PREFACE

The tremendous upsurge of interest in biochemical oscillators has stemmed from the recent realization that enzyme systems, containing appropriate feedback, can generate fundamental rhythms from which, one might speculate, many properties of the cell and organism could be regulated and controlled. Interest, both in the United States and in Europe, developed sufficiently rapidly in this field that during the summers of 1968 and 1969, two international symposia were organized: one in Prague, Czechoslavakia, and the other in Hangö, Finland; the first as a satellite of the 5th meeting of the Federation of European Biochemical Societies. In both cases the colloquia consisted of contributed papers and intensive and enthusiastic discussion. The first meeting brought together those who had worked for some time with purely chemical oscillators and those whose primary interest was in biochemical and biological oscillations. The opportunity was also taken to open up communication on computer simulation and a variety of other theoretical approaches. For the first time the possibility of achieving common points of view between the various fields was established.

The second meeting, with the title Biochemical Oscillations and Chemical Instabilities, continued with the approach initiated in the first meeting and in addition focused upon bistabilities and instabilities from the theoretical standpoint. Many aspects of membrane oscillators, covering the borderline area between various biochemical, biophysical, and physical fields were also considered, together with their relationship to a number of the electrophysiological systems.

The results of these symposia covering, as they did, a wide range of disciplines and a variety of nationalities were painstakingly gathered together after the two symposia and are presented here through the main work of E. Kendall Pye and his associated editors. Especial thanks are due to Mrs. Ann Pye for her generous donation of time in typing the manuscripts.

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