

HISTORY OF THE ARSENICAL SOLUTIONS.*

ABSTRACT.

BY H. A. LANGENHAN.

The use of arsenic in medicine begins at an early period, although it was restricted to external applications only. At the end of the eighteenth and beginning of the nineteenth century its use for internal administration came into effect. Hence in 1771 we find that a Thomas Wilson placed on the market in London a secret preparation commonly known as *Tasteless Ague and Fever Drops* which, according to the specifications of his patent, contained arsenic trioxide. It was this preparation which Hughes, the apothecary at the infirmary of Stafford, analyzed and attempted to duplicate, at the request of Dr. Fowler, also of the infirmary. In 1786 Dr. Fowler published a detailed report of the effects and results obtained from the use of his solution of arsenic, to which he applied the title *Liquor Mineralis*. This solution found its way into the London Pharmacopoeia of 1809 and into the U. S. P. of 1820. From these it rapidly found its way into most of the pharmacopoeias and at the present time can be found in over twenty of the standards of various countries.

As a natural sequence, other preparations of arsenic soon came into medical use. Dr. Withering, a co-worker of Dr. Fowler's, used a solution of arsenic trioxide in water. This he found was prone to decomposition and adopted the use of Fowler's alkaline solution. A short time after the introduction of Fowler's solution, Dr. De Valangin, a Swiss physician practicing in London, introduced a solution under the name of *Solution of Solvent Mineral*. This consisted of arsenic trioxide, obtained in a round-about way, dissolved in water containing some hydrochloric acid. This solution first appeared in the London Pharmacopoeia of 1851 and in the U. S. P. of 1870. In the latter, it was known as solution of arsenious acid.

Because of the use of arsenic, iodine and mercury in the treatment of "psoriasis, lepra and lupus," Dr. Donovan, of Dublin, prepared a solution containing these three elements in combination. This solution appeared in the Dublin Pharmacopoeia of 1851, as originally prepared by Donovan, and in the U. S. P. of 1850. In the latter text the modified formula suggested by Soubeiran was adopted (*J. Chim. Pharm.*, 27, 774 1841). Although some American treatises give Procter the credit for the suggestion of the modified formula which the latter published in 1847, (*Am. J. Pharm.*, 19, 93) the two are identical in substance, although Procter makes no mention of Soubeiran's report.

At the present time Donovan's Solution, is found in the United States Pharmacopoeia and the British Pharmacopoeia. Other pharmacopoeias apparently have not adopted it.

UNIVERSITY OF WISCONSIN,
DEPARTMENT OF PHARMACY.

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., Chicago meeting, 1918.