

27th. June, 1929.

Major Leonard Darwin, Sc.D.,
Cripps's Corner,
Forest Row,
Sussex.

Dear Major Darwin,

Let me thank you at once for the very great kindness of your idea respecting the R.S.S., and the thoughtfulness with which you have carried it out. I can have no hesitation in accepting your offer, put as you put it, and will do my very best to see that the result is all that you desire. The journal as it comes out will be a perpetual reminder of your kindness and goodwill.

For the moment I have mislaid your letter on longevity, which I had meant to return with this. I certainly hope to find it soon. Only one or two points which might interest you have occurred to me.

In man the death-rate increases and the expectation of life decreases with increasing age. Death might be just as inevitable without this being so. For example, if the expectation of life were 20 years at all ages, we should have a half chance of dying within about 14 years, only one in

a thousand would live to be 140, and one in a million to 280. We should all die sooner or later as we do now, only if fertility continued, even the oldest would have the same expectation of further posterity as the youngest, and would be as much affected by selection, and consequently there would be no tendency for their death rate to become higher than at early maturity, where in man it is least. In fact, the incidence of death, or cessation of reproduction (or at least of reproductive usefulness) determines the action of natural selection, which in turn reacts on the death rate. In an oak in a forest I suppose an old tree has a greater expectation of posterity than an young one, so that it would be a bad bargain for the father oak to benefit his offspring unless he could do so by losing considerably less than the offspring gains.

The reproductive value at different ages must determine the extent to which parental care pays. If all ages were of equal reproductive value, a species would tend to benefit its offspring up to the point at which the offspring gains double the advantage which the parent loses, but no further. Of course imature offspring are usually worth much less, and so should be cared for only at a cheaper rate still. But if crocodiles were able to recognise their imature offspring, I suppose they would co-operate with them not only on terms of joint advantage so long as the loss of

of mutual advantage, but on terms

either did not exceed half the gain of the other. Hence society starts with the family.

Yours sincerely,