

June 27, 1939

Dear von Verschuer,

Thank you for your kind letter of June 20th. I will send all the material for your paper to the Royal Society. As I mentioned to you, I have drafted a short paragraph embodying a test of significance of the fine data which you give on tuberculous twins. It reads as follows:

With the numbers available the difference between the frequencies of 65% and 25% is amply significant. The discrepancy from proportionality, X^2 , is 32.7166, or 31.0695 when adjusted for continuity by Yates's correction. The latter value corresponds with a probability of only one in 40,000,000 of obtaining so great a disparity by chance.

As evidence that such a note is not unnecessary, I may say that, on mentioning these data to a mathematical professor here who had not attended your lecture, though he had read the summary, I found he was under the impression that the data were insufficiently numerous to prove the reality of the difference you have found.

I have discussed your proposals with Dr G.L.Taylor and Dr Race, both of whom are inclined to make the exchange work successfully. There is a point, however, which I must take up with you concerning the equivalence of money.

The money available from Dr Race's salary will be £31.13. 4 each month, which is his whole salary less deduction for superannuation. RM 400 reckoned at 11.63 to the £ works out at £34. 8. 0. Also, Dr Race and his wife live on a barge moored in the Thames, and, though they would be glad to put it at the disposal of Dr Grebe, the circumstances would be unusual and it is probable that he and his young wife would prefer to live in more orthodox fashion.

I do not know whether you know that Registered Marks can be purchased in London by travellers to Germany at 21 or 22 to the £. Dr Race is willing to forego this advantage in order to make possible the exchange with Dr Grebe, but I found, on enquiry, that in respect of cost of ^[purchasing power] living, it would be more equitable to take 15 to the £, rather than 11.63. This makes 400 Marks the equivalent of £26.¹³⁻⁴~~12~~. 6.; so that, if Dr Race turns over his salary to Dr Grebe, it would include about £5 a month which may be regarded as rent for Dr Grebe's house in Frankfort.

I am afraid this is all very troublesome, but I should be glad to know, as soon as possible, if you consider this last suggestion as affording an equitable basis for the exchange we have in mind.

Pray convey to Frau v. Verschuer my regards and hopes to meet her in August next.

Yours sincerely,

With the numbers available the difference between the frequencies of 65% and 25% is amply significant. The discrepancy from proportionality, χ^2 , is 32.7166, or 31.0695 when adjusted for continuity by Yates's correction. The latter value corresponds with a probability of only one in 40,000,000 of obtaining so great a disparity by chance.