

Hurstpierpoint, Sussex

July 2nd. 1866.

My dear Darwin

I have been so repeatedly struck by the utter inability of numbers of intelligent persons to see clearly or at all, the self acting & necessary effects of *Nat Selection*, that I am led to conclude that the term itself & your mode of illustrating it, however clear & beautiful to many of us are yet not the best adapted to impress it on the general *naturalist public*.<sup>[1]</sup> The two last cases of this misunderstanding are, 1<sup>st</sup>. The article on "*Darwin & his teachings*" in the last "*Quarterly Journal of Science*", which, though very well written & on the whole appreciative, yet concludes with a charge of something like blindness, in your not seeing that "*Natural Selection*" requires the constant watching of an intelligent "chooser" like man's selection to which you so often compare it;<sup>[2]</sup>—and 2nd., in Janet's recent work on the "*Materialism of the present day*", reviewed in last Saturday's "*Reader*", by an extract from which I see that he considers your weak point to be, that you do not see that "*thought & direction are essential to the action of Nat. Selection*".<sup>[3]</sup> The same objection has been made a score of times by your chief opponents, & I have heard it as often stated myself in conversation.

Now I think this arises almost entirely from your choice of the term "*Nat. Selection*" & so constantly comparing it in its effects, to *Man's selection*, and also to your so frequently personifying *Nature* as "*selecting*" as "*preferring*" as "*seeking only the good of the species*" &c. &c.<sup>[4]</sup> To the few, this is as clear as daylight, & beautifully suggestive, but to many it is evidently a stumbling block. I wish therefore to suggest to you the possibility of entirely avoiding this source of misconception in your great work, (if not now too late) & also in any future editions of the "*Origin*", and I think it may be done without difficulty & very effectually by adopting Spencer's term (which he generally uses in preference to *Nat. Selection*) viz. "*Survival of the fittest*".<sup>[5]</sup>

This term is the plain expression of the *facts*,—*Nat. selection* is a metaphorical expression of it—and to a certain degree *indirect & incorrect*, since, even personifying *Nature*, she does not so much *select* special variations, as *exterminate* the most unfavourable ones.

Combined with the enormous multiplying powers of all organisms, & the "*struggle for existence*" leading to the constant destruction of by far the largest proportion,—facts which no one of your opponents, as far as I am aware, has denied or misunderstood,—"*the survival of the fittest*" rather than of those who were less fit, could not possibly be denied or misunderstood. Neither would it be possible to say, that to ensure the "*survival of the fittest*" any *intelligent chooser* was necessary,—whereas when you say *natural selection* acts so as to choose those that are fittest it is misunderstood & apparently always will be. Referring to your book I find such expressions as "*Man selects only for his own good; Nature only for that of the being which she tends*".<sup>[6]</sup> This it seems will always be misunderstood; but if you had said "*Man selects only for his own good; Nature, by the inevitable "survival of the fittest", only for that of the being she tends*",—it would have been less liable to be so.

I find you use the term "*Natural Selection*" in two senses, 1st for the simple preservation of favourable & rejection of unfavourable variations, in which case it is equivalent to "*survival of the fittest*",—or 2nd. for the *effect* or *change*, produced by this preservation, as when you say, "*To sum up the circumstances favourable or unfavourable to natural selection*",<sup>[7]</sup> and again "*Isolation, also, is an important element in the process of natural selection*",<sup>[8]</sup>—here it is not merely "*survival of the fittest*" but, *change produced by survival of the fittest*, that is meant— On looking over your fourth Chap. I find that these alterations of terms can be in most cases easily made, while in some cases the addition of "*or survival of the fittest*", after "*natural selection*" would be best; and in others, less likely to be misunderstood, the original term may stand alone.<sup>[9]</sup>

I could not venture to propose to any other person so great an alteration of terms, but you I am sure will give it an impartial consideration, and if you really think the change will produce a better understanding of your work, will not hesitate to adopt it.

It is evidently also necessary not to *personify* "*nature*" too much,—though I am very apt to do it myself,—since people will not understand that all such phrases are metaphors.

*Natural selection*, is, when understood, so necessary & self evident a principle, that it is a pity it should be in any way obscured; & it therefore occurs to me, that the free use of "*survival of the fittest*",—which is a compact & accurate definition of it,—would tend much to its being more widely accepted and prevent its being so much misrepresented & misunderstood.

There is another objection made by Janet which is also a very common one. It is that the chances are almost infinite again the particular kind of variation required being coincident with each change of external

conditions, to enable an animal to become modified by Nat. Selection in harmony with such changed conditions; especially when we consider, that, to have produced the almost infinite modifications of organic beings this coincidence must have taken place an almost infinite number of times.<sup>f10</sup>

Now it seems to me that you have yourself led to this objection being made, by so often stating the case *too strongly* against yourself. For Example, at the Commencement of Chap. IV. you ask, if it is "*improbable that useful variations should sometimes occur in the course of thousands of generations*",<sup>f11</sup>—and a little further on you say, "*unless profitable variations do occur natural selection can do nothing.*"<sup>f12</sup> Now such expressions have given your opponents the advantage of assuming that *favourable variations* are *rare accidents*, or may even for long periods never occur at all, & thus Janet's argument would appear to many to have great force. I think it would be better to do away with all such qualifying expressions, and constantly maintain (what I certainly believe to be the fact) that *variations of every kind* are *always occurring in every part of every species*,—& therefore that *favourable variations* are *always ready* when wanted. You have I am sure abundant materials to prove this, and it is, I believe, the grand fact that renders modification & adaptation to conditions almost always possible. I would put the burthen of proof on my opponents, to show, that any one *organ structure* or *faculty* does *not vary*, even during one generation among all the individuals of a species,—and also to show *any mode or way* in which any such *organ &c.* does not vary. I would ask them to give any reason for supposing that *any organ &c.* is ever *absolutely identical* at any *one time* in *all the individuals* of a species,—& if not then it is always varying, and there are always materials which, from the simple fact, that "*the fittest survive*", will tend to the modification of the race into harmony with changed conditions.

I hope these remarks may be intelligible to you, & that you will be as kind as to let me know what you think of them.

I have not heard for some time how you are getting on.

I hope you are still improving in health, & that you will be able now to get on with your great work for which so many thousands are looking with interest.<sup>f13</sup>

With best wishes | Believe me My dear Darwin | Yours very faithfully | Alfred R. Wallace—