

# Understanding Randomisation

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100 years ago, in 1919, Fisher arrived at Rothamsted Agricultural Research Station and began his programme of revolutionising statistics. He realised that it was not enough for the subject of statistics to concern itself with the analysis of data but that it also had to deal with the process of collecting and planning to collect data. Thus, statistics became, under his leadership, a subject not just about analysis of experiments but also about their design.

One of the innovations in design he introduced was randomisation. However, although this has proved to be a practical success in many fields it has become a critical failure amongst many methodologists, in particular, philosophers of science. In my opinion much of the mistrust can be traced to a misunderstanding as to how statistical analysis of randomised experiments proceeds. In this talk I attempt to clear up the misunderstanding and show that many of the criticisms of randomisation turn out to be irrelevant.

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