5th February, 1957.

My dear Allison,

I have been meaning to send you a line ever since the Copenhagen meeting because it seemed to me that that absurd

Neal? American was allowed to score some not very valid points against your theory of selective equilibrium.

The estimates of survival for the six genotypes which you give for the inland Gold Coast region supply the coefficients of a conic, which is indeed a very long ellipse, indicating stability, and with its centre at real values for the gene frequencies. Penrose and C. A. B. Smith seem to want to jump to the conclusion that it is not an ellipse but the rather limiting form of two parallel straight lines, in which there would be no central point but a central line cutting across the triangle of reference, and all points on this line would be valid points of equilibrium.

It would, of course, need a doubly punctual coincidence for the conic of the viabilities to take this peculiar limiting form, and as it is on the limit of stability many minimal fluctuations, such as must occur, would have a half chance of

disturbing the equilibrium, so that it would have been certainly disturbed long ago if the situation were like that.

It afforded the opportunity to your opponents, who apparently were willing to do anything but admit that you were right, to say that certain places, such as Liberia, do not give values conforming to this hypothetical straight line.

Of course, the whole thing is a myth. The conditions governing the viability of different genotypes must vary from place to place all over Africa, so that the stable centre of the conic, which may indeed exist everywhere, will be in various places. The deviations of the observed frequencies from such centres are, of course, calculable as a matter of random sampling if the viability ratios are given.

     Sincerely yours,