This book contains 10 concise reviews on a wide variety of virus subjects, each written by an authority in the field. The following is a brief commentary on each topic:

‘Adenovirus Facilitation of Molecular Conjugate-Mediated Gene Transfer’, by D.T. Curiel. Numerous techniques have been developed for delivery of DNA to target cells for achieving heterologous gene expression. Viruses have specific mechanisms to accomplish delivery of their genetic material to the host cell nucleus. This chapter describes the exploitation of adenovirus-mediated endosomalysis to facilitate molecular conjugate entry, providing an overview of this mechanism. Several key experiments illustrating this adenovirus use are described.

‘Detection and Significance of HIV Sequences in HIV Infection’, by D.E. Lewis and R.A. Gibbs. A continuing need exists to detect human immunodeficiency virus in patients. This review describes the background and detailed use of polymerase chain reaction and in situ hybridization for this purpose.

‘Clinical and Public Health Virology: A Continuous Task of Changing Pattern’, by U. Desselberger and T.H. Flewett. The current viral diagnostic program of the Public Health Laboratory Service in the UK is reviewed. Included are the direct and indirect diagnostic tests for viral infections, a comprehensive comparison of the various test systems, a review of polymerase chain reaction technology for viral diagnosis, and a consideration of unsolved problems and future developments.

‘Rabies: A New Look at an Old Disease’, by J.S. Smith and H.D. Seidel. Rabies appears to remain a very important public health problem in developing nations, as this review by investigators from the US Centers for Disease Control reveals. This article focuses especially on the use of molecular biological techniques to study the genetic variation, particularly nucleotide sequence comparisons, among the various isolates taken from around the world. Conclusions relating to the public health effects of this disease and its control are then proffered.

‘Progress and Perspectives in Human Hepatitis B Virus Research’, by B. Yoffe and C.A. NoOnan. This is an overview of the molecular biology of hepatitis B virus which includes virion particle structure, transcripts and cw-acting regulatory elements, gene products, the viral replication cycle, binding sites, and genetically defined variants of the virus. In vitro culture systems, animal models, and current methods of therapy are also described. The association of this virus infection with primary hepatocellular carcinoma is shown.

‘The Epidemiology and Control of Hepatitis B in Sub-Saharan Africa’, by C.F. Kiire. The importance of hepatitis B is further considered in this review of the disease as it occurs in the sub-Saharan countries of Africa. The epidemiology of the disease in this area, coupled with a
review of hepatitis B vaccination studies, and the other approaches being used to attempt to control this significant disease are the primary focus of the article.

‘New Approaches and Perspectives in Cytomegalovirus Diagnosis’, by M.P. Landini. Cytomegalovirus continues to be a significant problem, especially in immunocompromised persons. Here is provided a comprehensive perspective of current methods to diagnose this infection.

‘Biotic-Abiotic Mechanisms for Long-Term Preservation and Reemergence of Influenza Type A Virus Genes’, by D. Shaham. Pandemics of influenza type A virus continue to occur throughout the world. This author considers the 1977 pandemic, which was marked by a genome almost identical to a 1950 strain, suggesting that this reemergence of the genome represents a phenomenon based on combined biotic-abiotic mechanisms which allow for the preservation and reappearance of the virus.

‘Defective Paroviruses May Be Good for Your Health!’ by H.D. Mayor. A postulate is proposed, backed by viral sequence data, that evaluation and adaptation which occurs in paroviruses may lead to a means of interfering with the pathogenetic potential of invading viruses.

‘Assembly of Bacteriophage P22: A Model for dsDNA Virus Assembly’, by P.E. Prevelige, Jr., and J. King. The assembly of Salmonella typhimurium bacteriophage P22 is reviewed with the premise that most of the features in this assembly are general to all dsDNA-containing bacteriophages as well as viruses such as herpesvirus and adenovirus. An overall goal is to utilize this information for the design of therapeutics targeted at virus assembly. The book is recommended to those researchers having an interest in any of the many subjects included in it.

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