SCIENTIFIC SECTION, AMERICAN PHARMACEUTICAL ASSOCIATION

MINUTES OF THE FIRST SESSION.*

The first session of the Scientific Section was called to order in Hotel Chalfonte, Atlantic City, Thursday, September 7th, at 9:30 A.M., by Chairman W. L. Scoville.

The first order of business was the Chairman's Address, the subject of which was

PHARMACEUTICAL RESEARCH.

BY W. L. SCOVILLE, CHAIRMAN.

Research is to-day the popular topic for the chemist. Circumstances have brought it to the front, and men are seeing more clearly the latent possibilities of science, even in the abstract.

It is not my purpose to attempt to add to the oratory or the general argument, but to urge to concrete action pharmacy's part in the advance. Pharmacy has its own part to play, and its own responsibilities to shoulder.

Each branch of chemistry must hold up its end for its own good. A general attention to research makes it easier for all branches to push forward, but the laggard will not be carried very far or very long. All branches will profit by the efforts of the leaders, but only a coöperative spirit will preserve a place for any branch. Action is needed on all sides. Pharmacy must take up its problems and solve them, or it will ultimately cease to be regarded as a branch of chemistry. We cannot be a parasite in the chemical body and preserve our standing.

Talking or reading about chemical achievements will not get us very far unless we are stirred to achievement ourselves. We may profit to a considerable extent by the achievements of allied branches of science, but we can secure lasting recognition only by our own attainments.

Research is preparedness. It is the foundation upon which achievement is built. It thus depends upon knowledge, training and the atmosphere of prescience. For this we must look mainly to our colleges and the scientific laboratories of the larger manufacturing houses. The atmosphere of retail pharmacy is not conducive to research, and we can scarcely expect to change that atmosphere very materially. But we can reasonably look to our hundred or so schools of pharmacy for a larger measure of pharmaceutical research than we are now receiving. They must lead in professional matters, and in the spirit of research. For we are Pharmacopœia makers and National Formulary constructors as well as commercialists. These are the works by which pharmacy as a profession is judged.

Pharmacy has done creditable work on these books, but there still exist faults in them which require research to correct. We cannot leave all the problems to the revision committees, for some of the problems require more time and attention than these committees can give to them. Progress depends upon preparation, and is in proportion to that preparation.

The present revisions, just issued, show some defects which are due to just this lack of preparation by pharmacy as a whole. The revision committees did much research of the briefer type, but they were unable to investigate the more fundamental problems.

For instance, the Elixir of the Phosphates of Iron, Quinine and Strychnine has been a leading pharmaceutical problem for a generation. The preceding issues of the PHARMACOPŒIA and NATIONAL FORMULARY included the best formulas for it that pharmacy could devise. Neither was satisfactory, but the problem was left to the revision committees. The result is that the preparation has been entirely dropped because the research which is needed to produce a satisfactory formula has not been done.

Soluble Phosphate of Iron, which is the troublesome factor, is but little understood.

* Papers with discussions of the subjects will be printed apart from the minutes; hence only the title will be mentioned in the minutes.

With the other scale salts of iron, it has been accepted without being understood, and when the knowledge became necessary, the preparation had to suffer. It is probable that a knowledge of the constitution of the scale salts of iron (in this case the soluble ferric phosphate) would solve the problem of this Elixir. Professor Stevens a few years ago started a study of these iron compounds, but did not finish it. It is not a simple problem, but calls for a knowledge of the most modern physico-chemical theories, and a skill in research that is beyond the ken of most pharmaceutical chemists. It embodies a study of iron as an acidic body as well as a base, and it includes a relation of both the iron and its compound to other bases and acids. Such a study would not merely solve the problem of this particular Elixir, but would mean more perfect and efficient iron preparations of many kinds. It would solve many problems at once. But it is no simple or easy problem, and it needs the best skill that can be secured for its solution.

Some other problems which need attention may be mentioned, to make more specific the need for pharmaceutical research.

With the purpose of reducing the number of astringent preparations in the Pharmacopœia, Tincture of Nutgall was dropped. Apparently the sub-committee which recommended this deletion judged the astringent preparations by their palatability and therapeutic usefulness, but found no information concerning their stability. But there is reason for believing that Tincture of Nutgall is the most stable, and therefore the most reliable of the astringent preparations. It was entitled to consideration for this alone, but failed to receive such regard. Much work has been done on the stability of alkaloidal preparations, and similar work is needed on the astringent preparations, particularly as it is known that some of the latter are notoriously inconstant. More, perhaps, than any other class of preparations, do the astringents depend upon the character of the solvent, or menstruum, for stability. These do not advertise internal changes by precipitation or other obvious physical change, but may remain perfectly clear and presentable and yet lose their value as astringents. Furthermore, there are a number of drugs which contain astringent principles, but are not employed as astringents, and in which the astringent body is troublesome in preparations. A systematic study of the astringent principles in drugs would go far toward producing more reliable as well as more presentable preparations.

Similarly some of the glucosidal preparations need to be studied for stability and the influence of the menstruum upon them. The recent increase in the alcoholic strength of Tincture of Digitalis is but an instance of this need. The Tincture of Digitalis of the U. S. P. VIII was pharmaceutically satisfactory but not therapeutically reliable. The question is still open, and may be applied to preparations of strophanthus as well.

Ergot has been much studied chemically but not pharmaceutically. Menstrua must have their influence on the stability of ergot preparations, but physical appearance has been the main criterion thus far.

Pepsin is another drug which is very susceptible to other bodies, particularly in solution. The National Formulary IV has twelve different liquid preparations of pepsin, none of which has been very closely studied for therapeutic permanency. Chemists have informed us somewhat of the influence of different acids and chemicals upon the activity of pepsin, but little use has been made of such knowledge pharmaceutically. Yet not only do the different acids affect the activity of pepsin, but the proportions of acid to obtain the greatest stability need to be learned. Likewise the influence of alcohol, glycerin, and perhaps sugar, needs to be studied. We really know but little about the value of official pepsin preparations after they are a few months old.

Cantharides has shown some striking peculiarities as regards solvents. It appears to be an extremely difficult drug to extract, and the British Pharmacopœia has gone so far as to abolish all preparations of Cantharides and substitute preparations of cantharidin therefor. But the U. S. P. still puts faith in cantharides preparations although most of the evidence is against their reliability. The next Revision Committee should have positive evidence of reliable methods of extraction and of practical solvents for this drug, on which it can base its formulas. The appearance of the preparation is not a reliable criterion of its value, and the fact that the Pharmacopœia has no assay method or standard for any cantharidal preparation, although the drug itself is standardized, is significant.

Some drugs are under a cloud without sufficient warrant, and the truth about them should be known. Indian Podophyllum, *Podophyllum Emodi,* is an instance. This drug appeared in the English market some 25 years or so ago. A prominent English pharmacist made a hasty and somewhat superficial test of it and condemned it. His standing carried sufficient weight to make the prejudice stand for a generation. Yet most of the work done since then tends to make this species of podophyllum superior to the one still recognized exclusively in the U. S. P., and under Resin of Podophyllum, the resin of P. Emodi is distinctly outlawed. Yet the British Pharmacopœia has recognized the two species as equal. The Indian drug is more economical, and the best evidence points to its being more active also. Economy is worth considering, even in pharmacy and medicine.

A similar condition exists with regard to Brazilian Jalap—the tuber of *Pipsostagia pisonis,* which contains twice to three times as much resin as the official Jalap, and the resins are stated to be nearly identical chemically. The Pharmacopœia wants to recognize the best, and should know the status of this Brazilian drug before another revision.

And we might ask whether Mexican Scammony is really inferior to the Aleppo variety? Or what therapeutic differences, aside from strength, there are between *Hyoscyamus Muticus* and *H. Niger?* Prejudices die hard, even in scientific circles, but they are less excusable in science than outside.

Our Professor L. E. Sayre has done some excellent work on the constituents of Gelsemium, and it should require but little more investigation to establish a reliable assay method for the drug and its preparations. Indeed, manufacturers are already standardizing them by assay, but the Pharmacopœia has not yet seen fit to follow.

Lobelia and Veratrum Viride are also standardized commercially, but the Pharmacopœia still withholds its sanction. Is it not wise to assume that results obtained by common methods of assay are necessarily indicative of the value of these preparations? But, on the other hand, it is no more scientific to assume that they are not. If the next Pharmacopœia does not standardize them, we should know good reasons why, based upon an investigation.

Sanguinaria is another drug of peculiar interest and established value. Its alkaloid seems to be strangely affected by the amount of acid present, as well as by the character of the acid. Apparently preparations of this drug deteriorate on standing, but the amount of acid employed may contradict this suggestion. In other words, a very liberal use of acid may not show any deterioration, whereas a moderate use will. No other alkaloidal drug acts the same way toward acids. Furthermore, preparations of Sanguinaria seem to be more stable if made strongly acid.

The relation of acids to the alkaloids of Sanguinaria is very interesting but little studied. This may prove, on investigation, to have a simple explanation, or it may be a complex study.

Other examples of the need of research might be cited, but enough has been said to show that pharmaceutical research is a practical need. There are problems enough, but workers are not developed for them.

Pharmacy must give as well as take, and it probably will find that the more it gives to science the more it will be able to receive from science. Capacity grows with usefulness.

I recommend therefore that a Committee on Research be established by the Association for the encouragement of the pharmaceutical research. Such a committee can point out the need of investigation in certain lines, can secure workers to undertake the solutions of definite problems and can keep before the colleges and those engaged in scientific work the needs and value of solving such problems.

Some of these problems are likely to require long experimentation.

Some schools may be persuaded to specialize on certain lines.

This is the situation at present in some technical studies. Thus the University of Maine has attracted attention by her studies on paper-making, Ohio State University by investigations on coal, Illinois University by systematic work on the economic uses of fuel, Minnesota University by researches in pine products, etc.

Already some of our pharmaceutical colleges are specializing. The Universities of Minnesota and Wisconsin on drug-culture, and Professor Sayre has drawn attention to the University of Kansas by his drug analyses. Such specializing is a credit to the institution because it accomplishes something definite.

A Committee on Research can do good work both by securing workers for definite problems and by stimulating the development of special lines of work in some of the teaching institutions. Some investigations will cover a period of years, and the committee should be of a permanent character. Appointment should be for a period of not less than five years each, after the committee has become established, one member perhaps finishing his term each year, but subject to reappointment if his interest warrants. The committee should also represent, in part at least, the Conference of Pharmaceutical Faculties, since its main work will be with the pharmaceutical colleges.

If such a committee can stimulate research in our colleges, and secure the working out of problems such as has been suggested, it will accomplish much for American pharmacy.

DETROIT, August, 1916.

PHILIP ASHER: I move that the address of Chairman W. L. Scoville be received and a committee appointed to take up the recommendations made therein and to report at the last session of this Section.

Seconded. Motion carried.

A committee consisting of Messrs. C. E. Vanderkleed, Philip Asher and C. B. Jordan was appointed. (This committee reported during the last session, but for convenient reference the report is printed here. The recommendations of the committee carried, except the one restricting the personnel of the Committee on Research.)

REPORT OF COMMITTEE ON CHAIRMAN'S ADDRESS.

Your Committee begs to report that it unanimously favors the reommendation of Chairman Scoville that a Committee on Research be established, and in accordance therewith recommends the following:

1. That a Committee on Research be established by the Scientific Section.

2. That this Committee consist of five members who shall serve respectively for 5, 4, 3, 2 and 1 year, and that each succeeding member shall serve for 5 years.

3. That members of this Committee shall be elected by the Section.

4. That at least two members of the Committee on Research shall be men or women engaged in teaching in a school or schools having membership in the American Conference of Pharmaceutical Faculties.

5. That the By-laws of this Section be modified, if necessary, in accordance with these recommendations.

Respectfully submitted,

CHAS. E. VANDERKLEED, *Chairman.*
C. B. JORDAN.
PHILIP ASHER.

ATLANTIC CITY, N. J., September 8, 1916.

DISCUSSIONS OF THE CHAIRMAN'S ADDRESS.

C. B. LOWE: I was struck with the mention of one drug—Podophyllum Emodi, the Indian. If you will take the trouble to look this matter up, you will find that an analysis shows it to contain 12 percent of resin, but that resin is distinctly weaker than the official Podophyllin of the U. S. Pharmacopœia. This, I believe, we have unwisely relegated to the rear, when it is, perhaps, entitled to be used, and I think that was a good thing to be brought out. It was of considerable interest to me.

R. A. LYMAN: I want to say a word about the Chairman's address. It is, in a way, a repetition of what I said before the Conference down in Philadelphia, and I hope that those present who heard me will bear with me for a moment or two.

I am heartily in sympathy with the suggestion Chairman Scoville makes as to the appointment of a Committee on Research. In studying the problem for a great many years, and in talking the matter over with some of our most prominent doctors, I have come to the conclusion that the thing we need most of all, at the present time in pharmacy, is the production of new material. In the last few years we have been trying to make a profession of pharmacy by legislation, and you know how the senators from Nebraska felt about this matter, and no doubt the senators from other states felt the same way.

We can never make a profession of pharmacy by legislation, by teaching men and women how to carry on a manipulation of the Pharmacopœia. I think there is no other way to make pharmacy a profession than by those who are in a position to do so, those who are trained to do so, to engage in research which concerns pharmacy, and when we do that we put pharmacy on a scientific basis and make it a profession, and I am heartily in sympathy with this part of the report and hope that some action will be taken toward the establishment of such a committee.

A. W. LINTON: There is more or less interest in pharmacy and the status of pharmacy and a good deal of inquiry as to whether pharmacy deserves the standing of a profession and whether schools of pharmacy deserve to be ranked with other professional schools or not. There is a good deal of doubt along these lines. One of the questions asked was whether the pharmacists are doing any research work. Are they doing any original work? Anything new? What are the problems they are working on; and where can we find the records of what they are doing? They are asking these questions. They want to know. They are not thoroughly familiar with what we are doing. They have not heard very much, and some think we are not doing anything along these lines, and I think this is the keynote we ought to sound.

W. F. RUDD: In the past few months I have had a great deal of correspondence with the Carnegie Foundation on Teaching relative to this question. Dr. Pritchard wrote me and said there is one thing that ought to be decided, and the pharmacists alone can decide that—namely, whether or not we were really professional people or business people, and when that decision was made by the pharmacists themselves, Dr. Pritchard, speaking for the Foundation, said that there was a good deal of work they had for us.

VIRGIL COBLENTZ: Pharmacy will never be classed among the sciences if we, ourselves, do not place it there. It is up to us to do that, and it is up to us to take up this line of research and do it carefully and conscientiously and create a place for ourselves.

But, we are not going to reach this point by legislation. We have to show what we can do.

The following were then appointed as Committee on Nominations: H. Engelhardt, E. A. Ruddiman, John G. Godding.

R. A. LYMAN: I move that this Committee be allowed to make its report at the next meeting.

Seconded. Motion carried.

The first paper of the program was entitled *A Study in Adsorption,* by J. U. Lloyd, accompanied by practical experiments.

It was thereupon moved by C. E. Vanderkleed that the paper be accepted and that it take the usual course. Seconded.

A rising vote of thanks was given Professor Lloyd for his paper, who spoke as follows:

Gentlemen, when I look around at the faces, it seems to me that I am speaking to others of whom I once was a part. In the vacant chairs I see others that none of you see, and I hear voices in the discussions that none of you hear, and my heart-strings are pulled, and it won't be many years until some man stands in this room and looks around as I look around now and will see a vacant chair here. If you think then, as I do now of them, you will think then of me.

REPORT OF THE COMMITTEE ON EBERT PRIZE.

The Committee on Ebert Prize respectfully report that the members have severally and individually considered the papers presented at the 1915 meeting and have independently and unanimously come to the conclusion that the award should be made to Professor John Uri Lloyd for his epoch-making discovery of the adsorption powers of hydrated siliceous earths.

(Signed) CHARLES H. LAWALL,
ROBERT P. FISCHELIS,
M. R. LAWALL.

The Secretary moves that the report be received and adopted. Seconded. Motion carried.

J. U. LLOYD: Mr. Chairman, nobody knows how I appreciate this. I had no thought of anything in that line. My paper of last year was simply a statement of a fact. There was nothing in it. It is something that anyone ought to have accomplished and I gave it to the Society.

I accept this prize joyfully, because, young people, it will give so much pleasure to those I truly love. This is the fourth Ebert prize, and not one of them did I think I was in the list for, and I truly thank you.

The next paper was entitled *Physical Phenomena Relating to Solution and Crystallization,* by H. J. Novack.

Moved that the paper be received and referred to the Publication Committee. Seconded.—Motion carried and the paper discussed as follows (the paper was published in September, 1916, issue of the JOURNAL A. PH. A., which see):

H. L. HARRIS: I would like to say a word in reference to the solubility of boric acid. About thirty days ago a doctor in Chicago recommended a ten percent solution of boric acid for washing of the nasal passages to prevent anterior poliomyelitis. I asked him how a ten percent solution could be made and he replied that it could be made in water at a temperature of 125°. I wrote him that water at that temperature would be too hot for a baby's nostrils.

In the July issue of the *American Medicine* they had an article copied from the *Midland Druggist* showing how to make a boric acid solution by putting it in a mortar, adding water and grinding it up, putting in more water and grinding it, and then putting the powder in a bottle and agitating it. I would like to add, in reference to boric acid solution, that there is now to be had a granulated form of boric acid that is the most soluble form of any heretofore placed on the market.

C. P. WIMMER: I have listened with a great deal of interest to Dr. Novack's paper. What he says here is nothing more than a substantiation of what I said in another discussion with reference to the transition states that substances go through in their formation.

He finds, on looking at them under a microscope, that particles form—first the nebula, and this shapes itself into fine particles, and Dr. Novack calls these "primary crystalline particles." These, to my mind, are nothing more than colloids, and Mr. Novack characterizes these particles very nicely. He says that they have the power of attraction and repulsion and continue to increase in size. We know that they have definite electric charges—negative and positive as the case may be—and so on, and he has shown us how the transitions from the colloidal state into the crystalline state go on. As the particles increase in size the movement becomes more sluggish and finally stops altogether and the crystal is formed.

I think the paper is a very interesting one to the colloidal chemist.

The following papers were then presented and discussed: Some of the Results of the Harrison Anti-Narcotic Law, by H. C. Wood, Jr. A Constant Temperature Bath for Maintaining Temperatures Lower Than That of the Room, by Paul S. Pittenger, and another by the same author on Multiple Operating Table Combined with Kymograph Case for Blood-Pressure Experiments.

REPORT OF COMMITTEE ON QUALITY OF MEDICINAL PRODUCTS, SEPTEMBER, 1916.

The members of the above-named committee are: Edgar L. Patch, Lyman F. Kebler, H. H. Rusby and H. Engelhardt. Dr. H. H. Rusby, in presenting the report and commenting thereon, said that the first two or three pages of the report should have been credited to the Proceedings of the New York State Pharmaceutical Association, and reference to that fact should be made when the report is published.

So far as these samples are concerned they are simply a few that I was able to get ready before I left home. They consist of drugs that have been adulterated and drugs offered at the port of New York during the past year.

I commend these samples to you as a practical example of what the drug law has done for materia medica of the country.

It was moved and seconded that the report be accepted and take the usual course.

Motion carried.

A. R. L. DOHME: Dr. Rusby, does this same condition apply to all ports as it does to New York?

H. H. RUSBY: I believe that some of these drugs do get in through other ports, but a system prevails in the Department of Agriculture, by which the man in charge of the work at one of these ports is supposed to send in his samples, when he is in doubt, to the central office in Washington at the Bureau of Chemistry, and I believe this is done. I believe that some of these things do get in at the other ports, but not to any great extent.

Motion carried.

A motion to adjourn was then made, seconded and carried.

SECOND SESSION.

Scientific Section, Thursday, September 7, 1916.

The second session of the Scientific Section was called to order by Chairman Scoville at 2.30 P.M. on Thursday, September 7, 1916.

The Committee on Nominations reported on nominees for the Section as follows: for chairman, J. L. Turner, E. L. Newcomb; for first vice-chairman, P. S. Pittenger, B. L. Murray; for second vice-chairman, A. W. Linton, W. R. White; for secretary, W. F. Rudd, W. W. Stockberger.

A paper on *Vegetable Taxonomy*, by O. A. Wall, was then presented. This was printed in September number, JOURNAL A. PH. A.

The next subject was *Drug Plant Culture in 1916*, by W. W. Stockberger. This was discussed and referred for publication, and likewise the following: The Alkaloids of Amaryllis Belladonna, by F. B. Kilmer; The Culture of Belladonna, Illustrated with Specimens and Lantern Slides, by John A. Borneman; The Collection of Material for the Clinical Laboratory, by J. Atlee Dean; The Assay Methods and Purity Requirements of the Pharmacopœia and National Formulary, by M. I. Wilbert; Corn Oil and Its Hydrogenation Product for Medicinal Use, by D. H. Lackey and L. E. Sayre; Analysis of the Seeds of Gymnocladus Canadensis (Kentucky Coffee-tree), by G. N. Watson and L. E. Sayre; Polarized Light in Vegetable Histology, by C. W. Ballard; The Physiological Standardization of Cannabis, by W. A. Pearson; The Variability of Strophanthin with Particular Reference to Ouabain, by L. W. Rowe; A Criticism of the Biologic Methods for the Standardization of Digitalis with a Suggestion for a New Method, by W. H. Ziegler; Chaparro Amargosa, by Henry Kraemer and Chalmers J. Zufall; Peyote

Worship, by C. Coulson Smith; On the Detection of Mould in Drugs, Foods and Spices with Special Reference to a Specific Stain, by Arno Viehoever; Autochrome Photographs of Medicinal Plants, by E. L. Newcomb and Henry Morris.

It was intended to project the photographs in the presentation of the last subject, but as no suitable apparatus was furnished, the photographs were placed on exhibition instead.

The meeting was adjourned.

THIRD SESSION.

Chairman Scoville called the third session of the Scientific Section to order at 9.45 A.M., Friday, September 8, 1916. The reading of papers was continued, the first number of the program being A Medicinal Comparison of Castor Oil and Mineral Oil, by R. F. McDonald. After considerable discussion the paper was referred.

The following papers were then read and discussed: Diagnostic Reagents, by F. E. Stewart; Hexamethyleneamine, by E. V. Howell and E. V. Keyser; A Rapid Accurate Method for Determining Organically and Inorganically Combined Iodine, by J. Paul Snyder and W. J. Thompson; Chemical Monographs and New Chemicals in U.S.P. IX, by Otto Raubenheimer; Sulphurous Acid—Its Extemporaneous Preparation, by Otto Raubenheimer; Preliminary Notes on the Value of Beta-iminazolyl-ethylamine hydrochloride as a Standard for Testing Pituitary Extracts, by Paul S. Pittenger and C. E. Vanderkleed; Laboratory Notes on Fowler's Solution, Spirit of Nitrous Ether and By-alkaloids in Quinine Sulphate, by H. Engelhardt and O. E. Winters; The Adulteration of White Beeswax, by K. F. Ehmann; Manna, A Brief Study of Some Commercial Samples, by Charles H. LaWall and Leroy Forman; A New Digestant, by W. A. Konantz.

The following papers were presented in abstract form and will be sent direct to the editor of the JOURNAL OF THE A. PH. A.

Roland E. Kremers and Edward Kremers: The Oil of Pinus Sabiniana.

A report on the distillation of the oil of the Digger's pine from its oleoresin preliminary to subsequent reports on the revision of the physical constants of heptane, the chlorination of this hydrocarbon of this oil found only in traces.

L. J. Ostlund and Edward Kremers: The Oleoresin and Oil of Pinus Jeffreyi.

A report on the distillation of the oil of Jeffrey pine from the oleoresin, likewise preliminary to subsequent reports on the revision of the physical constants of heptane, the chlorination of this hydrocarbon and the study of the oxygenated constituents found in the higher fractions.

L. J. Ostlund and Edward Kremers: The Cones of Pinus Sabiniana.

Although the heptane from Digger's pine has attracted attention, the seeds which are said to have served the Digger Indians as food—hence the common name of tree—do not appear to have been investigated even in a preliminary manner. The seeds have a pleasant, bland taste and yield a fatty oil upon expression and extraction. The cones exude an oleoresin quite different in appearance from that obtained by boxing the trunk of the trees. The volatile oil from the fresh cones was also distilled.

Norbert Mueller and Edward Kremers: The Apparent and Real Ash Content of Digitalis.

Attention is called to the observation that the apparent ash content of foxglove leaves may rise as high as twenty-five percent and more and that this may be due to adherence of fine particles of soil to the rough surface of the leaf, even after more than ordinary precautions have been taken to remove such foreign matter. It is also pointed out that a choice drug may be obtained by mailing the crude drug and reserving the No. 20 powder for infusions. The soil accumulates in the finer powders and can be rejected.

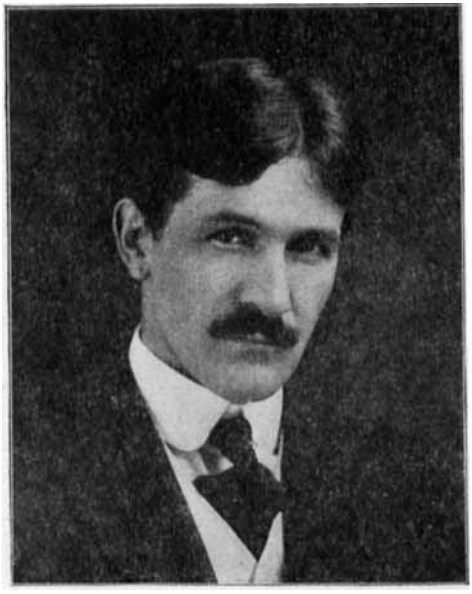
The report of the Committee on the Chairman's Address was then presented. (This will be found following the Chairman's Address, First Session.)

It was moved, seconded and carried that the Committee on Research to be appointed should take up the matter of amendment of the By-laws wherein it should be provided that this should be a standing committee in accordance with the suggestions of Chairman W. L. Scoville (see Chairman's Address).

The nominations for this committee resulted as follows: W. L. Scoville, C. E. Vanderkleed, William Mansfield, Arno Viehoever and C. H. Lawall. These nominees were unanimously elected by the Section.

The election of officers of the Section for the ensuing year resulted as follows: Chairman, J. L. Turner; first vice-chairman, B. L. Murray; second vice-chairman, A. W. Linton; secretary, W. W. Stockberger.

Chairman W. L. Scoville thanked the Section for the courtesy and assistance rendered him during the year and then entertained a motion to adjourn, which was carried.



P. H. UTECH, MEADVILLE, PA.
Chairman, Section on Commercial Interests.

LEONARD SELTZER, DETROIT, MICH.
First Vice-President, American Pharmaceutical Association.