WILLIAM G. COCHRAN, *Sampling Techniques*, Second Edition. John Wiley and Sons, New York and London, 1963. $9.95, £3/11/1 xvii + 413 pp.

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The first edition of Cochran's *Sampling Techniques* was one of several textbooks which appeared in the early 1950's. It was very favourably received, both in university circles and among survey statisticians. This success is explained by the outstanding professional competence of the author, the pedagogical merits of the presentation, and also by the reasonable size of the book (some 330 pages).

The second edition, published in 1963, represents primarily a useful modernization of the first edition. Several techniques have been included which were not presented at all in the first edition, in most cases because they were not as yet available, or only touched upon. As a result, the second edition has 413 pages; this size may still be called reasonable for a textbook.

The main novelties of the second edition are the following.

(1) Cochran has devoted several paragraphs to the problems associated with the concept of "domains of study" as coined by the U. N. Sub-Commission on Sampling; Cochran uses the term "subpopulations". A subpopulation is a part of the population for which one wants to have separate estimates; such separate estimates are called for in many, perhaps most, surveys. If such parts cannot be identified in advance and thus separate samples be selected from each part, the relevant sampling theory is more complicated than that applicable to estimates of parameters which refer to the overall population (or to separate strata).

(2) In the first edition, stratified sampling was discussed in one chapter of some 35 pages; in the second edition, close to 70 pages, divided into two chapters, are devoted to the same class of techniques. Among specialized topics introduced into these two chapters, I was pleased to find the following:

(i) *The problem of sample allocation with more than one item.* While the standard sampling theory is uniparametric, that is tied to the problem of estimating one single parameter (the overall mean, for example), sample survey practice is indeed multiparametric. In recent years, theory for coping with the multiparametric situation has been developed; Cochran summarizes these new results, pp. 118–125.

(ii) *Two-way stratification with small samples.* In some situations, there are two criteria of stratification, say by R "rows" and C "columns". Using both criteria in combination corresponds to breaking down the N units of the population into RC cells, but, if the sample size $n < RC$, it is not possible to select at least one unit from each cell.

Ingenious techniques have been developed for selecting a sample of $n < RC$ units in such a way as to get each one of the R row-strata and also each one