University of Cambridge Department of Genetics

Whittingehame Lodge, 44 Storey's Way, Cambridge.

18th February, 1955.

Dear Kempthorne,

I should be entirely satisfied if you cared to use the two quotations from page 56 of the 1941 paper, which seemed to express just what I mean. On your second page you say "I can accept the statements, etc., then the resultant effects should be attributed to the secondary gene substitutions and not to the dominance deviation".

My point is that the evolutionary improvement is due to the secondary gene substitution, and the evolutionary effects are constituted by such substitutions. It is not at all that the dominance deviations are ascribable to the secondary gene substitutions, as suggested in your following sentence.

I did not realize that you had claimed that variance in fitness, e.g. that which is environmentally induced, would constitute to the rate of increase of fitness. I had only suggested it as a reductio ad absurdum. In fact the only evolutionary effect, either in increased fitness or in anything else, that I can recognize as such, is constituted by the changes in gene ratio, and if by the extinction of certain insects a plant were rapidly to become generally self fertilized and homozygous through lack of means to cross-pollination, I should, so long as the gene ratios remained unchanged, consider that the plant had not evolved but was reacting passively to its changed environment.

Sorry to be so long-winded about all this.

Yours sincerely,