(I) PRELIMINARY CONSIDERATIONS

(A) CHEMICAL ASPECTS

(1) History

Prior to the 19th century the condition of scurvy was a major hazard for those who travelled long distances by boat, but in the year 1805 the well known and successful preventive measure of drinking doses of lemon juice whilst at sea was made compulsory for British naval personnel. This was purely an *ad hoc* measure and little progress was made towards the elucidation of the exact nature of the disease until Holst and Frolich (1907) discovered that, if a guinea pig was fed on a diet of oats and bran, it developed the symptoms associated with human scurvy. Moreover, the diseased guinea pig rapidly responded to the inclusion of fruit and vegetables in its diet, and the response could be used to give satisfactory quantitative estimates of the anti-scorbutic property of food stuffs. These experiments clearly demonstrated that scurvy is a deficiency disease due to the lack of an accessory food factor - or factors - in the diet.

Fractionation of material of high anti-scorbutic value was attempted in order to gain more precise knowledge of the factor concerned. In 1932, Waugh and King, by testing their fractions on guinea pigs, finally isolated a substance possessing the desired anti-scorbutic property (1). Four years earlier, Szent-Gyorgyi (2) had isolated from adrenal glands a substance which he called hexuronic acid. Waugh and King's extract proved to be identical with hexuronic acid, but Szent-Gyorgyi had not realised the relation to scurvy of the substance which he had isolated.