

PREFACE

A Colloquium was held in Orléans on July 5-9, 1982, to celebrate the 80th birthday of Professor Charles SADRON. This meeting was devoted to the "Structure, Dynamics, Interactions and Evolution of Biological Macromolecules", research areas whose development in France owes so much to Pr. Sadron's efforts. The Colloquium was sponsored by the Centre National de la Recherche Scientifique and the Muséum National d'Histoire Naturelle. This book is a collection of the plenary lectures delivered during this scientific meeting together with several contributions from former collaborators of Pr. Charles Sadron.

Charles Sadron was born in 1902 at Châteauroux, near the center of France. After highschool in his native town he moved to the University of Poitiers where he was graduated in Physics and then obtained the Agrégation degree in 1926. Appointed as a highschool teacher in Strasbourg, he devoted his spare time to research in magnetism under the direction of Pr. P. Weiss. He got his Ph.D. from the University of Strasbourg in 1932 and then did a post-doctoral work at Caltech with Pr. Von Karman. Back to France in 1934, he was appointed as Associate Professor at the University of Strasbourg in 1937. His interest in colloidal suspensions and polymers dates back to these times when he started to study the morphology of chain polymers.

When the second world war started, Charles Sadron moved to Clermont-Ferrand with other members of the University of Strasbourg. He and several other members of his community then unwillingly made a second and unexpected "post-doctoral" stay for two years at the concentration camp of Buchenwald and then in Dora, under the "supervision" of W. Von Braun. Pr. Charles Sadron fortunately survived and resumed his activities at Strasbourg as Professor of Physics. In 1947 he started a research laboratory (Centre d'Etudes de Physique Macromoléculaire) devoted to the study of the physico-chemical properties of macromolecules. The development of these research activities led the CNRS to create in Strasbourg a research institute, the "Centre de Recherches sur les Macromolécules (CRM) in 1954. Pr. Charles Sadron was of course the first director of this Institute. He was already interested in biological macromolecules and several research groups at the CRM chose this new orientation.

In 1961, a Chair of Biophysics was created for Pr. Charles Sadron at the Muséum National d'Histoire Naturelle where he introduced this new branch of Science and created a new laboratory. He then convinced the CNRS that the creation of a research Institute devoted to Molecular Biophysics was timely. In 1967, the "Centre de Biophysique Moléculaire" (CBM) opened in Orléans ; several research groups with complementary expertise in Physics, Chemistry and Biology gathered in this new Institute under the dynamic stimulus of Pr. Charles Sadron. When Pr. Sadron retired in 1974, this Institute had acquired an international reputation and its main scientific orientations on protein and nucleic acid conformations and interactions are still actively pursued. Since 1974, Pr. Sadron has remained very active, coming to the laboratory to write, discuss with friends and former collaborators and keep himself informed about new developments in the life sciences.

The areas which have been covered by the lectures of the Colloquium are those in which Pr. Charles SADRON has been involved during the last three decades in the three laboratories he has created. The organization of the Colloquium and the publication of the present book have been inspired by the spirit of Professor Charles SADRON to whom all participants are dedicating their contribution.

Many chapters of this book deal with recent developments in the field of nucleic acid and protein structures, their dynamic state in solution and their interactions to form multimacromolecular complexes. Problems related to the origin of life, prebiotic processes and evolution are dealt with in several chapters. One of the contributors to this last part of the Symposium, Pr. F. Egami, did not come to Orléans. In his last letter sent on May 20, 1982, he explained why he would no longer be able to come to Orléans ; on July 1, he sent the manuscript of the lecture he would have liked to dedicate to Pr. Sadron. Pr. Egami died on July 17, 1982. Science has lost a great man and we will all miss this friend ; but Pr. Egami's enthusiasm and kindness will always remain in our memories.

Claude HELENE

September 15, 1982.