

Cripps's Lower Forest - Row
Sussex. June 12 24.

Dear Fisher.

Thanks for your letter on evolution. I ought not to bother you about it, as I guess I shall never publish again on that topic. I was set thinking by a conversation with Max Bride. He said pure line work proves the absence of small mutations. I asked him for how many generations these experiments had been carried on. He said six. I replied that that was not long enough to convince me. I can imagine that mutations, so small as not to make an appreciable result in 6 generations, yet in time ^{might} making sufficient diversity in a species to give ground on which selection can act.

The frequency is, of course, a relative term. In cases where a mutation took place in all six generations I should expect it to produce visible results; but unless mutation was very frequent this would be rare, & might easily be overlooked. It seems to me there must be a system at work which creates a certain amount of variability in nearly all characters always in existence, otherwise I do not see how adaptation can take place. Are not all *Drosophila* mutations which have been recorded such as have been visible as between parent and offspring? What I should like to see is experiments made to see if there are not such small mutations that they can only be detected when several are lumped

together. You say that "frequent mutations lead to ever increasing variability". If mutations are recurrent, this is true, I think, whether they can be described as frequent or not. I rather think I have a little mis understood your letter through not having your paper by me to see exactly what your pure line argument is - Don't answer this.

Mac Bude's little book must be reviewed; but what puzzles me. I feel that to have any heated disputes within our ranks is bad for the cause of Eugenics. I should like a neutral toned review. And I am inclined to feel that he has scolded over Huxley's work, & Guyer & Smith. All the other biologists were inclined to push both both. I feel uncertain what he can show about the inheritance of acquired characters; but as he admits the influence of selection (possibly ethologically) this controversy has little effect on practical Eugenics.

Yours hastily

LD

I wonder if you will be at the Potts lecture tomorrow

June. 14. 24

Cripps's Corner. First Row
Sussex

Dear Fisher.

Thanks for your letter which makes me see things more clearly. I have always said that I want you to write a book on the mathematics of evolution.

My idea was that there are blending or centropetal mutations, and centrifugal mutations; the former preponderating only when the genes are markedly ~~quite~~ dissimilar. But I don't have no actual facts in support of the idea. I agree that blending inheritance is ruled out. No one states very clearly what they mean by the word when they use it, or surely they would see that it accounts for nothing hardly which wants to be accounted for.

About MacBride, the review can stand over for a bit. ~~Perhaps~~ Perhaps I am inclined to swallow too much of what he says. My impression is that biologists a few years ago thought that genes were more invulnerable by external influences than it now appears that they are.

Yours sincerely
L-D.

It by any chance you do intend in any case to come up to London next Friday June 20, let me know, and what for. I shall be in town.