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Department of Genetics

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Your ref. DJI:jsm

21st May, 1953.

Dear Mr Ingle,

I have just seen your letter of March 23rd on definitions of chance and randomisation and their application to problems of extra sensory perception.

What I imagine is meant by randomisation, e.g., as applied to an ordinary deck of playing cards is that each of the factorial 52 orders in which they can be arranged would appear equally frequently in repeated trials by the same methods as those by which the pack has been actually shuffled. This, of course, is very difficult to judge of experimentally, but some steps in this direction can be taken e.g. if a single card is drawn at random by any method thought appropriate 5.200 times. the expectation is that each of the 52 cards should appear 100 times. Moreover, it is easy to calculate the mean of variance from 100 which you would expect among the 52 separate counts. One who was entirely sceptical as to the validity of some of the extra sensory perception findings, particularly of psychokinesis could thus satisfy himself that his shuffling procedure was satisfactory for his purpose e.g. for choosing a number from 1 to 6 which the subject is to desire to turn up on throwing the die. On the other hand the believer in psychokinesis, and I suppose I must include Professor Rhine himself, is really precluded from satisfying himself that any of his randomisation procedures really give random

random results with the appropriate frequencies. for he must believe that in this case as in others of his experiments, the frequencies will be determined by the desires of some one or more persons concerned in making the random choice. It is also rather difficult to claim that a mechanical procedure is really turning out results at random if the results turned out are themselves subject to precognition by any or all of the persons concerned.

I think these difficulties only apply to studies of extra sensory perception, and that in the ordinary scientific laboratory ^{no} any such disturbances are to be *expected* ; but this is of course a ~~conceptual~~ceptical attitude.

Sincerely yours,

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