iodide by means of hot water, also using oxidizing agents such as ferric chloride, sodium nitrite, potassium permanganate, manganese dioxide, etc., to liberate iodine from the potassium iodide, and find that liberation is either incomplete or else the oxidizing agents interfere with the final titration. By the above method given, I got an average of 3.91 percent of KI from four titrations.

In conclusion, while this does not directly belong to the assay, I might state that from a therapeutical standpoint, many physicians I have spoken to on the subject, seem to prefer an ointment that is not freshly prepared as required by the U. S. P., but claim that an older ointment has the same effect with milder action.

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MAGNESIUM PHOSPHATE IN POPPY CAPSULES.

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Whether or not the knowledge of the existence of magnesium phosphate in poppy capsules is new, the writer is unable to state. The literature, so far as investigated, makes no mention of it.

Since the existence of the anti-narcotic law, preparations of poppy heads will undoubtely receive more attention from the chemist.

Morphine is the important constituent and varies, according to King, from 1 to 2 percent.

To the busy chemist with little time for research, the U. S. P. method for determination of morphine in opium preparations will probably be applied, which may lead to very serious error in the final result.

Magnesium phosphate being slightly soluble in the hydro or hydro-alcoholic menstruum used, is extracted from the ground capsules and remains in the finished product.

In the course of assay, using the fluidextract for example, the extract is concentrated, ether and alcohol added and ammonia water to liberate the morphine. The whole is then vigorously shaken and set aside to allow the morphine to crystallize.

The magnesium phosphate originally present in the capsules and again in the fluidextract is by this process converted into insoluble ammonium-magnesium phosphate, which crystallizes out along with the morphine, providing enough ammonia water has been added to render the whole alkaline, otherwise no morphine will be found in the residue.

The ammonium magnesium phosphate resembles minute crystals of morphine and with a little washing is rendered bright and clean, still retaining a yellowish color, imparted by the mother liquor.

If now the residue is weighed and calculated as morphine, without further purification, as is sometimes done in the assay of opium (the writer is not discussing the propriety of such an omission) the analyst's report will not show the correct morphine content.

From this it can easily be seen that any method for the determination of morphine in poppy capsules that depends upon the crystallization of the morphine

from an ammoniacal solution and the subsequent weighing as such, will be productive of error.

Calcium was also found to a considerable extent in the ash of the capsules but was absent from the precipitate produced by ammonia in the concentrated fluid extract.

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THE QUALITY OF COMMERCIAL BLAUD'S PILLS.*

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In view of the known instability of ferrous salts, it has been generally held that pills of ferrous carbonate U. S. P. (Pilulæ Ferri Carbonatis, U. S. P.), commonly known as Blaud's pills, are unstable. Thus, the U. S. Pharmacopœia directs that they shall be freshly prepared when wanted. Pharmaceutic manufacturing houses, evidently holding this requirement to be unnecessary, almost universally sell ready-made Blaud's pills. On the other hand, some firms sell special forms of the preparation with claims of keeping qualities superior to the ordinary pill. Nevertheless, it was recently pointed out[1] that a proprietary brand of Blaud's pill, which the manufacturer claimed to be greatly superior in keeping quality to the ordinary Blaud's pill, and an ordinary commercial specimen, were each of good quality. To determine whether there is justification for the sale of ready-made Blaud's pills, and to determine whether the existence of special forms of Blaud's pills is warranted, an examination of the principal market brands was undertaken. Twelve freshly purchased specimens were examined, together with a specimen of each of three brands which were known to be several years old. Three specimens of the freshly-purchased pills were what the manufacturers called "soft mass" pills.

Some of the claims made for the "soft mass" pills are:

". . . present advantage of being rapidly soluble and disintegrating in the stomach and intestinal tract. . . . Under proper storage conditions they retain their soft consistency and shape perfectly."

"They disintegrate or dissolve readily in the digestive tract.

"They keep well, i. e., do not lose strength under proper conditions of storage.

"They show little tendency to become hard when kept under reasonable conditions.

"They are strictly true to formula."

The "soft mass" pills were "chocolate-coated." The remainder, except where stated to the contrary, were gelatin-coated. Three of the specimens (one of which was old) were not claimed to have been prepared according to the U. S. P. formula, but in general were claimed to contain the ingredients from which ferrous carbonate is produced, so that after ingestion ferrous carbonate in the "nascent" state would be formed in the alimentary tract. A number of the specimens were proprietary. These included Frosst's Blaud Capsules; Laminoids Ferruginous (nascent) Schieffelin; Laminoids Blaud (a specimen known to be at

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[1] Queries and Minor Notes, the Journal A. M. A., Oct. 1, 1914, p. 1315.