

THE SECTIONS OF THE AMERICAN PHARMACEUTICAL
ASSOCIATION.ABSTRACTS OF MINUTES OF THE SESSIONS HELD IN ASHEVILLE, N. C., SEPTEMBER
3-8, 1923.

SCIENTIFIC SECTION.

The first session of the Scientific Section A. Ph. A. was convened at 9:00 A. M., September 5, by Chairman Arno Viehoveer. Vice-Chairman Paul S. Pittenger presided during the reading of the Chairman's address.

CHAIRMAN'S ADDRESS.

We have before us a greatly varied program of many interesting papers to be presented by experts in their respective lines. Your officers feel deeply gratified over the support received in making this program possible.

MEMBERSHIP OF SECTION.

The Section has grown beyond expectation within recent years. I believe it to be a wise plan for the incoming officers to continue to solicit the support of all those workers—be they pharmacologists, physiologists, biologists, chemists, botanists, etc.—who are interested in or, preferably, actively engaged in scientific work of benefit to pharmacy.

We have thus far succeeded in bringing together at these meetings representatives of educational institutions, of some manufacturing interests (we should have many more) and of delegates of the Federal Government exclusive, I regret to say, of the Army and Navy. There are with us, no doubt, scientifically inclined pharmacists, but few, if any, representatives from State and City laboratories. Neither have we, since Mr. Wilbert's death, obtained much support from hospital pharmacists.

STATUS OF PHARMACEUTICAL RESEARCH ACTIVITIES OF THE SCIENTIFIC SECTION.

The present status of pharmaceutical research in this country is not altogether clear. It is believed that a list of research workers, indicating also the nature of their work in contemplation or recently completed, would be a very helpful census and a useful guide for further work. The writer has been asked, as Secretary of the National Conference of Research, to prepare such a list and will welcome any coöperation that you care to give him.

The Scientific Section is at present directly represented on the National Conference of Pharmaceutical Research, on the National Research Council (Committee on Botany and Pharmacognosy), on the A. Ph. A. Research Committee. Your Chairman is glad to report that the coöperative work, consisting of recording and stimulating pharmaceutical research by all possible means, is carried out in a real harmonious spirit and progress is being made.

The Scientific Section, comprising in its membership most of the active research workers of this country in pharmacy, may well assume a leading rôle in stimulating more thorough training of pharmacy students and special training of workers in special pharmaceutical fields, and in encouraging research work in the whole profession.

INTEREST IN POSTGRADUATE STUDENTS.

In order to stimulate research among a larger number of postgraduate students your Chairman should like to see some of the funds available for research work distributed in prizes among the contestants for solving yearly a specific problem, suggested by the Scientific Section and approved by the National Conference on Pharmaceutical Research. Among the problems, which seem to the writer worthy of study, the following may be mentioned in a suggestive way, *e. g.*, Capillary analysis and its application to the examination of drugs; a critical study of recent methods (1) for the determination of moisture in drugs, or (2) for the determination of volatile oil, or of alkaloids for drugs such as hydrastis, or others.

EBERT PRIZE AND OTHER RESEARCH FUNDS.

With the large increase in yearly contributions to the Scientific Section, representing work in the varied fields of pharmacology, biochemistry, pharmaceutical chemistry, pharmacognosy, botany, etc., it becomes increasingly difficult to select one contribution for award of the Ebert

Prize on the basis of outstanding merit. If the rules of the Ebert Prize Committee should not permit of the award of the prize to the one who best solves a given problem, selected as suggested above, then the following procedure, suggested also by the present Chairman of the Ebert Prize Committee for consideration, may be feasible: A rotation may be made, choosing for consideration one year contributions on pharmacology, another year those on chemistry, and so forth, covering in this manner the work in the four subdivisions of the Scientific Section in four years. If this plan should appear impracticable, certain rules might be worked out by the Section to be approved by the Research Committee and to serve as a guide to the Ebert Prize Committee.

It would seem highly desirable that in all colleges of pharmacy funds be made available for research in pharmacy and related sciences. The Scientific Section may well go on record in supporting any movement aiming to bring this about.

GOVERNMENT DRUG CHEMISTS.

Outside of a few of the larger cities, such as New York and Cleveland, no control or only inadequate control of drug supplies is exercised by municipal governments. The same is true to a smaller degree with respect to State governments. The amount of drug research now carried on in the Federal Government, including the Army and Navy, could very well be extended.

It requires no argument to convince the thinking citizen that the trade in such important commodities as drugs needs the most careful supervision, and that research must be a necessary companion to the regulatory work. The training of pharmacists, as it is done in our best schools of pharmacy, eminently fits graduates for work of this character.

The Scientific Section could therefore, I feel, properly urge more scientific training for the student who cares to go into such service; encourage the movement for increased drug control and research by municipal, State and Federal governments, and recommend the employment of pharmacists who have the training and ability qualifying them for such positions.

HOSPITAL PHARMACISTS.

We should be equally interested in the scientific training of the prospective hospital pharmacist, so that he in turn can accomplish work of a high scientific order.*

According to a recent survey the number of dispensaries is reported to already exceed 4000. The dispensing should, of course, be in the hands of well-trained pharmacists, preferably those scientifically inclined. I hope the Scientific Section may, through its suggestions, be instrumental in bringing about a better training and the adoption of higher standards for hospital pharmacists.

COMMITTEE ON QUALITY OF MEDICINAL PRODUCTS.

In connection with the work of the Committee on Quality of Medicinal Products, the suggestion may be in place that the function of only recording the condition of drugs found in trade be extended to one aiming at the direct correction of unsatisfactory conditions. Coöperation should be sought with committees representing trade organizations, including manufacturers, representatives of educational institutions, Government Bureaus and of wholesale dealers located both in the growing districts and in the manufacturing districts. Much could be learned in the reorganization of such a committee from the working plan of the Committee on Guaranteed Reagents and Standard Apparatus, appointed by the American Chemical Society; Mr. W. D. Collins, U. S. Geological Survey, Washington, D. C., serves as the Chairman of this Committee.

PLANT SCIENCE SEMINAR.

The twenty and more men who came recently to the Plant Science Seminar in Minneapolis for joint labor with members of the Plant Science Group organized there were practically all members of the Scientific Section. The work accomplished at Minneapolis and the stimulus received in the one week conference and work demonstrated clearly what may be accomplished even by comparatively few workers, for scientific progress. I should like to urge, therefore, all other pharmaceutical workers, especially the members of this Section, to support this seminar and other similar seminars which I hope will be organized.

* Following this part of the address a letter from a hospital pharmacist was introduced. He spoke of conditions in hospital pharmacies and advocated higher education for pharmacists.

HONORARY MEMBERS.

It has been the custom of the Scientific Section to suggest the names of foremost pharmacists in the world for election as Honorary Members of the A. Ph. A. Your Chairman proposes the following for consideration: John Uri Lloyd, the eminent pharmacist of Cincinnati; Henry S. Wellcome, the genial American manufacturer in London; Richard Wasicky, M.D., Ph.D., the successful Director of the Pharmacognostic Institute at Vienna, Austria.

SUMMARY.

It is urged that the Section give its fullest coöperation to the Secretary (Vichoever) of the National Conference of Pharmaceutical Research in his work on the census of research work and workers.

It is recommended that the Section assist the movement for increased study by postgraduate students.

Research funds should be made available in all colleges and the Association should be requested to make some of its funds available annually for competitive work on certain problems of pharmaceutical interest. These should be selected by the Scientific Section and approved by the National Conference of Pharmaceutical Research.

The problem of awarding the Ebert prize on the basis of outstanding value has become real in view of the large number of contributions now submitted to the Scientific and other sections. If the prize cannot be given to the author submitting the best solution of a selected problem, it is suggested that it be awarded in rotation to papers discussing problems of the four subdivisions of the Section, or to work out rules to be approved by the A. Ph. A. Research Committee that may guide the Ebert Prize Committee in its work.

It is urged that the Section support the movement to place properly qualified pharmacists in drug and food laboratories of municipal, State and Federal governments, including the Army and Navy.

It is recommended that the Section encourage a survey of the status of employees dispensing medicines in hospitals and clinics and bring about a more general demand for the appointment of specially trained pharmacists.

It is suggested that the Committee on the Quality of Medicinal Products change its function from a recording activity to one attempting to adjust the conditions found unsatisfactory, and, in order to attain this end, seek the active coöperation of the trade representatives and trade organizations directly interested, as well as the Government.

It is recommended that the Section give all possible support to the Plant Science Seminar movement, and other similar seminars which may be organized.

It is proposed that the Section take under consideration the election of honorary members.

On motion duly seconded and carried the address was referred to a Committee. The Acting Chairman appointed F. W. Nitardy chairman of the committee; members, E. E. Stanford and J. P. Snyder.

The report of the Committee was made at the last session of the Scientific Section but for convenience is placed here:

REPORT OF COMMITTEE ON CHAIRMAN'S ADDRESS.

Your Committee has given careful consideration to the splendid address of our Chairman and especially given thought to the various recommendations contained therein and it desires to repeat that it is in full accord with the following:

1. It is urged that the Section give its fullest coöperation to the Secretary of the National Conference of Pharmaceutical Research in his work on the census of research work and workers.
2. It is recommended that the Section assist the movement for increased study by graduate students.

Research funds should be made available in all colleges and the Association should be requested to make some of its funds available annually for competitive work on certain problems of pharmaceutical interest. These should be selected by the Scientific Section and approved by the National Conference of Pharmaceutical Research.

The Committee states that funds of the Association are of course now available and suggests that this recommendation might be referred to the Board of Directors for further consideration.

3. It is urged that the Section support the movement to place qualified pharmacists in drug and food laboratories of city, State and Federal governments.

4. It is recommended that the Section encourage a survey of the status of employees dispensing medicines in hospitals and clinics and bring about a more general demand for the appointment of specially trained pharmacists.

5. It is suggested that the Committee on the Quality of Medicinal Products change its function from a recording activity to one attempting to adjust the conditions found unsatisfactory and, in order to attain this end, seek the active coöperation of trade representatives and trade organizations directly interested as well as the Government.

6. It is recommended that the Section give all possible support to the plant science seminar movement and other similar seminars which may be organized.

7. It is proposed that the Section take under consideration the election as honorary members of the A. Ph. A. of Messrs. John Uri Lloyd of Cincinnati, Henry S. Wellcome of London, England, and R. Wasicky of Vienna, Austria.

In this connection the Committee believes that the question of electing regular members of the Association as honorary members should be submitted to the Board of Directors for consideration.

The Chairman makes a further recommendation which concerns the award of the Ebert Prize. This reads as follows:

8. "The problem of awarding the Ebert Prize on this basis of outstanding value has become real in view of the large number of contributions now submitted to the Scientific Section. If the prize cannot be given to the best solution of a selected problem, it is suggested to choose in rotation papers discussing problems of the four subdivisions of the Section or to work out rules to be approved by the Research Committee, that may guide the Ebert Prize Committee in its work."

Your Committee believes that it is not within the power of the Association to change the conditions under which the Prize is awarded and which were laid down by Dr. Ebert in establishing the Prize Fund. Your Committee believes, however, that much assistance could be given the Ebert Prize Committee by adopting the following suggestions and it respectfully submits them to your consideration:

a. Appoint the Ebert Prize Committee at the first Section meeting of the convention, preferably from members in attendance at the convention, so that the committee may have the opportunity to make notes during the reading of papers and discussions, which will be of aid in connection with the work of the committee.

b. Request authors to furnish in duplicate all papers read before this Section as well as the Section on Practical Pharmacy and Dispensing, so that one copy may be transmitted to the Chairman of the Prize Committee for use of that committee, thereby obviating the necessity of waiting for publication of papers before the committee can start its work.

Respectfully submitted,

(Signed) J. P. SNYDER,

E. E. STANFORD,

F. W. NITARDY, *Chairman*.

At the last meeting of the Scientific Section, it regularly moved, seconded and carried that the Committee on Research review the plan of the Ebert Prize and report to the Scientific Section next year.

(Signed) J. P. SNYDER, *Secretary*.

Chairman F. W. Nitardy brought the matter relating to the Ebert Prize before the House of Delegates. See p. 1018, November JOURNAL—the item of expense and election of honorary members was referred to the Board of Directors, and research matter was referred to the Committee on Research.

Chairman Viehoever appointed the Committee on Nominations.

PAPERS.¹

The following papers were presented and discussed. Some have been printed in October, November and December issues of the JOURNAL; others will appear in succeeding numbers; discussions will accompany them.

¹ The following papers of the Scientific Section were printed in the October JOURNAL: "Standardized Colored Fluids and Some U. S. P. Tests," by H. V. Army; "The Preparation of

Pharmacology and Biological Assay: "Morphology and Pharmacology of Chaparro Amar-gosa" (discussion of pharmacological data), by Albert Schneider; "Composition of a Few Alleged Tuberculosis Cures," by L. F. Kebler; "Standardization of Gelsemium," by Paul S. Pittenger; "Pneumococcus Antibody Solutions," by Paul S. Pittenger; "Report on Biological Assays" (detailed statement), by Paul S. Pittenger; "Standardization and Stabilization of Aconite," by E. E. Swanson; "Antispasmodic Action of Chloretone," by S. W. Rowe; "The Pharmacody-namics of Caapi," by H. H. Rusby; "Preliminary Studies," by Thomas S. Githens; "Aboriginal Uses," by H. H. Rusby; "The Chemical Examination of Caapi," by Harvey A. Seil and Earl B. Putt; "Recent Investigations on Antiluetic Drugs—Progress in Salvarsan Therapy," by H. B. Corbitt and C. N. Myers; "Action of Certain Chemical Agents on the Sterility and Activity of Tissue Extracts," by Wyle McG. Billings; "Colloidal Silver Antiseptics," by P. M. Giesy and R. B. Smith.

Biological Chemistry: "Concerning Characteristic Odors of Fish and Other Aquatic Or-ganisms," by John Thomas Lloyd; "Commercial Sources of Cantharidin," by Arno Viehoever; "Suprarenin (Synthetic Epinephrin)," by Casimir Funk, H. E. Dubin and Louis Freedman; "Diethylphthalate," Paper No. II, by J. A. Handy and L. F. Hoyt; "Progress in Vitamine Re-search," by Casimir Funk and H. E. Dubin.

Chairman Viehoever introduced Professor Francis P. Venable, former head of the Uni-versity of North Carolina, author of a number of textbooks, an ex-president of the American Chemical Society, who delivered an address on "Radio-Activity, Its Discovery, Nature and Some of Its Revelations."

At the outset the lecturer sought to impress upon his hearers the urgent call for investiga-tion in their branch of science. The essentials for successful work in any investigation were pointed out, namely, a thorough knowledge of all work which had been done already or which in any way bore upon the object of the investigation and such practice in the methods to be used as would enable the investigator to make progress. Success depended upon the careful observation and record of every change. No detail, even the minutest, should be overlooked. Skill in manipu-lation was demanded and unwearied patience often called for. In searching for truth care must be taken that the results obtained were truly facts even though that might entail much repetition. A logical thinking out of underlying causes was necessary and often difficult. It was along this line that many mistakes had been made.

In illustration of these points the discovery of radioactivity was described step by step from the making of the Crookes' tubes, the work of Röntgen, of Becquerel, Madame Curie and Debierne. The story of the clearing up of misunderstandings, the correction of false ideas and theories was told until the one possessed of the proper training, the power of logical thinking and the clear vision with Nature's secrets was found in Rutherford who by his disintegration theory made all clear and paved the way for our present knowledge of the atom and its nature.

There was a general response expressing appreciation of the address by Professor Venable and a rising vote of thanks was extended.

JOINT SESSION OF THE SCIENTIFIC SECTION AND SECTION ON PRACTICAL PHARMACY AND DISPENSING.

The joint session of the Scientific Section and Section on Practical Pharmacy and Dis-pensing was convened by Chairman Arno Viehoever of the Scientific Section, Thursday, September 6, at 8:00 P.M. The first number of the program was an illustrated address by H. H. Rusby on "The Aboriginal Uses of Caapi."

Acid-Fast Caramel," by G. D. Beal and Gladys Applegate; "Electrometric Assay Methods for Crude Drugs," by W. J. McGill and L. R. Wagener; "The Titration of Ferric Chloride with Sodium Hydroxide Using the Oxygen Electrode: a Proof of the Non-Existence of Iron Oxychlo-ride," by R. B. Smith and P. M. Giesy; "Rapid Method for the Determination of Total Phosphorus in Phosphorus Paste," by T. J. Austin. The November issue has the following: "Suprarenin (Synthetic Epinephrin)," by Casimir Funk, H. E. Dubin and Louis Freedman; "The Alkalinity of Magma Magnesia as Determined by the Hydrogen Electrode," by R. B. Smith and P. M. Giesy; "The Standardization and Stabilization of Aconite Preparations," by E. E. Swanson and A. L. Walters; "A Study of the Relative Preservative Values of Glycerin and Sugar Solutions in Cer-tain Official Preparations," by John C. Krantz, Jr.

THE ABORIGINAL USES OF CAAPI.

It was explained that the film used to illustrate the lecture was loaned by the Amazon Film Company and entitled "The Land of No Regrets." It is intended to portray life among the aborigines of Southeastern Colombia and the photographs were taken by Mr. Gordon MacCreagh of New York, photographer of the Company. The lecturer spoke in part as follows:

"One of the important factors in the life of these savages is the ceremony of caapi drinking, which is embraced in this presentation, and for which the latter is made. The use of caapi is based upon the native belief that all tribal misfortunes or impending dangers are the work of a personal devil and that these dangers can be escaped and the injuries remedied only through the exorcising of this spirit. This exorcising, they believe, must be effected through the exhibition of great virtue, which virtue, with them, takes the form of courageously facing danger and patiently enduring suffering. This action must be a voluntary one and is usually in the form of an ordeal by torture. In order to impart the necessary courage and fortitude, the caapi is drunk.

"A paper read before the Scientific Section gives a brief account of the symptoms and results produced by the administration of this drug.

"Ordinarily, the first step in preparing to meet one of the disasters referred to above is that of submitting the matter to the medicine-man, who advises whether a council meeting should or should not be called. If the former decision is reached, the inhabitants of the surrounding villages are summoned by the use of a huge signal drum, made by hollowing out an immense tree-trunk, and the tones of which can be heard for several miles. The council meeting is preceded and accompanied by formal dances and other ceremonies, in which both men and women participate. If the council so decides, the ceremony of caapi drinking is resorted to. For this occasion, the men of the tribe gather and seat themselves in two rows, the individuals facing one another, but no woman is allowed to participate or even to witness the ceremony. Formerly, the penalty for violating this law was death—but I do not know whether this extreme severity still persists.

"The caapi may be prepared by only one individual in the tribe, and only certain specified officials are permitted to offer it to the drinkers. Under the influence of the beverage, a war-like spirit is developed in the men, who recount their various exploits in battle, or when subject to other dangers. As their courage increases, one after another will volunteer to undergo the ordeal. When a sufficient number have thus volunteered, they retire to some remote portion of the forest, where the torture is inflicted. This ceremony takes place by night, but was performed in the daytime for Mr. MacCreagh in order that he might secure his pictures. The dance that accompanies it is known as the 'dance of the owls and frogs,' probably because the cries of these animals are heard during its performance. The men, stripped for the occasion, are supplied with musical instruments in the form of huge gourds which are used as wind instruments. The tune is a monotonous one, but is very accurate as to time, pitch and quality of notes. After the dance has continued for some time, one of the participants will hand to a companion a cruel whip made of the tough splints from a palm leaf, which imparts an intensely painful stroke. He then turns his back while his companion lashes him. It is required that he continue to play his instrument without the loss of a note or any variation in time or tone, and without flinching or manifesting any other sign of suffering. Should he fail to do so, it is a sign that, so far as he is concerned, the evil spirit wins and the efforts to exorcise it will fail. Having successfully endured the scourging he then takes the whip from his companion, who must in turn receive a blow inflicted by himself. This ceremony continues for a considerable time, until every man has been repeatedly scourged, and until his entire body is covered with welts or bloody marks. As the operation is continued, and the men's sufferings increase in severity, there is a steadily increasing tendency for each to return the other's blow with interest, so that the suffering inflicted before the close of the ceremony often becomes extremely severe. If all goes well, the men then return to the council and report a successful result."

A vote of thanks was extended to Doctor Rusby.

SYMPOSIUM ON U. S. P. AND N. F. REVISION.

Chairman Viehoever announced as the next part of the program a symposium on U. S. P. and N. F. Revision, and Chairman Robert J. Ruth of the Section on Practical Pharmacy and Dispensing assumed the gavel.

Chairman E. Fullerton Cook, of the U. S. P. Revision Committee, presented his report in abstract, and was followed by Chairman W. L. Scoville, of the Committee on Revision of the

National Formulary. Sub-chairmen George M. Beringer, Theodore J. Bradley, E. L. Newcomb, W. L. Scoville, H. A. B. Dunning, Charles H. LaWall and A. G. DuMez presented brief abstracts of their reports or submitted them by title for publication.

E. L. Newcomb stated that Chairman J. H. Beal, of the Board of Trustees U. S. P., had quite a number of samples of different products which had been used in revision work, and that these were available for pharmacists who desired to work on revision problems.

H. V. Army presented a paper in abstract on "Standardized Colored Fluids and Some Official Colorimetric Tests." (See October JOURNAL, pp. 839-849.)

This paper was followed by a stunt show including the following numbers, here submitted in abstract through courtesy of Chairman Viehoever.

STUNT SHOW.

"Porcelain Writing Ink," by B. B. Wright.—Five per cent. solutions of borax and cobalt nitrate are mixed. The writing with this liquid, shaken up before use, is carried out in the usual way with an ordinary pen upon the hot crucible, heated to about 300° C.—U. S. Bureau of Chemistry.

"Melting Point Apparatus," by R. W. Hale.—The author uses a distillation flask of about 150 cm. with its arm bent upward in a rectangular manner. This flask is filled to $\frac{2}{3}$ capacity with the heating liquid. A test-tube is inserted in the flask and liquid. A thermometer and the capillary tube with substance are inserted as usual in the test-tube, which is heated by the liquid partly surrounding it, thus eliminating the need of a stirrer.—U. S. Bureau of Chemistry.

"Device of Soxhlet Extraction Apparatus," by S. Palkin.—A simple device for adjusting the syphoning column of the Soxhlet Extraction Apparatus is described and illustrated by a diagram.

The use of the device affords the following advantages: The volume of liquid in the syphoning reservoir is made variable and dependent upon the amount of material to be extracted.

The frequency of syphoning is increased so that in general the speed of extraction is materially increased.

For small samples a flask sufficiently small can be fitted to the apparatus and the residue may be weighed directly.

"Micromelting Point Apparatus," by J. F. Clevenger and Arno Viehoever.—The apparatus permits the determination of the melting point of minute quantities of crystalline substances under the microscope. The heat is supplied by electric currents, controlled by rheostat and measured by a thermometer.—U. S. Bureau of Chemistry, Washington, D. C.

"Sedimentation-Tube," by Arno Viehoever.—The tube, consisting of 2 parts of the sizes desired, permits of ready separation of sediments in liquids of specifically heavier impurities (sand) in drugs and should prove of wide application.—U. S. Bureau of Chemistry, Washington.

"Apparatus for the Precipitation of Barium Sulphate," by A. G. Murray.—The device described is intended to facilitate the quantitative precipitation of barium sulphate by affording a convenient automatic means of delivering hot barium chloride solution by drops into a boiling sulphate solution.—U. S. Bureau of Chemistry, Washington, D. C.

"A Scrubber for Ammonia Distillates," by A. G. Murray.—A scrubber for ammonia distillates has been devised which is essentially the Davisson scrubber with the addition of a device for automatically returning to the distilling flask the excess condensate in the trap.—U. S. Bureau of Chemistry, Washington, D. C.

"Sublimation Flask," by Arno Viehoever.—The flask constructed out of Pyrex glass permits of the ready sublimation of crystalline substances from crude material, drugs and plant or animal products. The sublimate obtained under controlled conditions of temperature and pressure may be received on cooled condenser.—U. S. Bureau of Chemistry, Washington, D. C.

"An Automatic 'Non-Breaking' Syphon," by E. O. Eaton.—The author describes an apparatus in a single unit, which will start a syphon without the use of mechanical suction, and which will not "break" as the level of the short arm is reached. Its use in the syphoning of corrosive and poisonous liquids as well as in certain types of percolations and filtrations where a constant level is to be maintained is emphasized.—U. S. Bureau of Chemistry, San Francisco.

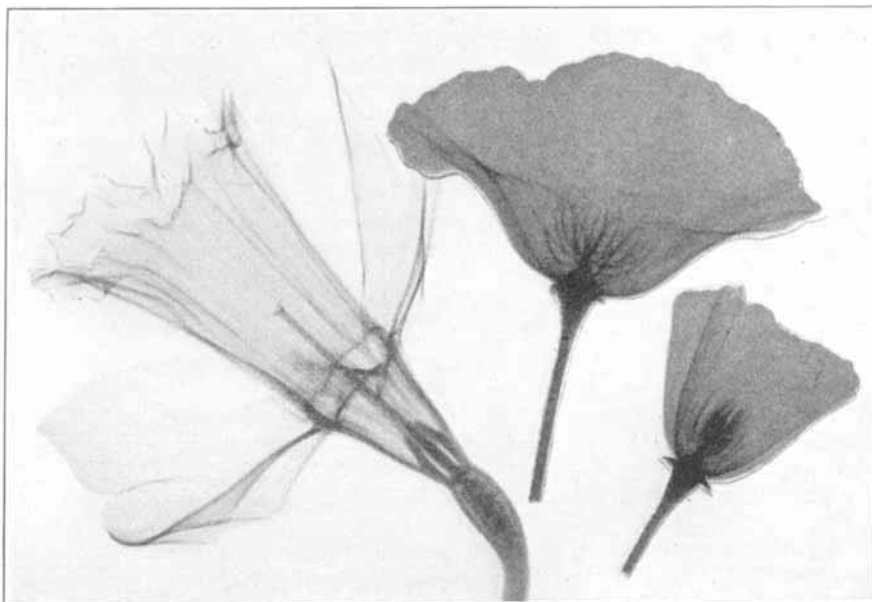
The show ended after midnight, when rats were injected with improperly alkalinized solutions of salvarsan by Dr. Corbitt, who demonstrated the striking results to a tired but patient and appreciative group.

THIRD SESSION.

The third session of the Scientific Section A. Ph. A. was called to order by Chairman Viehoveer at 9:00 A.M. He introduced Dr. John D. MacRae, well-known radiologist of Asheville, who spoke briefly on X-ray applied to plants. A number of slides were shown which gave evidence that the method may find more extended application and usefulness.¹

X-RAY STUDY OF PLANTS AND THEIR PARTS.

Dr. MacRae explained that "it is possible to make radiographs of flowers just as it is of different parts of the human body, and such radiographs are capable of demonstrating flower anatomy as the human anatomy is demonstrated." "Hall Edwards," he said, "suggested its usefulness in botany and published a radiograph of tulips in the *Archives of the Roentgen Ray*, June 1914. Dr. Wheeler P. Davey refers to it in some "Interesting Applications of the Cooledge Tube in *X-Ray Studies*," put out by the Research Laboratory of the General Electric Company, in 1919. Dr. MacRae was pleased to have the invitation to show the slides and present the



X-ray photographs of flowers: In the one on the left ovules may be seen in the ovary; in the other two, stamens and pistils are plainly visible.

subject, because only few know about the X-raying of flowers; with him it is a diversion and he has found much pleasure in the work. He submitted the photographs and slides hoping that the brief remarks in connection therewith might stimulate an interest and result in more extended application of X-ray in the study of plants. Among other slides, one of a jonquil and another of a California poppy were shown. In the former the ovules may be seen in the ovary, and in the poppy the stamens and pistils are plainly visible.

The presentation was followed by a discussion in which Dr. MacRae, E. L. Newcomb, Caswell A Mayo, William Mansfield, I. A. Becker, Arno Viehoveer and others participated.

¹ H. Rieder, in *Umschau* in 1916, described the method of making X-ray photographs of plants and their parts. He pointed out that great differences exist between the different parts of the plant with respect to their content of mineral ash and consequently with respect to their power of absorption for Roentgen rays. The more delicate details of plant tissues are, of course, not revealed as in the microscope; the processes of nutrition and the fertilization of plants can however be studied. The *Scientific American* of 1919 gave some attention to the subject; both of the articles referred to were illustrated.—EDITOR.

E. L. Newcomb had done some work along the suggested lines and felt that there were great possibilities in further studies. A question was asked relative to the cost of an X-ray outfit for such work and answered by the statement that this would be about \$750.

A rising vote of thanks was extended Dr. MacRae.

A paper on "Natural Plant Coloring Matters" was presented in abstract by the author, John H. Wurdack.*

"A Review of the Literature of Pharmacy and Pharmaceutical Botany," by Heber W. Youngken, was submitted by title.

"Mexican Cactus—A Substitute for Cactus," and "An Adulterant of Queen of the Meadow" were presented by O. A. Farwell and discussed by Messrs. Newcomb, Mansfield, Pittenger, Viehoever and others.

- The report of the Committee on Ebert Prize was submitted.

REPORT OF COMMITTEE ON EBERT PRIZE.

Your Committee recommends the award of the Ebert Prize for papers read at the 1922 meetings of the Association to Paul S. Pittenger as author of "The Biological Standardization of Local Anesthetics," presented before the Scientific Section at the Cleveland meeting.

In recommending this award it may not be out of place to call attention to the fact that this paper is a continuation of distinguished work on this subject, which has been reported at previous meetings. It may also be said that this author's claims upon the present year's award are reinforced by a second paper entitled "Isolated Uterus Assay for Pituitary Extract," presented by the author in collaboration with Arnold Quici.

It is a pleasure to this Committee to recommend this award to an indefatigable and enthusiastic worker whose labors have for many years contributed to the success and interest of the meetings of the Scientific Section.

C. J. ZUFALL,
F. W. NITARDY,
E. E. STANFORD.

The report of the Committee was accepted by unanimous vote.

Mention was made of the sorrow which had come to the home of Dr. and Mrs. Edward Kremers through the loss of their son, Carl G. Kremers.² A message of sympathy was transmitted to the bereaved.

A preliminary report on the constituents of Caapi was presented by H. A. Seil and E. B. Putt.

E. V. Howell presented two papers, in abstract—"Yaupon as Tea" and "Notes on North Carolina Medicinal Plants;" both of these were accompanied by exhibits; the latter consisted of about 400 drugs and one hundred or more were carded. Both of these exhibits were very interesting and instructive, and added much to the value of the meeting, for no other section of the country yields as many medicinal drugs.

A rising vote of thanks was given Professor Howell for his interesting presentation.

The Committee on Nominations—Hermann Engelhardt, Chairman, W. H. Zeigler and F. E. Bibbins—reported the following nominees: *Chairman*, J. P. Snyder, New York; *First Vice-Chairman*, F. F. Berg, Maryland; *Second Vice-Chairman*, J. A. Goode, North Carolina; *Secretary*, Paul S. Pittenger; *Delegate to the House of Delegates*, E. V. Howell, North Carolina. The nominees were elected.

The report of the Committee on the Chairman's Address was read. After discussion by Messrs. Arny, Nitardy, Mansfield, Dohme, Snyder, Viehoever and others the action, previously reported, was taken. See following Chairman's address, preceding pages.

In commenting on the paper by J. C. Krantz, Jr.,³ W. L. Scoville said that this was a type of work that should be encouraged; the problem of creating greater permanence of preparations is an important one.

¹ Very brief reference was made on p. 838 to the paper; printing must be deferred to a later issue.

² See p. 825, September JOURNAL A. PH. A.

³ See November JOURNAL A. PH. A., pp. 963-971.

The order of the program was changed by request of the Chairman and an illustrated lecture on "Distillation of Essential Oils in the United States" was presented by E. V. Kyser.

The remaining papers, which were not read, were offered by title and are as follows:

"An Improved Method for the Assay of Mercurial Ointment U. S. P., and Blue Ointment U. S. P.," by D. M. Copley.

"Rapid Method for the Determination of Total Phosphorus in Phosphorus Paste,"¹ by T. J. Austin.

"The Preparation of Acid-fast Caramel,"² by G. D. Beal and Gladys Applegate.

"Preparation of Sucrose Caramel," by G. D. Beal and E. R. Littmann.

"Composition of Some Mixtures for Making Alleged Genuine European Wines," by L. F. Kebler.

"The Effect of Fatty Acids on Liniments and Emulsions," by E. V. Kyser and Franck C. Vilbrandt.

"The Titration of Ferric Chloride with Sodium Hydroxide Using the Oxygen Electrode: a Proof of the Non-Existence of Iron Oxychloride,"³ by R. B. Smith and P. M. Giesy.

"The Alkalinity of Magma Magnesiac as Determined by the Hydrogen Electrode,"⁴ by R. B. Smith and P. M. Giesy.

"Notes on Amyl Nitrite," by L. F. Kebler and W. F. Kunke.

"U. S. P. Syrup of Wild Cherry. Note on Variability of Composition," by L. F. Kebler and W. F. Kunke.

"Genuine Cassia Oil and Synthetic Substitutes," by C. A. Herrmann.

"Arseno-Tungstic Acid as an Alkaloidal Reagent," by George D. Beal and Edwin R. Littman.

"A Preliminary Examination of an Oil of Kaempferia," by F. Bischoff and Edward Kremers.

"Data on Catnip Oil from Cultivated Material," by A. O. Beath and Edward Kremers.

"Pharmaceutical Bibliography. A Suggestion and an Illustration," by Edward Kremers.

"Studies in the Genus *Mentha*," by G. C. Jenison and Roland E. Kremers.

Titles were also read of reports and papers of which Chairman Arno Viehoveer is the author or co-author, as follows:

"Commercial Sources of Cantharidin," by Arno Viehoveer.

"Commercial Types of Mace," by L. J. Schwarz and Arno Viehoveer.

"Mexican Drugs," by J. F. Clevenger and Arno Viehoveer.

"Selective Sifting," by Arno Viehoveer and L. J. Schwarz.

"Report of Committee on Quality of Medicinal Products," by Arno Viehoveer.

The officers of the Section were then duly installed and the final session adjourned.

SECTION ON EDUCATION AND LEGISLATION.

The first session of the Section on Education and Legislation, A. Ph. A., was called to order at 9:00 A.M., Thursday, September 6, by Chairman W. F. Gidley, who asked that the program be changed so as to have a discussion on the paper by Caswell A. Mayo on "Shall We Have a National Law Standardizing Clinical Thermometers?" The author of the paper spoke in part as follows:

"At the Kansas City meeting of the American Pharmaceutical Association, I presented a report on Clinical Thermometers in the United States. This report was based on an examination of about a hundred clinical thermometers gathered in different sections, and these were examined by the United States Bureau of Standards. This examination showed a wide variation in the degree accuracy of these thermometers, and the need of more careful supervision. As a result of this paper a conference was arranged for in New York where we met with Mr. Bartlett of the Bureau of Standards, and there discussed the situation. One result of that was a decided improvement in clinical thermometers. Five years later I presented a report showing that there was an improvement in the better class of thermometers, but there was still a difference in the thermometers sold on a price basis by the manufacturer who bought low-grade tubes. Since then Massachusetts and Connecticut have enacted laws providing for State approval of clinical thermometers that are offered for sale.

¹ October JOURNAL A. PH. A., p. 857; ² October, p. 850; ³ October, p. 855; ⁴ November, p. 955.

"The pharmacists of Ohio have discussed the advisability of enacting a law, but I dissented on the ground that a multiplication of State laws would, undoubtedly, lead to very serious complications. This situation, it seemed to me, could best be met by enacting a national law covering clinical thermometers, placing the administration of that law, so far as the fixing of standards is concerned, with the Bureau of Standards. This national law would be modeled along the lines of the National Food and Drugs Act, and obviate the possibility of having complications which would result by having numerous State laws.

"I have a draft of such a law, and also an abstract of the work which has been done by the Bureau of Standards in the direction of the standardization of clinical thermometers from the time that has elapsed since my first paper was presented in Kansas City. I would ask that a committee be appointed by the Chairman with instructions to publish this draft of the national law and inviting criticisms thereon in an endeavor to get it into shape for adoption, probably, at the next annual meeting of this Association. Our experience in the drafting of the anti-narcotic act, and of the model pharmacy law to be presented this year, shows that it is desirable to make haste slowly in such matters as this. It is better to delay enactment for a year or two than have it become necessary to amend it very soon."

Mr. Mayo moved that a committee be appointed to prepare and publish a draft proposing a national law, invite criticism, and present a revised form of that law at the next annual meeting of the American Pharmaceutical Association.

Mr. Philip, in seconding Mr. Mayo's motion, admitted the need of the regulation, but contended that there was too much national legislation. Mr. Wetterstroem said that this presented an opportunity for publicity by the House of Delegates. The question was called for and the motion was carried.

Chairman Gidley explained that the paper by Mr. Mayo had been presented because the author could not be present at a later session. Secretary G. A. Bergy presided during the reading of the Chairman's address.

CHAIRMAN'S ADDRESS.

It seems that it has been the custom of the Chairman of this Section to make an annual report based largely on data received from boards of pharmacy and schools of pharmacy dealing with progress along educational and legislative lines, while at the same time the Secretary of this Section also reported from similar data.

Your Chairman has left such reporting on new pharmacy laws, new prerequisite educational requirements, advanced entrance requirements, and the like to your Secretary.

For the greater part of the time you are invited to spend in our Section, you will enjoy and be edified by the excellent papers which have been so generously contributed. I wish to thank all such contributors at this time and to acknowledge the acumen and untiring energy which your Secretary has shown in attempting to make the Section on Education and Legislation a success.

In the brief time which I shall address you I wish to recall to your minds some of the efforts now being made to improve pharmacy in educational and legislative directions and to earnestly solicit your ideas and your full and hearty coöperation that such auspicious beginnings may in the end prove signal achievements.

Let it be understood that we are not forgetting the heroic efforts and hard won triumphs of those who have served pharmacy in the past.

It is taken for granted that your presence and my presence here at these meetings indicates an inner urge on our part to realize a personal feeling of greater power through an interchange of ideas. It is our ability to estimate value and to convert these ideas into action policy which is to give us prestige as educators or pharmacists. That is, the motive power of our activity has its origin in the vision which we as individuals hold worthy of realization. And this future picture cannot but reflect the limitations and quality of our vision.

That the minimum of perverted ideas be eased down from these glorious mountains let us have free and frank discussion of our papers.

As the Pill-rolling Philosopher puts it, "a lighted candle hidden beneath a tin percolator sheds no useful light and quickly dissipates itself in the heat of its own combustion."

The two-fold character which pharmacy is assuming is apparent to all. During the last thirty years these characters have constantly taken more definite shape. If these changing con-

ditions are to be adjusted and molded into a more efficient, more highly respected pharmacy all the ingenuity, thought and constructive ability of the leading minds in pharmacy will be required. You are all familiar with these facts.

The pharmacy schools, ever on the alert to attempt to supply the type of artisan demanded, have revised and rechanged their cataloged courses until these have become veritable kaleidoscopic pictures reflecting the existing unsettled conditions.

Standards of education have been and are being debated; entrance requirements are under close scrutiny; until, as someone has said, pharmaceutical education is in a ferment.

Such meetings as we are now having at Asheville should serve us, in some small measure at least, by pointing out how we may secure the valuable products of this fermentation process.

An immense amount of toleration and serious contemplation of the views of others is in order.

Educationally, three things are to be considered; what the goal is, what the steps are, and the time requirement for accomplishing the desired end. It is not my intention to try to offer a solution for these problems should I perchance possess one.

Perhaps one should say what the goals *are*, because, be it remembered, pharmacy has a two-fold character, one of a commercial nature with its maximum of merchandising and departmentizing; the other of a professional character with its maximum of the scientific and the technical.

It would seem that the plausible thing for the pharmacy student of the future to do would be to specialize in one or the other of those fields. But this training must not be merely a "limited perspective and unsympathetic education and unenlightened skill." Rather, as Newton D. Baker, Ex-Secretary of War, puts it. "if you give them contact with liberal and enlightening things and if you give them sympathies of a broad and general character, if you infect them with the consciousness of the fact that they are citizens and have great duties in that regard, and if you underlay all those faculties with a broad ethical and moral basis, showing that character, after all, is the rock upon which both success and usefulness must be established, then pharmaceutical education will assume and maintain the same dignity in the great collection of educational faculties which are sought for and attained by other sciences."

Human experience verifies the fact that if you take a boy out after two years of high school work and set him at a new branch of mental or technical development before he has accomplished something, the moral effect is bad on the boy. One's responsibility becomes very great for so doing.

It is said that letters are sent to eighth-grade students by mercenary business colleges asking "Why study more? Go into business and make money."

Not long since representatives of the organized department stores of the country appeared in Washington to protest against the 10% consumption tax on proprietary preparations, and their argument was that such a tax would subject them to a severe handicap for the reason that they employed clerks so deficient in intelligence that difficulty would be experienced in estimating the tax and selecting the proper stamp. A system less complicated was asked for.

Contrast these with the following compilation by Clyde Eddy in the *Druggists Circular*: "Beginning in July 1923, the forty-five colleges of pharmacy now holding membership in the American Conference of Pharmaceutical Faculties will admit only high school graduates to their courses and, after 1925, a minimum course of three years of collegiate study will be required for graduation. Also, beginning in July 1923, the National Association of Boards of Pharmacy, including practically every pharmacy board in the United States, will put into effect a uniform requirement admitting only high school graduates to their examinations. Fifteen states now require both high school and college graduation, and others will have similar requirements within a few years. And this is but the beginning. Pharmacy is rapidly taking its place among the professions, and it is conceivable that the pharmacist of but a few years hence will be on the same professional footing as his medical confrere." Who shall say that pharmacy is not making progress?

Speaking on the four-year high school minimum entrance requirement for the study of pharmacy after July 1923 for schools holding membership in the American Conference of Pharmaceutical Faculties, President C. H. LaWall, of the American Conference, and Dean of the Philadelphia College of Pharmacy and Science, says in the December issue of the *JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION*, "This step must be taken at the time agreed upon. It

should have been taken years ago. To delay it longer would be to make pharmacy a subject for laughter and sympathy, and we want neither."

It is support of just such matters that demands the full and unqualified coöperation of every live pharmacist who has the true interests of pharmacy at heart. Having agreed upon principles to be followed let us stick to the policy agreed upon. "Self-interest," continues Dr. LaWall," is disguised in many ways and expediency often replaces principles as a guide to action. There is always a minority that will not or cannot go along."

Other educational and legislative matters of great importance to the welfare of pharmacy are being projected and ask your allegiance and your best thought.

A proper classification of schools of pharmacy in the United States is highly desirable. One State after another is adopting prerequisite pharmacy legislation and their boards of pharmacy are forced to grope in the dark when they face the problem of recognition of the schools teaching pharmacy. A "recognized" school may mean at one time one "approved" by a particular board of pharmacy or, again, one holding membership in the American Conference of Pharmaceutical Faculties. Different boards may approve different schools within the same or different States. A uniform graduation should be at their disposal.

At this Asheville meeting Dr. W. W. Charters, of the Personnel Department of the Carnegie Institute of Technology, is to present a plan to investigate pharmaceutical education from the functional standpoint. A "consummation devoutly to be wished." I would not oppose the National Association of Boards of Pharmacy should they decide that the hour of opportunity was at hand for them to do another true service to pharmacy. There is real necessity that *some* stable organization undertake such a work and that we all give aid unreservedly.

A committee, headed by F. H. Freericks, has prepared a "Model for a Modern Pharmacy Law." Not perfect, but what a splendid effort to supply a crying need! It is printed in the journals of pharmacy. Read it, discuss it, submit your ideas to any member of the committee.

A "Model State Narcotic Law" has been evolved but was soon found to be deficient. But the theory is excellent. Progress and honest efforts are indissolubly linked together.

Who has a trenchant idea on the obtuse question of the value of "practical experience?" Now is the accepted time to ink it into sunlight.

Over thirty years ago Doctor Smart, then president of Purdue University, in an address before the Labor Commission of the United States, said "The old-fashioned and somewhat effective system has gone, and nothing adequate to the demand has come to take its place. The latter 'picking-up' process results in what a loss of time, money, and sometimes of morals. . . . While it is possibly profitable for the employer, it is not the most profitable method for the boys." Remember this observation was made over thirty years ago.

It is over twenty years ago that the speaker served two years of pharmacy "apprenticeship" before going to college. He has watched the "system" in operation since. It is often true that the college does not replace the counter in every relation in which practical experience is essential. Certain relations have a high disciplinary and economic value—unless perchance they breed habits of idleness and carelessness. So much depends upon the employer.

A past president of the American Conference of Pharmaceutical Faculties, speaking on the two or four years' "practical experience" requirement, said "Why we should compel a young man to spend, as a minimum, two years in college and the same length of time in a retail store before permitting him to register is beyond comprehension. Quite naturally such a requirement is not a very pleasing prospect to a young man contemplating the study of pharmacy."

Another former president of the same Conference speaking on the same subject said, "the way it works out is to crush the spirit out of a man, who has any spirit, and leaves in pharmacy a lot of corpses."

The present secretary-treasurer of the American Conference of Pharmaceutical Faculties, Professor Zada Cooper, suggested that *practical experience* might be a live subject for a symposium in the Section on Education and Legislation this year. Your Chairman was not sufficiently courageous to attempt a bath in such a fountain of trouble. But that is not saying that such a symposium would not prove an advantage in the end.

Next we have the zealous workers attempting to guarantee to pharmacy full legal protection of its prerogatives. Witness the work of Drs. Jacob Diner, Wardle, Lent, and others who won a victory for the New York Pharmaceutical Association by securing a new law in that State limit-

ing ownership of drug stores to registered pharmacists. Now objectionable owners can be put out of business simply by revoking their professional license. Lucky New York Board of Pharmacy! They can now protect pharmacy and public health by preventing non-pharmacists from opening "drug stores" simply for the purpose of obtaining a permit to withdraw alcohol and intoxicating liquor.

Trade journals, with their tremendous influence, gave whole-hearted support to this achievement. They have, moreover, given this same support to pharmaceutical education in general and with the warm approval of business interests. Big Business has recognized that the educated man possesses a dollar and cents advantage over his less fortunate brother who may have an equal amount of native ability but is handicapped in its application. This could be illustrated in countless recitals.

We wish again to endorse before this Section, as we did last year, the suggestions given four years ago by Professor Spease that the president of the Association appoint a committee of one to control the distribution of papers among our Sections. Undoubtedly, papers are read in certain Sections which properly belong in quite a different Section.

In conclusion the Chairman wishes again to convey his sincere thanks to all those who have made the program of this year possible.

On motion duly seconded and carried the address was referred to a committee consisting of Zada M. Cooper, M. N. Ford and W. J. Teeters.

The address was discussed by Messrs. H. L. Meredith, C. W. Johnson, H. V. Army, G. A. Bergy, Otto P. M. Canis, C. A. Mayo, William Mansfield, and others.

H. L. Meredith spoke on the progress relating to entrance requirements and referred to the proceedings of the National Association of Boards of Pharmacy and American Conference of Pharmaceutical Faculties. (See pp. 926-928 and 1028-1031, JOURNAL A. PH. A.)

C. W. Johnson deplored that arithmetic was not taught in high schools, but to students at an age when they did not comprehend the subject.

H. V. Army said that in the present high school system two years were wasted.

G. A. Bergy spoke of a class of about 450 students to whom two simple problems in arithmetic were given; out of that number 21 only were successful in the solution of both. One of the problems stated the cost of twelve oranges to be 45 cents and that of one orange was asked for. These young men are now in the university, and he contended that it was rather difficult to understand how men of that type would make a success in the drug business.

Mr. Meredith said that colleges of pharmacy had an opportunity to improve the condition, but improvement will not come unless the matter is brought to the attention of educational departments.

Mr. Philip said that the alumni of colleges should interest themselves in educational work in their respective communities. The opportunity should be given high school students to become acquainted with work in pharmacies.

Otto P. M. Canis said that there was not only deficiency in arithmetic but also in geography, in high school teaching. The point is, the teachers are developed along the same lines as those who are taught by them. "As citizens, if not as pharmacists, it is our duty to correct the present system of education," he said.

Mr. Mayo said the fault was that boys and girls are not taught how to study.

The Chairman was reminded of a common practice—when the school piano used in the upper grades no longer serves the purpose it is transferred for primary instruction; in this way the young receive mis-education in music. He said that the universities of Indiana now check up high schools—when a student fails, or makes a low mark, it is reported, and several such charges result in investigation and graduates of these schools may be denied admittance to universities. It costs money to educate boys and girls and educational boards consider failure a waste of money; this is bringing about improved conditions all along the line.

William Mansfield said that the important thing was to instill an interest in students in the subjects taught; one that is considered dry becomes most interesting matter under the instruction of another teacher.

THE SECRETARY'S REPORT.

The next order of business was the Secretary's report. Secretary Bergy presented the report in detail, but stated that some of the tabulations were incomplete; a few of the schools had not

reported. (The greater part of the Secretary's report is tabulated matter and could not be completed in time for this issue and will be printed in a succeeding number of the JOURNAL.) The report was referred to the Committee on Chairman's Address, and a vote of thanks was extended.

Chairman Gidley stated that the papers by A. R. Bliss, Jr., and George Bachman on "Physiology and Pharmacodynamics in Colleges of Pharmacy" and that by L. E. Sayre on "Practice of Pharmacy and Dispensing" had not been received.

A committee on nominations was appointed consisting of C. A. Dyc, W. B. Philip and M. N. Ford. On motion a recess was taken until Friday, September 7.

SECOND SESSION.

The adjourned session of the Section on Education and Legislation was reconvened at 1:30 P.M., September 7, by Chairman W. F. Gidley. Report of the Committee on Nominations was called for. Chairman Dye reported the following nominations: *Chairman*, G. A. Bergy of West Virginia; *Secretary*, William Mansfield, New York; *Associates*—J. G. Beard, North Carolina; M. N. Ford, Ohio; J. B. Burt, Nebraska; *Delegate to the House of Delegates*, H. L. Meredith, Maryland. On motion duly seconded and a vote the nominees were unanimously elected. The first session was then adjourned and the second session convened.

Chairman Zada M. Cooper reported for the Committee on Chairman's Address and Secretary's Report. There were no recommendations, but the Committee commended the officers for their reports which would serve as guides and valuable references; a vote of thanks and appreciation was offered.

A paper by Mariano del Rosario, Director of the School of Pharmacy, Manila, was read and referred for publication. A paper by Joseph Jacobs on "A New World Survey of Pharmacy" was referred to the House of Delegates. (See p. 1011, November JOURNAL A. PH. A.)

Authors of other contributions of the program were not present; these were to be presented verbally; hence no action could be taken. There being no further business a motion to adjourn was carried.

(To be continued.)

COMMITTEE REPORTS

REPORT OF SUB-COMMITTEE NO. 15—NOMENCLATURE.*

The Sub-Committee on Nomenclature of the U. S. P. Revision Committee began its work shortly after the adjournment of the U. S. P. Convention held in Washington in May 1920, and has been active ever since. At the time this report was written, it had practically completed a review of all of the titles, abbreviations and synonyms of the items admitted from the U. S. P. IX and the first vote on proposed titles for newly admitted items was in the act of being taken.

Up to the present time about 225 deletions, additions or alterations in titles have been decided upon and recommended to the Revision Committee for adoption. A list of these changes has been compiled and copies thereof placed at your disposal. It is obvious that the time is too short for me to discuss with you here all of the changes which the Sub-Committee has recommended or to give the reasons therefor, but I do believe that the time is ample and that the matter is of sufficient importance to bring to your attention the recommendations which have been adversely criticized by the members of the General Committee, and, if time permits, one or two additional topics upon which I would like to secure your opinions.

It must be evident to everyone present that a committee of seven persons cannot be aware of all the conditions which make a title desirable or undesirable, no matter how diligently its members may work among themselves. It is only by soliciting aid from the "outsiders" that the committee can hope to become informed on all of the various factors which should be taken into consideration in the selection, deletion or alteration of a title. I sincerely hope, therefore, that you will let me have the benefit which may accrue from a free and thorough discussion of the titles in question.

* Scientific Section, A. Ph. A., Asheville meeting, 1923.