THE PRESENT STATUS AND PROBLEMS OF BACTERIAL CHEMOTHERAPY

By Dr. E. K. Marshall, Jr.

DEPARTMENT OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, THE JOHNS HOPKINS UNIVERSITY

Successful chemotherapy of bacterial diseases is an innovation of the last four years only; in the history of medical progress it is a newborn babe—a lusty infant with powerful lungs and an incredible capacity for growth. Have its shoutings and precocity been justified and has its growth and development been directed along the right paths?

Chemotherapy, in the case of protozoan infections, can be considered to be of comparatively ancient origin. The sixteenth-century use of mercury in syphilis and the seventeenth-century use of cinchona bark in remittent fevers and of ipecac in dysentery are examples of a specific form of therapy which was later designated “chemotherapy.” All three of these drugs are old and popular remedies and were used without a knowledge of the etiology of the disease or of the mode of action of the remedial agent. Although Koch in 1881 reported unsuccessful attempts at bacterial chemotherapy in anthrax infections of guinea pigs, real experimental chemotherapy began with the very significant experiments of Ehrlich and Shiga in 1904. Their report of the cure of an otherwise fatal trypanosome infection in mice by one injection of the dye trypan red marks the beginning of a new epoch, despite the fact that animals other than the mouse were not cured and that the drug was of no practical use. This work led in 1910 to the well-known discovery of the therapeutic effect of organic arsenic com-