

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman*; G. M. BERINGER, CASWELL A. MAYO, H. B. MASON, E. L. NEWCOMB, and the Editor-in-Chief of the JOURNAL, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex-officio*.

Editorial Office: 253 Bourse Building, Philadelphia, Pa.

THE RELATION BETWEEN CHEMICAL CONSTITUTION AND PHYSIOLOGICAL ACTION.

A lecture on above subject by Dr. F. L. Pyman, delivered before the Chemical Society, was reported in *Nature* and is summarized in the *Scientific American Supplement* of April 27, 1918; from this the following is abstracted: Doctor Pyman stresses the importance of the study of the relation between chemical constitution and physiological action of drugs. The first step in chemical investigation is the isolation of the principle to which the activity of the drug is due and then follows the determination of its constitution and the synthesis of a number of substances related to the parent compound, and comparison of their physiological action.

A discussion of "physiological action" is difficult because it involves any action on the living organism. It is impossible, for instance, to compare the bactericidal action of phenol with the hypnotic effect of diethylbarbituric acid, or with the anesthetic action of cocaine; widely different causes may account for the same superficial signs of physiological action. Examples of physiological action are not wanting. Compounds of similar constitution generally possess a characteristic group-smell, while each member may have a specific odor. Sense of taste also provides an occasional means of discrimination not only between side-chains of different length, but also in certain cases between stereoisomerides.

Stereochemical influences often exercise profound effects, particularly on nerve-endings. Thus *l*-hyoscyamine has about a hundred times the mydriatic action of *d*-hyoscyamine, and *l*-adrenine many times the pressor effect of the dextro-compound. Asymmetry of a nitrogen atom may also condition a difference, as in the case of the α - and β -methochlorides of *l*-canadine. The cause of this variation still remains in doubt.

The influence of physical properties, such as solubility in different media, may be of im-

portance, and it has been shown that for a particular series of aliphatic compounds their narcotic effect on tadpoles was proportional to the partition-coefficients of their solubilities in oil and water.

As an indication of the effect of chemical properties, it has been shown that while certain basic dyes stain the grey nerve substance, their sulphonic acids do not. This difference suggested that bases, liberated in the blood-stream by alkalis, are extracted by the nerve substance, while their sulphonic acids remain in solution as alkali salts.

In the case of alkaloids it is a general rule that the introduction of a free carboxyl group profoundly modifies the physiological action. Benzoyl ecgonine, of which cocaine is the methyl ester, has no local anesthetic action; while quitenine, obtained from quinine by oxidation of the vinyl group, is non-toxic. Formation of quaternary salts has also a considerable effect. For instance, papaverine has a strychnine-like action which is missing in its methochloride, and re-appears in its reduction product laudanosine.

In the many cases in which members of a group of compounds of similar constitution resemble one another in physiological action it is of interest to observe the effect of slight chemical alterations. The following four pieces of work were then outlined: (1) *Tropeines* (acyl derivatives of the amino-alcohol tropine); (2) *aminoalkyl esters* (formed by the esterification of an acid with an alcohol containing an amino group); (3) *adrenine and the amines* (adrenine is the active principle of the suprarenal gland); (4) *protozoacidal drugs*. The results of experiments that have been made on the relative toxicity to infusoria of a number of cinchona derivatives, with a view to their employment in the treatment in malaria indicate that ethylhydrocupreine was the most active, but they do not admit of any certain conclusions as to the relation between their chemical constitution and protozoacidal action.

Experiments have also been made on the relative toxicity of the ipecacuanha alkaloids

to amoebae, and they indicate that the full amoebicidal action characteristic of emetine is exhibited only when the nucleus is intact.

QUININE AND UREA HYDROCHLORIDE.

Research work relating to preparations for administration and application of quinine and urea hydrochloride is suggested. The suggestion supplements others that have been made in the JOURNAL on a number of occasions, that cooperative research should be inaugurated in schools of pharmacy and medicine. The interdependence of medicine and pharmacy should be more thoroughly realized and action accordingly will develop the efficiency of a service to which the public is entitled from these professions. The advancement of medicine depends on the progress of pharmacy and the latter is made possible by such cooperation. It seems to us that a hearty, intense "working-together" will not only redound to the advantage of both and for the benefit of those served, but that this is the only rational plan and presents a duty. There is so much said of pharmacy as a small part of the drug business, as insignificant in the Army Medical Department, when really the fault is not with pharmacists but because the services of pharmacy are not fully utilized. It is high time that selfish motives be put aside and altruism, which the professions claim to be possessed of, brought into evidence by action. We are pleased to note the following statement in an editorial of the *Missouri State Medical Journal* for July: " * * * However the cry for still greater efficiency in the Medical Department of the Army gives promise that ere long a corps of professionally trained pharmacists will be placed under the command of Surgeon General Gorgas." But this is digressing from the purpose of this writing.

Research in connection with quinine and urea hydrochloride is not more important than that of many other chemicals which require investigations in the pharmacy and in the clinical laboratories. Last fall several articles appeared in the *Journal of the A. M. A.*, one by Dr. Joseph F. Saphir, in the issue of December 22, 1917, and another by Dr. E. H. Terrell in that of November 3, 1917, dealing with the drug as an ideal local anesthetic for rectal operations. Prof. Roberts Bartholow employed the salt as a local anesthetic many years ago; reports thereon by

Dr. Solomon Solis Cohen appeared in the *Philadelphia Polyclinic* in 1884. The latter contributed an article on "How to Use Quinine and Urea Hydrochloride, Especially for Systemic Effect by Injection in Malaria and Pneumonia," to the *New York Medical Times*, March 1912.

Professor Cohen employs the salt in applications for tonsillitis, 1:10, or stronger solutions, and it was in correspondence with him relative to perfecting a prescription for such a gargle that our attention was again directed to this useful drug. Aside from the references already given those that follow may be helpful, as they include further citations:

1. Observations on the Hypodermic Use of Quinine and Urea Hydrochloride in the Diagnosis and Treatment of Acute and Chronic Malarial Infections. And on the Resemblance to the Sexual Cycle of the Hemamoeba Manifested by the Periods of Freedom from Paroxysms that Ordinarily Follow a Single Injection of about One Gramme of this Salt. Solomon Solis Cohen, M.D., *American Journal Medical Sciences*, September, 1908.

2. Personal Communication; also Toxic Amblyopias, Philadelphia, 1896, p. 193.

3. See also the author's articles in "*The Polyclinic*," Philadelphia, February 15, 1884, and January 15, 1886; and "*The Philadelphia Polyclinic*," March 15, 1893, and September 3, 1898.

4. Fedeli, Gregorio. "A Rare Case of Malaria" *Trans. Coll. Phys.*, Philada., 3d Series, Vol. XIV, 1892, p. 1.

5. Ulmer, D. H. D. (from Service of S. Solis Cohen). "On the Effect of Quinine and Urea Hydrochloride Upon a Case of Double Tertian Malarial Infection, Contracted in Panama." *New York Medical Journal*, October 1, 1910.

6. Bass, C. C. *American Journ. Trop. Dis.*, February 1914.

PHARMACISTS SHOULD HAVE THE CREDIT FOR PERFECTING FORMULA OF NEUTRALIZING OINTMENT.

Dr. H. V. Army, in a letter to the *American Druggist*, calls attention to an article in the daily press wherein credit is given to chemists for developing the formula for the neutralizing ointment for the poisonous effect of mustard gas. The chemical corps worked out the antidotes, but when the work reached the ointment stage they turned that over to the pharmacists. New York College of Pharmacy

"loaned" one of Doctor Arny's staff to the Government, who solved that phase of the problem.

No desire is expressed to take away credit from the chemists, but the work of pharmacists is so seldom credited to them that it pleases us to quote Doctor Arny, though unfortunately this will not receive the wide publicity given the article in the press.

THE LEAST THAT SOME OF US CAN DO.

Secretary H. M. Whelpley, of the Missouri Pharmaceutical Association, under above caption brings a message to pharmacists. He says that many pharmacists have gone in to participate in our country's cause, others will go, and most of them lose their identity as pharmacists, but we should not forget the fraternal spirit. Every member knows some one who has enlisted, cheery messages will do a great deal toward keeping them in touch with pharmacy. True, they are over there to battle for their country; still, they will return, and they should not have cause to say that the tie that binds snapped when they left their homes.

And this brings up the resolutions by Mr. Freericks, which contemplated that provision be made for the pharmacists after they return. The time to prepare is now, these soldiers are entitled to our consideration.

KEEP UP ADVERTISING—A MESSAGE TO THE MANUFACTURER.

If one looks over the British pharmaceutical journals one sees that there is just as much or more advertising being done by British manufacturers now as before the war. The large semi-annual numbers have not been issued, but aside from these there is now just as much advertising. The American manufacturers should take a lesson, many have kept up their publicity, but a like number have not.

Val Fisher, a London publisher, in an address in New York City recently, said:

"Some wonderful things have happened in advertising, through war conditions, and I want to touch on some of those things, that you may be prepared for the conditions that will probably arise as the war goes on. In the last four years the business men of Great Britain have learned more concerning the importance of building good-will through advertising than they did in forty years preceding the war.

"In considering business conditions in England you must bear in mind that one-half of

all the men in England between the ages of 18 and 51 are in military or naval service. That means one-third of our entire male population, from infants in the cradle to the extremely old.

"You must bear in mind that 5,000,000 British women who never worked before have voluntarily gone to work to fill the places of men at the front. Hundreds of our women are working in factories making TNT—a work that ruins the hair and turns the skin yellow—thus sacrificing their beauty for the rest of their lives for the sake of Britain and freedom. We have only one business in England and that is to win the war. We are all concentrated on that one thing, even to the boys and girls.

"You would think under such conditions, with as many men in active service, in proportion to population, as you would have if you had 18,000,000 men in uniform—you would think under such conditions that retail business would be bound to be bad. And yet business is wonderfully good. You American business men are now in much the same position as were the British business men at the end of their first year of war. You are wondering what will be the effect of increasing selective service—you are anticipating restrictions on your business—and I want to tell you some of our experiences so you can profit by them.

"The department stores of any country usually reflect the state of trade. The profits of the twelve leading department stores during the period of the war were as follows: Fiscal year 1914-15, profits \$4,950,000; 1915-16, \$4,250,000; 1916-17, \$5,575,000. In the Provinces the profits of the nine leading stores were: 1914-15, \$750,000; 1915-16, \$945,000; 1916-17, \$1,150,000.

"From the outbreak of the war British business men clearly recognized their duty to their country and its fighting men. It was essential that they should strain every nerve to keep the trade of the country as near normal as possible during the war, and it is just as essential that when peace comes they must be prepared to keep every factory working at full pressure and to find employment for every employable unit. It is only by such methods that Britain can pay for her share of the war.

"No nation stands to gain as much commercially from the war as does America. In Great Britain the per capita income is \$236, and the per capita debt \$589; in the United States your

per capita income is \$352, and your per capita debt is \$63.

"These are times of rapid and tremendous change. No man can rest on his laurels. Those who were leaders last year, those who are leaders now in their respective business lines, may be surpassed next year by far-seeing efficient and thoroughly prepared competitors who have laid their plans a long way in advance."

RANK FOR ARMY NURSES.

To make a force of nurses effective it must be organized under those having authority to command them. Privates in the medical corps, called orderlies, but with little professional training, must help the nurses in their duties. Tasks requiring physical strength and no skill must be done by them and the nurses must tell them how and when.

In an army rank counts much in enforcing orders and discipline, and organization is impossible without it. Therefore army-trained nurses should be given rank, non-commissioned and commissioned, as it is given in all other branches of the Army. The fact that nurses are women is no reason for withholding it. It is given in the British army and works well. Why not in ours? There are many uniformed men in the Army with commissions who will never be exposed to as much danger and who are no more necessary in the military establishment.

Why there should be opposition it is hard to say, unless it be the same narrow view held somewhere in the medical corps of the Army which resisted the employment of female trained nurses at all.—William Howard Taft, in the *Philadelphia Public Ledger*.

Ex-President Taft's plea for the nurses is unanswerable. The Army nurses should have rank to do their best work, as should pharmacists also. Why those in authority so persistently refuse to see the light can be explained only on the ground of wilful prejudice.

There is a point that should be emphasized, the present method of drug administration will produce a large number of dispensing doctors, after the war. It is just as well to realize this. Will it benefit or injure the medical practice? We are inclined to say that it will be hurtful to both pharmacy and medicine. It will not only produce office dispensers but apothecary-physicians. Neither class will help the progress of medicine and pharmacy. The prescribing and dispensing of medicines are different and

not interchangeable functions. Both medical men and pharmacists are concerned in the recognition of pharmacy as a profession. Is it because the former have received such splendid recognition that they are unmindful now of the conditions after the war?

THE NEW SURGEON GENERAL, U. S. ARMY.

Merritte W. Ireland, Chief Surgeon of the American Expeditionary Forces in France, succeeded William C. Gorgas as Surgeon-General of the U. S. Army October 4. The latter was retired for age, and appointed medical



Copyright by Harris & Ewing

MERRITTE W. IRELAND.

representative of the United States in the Supreme War Council at Versailles. General Robert E. Noble succeeds Major General Ireland in France.

While we differ from Surgeon General Gorgas in the estimate of pharmacy, we recognize his ability and honesty, and his success as a sanitarian and also in the handling of his stu-

pendous task; he has gained the general respect and he holds the confidence of pharmacists, notwithstanding their differences of opinion. His accomplishments have benefitted humanity, the record has become part of history. May the years still spared to him be full of health as they will be of honor.

Whether Surgeon General Ireland will hold different views relative to pharmacy from his predecessor remains to be seen. He went to France with General Pershing and had the opportunity of becoming acquainted with the Departments of the French Army. He is largely responsible for the medical organization and hospital facilities of the American Expeditionary Forces. Before the war he was assistant to preceding Surgeon Generals and is therefore well acquainted with the office he has assumed. The knowledge of conditions in France is most valuable. The Medical Corps has thus far not followed the practice of other branches of the Service in sending back regularly officers who have served in France so that they might instruct those on this side of the water and give them the right perspective of the war, and it is likely such plan will now be followed with the Medical Corps.

Surgeon General Ireland is fifty-one years of age, a graduate of Detroit College of Medicine and Jefferson Medical College. He has been in the Service practically since his graduation, served in Cuba and the Philippines, and was for a time stationed at Fort Sam Houston, Texas, under General Pershing. His is an active, vigorous personality, and he has a knack for executive work.

James H. Beal, ex-President of the American Pharmaceutical Association and first editor of the *JOURNAL A. PH. A.*, has been appointed a member of the Advisory Board on Medicinal Products to the Medical Section of the War Industries Board.

Harry B. Mason, for many years editor of the *Bulletin of Pharmacy*, has resigned this position to accept that of director of promotion, publicity and advertising for Parke, Davis & Co.

Prof. Joseph P. Remington saw the completion of the sixth edition of Remington's *Practice of Pharmacy*; Prof. E. Fullerton Cook assisted in several prior revisions and his name is on the title page of the last; Prof. Charles H. LaWall has now also been selected as one of the editors. The future editions of this standard will be taken care of by the editors who studied under and were associated with Professor Remington, and whose work will be carried on by them and revised as progress demands. Both of the editors are well known to pharmacists and their selection for this work was almost a foregone conclusion.

RAINEY BILL, PASSED BY THE HOUSE.

The Rainey Narcotic Law passed the House October 2. The vote was unanimous.

SENATE COMMITTEE AGREES TO LOWER TAX ON DISTILLED SPIRITS.

In the consideration of the War Revenue Measure a tax of \$6.40 per gallon instead of \$8.00, was agreed to by the Senate Finance Committee, on distilled spirits for beverage purposes.

SOCIETIES AND COLLEGES.

MATCH LUZERNE COUNTY.

The Luzerne County Branch of the American Pharmaceutical Association is the name adopted by the pharmacists of Wilkes-Barre and vicinity for this new organization. Their success shows what may be done in organizing branches elsewhere. Up to date Luzerne County Branch A. Ph. A., has 51 members, and the enthusiasts say they will have 100 soon.

One of the first real accomplishments in the way of business was to fix the hours for drug stores, in this prosperous valley, from 9 A.M. to 9 P.M. That alone was worth many times the price of organization; the cooperation, friendship and monthly meetings will multiply the benefits to be derived therefrom. This is

a call for no less than one hundred other counties to "match Luzerne."

The officers of the Branch are: *President*, Walter Banker; *First Vice-President*, W. D. White; *Second Vice-President*, James F. Kane; *Treasurer*, E. R. Owens; *Secretary*, Joseph D. Morgan.

The Second Vice-President is from Pittston, the other officers reside in Wilkes-Barre.

THE TWENTIETH ANNUAL MEETING OF THE NATIONAL ASSOCIATION OF RETAIL DRUGGISTS.

The Twentieth Annual Meeting of the National Association of Retail Druggists was held in New Orleans September 16-20. As expected, the attendance was not as large as in