

## EDITORIAL NOTES

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### PRESCRIPTION DISPENSING OF THE UNITED STATES.

Wroe Alderson, chief business specialist of the Department of Commerce, was one of the speakers at the American Pharmaceutical Manufacturers' Association, at its meeting in French Lick, Ind., during the week of May 26th. He stated that between \$90,000,000 and \$135,000,000 are spent by the American people for the 120,000,000 to 180,000,000 prescriptions which it is assumed are filled annually in this country. This prescription business is divided among approximately 60,000 drug stores. Mr. Alderson stated that if there was sufficient prescription business to keep the pharmacists busy they would be able to fill approximately 2,160,000-000 prescriptions in the course of the year. In other words the capacity for filling prescriptions is more than ten times as great as the total number of prescriptions filled. He stated that data gathered in St. Louis indicate that of the more than 600 drug stores in the state nine pharmacies of the professional type handle fully one-fourth of all the prescriptions filled. The preliminary analysis of the survey being carried on in St. Louis indicates that the typical pharmacy is generally well supplied with all the medicines most frequently prescribed and contrary to the usual belief very few rare or obsolete drugs are carried in stock.

Mr. Alderson said that the analysis of prescriptions is only one of a number of phases of the very comprehensive project being conducted in St. Louis. It is expected to present some very definite findings on store arrangement through investigation of the advantages and disadvantages found in opera-

tion in drug stores. Other phases will deal with methods of drug store merchandising, window display, advertising, store location and other details which are included in the druggists' problems.

For the purpose of gathering data for guidance in the revision of the U. S. Pharmacopœia the extent of prescription practice is being studied, and under the direction of Dr. R. L. Swain a survey has been made in Maryland, which includes nearly all of this service in the State of Maryland; and this has been followed by an analysis of the prescriptions in a sufficient number of drug stores for basing, not only the number, but components of the prescriptions, a service of distinct value.

### DEVELOPMENTS IN HEALTH CONTROL OF EGYPT.

The Public Health Department of the Egyptian Government is outstanding in its recent expansion and intensive methods of combating disease. This department has been particularly active in attempting to check the spread of disease between the Asiatic and western countries. In addition to other methods of control in connection with transportation, quarantine stations for travelers by air now exist. Many thousands making the annual pilgrimage to Mecca are compelled to submit to vaccination against smallpox and cholera before leaving the country and before returning must undergo a quarantine period for cholera at Al-Tar, a quarantine station on the eastern shore of the Gulf of Suez. During 1926 and 1927, more than 14,000,000 people out of a total population of 15,000,000 were vaccinated against smallpox.

A new Pasteur Institute was recently established; also a new mobile laboratory for investigation of outbreaks of disease in villages. Provincial laboratories have been erected in Luxor, Asyut, Suez, Port Said and Alexandria for bacteriological investigation of disease. An institute of hygiene has been created for the training of sanitary inspectors. In three years 16 general hospitals and 28 village hospitals have been completed. There is a total of 35 ophthalmic hospitals, of which 21 are permanent and 14 traveling. In addition to hospitals, there are 14 clinics for the treatment of venereal disease. Several tuberculosis clinics have been established. A sanatorium containing 135 beds was opened in 1927 at Helouan.

For the treatment of *bilharzia* and *ankylostomiasis*, with which the agricultural population is heavily infected, there are traveling tent hospitals. There are 40 traveling child welfare clinics.

Among numerous future projects contemplated is the establishment of a new tuberculosis sanatorium intended to be the nucleus of a tuberculosis colony and the creation of a leper colony.

#### PRODUCTION OF CITRIC ACID.

H. T. Herrick, Principal Chemist in Charge and O. E. May, Chemist, Bureau of Chemistry and Soils, Department of Agriculture, in a report on the production of citric acid, refer to the fact that while the employment of molds in the production of foodstuffs is of very ancient origin, their utilization in the chemical industries has lagged far behind that of yeasts and bacteria, for the outstanding example of such employment was discovered as recently as 1890, and not translated into factory procedure until within the last five years. A German scientist first discovered that a certain variety of mold, when grown on cane sugar solutions, would produce citric acid. He gave the name of *citromyces* to his mold and took out patents to cover his discovery. When, however, an attempt was made to go from laboratory to factory scale, so many difficulties were encountered that the project was abandoned. For the next 20 years the work on this problem was chiefly confined to the laboratory, then an investigation was undertaken at the United States Department of Agriculture which led to the discovery of a different mold, better adapted to the production of citric acid from cane

sugar. After several years of laboratory work, the results were published and the project was taken into industry for trial there. Ten more years were necessary before the process emerged in a finished industrial form, but it is now in operation so successfully that Italian citric acid (the natural variety), has been driven from the American market, and even in Europe is on the defensive against the synthetic product. The total production of citric acid by this process is not known, but it is variously estimated as between five and ten million pounds.

#### DENTAL CEMENTS.

Analyses of various dental cements show that the powder consists of either zinc oxide or alumina and silica, or of a mixture, the fluid being phosphoric acid or a solution of acid zinc phosphate. All depend for their setting on the production of a phosphate gel. The plastic qualities depend on the fineness of division of the powder and the viscosity of the liquid. The authors have investigated new cements in which various oxides formed the powder and silico fluorides the liquid. Good results were obtained with zinc oxide or alumina and zinc fluosilicate. The zinc oxide cement gave quicker setting and greater final strength. The reaction of formation is  $ZnSiF_6 + 2ZnO = 3ZnF_2 + SiO_2$ . Another new cement is prepared by heating to 1400° 1 mol. of lanthanum oxide ( $La_2O_3$ ) and 2 mols. of silica and mixing with phosphoric acid or acid zinc phosphate. The qualities of this cement are equal to those of standard dental cements.—O. Ruff, C. Friedrich and E. Ascher (*Z. Angew. Chem.*, 43 (1930), 1081-1087, through *B.C.A.-B.*, January 30, 1931).—*Jour. & Pharm.*, 72 (1931), 283.

#### PERSONAL AND NEWS ITEMS.

Resolutions were adopted by the Michigan Legislature citing the accomplishments and contributions to medicine and chemistry of Dr. Frederick G. Novy, professor of bacteriology, University of Michigan Medical School, Ann Arbor; Moses Gomberg, Sc.D., professor of chemistry, University of Michigan, and Reuben L. Kahn, Sc.D., who devised the Kahn precipitation test. The ceremony was attended by Gov. Wilber M. Brucker, Henry Ford, the Supreme Court justices, and other state officials and many physicians. Governor Brucker, in opening the program, stated that