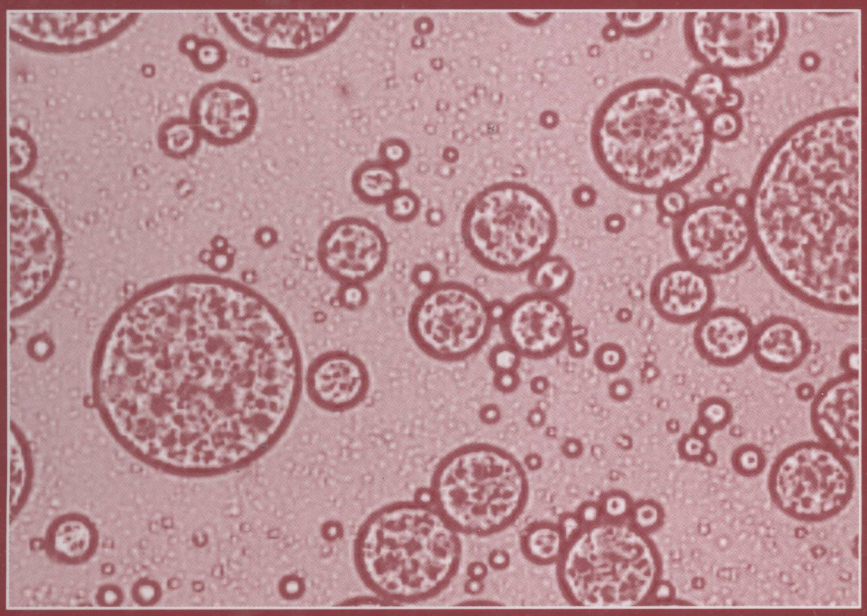
DRUGS AND THE PHARMACEUTICAL SCIENCES VOLUME 189

FIFTH EDITION

Modern Pharmaceutics

Volume 2
Applications and Advances



edited by
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Modern Pharmaceutics

Volume 2
Applications and Advances

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Modern Pharmaceutics

DRUGS AND THE PHARMACEUTICAL SCIENCES
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Preface

Modern Pharmaceutics edited by Gilbert Banker and Christopher Rhodes has become a classic in the field. It is well known and has been well received on an international basis, necessitating the publication of this fifth edition. The present editors took on the difficult task of following in the footsteps of the founding editors and their associates with some trepidation. It has been several years since the last edition, and on realizing that Dr. Banker and Dr. Rhodes wanted to pass on the editorship, we accepted the mantle.

Given the passage of time and the growth and change in the field, the book has been divided into two volumes: *Basic Principles and Systems* and *Applications and Advances*. There have been so many exciting developments which impinge on pharmaceutics that it was time to reconsider the content of the book.

Applications and Advances is principally a textbook and an advanced reference source of pharmaceutics, which focus on the core of the subject that is key to pharmacy. We define pharmaceutics as encompassing the design, formulation, manufacture, assessment and determination of the quality of pharmaceutical products, and also the quality of effect in patients as the guiding principles. We have therefore continued only with chapters that fall within these criteria.

It is of course difficult to separate an essentially applied subject into basic principles and applications, but we have chosen subjects that follow naturally from those in *Basic Principles and Systems*. In *Applications and Advances* we have added chapters on biotechnology-based pharmaceuticals, modern evaluation techniques for medicinal products, an overview chapter on pharmaceutical nanotechnology, as well as a chapter on aspects of pharmaceutical physics, a reflection of the still increasing molecular and quantitative basis of pharmaceutics. Expert chapters on bioequivalence, controlled release systems, transdermal delivery, delivery to the lung, and the design and evaluation of ophthalmic products cover most of the routes of administration. Pediatric and geriatric pharmaceutics are of increasing relevance not least due to its concurrence with the concept of personalized medicine. The chapter on veterinary pharmaceutical dosage forms discusses fascinating challenges and solutions that do not always exist in human medicine. Target-oriented drug delivery itself presents a whole gamut of challenges to the ingenuity of those that design both drugs and delivery systems. A chapter is devoted to this important aspect of pharmacy.

The editors have also speculated in the final chapter on dosage forms for specialized medicines. The human genome project should allow more precision in the medication of patient groups and, indeed, individuals in the coming era of personalized medicines. Personalized medicine is not only about the choice of an effective drug, but it is we argue

about appropriate dosing and adapting systems for individuals. Pharmaceutics has clearly a part to play in devising systems with which to deliver more flexible doses in improved ways. We believe that this endeavor might engender new paradigms in pharmacy itself.

Many of these chapters are written by their original authors. We are grateful for their enterprise, enthusiasm, and time and also thank the authors who wished to stand down. They have allowed the new authors to draw heavily on their original material, which has eased the process and has allowed us to retain the essence of the earlier volumes.

We thank Sandra Beberman of Informa Healthcare USA for her patience with new editors and her encouragement, and all the staff at Informa Healthcare USA who have nursed these two volumes through to press. We also thank of course all who have devoted time in preparing material for this new edition of *Modern Pharmaceutics*.

We trust that *Applications and Advances* and its companion *Basic Principles and Systems* will satisfy a wide range of colleagues who have an interest or indeed passion for pharmaceutics, and encourage them in their studies and research and development.

Alexander T. Florence
Juergen Siepmann

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