work on differentiation. The author is to be congratulated on limiting his mention of cancer to some two dozen lines and then proceeding to his topic without straining analogies.

Haven and Bloor attempt to present much of the available information on "Lipids in cancer"—a rich diet in which more evaluative predigestion would have been useful. The most intriguing work reported is that on the beneficial effects of including tumor tissue (now further localized to the phospholipid portion of such tissue) in the diet of rats that bear tumors.

Under the title "The relation between carcinogenic activity and the physical and chemical properties of angular benzacridines," Lacassagne and his group make available, in English, their complex theoretical analysis of the *K* region in the molecular structure of carcinogens. The search for biochemorphologic features at the electron level is undoubtedly worth while but, alas, beyond my capacities to review.

Mühlbock, in the last paper, on "The hormonal genesis of mammary cancer," presents this old topic in a somewhat different and informative fashion. Of particular interest is the attempted and reasonable reconciliation of the hormonal aspects of mammary tumors in mice and in the human female.

The editors, Jesse P. Greenstein and Alexander Haddow, and the publisher are to be congratulated for their valuable contributions to the cancer literature. The value of the reviews would be increased by including the titles of the references. If these were numbered and referred to by number in the text, most of the additional space would be compensated for, and the distraction of having too many parenthetical names and dates in the text would be obviated.

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Separation and Purification. vol. III, pt. 1, of *Technique of Organic Chemistry.* Arnold Weissberger, Ed. Interscience, New York, ed. 2, 1956. 873 pp. Illus. $17.50.

The former volume III in this admirable series possessed no title and treated of a diverse group of topics. In the present revision, the volume has been divided into two parts: part I, *Separation and Purification,* reviewed here, and part II, *Laboratory Engineering,* to be reviewed later. Into the latter portion have gone those topics that are concerned primarily with reactants and the reaction itself: "Selection of materials for the construction of equipment" (new); "Heating and cooling" (revised); "Grinding, screening, and classifying" (new); "Mixing" (little changed); and "Operations with gases" (new). It may be added parenthetically that it is the "laboratory" aspects of the subject which are stressed, rather than the "engineering" approach.

Into part I have gone those topics that are concerned with the isolation, separation, purification, and identification of mixtures of products and of other compounds. Most of the sections of part I have been revised, and expanded also, so that, while the former single volume contained only 671 pages, the two parts now total 1284 pages. It seems significant that each chapter has been expanded, if only by four pages, so that the reader may well ask why the authors invariably add newer material to the older rather than allowing natural selection to replace the outmoded by the modern.

The chapter headings of part I are as follows: "Diffusion methods," including "Thermal diffusion of organic liquids" (new), "Barrier separations" (new), "Dialysis and electrodialysis" (little changed), and "Zone electrophoresis" (new); "Laboratory extraction and countercurrent distribution" (revised), including a section on "Liquid-liquid extraction for increased quantities" (new); "Crystallization and recrystallization" (revised); "Centrifuging" (revised); "Filtration" (revised); and "Solvent removal, evaporation and drying" (revised).

The major revisions in the present volume, when compared with the corresponding portion of the previous edition, reflect rather accurately the areas of greatest recent activity. This is particularly apparent in the first chapter, which contains three completely new sections, not found in the earlier edition. The techniques of thermal diffusion, barrier separations (molecular sieves), and zone (paper) electrophoresis have become prominent only in very recent years, and a majority of the references in these three sections are to the literature since 1950, the date of the previous edition of this work.

In the chapters that have been revised from the first edition, the more active areas also have been greatly enlarged. Thus, R. S. Tipson's "Crystallization and recrystallization" now contains an excellent 15-page treatment of molecular compounds and inclusion complexes, while D. and L. C. Craigs' "Laboratory extraction and countercurrent distribution" devotes 20 pages to their highly successful automatic countercurrent distribution apparatus and 12 pages (with seven tables) to the selection of suitable solvent systems. A similar welcome expansion has been accorded the section on freeze-drying in the late Geoffrey Broughton's "Solvent removal . . ." chapter.

There are, of course, omissions. I would have welcomed a discussion of the commercially available zeolite molecular sieves in the "Barrier separation" section, a treatment of three-phase countercurrent distribution in the extraction chapter, and an application of freeze-drying techniques to nonaqueous systems. For those who are unfamiliar with the "Technique of organic chemistry" series, it may be worth while to note that additional separation and isolation techniques are treated in other volumes; for example, "Distillation" (vol. IV), "Adsorption and chromatography" (vol. V), "The ultracentrifuge" (vol. I, part I), and "Electrophoresis" (vol. I, part II).

However, the observations which are applicable to the series in general may, with conviction, be applied to the present volume. It is well written, it is profusely illustrated, and it is thorough in its treatment, maintaining a nice balance of theoretical and practical aspects. It must indeed rank as a standard reference work.

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High Energy Accelerators. vol. 1 of *CERN Symposium on High Energy Accelerators and Pion Physics, Proceedings.* Geneva, 11–23 June 1956. European Organization for Nuclear Research, Geneva, 1956. 567 pp. Illus. F. 40.

This book is the first volume of a two-volume report on the European Organization for Nuclear Research (CERN) Symposium. It covers the material presented in the first week of the symposium.

After an introduction by J. B. Adams of CERN, the first section concerns new ideas for high-energy accelerators. In this section are papers concerning fixed-frequency alternating-gradient accelerators, fixed-frequency cyclotrons, and ideas about colliding beam accelerators. Here, also, are some Russian ideas about completely new possible methods for acceleration of particles, with the aid of plasmas, and so forth.

The second section is about problems connected with the transition energy in alternating-gradient accelerators. Here again, the Russian workers have a novel idea for circumventing this problem.

The third session has to do with the problems of getting particles out of machines. In this section there are papers concerning some of the existing synchrotrons and synchrocyclotrons as well as proposals for new machines. The following seven sections cover, in turn, linear accelerators and injection problems, non-