remained apparently unaltered throughout the period of fermentation, and that all the carbonic acid gas and the alcohol are supplied by the saccharose.

Reducing Sugars.—These were obtained by the gravimetric method, using Fehling's solution, and collecting the oxide on asbestos in a Gooch crucible. For the purpose of legibility and better means of comparison the data is given in tabular form.

Samples.	Polarimetric readings.	Reducing sugars by Fehling's solution, gravimetric method.	Alcohol. Percent.
Fresh Milk	Plus 14	2.15 as invert	
		2.57 as lactose	None
After addition of saccharose	Plus 27.7	3.52	None
After 6 hours	.....	3.52	0.56
After 24 hours	Plus 13.6	2.28	1.74
After 48 hours	Plus 13.8	2.28	1.97
After 72 hours	Plus 14.3	2.5	1.98
After 96 hours	Plus 13.3	2.72	1.99
After 120 hours	Plus 13.3	2.55	2.02
Sample four weeks old	.....	2.47	2.03

In regard to the palatability of this beverage we have been very much puzzled, for it assuredly has no pleasant taste, and it is one that lingers long. The predominating taste is that of yeast, of which it unquestionably contains too much. The writers believe that half, or less, of the prescribed yeast would suffice and produce a liquid that might possess a better claim to the title of beverage. As now prepared, there is no great likelihood that the laity will make this fermented drink at home for popular consumption, nor are we convinced that it can ever harmonize with the gastric nerves of the invalid. We have tasted some genuine koumiss and it is quite a different product.

LABORATORY OF
CHARLES H. LAWALL,
PHILADELPHIA, PA.

PRESCRIPTION CLINIC.*

BY IVOR GRIFFITH AND ADLEY NICHOLS.[1]

The few prescriptions which will be discussed in the paper are all original prescriptions, and not concoctions merely prepared to stimulate discussion. The greater number of them were received in the dispensary of the Stetson Hospital and a few from students at the College. This statement is made in order to discount the remarks so often heard that most incompatible prescriptions are never met with in actual practice, but simply devised by some imaginative person solely to afford a pretext for arguments and pseudo-scientific discussion. However, it can be said with safety and with some emphasis that not all incompatible prescriptions are impractical and impossible of being compounded, for those of us who have had an extensive prescription dispensing experience know full well that a so-called therapeutically, or even a chemically, incompatible prescription is very often considered valuable medicine by the doctor. After all it is the doctor who

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[1] Department of Pharmacy of the Philadelphia College of Pharmacy.

knows, or should know, what he wants when he prescribes even the oddest combinations. Doctor Robinson has wisely stated it would be a serious mistake to suppose that the word incompatible is synonymous with non-dispensable, and it is the careful pharmacist who knows well how to differentiate between the two types.

PRESCRIPTION NO. 1.

Bismuth Subnitrate	4 drachms
Iodoform	4 drachms
Liquid Petrolatum, to make	3 fluidounces

Mix

This prescription, a modification of the now famous Bipp paste, has often been the cause of much trouble and dissatisfaction in that it develops a peculiar color on standing, shading from a light pink to violet-red or purplish color. This phenomenon is not always observed and makes the dispensing of the mixture doubly difficult, since it is not possible to predict just what is going to happen. Examination of a discolored sample revealed the presence of free iodine, which is present in a peculiar colloidal condition that renders it very difficult to identify by the usual tests. Unable at first to identify the color, an effort was made by an eliminative procedure to ascertain just what was responsible for the change. At first it was thought that the fault was due to the mineral oil, and observations were made that led one to believe that this assumption was correct, since the change occurred with certain brands of oils and not with others. Finally, however, the culprit was found in the person of the bismuth compound. Variable degrees of acidity are found in market brands of this compound, and it is the free nitric acid contained in some samples of bismuth subnitrate that apparently causes the liberation of the iodine and the formation of the color in the prescription. The coloration noted can be simulated by omitting the bismuth subnitrate and adding a drop or two of nitric acid. Incidentally, this coloration is evident even when the purest obtainable brands of iodoform are used.

PRESCRIPTION NO. 2.

Tincture of Nux vomica	4 fluidrachms
Tincture of Cinchona	4 fluidrachms
Fluidextract of Licorice	1 fluidounce
Distilled Water, to make	3 fluidounces

Make into a solution.

This prescription on standing develops a heavy precipitate, which under some conditions is singularly adhesive and, consequently, difficult to shake into a homogeneous mixture. A similar incompatibility has been noted in British pharmaceutical literature, and there the statement is made that the precipitate consisted of the glycyrrhizinates of the alkaloids. Experiments conducted on the above prescription corroborated this fact. The precipitate referred to consisted mainly of strychnine, cinchona alkaloids and glycyrrhizin. The supernatant fluid contained less than half the alkaloids, which should have been present, had the precipitation not occurred. This precipitation is progressive and there is no doubt but that all the alkaloidal constituents would be precipitated in time. It has been stated, that either the albuminous constituents or else the natural acids present in the tinctures were responsible for the precipitation of the glycyrrhizin, but this is a mistake since this same phenomenon will be observed on the addition of a solution of pure glycyrrhizin to a solution of a neutral alkaloidal salt. Nor is it true that ammonia, contained in some fluidextracts of licorice, causes this precipitation, for the behavior of such extracts is not dissimilar to those free from ammonia. We know of no way to avoid this difficulty and consider it a dangerous incompatibility; the danger is lessened by dispensing with the "shake well" legend. This incompatibility has been often referred to in the literature, but not many pharmacists are aware of it. Pereira, Christensen, Tschirch and Hager have all called attention to it, either directly or indirectly.

PRESCRIPTION NO. 3.

Chlorazene	22.5 grains
Boric Acid	30 grains
Distilled Water, to make	2 fluidounces

Chloramine-T, or chlorazene, is the water-soluble chlorine compound originated by Dakin during the search for the ideal surgical antiseptic for battle-front use. Returning surgeons are enthused over the success of these chlorine compounds when properly and sensibly used, and the pharmacist will doubtless be called upon to serve them often in queer combinations. The above prescription was written for a mouth wash and compounded; a crystalline precipitate formed after standing a few hours. This insoluble material apparently was a compound of the boric acid with the chloramine-T. There was considerable diminution in the degree of acidity of the solution on standing, indicating the stated change. This change can be retarded but not prevented by the addition of glycerin. Chlorazene is also incompatible with alcohol and with peroxide of hydrogen.

PRESCRIPTION NO. 4.

Apothesine	4 grains
Sodium Borate	10 grains
Boric Acid	10 grains
Distilled Water	2 fluidounces

Apothesine is a new local anaesthetic; chemically, the cinnamic ester of gamma-diethylamino-propylene hydrochloride. It behaves very much like the alkaloids and is precipitated from its solution in water by most of the alkaloidal precipitants. The above prescription is for an eye lotion. It is incompatible as prescribed, for a dense precipitate—of the base of the anaesthetic—will form almost immediately, no matter how compounded, and this, of course, inhibits its use as an eye wash. Omission of the alkaline borate, however, will remedy the trouble. The prescriber need have no objection to this change, provided his attention is called to the difficulty incurred by the presence of the sodium salt. Glycerin added to the mixture would remedy the incompatibility but is contraindicated in eye-lotions of this type.

PRESCRIPTION NO. 5.

Codeine Sulphate	3 grains
Strontium Bromide	4 drachms
Peppermint Water, to make	3 fluidounces

While this incompatible mixture is not at all novel, attention is called to it because of the incorrect explanation so often made of the nature of the precipitate produced in it. A trade journal recently stated that codeine bromide was precipitated; another version has it, that the strontium bromide, being alkaline, precipitated the alkaloid. Neither statement is correct; both the substances mentioned are soluble in the vehicle. The proper explanation is, that insoluble strontium sulphate is precipitated and codeine sulphate is formed or the alkaloid is liberated, and both of the latter are soluble.

PRESCRIPTION NO. 6.

Zinc Acetate	4 grains
Sodium Borate	10 grains
Distilled Water, to make	2 fluidounces

This is a favorite prescription of a Philadelphia specialist, who, despite the fact that the incompatibility of the prescription has been pointed out to him, often insists on writing for it, much to the discomfort of many a down-town pharmacist. His regular pharmacist never bothers to acquaint him with the error but simply makes the change which he knows is necessary. Many of the prescription authorities, commenting on such a prescription as this, state that the flocculent precipitate, exhibited in the prescription compounded, is zinc borate. The writers tend to disagree, assert that the flocculent precipitate is a zinc hydrate and not borate. The production of a precipitate is inhibited by the substitution of boric acid for the sodium borate, or, by the addition of glycerin, which changes the sodium borate into boric acid and sodium metaborate. This addition, however, would not be permissible in an eye-wash, as glycerin is irritating to the eyes.

PRESCRIPTION NO. 7

Calcium Iodide	
Zinc Iodide, of each	16 grains
Anise Water, to make	2 fluidounces

No matter how this prescription is compounded, there is formed a light gelatinous precipitate which grows progressively heavier. The examination of the precipitate did not explain matters much—the composition of zinc iodide is so variable that it would be difficult to hazard even a guess as to the nature of the precipitate. The excessive alkalinity of the zinc iodide may have been responsible for the dissociation of the calcium iodide which is also a very unstable compound. Then, there is the possibility that the zinc iodide, particularly if old, may have been changed to the insoluble oxy-iodide. The precipitate may be prevented by the addition of a trace of boric acid or ammonium chloride.

PRESCRIPTION NO. 8.

Theobromine	30 grains
Sodium Salicylate	2 drachms
Peppermint Water, to make	3 fluidounces

This prescription was probably written by a physician who, at least, endeavored to get away from proprietary ethical remedies, since it was, undoubtedly, an attempt to ethically prescribe diuretin. The writer, perhaps, did not know that theobromine-sodio-salicylate, or diuretin, is official in the U. S. P. Theobromine is not soluble in the presence of sodium salicylate, as many persons believe. It is sodium theobromine which is used with sodium salicylate in the production of the water-soluble diuretin. This prescription can be compounded by using a little gum to suspend the alkaloid, but it cannot be dispensed as a clear solution without some radical changes in the nature of the solvent. When the prescription was first filled the prescriber objected to it because it was not clear, but was satisfied after the explanation, here presented, was made.

THE ACCURACY OF DISPENSING TABLETS.*

BY JOS. W. E. HARRISSON AND K. F. EHMANN.

Question has been raised as to the accuracy of the so-called Dispensing Tablets and this is the primary reason for our investigation. At a recent meeting of pharmacists in Philadelphia it was debated whether it was perfectly safe to use these in prescription compounding. The consensus of opinion among those present was that they were reasonably accurate.

The tablets which we examined were obtained from some of the larger pharmaceutical manufacturing firms of this country. It may be readily seen that greater accuracy and uniformity is probable with the use of correctly made dispensing tablets of potent chemicals. The weighing of small quantities of potent chemicals involves great care and the use of accurate weights and balances. Some say that triturations are just as accurate and as safe as the dispensing tablets. This is quite true if the trituration has been properly done, but if the work is entrusted to those who have not the proper conception of the importance of this seemingly simple manipulation the product may be improperly prepared and, therefore dangerous.

Tablets of strychnine sulphate and mercuric chloride were selected as being representative of the line of Dispensing Tablets; they seemed to be the ones most extensively used in pharmaceutical dispensing. The following methods of analyses were adopted for their examination:

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