## DISCUSSION BY PROFESSOR DAVID A. LANE (University of Minnesota)

Berger and Wolpert have done the statistics community a service by calling our attention once again to the likelihood principle (LP) and its implications. They repeat Birnbaum's(1962a) message, already admirably recapitulated by Basu (1975) and Dawid (1977): *if* you work within the classical  $(X, \Theta, \{P_{\Theta}\})$  - paradigm, you want to make inferences about "true  $\Theta$ " on the basis of "observed x," and you wish to respect certain fundamental principles of inference (for example, the sufficiency and weak conditionality principles), *then* your inference had better depend upon the observation x through the likelihood function that x induces on  $\Theta$ . In particular, you must accept the implications of some other principles that many statisticians regard as false, never mind fundamental, like the stopping time and censoring principles.

There are several bail-out options for statisticians who choose neither to follow the LP to fully conditional analysis nor to raise adhockery to a scientific principle. They can reject the  $(X, \Theta, \{P_{\theta}\})$  - paradigm by requiring either more structure (as do structuralists, pivoteers, and, perhaps, some "objective" Bayesians) or less (as do defenders of alternative-free significance tests and, more drastically, exploratory data analysis); or they can modify the fundamental pre-principles so that the LP and the objectionable post-principles fail to be derivable from them, as did Durbin (1970) and Kalbfleisch (1975); or they can claim that other, more fundamental, principles, like the Confidence Principle, conflict with the LP, making an ideological choice among competing principles necessary.

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