Report on the Progress of Pharmacy

For the Year 1912

(Twelfth Installment.)

A New Method for the Separation of Thorium.—T. O. Smith and C. James have observed that thorium may be separated quantitatively from the rare earths by means of sebacic acid.

Thorium sebacate is a voluminous, granular precipitate which settles readily and is easily filtered.

The thorium solution should be neutral, and hot, and a slight excess of a hot solution of sebacic acid added slowly with continuous stirring. The precipitate which forms at once is immediately filtered and thoroughly washed with boiling water. The sebacate washes readily and the operation may be performed with ease in a very short time. The precipitate is rapidly dried, ignited, and weighed as thorium dioxide.

The results given show close agreement with that obtained by the use of oxalic acid, and the presence of cerium, lanthanum, praseodymum, neodymium, and traces of samarium, gadolinium, etc., did not seem to effect the accuracy of the separation.

Sebacic acid may be prepared by heating castor oil soap with sodium hydroxide, and is very sparingly soluble in cold water, but fairly soluble in boiling water.—Jour. Am. Chem. Soc., March, 1912, Vol. 34, p. 281. (L. A. B.)

The Standardization of Potassium Permanganate Solution by Sodium Oxalate.—R. S. McBride of the Bureau of Standards has undertaken a study of the best methods and material for the standardization of Potassium Permanganate Solution.

It was found that Sodium Oxalate was probably best suited as a standardizing material, owing to its cheapness, ease of determining its purity, stability under ordinary conditions, and the convenience, precision, and accuracy with which it may be used.

As the result of large numbers of experiments, and the study of the possible errors entering into the reaction, McBride recommends the following method of procedure:

In a 400 cc. beaker, dissolve 0.25-0.3 gm. of sodium oxalate in 200 to 250 cc. of hot water (80-90° C.), and add 10 cc. (1:1) Sulphuric acid. Titrate at once, with 1/10 N $KMNO_4$ solution, *stirring the liquid vigorously and continuously.* The permanganate must not be added more rapidly than 10-15 cc. per minute, and the last ½-1 cc. must be added dropwise with particular care to allow each drop to be fully decolorized before the next is introduced. The excess of $KMNO_4$ used to cause an end point must be estimated by matching the color in another beaker containing the same amount of acid and hot water.

The solution must not be below 60° C. by the time the end point is reached, if necessary use heat to maintain temperature.—Journ. Am. Chem. Soc., April, 1912, Vol. 34, p. 393. (L. A. B.)

The Conversion of Cinchonine and Quinine into their poisonous isomers, Cinchotoxine and Quinotoxine, and the relation of this Conversion to the Toxicity of the Cinchona Alkaloids.—H. C. Biddle of the University of California points out that the abnormal action of quinine or cinchonine as occasionally observed and usually ascribed to some idiosyncrasy of the patient, may be due to the formation in the system of small quantities of cinchotoxine and quinotoxine, and has made a study of the conditions under which cinchonine and quinine are converted into their poisonous isomers.

He finds that when salts of cinchonine or quinine are heated with water, with or without excess of acid, at 98-102° C. they give rise to varying quantities of their poisonous isomers, cinchotoxine or quinotoxine.

The velocity of the rearrangement rises as the dissociation constant of the acid falls, the change being practically quantitative with

such acids as acetic, lactic, citric, tartaric, malic, etc., while on the other hand with such acids as hydrochloric, being hardly detectable, even after 48 hours heating.

The same changes take place at 36° C., the only difference from that observed at 98-102° C. being the diminished rate of conversion, about 2% conversion being observed with the organic acids at this temperature. Sunlight has the property of producing similar changes at ordinary temperature, in solutions of cinchonine or quinine.—Jour. Am. Chem. Soc., April, 1912, Vol. 34, p. 500. (L. A. B.)

A System of Qualitative Analysis for the Common Elements.—This article forms a continuation of a series of articles under the same main title, by A. A. Noyes, published in the Journal American Chemical Society, this particular paper being "Part V—Detection of the Acidic Constituents."

Owing to the nature of the subject matter, the paper is not abstractable.—Journ. Am. Chem. Soc., May, 1912, Vol. 34, p. 609. (L. A. B.)

Cobaltinitrites: A Study of and their Application to Analytical Chemistry.—L. L. Burgess and Oliver Kann, University of Illinois, state that the precipitation of potassium as the cobaltinitrite is rendered much more delicate by the presence of silver nitrate, the silver replacing the sodium in the sodium-potassium derivative, forming a much less soluble compound.

One drop of a 25% solution of pure sodium cobaltinitrite (Na_3 Co) $(NO_2)6$ produces no precipitate in a solution containing less than 100 parts K per million, while in the presence of 1/10 $AgNO_3$ a distinct precipitate is produced in a dilution of 1 part K per million.

Ammonia, Cesium, Rubidium, and Thallium combine with Silver to form less soluble salts than the simple salts.

Lead and mercurous mercury also have the property of decreasing the solubility of the alkali cobaltinitrites.—J. Am. Chem. Soc., May, 1912, Vol. 34, p. 652. (L. A. B.)

China Wood Oil: The Refractive Index of.—Louis E. Wise points out that China Wood Oil possesses a refractive index higher than that of any other drying oil and submits a table showing the refractive index of a number of *commercial* wood oils. The author states that owing to the primitive conditions in the collection and the shipment of the oil to the coast from the country districts of China, he was unable to get authentic samples.

The index of refraction at 25° C. of the oil ranges from 1.5099 to 1.5186, while that of linseed oil is 1.4810, soya bean oil is 1.4751 and tallow oil is 1.4833: thus gross adulteration of china wood oil can be very readily shown by the use of the refractometer.—Journ. Ind. and Eng. Chem., July, 1912, Vol. 4, p. 498. (L. A. B.)

Beeswax: The Refractive Index of.—L. Feldstem, in commenting upon the temperature at which the refractive index of beeswax is best taken, advocates the use of 75° C. as the best, as the wax is thoroughly melted at that temperature, and a clear reading obtained.

He also advocates reporting the refractive index at 75° C. instead of at 40° C., as it is unreasonable to report the refractive index at a temperature at which it is an opaque solid, when the actual reading is made on the melted wax.

Feldstem submits a table showing the refractive index of a number of samples of beeswax of known purity, at the temperature of 65° C., 75° C. and 85° C., also a table showing the influence a number of adulterants have on the refractive index of beeswax.

The refractive index of pure beeswax ranges from 1.4398-1.4451 at 75° C., and a temperature correction of .00037 per degree C., is necessary when the reading is taken at other than 75° C.—Journ. Ind. and Eng. Chem., July, 1912, Vol. 4, p. 498. (L. A. B.)

China Wood Oil: A Method for Examing.—Parker C. McIlhiney states that when china wood oil is dissolved in 99½% acetic acid, and a solution of iodine in 99½% acetic acid is added to it, there is an immediate separation of some solid product. If a petroleum distillate (b. p. below 80° C.) be now added and mixed thoroughly, decanted and the extraction repeated with a second and third portion of solvent and decanted, and the mixed liquids treated in a separatory funnel with water until free from acetic acid, then extracted with a solution of potassium iodide, until the petroleum solvent is free from free iodine, the petroleum solvent evaporated and the residue weighed, the weight of the residue represents fairly accurately the proportion of foreign oils present

in the sample.—Journ. Ind. and Eng. Chem., July, 1912, Vol. 4, p. 496. (L. A. B.)

..Unguentum Zinci Oxidi, Manipulation of Process for.—Thomas A. Egan suggests that the oxide of zinc be triturated with oil of benne, about ten percent, until a smooth paste results, then melt the lard and add it to the resulting paste, stirring the mixture until it is cold.—Proc. Penn. Phar. Assoc., 1912, p. 295. (E. C. M.)

Aqua Caryophylli—Milton Dunn, Sheffield, Pa., suggests the following formula for a vehicle combining the following advantages:

1. Appreciable therapeutic value.
2. Wide range as a solvent.
3. Freedom from sugar.
4. Not liable to deterioration.
5. Distinct flavor.
6. Agreeability to most people, not being suggestive of ordinary food or drink.
7. Lack of alcohol or other preservative.
8. Easily and quickly manufactured.

FORMULA.

Oil of cloves.....	4 cc.
Tinct. of cudbear.....	50 cc.
Alcohol	43 cc.
Purified talc.....	15 grams.
Water to make.....	1000 cc.

Triturate the oil with the talc, and with continued trituration add first the tincture, then 900 cc. of water. Filter, return the filtrate until it comes through perfectly clear. Mix this with the alcohol and add sufficient water through the filter to make 1000 cc.—Proc. Penn. Phar. Assoc., 1912, pp. 296-297. (E. C. M.)

Ergot, a New and Reliable Method for the Preservation of Ergot Preparations.—Paul S. Pittinger and Charles E. Vanderkleed in a series of experiments extending over a year, the results of which are given in the accompanying tables, suggests that by the adoption of the Vacuum method of storing ergot preparations their stability may be retained for a considerable length of time.—Proc. Penn. Phar. Assoc., 1912, pp. 128-133. (E. C. M.)

Hydrastis, the Comparative Alkaloidal Strength of Rootlets and Rhizome of.—To determine the comparative alkaloidal strength of the rootlets and rhizome, Charles H. LaWall made a careful test of a lot of Hydrastis Canadensis. The lot weighed ninety-eight pounds and furnished 45.5 pounds of Rhizomes and 48 pounds of Rootlets, the balance being waste. Upon assay the rhizomes assayed 2.48% and the rootlets 1.38%. Hydrastis rhizomes are therefore, according to his analysis, 1.5 to 2 times as rich in hydrastine as the rootlets.—Proc. Penn. Phar. Assoc., 1912, pp. 142-143. (E. C. M.)

Calcii Lactophosphatis, Improved Manipulation of.—Wilbur F. Horn says that the following method of procedure proves more satisfactory than that of the Pharmacopœia: Mix the Lactic and Phosphoric Acids with one hundred cubic centimeters of water in a capacious vessel, add the precipitated Calcium Carbonate in small portions to the mixture, agitating after each addition, until it is entirely dissolved and effervescence has ceased, add 100 cc. of water, filter through a plain filter, rinsing the container and washing the filter with 100 cc. of water: add the orange flower water, then the sugar, agitate until solution is effected, strain through absorbent cotton: add enough water through the cotton to make the measure 1000 cc.—Proc. Penn. Phar. Assoc., 1912, p. 150. (E. C. M.)

Creosote, Determination of, in Tablets.—Charles E. Vanderkleed and Fritz Heidlberg suggest the following as satisfactory methods for the determination of the creosote content of tablets:

FOR PLAIN TABLETS.

An amount of tablets containing forty to fifty grains of creosote is finely powdered and heated with about 50 cc. of water and 10 cc. strong NaOH solution (1:2) for about one hour on a water-bath. In this time the creosote will have dissolved in the alkaline liquid. (For tablets in which the creosote is present in combination with magnesium a longer digestion is necessary and it is more convenient to shake the powdered tablet for several hours with the NaOH solution.)

The liquid is now transferred into an eight-ounce milk centrifuge bottle, cooled, 50 cc. of benzene added and then enough strong HCl is added slowly to render the liquid acid. The bottle is corked and shaken vigorously for ten minutes and then centrifuged. The upper benzene layer is carefully poured off into a separator, and the shaking with benzene is repeated two or three times, until the last benzene layer is nearly colorless. In case the combined benzene solutions do not amount to more than 70 cc. they can be poured directly into the measuring flask. In case they do amount to more, it is necessary to either concentrate them or to work them up in two portions.

The best plan, however, is to concentrate either by distilling off some of the benzene, in which case it is necessary to add some strong NaOH solution in order to avoid loss of creosote, or to shake the separator with successive portions of 20, 10 and 10 cc. of strong NaOH solution (1:3), adding 50 cc. of benzene, preferably the one which contained the creosote before, and neutralizing the combined NaOH solution by slowly adding strong H_2SO_4 (60%), using methyl-orange as indicator. Shake the separator and let separate completely. Draw off the watery solution which is rejected. In the meantime, place about 20 cc. of strong NaOH solution (1:3) in the measuring apparatus described in Bulletin No. 107, Bureau of Animal Industry, P. 16; with the aid of pipette add 1 cc. of benzene, and take the reading of the NaOH solution carefully. Now pour the creosote solution into the measuring apparatus, through a funnel fitted with cotton moistened with benzene. Rinse out the separator with successive small portions of benzene, and shake the measuring bulb vigorously for five minutes. Let stand for about two hours, rotating occasionally to hasten the separation. In case a slight emulsion occurs, heat gently over water-bath to break the same. After the meniscus is perfectly sharp take the reading and calculate the amount of creosote by multiplying the number of cc. of increase in the NaOH solution by the specific gravity (108). In determining guaiacol the same method can be used with the difference that the number of cc. has to be multiplied by the Sp. Gr. of guaiacol.

For Gelatine-coated Tablets it is better to avoid heating on account of the gelatine of the coating. The powdered tablets are merely shaken with about 50 cc. of NaOH T. S. for several hours, then acidity and treated in the same way as the plain tablets.—Proc. Penn. Phar. Assoc., 1912, pp. 301-303. (E. C. M.)

Morphine, Determination of, in Tablets.—L. Henry Bernegau and Fritz Heidlberg say that "The determination of morphine with accuracy, even in plain tablets of morphine sulphate or hydrochloride, is not an easily accomplished assay. Morphine, being an exception to the rule that alkaloids are soluble in the ethereal solvents usually employed in assaying, precludes the use of the ordinary "shaking-out process." They recommend the following process for the estimation of morphia in tablets:

An amount equal to about 0.3 grams morphine sulphate is dissolved in water or in 1% sulphuric acid, using as little water as possible. We preferably dissolve the tablets directly in the separator with from 10 to 15 cc. of water; 50 cc. amyl alcohol are added and the liquids in the separator are heated on a steam-bath. When hot enough, sufficient ammonia is added to make distinctly alkaline, using litmus paper as an indicator. Shake vigorously for ten minutes. Cool and draw off into a second separator. Wash out the amyl alcohol with 5 cc. of water and add these to the first watery solution. Filter the amyl alcohol into a 250 cc. Jena flask through a funnel with a cotton plug moistened with amyl alcohol. If the amyl alcohol is not absolutely clear it does not matter, as long as the above outlined precautions are observed. Rinse the remaining contents of the first separator into the second separator with 50 cc. of amyl alcohol, heat again on water-bath and shake for ten minutes. Be sure that the liquids are sufficiently alkaline. After cooling and separating, repeat the shaking-out once more. The united amyl alcohol filtrates are then distilled in a paraffin bath to a small volume. The last few cc. should be evaporated by inserting the flask in a large beaker containing boiling water. A bent glass tube is inserted into the flask in such a manner that it reaches nearly to the bottom, and the air is aspirated through the tube with a water-pump. In this way the last traces of amyl alcohol together with the ammonia liable to be present can be evaporated in a very short time. It is better to take the morphine out of the paraffin bath too soon rather than too late as too long drying in the paraffin bath decomposes the morphine. The recovered amyl alcohol may be used over and over again.

After drying the morphine, about 12 cc. 10/N Sulphuric acid and 20 cc. pure chloroform are added and heated on a water bath until solution of the morphine is effected and the chloroform driven off. Should some of the morphine have escaped solution, add more chloroform. Cool, add a few drops of cochineal T. S. and titrate back the excess of 10/N sulphuric acid. Calculate the amount of morphine:

1 cc. 10/N H_2SO_4=0.0376 grams morphine sulphate.

An accuracy to within 0.5% to 1% of the theoretical can readily be obtained by rigidly adhering to this procedure.—Proc. Penn. Phar. Assoc., 1912, pp. 306-307. (E. C. M.)

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Colloids in Medicine.—Prof. Dr. H. Bechold read a highly scientific paper on this subject at the jubilee meeting of the Verein Deutscher Chemiker at Freiburg. Besides colloids and crystalloids and their solutions he also spoke on the ultramicroscope, by which particles of one-one hundred thousandth of a millimeter can be seen, and the ultrafilter with pores of one-five hundred thousandth of a millimeter. The theory of electrolytic dissociation and osmotic pressure has also been utilized in a practical manner in biologic, especially in uric acid diathesis. —Ph. Post, 1912, No. 47, 494. (O. R.)

Congress of Pharmacists of Poland.—The first congress of Polish pharmacists was successfully held at Lodz on May 25 and 26, 1912. A great many papers were read and twenty resolutions were adopted, which have to be consulted in the original report.—Ph. Post, 1912, No. 48, 509. (O. R.)

Iron: Acid-proof Composition.—Iron alloys containing a certain percentage of chromium are usually used in the manufacture of apparatus which should resist the action of acids, but are not absolutely acid proof. The German metallurgist, Prof. Borchers, of Aix-la-Chapelle, discovered that by the addition of 2 to 5 percent of molybdenum to an iron composition containing more than 10 percent of chrominum, an absolute acid proof alloy is obtained. A composition of 35 percent iron, 60 percent chromium and 5 percent molybdenum is unaffected even by hot aqua regia. This alloy has the tenacity of cast iron and can be worked the same. Titanium and vanadium may be used instead of molybdenum, but the latter is preferable.—Sc. Am., 1912, Vol. 107, 191. (O. R.)

Saffron: New Adulterant.—The French expert, Eugene Collin, sent a sample of crocus from Tyrol which, according to his analysis, was adulterated with flowers of *Cynara cardunculus* or *Cynara scolymus,* colored with an azo dye, to Prof. Jos. Moeller, of the pharmacognostic institute of the University of Vienna. Dr. R. Wasicky found that the adulterant consisted of flowers of *Onopordon acanthium,* which were loaded with barium sulphate and colored with a dye, soluble in water but insoluble in benzin. The article is profusely illustrated and should be consulted for particulars.—Ph. Post, 1912, No. 44, 462-464. (O. R.)

Synthetic Remedies: 25 Years.—Dr. A. Eichengruen, in his address as chairman of the Section on medico-pharmaceutical chemistry of the Verein Deutscher Chemiker, at their twenty-fifth anniversary at Freiburg, gave a very interesting account of the evolution of the synthesis of medicaments, which began in 1887 when the constitution of antipyrine was determined, the antifebrile properties of acetanilide were recognized and when the first antipyretic of the aromatic series, namely, phenacetin, was prepared synthetically. (Vide address by Chairman of Historical Section A. Ph. A., at Denver meeting, J. A. Ph. A., October, 1912). The author deplores the fact that up to the present time we have no definite law between chemical construction and physiological action.—Ph. Post, 1912, No. 47, 493. (O. R.)

Medicine Bottles: Return to Pharmacies.—Dr. Schamelhout, at the meeting of the Brussels Pharmaceutical Society, took a new viewpoint by claiming that the pharmacist is in better position to cleanse and disinfect the used medicine bottles than the public. If bottles, once used, were to be destroyed, this would be an economic loss of about one million francs in Belgium.—Ph. Post, 1912, No. 7, 81. (O. R.)

Methyl Alcohol: Toxicity.—Dr. Walther Hausmann reviews the literature on this important and timely subject. As early as 1869 Richardson gave out his law that the toxicity of the alkaloids increase according to their molecular weights, which are as follows:

Methyl Alcohol	32
Ethyl Alcohol	46
Propyl Alcohol	60
Isopropyl Alcohol	60
Isobutyl Alcohol	74
Amyl Alcohol	88

The toxicologist, Lewin, however, found that methyl alcohol is more poisonous than ethyl alcohol according to experiments on animals. I. Harnack explains this by the oxidation to formic acid in the organism. Birch-Hirschfeld proved the paralyzing effect of methyl alcohol on the optic nerve. The author reviews the use of methyl alcohol in the industries and also the cases of poisoning in Russia, Hungary, Germany and America.—Ph. Post, 1912, No. 30, 317-319. (O. R.)

Filtration of Liquids Containing Very Fine Precipitates: Preparation of Filter.—Shreds of filter paper are ground in a mortar and are mixed with plenty of water. Allow the coarser fibres to subside and pass the turbid liquid through the filter. The filter paper thus prepared will retain very fine precipitates suspended in a liquid, which will ordinarily pass through the filter.—Sc. Am., 1912, No. 26, 579. (O. R.)

Ice Cream: Manufacture by Cold produced Electrically.—The ordinary method of freezing ice cream by ice and salt is a striking example of economic waste, as 100 gallons require one and one-half tons of ice and 800 pounds of salt and neither of them can be recovered, and the ice melts very rapidly. Electricity is now conserving these materials by producing artificial refrigeration for the manufacture of ice cream and the freezers are also driven by electric power. Statistics show that during five years, from 1906 to 1910, the consumption of ice cream in the U. S. advanced from 55 to 100 million gallons annually. During 1911 about 120 million gallons were consumed, an average of five quarts per capita.—Sc. Am., 1912, No. 26, 579. (O. R.)

Horsehair: Detection of Artificial Color and Vegetable Fibres.—To detect artificial color of horsehair, heat with water, alcohol, ether, diluted hydrochloric acid or ammonia water. To detect vegetable fibres add sufficient concentrated sulphuric acid to cover a sample and set aside for six hours in a well-closed vessel. Horsehair is scarcely attacked, but vegetable fibre is quickly carbonized. Another test is to boil a sample with solution of potassium hydroxide, which quickly dissolves horsehair but does not attack vegetable fibre, except turning it brown. —Ph. Zhalle, 1912, No. 24, 672. (O. R.)

Quality of Unimportant Drugs.—Puckner, W. A., presents some observations on the unreliability of unimportant medicaments, and points out that the quality of an article or a commodity, in general, is directly dependent on demand and competition. That is, if there is a large demand for an article, and if a considerable number of firms put it on the market, then its quality is likely to be of a high order. On the other hand, substances which are not sold under competition are frequently unreliable and inferior. Puckner calls attention to a number of articles sold as medicine that were found to be distinctly inferior to the quality claimed for them.—J. Am. M. Assoc., 1912, v. 59, pp. 1156-1158. (M. I. W.)

Restricted Materia Medica. — Hynson, Henry P., in commenting on the desirability of a more restricted materia medica from the standpoint of the pharmacist, points out that therapeutic nihilism has had about as much effect on the misuse of drugs as political nihilism has had on the misuse of governmental power. He believes that the enforced, restricted or superficial knowledge of the agents that medical men are using is to be thoroughly blamed for the present unrestricted materia medica, which means an untaught, unlearned and uncertain materia medica accompanied by a reckless and meaningless use of many, if not all, of the materials contained therein.—J. Am. M. Assoc., 1912, v. 59, pp. 1158-1159. (M. I. W.)

Certified Pharmacies.—An editorial (J. Am. M. Assoc., 1912, v. 59, p. 461), discusses the practicability of establishing a standard for certified pharmacies. and points out that while the requirements for such certifications should be carefully considered, the need of a dividing line between the druggist, whose energies are chiefly devoted to the sale of cigars, chewing gum, soda-water, and patent medicines, and the pharmacist, to whom one may safely entrust the compounding of prescriptions, is so urgent that the medical practitioner will look forward to the outcome with much interest. (M. I. W.)

Materia Medica: Teaching of.—Stewart, F. E., believes that it would be a great advantage to those who are teaching materia medica if they could limit the Pharmacopoeia to really useful drugs. But unfortunately there is such a difference of opinion among therapeutists that it would be difficult to accomplish.—J. Am. M. Assoc., 1912, v. 59, p. 1164. (M. I. W.)

Useful Remedies.—Wilbert, M. I., reports on the work of the Committee on Useful Remedies, and states that a list has been compiled and agreed upon by the members of the Council on Pharmacy and Chemistry of the American Medical Association, and will be offered tentatively in the form of a manual for ready reference, with the request that American practitioners generally make such suggestions as will tend to make the final list representative of the best in the materia medica of American medicine.—

J. Am. M. Assoc., 1912, v. 59, pp. 1163-1164. (M. I. W.)

Materia Medica, Teaching of.—Hare, Hobart A., thinks that half the number of hours that are devoted to lectures on materia medica could be more advantageously employed if there were no state boards, because at the present time teachers are forced to teach facts which will not be used in practice merely because they will be used in state board examinations.—J. Am. M. Assoc., 1912, v. 59, p. 1165. (M. I. W.)

Medical Education.—An editorial (J. Am. M. Assoc., 1912, v. 59, pp. 650-654), reviews the report of the Council on Medical Education for the year ending June 30, 1912, and presents a number of tables showing the number of students in attendance and the number of graduates from the several medical colleges during the years 1880 to 1912, inclusive. It also presents a table showing the number of colleges closed since 1904. Of the 65 medical colleges which have ceased to exist, 37 were closed by merger, and 28 became extinct. While the total number of colleges is growing smaller and approaching more nearly the normal supply for the country, it is encouraging to note that the number of high-grade, stronger colleges is constantly increasing. In 1904, only four medical colleges were requiring any preliminary education in advance of the usual high school education; now there are forty-five requiring one or more years of advance college work. The total number of medical colleges in the United States at the present time is 116, a net reduction of 50 from the maximum in 1904. (M. I. W.)

Drugs, Action of.—Wallace, George B., discusses the influence of pathologic conditions on the action of drugs, and points out that the assumption drawn from pharmacologic experiments are frequently misleading to the clinician. He points out a number of instances of differences in drug-action in the healthy and diseased animal, and suggests the importance of enlarging on the field of pharmacologic research so as to include a study of the possible variation in the action of potent remedies.—J. Am. M. Assoc., 1912, v. 59, pp. 839-841. (M. I. W.)

Quality of Drugs.—Kebler, L. F., calls attention to the work that is being done in connection with the Bureau of Chemistry to improve the quality of drugs on the American market. He divides drugs into three classes, chemicals, crude drugs, and prepared mixtures, such as pills, tablets, galenicals, etc. Chemicals, he states, are, on the whole, of satisfactory quality, while crude drugs are commodities which cause the greatest amount of disturbance. He calls attention to a number of crude drugs that have been found to be below the standard prescribed by the Pharmacopoeia, and points out that with the operation of the proviso in Section 7 it is extremely difficult to eradicate adulteration in its various forms. He also states that a considerable number of tablets and pills offered to the trade and to the medical profession direct have been examined and found wanting in certain respects, but concludes that since laboratory work was begun there has been marked improvement in the chemicals, crude drugs and mixtures, though there is room for further improvement.—J. Am. M. Assoc., 1912, v. 59, pp. 1604-1606. (M. I. W.)

Pharmacist, Status of.—Kraemer, Henry, presents some thoughts on the position of the retail pharmacist as a purveyor of pure drugs. He points out the great increase during the past 25 years in the number of drugs that are being used or offered for sale, discusses some of the factors in the improvement of drugs and points out the need for cooperation between pharmacists and physicians in the work of eliminating inert and otherwise objectionable medicaments from the materia medica.—J. Am. M. Assoc., 1912, v. 59, pp. 1599-1603. (M. I. W.)

Drugs, Standardization of.—Sollmann, Torald, in discussing the current problems of pharmacology and therapeutics, points out that the standardization of drugs is a matter which is vital to the progress of therapeutics. Most important at the present moment is probably the progress of pharmacopoeial revision and the relation between pharmacists and physicians because its proper solution is essential to applying the drug standards in a satisfactory manner.—J. Am. M. Assoc., 1912, v. 59, p. 833. (M. I. W.)

Patents and Trade-Marks.—Wilbert, M. I., discussing the present status of the law relating to patents and trade-marks, points out some of their shortcomings, and expresses the belief that for the protection of the inventor, no less than for safeguarding the inherent rights of the public, it would appear desirable to simplify the present legal procedure necessary to establish the validity

of a patent and also to extend to patents generally the system of preliminary publication now used in connection with the registration of trade-marks.—J. Am. M. Assoc., 1912, v. 59, pp. 834-835. (M, I. W.)

Patents and Trade-Marks.—Stewart, F. E., discusses the relation of the patent and trade-mark laws to materia medica nomenclature, and suggests that the U. S. Pharmacopoeial Revision Committee issue an annual list of new drugs, giving proper names to them and including trade names as synonyms.—J. Am. M. Assoc., 1912, v. 59, pp. 836-838. (M. I. W.)

"U. S. P. and N. F. Propaganda."—An editorial (J. Am. M. Assoc., 1912, v. 58, p. 640), in commenting on the various efforts to supplement the "Propaganda for reform in proprietary medicines," points out that the "U. S. P. and N. F. Propaganda" of the pharmacists falls short of the ideal in that it merely aims to substitute a ready-made, usually complex and unscientific mixture of known composition, for a ready-made, equally complex and unscientific mixture of unknown composition and may mean that the physicians who previously used certain proprietaries uncritically will be led to use just as uncritically the preparations from which the proprietary was derived. (M. I. W.)

Nobel Prize.—An editorial (J. Am. M. Assoc., 1912, v. 59, p. 1548), points out that the Nobel Prize in medicine for 1912 has been awarded to a member of the staff of the Rockefeller Institute for Medical Research in New York. Alexis Carrel, who brings this honor to American medicine, was born in France in 1873 and graduated as doctor of medicine from the University of Lyons in 1900. Shortly afterward he came to this country and worked for a year or two in the physiologic laboratory of the University of Chicago, where he accomplished remarkable results in the suture of blood-vessels, and began his work on the transplantation of organs. Soon after the opening of the Rockefeller Institute for Medical Research in New York he joined its staff, and it is there that he has done the work for which he now receives the Nobel Prize. (M. I. W.)

Candy Medication.—Fantus, Bernard, suggests the use of candy tablets, particularly for insoluble and tasteless substances such as calomel, yellow iodide of mercury, arsenic trioxide, tartar emetic, nitroglycerin, elaterin, and scopolamine. For 100 tablets of a substance whose dose is to be 1-100 grain, each tablet to weigh 3 grains, the following formula may be used:

Active ingredient.....	1 grain
Cacao butter.....	9 grains
Powdered sugar.....	290 grains

Talcum, not to exceed 3 percent, may be added to prevent sticking of the tablets to the punches. This addition is not necessary when the tablet contains a considerable amount of insoluble powder.

The ingredients are thoroughly triturated and then compressed in the tablet machine. The 3 percent of cacao butter, as suggested by Schleimer, admirably serves the purpose of a cohesive agent for prescription quantities of tablets.—J. Am. M. Assoc., 1912, v. 59, pp. 842-844. (M. I. W.)

Atropine, Use of.—Mosenthal, Herman O., reports some observations on atropine therapy in diabetes mellitus and concludes that he could observe no indication that atropine sulphate effects any change in the carbohydate tolerance of sufficient importance to make the drug of clinical value in the treatment of this disease.—J. Am. M. Assoc., 1912, v. 58, pp. 777-778. (M. I. W.)

THE SPIRIT OF RESEARCH.

It has often been said that research is an attitude of mind. This is something different from the mysterious features which are sometimes attributed to it. The spirit of research is attainable, even if at times it seems remote. Quoting Donaldson: "A man may have little leisure and trifling resources, and may never have published; but if he examines the world in a questioning spirit, if he carries with him not only conclusions, but the observations on which they rest, if he refuses to pound square facts into the round holes that he happens to have in hand, he has attained illumination."—*Journ. A. M. A.*