

the philosophers considered him to be a better historian than philosopher. Although both of these qualities are not often found in the same author, they are the feature of "Four Thousand Years of Pharmacy" and the combination is a happy one.

The purpose of this book is splendidly developed, and its chronology is well handled, bringing the reader from the natural inception of the use of simples in the ancient civilizations of Egypt, Mesopotamia and Greece, into the polypharmics of the Roman and the Arabian culture and on through the medieval period of Europe with its alchemists and astrologers into the broader and systematic pharmacy and chemistry of present America and Europe. Dr. LaWall deserves much credit for this publication, which we understand has grown out of his work at the Philadelphia College of Pharmacy and Science. Not only does the work show the growth of Pharmacy through the ages, but also of the collateral sciences with their attendant philosophies.

"Four Thousand Years of Pharmacy" has come as a distinct pleasure to one who has long felt that it was the particular training that Aristotle received as a seller of drugs that developed in him those precise qualities of reasoning which made his inductive philosophy the greatest factor in the development of Western Civilization, for what else would seem to encourage an inquiring mind as much as the search to comprehend the laws of the physical world? One unconsciously recalls certain men in pharmacy during the generation just gone, who attained their pharmaceutical ability through practical experience and their application to the study of their profession. Verily the history of man is in the characterful development of the race and "Four Thousand Years of Pharmacy" appears to be a better history of philosophy than certain other publications that are more definitely titled. Every pharmacist who is interested in the evolution of his craft should read this book. JAMES E. HANCOCK.

The New German Pharmacopœia. By permission an editorial of *Journal A. M. A.* is reprinted as a review of the German Pharmacopœia, which recently became official, it follows:

"The new sixth edition of the German Pharmacopœia became official, January 1, 1927. Its green cover and heavy gold lettering are in marked contrast with the somber black covers of its five predecessors. While the new

edition is of the same breadth as the fifth German Pharmacopœia, it is half an inch longer and it contains 20 per cent more pages. Unlike most German scientific works, which are printed in Roman type, this book, except for the Latin titles, is printed in heavy gothic characters, which militates against space saving.

"In respect to admissions and deletions, the revisers appear to have followed the general trend of therapeutic advance, although critical selection is far less evident than in the corresponding revision of the United States Pharmacopœia. For example, such drugs as blessed thistle, coltsfoot, basswood flowers, arnica flowers, walnut leaves, sage and violet herb are not held in much esteem by discriminating prescribers in this country, although some of them are described in our own National Formulary. Of the 106 substances added to the sixth German Pharmacopœia, twenty-five are synthetic. In marked contrast to the policies of the U. S. P. X which avoids protected names, many of the synthetics in the sixth German Pharmacopœia are trade-marked substances. These are designated by the letters E. W. (Eingetragenes Warenzeichen—registered trade-mark). Some of the additions with protected names are Aiol, Albargin, Salvarsan, Pellidol, Luminal, Medinal, Atophan, Adalin, Dulcin, Eucodal, Filmaron Oil, Narcophine and Novatophan. Among other protected substances held over from the fifth German Pharmacopœia are aspirin, pyramidon, heroin hydrochloride, dionine, dermatol, novocaine, diuretin, tannalbin, collargol and alypin hydrochloride. Yeast is included for medicinal purposes, and yeast extract (killed) is admitted as a pill excipient. Several drugs are described which are but scantily employed in American medicine. Examples are arecoline hydrobromide, condurango, old tuberculin, synthetic camphor, tincture of absinth, tormentilla, tropacocaine hydrochloride and yohimbine hydrochloride. A number of substances deleted from the U. S. P. IX are included in the sixth German Pharmacopœia. Examples are bromoform, calcium hypophosphite, frangula, lithium carbonate, black pepper and trichloroacetic acid. Some of the drugs newly admitted to the U. S. P. X are absent; namely carbon tetrachloride, calioben, quinine sulphate and chaulmoogra oil. Five serums are described, the more important being diphtheria, meningococcus and tetanus. Glandular products are represented by dried thyroid and suprarenin (epinephrine U. S. P.).

"Some of the more notable additions are listed herewith, together with the U. S. P. or 'New and Nonofficial Remedies' equivalent, if any, in parallel columns.

ADDITIONS TO Ph.G. VI.	SIXTH GERMAN PHARMA- COPOEIA. U. S. P. X.	N. N. R., 1926. Adalin
Adalin		Adalin
Agar-agar	Agar	
Airol		
Albargin		
Atophan		
Barium sulphate	Barium sulphate	
Bismuth subcarbonate	Bismuth subcarbonate	
Bromurat		
Camphor, synthetic		
Chloramine	Chloramine	
Cocaine nitrate		
Colchicine	Chloramine	
Dulcin	Gluside	
Emetine hydrochloride	Emetine hydrochloride	
Eucodal		
Filmaron oil		
Glucose		
Hydrogen dioxide (30 per cent)		
Istizin		
Lobeline hydrochloride		
Luminal	Phenobarbital	
Mercury oxyanide		Mercury oxyanide
Methylene blue	Methylene blue	
Methyl salicylate	Methyl salicylate	
Narcophine		
Novatophan	Neocinchophen	
Oil of chenopodium	Oil of chenopodium	
Papaverine hydrochloride		Papaverine hydrochloride
Opium concentrated		Pantopon
Pellidol		
Salvarsan	Arsphenamine	
Neosalvarsan	Neoarsphenamine	
Sodium salvarsan		Sodium arsphenamine
Silver salvarsan		Silver arsphenamine
Neosilversalvarsan		
Sulpharsphenamine		Sulpharsphen- amine
Sodium cacodylate	Sodium cacodylate	
Strophanthus	Strophanthus	
Potassium sulphoguaiaacolate	Potassium guaiaacolsulphonate	
Yohimbine hydrochloride		

"Only forty-five articles have been deleted. This differs from the last U. S. Pharmacopœia, which deleted 192 articles, for the most part in the direction of therapeutic trend and modern prescription practice. Among the deleted articles are cascara and its fluidextract. Cascara is probably the most widely prescribed drug in this country. In the sixth German Pharmacopœia, however, it is replaced by frangula. Most of the deleted articles are of minor importance.

"The book is designed for practical use by pharmacists; consequently, complicated tests and expensive apparatus are in general purposely omitted. The tests for identity and purity of substances are less numerous and more brief in the sixth German Pharmacopœia than in the U. S. P. X, and the number of preparations directed to be assayed is far less.

A comparison of the assay methods in the two books reveals that the processes are generally quite similar, the differences lying chiefly in minor details. Nearly all of the alkaloidal assays are volumetric procedures, and the aliquot part system is much employed. In many of the assay processes, the use of reagent solutions in parts by weight is directed, a practice that is distasteful to American analysts. Biologic assays are entirely omitted. Digitalis is to be assayed in Government testing laboratories and sold to pharmacists under certification, the standards to be announced later. Chemical methods are given for the assay of ergot and strophanthus. The standard for ergot is at least 0.05 per cent of ergot alkaloids, and for strophanthus at least 4 per cent of anhydrous strophanthin.

"For the pharmacist, general directions and information are given concerning the preparation and storage of decoctions, infusions, mucilages, plasters, electuaries, tinctures and other classes of pharmaceuticals. Average doses, maximum daily doses and dispensing precautions are given throughout the book. The Germans do not have a book corresponding to our National Formulary; consequently there are several polyglot formulas in the sixth German Pharmacopœia which in this country would have found their way into the N. F. without cluttering up the Pharmacopœia.

"Unlike the U. S. P. X, the molecular weights and the molecular structure of many substances are given with the text, a practice that will be welcomed by analysts. Specific gravity at 15° C. (Ph.G.V) has been replaced by density at 20° C.

"Proprietary names rather than coined or descriptive names are much in evidence. Only a few instances were noted in which attempts appear to have been made to eliminate proprietary names. One instance is concentrated opium, which is apparently a substitute for pantopon. This consists of the hydrochlorides of the total alkaloids of opium and contains from 48 to 50 per cent of anhydrous morphine hydrochloride. Seven pages are devoted to the manufacture and assay of this preparation while only two are devoted to opium proper.

"Although, taken as a whole, the sixth German Pharmacopœia is probably a better working manual for the pharmacist than the U. S. P. X, it is of far less value to the analyst or control chemist and its inclusions do not as well represent the drugs considered useful by conservative medical thought—at least as medicine is practiced in this country."