sodium chloride, NaCl, and cocaine cantharidinate, $(C_{17}H_{21}NO_4)_2 + C_{10}H_{12}O_4$. At any rate the preliminary experiments with this preparation, although it could not be considered as chemically pure, gave such satisfactory results as to stimulate further investigation. In the preparation of the supposed new salts by the chemical factory of J. D. Riedel, in Berlin, it was found that it could only be accomplished by bringing together two molecules of cocaine hydrochloride in solution with a solution of one molecule cantharidin in two molecules of sodium hydroxide, and separation of the sodium chloride formed, leaving a product of the formula, $(C_{17}H_{21}NO_4)_2 + C_{10}H_{12}O_4$, in solution. The separation of the sodium chloride and the isolation of the organic body was accompanied by great practical difficulties, since the warming of the solution had to be avoided in order to prevent the decomposition of the cocaine into methyl alcohol and benzoyl-ecgonine.

After all, however, it appears that the new substance is not a chemical compound but only a mixture, although Dr. Hennig maintains that a cocaine cantharidinate is formed at first when the two solutions are brought together. The final product, however, when treated with ether, dissolves to some extent very readily therein, whilst a comparatively insoluble residue remains. The melting point of the soluble body is 98° C., that of the insoluble 210° C., practically identical with cocaine and cantharidin respectively. Dr. Hennig, therefore, compares the substance to caffeine citrate and similar representatives of modern materia medica that readily split up into their components, and maintains that from a pharmacodynamic point of view it is immaterial whether the substance is of definite chemical constitution or only a mixture, a conclusion that must certainly be received with considerable scepticism.

According to the therapeutical experiences of Dr. Hennig during nine months, the compound or mixture produces the required results. The injection of cantharidin preparation is followed by a period absolutely free from pain, and the later period of pain occurs seldom, and then to a very modified extent, and thus one of the great objections of the patients to the cure has been removed. The strength of the hypodermic injections were so regulated that the amount of cantharidin corresponds to the divisions of an Overlach injector. 0.075 gramme cocaine cantharidinate dissolved in 50 cc. chloroform water furnishes a solution that contains one decimilligram cantharidin to two Overlach divisions. The doses employed varied from 0.5 to 4 decimilligrammes, 1 to 2 decimilligrammes being usually injected.

Dr. Hennig says that the local objective appearances are more moderate than with cantharidinates of the alkalies, and that in 2,845 injections he has performed, only one case of abscess has to be recorded. The irritation of the kidneys appeared very seldom, and that of the intestines not at all; whilst the new remedy possessed all the favorable action of the alkaline salts of cantharidin on chronic catarrhal affections of the nose, pharynx and larynx, and on tuberculous processes of the upper bronchial tubes. It is contra-indicated in advanced cases of tuberculosis, and its favorable influence is always observed after four or six injections and, therefore, the treatment should be discontinued if the change is observed after ten injections. —*British and Colonial Druggist.*

On the Storage and Preservation of Pills.

A. C. ZEIG, PH.G.

When we consider that this class of pharmaceuticals involves both mechanical skill and knowledge, and a vast outlay of time in perfecting their construction, they are certainly entitled to some care and attention in preserving them or preventing deterioration.

Only too frequently the simplest and most necessary precautions are overlooked or entirely neglected, in the way of proper storage and protection against forces capable of affecting both their physical properties and the chemical constituents that they may embody.

While permanency and ready solubility are features of paramount importance to the prescriber, pharmacist, and patient as well, yet they are too often sacrificed by improper protection against the active agencies of light, heat, and atmospheric influences.

The employment of appropriate excipients may be a strong preventive of any marked changes taking place in shape, appearance, and chemical structure, yet these alone are insufficient to withstand the interferences just mentioned for any considerable length of time.

When we assume that pills are frequently months and years old before being dispensed, they may have suffered in one or more of the directions just named.

A perfect coating, whether of gelatin, sugar, or tolu, whichsoever may be considered the most advantageous, will materially assist in keeping the inclosed mass in its proper state of preservation.

The use of amber, instead of flint glass bottles, for storing pills, is to be preferred should they be exposed to light; while replacing the bottle in a wrapper or carton, such as is generally furnished, will accomplish the same object. Among the class of gelatin-coated pills most sensitive to light, the following may be enumerated:—

Mercury protoiodide pills, changing from a yellow or light green to a grayish, and sometimes to a dark, colour, due to a partial decomposition of the protoiodide with separation of metallic mercury in a finely divided condition, this change being accelerated in presence of moisture.

Phosphorus pills assume a reddish-brown colour, due to transformation of the phosphorus into the inactive amorphous variety under the influence of strong light.

Pills containing ferrous iron undergo oxidation with a noticeable change in colour, indicating an approach to the ferric condition.

Quinine pills, and white pills generally, on long exposure to light, will, in the course of time, assume a light-brown colour, due to oxidation of traces of iron naturally present in the gelatin employed for coating.

Sontonin pills undergo decomposition, characterized by a change in colour from a natural white to a dull yellow, resembling the colour of picric acid.

Pills containing silver salts, such as the nitrate and iodide, are naturally very sensitive to light, making the best possible protection necessary.

Calomel pills of a grayish or dark colour are sometimes met with in the market. While this change from a natural white to a dark appearance may frequently be attributed to the effect of bright light, causing partial decomposition and separation of finely divided metallic mercury, it is more frequently due to the presence of sulphites in the gelatin used for coating, these being employed by manufacturers of gelatin for the purpose of bleaching it. A careful selection of the gelatin employed for coating is therefore necessary.

The pills generally affected by an abnormally high temperature and atmospheric changes are such as embody either hygroscopic or resinous ingredients, or which, from the nature of the constituents, are quite soft, as is often the case with pills containing soap. Especially when moist air has access to them, the influence of heat from various sources, whether produced by radiation from a stove or from a lamp or gas flame in too close proximity, often facilitates undesirable changes in the ingredients of the mass and coating, thus causing the mass to stain through the sugar coating, or causing it to sprout, as is often the case with gelatin-coated pills, often rendering the coating itself more or less adhesive.

More especially do pills containing hygroscopic ingredients, such as potassium iodide, potassium carbonate, etc., require the closest attention in order to insure their proper preservation.

By storage in bottles tightly corked, remote from any source of heat, preferably in a place where the variations in temperature are not too pronounced, any difficulties of this nature may be avoided.—*Pacific Druggist.*

Amide of Eugenol Acetic Acid.

This substance, applied to the skin in powder, produces anæsthesia like cocaine, and it has at the same time a powerful antiseptic action, but does not cause irritation. It may therefore be useful in surgical operations. It has the form of crystalline laminæ when crystallised from water, and small needles from alcoholic solution. It melts at 110° C.