fine collection of slides loaned the Branch by Dr. Caswell A. Mayo, Cincinnati, showing the plants of many of the leading schools of pharmacy from the Atlantic to the Pacific. The slides were accompanied by an explanatory key paper. These slides were the same as were presented by Dr. Mayo at the Cleveland meeting of the A. Ph. A. About thirty members were present, together with the members of the Board of Pharmacy, and pharmacy students of the M. C. V. The meeting was very entertaining as well as highly instructive, and the appreciation of the Branch was extended to Dr. Mayo for the fine work he has done along this particular line.

A. L. I. WINNE, *Secretary*.

COMMITTEE REPORTS

DRAFT OF MODEL FOR STATE NARCOTIC LAW.

The second conference of representatives of the various professions and trades was held in New York at the Academy of Medicine, 17 West 43rd Street, on Wednesday, November 8th, at 9 A. M., and considered the draft of the proposed model state anti-narcotic law completed by the committee appointed for this purpose as directed by the previous conference held on March 2nd, last. The following representatives were invited to attend this conference:

Anderson, Dr. Wm. C., American Conference of Pharmaceutical Faculties.
Arny, Dr. Henry V., American Conference of Pharmaceutical Faculties.
Beal, J. H., National Drug Trade Conference.
Bevans, James W., National Wholesale Druggists' Association.
Bigelow, Horace W., American Drug Manufacturers' Association.
Blair, Thos. S., M.D., Pennsylvania State Department of Health and Committee of Council on Health, A. M. A.
Chamberlain, J. P., Legislative Drafting Bureau, Columbia University.
Christensen, H. C., National Association Boards of Pharmacy.
Dunn, Charles Wesley, American Pharmaceutical Manufacturers' Association.
Dunn, Morley K., American Pharmaceutical Manufacturers' Association.
Eberle, E. G., American Pharmaceutical Association.
Emerson, Haven, M.D., Council on Health, American Medical Association.
Finneran, J. F., National Association of Retail Druggists.
Foy, J. H., American Association Pharmaceutical Manufacturers.
Henry, Samuel C., President National Drug Trade Conference.
Hostmann, Jeannot, American Pharmaceutical Association.
Hunsberger, Ambrose, Ex-President National Association of Retail Druggists.
Lascoff, J. Leon, President New York State Board of Pharmacy.
Noonan, Harry, American Pharmaceutical Manufacturers' Association.
Pickett, James F., President United Medicine Manufacturers of America.
Possehl, John J., Executive Committee National Association of Retail Druggists.
Robb, Clinton, Counsel United Medicine Manufacturers of America.
Roberts, J. C., American Drug Manufacturers' Association.
Thompson, H. B., Proprietary Association of America.
Turner, John P., American Veterinary Medical Association.
Waterbury, C. H., Secretary National Wholesale Druggists' Association.

The Conference was called to order at 10 A.M. and, except for a luncheon recess from 1 to 2 P.M., continued in session until 6 P.M., when it adjourned *sine die*.

Dr. Haven Emerson, Chairman of the Conference, presided. He reported upon the activities of the drafting committee, and then offered for consideration a draft of the proposed law as prepared by the Drafting Committee.

It was moved, seconded and duly carried that the draft of the Model State Law should be read section by section and each section be considered and approved provisionally before passing to the next succeeding section. This procedure was followed and the results of the discussion and decisions are expressed in the following draft, presented by J. B. Chamberlain for the Drafting Committee:

Section 1. Definitions. As used in this Act:

(1) Person. The term "person" includes any corporation, association, co-partnership or individual.

(2) Physician. The term "physician" means any individual authorized to practice medicine under the laws of this state.

(3) Apothecary. The term "apothecary" means any person authorized to practice pharmacy under the laws of this state.

(4) Dentist. The term "dentist" means any individual authorized to practice dentistry under the laws of this state.

(5) Veterinarian. The term "veterinarian" means any individual authorized to practice veterinary medicine under the laws of this state.

(6) Manufacturer. The term "manufacturer" means a person who by compounding, mixing or other process of manufacture, produces or prepares habit forming drugs for sale on written orders or who manufactures, produces, or prepares any preparation which corresponds to the descriptions enumerated in Section 4 of this Act, and does not include an apothecary who compounds habit forming drugs to be sold or dispensed on prescription.

(7) Wholesaler. The term "wholesaler" means a person who deals in habit forming drugs on written orders.

(8) Sale. The term "sale" includes sale and offer for sale.

(9) Dispense. The term "dispense" includes distribute, leave with, give away, dispose of and deliver to a person or to his agent to be delivered to him.

(10) Administer. The term "administer" means only administration by a person authorized to administer habit forming drugs, or under his orders by a nurse, hospital attendant, interne, or by any other person designated by him.

(11) Coca leaves: The term "coca leaves" includes coca leaves, cocaine, or any compound manufacture, salt, derivative or preparations thereof including any of their salts or any compound of any of them, but shall not include decocanized coca leaves or preparations made therefrom or other preparations of coca leaves which do not contain cocaine.

(12) Opium: The term "opium" includes opium, morphine, codeine, diacetyl morphine (heroin), and any compound, manufacture, salt, derivative or preparation of any of them; but the preparations described in Section 4 of this Act shall not be deemed to be compounds, derivatives or preparations of opium or of its salts or derivatives.

(13) Habit forming drugs: The term "habit forming drugs" means coca leaves or opium.

(14) Written order. The term "written order" means an order on an order form issued by, or other order acceptable to, the Commissioner of Internal Revenue of the United States under the Harrison Act.

(15) Number and gender. The singular includes the plural, the masculine includes the feminine and neuter.

(16) Harrison Act. The term "Harrison Act" when used in this Act means the Act of Congress entitled "An Act to provide for the registration of, with collectors of internal revenue, and to impose a special tax upon all persons who produce, import, manufacture, compound, deal in, dispense, sell, distribute, or give away opium or coca leaves, their salts, derivatives, or preparations and for other purposes"—approved December 17, 1914, as amended.

Section 2. Acts prohibited. No person shall possess, sell, distribute, administer, dispense, or prescribe any habit forming drugs except as provided in this Act.

Section 3. Sale on written orders.

(1) A manufacturer, wholesaler, or apothecary may sell, distribute or dispense habit forming drugs on a written order:

(*a*) To any manufacturer, wholesaler, or apothecary;

(*b*) To any physician, dentist, or veterinarian;

(*c*) To any public or private hospital;

(*d*) To any hospital or institution licensed for the treatment of drug addiction;

(*e*) To any person in charge of a laboratory where habit forming drugs are used for scientific or medical research, but only for such use in such laboratory;

(*f*) To any person in the employ of the United States or of this state or of any political sub-division thereof purchasing or receiving the drugs in his official capacity;

(*g*) To a captain or proper officer of a ship upon which no regular physician is employed for the use of the officers and crew for medical needs of the captain and crew when not in port.

Provided that both parties to the transaction, if required to be registered under the Harrison Act, are so registered.

Note: Sub-division (*g*) is inserted for application to states having ports.

(*h*) A written order shall be signed by the person giving it or by his duly authorized agent and shall be kept for two years by the person filling it in such a way as to be readily accessible for inspection and shall be subject to inspection by any public officer or employee engaged in the enforcement of this Act.

(*i*) Possession of habit forming drugs obtained as provided in this section shall be legitimate if possessed in the regular course of business, occupation, profession, employment or duty of the possessor.

Section 4. Preparations and remedies.

A person may manufacture, sell, dispense or possess preparations and remedies not otherwise prohibited by law, which contain not more than two grains of opium, or more than one-quarter of a grain of morphine or more than one-eighth of a grain of diacetyl morphine (heroin), or more than one grain of codeine, or any salt or derivative of any of them in one fluidounce; or liniments, ointments, or other preparations which are prepared for external use only, except liniments, ointments, and other preparations which contain cocaine or any of its salts or any synthetic substitute for them: provided that such remedies and preparations are manufactured, sold, dispensed or possessed as medicines and not for the purpose of evading this Act.

Section 5. Professional use:

(1) Veterinarians. A veterinarian in the course of his professional practice only and not for use by a human being, may prescribe, administer or dispense habit forming drugs.

(2) Dentists. A dentist, in good faith in the course of his professional practice only, may prescribe for, administer or dispense habit forming drugs to patients under his immediate treatment.

(3) Physicians. A physician, in good faith, in the course of his professional practice only, may prescribe, administer or dispense habit forming drugs.

Section 6. Prescriptions.

(1) Any apothecary may sell or dispense habit forming drugs to any individual upon a written prescription of a physician, dentist, or veterinarian, dated and signed on the day when issued and bearing the full name and address of the patient and the name, address and registry number of the practitioner under the Harrison Act. The person filling the prescription must write the date of filling and his own signature upon the face of the prescription, and the prescription must be retained on file by the apothecary filling it for two years so as to be readily accessible for inspection and it shall be subject to inspection by any public officer or employee engaged in the enforcement of this act.

(2) No such prescription shall be refilled except prescriptions specifying codeine, or a preparation containing codeine, and no other compound of opium or coca leaves.*

Section 7. Record to be kept.

Every physician, dentist, and veterinarian shall keep a record of all habit forming drugs dispensed by him, showing the amount dispensed, the date, the name and address of the patient; and in case of a veterinarian, the name and address of the owner of the animal for which such drugs are dispensed or distributed. The record shall be kept for two years from the date of dispensing such drugs so as to be readily accessible for inspection, and shall be subject to inspection by the proper authorities.

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* This provision is at present contrary to the regulations now in force under The Harrison Act and is approved subject to revision of the regulations by the Treasury Department to conform to this provision of the proposed State Model Law. The conference expressed its belief that every effort should be made to obtain modifications of the existing Treasury Department regulations so that there may be agreement between them and the proposed text of the Model Law.

Section 8. Label.

Whenever an apothecary pursuant to a written prescription shall dispense habit forming drugs or whenever a physician, dentist or veterinarian shall dispense any of such drugs, he shall securely affix to the container of such drugs a label stating in legible English the name and address of the physician, dentist or veterinarian prescribing and of the apothecary dispensing and the date when and the name and address of the person for whom or the owner of the animal for which the drug is dispensed.

Section 9. Authorized possession of drugs by individual.

A person to whom or for whose use any habit forming drug has been dispensed by an apothecary, physician or dentist, or the owner of an animal for which any such drug has been dispensed by a veterinarian, may lawfully possess it in the container delivered to him by the person dispensing same.

Section 10. Physical examination required.

A physician, dentist or veterinarian shall not administer, dispense or prescribe any habit forming drugs, except after a physical examination of the person for whom or animal for which the drug is intended.

Section 11. Exemption from restrictions.

(1) The provisions of this act restricting the possession of habit forming drugs shall not apply to common carriers or warehousemen or their employees engaged in the lawful transportation or storage of such drugs, or to public officers or employees while engaged in the performance of their official duties, or to temporary incidental possession by employees or agents of persons lawfully entitled to possession, or by persons whose possession is for the purpose of aiding public officers in the performance of their official duties.

(2) This Act shall not apply to acts done, or to habit forming drugs possessed, in the course of interstate or foreign commerce.

Section 12. Drugs delivered to local or state department of health.

All drugs which have been seized and judicially determined to have been unlawfully possessed or the title to which has ceased and which have come into the hands of a peace officer, shall, upon the direction of a court or magistrate, be delivered to the Department of Health, which shall keep record of its receipt, and shall be delivered by it to the Collector of Internal Revenue for the district in which the drugs were seized, from whom a receipt shall be required.

Section 13. Use of federal forms.

Whenever by this act any record is required to be kept or any order blank or prescription to be used, a record kept on any order blank prescription used under the Harrision Act or under rules or regulations made thereunder, shall be sufficient fulfilment of the requirement of this Act.

Section 14. Revocation of licenses.

(1) On conviction of any physician, dentist, veterinarian or apothecary for wilful violation of any of the provisions of this Act, a copy of the sentence and of the opinion of the court or magistrate, if any be filed, shall be sent by the clerk of the court, or by the magistrate, to the Board or officer having power to suspend or revoke the license or registration of the person convicted, for such action as the Board or officer deems proper.

(2) At the request of such Board or officer, the clerk or magistrate shall send to such Board or officer a transcript of the record or of the proceedings in a court not of record, and such portion of the evidence as may be requested.

Section 15. Penalties.

A violation of any of the provisions of this article shall constitute a misdemeanor.

Note: No definite penalty is included, as the question of how severe the penalty should be is left to each state. It is usual in the states to make a violation a misdemeanor and usually the penalties are fixed in the state statute. Sometimes it is enough to say that a violation "shall constitute a misdemeanor," depending upon a provision in the penal law of the state, as in New York, fixing the penalty for misdemeanor, but it will usually be found advisable to fix the penalties expressly in the statute.

Section 16. Enforcing authority.

Note: No particular enforcing authority has been insisted on since the existing statutes show that different states have different opinions as to the proper enforcement. Furthermore,

if the state health authority is made the enforcing authority, it will be necessary in each state to use the proper term to describe that authority, sometimes the department of health, sometimes the health commissioner or board of health. In some cases a department of public safety or commissioner of public safety will be the proper enforcing authority. In any case, however, the power to make rules and regulations should be phrased as follows:

"The Department may make rules and regulations necessary for the enforcement of this Act, but such rules and regulations shall be kept in conformity with the rules and regulations made under the Harrison Act."

Section 17. Short title.

This Act shall be known and may be cited as "The Narcotic Drugs Act."

MEMORANDUM.

1. Title. The committee has judged it best not to propose any title for the Act, since the requirements in state constitutions respecting title are dissimilar.

MASSACHUSETTS.—Title:

"An Act Relative to the Sale and Distribution of Certain Narcotic Drugs."

PENNSYLVANIA.—Title:

"For the protection of the public health by regulating the possession, control, dealing in, giving away, delivery, dispensing, administering, prescribing, and use of certain drugs and keeping records thereof; by providing for revocation and suspension of licenses of physicians, dentists, veterinarians, pharmacists and druggists, for certain causes, and by providing for the enforcement of this Act, and penalties."

NEW YORK.—Title:

"To amend the public health law, in relation to habit forming drugs, to provide for the control of the possession, sale, prescribing, dispensing, dealing in and distribution of such drugs."

2. Administration. The committee does not recommend that any definite state agency, such as the health authority, administer the Act, but leaves this question to the choice of each state. It recommends that the bill be reviewed carefully after the administrative authority has been determined upon to be sure that the proper terms are used to designate the administering authority in the bill.

3. Definitions. Many of these will be unnecessary in certain states. For example, Section I (15) will be unnecessary in a state like New York, as it is already included in the general construction act. The definitions of physician, apothecary, dentist and veterinarian will need to be extended in most states by a reference to statutes which provide for the licensing of these professional persons in order to get a complete description. For example, in New York the term "physician" would have to be defined as follows:

"The term 'Physician' means a licensed practitioner of medicine as defined by article eight of this chapter," etc. In Massachusetts the statute refers to a special chapter of the revised laws which describes "druggist, apothecary, or pharmacist," the three words being used. In Massachusetts physicians, dentists and veterinarians are defined as persons "duly registered and authorized to practice their profession." Pennsylvania describes them as "licensed physician, dentist, or veterinarian," without definite reference. It may be necessary to add definitions in certain cases. For example, in New York the term medicine is defined in the public health law, Section 236 (9) so that a similar definition would be advisable here or a reference to the public health law definition, in order to make sure that the same thing was intended. In other states, which have not for other purposes defined medicine, this would seem to be unnecessary.

Resolved, That the draft of the result of our deliberations as embodied in Sections 1 to 17 as amended, be submitted to the respective organizations represented in this conference for their consideration and for such disposition as they shall, respectively, deem appropriate.

BARIUM SULPHATE FOR ROENTGEN-RAY WORK.

REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

The Council has adopted the report of the American Medical Association Chemical Laboratory on Barium Sulphate for Roentgen-ray Work that follows and directed that the revised tests and standards be included in New and Nonofficial Remedies, 1923.

W. A. PUCKNER, *Secretary.*

In consideration of the increasing use of barium sulphate in Roentgen-ray work, the Council decided to describe barium sulphate for Roentgen-ray work in New and Nonofficial Remedies. The description which appears in New and Nonofficial Remedies, 1917, was prepared after consulting interested manufacturers. This description has appeared in subsequent editions of New and Nonofficial Remedies with but minor changes.

A firm which manufactures barium sulphate for Roentgen-ray work criticized the test for this substance, which limits the amount of permissible phosphate.

The firm stated that in the manufacture of barium sulphate for Roentgen-ray work it has been the aim to supply an article of as high a degree of purity as is commercially obtainable and that the test which it employs to limit the amount of soluble barium salts is more stringent than that prescribed in New and Nonofficial Remedies. The firm stated that, though its product was free from objectionable impurities and equal to that of other brands on the market, it was confronted with the difficulty that its product, when tested by the New and Nonofficial Remedies standards, appears to contain acid-soluble barium salts. The firm urged that the phosphate test be omitted, in that it shows a noticeable reaction for phosphate when barium phosphate is totally absent, but when non-poisonous and unobjectionable phosphates, such as calcium phosphate, were present.

The manufacturer submitted the tests which were used for the control of barium sulphate for Roentgen-ray work. These included the test for soluble barium salts and also the following test for the fineness (fluffiness) of the product:

> Introduce 15 Gm. of the material into a 50 cubic centimeter glass-stoppered cylinder and add sufficient water, so that, after thoroughly agitating the mixture, it has a total volume of 50 cc. After this mixture has stood for ten minutes, the upper or aqueous layer should not exceed 5 cc.

The objection to the phosphate test appeared well founded, and the proposed revision of the text for soluble barium salts and the "fluffiness" test worthy of consideration; therefore, the A. M. A. Chemical Laboratory drew up a tentative revision of the N. N. R. standards which omitted the phosphate test and included the more sensitive barium test and the "fluffiness" test. It submitted this revision to those firms whose brands of barium sulphate for Roentgen-ray work had been admitted to New and Nonofficial Remedies.

In general, the replies which were received indicated that the firms were ready to accept the more stringent test for barium salts, other than barium sulphate, and also the "fluffiness" test. One firm, however, definitely objected to the latter test on the ground that users of barium sulphate in Roentgen-ray laboratories had found difficulty in preparing suspensions with a too "fluffy" product. Some of the firms did not favor omission of the phosphate test on the ground that appreciable amounts of insoluble phosphate, such as calcium phosphate, should not be permitted in barium sulphate, and two firms recommended the adoption of a test limiting the water and acid soluble material in barium sulphate. For the latter test, the argument was advanced that, under the present N. N. R. standards, large quantities of foreign salts are permitted.

Since one firm held that a "fluffy" barium sulphate had proved unsatisfactory, inquiry was made of a representative group of Roentgenologists as to whether they considered it desirable that barium sulphate be required to be in a finely divided physical condition. Inquiry was also made as to the brands which had been found satisfactory.

In general, the twenty-eight replies which were received held that barium sulphate should be in as fine a state of sub-division as possible. However, many of the replies held that extreme fineness was not essential. This was emphasized by the enumeration of the brands that had been used with satisfaction. One correspondent stated that a medium fineness was to be preferred and that difficulty had been experienced in the use of a very fine powder. Another correspondent stated that a powder passing a forty mesh sieve was satisfactory, and another that a product was acceptable so long as it did not clog up an enema tube (containing no particles larger than a grain

of what). Several objected to the high price charged for some of the very finely divided products. The following is the reply of a prominent Roentgenologist:

> We have used barium sulphate from various manufacturers, and have found little difference, except as to price. For example, some manufacturers label their barium sulphate, "Specially prepared for X-ray purposes," and boost the price three or four hundred percent. For the last ten years we have used ——'s chemically pure barium sulphate. It has always proved entirely satisfactory. Other things being equal, I think that perhaps the barium sulphate which remains longest in suspension would be most desirable. To sum up, I would answer your first question by saying that it is not essential for the barium to be any more finely divided than it is in the various brands that we have used. Second, all brands were found to be satisfactory.

From the replies of the users of barium sulphate, it appears that the fluffiness test is not essential. It has the objection that a powder containing a small proportion of very fine material will respond favorably to the test, even though it contains a relatively large proportion of coarse particles.

The replies also make it clear that the phosphate test (which makes a product containing a negligible amount of calcium phosphate inadmissible) is unnecessary. The adoption, in its place, of a test which shall require reasonable freedom from foreign salts, along with tests which shall guarantee freedom from water soluble and acid soluble barium salts and freedom from heavy metallic salts, such as those of lead, would appear adequately to insure a barium sulphate, for Roentgen-ray work which is of acceptable quality and which can be produced at a reasonable price.

The revised tests and standards for barium sulphate which were drawn up on the basis of the available evidence were submitted for criticism to the firms whose brands of barium sulphate for Roentgen-ray work stand admitted to N. N. R. In consideration of the replies received, the laboratory recommends the adoption of the following tests and standards for barium sulphate for Roentgen-ray work, in place of those now in New and Nonofficial Remedies:

Barium Sulphate for Roentgen-ray Work.—Barii Sulphas Roentgenographicus.—Barium sulphate freed from soluble barium salts.

> Barium sulphate for Roentgen-ray work is a fine white, odorless, tasteless and relatively light powder, free from grittiness, and is insoluble in water and organic solvents as well as in aqueous solutions of acids and of alkalies.
>
> Mix 0.5 Gm. of barium sulphate for Roentgen-ray work with 2 Gm. each of anhydrous sodium carbonate and anhydrous potassium carbonate; heat the mixture in a crucible until fusion is complete; treat the resulting fused mass with hot water, and then filter. Acidify a portion of the filtrate with hydrochloric acid; add 1 cc of barium chloride solution; a white precipitate forms (*sulphate*). Dissolve a portion of the well-washed residue in acetic acid and add 1 cc of potassium chromate solution; a yellow precipitate forms (*barium*). Dissolve another portion of the well-washed residue in a small amount of hydrochloric acid; place a drop of the solution on the loop of a clean platinum wire, and ignite in a non-luminous flame; a green color is imparted to the flame (*barium*).
>
> Boil 10 Gm. of barium sulphate for Roentgen-ray work with 100 cc of hydrochloric acid, 1 percent, for ten minutes, and add sufficient water to restore the original volume. Cool the mixture and filter through a paper which has been washed previously with the diluted hydrochloric acid, returning the first portions if necessary until a perfectly clear filtrate is obtained. Evaporate 50 cc of the filtrate to dryness on the water-bath; add 2 drops of hydrochloric acid, U. S. P., and 10 cc of hot water; filter through a hydrochloric acid washed filter; wash with 5–10 cc of hot water, and evaporate the filtrate to dryness in a tared dish on the water-bath. The residue, when dried to constant weight at from 100 to 110° C. should not be more than 0.3 percent (*limit of water and dilute acid soluble non-volatile material*). Treat the residue with 10 cc of water; filter the solution through a hydrochloric acid washed filter and add 0.5 cc of diluted sulphuric acid; no turbidity should develop within one-half hour (*soluble barium salts*).
>
> Boil 5 Gm. of barium sulphate for Roentgen-ray work with 50 cc of diluted acetic acid. Filter while hot and saturate the clear filtrate with hydrogen sulphide; no turbidity or coloration should be formed (*heavy metals*).
>
> Triturate 2 Gm. of barium sulphate for Roentgen-ray work with 5 cc of concentrated hydrochloric acid, then add 10 cc of a freshly made, saturated solution of stannous chloride; no dark coloration occurs within one-half hour (*arsenic*).