Srivastava, J.N. (1996). A critique of some aspects of experimental design. In *Handbook of Statistics*, **13** (S. Ghosh and C.R. Rao, eds.), 309-341. North-Holland, Amsterdam.

Wu, C.F.J. and Hamada, M. (2000). *Experiments: Planning, Analysis and Parameter Design Optimization.* John Wiley, New York.

REJOINDER

C. R. Rao and Y. Wu

The authors would like to thank S. Konishi and R. Mukerjee for their valuable comments. Konishi suggests an extension of the GIC criterion using a penalized maximum likelihood estimator of the unknown parameters. This new method may provide some robustness to the choice of a model. To what extent is the selection of the model affected by the particular choice of the prior distribution of parameters and models suggested by Konishi needs some investigation. Mukerjee raised the problem of design of experiments to provide the minimum number of observations needed for model selection ensuring some robustness. This is, indeed, a new area of research, but much depends on the accuracy of apriori information regarding the unknown parameters. For instance, in the example mentioned by Mukerjee, the number of active factors out of a large number n of factors is known to be a given number $k < n$, and the problem is that of generating a minimum number of observations to determine which subset of k factors is active. It would be interesting, perhaps more relevant in practice, to know whether supersaturated designs suggested for this purpose can also be used to select a subset of factors which are more active than the others. The problem of model selection needs more discussion in terms of objectives, the use of prior information, appropriate methodology and robustness. We hope our review with the additional material contributed by Konishi and Mukerjee will stimulate further research in statistical model selection.