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ACETYLSALICYLIC ACID

THE STORY OF ASPIRIN

Notes to accompany an exhibit  
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## ACETYLSALICYLIC ACID, THE STORY OF ASPIRIN

The story of aspirin is the story of willow bark, salicin, and salicylic acid. Naturally occurring salicylates found in the bark, leaves and fruit of many shrubs and trees are ancient remedies. Hippocrates, Celsus, Dioscorides, Galen, and Boerhaave were among the early physicians to use various concoctions from the bark and leaves of the willow tree as remedies for eye diseases, prolapse of the uterus, removal of corns, for cleansing of wounds, and for other maladies. Herbals of the Middle Ages and the Renaissance included salicylate-bearing barks in their lists of remedies.

Physician and layman alike employed the salicylates in therapeutics, but not until 1763 was a report made which described the antipyretic effects of willow bark. Seeking a substitute for the rare and expensive Peruvian bark, the Reverend Edmund (Edward?) Stone reported to the Royal Society that his experiments with willow bark in antipyresis were successful.

According to Gross, the active principle of the bark, salicin, was determined by Gaspar Brugnatelli early in the nineteenth century. The glucoside was isolated by Leroux in 1830. Charles Frederick Gerhardt, one of the leaders in German chemistry, reported the derivation from natural sources of acetylsalicylic acid in 1853, but no practical uses were found for it until nearly fifty years later. In 1859, salicylic acid was synthesized by Hermann Kolbe whose method is still the most practical, being used today with few refinements. During the middle and late nineteenth century, the salicylates were tried therapeutically in a wide variety of diseases, but were found to be most successful in the treatment of rheumatic diseases.

Unfortunately, the side-effects of the salicylates were often worse than the disease under treatment and a substitute was sought. Felix Hoffmann, a chemist with the Bayer Company in Elberfeld, Germany, tried Gerhardt's acetyl derivative. Heinrich Dreser, in whose laboratory Hoffmann worked, reported the results and "Aspirin Bayer" was launched on its clinical career.

By 1958 the daily consumption of acetylsalicylic acid throughout the world was estimated at 21 tons. Aspirin is cheap to manufacture; it is non-habit forming; it can be taken by the majority of individuals for extended periods without ill effects; and it is one of the most effective antipyretics known, although it does not disturb normal temperature when taken as an analgesic. Small wonder, indeed, that mankind, in his environment of complexity, confusion, and insolvable problems, leans more and more heavily on this solution (in tablet form) to his minor aches and pains.

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\* These items appear in the exhibit.

