PHARMACOPŒIAS AND FORMULARIES

THE NATIONAL FORMULARY OF THE UNITED STATES OF AMERICA, TENTH EDITION, 1955*

REVIEWED BY H. DAVIS

The appearance of a new edition of the National Formulary is always a significant pharmaceutical event. By a coincidence 1955 has seen a new edition of our own National Formulary which although compiled for the National Health Service is finding its way abroad. There is an inevitable clash of titles—in medical and pharmaceutical circles abroad, the letters N.F. normally refer to this well-known publication of the American Pharmaceutical Association. Perhaps a way will be found to remove this confusion.

The British pharmacist will see in the National Formulary a resemblance to the British Pharmaceutical Codex. Its purpose is "the establishment and promulgation of official standards of identity, strength, quality, and purity for drugs admitted thereto." The admission of monographs on drugs "is based upon therapeutic value as well as upon extent of use of the drug." It is interesting to compare this with the statement in the Introduction to the Codex "When considering the exclusion of monographs, the fact has been taken into account that in some instances many medical practitioners have prescribed drugs and preparations with confidence in their effect although convincing clinical evidence of their value is lacking." Some examples in the new edition of the N.F. seem to indicate a similar policy. The inclusion of Acetanilide and Acetanilide Tablets, Salol Tablets and Phenacetin and Salol Tablets, leads one to ask whether their inclusion is justified on therapeutic grounds or on their extent of use; probably the latter. There are numerous examples of mixtures of flavouring agents which are unfamiliar to us. The formula for Amobarbital Elixir uses a vehicle consisting of approximately 30 per cent. each of alcohol and propylene glycol and oils of orange, lemon, cinnamon, caraway, coriander, anise and sassafras. Hexamine is another interesting ingredient of the elixir, presumably as a chemical stabiliser. One is tempted to ask whether the potentiating effect of alcohol on barbiturates has been considered in assessing the strength and dose of the preparation and whether it is sound practice to produce highly flavoured liquid preparations of the barbiturates.

Anthralin, known in Great Britain as Dithranol, is formulated with white soft paraffin in Anthralin Ointment, strength 1 per cent. This resembles Strong Dithranol Ointment, B.P. There is an interesting note that due to slow oxidation of anthralin upon standing, Anthralin Ointments intended not to be used for a reasonable period of time should be prepared with about 5 per cent. excess for ointments of strengths greater than 0·1 per cent., and a 20 per cent. excess for ointments of strengths of

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0·1 per cent. or less. This is contrary to the practice of our official formularies in which by not signifying an upper limit for such preparations as penicillin tablets an overage is only implied. The American method appears to be worth considering by our authorities.

The English pharmacist will be also surprised to see Asafetida and Asafetida Pills and bromide preparations such as Five Bromides Elixir, containing the bromides of sodium, potassium, calcium, lithium and ammonium, and Bromides Syrup containing these bromides with vanilla tincture, sucrose and compound sarsaparilla syrup. Surely these preparations can no longer be defended on therapeutic or even pharmaceutical grounds? There is also Glycerinated Gentian Elixir, a dilution of gentian fluidextract, flavoured with raspberry syrup, sweet orange peel tincture, glycerin and sucrose. The sweetening agents must attenuate the bitter taste of the gentian. Since, however, the preparation is classified as a vehicle, the gentian is presumably not intended to act as a traditional vegetable bitter.

Vitamin preparations are well represented in Hexavitamin Capsules and Tablets, of identical composition:—vitamin A, 1·5 mg., vitamin D, 10 μg., ascorbic acid, 75 mg., aneurine hydrochloride, 2 mg., riboflavine, 3 mg., and nicotinamide, 20 mg. Four preparations of liver, Liver Concentrate, Desiccated Liver, Liver Fraction I (Soluble Liver Fraction), and Liver Fraction II (Insoluble Liver Fraction) are described as vitamin supplements and contain a warning that they are not intended for the treatment of pernicious anæmia. It is interesting to compare this position with our own in which no monographs on preparations of liver appear in either the Pharmacopœia or the Codex.

In the General Notices permission is given for capsules and tablets to be manufactured with suitable colours. Capsules and tablet coatings may be coloured with a suitable official article or a colour certified as suitable for colouring drugs under the terms of the Federal Food, Drug and Cosmetic Act. This naturally accords with the policy of the United States Pharmacopeia, and thereby differs from that of the British Pharmacopœia and the British Pharmaceutical Codex.

The National Formulary X maintains the high standard of presentation associated with its predecessors. There is a wealth of interesting pharmaceutical information set out in the clearest possible manner. Nowhere is this better illustrated than in the section headed General Information. In the description of processes of sterilisation, for example, advice is given on the design of aseptic filling areas, methods for making control checks and for the general maintenance of these areas. To sum up, this is an excellent pharmaceutical publication which, although not of strong appeal to the averge practising pharmacist in this country, contains much information which can be read with interest and profit by anyone seeking to extend his knowledge of the practice of pharmacy.

UNITED STATES DISPENSATORY. 25TH EDITION, 1955*

REVIEWED BY H. TREVES BROWN

Even those who are familiar with the United States Dispensatory must experience some astonishment when first they see the size of the 25th edition. The impression it makes can best be conveyed by the Hollywood adjective "colossal," although, more subjectively, the word "formidable" also springs readily to mind. The new edition contains some 2100 pages, 200 more than its immediate predecessor. Taking this into account, and the fact that the page size is larger than that of the British Pharmaceutical Codex, it will be obvious that the book can fairly be described as a mountain of information about the substances used in medicine.

For the benefit of any who do not know the Dispensatory it must be explained that it combines many of the characteristics of the Codex and the Extra Pharmacopœia. It gives a comprehensive account of the preparation, properties and use of virtually all the substances in current use in America for therapeutic purposes, including many which have not yet crossed the Atlantic. The book is divided into three parts. Part I deals with substances included in the United States Pharmacopeia, the British Pharmacopœia, the (American) National Formulary, and the International Pharmacopoeia, and the monographs include, in addition to the information mentioned above, summaries of the official standards, corresponding names in other national pharmacopœias and also synonyms and proprietary names with an indication of the name of the maker. Detailed toxicological information is given in the case of poisonous substances.

Part II deals with substances not included in the four official publications named above, while Part III is concerned with the substances used in veterinary medicine, an indication being given when the subject of a monograph is included in the British Veterinary Codex. The book as a whole describes more than 500 new substances, an impressive indication of the intense activity in pharmaceutical research laboratories throughout the world although mainly in the United States. As a contribution to the room needed for this additional matter the section in previous editions dealing with tests and reagents has been dropped and smaller although easily legible type has been used for Parts II and III.

The book is a compilation; it does not claim in any sense to be official. Consequently it does not itself provide standards for any of the substances it describes and the substances in Parts II and III being unofficial are unstandardised so far as the Dispensatory is concerned. It is because of its unofficial character that the book can be more discursive than the Codex and perhaps therefore more readable. For the same reason it is also much more comprehensive. In deciding what substances to include the compilers need not consider matters such as extent of use, evidence of therapeutic value, proprietary rights or availability of appropriate

* Edited by A. Osol and G. E. Farrar. Pp. xvii + 2139. U.S.A., J. B. Lippincott Company. London, Pitman Medical Publishing Co., Ltd., £10.

standards; apart from the readers who have learned to rely on their judgment they are responsible to nobody but their publishers and themselves. In this respect Part II is somewhat similar to the Extra Pharmacopœia and the resemblance is made closer superficially by the practice adopted throughout the book of giving literature references to the authority for many of the statements made. This practice differs from that adopted in the Extra Pharmacopœia where a number of published papers may be summarised and the reader left to form his own opinion from the results reported. Another detail in which the Dispensatory differs from the Codex and Extra Pharmacopœia is in the way doses are stated. Instead of a simple statement of the usual range of doses the Dispensatory monographs commonly end with a paragraph stating the maximum single dose and the maximum daily dose, with any other relevant information. The British practice can be defended on the ground that it enables a dispenser rapidly to check whether a prescribed dose is within accepted limits; on the other hand, the activity of modern synthetic organic compounds often calls for more precision in dosage. Although comparable information is no doubt readily available in the body of the Codex monograph, it is convenient to be able to find it in a standard position.

The 25 editions of the Dispensatory have reflected progress in therapeutics over a period of more than 120 years, for it first appeared in 1833. Such a record of continued service to medicine and pharmacy establishes a tradition which imposes high responsibility on those who now attempt to survey the vast field of therapeutic agents. The new edition is the work of Dr. Arthur Osol, of the Philadelphia College of Pharmacy and Science, and Dr. G. E. Farrar, of the Temple University School of Medicine, with 6 colleagues and 20 collaborators. They have adequately discharged the responsibility and have earned the gratitude of all who want a comprehensive guide to the substances a pharmacist may be called upon to supply.

H. TREVES BROWN.

BOOK REVIEWS

BENTLEY AND DRIVER'S TEXT-BOOK OF PHARMACEUTICAL CHEMISTRY. Sixth Edition. Revised by J. E. Driver. Pp. viii + 751 (including Index). Oxford University Press, London, 1955. 55s.

Much of the character of the earlier editions of Bentley and Driver is retained in the new sixth edition, which none-the-less has undergone extensive revision. The need to include both inorganic and organic chemistry as well as a fairly extensive introductory section on analytical methods has led, as in the earlier editions, to a good deal of compression. This undoubtedly detracts from the value of the book. A high standard is reached in the presentation of the section on analytical methods, and chapters on gravimetric analysis, hydrogen ion concentration and pH determination have received more than adequate treatment. On the other hand the discussion on photometric methods, whilst providing a readable introduction to the subject, is disappointing and quite inadequate to the requirements of degree students. Again, whilst it is not disputed that the limit tests for arsenic, lead, chloride, sulphate and iron are of more general importance than any other single test, it seems a pity that the