23 July 1930.

Major L. Darwin, Sc.D.,
Cripps's Corner,
FOREST ROW,
Sussex.

Dear Major Darwin,

Thanks for returning Dunkerley's letter. I thought you would like to see the reaction of a fairly typical, though perhaps second-rate zoologist.

I have noted one point where I think you have misunderstood my letter. I am glad you think the table rightly expresses your father's theory. I have made all values of $x$ equal in average fertility, though I should be doubtless nearer the facts if I made the middle values somewhat more successful than the extremes. This would complicate the table by introducing fractions, and I should like to know if you thought it was worth doing to avoid the misapprehension that I am denying the existence of an optimum $x$.

On the enclosed page I have drafted an argument on which I have long wanted to have your opinion, though I never feel I can express it cogently enough.

Yours sincerely,
Suppose you have two groups of men placed in very different circumstances, differing not in the kinds of actions which conduce to prosperity, or in the average prosperity attainable by such actions, but wholly in the certainty with which it is attained.

(A) Every exercise of energy, intelligence or procedure produces with certainty a corresponding increment in prosperity.

(B) The effect of such actions is observed by chance effects incapable of prediction which, while balancing in the long run, and having no average effect one way or the other, are individually large compared to the average return from the actions concerned.

The contrast is similar to that between an orderly and well-governed country on the one hand, and a lawless or savage condition on the other; it is also similar to the difference between immediate recompense and postponed recompense, for in the latter case intervening events introduce a chance element, e.g. "Shall I live to reap the harvest?"

Now I am inclined to claim that similar populations exposed to these two environmental systems would react very differently, that a population which in (A) would show itself industrially competent, careful and prudent, might in (B) show none of these qualities, because the average effects of competent action would be so much obscured by unforeseen chances. Moreover the psychological differences in the two cases would be much
enhanced by example and tradition.

If you agree with this, as I am confident you will, I want to know how far you would think it material to apply to the effects of family allowances, and in particular to the inference that such allowances would increase the fertility of the poorest self-supporting class.

To some extent, of course, the economic burden of children must be regarded as distributed from national considerations. In such cases the parents presumably decide that the satisfaction afforded by the society of the child, or that of doing what they regard to be their duty, is the economic equivalent of the money spent in its upbringing. To a far greater extent, it seems to me, their incidence, or at least its economic effects, is subjectively accidental, and acts just as any other unpredicted cause of fluctuating prosperity. Among the poorest self-supporting class and indeed among wage-earners generally, the loss in standard of living occasioned by a single extra child is certainly large compared to any compensating gain which is open to the parents by increased efforts. I infer therefore, that, without family allowances, the incidence of reproduction, whether or not this is excessive, will induce in some degree the consequences of B, and that the introduction of family allowances will change the social reactions of individuals, and the social tradition of the group in the same direction as A.
Now with full family allowances equivalent to the actual average cost of children there will be quite numerous occasions in which prudence would favour family limitation, such things as the health of the mother, or the restricted accommodation of the house will often act in this way; and in unskilled worker classes in which this major chance element in prosperity was eliminated would naturally possess a much less strictly defined idea of what standard of living they could expect, and would be expected of them; if they are therefore more readily influenced by prudential considerations under (A) than under (B) it seems to me far from obvious that we ought to assume any increase in reproduction in this class as the result of family allowances.