27th April, 1946.

Dear Whately Carrington,

I see the sense of your remarks on the first problem, and
I agree with what you say. It seems to depend very much on what you
want to test, and for my part, I should want to examin the straight
regression firt, and see if it explains the whole effect before exam-
ining deviations from the regression. The 2x2x2 business which you
mention first is one way of testing deviation from a simple regression.
Actually, if A B C D are successes and E F G H corresponding failures
arranged sensibly, then A+λ, B-λ, etc are the expectations, where
the ratio for λ = $(A+\lambda)(D+\lambda)(F+\lambda)(G+\lambda)$

$$= (B-\lambda)(C-\lambda)(E-\lambda)(H-\lambda)$$

so knowing the expectation and the frequencies observed one has a
test.

However, On the second point I am sure you are right. It is
logically vital the the the experience was sub-divided on a basis completely
independent of the actual results.

The third question is more doubtful, for the condition of contiguity is not obvious a priori, and was presumably suggested by the results.

Yours sincerely,