Rapid virus diagnosis—application of immunofluorescence

By P. S. GARDNER AND J. MCQUILLIN. 2nd ed., 1980. Butterworth and Co. (Publishers) Ltd. Pp. xiii and 317. £29.00

Immunofluorescence techniques have become firmly established in diagnostic and research virology. Many laboratories and workers in the field have experience of a limited number of applications of immunofluorescence but few, if any, can rival the experience of Professor Gardner and Miss McQuillin. The second edition of their book includes a significant amount of new material and for this the original authors are assisted by Dr Grandien of Stockholm.

The first five chapters provide an account of the basis of fluorescence microscopy, the reagents and techniques used and the preparation of specimens. The accounts of the control of specificity and the problem of non-specific fluorescence are particularly useful. The next 12 chapters give a systematic account of the application of immunofluorescence techniques to a wide range of virus infections. Each chapter consists of a brief description of the virus or virus group, followed by a review of the use of immunofluorescence for antigen detection in clinical specimens, for identification of virus in the laboratory and for the detection of antiviral antibody.

The authors give detailed evidence for the value of immunofluorescence techniques thus allowing the reader to assess the possible role of the techniques in his own practice. The chapter on the detection of virus specific IgM is a welcome addition, dealing systematically and comprehensively with the application of immunofluorescence to this problem. The final chapter evaluates the application of immunofluorescence techniques to clinical virology and acts as a summary of the contribution to date of the techniques to the diagnosis of acute virus infections.

Throughout the book, practical details are given, the need for quality control is emphasised and possible sources of error are discussed. Thus the book can be used as a practical handbook as well as a reference work for the application of immunofluorescence to rapid virus diagnosis. For many years, as the authors acknowledge in their preface, "Fluorescent protein tracing" by R. C. Nairn has been an essential volume for those undertaking immunofluorescence. With the changes included in the second edition it seems certain that "Rapid virus diagnosis" will be more important to clinical virologists than even Nairn's classic work.

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Virus receptors. Part 2, animal viruses

Edited by K. LONBERG-HOLM and L. PHILIPSON. 1981. Chapman and Hall Ltd, London. Pp. xii and 217. £16.50.

This, the second part to the earlier one on *Bacterial Viruses* (*this Journal*, 14, p. 353), fulfils our expectations in every way. It is still reasonably priced, each article is accompanied by a useful and up-to-date (1980 in several cases) reference list and, most important, the articles are well and clearly written so as to appeal to specialist and general reader alike. As in part 1, the fact that it is a multi-author treatise does not—as in so many other cases—detract from the overall readability; the editors have clearly laid down some rigid guidelines, so that each chapter follows a similar pattern, and there is very little duplication in content despite the apparent overlap of some of the chapter titles.

Unlike part 1, in which penetration into the host cell was considered, the authors of part 2 have in general been careful to restrict themselves to virus receptors only. The one chapter in which some attention is paid to mechanisms of viral entry—that by J. Bramhall and B. Wisniewski on *The role of lipids in virus-cell interactions*—is one that contains a few inaccuracies: recent work by Choppin and others has shown that HN protein is *not* "an absolute prerequisite for the fusion activity of the F protein" and to say that "In addition to cholesterol, viral membrane proteins play some role in determining the fluidity of the membrane bilayer" displays the same carelessness in the use of the word "fluidity" as is sadly shown by many other workers in the field of membrane research. On the other hand, one would have liked to learn more about ways in