PSYCHICAL RESEARCH AS A TEST OF PROBABILITY THEORY

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It is argued that much of the statistical data reported in psychical research experiments may be evidence, not for the forms of communication which the experiments were designed to discover—telepathy, clairvoyance, precognition, psychokinesis, etc.—but for something outside this field. The seemingly foolproof results in psychical research all rely upon statistical tests of significance; it may be, therefore, that some aspect of the statistical test, being common to all the experiments, would give us a clue to explaining their results.

It is important to consider this hypothesis because of the diversity of the results of psychical research experiments. The same experimental conditions can produce positive deviations, negative deviations, a decline from positive to negative deviations, or none of these effects. It is therefore difficult to arrive at a common factor unless we go more deeply into the logic of the experiments. What seems to be the only factor common to all these experiments, where a statistical test of significance has been applied, is the physical process of randomization.

It is assumed in the theory underlying statistical tests of significance that the concept of randomization is meaningful and precise. That it is so is not generally accepted by logicians and mathematicians. But if the concept is vague or ultimately meaningless, the statistical test of significance has no ultimate basis. At best it might be considered an approximate tool, but it could easily give results which would be misleading. What is more, the sort of results which would be produced by such

a set-up would be precisely the sort of results now appearing in psychical research.

But if the data of psychical research are a special instance of a discrepancy between the theoretical concept of randomness and the observable randomizing situation, this discrepancy should be seen outside the field of psychical research. It might appear, for example, in any field where the causal tendencies were not sufficient to swamp the item; for example, in zoological experiments and pure probability experiments such as the matching of columns of published random numbers.

It is not claimed that all psychical research experiments exemplify this discrepancy. It may well be that the psychical research results are evidence of several different processes, one of which may be a form of communication. But it is contended that the statistical calculations give no more weight to the communication hypothesis than do the results obtained by qualitative experiments. The statistical approach in psychical research may be wrong, but it is not fruitless. The observations made could be of great importance to science, in spite of the fact that they might allow of an interpretation outside the original experimenters' intention.