tests he finds a ratio for this case of between 20 and 30 per cent.

This, of course, is a very substantial advantage, for it shows that in cases where it is not possible to print full differences, a considerable fraction of the advantage can be saved by the use of the Jordan coefficients.

If, however, your experience has been rightly reported you consider that the Jordan method is actually longer than the use of the Everett coefficients where no differences are given.   I should be very glad to know if this is your decided opinion, or whether you think that more comparable trials would show substantially the same results as we have obtained.

Yours sincerely,