

29 February 1932.

K. Sisam, Esq., M.A.,  
The Clarendon Press,  
OXFORD.

P. 9840/K.S.

Dear Mr. Sisam:

I have read the first two chapters of Nicholson and Bailey's book, with scraps of the remainder, and am feeling violently impatient about it. So far it is entirely non-observational; ecology from an easy chair; so that the ideas are predominantly a priori. Hence after reading the latter sections of Chapter II, which are <sup>a</sup>very procrustean attempt to force all types of hunting and predatism into the one very special mould of "random searching", as defined in the first chapter, I feel it is time to stop and write to you. Had the authors been content to set up the mathematical relationships by which random searching is defined, to say that they think this situation is very important in Nature, and often occurs, and better still, to give some examples to show that it does occur or seem to occur, without any very important modifying circumstances, one would feel that they had made a start on an interesting subject, the study of competition, and that a similar procedure might be applicable to a considerable variety of essentially

different situations in Nature.

As representative of the conditions of random searching, where they really exist, the exponential relationship arrived at by the authors suffers from the serious drawback that it assumes all objects sought to be equally conspicuous. The authors frequently assert that their formula follows only from random searching and in other places that searching must be at random unless different individuals are organised in concerted action. I think there is a good deal here that is arguable, but I need only insist on the question of conspicuousness. For, introducing differences in the ease of detection, such as I imagine to be widespread and important, the curve is modified in such a way that

(i) with increasing competition, search becomes difficult more rapidly than is suggested by the exponential form,

(ii) survivors undiscovered fall off less rapidly,

(iii) in consequence adept predators are much less affected by the competition of the less skilled.

This makes so much difference that, although the conditions considered in Chapter III do not admit of a steady state, the equilibrium being unstable at the only value at which equilibrium is possible, yet quite a moderate change in the form of the curve, of the kind which variations in conspicuousness would introduce, would produce a stable equilibrium between host and parasite.

I am all for simplification and I believe that careful observational data will nearly always suggest relatively simple relationships which are sufficiently accurate to represent the main facts of the situation; but I do feel that nothing is more unconvincing than simplification without an observational basis.

I am returning the M.S. under separate registered cover.

Yours sincerely,