not buy anything in the end. Still, it should not be ignored that the *symmetries* of a collection of data—that is, the permutations with respect to which it is invariant, in the sense of the statistical information it contains—are often the most basic way of getting at the structure of the collection. Certainly the dispersion model basis matrices A_a do not appear intuitively in the mind of the experimenter; the individual factors as equivalence relations might, but not their nesting structure, at least not for structures of any complexity. But, I assert, what the experimenter should always be able to answer, upon a little reflection, is the question, "In which ways can we arbitrarily swap around the data without affecting the conclusions we should make?" Thus, the group theory approach may have useful ramifications for practical statistical consulting, in discovering in the first place from the experimenter what the structure of the data is.

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We must respect the many long steps that Speed has taken to understand, focus and describe a mathematical structure for what R. A. Fisher may have sensed in introducing the analysis of variance before 1925. But we dare not regard it as telling us why the analysis of variance deserves the great practical importance that it has held throughout recent decades.

I am not equipped to comment adequately on the mathematical niceties and careful craftmanship of Speed's paper. I do have an obligation, however, to point out why what he describes as the analysis of variance is *not* the core of what is practiced in so many areas of application.