—Structure of G-proteins in biological membranes;
—Possible therapeutic application of NGF in the treatment of Parkinson's and Alzheimer's diseases;
—PDGF's possible role in the development of several fibroproliferative diseases and its therapeutic application in wound healing;
—The possible use of angiogenic inhibitors in tumor treatment.

This book would be useful for people working in biology, molecular biology, biochemistry, biophysics, physiology, endocrinology, molecular endocrinology, and oncology, as well as for general clinicians and advanced students.

Mechanisms of Chromosome Distribution and Aneuploidy. Progress in Clinical and Biological Research, Vol. 318. Edited by M. A. RESNICK and B. K. VIG. Published 1989 by Liss, New York. No. of pages: 400. ISBN: 0-8451-5168-1.

This volume contains the *Proceedings of an International Meeting on Aneuploidy* held at Reno, Nevada on 4–7 January 1989 and entitled "Aneuploidy: Mechanisms of Origin". It's purpose was to address many aspects of the processes by which chromosomes are distributed to daughter cells and the consequences of disturbances to those processes.

The relevance of aneuploidy to human health is apparent. Whole chromosomal aneuploidy is an important source of human abnormalities and its incidence in abortuses is well over 20–30%. In recent years the importance of somatic cell aneuploidy has been revealed by observations that the uncovering of cancer-associated recessive alleles may occur through errors of chromosome distribution. To understand how whole chromosomal aneuploidy occurs, it is necessary to understand all aspects of the segregational apparatus, the processes of segregation, the chromosome components and interactions, and the errors and correctional systems that might give rise to malsegregation, as well as agents, both physical and chemical, that may alter the segregation.

This book would be useful for people working in biology, molecular biology, biochemistry, biophysics, physiology, endocrinology, molecular endocrinology, and oncology, as well as for general clinicians and advanced students.

The Molecular Biology of Fertilization. Cell Biology: A Series of Monographs. Edited by H. SCHATTEN and G. SCHATTEN. Published 1989 by Academic Press, San Diego. No. of pages: 396. ISBN: 0-12-622595-8.

The origins of cell and molecular biology are rooted firmly in studies on fertilization. Those familiar with the classic monograph of E. B. Wilson (1928): "The Cell in Development and Heredity", will recognize that almost all of the central and still challenging problems in cell and molecular biology were investigated first in a developmental system, often an invertebrate gamete or embryo. Experimental manipulation of eggs from lower vertebrates, especially amphibians, expanded the conclusions derived from these fertilization studies. Moreover, the recent advances in routinely reliable methods for *in vitro* fertilization and embryo culture of mammalian oocytes, including those from humans, coupled with the power of molecular probes are resulting in conclusions with important and often surprising implications for cell and molecular biology. The goal of "The Molecular Biology of Fertilization" and its companion volume "The Cell Biology of Fertilization" is to bring together reviews from leading laboratories in which various aspects of the fertilization process are studied. An assortment of experimental approaches is presented, using methods of cell biology, molecular biology, biochemistry, biophysics, enzymology, and immunology. A diversity of animal models is considered and representatives from five invertebrate phyla are presented, including nematodes, clams, insects, ascidians, and the classic sea urchin. Amphibians and mammals are the best understood vertebrates, and it is encouraging that a diversity of mammals is now being explored. The articles consider the familiar mouse, rat, and hamster models, and also inquire about the fertilization process in farm animals, including pigs, sheep, and cows, as well as in humans.

The book is divided into the following main sections:

—The molecules involved in sperm-egg recognition and binding;
—Pronuclear formation and cytoskeletal events resulting in syngamy and cell cycle progression;
—Gene activation, protooncogenes, and nuclear determination at fertilization and during embryogenesis.

This book would be useful for people working in biology, molecular biology, biochemistry, biophysics, physiology, endocrinology, molecular endocrinology, and oncology, as well as for gynecologists, pediatricians, general clinicians and advanced students.

Cellular and Molecular Events in Spermiogenesis: Scientific Basis of Fertility Regulation. Edited by D. W. HAMILTON and G. M. H. WAITES. Published 1990 by Cambridge University Press, Cambridge for the World Health Organization. No. of pages: 334. ISBN: 0-521-37265-8.

This book contains the Proceedings of a WHO Symposium held at Oaxtepec, Mexico on 11–13 March 1987.

Despite considerable research over the past several decades, there is at present no systemic method of male contraception that is safe, highly effective and reversible. Over 30 years ago, tumor-inhibiting substances, such as tretamine, were studied for their antispermatogenic properties. Since that time, numerous classes of compounds ranging from sulfonic esters and sulfamates to chlorinated hydrocarbons and gossypol have been examined, but only a very few have reached the stage of clinical testing. While hormonal regulation of male fertility with the use of steroids or LHRH analogues, or both, has achieved some degree of success in limited clinical trials, its widespread applicability still depends upon considerable further development.

Many of the cellular and molecular events that occur during spermiogenesis are unique and yet are essential for the production of fertile sperm. From the precision with which the cellular changes occur in spermiogenesis it is clear that there are control mechanisms of which we have no knowledge at present. The specific properties of spermatids could offer vulnerable points for targeted intervention without generalized effects on the early stages of spermatogenesis, including the genome of the developing germ cells. A drug intervening with one or other of the unique processes in spermatids would have several advantages, offering a specific action which should be safe, rapid in onset and reversible.

This book would be useful for people working in biology, molecular biology, biochemistry, biophysics, physiology, endocrinology, molecular endocrinology, and oncology, as well as for gynecologists, pediatricians, general clinicians and advanced students.

Progress in Comparative Endocrinology. Progress in Clinical and Biological Research, Vol. 342. Edited by A. EPPLE, C. G. SCANES and M. H. STETSON. Published 1990 by Wiley/Liss, New York. No. of pages: 752. ISBN: 0-471-56800-7. Price: US $160.

This book contains the *Proceedings of the Eleventh International Symposium on Comparative Endocrinology*, held in Malaga, Spain on 14–20 May 1989.

The application of the techniques of molecular biology and separation chemistry has allowed the identification of the sequences of protein and peptide hormones in both vertebrate and invertebrate species. Not only have these advances facilitated investigation of the physiological actions and the control of secretion of these hormones, they have also provided information on the evolution and structure–activity relationships of the hormones. Of particular note is the widespread existence, throughout the animal kingdom, of specific peptide/protein hormones and their receptors, some of which had previously been identified only in vertebrates or even only in mammals. The role of hormones may vary in different species, classes or phyla depending on evolutionary history and environmental niche. It should also be noted that endocrine phenomena may differ in laboratory and natural settings. The advent of field endocrinology offers considerable scope for future advances.

This book would be useful for people working in biology, molecular biology, biochemistry, biophysics, physiology, endocrinology, molecular endocrinology, and oncology, as well as for gynecologists, pediatricians, general clinicians and advanced students.

Molecular and Cellular Biology of Insulin-like Growth Factors and Their Receptors. Edited by D. LEROITH and M. K. RAIZADA. Published 1989 by Plenum Press, New York. No. of pages: 524. ISBN: 0-306-43254-4. Price: $95.00.

An essential element in the development and functional integrity of all organisms is intercellular communication. This is achieved by the secretion of soluble messenger molecules which subsequently interact with receptor–effector pathways in the responsive cells. Hormones are traditionally defined as chemical messengers synthesized by endocrine glands. Unlike hormones produced by endocrine glands, growth factors are hormone-related substances produced by many tissues and play an important role in controlling growth and development. While the exact physiological roles of growth factors have yet to be elucidated, they play important roles in the regulation of cellular proliferation and/or differentiation during ontogenesis, growth and differentiation.

During recent years there has been a substantial increase in research related to peptide growth factors, their receptors, and modes of action. With the discovery and characterization of numerous growth factors, it became clear that these growth factors had multiple features in common with classic hormones as well as with oncogenes. Furthermore, there are distinct families of growth factors based either on structural or functional similarities.

One family, the insulin-related growth factors, includes insulin and insulin-like growth factors (IGF) I and II; its members exhibit similarities both structurally and functionally, at the level of the ligands as well as their receptors. Given the virtual explosion of research in this area, the publication of this book is indeed timely. The articles are written by many of the world's eminent experts in the field and were compiled following a very successful symposium on these topics held at the University of Florida in January 1989.

The purpose of this book is to afford the reader state-of-the-art developments in the molecular and cellular aspects of this interesting family of growth factors. It is divided into the following main sections:

—General aspects of insulin-like growth factor physiology;
—Molecular biology of insulin-like growth factors;
—Structural and functional relationships of the insulin-like growth factor receptors; and
—Cellular actions of insulin-like growth factors.

This book would be interesting and useful for endocrinologists, biologists, biochemists, biophysicists, and advanced students.

Immunity to Cancer. II, Progress in Clinical and Biological Research, Vol. 288. Edited by M. S. MITCHELL. Published 1989 by Liss, New York. No. of pages: 542. ISBN: 0-8451-5138-X. Price: $90.00.

This volume contains the *Proceedings of the Second Conference on Immunity to Cancer*, held at Williamsburg, Virginia, on 9–11 November 1987. It includes up-to-date information on the most recent advances in different problems concerning immunologically based therapies in various cancers, from basic concepts of tumor antigenicity, and the immune response to tumor-derived antigens, to clinical trials with currently available biological materials.

The book is divided into the following major sections:

—Tumor antigens and monoclonal antibodies;
—Cells involved in the immune response to tumor cells;
—Regulatory mechanisms in immunity and their implications for therapy;
—Biomodulation of cancer. I;
—Biomodulation of cancer. II.

This book would be useful for oncologists, general clinicians, and immunologists, as well as for people working in the fields of molecular biology and biochemistry.

Growth Regulation of Cancer II. Edited by M. E. LIPPMAN and R. B. DICKSON. Published 1990 by Liss, New York. No. of pages: 202. ISBN: 0-471-56703-5. Price: $52.50.

The Second 1989 UCLA Symposium on "*Growth Regulation of Cancer*" was held on 21–27 January 1989 in Keystone, Colorado. This meeting was devoted entirely to the growth regulation of cancer and was held jointly with the UCLA Symposium "*Genetic Mechanisms in Carcinogenesis and Tumor Progression*". Together, these were attended by over 700 participants and included formal presentations, workshops, and poster sessions.

The intense excitement generated by this meeting reflects the major research activity and progress being accomplished in this area. It has become clear that control of neoplastic cell proliferation and malignant behavior is a multi-faceted process involving genetic events leading to the activation and suppression of specific genes, the elaboration of growth factors and expression of their receptors, and the regulation of a variety of cell surface events that alter interactions of malignant cells with surrounding stroma and normal cellular components.

The articles included in this volume represent a cross-section of studies that appear to be making substantial contributions to this field. The role of newly discovered oncogenes such as the tyrosine kinase lck and int-2 are among several of the most interesting in the pathogenesis of human malignancy. Other presentations are devoted to the expanding role for secreted growth factor activities in malignant progression. This is most clearly illustrated by studies on fibroblast growth factor. This is an enlarging family of growth factors representing products of specific oncogenes (hst as well as the protein product of int-2). Substantial evidence now exists that these growth factors can participate in autocrine and paracrine loops that contribute to tumor pathogenesis. One of the most clearly defined examples involves the role of progastrin-releasing peptide and its pivotal actions in human small cell lung carcinoma. Systematic analyses of breast and lung cancers (also described in this volume) point out the complicated control of growth regulation for both normal and malignant cells.