Ceccarelli
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Cytopharmacology of Secretion

ADVANCES IN CYTOPHARMACOLOGY VOLUME 2

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CYTOPHARMACOLOGY OF SECRETION

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Preface

"The papers to be presented in this second volume of *Advances in Cytopharmacology* survey the impressive developments in the cytopharmacology of secretion. Electron microscopy, cytochemistry, cell biology, biochemistry, and classical pharmacology have all made specific contributions. This variety of approaches has proven to be a potent stimulus for deciphering the molecular mechanisms operating in secretory cells. The achievements of classical pharmacology came about primarily through the empiricism of its experimental approach. Today pharmacology has increasingly become integrated with cellular and molecular biology, thus transforming itself into a science which permeates all of biology."

Professor Emilio Trabucchi spoke these words when opening the symposium in Venice upon which this volume is based. Although this statement may appear exaggerated to some, it is documented by the entire contents of the volume, in which many of the most important problems of the classical pharmacology of secretion are reconsidered through the use of modern, sophisticated approaches.

Some of the mechanisms by which a specific stimulus is transduced into a specific secretory response have been identified and are found to depend on the existence of intercellular messengers. A significant number of chapters in the book describe the intracellular events of the secretory process in different cell systems—the exocrine and endocrine pancreas, the parotid gland, the adrenal medulla, the anterior pituitary, and nerve terminals. This should facilitate a comparison between the secretory processes in different systems and the recognition of their common essential features.

The volume stresses the role of membranes in the synthesis, intracellular transport, storage, and discharge of secretion products, the cellular mechanisms of intracellular transport, and the storage of secretion products in secretory cells. Furthermore, emphasis on the concept of the neuron as a secretory cell helps to delineate the dynamics of neurotransmitter release at the synaptic level.

Receptor pharmacology is here given its most up-to-date evaluation. The isolation of receptor molecules affords us a more refined means of studying both the characteristics of the receptor itself and its interactions with various drugs.

The participants were privileged to hear Professor Albert Claude deliver the introductory lecture of the course showing the interesting results of his recent investigations. Professor Claude has made major contributions to our knowledge of intracellular structures and, more recently, carried out classical studies which help us, today, to speak more meaningfully about the cytopharmacology of secretion.

Finally, a word of gratitude to Professor Emilio Trabucchi. Through his enthusiasm and wisdom he encouraged in Italy a new and modern pharmacology devoted not to a reinvestigation of the known by more sophisticated techniques but rather to the development of a more sophisticated understanding of the mechanisms of action of drugs and of the basic phenomena of life.

Francesco Clementi
Milan
November 11, 1973

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