

# Contents

Foreword	v
List of Tables and Figures	xi
<b>VIVIANE QUIRKE AND JUDY SLINN</b>	
Perspectives on Twentieth-Century Pharmaceuticals: an introduction	1
<b>PART 1 Different Countries, Times and Perspectives</b>	
<b>JONATHAN SIMON AND AXEL C. HÜNTELMANN</b>	
1 Two Models for Production and Regulation: the diphtheria serum in Germany and France	37
<b>FRANK HUISMAN</b>	
2 Struggling for the Market: strategies of Dutch pharmaceutical companies, 1880–1940	63
<b>MARÍA JESÚS SANTESMASES</b>	
3 Distributing Penicillin: the clinic, the hero and industrial production in Spain, 1943–1952	91
<b>PART 2 Different Actors: scientists, doctors and patients</b>	
<b>MARION A. HULVERSHEIDT</b>	
4 The Scientist-Entrepreneur or Financing in Pharmaceutical Research: a portrait of the malarialogist Werner Schulemann, 1888–1975	121

## CAY-RÜDIGER PRÜLL

5 Scientists, Doctors and Drug Development: the history  
of Raymond P. Ahlquist's receptor theory, 1948–1988 149

## CLAUDE RICHARD AND MARIE-THERESE LUSSIER

6 Proposition of a Model for the Discussion of Medications  
during Medical Encounters 185

## PART 3 Developing, Selling and Representing Drugs 215

## TONY CORLEY

7 Twentieth-Century American Contributions  
to the Growth of the Beecham Enterprise 217

## SERGIO SISMONDO

8 Linking Research and Marketing,  
a Pharmaceutical Innovation 241

## MANON NIQUETTE AND WILLIAM J. BUXTON

9 Relieving Twentieth-Century Excesses: the socialization of  
antacid and laxative uses through advertising 257

## PART 4 Drug Regulation and its Limits in the United States 283

## JOHN P. SWANN

10 Reducing with Dinitrophenol: self-medication and the  
challenge of regulating a dangerous pharmaceutical before  
the US Food, Drug, and Cosmetic Act 285

## DOMINIQUE A. TOBBELL

11 Charitable Innovations: the political economy of thalassemia research and drug development in the United States, 1960–2000 303

## HEATHER MUNRO PRESCOTT

12 Imperfect Methods and Uncertain Choices: the regulation and marketing of emergency contraception in the United States 339

## PART 5 From Pharma to Biotech

365

## BEAT BÄCHI

13 Producing Ascorbic Acid: how microbes transformed the pharmaceutical company Hoffmann-la Roche, 1933–1953 367

## MICHAEL BÜRGI AND BRUNO J. STRASSER

14 Pharma in Transition: new approaches to drug development at F. Hoffmann-la Roche & Co, 1960–1980 393

ANNE-LAURE SAIVES, MEHRAN EBRAHIMI AND ROBERT H. DESMARTEAU,  
WITH THE COLLABORATION OF CATHERINE GARNIER

15 Knowledge Creation Dynamics and the Growth of Biotech Firms in Quebec 435

## Notes on Contributors

467

## Index

475