The other bis esters of 5-iodoisophthalic acid were prepared by a similar procedure and that described for the preparation of bis(2-ethoxyethyl) 3-iodophthalate (**10**).

Mixed Esters of 5-Iodoisophthalic Acid. Butyl 3-Methoxybutyl 5-Iodoisophthalate.—A mixture of 420 g. (1.14 moles) of sodium butyl 5-iodoisophthalate and 323 g. (1.25 moles) of 3-methoxybutyl *p*-toluenesulfonate in 500 ml. of dimethylformamide was heated on a steam bath with stirring. In about 0.5 hr. sodium *p*-toluenesulfonate started to separate. After the mixture was heated for 20 hr., it was concentrated under reduced pressure and the residue was treated with hexane. The salt was removed by filtration and washed with hexane. The combined hexane solutions (about 3 l.) were washed with 2% NaOH solution, water, dilute $KMnO_4$ solution, water, and saturated NaCl. The hexane solution was treated with Drierite, decanted from the Drierite, stirred with Darco G60 and Drierite for 1 hr., and filtered. The hexane was removed under reduced pressure: yield 463 g. (94%) of light amber oil, $n^{25}D$ 1.5327. Distillation gave a colorless oil, $n^{25}D$ 1.5328.

Most of the other mixed esters of 5-iodoisophthalic acid were prepared by a similar procedure from the sodium 5-iodoisophthalate half esters (Table II) and alkyl (or alkoxyalkyl) tosylates, halides, or sulfates.

Butyl 2-Ethoxyethyl 5-Iodoisophthalate.—The acid chloride was prepared from sodium butyl 5-iodoisophthalate by refluxing a mixture of 163.8 g. (0.44 mole) of the sodium salt and 52.8 g. (0.44 mole) of thionyl chloride in 1 l. of CCl_4 for about 16 hr. The NaCl was removed by filtration and the CCl_4 was removed at reduced pressure. The solid residue, 162.8 g., m.p. 50–55°, of 5-iodo-3-butoxycarbonylbenzoyl chloride was heated for 5 hr. with excess 2-ethoxyethanol. The excess alcohol was removed under reduced pressure and the product was isolated by a procedure similar to that described for bis(2-ethoxyethyl) 3-iodophthalate (**10**).

Butyl 2-methoxyethyl 5-iodoisophthalate was also prepared from the butyl acid chloride.

Diesters of Iodoterephthalic Acid.—The diesters of iodoterephthalic acid were prepared in a manner similar to that described for bis(2-ethoxyethyl) 3-iodophthalate (**10**).

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Book Reviews

Two Books on the History of Drugs and Experimental Therapeutics: **A. Readings in Pharmacology.** Edited by B. HOLMSTEDT and J. LILJESTRAND. The Macmillan Company, New York, N. Y. 1963. x + 395 pp. 23.5 × 16 cm. $7.50. **B. Pharmacy in History.** By J. E. TREASE. Bailliète, Tindall and Cox, London. 1964. vii + 265 pp. 24 × 16 cm. $3.25.

These two quite unlike books have the same general purpose: to lead us back to the important discoveries in medicinal science so that we may get in the mood for new ventures by learning from the insight, experiments, and failures of our predecessors. The volume by Trease devotes 25 pages to the ancient history of pharmacy from Galen to early alchemy; the rest of the book (230 pages) offers a chronological review of the development of British pharmacy and is thus quite narrow in scope and in providing inspiration.

It is different in the volume of the Swedish authors. Starting with the "*Ebers papyrus*" (Egypt, 1550 B. C.), which reads astonishingly like some of our compounded prescriptions, we are led from antiquity to the rise of experimental pharmacology after Withering. An impressive list of the classical founders of pharmacology follows, arranged according to their fields of specialization. A biography is given for each of them, some background material for the state of a field of medical science at the time of their revolutionary discovery, and then the direct quotation from the paper which reported the decisive experiments and their interpretation. Most of us have read the results of these experiments in textbooks, often reinterpreted in the light of later findings. But how many of us have had the thrill of reading the original paper which heralded a completely new era of medicinal science, especially if the paper were published long before we started to read journals? By isolating the pertinent sections of these articles, a few of them in their original language, the editors have provided for their readers the sharing of the excitement that the first readers of those papers must have experienced. Indeed, in at least one photographic illustration this excitement has been transmitted to us pictorially: the snapshot shows Otto Loewi demonstrating the humoral stimulation of a perfused heart in 1926 and behind him appears the face of a man with such an expression of incredulity and joy that his wonder is communicated to us. Page after page brings us the renewed awe at the first great step forward in a previously ununderstandable situation. Not all the men thus quoted belong to a long-ago past. A considerable number of active members of the Division of Medicinal Chemistry of the American Chemical Society have joined the ranks of the outstanding pharmacologists whose works have become classic, and whose papers have been included in this volume. Many pharmacologists from other countries whose lectures have graced recent American Chemical Society meetings are also to be found.

"Readings in Pharmacology" is a book for enjoyment on a quiet evening. It will rekindle the enthusiasm which we all felt as students, and help us to relive many of the great moments of our field of work and avocation.

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Advances in Pharmacology. Volume 3. Edited by SILVIO GARATTINI and PARKHURST A. SHORE. Academic Press Inc., New York, N. Y. 1964. viii + 341 pp. 16 × 23 cm.

This volume contains the following six chapters: Experimental Approaches to the Development of Antianginal Drugs by M. M. Winbury, Pharmacological Aspects of Parkinsonism by A. H. Friedman and G. M. Everett, The Pharmacology and Biochemistry of Parasitic Helminths by T. E. Mansour, The Adrenergic System and Sympathomimetic Amines by E. Marley, Pharmacological Aspects of Drug Dependence by G. A. Deneau and M. H. Seevers, and Drugs Used in Control of Reproduction by G. Pincus and G. Bialy. Written by these experimental biologists many of whom are located in medical schools or medical research institutes, the approach to all of the topics is first an exploration of basic conditions in the tissues and organisms under discussion, of theories, and a review of working hypotheses of the authors and of those found in the literature. Even the subsequent sections which deal with therapeutic aspects of the respective agents are treated essentially from a fundamental pharmacologic point of view. Thus, virtually every page is thought provoking and not just descriptive. The editors have done an excellent job holding the discussion uniformly on a very high level.

This volume is recommended to biochemists, pharmacologists, and clinicians with a deep interest in medical science. Several of the topics have barely ever been presented in a more concise and critical way.

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