

Preface to the Second Edition

Much has changed since the first edition of *Principles of Molecular Virology* was published in 1993, but the need for this book is now stronger than ever. This edition is completely revised and updated and contains many new figures and tables. As a result, it is somewhat longer, but not, I hope, so long that it loses sight of the original objective – to present the concerns of contemporary virology to students in a concise and digestible manner.

Many people should be thanked for helping inspire this edition, but I will single out a few for particular mention. I am very grateful to all those who provided feedback on the first edition and I have tried to include as many of their comments/requests as possible; in particular, coverage of the rapidly developing area of plant virology has been greatly expanded. I am also grateful to my teaching colleagues in Leicester and elsewhere for their suggestions. Finally, the person who should perhaps receive most thanks is my long-suffering editor at Academic Press, Tessa Picknett.

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This book came about through my own need for a text to augment my undergraduate lectures on virology. Not that there is a particular shortage of books on virology, but even during my own relatively short career, the subject has expanded so rapidly that most professionals feel pressurized by the task of keeping up with current trends, let alone the responsibility of initiating a new generation in such a rapidly changing discipline. Many excellent and recent texts exist that deal with the subject in a detailed and somewhat traditional manner; the second edition of *Fields' Virology* (Raven Press, 1990), the third edition of Matthews' *Plant Virology* (Academic Press, 1991) and, in a more general sense, the second edition of *Molecular Biology of the Cell* (Garland Press, 1989) immediately spring to mind. Unfortunately, these books have two major disadvantages for their use in teaching. First, the volume of material they contain is overwhelming for a student discovering the subject for the first time and who may be unable to sort out the information they require from the mountain of detail they encounter. Second, in these times, few students can afford to purchase one of these tomes. Even persuading university libraries, whose budgets are under constant pressure, to purchase more than one or two copies is difficult and an inadequate solution in a time of expanding student numbers. Better then to reserve these texts for the reference purpose for which they are best suited and to introduce students to the subject in a gentler way.

In discussion with many of my colleagues at this and other universities, it was clear that most felt there was a place for a text which would cover the current emphasis and concerns of virology. In these conversations, there was no doubt as to what was required. My contemporaries have no difficulty with the label 'molecular virology,' but most when pressed would have difficulty in expressing a comprehensive definition. Perhaps the best way to describe how I have approached the subject here is to consider it as 'virology at a molecular level' or even better, 'molecules and viruses.' Having already damned the 2000-page reference source as unsuitable for my purpose and yet set such an all-embracing definition of 'molecular virology,' the problem was therefore how to resolve these two apparently conflicting issues. My chosen solution is to outline the *principles*

of the subject with reference to specific *examples* chosen to illustrate the matter under discussion. The onus is therefore firmly on the reader to pursue particular matters on which he or she requires more information in more detailed 'reference texts' or in the immense volume of research publications appearing annually.

I would like to have spent much more time discussing the history of virology in Chapter 1, a subject I find to be a fascinating as well as a valuable insight as to how we got to where we are today. In the event, it was only possible to provide a brief overview and to refer the reader to one of the many other texts which have been published on this subject - perhaps the one area of virology where an author's work does not become outdated in a short period. It is only my intention to arm readers with the framework that makes it possible for them to achieve this task successfully. Anyone who complains that this book does not spend sufficient time dealing with (or even mention) their pet area of interest has therefore missed the point.

To disarm the jargon (which I have avoided wherever possible) and unavoidable technical terms, I have included a glossary as an appendix to the book. Terms shown in the text in **bold print** are defined in this glossary.

Cliché it may be, but there are genuinely too many people to acknowledge for the creation of this book to make it possible to do this individually. It will have to suffice for me to thank all my colleagues in Leicester and elsewhere for helpful discussions; all the people who have helped and influenced my career over the years, and the undergraduates on whom I have field-tested the material, and for whom this book is intended.

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