My dear Fisher.

I ought to have answered such a long ago, but I have been very busy, and now return them so that you shall know readily what I am writing about.

I believe that you are in the right, but I cannot quite follow the connection between early migration and better nutritional conditions, another example might make your meaning quite clear to your readers. But do not trouble to try to clear my foggy brain.

What you have to do, I think, is to show how beauty can, by favouring early mating, make the individual more prolific, and yet not make him less prolific by inducing too early mating. I will assure myself by sketching my ideas a little fully.

Some birds of some species regularly migrate south in winter, whilst others do not; or, at all events, this is how migration began. The two groups must be multiplying equally quickly if equilibrium is being maintained. The death rates in the south and south must be the same therefore. The numbers migrating south must be such as to keep these death rates equal. If too many migrate south, and too few remain north, the death rate in the south will be abnormally
high and the death rate in the north abnormally low; and in this way equilibrium will be regained of the movements are instinctive. (Does not natural selection thus always make for a maximum population?) Much the same must occur with two competing species, one migrating and the other not; and the winter death rates will be the same, unless the summer birth rates are different. The date of summer birth will be such as, taking competition with non-migratory species into account, also result in the maximum rate of multiplication. The migrating bird, might, therefore, tend to arrive after the otherwise optimum time for breeding; in which case natural selection would introduce a compromise date of return for the return north. But that date would still be later than the optimum breeding date; and then, on hypothesis, the more quickly breeding takes place, the greater the probability of racial survival. And sexual selection causes an early date.

In these circumstances, such birds and beauty will feel favorably. Taking the other alternative, that the birds arrive after the optimum breeding date, migration date and breeding dates will be independently regulated. Natural selection will make the bird as inclined to breed before the optimum date; but the sooner they breed after their migration.
I am not sure that the time has come, that more
progeny will be the individual. Beauty won't
make them breed too early, because of their instinctive
objectives; but it will be beneficial immediately the
dame is aroused; and the necessity condition for the
action of sexual selection is fulfilled.

Certainly both breeding and migration rates
are largely dependent on environmental conditions,
but I see no more direct connection than that.

I see that Salisbury - I think that is his
name - is all over in Nature. If it ever
seems to me to boil down to the incapacity to
see that, though a lower death rate, if selective,
means a slowing down of the death rate at which
natural selection acts; but, as far as I can see,
however small the selective death rate may be, natural
selection must continue to operate. Every death has
an effect on the propagation of the genes remaining.
I suppose he has rather to guard big mutations,
which, I think, must be single factor changes. Here
he should remember that if a potential mutation occurs
in one in 10,000 seeds, it will occur in one in a
10,000,000,000 plant trees; and that with the tricks

Yours sincerely,

Charles Darwin