EDITORIAL NOTES

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PRESCRIPTION PROBLEMS.

BY S. L. HILTON, PHAR.D.

OESCHNER'S SOLUTION.

What formula have you for Oeschner's Solution?

We have the following:

Phenol (liq.)	43 min.	1 oz.
Alcohol	4 ozs.	32 ozs.
Saturated Solution of Boric Acid	1 pint	0
Boric Acid	0	5 ozs.
Water to make	0	1 gallon

EPHEDRINE SOLUTION.

How may the following prescription best be prepared so as to form a clear solution, suitable for use in an atomizer:

Ephedrine Alk.
Menthol
Camphor, aa. gr. v.
Liq. Petrolatum, fl. oz. 1

What is the best method of preparing a stable 1% solution of Ephedrine in liquid petrolatum for prescription use?—March 28, 1932.

Ephedrine Alk.
Menthol
Camphor, aa. gr. v.
Liq. Petrolatum, fl. oz. 1
Misce:

(Directions should always be given.)

This prescription is one we fill frequently and the only way to do it satisfactorily and obtain a clear solution is to dissolve each constituent separately in a portion of the Liq. Petrolatum with the aid of gentle heat and then mix them.

I follow the same method in making a solution of Ephedrine in Liq. Petrolatum for prescription use.—S. L. HILTON.

A BACTERIOLOGICAL JUBILEE.

During the last month biologists and medical men celebrated the fiftieth anniversary of the discovery by Robert Koch of the tubercle bacillus. The difficulty of obtaining pure cultures with the bacteriological experience available in 1882 was formidable, as the bacillus does not thrive in most of the usual media; and it was only when Koch used solidified blood serum that he surmounted this obstacle. So important has his work proved to be in the fight against a baffling disease that it may be regarded as comparable with the researches of Pasteur and of Lister. Since his day Sir Almroth Wright and others have made brilliant contributions to the treatment of tuberculosis; an extensive scientific literature of the subject has grown up, and the precise action of "old" and "new" tuberculins is still a matter of debate. The most important fact, however, is that deaths from tuberculosis in its varied forms are steadily falling; and for this we are indebted to the pioneer work of Koch.—From *The Chemist and Druggist.*

ANTIDOTES FOR STRYCHNINE POISONING.

Dr. Howard W. Haggard and Leon A. Greenberg, Ph.B., from the Laboratory of Applied Physiology, Sheffield Scientific School, Yale

University, report on the above subject in the *Journal of the American Medical Association*, of April 2, 1932, and reached the following conclusions:

1. Magnesium sulphate does not prevent or even diminish strychnine convulsions in rats. It is not an antidote for strychnine.

2. Apomorphine controls convulsions in rats and dogs. It allows recovery after approximately twice the lethal dose of strychnine, but not when the dose is three times the lethal amount. Strychnine does not antagonize apomorphine or even diminish its toxicity for rats.

3. There are reported three cases in which the use of apomorphine was followed by recovery in human beings who had taken presumably lethal amounts of strychnine.

4. Phenobarbital sodium controls strychnine convulsions in rats and dogs. Recovery follows the administration of five times the lethal dose of strychnine.

5. A true antagonism between the actions of phenobarbital sodium and strychnine is indicated. Rats and dogs that have received amounts of phenobarbital as high as three times the lethal dose may be saved by the administration of amounts of strychnine which by themselves would be fatal.

ACETYLSALICYLIC ACID TABLETS.

An examination of several batches of old acetylsalicylic acid tablets prepared in Government laboratories at various times has been carried out by W. Knoll (*Apotheker-Zeitung*, 45, 69, 1063), who reports that nearly all of the tablets had undergone partial decomposition; most of them gave a distinct reaction for free salicylic acid, and the melting point of the isolated acetylsalicylic acid was considerably below the official figure, whereas that of acetylsalicylic acid obtained from good tablets was correct. Tablets prepared with talc and agar gave off a slightly acidulous odor when the bottles were opened after eighteen months' storage. Both kinds of tablets gave reactions for free and masked salicylic acid; in the case of the tablets containing agar and talc the violet coloration exceeded the limits allowed by D. A. B. VI., and the melting point of the acid extracted from them with ether was between 126° and 127° C. instead of 135° C.—From *The Pharmaceutical Journal and Pharmacist*.

THE ISOLATION OF CAROTENE.

H. N. Holmes and H. M. Leicester (*Journal of the American Chemical Society*, 54, 2, 716), in a study on the isolation of carotene, emphasize the value of canned carrots as a laboratory source of carotene. The first step was to crush the carrots in a Carver hydraulic hand press. The juice pressed out contained practically no carotene and was discarded. The press cake was ground up in a meat grinder and placed under 1.25 litres of acetone. After standing thus from eight to ten hours, the mixture was filtered on a Buchner funnel and the pulp pressed once more, again with a pressure of 8000 lb. per sq. in. The pulp, now a solid cake, was reground and allowed to stand for half an hour with 1.25 litres of fresh acetone. It was then filtered as before, and placed under one litre of petroleum ether. After an hour this solvent was filtered off and replaced by a litre of acetone. This also was allowed to stand for an hour, then was filtered and a final litre of petroleum ether was placed on the carrots. After another hour they were filtered and washed with 0.5 to 0.75 litre of petroleum ether. The pulp was then practically colorless, and further extraction was unnecessary. The petroleum ether was evaporated to about 75.100 cc. under reduced pressure, and then treated with a large excess of absolute alcohol, with violent stirring. A fatty substance precipitated and settled out. This was rapidly filtered off, the filtrate was placed in a flask in an atmosphere of nitrogen, and was allowed to stand for twenty-four hours in the ice-box. The carotene crystallized out in dark red lustrous crystals. From 100 gallons of canned carrots a quantity of carotene was obtained which, after standing over phosphorous pentoxide in a vacuum desiccator to remove solvent of crystallization, weighed 7.5 Gm. This is a yield of approximately 0.037 Gm. of pigment per kilogram of carrots. After four precipitations from chloroform by methyl alcohol as recommended by Olcovitch and Matill, the carotene melted at 173.6–174.6°.—*Pharm. Jour. and Pharm.*

SPINASTEROL.

Merrill C. Hart and Frederick W. Heyl (*Journal of Biological Chemistry*, 95 (1932), 311–315) have isolated from spinach a new sterol, spinasterol, which melts at 168° to 169° C., and has a specific rotatory power of —1.8° at 25° C. in sodium light. They have

prepared its esters with acetic, propionic, butyric, trichloroacetic, benzoic and para nitrobenzoic acid, and phenyl urethane. It reacts with chloroacetyl chloride to yield the derivative of a metameric compound, isospinasterol chloroacetate.

DENTAL ABSORPTION.

The great importance of a thorough knowledge of the absorption of drugs by the teeth is stressed in a report made by the Council on Dental Therapeutics of the American Dental Association.

"Dentists may not commonly attach significance to the possibilities involved here," the report begins. "Deep reflection suggests remote action of drugs resulting in unnecessary or undesirable effects on other organs, cumulative action, slow insidious poisoning of the system, altering effects on functions resulting in sensitization or allergy, effects on immunologic processes and various protective merchanisms, etc. A thorough knowledge of dental absorption might be of assistance in determining the nature and activity of dental tissue itself. The latter might be suggested from the behavior of the drugs, according to their nature and their physical and chemical properties."

The report mentions research carried on by Obiglio, an Argentinian, and Chaneles on dogs. "Previous investigators had demonstrated the absorption of potassium iodide, atropine, arsenic and chicken-cholera germs from the dental pulp. From 33 to 46 per cent of the arsenious oxide placed in pulp chamber was recovered from the urine. Negative results were reported for mercuric chloride, sodium salicylate, iodoform, strychnine, tetanus toxin and cobra venom.

"Obiglio used dogs in his researches. The animals were occasionally anesthetized with ether, but generally with chloralose, which maintains an efficient state of the blood circulation, a matter of first importance for satisfactory and critical results in studies of absorption. The teeth were drilled and the dental pulp was exposed without injury, as nearly as possible. Then the drug was placed in the tooth in dry form as a paste and the wound was covered with rubber and cement. The methods of determining absorption were unique, namely, by quantitative chemical analysis for the drug in body fluids and by typical pharmacologic responses.

"The number and variety of drugs studied were considerable. For instance, after 76 mg. of potassium iodide was placed in one tooth, absorption was almost complete at the end of one hour, and iodide was demonstrated in the blood, saliva and urine. From 4 to 36 per cent of 20 mg. of phenolsulphonephthalein was absorbed and was found in the urine at the end of 24 hours.

"Apomorphine, in doses of 2 to 20 mg., inserted in the teeth under light ether anesthesia, caused vomiting in 15 to 30 minutes.

"Strychnine (from 10 to 20 mg. in a tooth) caused convulsions in from 40 to 130 minutes. Atropine (from 5 to 20 mg.) dilated the pupils and paralyzed the vagus nerves. Cocaine in a dosage of 5 mg. caused symptoms, and 20 mg. caused death in less than one hour. Nicotine (from 10 to 20 mg.) caused prompt and typical symptoms of poisoning, and death in less than two hours."

It will be recognized that this may lead to other studies of the action of drugs.

MANUFACTURERS' SALES PROBLEMS.

We are quoting *The Oil, Paint and Drug Reporter* on the important subject given in the title:

"Probably in no other line of industry is the problem of distribution more extensively and more intricately interwoven with a manufacturer's sales problems than it is in the drug business. It is, in fact, by far the greatest part of the drug manufacturer's sales problem, and, distribution being more difficult than simple selling to control, it presents him with his greatest difficulties. For the manufacturer of drug products largely distributed through being prescribed by physicians, the problem of distribution is further complicated and more troublesome. So it is that the proposed discussion of coöperation in the distribution of prescription drug products, which will be the outstanding feature of this year's meeting of the American Drug Manufacturers' Association, will tackle one of their biggest problems of to-day."

The same editorial discusses the importance of teamwork in the following paragraph: "The manufacturer, it is almost trite to say, cannot expect to get the coöperation of dealers unless he is ready to coöperate and does coöperate with the dealers. The most difficult part of the procedure is to get coöperation

in the constructing of a plan of so-called 'coöperation.' In that part, in truth, coöperation is of the greatest importance. The plan must have a far wider scope. It must embrace, first, coördination. It must be directed to coördination plus coöperation; that is, to teamwork. Coördination is not easy to attain; and, be it remembered, coöperation without coördination is little more than a nice-sounding word; it is impossible in practice."

PERSONAL AND NEWS ITEMS.

H. P. Caemmerer, *secretary* of the Commission of Fine Arts, has presented the AMERICAN PHARMACEUTICAL ASSOCIATION with a copy of "Washington the National Capital" of which brief notice is given in next Column. The members of the Fine Arts Commission have been most helpful, and the gift is an expression of the cordial relations which have always obtained in the transactions. The appreciation of Secretary E. F. Kelly is voiced in expressing thanks to the members of the Commission. The author has autographed the book, which is a work of art.

Dr. Jacob Diner, dean of the College of Pharmacy of Fordham University since 1920, has retired from his active duties but will remain as *dean emeritus*. Dr. James H. Kidder who was graduated from Fordham in 1924 and the Cornell Medical School in 1928, succeeds him.

Dr. Diner is president of the New York State Board of Pharmacy and has been president of the New York Academy of Pharmacy and of the State Pharmaceutical Association. He also was treasurer of the American Therapeutic Society at one time.

The medal of the American Institute of Chemists has been awarded to Dr. Charles H. Herty. This medal is awarded annually for "noteworthy and outstanding service to the science and profession of chemistry in America," and is given to Dr. Herty in recognition of his efforts over a long period of years on behalf of American chemists and the American chemical industry. Recently, Dr. Herty has aided the economic rehabilitation of the South by his researches on the paper pulp possibilities of the slash pine. This work is being perfected commercially in the new laboratory built for the State of Georgia by the Chemical Foundation.

Matt Noll of Atcheson, pioneer member of the Kansas Pharmaceutical Association, has completed the history of that organization. He has been aided in this work by Mr. Harrold. It is hoped to publish this history in book form.

E. V. Zoeller, of Tarboro, is completing forty years of continuous service on the North Carolina Board of Pharmacy and begins another five-year term. The *North Carolina Journal of Pharmacy* for April expresses its thanks for the assistance rendered on many occasions by Dr. Zoeller. A sketch of the latter will be found in the October number of the JOURNAL OF THE A. PH. A., for 1929.

The *Northwestern Druggist* and the *Northern Ohio Druggist* are both intensely interesting this month on account of bringing together the remarks of physicians and pharmacists relative to the service they can render one another, and the value of coöperation in general. These abstracts of the addresses are helpful and point out the opportunities of coördinated coöperation of physicians and pharmacists everywhere.

THE PHILADELPHIA INSTITUTE FOR MEDICAL RESEARCH.

Judson Daland, president of the Philadelphia Institute for Medical Research, reports that the work of this Institute will begin next fall and that Dr. Leonard G. Rowntree, now director of the clinical investigation of the Mayo Clinic, has been appointed director.

The Institute mentioned will center its activities in Philadelphia General Hospital and will make use of its opportunities for research. At this hospital and in addition, however, it will also hold itself ready to cooperate, aid and facilitate medical research by collaboration or affiliation with any or all medical and allied institutions, desirous of establishing the relationship.

Washington the National Capital—Senate Document No. 332, 71st Congress, 3d Session, is a book of more than 700 pages, beautifully illustrated and bound. It has been prepared by H. P. Caemmerer, secretary of the Commission of Fine Arts. The AMERICAN PHARMACEUTICAL ASSOCIATION building graces page 497 and shows up well, as the paper of the volume is heavy and well glazed. This brings the American Institute of Pharmacy into the National Capital. The book can be purchased from the Government Printing Office, Superintendent of Documents, for $3.00 and it is only because of Government printing in quantity, that this price is possible.