design. The notion of variation reduction as the main objective of experimentation and the issues of planning and modeling strategies for achieving this objective have raised many novel and fundamental questions not considered in the literature. For readings on parameter design, I recommend the excellent panel discussion in *Technometrics* edited by Nair (1992) instead of the author's subsection 3.3, which misses this important reference. There are also important advances made in "traditional" design. Let me mention a few examples here. Use of the minimum aberration criterion for factor assignment in factorial design poses a very difficult and still unsolved problem in coding theory (see Chen and Wu, 1991). Construction of supersaturated designs poses another combinatorial challenge (see Lin, 1993; Wu, 1993) and can benefit from work on search designs due to Srivastava (1975). Design and analysis of computer experiments present new challenges not encountered in physical experiments. Before making such a statement the author should have thoroughly researched a basis for it!

An unforgivable mistake he makes is in judging the recent advances in experimental design based on a book edited by S. Ghosh. The author should know well that most original ideas appear in refereed journals (like *Technometrics*). I suggest that the author read the last seven years of *Technometrics* before making such a grandoise statement. If referring to these "conventional" topics, the author says "[they] are either intellectually stale, or quickly becoming so." It is amusing to hear this from someone who is apparently unfamiliar with the recent advances in experimental design.

The author lists four "new" topics which in his opinion "would provide enormous profit potential to industry." These new tools are interesting and may have the potential to be used by research statisticians in industry. However, it is premature to make such a statement. Can he point to many (or even a few) case studies to support his speculation? By comparison "conventional" tools such as experimental design and statistical process control have already helped industry reap enormous benefits. Partial least squares is being used by some researchers in the chemical industry but widespread use of them is still far off. High-dimensional response surface analysis and spherical regression are still in their infancy in industry.

A DISTORTED VIEW OF ACADEMIC STATISTICS AND STATISTICIANS

Let me choose to refute only the more blatant statements made by the author. At the end of Section 2 he says, "chucking money at university statisticians is a laudable charity, but may be a breach of fiducial responsibility. . . ." In Section 6 he says, "To academics the economic progress of an industry . . . is a distant consideration, except . . . rationalizing a proposal for funding." This cynical view is ill-founded. In fact academic statisticians (unlike our colleagues in computer science) have not received much funding from industry. Those who are good or lucky enough to initially get funded have to work extremely hard to continue the funding. I invite the author to supply evidence to support his claims. Another incorrect statement at the end of the paper is that "It is probably past time for university researchers to drop stale pseudo-applied activities (such as control charts and oddly balanced designs)." Both are real applied activities and are not stale.

Let me conclude my discussion on a more positive note. I do share the author's concerns with the overemphasis on theory in academic training and the tendency of some professors to place weaker students in industry (or government). Again one cannot be too pessimistic. There are schools which show intellectual respect for work in industrial statistics and I like to think that Carnegie Mellon is one of them.

Comment

H. P. Wynn

The divisions which Professor Banks highlights between his three groups of statisticians pale into insignificance compared to the other divisions which hold back the use of statistics and related methods in industry. The most serious of these also haunts the hallways of academia. This is the professional division between engineering as a discipline and statistics. The strength of the separation is not uniform. For example, electrical engineering has led the way in areas such as automatic

H. P. Wynn is Professor of Statistics at the School of Mathematics, Actuarial Science and Statistics, City University, Northampton Square, London EC1V OHB, United Kingdom.