Thomas Bayes
Bayes Theorem

\[ p(\theta | y) \propto p(\theta) p(y | \theta) \]
(Yet another) History of Life as We Know It...

Homo Hominus Pragmaticus Frequentistus Sapiens Bayesianis
THE MONTE CARLO METHOD

Nicholas Metropolis and S. Ulam

Los Alamos Laboratory

We shall present here the motivation and a general description of a method dealing with a class of problems in mathematical physics. The method is, essentially, a statistical approach to the study of differential equations, or more generally, of integro-differential equations that occur in various branches of the natural sciences.
Bayesian Revolution

- explosion of interest in Bayesian approaches in the 1990s
- (re-)discovery of Markov chain Monte Carlo methods (MCMC)
- advent of cheap, high-performance computing
- can now handle models with many parameters with Bayesian tools
Sample 1

standard deviation: NA

97.5% quantile: -0.292553
AR(1) = .99, Sample 1

standard deviation: NA

97.5% quantile: 1.38172
Bayesian Analysis for the Social Sciences

Simon Jackman

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