nants containing regulatory and processing signals as powerful tools for the transfer, amplification, and subsequent analysis of foreign DNAs in mammalian cells. J. Sambrook and T. Grodzicker then present adenovirus 2-SV40 hybrids as an illustration of the potential adenovirus has as a vector for introducing exogenous sequences into eukaryotic cells. They do raise one very important consideration, however; the inserted SV40 sequences code for a helper function, which confers a distinct replicative advantage to hybrids by rendering simian cells fully permissive. One cannot be certain that a defective adenovirus vector transporting an inserted nonselectable gene will not recombine with its helper function to produce a more efficiently replicating, wild-type adenovirus. Next D. Dubnau et al. review the recent cloning progress in *B. subtilis* as a host. In the following chapter H. Bernard and D. Helinski present with accompanying tables and figures a considerable amount of information on *E. coli* plasmids (subdivided into those primarily useful in amplifying foreign sequences and those specialized for promoting the expression of inserted genes), cosmids [3,4], *S. aureus* and *Bacillus* plasmids, and the recently appreciated *Streptomyces* plasmid cloning vehicles. An excellent article by B. Hohn and A. Hinnen presents the uses of cosmids to clone large segments of DNA in yeast and *E. coli*. This is followed by a fine introduction to single-stranded DNA coliphage vectors [5] by W. Barnes. The volume concludes with a most comprehensive chapter by B. Williams and F. Blattner containing the restriction maps of the many bacteriophage lambda cloning vectors, the coordinates of the endonucleases' restriction sites within the genomes, and the vectors' cloning capacities.

In summary, this multi-author monograph on recombinant DNA technology is unequivocally a superb one and has compiled much up-to-date information useful to the recombinant biochemist and/or geneticist. Due to the considerable amount of technical data the volume contains, we expect it to be primarily used and especially appreciated by the recombinant researcher.

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**Human Genetics: Possibilities and Realities.** Ciba Foundation Symposium 66. New York, Elsevier North-Holland Inc./Excerpta Medica, 1979. 425 pp. No price.

*Human Genetics: Possibilities and Realities* consists of sixteen papers from a symposium held in June 1978. Each paper is followed by a transcript of the discussion that followed the paper's oral presentation; a list of references accompanies each paper and discussion. Several discussions unrelated to a specific presentation are also included.

The formal papers by symposium participants, about half of whom are from the
United Kingdom, provide a comprehensive survey of human genetics. Each paper reviews the current status of the field under scrutiny as well as discussed the possibilities for future developments.

The symposium includes discussions of biological and cultural coevolution, the genetics of learning disabilities, genetic screening, and technological alternatives to conventional genetic analysis. Also included are papers on the regulation of gene expression, multilocus enzyme genetics, and hemoglobin genetics. Three papers discuss immunogenetics: the HLA system, the complement system, and the genetics of cell surface antigens and antibody production. Three other papers discuss the relationship of genetics to cancer; this section includes a discussion of viral oncogenesis.

The symposium is an excellent collection of stimulating and exceptionally well-written articles and provocative discussions. It is ideally suited for use as an advanced human genetics text for those with a firm understanding of basic genetic principles. Physicians and others interested in human genetics will find that this symposium is not only a comprehensive update of the field but that it stimulates thoughts about often neglected fields within human genetics, i.e., biological and cultural coevolution.

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HANDBOOK OF BIOLOGICAL PSYCHIATRY: PART II: BRAIN MECHANISMS AND ABNORMAL BEHAVIOR—PSYCHOPHYSIOLOGY. Edited by H.M. van Praag, M.H. Lader, O.J. Rafaelsen, E.J. Sachar. New York, Marcel Dekker, Inc., 1980. 491 pp. $46.50

The Handbook of Biological Psychiatry, in six parts, is an exceptionally comprehensive review of research relevant to biological psychiatry since the introduction of psychotropic drugs. Part II examines the psychophysiological aspects of brain mechanisms and abnormal behavior. The editors’ aim is to provide, in fifteen chapters written by a large number of contributors, many of whom are affiliated with psychiatry departments in the United Kingdom, a selective review of recent advances in psychophysiological research. The book does achieve its aim; the numerous topics considered include schizophrenia, depression, anxiety, psychopathy, alcoholism, aggression, brain-damaged patients, sleep and sleep disorders, sexual dysfunction, childhood disorders, and various psychological factors in physical disease.

Peripheral and central measures of schizophrenia and depression are discussed. Peripheral measures include electrodermal activity, peripheral circulation, cardiovascular and biochemical indices. Central measures include EEG, auditory evoked potential, and sleep measures. Untreated schizophrenic patients, psychotic children, and high-risk children (such as children of schizophrenic mothers) show characteristic EEG, evoked potentials, and sleep profile changes as contrasted with normal controls. Interestingly, neurophysiological abnormalities can be detected long before there are clinical manifestations in the high-risk children. This certainly supports a biological and genetic concept of schizophrenia.

In the discussion of depressive illness, neurophysiological correlates of depression are presented but the problem of integrating these results into the framework of a general theory remains unresolved. Sex differences in depression are noted and the relationships between mood and phases of the menstrual cycle, oral contraception, pregnancy, postpartum states, and menopause are discussed.