21st March, 1942

Dear Dr Korenchevsky,

Thanks for your letter of March 10th. On a current survey of the material in my mouse colony I find, apart from miscellaneous matings not likely to be repeated or permanently continued, 44 pairs assigned to the maintenance of 8 inbred lines, 18 pairs in two selection experiments, and 16 pairs of other material at present kept with more or less inbreeding for future use. These come to 78 pairs, and I imagine they may require 80 - 100 matings annually to maintain them.

It would be perfectly simple in the whole, or in any chosen parts of this material, to assign new pairs successively to treatments (a) or (b), or in rotation to a series of treatments (a) (b) (c) (d), with the rule that no matings assigned to any of these treatment groups should be intentionally terminated under 12 months.

It will be necessary to treat pairs as units, i.e., it would not be possible when reproduction ceases to make separate tests as to whether either parent would breed with another mate. Equally, any supplementary food would be available to both parents, or withheld from both. Thirdly, only matings between mice of approximately equal age - and these are the majority of matings - would be suitable.

I think I mentioned that it would surely not be possible
during the war period to standardise the basic ration available to all mice, since I am certain that the composition of all food bought for them will be liable to change. In respect to the effects of any of simple additions to the diet available the experiment may, none the less, be well controlled, since at any one time the basic foods are the same for the whole colony, and the output of each type of treatment will be compared with that of other treatments over the same periods. There will, of course, be inequality within particular lines, where a pair of treated (a) mated in March will be set against a pair of treated (b) mated in June; but this will be compensated somewhere else by the trial in other lines of treated (b) mated in March against treatment (a) mated in June.

I ought to say that a considerable number of pairs will be involuntarily terminated by unexplained deaths or depredations of rats, or other accidents. Consequently there will, after let us say a year, or two years experience, be much fuller information as to fertility from two to 10 months of age than for the later period, 10 to 15 months which I think it would be reasonable to try.

As regards methods, it would be easy to put all mice dying into alcohol, and to do the same with those killed at 15 months. This would permit you, if you can get the work done, to obtain comparable figures for the weights of organs and some elements of chemical composition. I presume that only material exceeding 10 months in age would be of any importance for this purpose.

If we were to do no more than I suggest, it would, I think
be quite superfluous for us to ask for any grant. If, however, what we were doing was a part of an experiment conducted by you under the M.R.C., we might, I think, apply at need — if need should arise, for facilities for obtaining food for the stock. So far, there has been no serious difficulty, but I would not be surprised to find difficulties arising at any time.

Yours sincerely,