

## Of General Interest

### EIGHTH INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.

OTTO RAUBENHEIMER, PH. G., SECRETARY OF THE SECTION ON PHARMACEUTICAL CHEMISTRY.

The formal opening of the Eighth International Congress of Applied Chemistry took place at Washington, D. C., on September 4, at Memorial Continental Hall. Dr. W. H. Nichols, president of the Congress, opened the proceedings by calling upon the honorary president, Dr. Edward W. Morley, who expressed the cordial welcome of the chemists of the United States to the visiting chemists of the wide world, who were in attendance on the Congress, and he took an especial pleasure in welcoming the chemists from those four nations whose languages are the official language of the Congress—Great Britain, France, Germany and Italy—and in whose countries modern chemistry had its origin one hundred years ago. He named Dalton, Lavoisier, Liebig and Avogadro. The progress of chemistry in those four countries had been well worthy of those beginnings. At the time the United States had just become an independent nation—organization, civilization and general lawmaking had to take first place—pure chemistry had to wait.

He greeted with a great warmth of welcome the nations "who were thus our masters and teachers." While the debt could not be repaid, he assured the delegates that if hospitality would represent the intention they would feel America's gratitude.

On behalf of upwards of 6,000 representatives of all branches of American chemistry, and in the name of the great industrial organizations depending upon their services and teachings, he extended a hearty welcome, and emphasized the opportunity which the congress offered to the delegates of comparing notes on matters of vital interest and of adding to the sum of previous knowledge.

He expressed a word of appreciation for President Taft, saying that the Congress would find in him a worthy successor of the kings and princes who have greeted previous congresses.

Dr. Nichols mentioned the great progress of science in the last twenty-five years and said he believed chemistry had not been outstripped by any other branch.

"The earth may have to look to chemistry for the continuation of its future life," he said. "We have come to realize that our resources must be conserved at the same time they are being used. Reckless expenditure of our natural resources must be succeeded by intelligent conservation."

Responses were made by Dr. Rudolph Wegschneider, for Austria; Prof. Leon



PROMINENT MEMBERS OF THE INTERNATIONAL CONGRESS.

Left to Right—Sir William Ramsay, K. C. B., D. Sc., F. R. S.; Dr. Rudolph Messel, F. R. S., Retiring President, Society of Chemical Industry; Dr. William H. Nichols, President Eighth International Congress of Applied Chemistry.

Lindet, for France; Prof. Dr. K. von Buchka, for Germany; Sir William Ramsay, for Great Britain; Dr. Jokichori Lemori, for Japan; Commanditore Giacôme Ciamician, for Italy; Prof. P. Walden, for Russia; Prof. Belisario Diaz-Ossa, for South American Republics; Dr. Samuel Eyde, for Norway.

Subsequently, at 4:30 o'clock, the visiting delegates presented their cards at the White House and were ushered into the East Room. The president occupied an invalid chair facing the rows of guests seated in chairs arranged in semi-circles.

The compliment of the congress paid by the President in coming in from Beverly to receive the delegates was referred to appreciatively by Dr. Nichols, after which President Taft welcomed them on behalf of the American people, and told them that theirs was an important congress because of its relation to the industrial world. He said he noted that the discussion of patent laws occupied one of the divisions of their programme. After discussing the matter of the improvement of the machinery in the patent office, the President spoke extemporaneously as follows:

"I may add that one of the great opportunities for reform, in my judgment, is in the shortening of patent litigation and the reducing of its expenditure.

"I know very little about chemistry, but I know a good deal about patent litigation. I know the amount of money that has been unnecessarily wasted, and the inequality that has been produced between the rich and the poor litigant by reason of the unnecessary expense of that litigation. This is one of the things that calls for an immediate remedy.

"It is not essential that we should make a record of 10,000 printed pages at \$50 a day for experts and \$100 a day for patent lawyers. I have no objection to experts. I have no objection to patent lawyers, but I think we can have too much of both.

"What ought to happen is that the expert should be called into open court, should there be examined on the principal points of the case, and then dismissed, and not have that interminable system of records, which every judge who has had any experience in respect to patent law must condemn, on the one hand because of its uselessness, and on the other because of its expense. You observe that I am willing to make a diversion in the direction of which I know something."

The greater part of the time on Thursday was spent by the delegates in seeing Washington and in visits of inspection to several of the Government bureaus. All took trains in time to reach New York for the opening of the business sessions of the congress at Columbia University on Friday morning.

#### SECTION ON PHARMACEUTICAL CHEMISTRY.

The Congress was divided into 24 sections which held their meetings in the different buildings of Columbia University, beginning Friday morning, Sept. 6, and ending Thursday afternoon, Sept. 12. The total registration at the Congress reached about 4000. The meetings, quite especially the general lectures were largely attended and the discussions were lively. It is perhaps needless to remark that the A. Ph. A. was well represented in the authors of the papers as well as those taking part in the discussions.

Section VIII B.—Pharmaceutical Chemistry is the one of special interest to

the members of the A. Ph. A. and we herewith present an abstract of the papers and discussions.

The officers of the Section were:

President: Prof. Joseph P. Remington.

Vice-President: Prof. Virgil Coblenz.

Secretary: Otto Raubenheimer.

The morning's session on Friday, Sept. 6, was opened in Room 306, Engineering Building, Columbia University, by President Remington, who announced that owing to Dr. Rosengarten's many engagements during the Congress, he had appointed Otto Raubenheimer as secretary of the Section which action was approved by the members.

In his address, Prof. Remington pointed out that the Section on Pharmaceutical Chemistry is the "Baby" section of the American Chemical Society and also of the Congress, that the papers before the Section deal chiefly with plant cultivation in order to uniformly increase their active constituents and also to enhance their commercial value, furthermore with volatile oils and their analysis and with reagents and color standards. After the introduction of Dr. Vieth of Ludwigshafen and Dr. Lueders of Hamburg the *Report of the Commission on Variations in the Activity of Toxic Drugs* was read by William Mair, which was received and referred to the Executive Committee for publication.

President Remington appointed the following members as Committee on Resolutions: Drs. Reid Hunt, Vieth and Mair.

One of the delegates of the Pharmaceutical Society of Japan, Mr. Wooyenaka was next introduced by President Remington. The paper by Messrs. Ransom and Henderson on *Belladonna, the effect of cultivation and fertilization on the growth of the plant and the Alkaloidal content of the leaves* was read by Mr. Mair and was discussed by Prof. Remington, Dr. Vieth, Kahn, and Messrs. Mayo, Raubenheimer and Mair.

At the afternoon's session with an attendance of 35 members Prof. Kahn presented the greetings of the New York State Pharmaceutical Association and another foreign member, Dr. S. Weber of Darmstadt, Germany was introduced. In the absence of the authors Secretary Raubenheimer read the paper "*The Potency of First Year Cultivated Digitalis Leaves as Indicated by Physiological Assay.*" In the very lively discussion which ensued the following members participated, Drs. Vieth, Hatcher, Sollmann, Kahn, Messrs. Raubenheimer and Lichthardt and Mair and President Remington. It was shown that it is essential to thoroughly dry digitalis and keep same dry if necessary over lime and also that the two important questions if wild or cultivated leaves, from either the first or the second years growth, are to be preferred, needs more study.

Secretary Raubenheimer also read the second paper "*The Alkaloidal Content of Individual Plants of Datura Stramonium and Datura Tatula,*" which was not further discussed.

In the absence of the authors, Secretary Raubenheimer also read the third paper "*Study of American Grown Indian Cannabis,*" after which President Rem-

ington pointed out that besides Indian Cannabis, American grown Cannabis has been proposed for admission into U. S. P. IX.

The morning's and only session on Saturday, Sept. 7, of the Section was opened by President Remington.

The paper by Francis H. Carr "*The Effects of Cultivation upon the Alkaloidal Content of Atropa Belladonna*" was read by Prof. Arny in the absence of the author and was not followed by any discussion.

The highly instructive paper of Prof. Henry Kraemer: "*The Influence of Heat & Chemicals on the Starch Grain*" was read by Mr. M. I. Wilbert, who also called attention to the previous work on starch by the same author. The paper was discussed by Dr. Lueders and Messrs. Lichthardt, Wilbert and Raubenheimer.

President Remington then introduced Dr. F. Raschig of Ludwigshafen, who gave a highly interesting and instructive lecture in German on the "*Chemistry of Phenol and Allied Disinfectants*," which was based on practical experience of 25 years. The lecture was greatly appreciated and applauded and Dr. Raschig was given the thanks of the Section. Dr. Lueders and Weber and Mr. Wilbert and Lichthardt took part in the discussion.

Monday morning's session was opened by President Remington with an attendance of thirty.

President Remington called attention to a number of photographs which illustrate the papers of Mr. Miller, read at Friday afternoon's session.

The first paper by A. R. L. Dohme and H. Engelhardt: "*Assay of Cinchona Bark*" was given in abstract by President Remington.

The second paper by George L. Schaefer: "*Quinine Alkaloid and some of its Compounds*" was read by Dr. Alpers in the absence of the author.

The discussion was opened by President Remington who explained that these papers were very valuable to the U. S. P. Revision Committee as they showed the variation of hydration in commercial quinine alkaloid.

Prof. Arny spoke on the difference in hydration, on the various solvents and on the combination of quinine with volatile oils. Mr. Lichthardt questioned the last statement in the authors paper and thought that the words "*volatile oils*" might better be changed to "*terpenes*."

Prof. Coblenz and Dr. Alpers also discussed the paper.

Secretary Raubenheimer stated that from his experience some of the hydrocarbons, especially, when used as solvents in recrystallization, seem to form combinations with alkaloids, or replace part of the water of hydration. This is especially true of cocaine alkaloid when crystallized from benzol. The secretary also pointed out that quinine alkaloid should be kept in amber bottles, which should be well stoppered to avoid loss of water.

Dr. Vieth stated that combinations can be formed with hydrocarbons as f. i. morphine and codeine with benzol or with resorcinol, or with encalyptol.

Prof. Remington closed the discussion with the statement that the *most stable* quinine alkaloid would be selected as the next U. S. P. product.

## SYMPOSIUM ON ESSENTIAL OILS.

Monday Afternoon, Sept. 9, 1912.

First paper: "*Contribution to the Unification of Methods of Analysis of Essential Oils*" by Paul Jeancard, Ingenieur des Arts et Manufactures, and Conrad Satie, head of the Research Laboratory of Antoine Chiris et Jeancard Fils, Reunis. This was the first paper on the program and in the absence of the authors was read by Vice-President Prof. Coblenz. The authors, who are well known to the chemical and essential oil world, endeavor to establish general principles in order to bring about uniformity — the analysis of essential oils all over the world, a very desirable object indeed.

Suggestions are made by the authors on the following points:

- I. Definition of Essential Oils.
  1. The vegetable matter treated.
  2. Processes of Extraction.
- II. Determination of Physico-Chemical Constants.
  - A. Physical Standards.
    1. Specific Gravity.
    2. Rotatory Power.
    3. Solubilities.
    4. Melting and Congealing Points.
    5. Refraction Indices and Viscosity.
  - B. Chemical Constants.
    1. Acid Number.
    2. Saponification Number.
    3. Saponification Number after Acetylation.
    4. Saponification Number after Formylation.
    5. Products Soluble in Soda.
    6. Aldehyde and Ketone Values.

The Second Paper: "*Unification of Processes for Commercial Analysis and Valuation of Essential Oils*" by John C. Umney F. C. S. and E. J. Parry B. Sc., was read by Prof. H. Vin Army in the absence of the authors. These well known essential oil chemists call attention to the discrepancies in the results obtained by different analysis in the examination of essential oils. While Jeancard and Satie treat this important subject from the standpoint of the manufacturing chemist, the authors pay special attention to the analytical methods for the valuation of essential oils.

The following points are discussed in the paper:

- Density.
- Refraction Index.
- Polarimetric Results.
- Temperature.
- Oils containing Aldehydes, other than Lemon Oil.
- Lemon Oil.
- Oils containing Phenols.
- Oils containing Esters
- Oils containing Free Alcohols.
- Oils containing Cineol.

The suggestions made by the authors are offered as a basis for discussion between essential oil analysts.

The Third Paper: "*Analysis of Oil of Bitter Almond and Benzaldehyde*" by Dr. Francis D. Dodge, was read by Dr. Eccles in the absence of the author.

This is a review of the principal available assays, namely:

1. The U. S. P. process. (Sadler.)
2. The Iodometric. (Ripper.)
3. The Hydrazone process. (Denner.)
4. The Oxime process. (Walther, Bennett.)
5. A method based on Cannizaro's reaction.

#### DISCUSSION.

Room 306, Engineering Building, in which the Section on Pharmaceutical Chemistry held this meeting was almost completely filled with pharmaceutical and essential oil chemists and manufacturers or their representatives. The chemical and pharmaceutical journals including the Journal of the A. Ph. A. were also well represented. The discussions were lively and this very important subject was treated from several view points.

President Remington called on Prof. Edward Kremers, of the University of Madison, Wisconsin, a well-known authority on essential oils and one of the authors of *Gildemeister—Hoffmann—Kremers "The Volatile Oils,"* to open the discussion.

Dr. Kremers pointed out that essential oils differ greatly owing to the difference in the plant themselves, f. i. if mature or immature, or in the soil, or season and as to a number of other influences. It is well known that volatile oils have always been prone to adulteration both accidental and intentional. The age of the oil also has a great bearing on its constants. A fresh oil and an old oil differ somewhat, as is well exemplified by the rotatory constants of fresh and old oil of lemon. There is great difficulty of control in essential oils as frequently the crop is extremely short and the next year's crop is then obtained from plants, etc., which are not mature. The resulting oil will therefore possess different constants. That the definitions of the various pharmacopoeias can also be improved can be seen from the following examples given by Prof. Kremers: Oil of peppermint is distilled from the *fresh plant* and not the *dried leaves*, oil of lavender is generally not distilled from the *flowers only*, but from the *entire plant*, sometimes even including the root. Oil of cinnamon of the British Pharmacopoeia should be distilled from *Ceylon* cinnamon, but most of it is manufactured from *cassia* cinnamon. The methods employed in the production of essential oils differ, but should be left with the manufacturer, who however, should bear in mind that **the resulting oil must be of standard quality and purity.** The desirability of having uniform and even international methods of analysis is self-evident and the subject should be considered from two view points, namely from that of the phyto-chemical investigator and from that of the government official. Prof. Kremers also stated that the old Dumas classification which came into use in 1833 and which is still adhered to in the different textbooks should certainly be abolished, as volatile oils are *not* definite chemical bodies.

Dr. Clemens Kleber, a well-known oil chemist, was next called upon by President Remington. He pointed out the many advantages of the U. S. P. temperature of 25° C. instead of 15° C., as advocated by Jeancard and Satic and also by Umney and Parry. Dr. Kleber also stated that Ostwald, the physical chemist, was in favor of making 25° C. the standard temperature. **The use of a coefficient in specific gravity and the uniform statement of solubility in 70 per cent alcohol** were also advised by Dr. Kleber. He also thought that Jeancard's and Satic's definition of "*Acid Number*," i. e., the number of milligrams of KOH necessary to neutralize one gram of essential oil could be improved by expressing it in *cubic centimeters of Normal Alkali Volumetric Solution.*

He could not agree with the French authors, who employ N/2 Potassium Hydroxide Vol-

umetric Solution and then titrate the excess of alkali with N/8 Sulphuric Acid Volumetric Solution. Dr. Kleber favors the method, now in general use, namely saponification with N/2 alkali and titration with N/2 hydrochloric acid. Dr. Kleber concluded that this very difference in the method of determining the saponification number proved how necessary it is to have uniform international methods for the determination of physico-chemical standards for essential oils.

The papers were further discussed by Prof. Pond, Drs. Seil and Alpers and Secretary Raubenheimer.

President Remington, the Chairman of the Revision Committee of the U. S. P. informed the Section that it has been definitely decided that 25° C. will be the standard temperature in U. S. P. IX, and that a table will be given in the Appendix of the Pharmacopœia giving the temperature at 15° and 20° c.

Prof. Edward Kremers moved that a Committee should be appointed to draft resolutions favoring the appointment of an *International Commission on Essential Oils*.

President Remington appointed Drs. Power, Kleber and Seil as the Committee.

At the Tuesday morning's session President Remington introduced Prof. Dr. P. Walden, the well-known physical and organic chemist of the Technical High School of Riga and delegate of the Russian Government. Prof. Walden addressed the Section in German and brought greetings from Russia and its pharmaceutical chemists and pharmacists. He called attention to the fact that pharmaceutical chemistry was the oldest branch of chemistry and that great credit is due to Paracelsus the father of iatro-chemistry who turned alchemy into medical chemistry. He complimented pharmacy upon the many great chemists which came from their ranks and pointed out quite especially that modest apothecary of the little village Köping in Sweden, namely Carl Wilhelm Scheele, who made the most important discoveries in his time and who died a victim of his beloved profession and of science through the inhalation of hydrocyanic acid.

Prof. Walden closed his address by a remark which should be well borne in mind, namely that

*"Pharmacy is the mother of chemistry."*

Dr. Wm. Alpers answered the professor both in German and English and laid special stress upon the fact that International Congresses such as this one bring about acquaintances and friendship among scientists and strengthen the friendly relation among nations.

Dr. Gustave Droberg handed in resolutions favoring *International Standards of Strength, Purity, Methods of Testing and Nomenclature in Pharmacopœial preparations*.

Dr. Vieth spoke on the need of a uniform International Pharmacopœia. The resolutions were referred to the afternoon session.

The first paper "*Solubility & Distribution Coefficients of Thymol*" was read by the author Dr. Atherton Seidell. Secretary Raubenheimer pointed out that besides their scientific value the figures in the paper are of great practical use to the pharmacist and chemist as f. i. the slight solubility in Paraffin Oil (5%) and the great solubility in Castor Oil (100%).



Mr. Latham called attention to the fact that even cacao butter and thymol liquefy.

Mr. Hayward inquired as to the dispensing of thymolated oil in capsules.

The second paper on the program: "*Arsenites of Alkaloids*" by A. C. Mangold was abstracted by Mr. Wilbert, in the absence of the author, but was not discussed.

President Remington announced that the afternoon session would be devoted to the introduction and discussion of resolutions.

At the afternoon session President Remington introduced Dr. Gustav Komppa of the University Helsingfors, Finland, who delivered an address in German on the development of pharmacy and chemistry. Prof. Komppa pointed out that both professions are united and depend upon each other and that the pharmaceutical chemist must be thoroughly posted in all branches of chemistry. President Remington answered Dr. Komppa and complimented the representative of Finland, a modest country, upon the honors which they have carried away in the athletic games, as well as upon their activity in pharmacy and chemistry.

As all countries are represented in this great Congress, President Remington next introduced the three delegates from the Pharmaceutical Society of Japan, namely: Dr. Jokichi Takamine, Dr. Keizo Wooyenaka and Dr. Kintaro Wooyeno.

The first two gave a report in English of the history of the Pharmaceutical Society of Japan; which takes a live interest in pharmacy and chemistry and publishes its own Journal and has a membership of 3000, being organized in 1881. Dr. Takamine spoke on the history of pharmacy and medicine in Japan, and that the European ideas have been brought there by Dutch settlers.

Dr. Wooyeno spoke in Japanese and brought the greetings of the Pharmaceutical Society and its president Dr. M. N. Nagai.

President Remington thanked the Japanese delegation and assured them of the esteem which all nations hold of the thorough knowledge of pharmaceutical chemistry in Japan.

Dr. Herman Vieth of Ludwigshafen gave a very interesting lecture in English on the *Progress of Pharmaceutical Chemistry* in Germany, which he illustrated with graphic formulae. He called attention to the very necessary knowledge of pharmaceutical and physiological chemistry, which must be combined in order to manufacture new remedies and test their therapeutic properties.

He pointed out that the Isopropyl group possesses narcotic properties, which can be utilized in combination. He also spoke on a new salt, a veronal—codeine and a new chemico—microscopic test, namely by observing the action of a drop of H Cl on a crystal under the microscope.

The acid dissolves the codeine and the veronal remains in its characteristic crystal form.

Three resolutions were introduced:

I. *On a Commission on the Variation in the Activity of Toxic Drugs*, moved by Wilbert and seconded by Raubenheimer. The same was approved, and referred to the *International Commission of Congresses of Applied Chemistry*.

II. *International Standards of Strength, Purity, Method of Testing & Nomenclature of Pharmacopoeial Preparations.*

III. *International Commission on Essential Oils.*

The resolutions were ordered to be translated into German, French, and Italian and typewritten in four languages for publication in the Daily Journal.

Vice-President Coblenz called the meeting to order on Wednesday morning, Sept. 11, but owing to the slim attendance and the desire of the members to hear Prof Bernthsen's lecture "*Synthetic Ammonia*" the Section adjourned.

The afternoon meeting was a joint session with Section I, Analytical Chemistry, and Section VIII C., Bromatology, at Room 401 Kent Building, President Dr. Hillebrand being in the chair. It was arranged that the secretary of Section I keep account of these minutes and discussions. To prove how important and valuable such joint meetings are can readily be seen from the following incidents. The author of a paper on refractometry was glad to be informed by the secretary of Section VIII B., that the new Swiss Pharmacopoeia contains a table of refractometric constants of fats and oils and also a conversion table.

Secretary Raubenheimer also had occasion to correct a chemist who named a solution of a volatile oil in alcohol "*tincture*" instead of "*spirit*" thus showing the need of more uniform nomenclature, nationally as well as internationally.

Vice-President Prof Coblenz opened the meeting on Thursday morning, Sept. 12, which reached an attendance of 35 members.

He introduced Dr. Rudolf Wegschneider of Austria, who brought greetings from the Austrian Chemical and Pharmaceutical Associations and complimented the Congress on having a Pharmaceutical Chemistry Section. Prof. Remington thanked Dr. Wegschneider for his greetings and at then introduced Geheimer Ober-Regirunysrut. Prof. Dr. K. von Buchka, Chairman of Technical Examination Bureau of the Treasury at Berlin, who delivered an instructive lecture in German on a very important and timely subject, namely "*Methyl Alcohol*," its presence in liquors, pharmaceutical preparations and cosmetics, its toxic properties and its detection. Prof. von Buchka promised to present an abstract of his highly instructive and interesting lecture for publication in the proceedings.

Prof. Remington thanked Dr. Buchka for bringing this important subject before the International Congress, being a question for the health of the community at large. He pointed out that U. S. P. VIII did not admit methyl alcohol for this very reason and included tests for its detection in ethyl alcohol or other preparations. Prof. Coblenz also endorsed this standpoint.

Dr. Lüders pointed out the toxicity of the methyl group, and that dimethyl sulphate is one of the most poisonous chemicals and that great care should be used in handling it.

The secretary said that owing to the name wood "*alcohol*" it was frequently confused with *ethyl* alcohol and that furthermore the manufacturers of the chemically pure deodorized methyl alcohol sold same under misleading fictitious names as *Spiritol*, *Spiritogen*, *Spiritol Colonial* and *Columbian Spirit* and did not label it "poison."

Dr. Houghton stated that ethyl salicylate was less poisonous than methyl salicylate.

Dr. Fred. Power of London, an active A. Ph. A. member and former resident of the U. S. was also introduced by President Remington and was very glad to again meet some of his American chemist friends.

Dr. George L. Schaefer explained the combination of quinine alkaloid with essential oils and hydrocarbons by replacing part of the water of hydration. He stated that the terpenes or pinenes of the oil will do that, while the phenols in the volatile oils, as a rule do not combine. He also demonstrated that combination of quinine and benzoin or naphtha will burn and leave behind the *pure quinine alkaloid*. He furthermore demonstrated that when f. i. quinine-benzoin is dissolved in diluted hydrochloric acid the benzoin will be separated and float on top of the liquid.

Prof. Army and Secretary Raubenheimer entered the discussion, and the latter asked Dr. Schaefer to explain which the most stable quinine alkaloid is, for the benefit of the U. S. P. Revision Committee. He replied that the anhydrous quinine alkaloid is the most stable and that the U. S. P. should make a limit of 2% H<sub>2</sub>O which might be absorbed.

At the afternoon session President Remington explained that owing to the necessary translation of the resolutions into three other languages and the typewriting they were not ready in time to be published in the Daily Journal of the Congress, but that he went before the International Commission of Congresses, composed of all the presidents, who approved of the resolutions by combining the Volatile Oil and Pharmacopoeial Preparations in one resolution.

Mr. Wilbert thought that this was the better plan as it will place the responsibility on one person.

The two resolutions on:

1. *Variation in the Activity of Toxic Drugs.*
2. *Organization of an International Committee on Standards and Tests* were adopted.

The first paper on "*International Standards of Colored Liquids and a Suggested Method of Standardization*," was read by the author, Prof. Army and was demonstrated with an array of specimens.

The author brought out the following points:

1. The need of International Standards for colored liquids has been demonstrated in the daily routine in the manufacture of oils, liquors and pharmaceuticals.
2. Attempts to meet this need have been made by various colorimetric appliances, which however, are limited owing to their cost and the instability or unreliability of the matching agents.
3. The plan of the author is the preparation of half-normal slightly acidulated solution of cobalt chloride for red, ferric chloride for yellow, cupric sulphate for blue, and blending these in any proportion desired.

4. As many as 88 blends have been prepared, the tints of which range from the pink of the cobalt solution to the blue of the copper solution.

5. The author suggests a system of color nomenclature based on proportions of the half normal red, yellow and blue solutions employed to make the tint and he reports on such "Co-Fe-Cu" factor of caramel and of cudbear dilutions.

This original paper, the result of a great many experiments by one of our A. Ph. A. members was received enthusiastically and caused a very lively discussion.

The different questions asked by Messrs. Vanderkleed, Wilbert, Latham, Rasin, Parks, and Bernegau were answered by Prof. Arny as follows:

- a. Neutral solutions do not keep, but acid solutions do keep.
- b. High dilutions are best for matching.
- c. The scheme is not intended for color-blind persons.
- d. It is impossible to match liquids against color charts.
- e. Matching can be well done in Blake bottles.
- f. A multiple of three was found more practicable than the decimal system.

Secretary Raubenheimer showed the book "*Code des Couleurs*," which was adopted by the tenth International Congress of Pharmacy at Brussels in 1910, as a color standard in pharmacy.

The other papers read were:

*Determination of Calcium Sulphide*, by Joseph Rosin.

*Prevention of Emulsification in Extraction by Immiscible Solvents*, by G. H. Meeker, was read by Prof. Vanderkleed and was discussed by Messrs. Rosin and Bernegau.

Dr. Fred. Klein gave an interesting talk with demonstrations on "*A New Iron Reagent*."

Prof. Arny moved that a vote of thanks be given to the President and Secretary of the Section for their efficient work.

Dr. Rich. Lüders expressed the thanks of the foreign delegates for the hearty reception which they have received, especially from the Pharmaceutical Section. He complimented President Remington and Secretary Raubenheimer for the splendid work accomplished and proposed a rising vote of thanks, which was promptly given.

The Section adjourned at 3:30 p. m., with a hearty *Vivat, Crescat, Floreat!* to the International Congress of Applied Chemistry.

#### RESOLUTIONS.

The following two important resolutions were adopted by the Section on Pharmaceutical Chemistry on Thursday, September 12, and were also passed at the final general meeting of the Congress on Friday, September 13.

As will be seen the work of both committees is very important and the result of their activity is to be reported at the Ninth Congress of Applied Chemistry, to

be held at St. Petersburg in 1915, under the presidency of Prof. P. Walden, who delivered a lecture before the Section on Pharmaceutical Chemistry, as reported above:

I. *Resolved*, Section VIII-b (Pharmaceutical Chemistry) of the Eighth International Congress of Applied Chemistry having received and discussed the report of the International Commission on "*Variation in the Activity of Toxic Drugs*," resolves that it is desirable that this inquiry be continued and that the International Commission be reformed, to consist of the following eight members: Austria, Prof. Wilhelm Mitlacher; France, Prof. E. Bourquelot; Germany, Prof. H. Thoms; Great Britain, Francis Ransom; Netherlands, Prof. L. Van Itallie; Russia, W. Ferrein, Mag. Ph.; Switzerland, Prof. A. Tschirch; United States, Dr. R. H. True, and the following three secretaries: G. P. Forrester, F. C. S., European continent; Peter McEwan, F. C. S., Great Britain; Otto Raubenheimer, Ph. G., United States.

It is further resolved that this commission be authorized to enlist the co-operation of other persons actively interested in promulgating international uniformity of standards for potent drugs and improvement in their cultivation and collection.

II. *Resolved*, That the International Commission of Congress of Applied Chemistry be requested to approve the organization of an International Committee under Prof. Joseph P. Remington and composed of chemical experts approved by this Commission, whose duty shall be to collect information from every available source on *chemical products and essential oils used in pharmacy* and to investigate the tests now in use, to prove the identity and purity of said products and oils, also consider standards and tests with the view of establishing uniformity in the same throughout the world and to report to the Ninth International Congress the result of its work.

#### THE N. A. R. D. CONVENTION.

The 14th annual convention of the N. A. R. D. at Milwaukee, August 12-15, was abundantly successfully from many points of view.

The attendance was large and the enthusiasm was at concert pitch from the first to the last stroke of the presiding officer's gavel.

Officers elected for the ensuing year are as follows:

President—Mr. Henry W. Merritt, Plains, Pa.

First Vice-President—S. A. Eckstein, Milwaukee, Wis.

Second Vice-President—H. W. Rietzke, St. Paul, Minn.

Third Vice-President—H. S. Keables, Pella, Ia.

Secretary—Thomas H. Potts, of the United States of America.

Treasurer—Grant W. Stevens, Detroit, Mich.

Executive Committee—J. Arthur Bean, Boston, Mass (3 years); Charles H. Huhn, Minneapolis, Minn. (3 years); H. C. Shuptrine, Savannah, Ga. (2 years); H. B. Guilford, Rochester, N. Y. (2 years); A. E. Zuber, Chicago, Ill. (1 year); Samuel C. Henry, Philadelphia, Pa. (1 year).

The crowded condition of the *Journal's* columns prevents the reproduction of more than very brief extracts from the voluminous reports of officers and committees, but the utterances quoted are significant and may be regarded as reflecting N. A. R. D. sentiment upon the subjects concerned.

#### *From the Address of President H. C. Shuptrine.*

##### U. S. P. AND N. F. PROPAGANDA.

The U. S. P. and N. F. Propaganda I am more an advocate of than ever before. I am thoroughly convinced that there is no branch of our work which is of more real worth than this. I, for a long time, contended it was a work the N. A. R. D. could not carry on to the betterment of either the organization or the individual druggist. It seemed to me that to handle the proposition through the National Office and extend it over the entire country would be a matter of utter impossibility but, gentlemen, it is not so. If in my home town the success can be made that we have made, then I unhesitatingly say that there is not a community anywhere immune to the cause. Many dollars have been made because of the propaganda movement and there are many more in store for us. But—the National Office can not do it all. As a matter of fact, it can do only a small part of it. It blazes the way, clears the forest of its thick and puzzling growth, leaving for us as fertile and clean soil as ever a seed of work was sown. Let us each take it upon ourselves to do the work, make it a special effort to see that the work is carried to the physicians, and the outcome will then surpass our most sanguine expectations.

The furtherance of this movement by the individual druggist isn't a work to be classed as one for the good of the N. A. R. D. As I see it, it is a work of selfishness pure and simple. We do not go into this movement because we love the N. A. R. D., nor do we do it because we each love the other druggist, but we have busied ourselves because of the good we each derive as individuals. We feel