terms in "ous," and "ic" (ferrous and ferric, mercurous, mercuric); but as a matter of precaution they have retained "corrosive," "mild," "yellow," and "red" in the title of the respective mercury compounds; thus, "corrosive mercuric chloride," "mild mercurous chloride." Instead of the word, "officinal," "official" is now used.

The present Pharmacopœia contains 994 articles, ninety of those previously official having been dropped, while eighty-eight new ones have been introduced. Commercial ether and commercial chloroform have been dismissed. Arsenium becomes arsenum; aluminium becomes aluminum; creasotum is now creosotum. The work throughout is gotten up with good taste, well printed on good paper. The accuracy of the work is guaranteed by the high standing of the committee of revision.

ISAAC OTT.

NOTES.

Immunity Against Disease.—The following appears on the editorial page of the *American Druggist* for October 12, under the caption "Germ Nuclein," and as it contains matter of general interest to chemists it is reprinted here entire.

Recent investigations of Dr. Victor C. Vaughan, of the University of Michigan, into the principles of immunity and cure in the infectious diseases, as illustrated in his presidential address to the Section on General Medicine of the Pan-American Medical Congress, mark so remarkable a step in the progress of modern bacteriology as to compel most willing admiration for the man and his work. The artificial production of immunity from disease dates back to 1796 when Jenner first made known his discovery with reference to the prevention of smallpox by inoculations of a mild form of the infection. Since then the subject of immunity against disease has received most careful consideration from many of the most brilliant thinkers in the scientific world, until it is now regarded as a special subject of scientific study, while at the same time finding place in the schools of medicine as one of the special branches of study in that science. Pasteur, the eminent French chemist, has particularly distinguished himself in this field, and his labors have won for him with other honors that of election to membership in the French Academy. His success in the treatment of rabies by inoculating the patient with sterilized cultures of the pathogenic germ, has made his name known in all parts of the civilized world, though scientists are not yet prepared to

admit that the treatment is either entirely curative or preventative. With regard to Pasteur's success in the prevention of chicken cholera and anthrax by the introduction into the tissues of modified forms of the specific germs of these diseases, it should be known that his teachings on the subject are accepted as authoritative in all schools of bacteriology.

Immunity against disease may be either artificial or acquired; and the induction of artificial immunity, according to Vaughan, may be brought about either by an attack of the disease ending in recovery; by direct inoculation with the germs of disease, according to certain recognized methods providing for either (1) vaccination with a modified or less virulent form of the infection; or (2) the introduction of at first a very small number of the virulent germs and successive inoculations with larger numbers; or by one or more treatments with sterilized cultures of the germs.

In studying the production of immunity from infectious diseases by the method of treatment with sterilized cultures, the question naturally presented itself to Dr. Vaughan as to what constituent of the culture conferred immunity, and it is from the study of this question that he has built up his theory regarding the rôle of the germ-nuclein. He has gone over the ground traversed by a number of German investigators, and, to quote his own words, he is "ready to believe that the immunizing substance is a constituent of the bacterial cell itself;" and is, besides, a poison which is capable of acting as an antidote to the greater poison of infection when administered in small doses with the latter purpose in view.

Dr. Vaughan has not limited his investigations to this either, but has proceeded further and succeeded after much experimentation in isolating active nucleins from various cellular bodies. The preparation, chemical reaction, germicidal properties and physiologic effect of these nucleins are described in detail in his address to the Pan-American Medical Congress which is printed in part in the October 7 number of that excellent medical journal, the Philadelphia *Medical News*.

The new field of study opened up by Dr. Vaughan will doubtless be fruitful of research not less in the domain of chemistry than of medicine, though practical applications of the study in its bacteriological aspect may not ensue for some years to come. Many persons who read for the first time of Dr. Vaughan's researches into the germicidal properties of the nucleins obtained from glandular organs like the testicles, thymus and thyroid will find a corroboration of the claims made in very recent times as to the therapeutic value of certain organic extracts, but further study will convince all such that the germ-nuclein theory is founded upon a more scientific basis and bears no more relation to the former than does the medication of the present day with that of ancient times.