

The University of Chicago

Department of Statistics

Seminar Series

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“What is Randomization?”

MONDAY February 7, 2005 at 4:00 PM
133 Eckhart Hall, 5734 S. University Avenue

Refreshments following the seminar in Eckhart 110.

ABSTRACT

Various ideas of randomization are woven tightly into the fabric of modern statistical theory. Students and practitioners of experimental design know of randomization as a vital safeguard of their rights to analyses of variance. Decision theorists would be suboptimal without their randomized estimators and procedures. Randomization as a generator of uninformative data underlies the concept of sufficiency.

Randomization is closely related to the concept of conditioning, for which there are two well accepted approaches: via conditional distributions (Markov kernels) and via the abstract conditional expectations of Kolmogorov.

In this talk I will try to persuade the audience that anyone who can accept the assertion in the previous paragraph is very close to accepting a third approach, the transitions used by Le Cam in his theory of convergence of experiments.

I know that Le Cam's theory is sometimes regarded as unnecessary abstraction and generality. I will try to explain, using the simplest examples and analogies I can find, how the abstractions are related to some basic issues regarding the representation of randomness by the mathematical model of a probability space.

Anyone who has read and understood Le Cam's 1986 book will learn only a few new things from the talk.