## ABSTRACTS OF PAPERS

*(Abstracts of papers presented at the Eastern Regional Meeting of the Institute, Chapel Hill, April 12–14. Additional abstracts appeared in the March, 1962 issue.)*

4. **A Method for the Derivation of Expected Mean Squares in the Analysis of Variance.** KLAUS ABT, U. S. Naval Weapons Lab, Dahlgren, Virginia.

A simplified method is presented for the derivation of expected mean squares in the analysis of variance when sampling is either exhaustive (fixed effects) or from infinite populations (random effects) or of both types combined (mixed effects). So far it has been successfully applied to balanced cross-way and partially nested classifications assuming the "classical" model with unit error, treatment-unit interaction and technical error combined into experimental error and with equal error variance for all cells (treatment combinations).

The method is based upon defining the model components in terms of expectations of the cell responses. The expectation operator is generalized for taking care of either the fixed, mixed or random character, respectively, of the cell responses. The method is very easy and straightforward even for cases with unequal but proportional cell numbers. The results for some of these cases with proportional cell numbers, however, are slightly different from those given in the literature. The reason for this seems to be that the latter are obtained by the approach of sampling from finite populations and, in case of fixed effects, by a subsequent transition to exhaustive sampling, whereas the method presented does not suffer from this somewhat artificial procedure.

5. **A Modified Bayes Stopping Rule.** SIGMUND J. AMSTER, University of North Carolina.

An easily computed sequential stopping rule is described and shown to possess certain interesting properties when used with a Bayes terminal decision rule. The rule requires that a preposterior analysis (Raiffa-Schlaiffer terminology) be performed at each stage and a *single* additional observation be taken if this shows that a terminal decision is not to be made.

The sample size is not larger than that of the Bayes sequential stopping rule. The average risk equals the limit of a non-increasing sequence whose maximum is the average risk for the non-sequential Bayes procedure. For the estimation problem, it is frequently sufficient to look ahead at only one potential observation, rather than carry out the preposterior analysis for each possible sample size. For the problem of testing two simple hypotheses, the procedure is a sequential probability ratio test.

6. **On Successive Inferences and their Multivariate Applications in Biometry.** CHOOICHIRO ASANO, Catholic University of America.

The problem of successive inferences is related to the validity tests as used in U. S. Pharmacopoeia. Like many authors, we apply previous information to improve the statistical inferences. In this connection, we discuss several inference procedures for a mean vector, for a generalized variance and for a variance-covariance matrix. This might be regarded as an extension of some methods of pooling data.

7. **Experimental Study of the Power Associated with the Kolmogorov-Smirnov Test** (Preliminary report). CLAIR J. BECKER, BEVERLY E. CODDING, AND