PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and Branches shall become the property of the Association with the understanding that they are not to be published in any other publication prior to their publication in those of the Association, except with the consent of the Council." —Part of Chapter VI, Article VI of the By-Laws.

ARTICLE III of Chapter VII reads: "The objects and aims of local branches of this Association shall be the same as set forth in ARTICLE I of the Constitution of this body, *and the acts of local branches shall in no way commit or bind this Association, and can only serve as recommendations to it.* And no local branch shall enact any article of Constitution or By-Law to conflict with the Constitution or By-Laws of this Association."

ARTICLE IV of Chapter VII reads: "Each local branch having not less than 50 dues-paid members of the Association, holding not less than six meetings annually with an attendance of not less than 9 members at each meeting, and the proceedings of which shall have been submitted to the JOURNAL for publication, may elect one representative to the House of Delegates."

Reports of the meeting of the Local Branches shall be mailed to the Editor on the day following the meeting, if possible. Minutes should be typewritten with wide spaces between the lines. Care should be taken to give proper names correctly and manuscript should be signed by the reporter.

BALTIMORE.

The February meeting of the Baltimore Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION was held at the Hotel Emerson on Monday, February 18, 1935. President Wm. F. Reindollar presided.

The speaker of the evening was Dr. J. Leon Lascoff,[1] of New York City, who discussed methods of compounding difficult prescriptions and gave demonstrations. The title of his paper was—"It Can Be Done"—the paper follows:

IT CAN BE DONE. III.

The author stated that this was the third paper of the series, the first was presented at the Baltimore meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, and the second before the Massachusetts Pharmaceutical Association.

The presciptions discussed in this paper are representative of those received in the "Lascoff Pharmacy," some are brought in by pharmacists to be compounded for them, on others advice was asked by phone and otherwise.

Requests are received daily from pharmacists asking for advice in dispensing. Quite often, the reason for this is due to the fact that the patient has brought in a copy of the prescription from another pharmacy. The one who originally compounded the prescription may have dispensed a clear solution or a homogeneous mixture. The next dispenser may have produced a cloudy mixture, or one so unsavory that the patient probably felt that he would be benefited more by not taking it than by following the directions on the label.

Such differences in results of dispensing often lead physicians to prescribe proprietaries. It is not difficult to understand why; the physician is certain, to a degree, that when he prescribes a proprietary that he will obtain a mixture containing equally divided doses, having a pleasant taste, a good color and a uniformity of appearance no matter where it is dispensed.

The New York State Pharmaceutical Association has appointed a U. S. P. and N. F. Propaganda Committee, which has sponsored meetings of physicians and pharmacists. At these gatherings the physicians have been asked why they did not prescribe U. S. P. and N. F. preparations more frequently. The gist of their complaints was the lack of uniformity in dispensing and the fact that they could not obtain satisfactory preparations of the same medication from different pharmacists.

It was pointed out, of course, that if the patient read the prescription, and discovered that the medicine was a proprietary which could be purchased practically anywhere, it was very apt to

[1] Chairman, Committee on Recipe Book.

lead to self-medication. Most physicians are willing to prescribe official preparations if they can do so with the assurance that their patients will receive uniform, palatable preparations.

Physicians are visited daily by detail men from the pharmaceutical manufacturing houses. Usually samples of proprietaries and the "Pharmacopœia" of the manufacturer are left with the physicians. The question arises, "Why does not the Pharmacist do his own detail work?" There are many practical methods of doing this, and the results are really worth while.

If all pharmacists belonged to, and supported the state and national pharmaceutical associations, effective propaganda could be carried on, the purpose of which would be to acquaint physicians with the merits of official preparations and the advisability of prescribing them.

Unfortunately, many pharmacists have no desire to develop their prescription practice; they consider it a "necessary evil." They prefer selling some article which merely requires wrapping up; they consider that this type of business is easier to handle, requires less work, involves no responsibility and the profits are greater. But prescription business is worth while, and statistics prove it.

Quoting Dr. Robert L. Swain, in a recent issue of *Drug Topics:*

"Statistics reveal that retail pharmacists compound annually more than 250,000,000 prescriptions. Each of these represents a contribution to the health and physical welfare of the general public. This impressive record establishes the pharmacist as a health officer whose profession is vitally affected by the public interest."

Mind you, 250,000,000 prescriptions are compounded in the course of one year! This figure offers a very obvious answer to the question, "Is prescription business worth while?"

For years the separation of the pharmacy from the drug store has been advocated by the speaker—the professional pharmacy should not be submerged by side-lines, and sandwich counters, and it is interesting to note that for the past few years there has been a definite movement toward professionalism in pharmacy. Many pharmacists who had luncheonettes which practically obscured their prescription counters, have discarded the lunchrooms and are featuring prescription departments instead.

In the writer's observations of these changes he has noticed three types of Prescription Departments for which improvements might be suggested:

1. The type which is entirely enclosed, which is tucked into a very small space in the pharmacy, and bears a "No Admittance" sign.

2. The type having a partition so high that persons on the outside can see only the ceiling of the prescription room.

3. The type having the entire prescription room open to the view of the public. Everything the pharmacist does is seen by the customer. This is not always advisable.

The writer does not approve of prescription rooms which are too open nor of those which are entirely closed. There should be a happy medium—neither completely closed nor entirely open. The dividing partition between the prescription room and other section of the pharmacy should be high enough for a person to see the head of the pharmacist at work, but not his hands. The patient should not see when a label is washed off a bottle or when pills are transferred from an original package to a box, in order to affix directions.

In the average store the size of the Prescription Department should be about one-third that of the entire store. The counters of the department should be made of "white glass." This is very easily kept clean and presents a very attractive appearance to the laity who observe; it also makes a good impression on physicians who are enthusiastic about cleanliness.

Needless to say, it is not enough to just install an attractive prescription room; pharmacists cannot stop at this point—they must make their departments pay.

There are many methods which can be used to increase the volume of the prescription business:

Detailing the neighborhood physicians advisable.—Let the physician know that you are equipped to help him solve his prescription problems. Impress him with the idea that you can do something for him. Interest him enough so that he will visit your pharmacy and your prescription department. But be sure that you have something worth showing, so that the physician will not feel that his time has been wasted.

Keep the public advised of the fact that yours is a professional pharmacy. Advertising in

the local papers and journals is an effective method of doing this. Well-arranged, professional windows usually attract attention and create a lasting impression.

In dispensing, use neat boxes, labels and wrapping materials. Everything that leaves the pharmacy must be in tip-top order. Use only those ingredients manufactured by reputable concerns.

In the writer's opinion a successful prescription pharmacy cannot be run by one man alone; a prescription should be compounded without interruptions. This is not possible when one man attempts to take care of both the counter trade and the compounding. The pharmacist should be able to carefully read over the prescription, noting the doses, and the incompatibilities if any are present. Under no circumstances should he be that type of pharmacist who continually abuses the "Shake Label." If he is in doubt about any of the ingredients in a prescription or about the doses he should consult the physician or reference books. Those prescriptions which present compounding difficulties should be studied with care. Many mixtures from which it is, at first glance, seemingly impossible to make a palatable, homogeneous preparation can be properly made and dispensed with the exercise of due thought and care.

The prescriptions which follow are samples of those which have troubled many pharmacists. Correct compounding procedures have converted them from disagreeable looking, unsatisfactory products, to preparations which are proper and correct for administration as medicine.

℞ 1	Ichthyol	4.0
	Calamine	8.0
	Zinc Stearate	2.0
	Lime Water *q. s.*	120.0

In compounding this prescription, as written, the zinc stearate will float at the top of the mixture. Neither acacia nor tragacanth will help in obtaining a smooth mixture. The only remedy is to add glycerin to the zinc stearate, rubbing well. Add the calamine. Add the ichthyol previously dissolved in a small quantity of water. Finally add lime water enough to make 120 cc.

℞ 2	Potassium Iodide	ʒI
	Salicylic Acid	ʒII
	Sodium Bicarbonate	ʒII
	Tincture of Colchicum Seed	ʒIII
	Aromatic Elixir	
	Compound Syrup of Sarsaparilla of each *q. s.*	fʒIII

This prescription does not contain sufficient sodium bicarbonate to neutralize the salicylic acid. It is necessary to add 2 drachms of sodium bicarbonate to the salicylic acid with the aromatic elixir. When the reaction has taken place, filter out the excess sodium bicarbonate and add the other ingredients. The resulting solution is clear without any sediment or precipitation.

℞ 3	Ammoniated Mercury	2.0
	Acid Salicylic	3.0
	Phenol	0.5
	Alcohol*	15.0
	Soft Soap	10.0
	Rose Water *q. s.*	90.0

The pharmacist who presented this prescription complained that after compounding, a heavy lumpy precipitate formed which greatly resembled a sponge. No matter how he attempted to fill this prescription, he did not get a satisfactory preparation. The method used in the preparation shown, was to rub up the ammoniated mercury and the salicylic acid to a very fine uniform powder. Add the rose water, triturating well until a smooth paste is formed. Add the soft soap and lastly the phenol.

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* The alcohol was omitted, because this seemed to cause all of the trouble.

℞ 4	Zinc Sulphate	gr. I
	Boric Acid	gr. V
	Sodium Borate	gr. IV
	Rose Water *q. s.*	fl. oz. I

This prescription is intended as an eye prescription and if compounded as written will form a zinc borate compound which is insoluble. The addition of Price's Glycerin does not dissolve the precipitate sufficiently to enable it to be used in the eyes. The only other alternative is to filter, which was done.

℞ 5	Betanaphthol	ʒI
	Asafetida	ʒII
	Syrup	fʒII
	Elixir of Three Bromides *q. s.*	fʒIII

The pharmacist telephoned in this difficult prescription and informed us that he had tried making an emulsion using acacia to emulsify the asafetida. He evidently did not remember that there is an official Emulsion of Asafetida, which does not employ acacia or tragacanth. We rubbed up the asafetida to a very fine powder and then adding water very little at a time, formed an emulsion. To this add the betanaphthol previously rubbed up with the elixir of three bromides and add the syrup. This mixture was strained through cotton. The result is a homogeneous mixture without any separation.

℞ 6	Morphine Sulphate	gr. II
	Potassium Iodide	gr. C
	Tincture of Belladonna	ʒII
	Peppermint Water *q. s.*	fʒIII

When compounded, a precipitation of morphine alkaloid takes place due to the action of the potassium iodide on the alkaloidal salt, morphine sulphate. There is not enough alcohol in the tincture of belladonna to keep the morphine alkaloid in solution, therefore it is necessary to add about three drachms of alcohol, which will dissolve the precipitate.

℞ 7	Cinnabar	4.0
	Precipitated Sulphur	4.0
	Water *q. s.*	120.0

This prescription presented a very messy appearance when compounded as written. The cinnabar stuck to the sides of the bottle and could not be shaken into a uniform mixture. It is not necessary to use acacia or tragacanth. In preparing this prescription, we rubbed up the cinnabar with half an ounce of glycerin and added to this the precipitated sulphur. Finally, the water was added, forming a fine uniform homogeneous mixture without any messy separation.

℞ 8	Fluidextract of Cannabis	ʒIss
	Ammonium Chloride	ʒIII
	Syrup of Hydriodic Acid *q. s.*	fʒIV

The resins of cannabis will be precipitated out by the syrup, therefore, it will be necessary to add an equal amount of acacia to the cannabis. Dissolve the ammonium chloride in about three drachms of water. To this add the syrup of hydriodic acid and add gradually to the fluidextract of cannabis and acacia. The resulting mixture does not contain any precipitation and is a uniform mixture, suitable for dispensing.

℞ 9	Lead Acetate	4.5
	Precipitated Sulphur	4.5
	Glycerin	4.5
	Water *q. s.*	90.0

In this prescription the sulphur will separate out and a uniform mixture cannot be obtained if compounded as written. It is necessary, therefore, to rub up the sulphur with a drachm of tragacanth, to which glycerin was added. Dissolve the lead acetate in water and add to the sulphur mixture. Finally add enough water to make the ninety cc. This mixture, when shaken, is presentable and can very well be dispensed without fear of the sulphur separation taking place.

℞ 10	Sodium Borate	9.0
	Oil of Gaultheria	3.6
	Liniment of Soft Soap *q. s.*	120.0

We compounded this prescription as written and noted after a while that there were large pieces of floating borax (presumably). This was also evidenced when the lotion was rubbed on the hand. It was very gritty. To remedy this, we dissolved the sodium borate in a small quantity of hot water and rubbed this up with soft soap. Next we added the oil of gaultheria and the liniment of soft soap, enough to make 120 cc.

℞ 11	Sodium Bromide	ʒIII
	Ammonium Bromide	ʒIII
	Elix of Iron, Quinine and Strychnine Phosphate *q. s.*	fʒIII

The elixir is not very stable and is incompatible with a large number of other ingredients. In this prescription it is advisable to use the Elixir of Iron Quinine and Strychnine Citrate. The solution would then be clear without any separation or precipitation.

℞ 12	Potassium Chlorate	8.0
	Tincture of Myrrh	12.0
	Distilled Water *q. s.*	120.0

This is intended as a gargle but could not be used if compounded as written. There is a separation of the constituents of the tincture of myrrh when added to the water. To overcome this, we rubbed up the tincture of myrrh with one drachm of powdered acacia. Separately we dissolved the potassium chlorate in some water and added to the myrrh and acacia. Finally enough water was added to make the 120 cc. The final mixture is homogeneous without any separation.

℞ 13	Strontium Bromide	12.0
	Ammonium Carbonate	8.0
	Syrup of Tolu	30.0
	Water *q. s.*	90.0

The difficulty in this prescription lies in the fact that the strontium bromide is incompatible with alkalies. Therefore, it is necessary to use ammonium bromide in place of the strontium bromide when a very nice clear solution results.

℞ 14	Phenobarbital	0.5
	Sodium Bromide	4.0
	Elixir Pyramidon	45.0
	Water *q. s.*	60.0

When compounded, we noticed a precipitate of fine crystals which probably is the phenobarbital. Instead of using phenobarbital, we used the soluble phenobarbital, namely—Phenobarbital Sodium. We dissolved this together with the sodium bromide in water and added the elixir pyramidon. There is not sufficient alcohol in the elixir to precipitate out the phenobarbital sodium.

℞ 15	Menthol	0.06
	Camphor	0.06
	Mercurochrome	0.12
	Olive Oil	60.00

The mercurochrome is not soluble in the olive oil; therefore, it is necessary to dissolve the mercurochrome in a few drops of water. Pick up this solution with a small quantity of Aquaphor. To this gradually add the olive oil. In another mortar triturate the menthol and camphor together until they liquefy. Add some of the olive oil to this. Finally, mix both solutions and add enough of the oil to make the two ounces. The resulting mixture does not have any separation of the mercurochrome and is perfectly uniform.

℞ 16	Arsenic Trioxide	0.06
	Extract of Nux Vomica	2.00
	Quinine Sulphate	0.60
	Peppermint Water *q. s.*	240.00

None of the powder ingredients are soluble in water; therefore, if compounded as written, the patient may very easily take an overdose. In preparing this prescription, we used 100 minims of the Liquor Acidi Arsenosi which is 1% arsenic trioxide. Also, instead of using the insoluble quinine sulphate, we could use the soluble quinine bisulphate. Dissolve the extract of nux vomica in some diluted alcohol. Add all of the solutions and then add sufficient peppermint water to make 240 cc. You will note, in the finished product, that there is no precipitation and that the solution is perfectly clear.

℞ 17	Camphor	4.00
	Salicylic Acid	0.66
	Precipitated Sulphur	6.50
	Lime Water *q. s.*	120.00

When compounding this prescription as written, we noticed a complete separation of the insoluble material. To properly compound this we dissolved the camphor and salicylic acid in a small quantity of alcohol. Rub up the sulphur with about a drachm of tragacanth, adding the lime water. Finally mix the camphor solution to the sulphur and add enough lime water to make 120 cc.

℞ 18	Phenol	1.0
	Tincture of Iodine	1.0
	Mucilage of Acacia	4.0
	Alcohol	20.0

When compounded as written, a stringy precipitate results which is due to the incompatibility of the alcohol with the acacia. Therefore, in order to dispense a presentable solution, we can leave out the troublesome mucilage of acacia and the result will be a clear solution.

℞ 19	Iodine	gr. I
	Ephedrine Alkaloid	gr. V
	Menthol	gr. III
	Camphor	gr. III
	Liquid Petrolatum *q. s.*	f℥I

When the pharmacist compounded this prescription, he noted that upon the addition of the ephedrine alkaloid, the solution turned a murky brown and after a day, decolorized completely. This was due, of course, to the action of the alkaloid on the iodine. We compounded this prescription by rubbing up the camphor and menthol until liquid, then added the iodine and a small amount of petrolatum and rubbed until the iodine dissolved. Using ephedrine sulphate instead of the alkaloid, we dissolved this in a small quantity of water and picked it up with aid of Aquaphor. To the ephedrine mixture, we added slowly the liquid petrolatum. Next we added the camphor menthol iodine solution. You will note that the finished product has kept its color and odor of iodine.

℞ 20	Biniodide of Mercury		gr. Iss
	Tincture of Iodine Potassium Iodide Syrup of Ferrous Iodide	} of each	℥II
	Aromatic Elixir		f℥II

℞ 21	Magnesium Oxide	ʒII
	Bismuth Subcarbonate	ʒI
	Sodium Bicarbonate	ʒIII
	Calcium Carbonate	ʒII
	Water *q. s.*	fʒIV

This prescription, after standing for a very short time, became very hard and could not be removed from the bottle. When we compounded this, we added to the powders half an ounce of glycerin and this served to keep the powders in sufficient suspension to be dispensed.

CAPSULES.

Recently, the manufacturers have been detailing the physicians on capsules, instead of tablets and pills. This is because of the fact that the physicians are not prescribing ready made pills—they prefer to have the pills freshly made.

The manufacturers are selling such items as Iron and Ammonium Citrate capsules, Digitalis capsules, etc. The cost to the pharmacist is a great deal more than if he were to prepare these himself.

It is not too difficult for any pharmacist to prepare any number of quinidine capsules.

In connection with quinidine, it was called to the writer's attention, the other day, that a physician wrote for "Quinoidine" and the pharmacist dispensed quinidine. Evidently the pharmacist did not trouble to look in his reference books to see if there was such an item as "Quinoidine" or he misread it as "Quinidine."

℞ 23	Quinoidine Capsules	gr. V
℞ 24	Quinidine Capsules	gr. V
	Iron and Ammonium Citrate Capsules	0.5

SUPPOSITORIES.

℞ 25	Chloral Hydrate	gr. X
	Make 12 suppositories.	

The pharmacist endeavored to prepare these suppositories but found that they melted while he was working.

In conclusion the author expressed the hope that the demonstrations had been of interest, and that some of the suggestions offered may prove of value. He said that to him Pharmacy is not just a business; he found it an interesting, and absorbing profession, as well as a hobby. He expressed his appreciation of the efforts in his behalf and thanked the members.

An informal dinner was given for the guest of honor which was attended by members of the Baltimore Branch.

Prof. E. N. Gathercoal,[1] of Chicago, was present and commented on the paper. A general discussion was entered into regarding the presciptions considered by the author. A rising vote of thanks was tendered the latter for his excellent paper.

About forty members attended the meeting.

C. JELEFF CARR, *Secretary-Treasurer.*

CHICAGO.

The monthly meeting of the Chicago branch of the AMERICAN PHARMACEUTICAL ASSOCIATION was held February 19th, at the University of Illinois College of Pharmacy.

The speaker of the evening was E. E. Swanson, of the Eli Lilly Research Laboratories, who discussed "Physiological Testing."

An introduction to the discussion was made by mentioning the purpose and uses of bio-assays. Bio-assay, or physiological testing, is used where the chemistry of the drug is not definitely known and where a reliable basis of standardization is needed. With some of the drugs that are bio-assayed there are cases where there are more than one active constituent.

[1] Chairman, Committee on National Formulary.

The speaker cited a cardiac stimulant as an example of bio-assay. These drugs are assayed on the frog or cat. In large production work accuracy of the tests is accomplished by a definite system of procedure. Digitalis, for example, comes to the manufacturing house in carload lots. The crude drug is assayed biologically and must assay at least 10 per cent above the U. S. P. standards. The crude drug is passed if it is satisfactory. Then the various preparations of the drug are returned for further testing.

Mr. Swanson stated that his tests showed the U. S. P. frog method and Hatcher Cat method to give about the same results, but preferred the frog method inasmuch as the cat method would involve the use of about sixty cats per week in the large laboratories.

Aconite was discussed and it was stated that the physiological test for strength was much more accurate than the chemical test, especially after the preparation of the drug has stood for some time. Hydrogen-ion concentration control was mentioned as a means of preventing deterioration.

A discussion of the assay work on ergot, insulin and pituitary extract was made.

Following the discussion lantern slides were shown to demonstrate many of the points that Mr. Swanson had discussed.

LAWRENCE TEMPLETON, *Secretary.*

NEW YORK.

The February 1935 meeting of the New York Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION was held in the building of the College of Pharmacy, Columbia University, on the evening of February 11th. About sixty members and their guests attended.

President C. W. Ballard was in the chair and called upon the secretary for his report. This was read and accepted.

Chairman R. S. Lehman of the Committee on Education and Legislation presented his report as follows:

National Legislation.—The new alcohol regulations are out—druggists may buy alcohol in larger quantities than one gallon according to bulletin No. 170 of the F. A. C. A., dated January 22, 1935. This bulletin defines the Industrial Uses of Alcohol as follows:

Use of Alcohol and other distilled spirits or wine in the manufacture of medicinal, pharmaceutical or antiseptic products including prescriptions compounded by retail druggists, of toilet products, of flavoring extracts, syrups or of food products, or of scientific, chemical, mechanical or industrial products, provided such products are unfit for beverage use.

Congress has before it 6000 bills, many of them pertaining to the problems of the retail druggists. Among them three food and drug bills, *viz.:* Copeland S. 1944, McCarran, S. 580, also Hoge, H. R. 3972. No public hearings have been arranged thus far on any of the measures introduced as substitutes for or amendments to the Federal Food and Drugs Act, as the Committees on Interstate and Foreign Commerce will be busy with a number of other important matters.[1] Senator Copeland is seriously considering the amendment of his own bill as to the multiple seizure provision. If so, revised multiple seizures will be dispensed with in misbranded articles. W. G. Campbell, director of the Food and Drugs Administration favors the Copeland bill as covering all points to the satisfaction of both sides.

Senator Copeland recently introduced a bill, permitting the sale of drugs, medicines and other products for the prevention of conception by doctors and druggists, but prohibiting the advertising of such items.

Congressman Treadway of New York introduced H. R. 1424, calling a $2^1/_2$-general sales tax: the administration does not support this measure at present, however; if passed it would realize about twenty million dollars on drug store items alone.

The Federal Trade Commission recently recommended the amendment of Section two of the Clayton Act, making it unlawful to discriminate between purchasers unfairly or unjustly, in other words forbidding quantity discounts, and allowing the small buyer to purchase goods at the same price as the large distributor. A bill introduced by Sen. Wheeler of Montana, S. 944 covers this. It is favored by the N. A. R. D.

The hearing on the Price Fixing provisions of the NRA Codes was held on January 12, 1935. Eighty speakers were heard. All those representing industries were agreed that selling

[1] Hearings were held March 2nd and 8th.

below cost was one of the worst features of the depression. Chairman Williams of the NRA recommends the extension of the NRA in its present form for one to two years more. President Roosevelt is expected to indicate his desires in that respect to Congress shortly.[1]

The N. A. R. D. is making propaganda for a National First Aid Week, in which the necessity of knowing first aid methods and having the materials on hand is impressed on the public. How this will work out in larger communities, where hospital facilities are convenient, and where, as in New York, the rendering of first aid by a pharmacist is more or less frowned upon by the medical profession as practicing medicine illegally is a question.

State Legislation:—The New York State Board of Pharmacy has issued a bulletin publishing its interpretation of the two Dunkel bills recently passed by the Legislature (1934).

It forbids the sale by non-pharmacists of a large number of popular proprietaries. These must be sold in a licensed pharmacy or drug store, by a licensed pharmacist or druggists or under their supervision:

"Group I, eleven items containing acetanilid, acetphenetidine, etc., including various headache powders, effervescent analgesics, etc.

"Group II, twenty-nine items containing poisonous ingredients such as strychnine, arsenic, morphine, etc., and would bar a number of cough medicines and pills similar to Iron Quinine and Strychnine, or Alcin, Belladonna and Strychnine, etc.

"Group III, ten items in the so-called Habit Forming Group, such containing Barbituric Acid derivatives, etc.

"Group IV, eighteen items of various proprietaries which contain such potent ingredients as thyroids, ergot, cincophen belladonna, etc.

"The New York State Pharmaceutical Association through its Committee on Legislation is sponsoring a bill in the State Legislature, this session: A Fair Trade Bill (same as the junior Capper-Kelly Bill now a law in California). The California law has worked to great satisfaction in California: same is indicated by the graphs recently set up by the *Druggists Circular* in New York, showing sales in California at no profit being only $2^1/_2$ per cent of the total in drug stores, while in New York City they represent nearly $33^1/_3$ per cent of the total sales.

"An attempt will also be made to amend the Pharmacy Law defining unethical or unprofessional conduct, and to make them cause for revocation of Pharmacists License."

Following Chairman Lehman's report President Ballard called upon Chairman Stieger of the Progress of Pharmacy Committee for his report; it follows:

In the February 1935 No. of *Industrial & Engineering Chemistry*, Dr. Oser of the Food Research Laboratories of New York City criticizes the Interim Revision of Text for U. S. P. Cod Liver Oil.

The critique is concerned chiefly with the new procedures for biological assay, but the author also objects to the definition and the tests for identity and purity, and to the fact that the only ingredients whose addition to Cod Liver Oil is sanctioned are certain flavoring substances, anti-oxidants being excluded. He states that, among the tests for identity and purity, methods are conspicuously lacking for determination of sophistication by addition of highly potent vitamins containing substances such as halibut liver oil or viosterol.

Chairman E. Fullerton Cook replies for the committee, stating that the text is a necessary compromise. He points out that the text applies only to interim revision and that the new Pharmacopœia will appear shortly. In regard to anti-oxidants, he states that the committee declines to accept responsibility for permissive use of such substances on which so little information is available, particularly with regard to physiological action, and also defends the procedure of the biological assay. Chairman Cook says, "The committee accepts the compliment implied by Oser in suggesting that it provide methods for the detection of sophistication but is forced to admit that it is not in a better position to supply such a method than is the critic."

The January 1935 issue of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION makes announcement of Interim Revision No. 3, a new Ergot Assay. It will become official and enforceable, May 1, 1935.

M. F. Lauro in *Oil & Soap* (Vol. 11, No. 12 (1934)) discusses adulteration of Olive Oil. He states that 10–20% of other oils can be mixed with olive oil before any change occurs in the

[1] He has reported.

constituent limits, which gives evidence of adulteration. In his opinion, present analytical values should be revised.

Caro and Giani in *Zeitschrift für Physiologische Chemie* (1934) found that tissue extracts inhibit oxidation of ascorbic acid (Vitamin C) which is easily oxidized by atmospheric oxygen. Ringer solution and its most important salt constituents in 0.1-M. concentration are likewise inhibitory.

Parsons in *Proceedings of the Royal Society of Medicine* (1934) reports that a case of infantile scurvy was cured by the use of ascorbic acid. This is believed to be the first cure so attained.

The outlook for enteric medication looks quite hopeless. According to "A Study of the Emptying Time of the Stomach with Reference to Pills and Tablets" by Bukey and Brew in the December JOURNAL A. PH. A., tablets may remain in the stomach of the same individual (at various times) from one to more than four hours.

Several conclusions were drawn from their studies of enteric coatings:

1st, that size and shape of pill, tablet or capsule have no effect on length of time it will remain in the stomach

2nd, the same individual does not react uniformly, etc.

3rd, emptying time may be influenced by diet

4th, type of coating does not have any effect, etc.

Chairman Ligorio, of the Membership Committee had not had sufficient time to begin the work of his committee and was, therefore, unfortunately unable to report.

Two letters from President Robert P. Fischelis were then read in which he thanked the New York Branch and Dr. H. H. Schaefer for the testimonial dinner in his honor on January 29th.

The business part of the meeting being over, President Ballard called upon the guest speaker of the evening, Dr. David Bryce, who spoke on Medicinal Dyes. The address follows:

MEDICINAL DYES.

BY DAVID A. BRYCE, M.D.

"Most of you, I feel sure, have had considerable experience of a conversational nature with doctors. Perhaps I am not betraying any professional secrets when I say that your experience has probably been largely that of auditors in such conversations... With your permission, I shall restrict this address to six medicinal dyes.. I feel sure that such technical information may be of direct benefit in your relations with your physician clients, and if I may be permitted to do so, I should like to digress a moment at this point to illustrate why.

"About fifteen months ago, one of the senior executives of my organization requested me to look into certain fundamental economic aspects of medicine, not only in its relation to commercial companies such as our own, but the inter-relationship between physicians. It is unnecessary to bore you with all the ramifications of that investigation which I pursued for several months at odd times, but there were two illuminating results which I pass on to you as of interest in the present discussion. Among other things, I sent out a questionnaire which was very carefully and intelligently answered by the majority of physicians. When we had compiled the results of this questionnaire, we were somewhat amazed to find that there was a feeling of great antagonism, amounting almost to actual hostility, on the part of almost all of the replying physicians toward the retail pharmacist. This was so striking that in my journeyings about the country, I inquired of as many physicians as practicable, and in particular of certain physicians who I knew had answered the questionnaire, as to just why they felt as they did. While it would be presumptuous for me to draw final conclusions from any such very brief and narrow investigation, nevertheless, one cannot help making some deductions or guesses. It appeared to me that the antagonism to which I have referred was due to the feeling by the physician that the retail pharmacist was allowing his interests to become so diversified in the field of commercial retailing to the laity, both of medical and nonmedical supplies, that not only did the retail pharmacist fail to act in the best interests of his physician clients, but that his information on technical subjects, upon which physicians rely, was becoming exceedingly thin. Now please do not misunderstand me, and consider that I am saying that this *is* so. I merely suggest that it appeared to me that physicians think it is so, which may not be the same thing. Criticism in life is seldom just: it is more frequently

biased and reflective of the critic's state of mind than of the fault of the one criticized. At the risk of seeming discourteous to you I have mentioned this to-night because it has appeared to have a bearing on such technical information as I am going to give in this brief address. Should you find it worth while to acquire highly technical, medical and chemical information of this type not only from me but from other medical directors and other persons who happen to be technically informed in special fields, it would appear likely that your acquired knowledge in such fields must inevitably be of use to your physician clients in their every-day contacts with you. Such usefulness must inevitably redound to your own benefit by promoting a greater feeling of cordiality between pharmacist and physician. Perhaps this is far-fetched, but at any rate I leave the suggestion with you for you to assay its worth. Now let us return to our subject.

"What are dyes? It is almost impossible to answer this question in such a way that the definition is universally applicable. A famous definition of a dye is that given by one of our Vice-Presidents in a Customs Court case many years ago. He said that a dye was a substance having a definite affinity for animal or vegetable fibres and which in expressing that affinity, colored those fibres with the color of the dye. Let me illustrate what he meant. Imagine that I have here a cylinder of coffee and that into that I dip a cotton towel and then remove and dry the towel. It is true that the towel will be stained with the coffee, but coffee is not a dye, for if one inspects carefully the remaining coffee solution, it will be seen that the color of that solution has not changed, and that the color deposited in the towel is only that amount of color which ordinarily is carried into the fibres by the solution. In other words, coffee has expressed no affinity of its yellow color for the cotton fibres. On the other hand, if I had here a cylinder containing a weak solution of Tartrazine Yellow and dipped into that a cotton cloth and removed and dried the cloth, not only would the cloth be stained yellow, but the weak solution would have become almost colorless because of the affinity of the yellow color for the fibres which had been immersed therein. Thus you see there is a fundamental distinction between the two processes. The Tartrazine is, of course, a dye. Unfortunately, however, the definition will not stand up under severe cross-examination by opposing counsel in a court of law. One must qualify any definition made. Suffice it to say for our purposes here this evening that a dye is in most cases an organic material containing the benzene nucleus or some ring structure, that is colored in aqueous solutions, and which color has an affinity for animal and/or vegetable fibres.

"What is a medicinal dye? A medicinal dye is one of the very, very few members of the dye series which by practical experience, and solely by such practical experience not by any theorizing—has been found to be of use in the treatment of human disease. The six medicinal dyes with which we are particularly concerned tonight are as follows: Methylene Blue, Crystal Violet, Neutral Acriflavine, Brilliant Green, Scarlet Red Sulphonate and Medicinal Fuchsine. A little later I shall show you some slides illustrating these dyes, together with slides of practical work which has been done in one of the fields of dye therapy, and at that time it will be easier for me to demonstrate the chemical formulas than to try to describe them now.

"A description of medicinal dyes would certainly be incomplete without some mention of their early history. As in the case of almost every synthetic organic chemical, commercial development and scientific development have proceeded, if not actually hand in hand at least closely associated. One of the first artificial dyestuffs, if not actually the first ever made, was Picric Acid or Symmetrical Trinitrophenol, $C_6H_2OH(N_2O)_3$, prepared in 1771 by Woulfe from indigo and nitric acid. Nearly a century later a technical method was developed for the separation of picric acid from coal tar. The dye industry has been largely an outgrowth of that discovery, subsequently various colors such as mauve, magenta, rosaniline blue, Hoffmann's violet, aniline black, methyl violet, methyl green, and many others were discovered and commercially manufactured in England and France. At the same time that this dye research was proceeding, scientific research in pure science was likewise being carried forward and Kekule gave the world his epoch-making hypothesis as to the structural formula of the benzene nucleus. It is unnecessary for me to burden you with all the steps in the development of the synthetic dyestuff industry, but it is interesting to note that between the years 1890 and 1911, the commercial development of dyes for technical purposes becomes a race not only between rival concerns, but between the laboratory and the manufacturing plant. The rivalry was frequently expressed in international terms, but Europe was far ahead of the United States at that time. Great companies such as Badische, Meister, Lucius & Brüning, Griesheim Elektron, and others were constantly producing new and

better dyes or intermediates. The extraordinary capability of the German people for methodical and patient research was peculiarly adapted to the development of dyes. Accordingly, Germany had forged far to the front in this industry when the unfortunate outbreak of hostilities in Europe in 1914 forever terminated the ascendency of Germany in this art. At that time Germany was responsible for more than 75% of the total world production of synthetic dyes, and actually supplied in excess of 90% of all the dyestuffs used in the great textile manufacturing centres of Great Britain. To meet the situation arising from the war, the various foreign governments associated in the prosecution of war against the Central Powers, severally subsidized financially (and aided legally by the seizure of German patents) the formation of dye manufacturing corporations destined eventually to exceed in skill that of the original German manufacturers.

"From a medicinal point of view, the war brought a development of interest in certain of the medical dyes used for the treatment of the enormous number of wounds at the various hostile fronts. From a surgical standpoint this over-interest in medicinal dyes and antiseptics was exceedingly unfortunate. Dyes are the most delicate of chemical weapons against disease, their structure being such that they frequently change in contact with living tissues to so-called leuco dyes. Leuco dyes are colorless. These leuco dyes frequently change into intermediate forms, and then back again to the original dye form. This may easily be demonstrated in the laboratory by bubbling hydrogen sulphide through a cylinder containing a dilute solution of methylene blue. The Methylene Blue is rapidly reduced to the leuco form and the solution becomes colorless. If one wishes now to demonstrate that the dye is still present and has not been permanently changed essentially, one may bubble oxygen through the solution, or one may add an oxidizing agent like ferric chloride, whereupon the color of the methylene blue will rapidly return. This same oxidation-reduction sort of reaction goes on constantly in the body, and is doubtless responsible for some of the medicinal qualities of the dyes. Now materials of such delicate structure are not particularly well adapted to war wounds. The latter are primarily massive injured areas of tissue, deeply contaminated with all kinds of dirt, containing crushed fragments of skin, muscle, tendons, and even bone: and such wounds become secondarily infected. The most efficient antiseptic for that type of wound is surgical cleaning up or debridement. Following that, it frequently is necessary to use chemical materials which dissolve out débris, such as Dakin's Solution.

"Only in cases under very careful hospital conditions would the dyes be particularly applicable. Nevertheless the dyes were widely used during the war and when good results were not obtained, the blame was laid at the door of the dyes rather than the operator employing them.

"The present world dye situation is that there are four important groups competing with each other for world markets. In England there is Imperical Chemical Industries, Ltd., consisting of British Dyestuffs Corporation, Solway, Oliver, Wilkins & Co., and other firms. In Germany there is the great combination known as Interessen Gemeinschaft für Farben Industrie, which contains among others, Badische Anilin; Meister Lucius & Brüning, Baeyer; Cassella; Kalle; and Griescheim Elektron. In France, the great unit has been the Kuhlmann group which has collaborated to a certain extent with the Society of Chemical Industry in Switzerland, with Geigy and others. In the United States, a definite amalgamation of all the chemical companies has neither been legally possible nor commercially desirable. Nevertheless, from scientific and research viewpoints, the work of the American dye companies has been greatly aided by the Chemical Foundation of New York. The great dyestuff manufacturers in this country are DuPont, American Cyanamid, Calco, National Aniline, General Dyestuffs, and several other smaller concerns. If any of you wish to pursue this matter further I refer you to the work by Thorpe on 'Synthetic Dyestuffs,' published by Griffin & Co. of London, from whom I have drawn liberally for the above facts.

"If we may have the slides at this point, I think I can illustrate the nature of each of the dyes, and then go on to a brief discussion of them. The first slide shows the structural formula of Methylene Blue. This is one of the oldest and one of the most interesting of the dyes. Doubtless you have read a great deal in the newspapers concerning the use of Methylene Blue in cyanide poisoning, in illuminating gas poisoning, in carbon monoxide poisoning and in various other conditions. Methylene Blue was proposed as an antidote for such intoxications by Mathilda Brooks and J. C. Geiger, independently, in the West. I have a folder about two inches thick on this subject in my files, but it will suffice to say here what while methylene blue is a moderately good antidote for cyanide poisoning, there are apparently better antidotes. The work of Chen,

Rose and Clowes on nitrites and sodium thiosulphate as well as sodium tetrathionate apparently points the way to more efficient antidotes. For any of you interested in looking up that subject, you will find it in the *Proceedings of the Society for Experimental Biology and Medicine*, Volume 31, page 250, year (1933). Since methylene blue apparently forms meth-hemoglobin when in contact with hemoglobin, it seemed from the first unlikely that it would be useful in carbon monoxide and similar poisoning. This point was well made by Haggard and Greenberg of Yale (*J. A. M. A.*, 100, 2001 (1933)). However, there have been interesting reports by other men, particularly those by Christopherson (*J. A. M. A.*, 100, 25, 2008 (1933)) and Steele and Spink (*New England Journal of Medicine*, 208, 1152 (1933)). We have not heard the last of methylene blue and doubtless scientific investigations now in progress will show some interesting uses for it in medicine, but at the present time it may in emergency be used as 50 cc. of a 1% solution intravenously for cyanide poisoning, and for the ordinary surgical uses. These latter uses are in infected sinuses, in wounds, in injuries and diseases about the mouth, pharynx, gums and accessory sinuses. Methylene blue is locally the mildest, although not necessarily the least toxic of the medicinal dyes in common use. It is a mild bacteriostat. It is ordinarily used in solution of 1 to 1000 or may be used in stronger solutions where particularly indicated. Methylene Blue has some use in malaria, and the recommended dose is 1 Gm. per day by mouth in conjunction with quinine compounds, where it is particularly valued in the treatment of aestivo-autumnal malarial fever. There is one interesting use of methylene blue which deserves some mention. It was first recommended by Blanc in France several years ago as of use in tuberculosis of the bladder. Symptoms from this complication of tuberculosis are extremely annoying to the physician and agonizing to the patient. There is constant pain, and a desire to urinate every few minutes. It is very difficult or impossible to relieve this situation short of curing the tuberculosis. Blanc claimed to have found that methylene blue alleviated the symptoms. Greenberg in this country published within the last couple of years on the subject, and has found excellent results with certain types of methylene blue. He feels that certain so-called impure varieties produce a great deal of irritation and are very much less efficient than other pure varieties. The dose used is 1 grain three times a day, and it may also be used in a solution of 1 to 500 to 1 to 1000 in the bladder. Five cc. of a 1% solution have also been used for instillation into the bladder.

Crystal Violet.—You can see the formula and appearance of the material. So-called Gentian Violet is a mixture of several para rosaniline hydrochlorides. We have particularly sponsored the idea that it would be better to have a dye in this category which is a pure crystalline material and accordingly we have developed and will market the hydrochloride of hexamethylpararosaniline known as Crystal Violet rather than the mixture which has previously been known as Gentian Violet. From a strictly practical point of view there is little clinical difference in the effects of the two. Crystal Violet is of particular interest because it appears to be especially effective against gram-positive bacteria. Such bacteria are staphylococci and to a limited extent streptococci, also the bacillus of diphtheria.

"Accordingly, where an invasion by such organisms is suspected or feared, Crystal Violet is particularly indicated. It is used in strengths of 1 to 500 or 1 to 1000. Where there are a great many staphylococci in the blood stream, the so-called staphylococcic pyaemia, the use of the dye intramuscularly has been recommended. It apparently works in some cases, but I have heard of other cases in which it did not work. There has been an immense amount of interest in the use of Gentian Violet or Crystal Violet in the treatment of severe burns because of the rather startling and originally brilliant work of Aldrich in Boston. I am going to refer to that a little later and show you his own slides.

"*Neutral Acriflavine.*—Acriflavine belongs to the Acridine group of dyes which derive their names from a yellow color. They are chiefly known as Flavines in Europe. The practical usefulness of the group was discovered in 1912 by Ehrlich in the treatment of African trypanosomiasis. Neutral Acriflavine appears to possess marked antiseptic and germicidal properties against some gram-negative and some gram-positive organisms. It has the disadvantage that when taken internally, it appears to be the most toxic of the dyes or at least of those in common use medicinally. Small amounts of it, such as a few grains a day will produce severe nausea and vomiting. It is, however, widely used in infections of the genito-urinary tract, taken by mouth in a dose from $^1/_2$ grain to $1^1/_2$ grains three times a day. The urine must be rendered or maintained alkaline. It appears to be effective in the urine against both gram-negative bacilli, such as

the colon bacillus, and gram-positive cocci. It is occasionally used in wounds in a solution of 1 to 1000 and I understand is used in England for burns.

"Acriflavine has probably been most widely used throughout the world for the treatment of acute, subacute and chronic urethral gonorrhea. It has not only been used by mouth and intravenously, but has been used in solutions of from 1 to 3000 and from 1 to 4000 for direct irrigation of the urethra. I will not debate with you the advisability of irrigation treatments in gonorrhea in the male, but I think in general it is frowned upon except in very expert hands and where there are particular indications therefor. Of course, in the female, it is an entirely different matter.

"*Scarlet Red Sulphonate.*—This material is a complex sodium salt related to beta naphthol. This dye belongs to the group of so-called 'azo' dyes which derive their names from this linkage of two nitrogen atoms which I show you here. Both this material and its congener, Scarlet Red Medicinal Biebrich, have a curious effect of stimulating the growth of the epithelial tissues. Apparently this effect does not extend to other tissues such as fibrous tissues. This material also was greatly abused in surgery both during and subsequent to the war. It must be remembered that any such material must be used only in a clean wound. To attempt to stimulate an infected or contaminated wound would not only be dangerous if you could do it, but fortunately in most cases, you cannot do it. Of course, there are certain exceptions to this rule, particularly the very new technique known as seed implantation of epithelial grafts into infected surfaces, but this is merely the exception that proves the rule. Scarlet Red Sulphonate is slightly soluble in water and more so in alcohol, and thus may be put into solutions in strengths of from 1 to 4% to be applied to clean wounds or the clean edges of wounds for the stimulation of repair. Bettman of Portland, Oregon, has devised a new technique in the use of this material in the promotion of the healing of burns and of skin grafts.

"*Brilliant Green.*—There is little essential difference in the indications for the use of Crystal Violet and those for the use of Brilliant Green. However, Brilliant Green is probably a less efficient bacteriostat and a more efficient stimulant of wound repair. Otherwise, there is little difference and Brilliant Green is very much less used in surgery than Crystal Violet. There has been some new interest in Brilliant Green because of the work of Professor Senin at Nijni Novgorod in Russia. This gentleman has used it in the treatment of sycosis vulgaris, or so-called 'barber's itch.' Technique of his treatment has been to remove all crust and scale with a 5% salicylic ointment and then to lightly brush the areas with a dry sponge, opening them up, and then painting them every day with a 1% alcoholic solution of Brilliant Green and 70% alcohol. The treatment is favorably considered in England.

"*Medicinal Fuchsin.*—This, too, somewhat like Gentian Violet is a mixture of Rosaniline Hydrochloride. It is said to be a mixture of rosaniline and pararosaniline hydrochlorides and its formula is as you see. You are doubtless familiar with the use of Fuchsine and Carbol-Fuchsine as stains for the staining of tuberculosis organisms. I should emphasize here that the medicinal grade of dye is not the grade used for staining in the laboratory, and you should make that distinction to your physician clients if they inquire. Biological stains are standardized according to the methods of the Biological Stain Commission in Washington, and are sold by different firms and subjected to different processes than medicinal dyes. The interest of recent years in Fuchsine has been two-fold. *First*, the interest in its use in athlete's foot, trichophytosis and similar infections. We have recommended particularly a 10% alcoholic solution of basic fuchsine to which has been added 5% aqueous carbolic acid, 1% boric acid and 10% resorcin and 5% acetone. The technique for this may be found in the publication by Tobias (*Journal of the Missouri Medical Assn.*, 27, 443 (1930)). The second very interesting use of fuchsine is in connection with burns. This is as yet unpublished and I shall refer to it later in the section on burns.

"I think I have now given you a rough bird's eye view of the six medicinal dyes in common use, their chemical formulas, their physical characteristics, and appearance, and the chief uses at least in outline form. It might be well at this point to advise you of certain contra-indication which apply not absolutely, but in general, to most medicinal dyes. In the first place, they are apparently not well tolerated by the eye. I cannot give you extensive literature basis for this, but I am fairly certain that one should not employ these dyes in the eye. Of course, there may be an exception where it is necessary to use Scarlet Red Sulphonate in connection with grafts on the lid, but in general their use in the eye is to be avoided. Then, too, dyes of an amount in excess

of 0.5 Gm. should not be injected in solutions into closed cavities such as the pleura, the joints, etc. While it is unlikely that 1/2 Gm. of any dye would produce fatal symptoms, nevertheless, a reasonable precaution is not to inject into closed cavities more than 1/2 Gm. of any dye. Finally, dyes should not be used in contaminated, dirty and crushed wounds, until those wounds have been surgically cleaned-up and put in shape for irrigation and healing. Further, patients, who have been taking large amounts of dyes internally should not be exposed to direct sunlight in places as the West where the rays of the sun are extremely intense. This probably also holds true for mercury 'sun-lamps.'

"And now with your permission, I would like to turn to a subject in which I have been very much interested for about fifteen years. The subject is the treatment of burns involving large areas of the body. You are doubtless familiar with the old-time remedy of carron oil which was smeared upon burns with the greatest abandon, without much effect except to break down the skin and superficial tissues and furnish an excellent feeding ground for all the bacteria present, plus all the bacteria carried in by the carron oil. Since then there has been a steady effort upon the part of surgeons throughout the United States to correlate their information and statistics upon burns and to derive therefrom sound conclusions which indicate the way in which the treatment of burns should be directed. The oldest theory in this regard is that a specific protein arises as the result of the burn process, and that this split-protein exercises a severe depressing effect upon the central nervous system, and upon the cells of the body as a whole, at times inducing ulceration of the gastrointestinal tract, severe shock, prostration, fever, delirium, and in many cases, death. A very logical outgrowth of this theory was the treatment of burns by coagulation of the burned areas. Obviously, if these areas were liberating progressively a toxic protein, coagulation of the area prevented this liberation, and so diminished or entirely eliminated, theoretically, the effects I have enumerated above. This coagulation treatment is now generally known as the tannic acid treatment of burns and was introduced by the late Dr. Davidson at Henry Ford Hospital in Detroit where it is still thought of very favorably. I have not time to-night to give you a full consideration of the facts and fallacies in connection with this theory. It is sufficient to say that certain observers in widely scattered communities have reported excellent results from the tannic acid treatment of burns, and that in competent hands it appears to be useful. In all probability, the theory of a burn protein producing the toxicity of burns is not completely tenable.

"The second theory of importance in regard to burns was that of dehydration or abstraction of water or tissue fluid. This theory was lent considerable color by the known increased viscosity of the blood following a burn, the severe renal symptoms and various other factors clearly indicating not only an abnormal water exchange in the body following a severe burn, but an emergency need of the body for large additional quantities of fluid. Certain investigators felt confident that this dehydration was not a mere temporary concomitant of extensive burns, but was in fact the principal underlying cause of the extremely serious effects seen in severe burns within 24 to 72 hours after such cases were admitted to hospital wards. Accordingly, it was a logical outgrowth of such theory, that the introduction of large amounts of fluid, either as water, or glucose solution, or saline solution, subcutaneously, intravenously, and even intraperitoneally, was in order. These measures gave extraordinarily good results in the immediate mortality of burns, and to that extent bore out the theory. I might say parenthetically that the above adjuvant measures are now routine in every good hospital regardless of what principal treatment may be used and it is likely that the proponents of this theory merely discovered something that was absolutely true about burns but was not the principal factor.

"The third theory to which I alluded above, recently proposed in Boston, is that the intoxication following severe burns is directly the result of infection. Certain investigators in 1932 conceived the idea that all the serious effects observed after 12 hours in burned patients were due to the toxemia resulting from infection of the burned area. Obvious as this theory might appear on the surface, its proof is not easy. The best proof was, as is so frequently the case in surgical conditions, empirical by actual trial and error. Treatment designed solely to eliminate infection in the burned area produced such a surprising result as to lend considerable support to the theory itself. This does not mean that the ordinary surgical precautions of the light tent, heat externally applied, fluids, treatment of shock, etc., should be neglected. However, these workers in Boston have devoted their principal efforts, in addition to these routine surgical efforts, toward the restraint of infection. The original treatment of this kind was to clean up the burned area, treat the

shock, and then place the patient under a so-called 'light tent.' This is simply a cradle covered with a blanket and containing electric lights which shed an even light and temperature upon the patient who, of course, is unclothed. The temperature underneath the cradle is kept regulated to between 88° F. and 90° F. by constant inspection of the thermometer kept hanging therein. The original treatment for the first eight hours was that the patient was sprayed on the burned area by an ordinary vaporizing spray with a 1% solution of Gentian Violet, or as was later used, Crystal Violet. This served to form a light, tough eschar, to prevent oozing and loss of fluids, to keep the area sterile, and not least important, to render the whole area analgesic. After a firm eschar had been formed, the area was sprayed every six hours during the day. There were various surgical refinements which it is unnecessary for me to go into. Suffice it to say that this treatment in competent hands in Boston City Hospital has proved eminently satisfactory not only in the immediate results, but in the eventual results. I have seen these patients up and around the ward in light cotton gowns, seated in chairs, eating their meals in an incredibly brief period of time. The growth of the tissues beneath the eschar has been rapid and excellent. In many cases, skin grafting has either been avoided entirely or reduced to a minimum. It must be borne in mind that neither this treatment nor any other treatment can eliminate the eventual plastic surgery, with all its delicacy and refinements, which becomes necessary following very severe burns of any area of the body. Since this original treatment in Boston, I have had the privilege of collaborating in some of the subsequent work, and have made certain suggestions and furnished certain material for the improvement of the technique. At the present time, we believe that mixtures of dyes, probably Crystal Violet, Acriflavine and Brilliant Green or Fuchsine will be used in place of the original Crystal Violet. This is done to hit the various groups of organisms by the method of a shot-gun charge. If we may now have the slides which Dr. Aldrich has kindly loaned me, I will show some of the results with the original Crystal Violet treatment.

"I must compliment you upon your patience in listening to what must have been a rather technical exposition, on a rather technical subject. It is a little difficult for one in my position to get together a talk which will be of interest in the rather highly technical field involved in our work.

"I trust, however, that I have been able to give you some insight into the interesting possibilities of medicinal dyes and let me assure you that if at any time in the future I can give you additional information, I should be more than pleased to receive your letters and shall do my best to answer them promptly. Again, let me thank you for the courtesy you have extended to me this evening by your invitation to address you and express the hope that I may some time attend some of your other meetings as a listener and not as a speaker."

Following the completion of Dr. Bryce's address considerable discussion ensued with many questions being asked by members in the audience. These were all carefully gone over and Dr. Ballard called for a rising vote of thanks to the speaker.

RUDOLF O. HAUCK, *Secretary.*

PHILADELPHIA.

The January meeting of the Philadelphia Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION was held in the Temple University School of Pharmacy, January 8, 1935.

The minutes of the previous meeting were read and approved and after an announcement concerning the next meeting, President Barol introduced Dr. James C. Munch as the speaker. His topic concerned "Recent Developments in the Pharmacology of Digitalis."

He began with a history of the drug, stating that Withering did not recognize its effect on the heart. This effect is now believed to be a sedative one rather than tonic. Of the 150 active principles formerly listed only 6 are now recognized as having definite heart action.

Dr. Munch said that about 22 drugs have actions similar to digitalis and discussed the specific actions of Strophanthus, Squill, Adonis, Apocynum and Convallaria. Of these, Adonis has the same potency as Digitalis, Apocynum is twice and Convallaria three times as potent.

He said that at the present time 58 methods have been devised for the assay of Digitalis, the newest using the snail heart and is found to correspond to the one-hour frog method. The toad method used in South Africa, and the pigeon method were also mentioned.

Dr. Munch described work now being done to study the cumulative activity of digitalis.

When the therapeutic dose was administered to a group of cats over a 3-day period, a degeneration of the heart muscle was noted.

Potency and standardization were discussed and a series of lantern slides used to illustrate parts of the lecture.

Before adjournment a general discussion took place regarding such topics as acid and alkaline hydrolysis, preservation of finished products, methods for determining rate of deterioration, the new international digitalis powder standard and the preference for chemical or physiological methods of assay.

E. H. MACLAUGHLIN, *Secretary.*

THE NRA.

Elliott Thurston is of the opinion that no prophet lives who can tell what Congress, more especially the Senate will do, or when it will adjourn, or what will happen to the legislation affecting the codes and, eventually, the Supreme Court will decide. State codes have also been affected by decisions—in Wisconsin 20 codes were nullified by a sweeping decision of Chief Justice Marvin B. Rosenberry on March 5th

Whatever may be said, *pro and con*, the drug code has functioned well and to these officials much credit is due.

NARCOTIC RAIDS.

The Narcotics Bureau has been eminently successful in bringing to court narcotic peddlers and Commissioner H. J. Anslinger is to be congratulated on his success. No class is more deeply interested in legal restriction of the dispensing of narcotics than pharmacists.

A cross section of the misty world of the narcotic peddler and addict is expected by Narcotics Bureau officials to result eventually from the spectacular Nation-wide raid.

AN IMPORTANT DECISION.

The recent injunction granted to Eli Lilly & Co., in its case against the Sunset Drug Company for violation of the Lilly contract price under the California Fair Trade act is doubly important to retailers in that state and other states which may pass similar acts. This decision indicates that contracts through wholesalers are valid under the act.

CANCER CURE VENDOR ESCAPES PROSECUTION: DIES WITH CANCER.

A self-styled cancer specialist of Hastings, Mich., died of cancer on the eve of his prosecution on charges of violating the Federal Food and Drugs Act. His principal medicine, "Mixer's Cancer and Scrofula Syrup," composed of potassium iodide, senna, licorice, yellow dock root, sarsaparilla, wintergreen, glycerin, alcohol and sugar syrup, had for a long time evaded the Federal law, until Food and Drug Inspectors intercepted a shipment to Chicago and based a recent case on it. Even during Mixer's last illness, his office force continued to sell and ship the so-called "cancer cure."

A cyclone damaged the offices of **Secretary Walter D. Adams** of Texas Pharmaceutical Association. **B. G. Edwards,** of Forney, Texas, suffered loss by the destruction of his residence and damage to his store. The storm lasted only about a minute, however, during that time caused much destruction, some injuries, but no loss of life.

Secretary H. W. Ayres, of the Washington State Pharmaceutical Association for the past ten years, has taken a leave of absence until September 1st, in an effort to fully recover his health.

Charles E. Turner, former druggist and Mayor of Dallas, has been designated to handle the finances of the Texas Centennial.

RICHBERG HEADS NRA BOARD.

Donald R. Richberg has been appointed by President Roosevelt as acting chairman of the seven-men NRA board. The appointment is temporary only until the revised NRA act is passed by Congress, Mr. Richberg will continue his duties as director of the emergency council.