

Contents

Preface	v
Editors' Introduction	vii
SECTION I BASIC MECHANISMS 1	
1 Genes and Development <i>Heinrich Ursprung</i>	3
2 Intercellular Adhesion and Histogenesis <i>E. H. Mercer</i>	29
3 Mechanisms of Morphogenetic Movements <i>J. P. Trinkaus</i>	55
SECTION II THE NERVOUS SYSTEM 105	
4 Early Morphogenesis and Pattern Formation in the Central Nervous System <i>Bengt Källén</i>	107
5 Structure and Mitotic Behavior of the Early Neural Tube <i>Ray L. Watterson</i>	129
6 Embryogenesis of Behavioral Nerve Nets <i>R. W. Sperry</i>	161
7 The Action of Nerve Growth Factor on Sensory and Sympa- thetic Cells <i>Rita Levi-Montalcini and Pietro U. Angeletti</i>	187
8 Cell Associations and Organogenesis in the Nervous System of Insects <i>Vincent B. Wigglesworth</i>	199
9 The Eye <i>Alfred J. Coulombre</i>	219
SECTION III THE LIMB 253	
10 Aspects of Limb Morphogenesis in the Chicken <i>Rodolfo Amprino</i>	255
11 Aspects of Limb Morphogenesis in Mammals <i>J. Milaire</i>	283

12	The Morphogenesis of Joints <i>Benjamin Moffett, Jr.</i>	301
13	Metabolic Patterns in Limb Development and Regeneration <i>Elizabeth D. Hay</i>	315
14	Aspects of Cytodifferentiation of Skeletal Muscle <i>Irwin R. Konigsberg</i>	337
SECTION IV THE SKIN		359
15	The Skin <i>Eugene Bell</i>	361
SECTION V THE VISCERA		375
16	Morphogenesis of the Vertebrate Heart <i>Robert L. DeHaan</i>	377
17	Development and Regeneration of the Liver <i>Y. Croisille and N. M. Le Douarin</i>	421
18	Recent Work on Developing Lungs <i>Sergei Sorokin</i>	467
19	The Thyroid <i>Thomas H. Shepard</i>	493
20	The Ontogenesis of the Endocrine Pancreas and Carbohydrate Metabolism <i>T. Adesanya I. Grillo</i>	513
21	Experimental Analysis of Lymphoid Differentiation in the Mammalian Thymus and Spleen <i>Robert Auerbach</i>	539
22	Morphogenesis of the Vertebrate Kidney <i>Theodore W. Torrey</i>	559
SECTION VI THE REPRODUCTIVE SYSTEM		581
A	SEXUAL DIFFERENTIATION	582
23	Genetic Control of Sexual Differentiation in Vertebrates <i>L. G. Gallien</i>	583
24	Gonadal Hormones in the Sex Differentiation of the Mammalian Fetus <i>Alfred Jost</i>	611
25	The Role of Fetal Androgen in Sex Differentiation in Mammals <i>Dorothy Price and Evalina Ortiz</i>	629
26	Onset of Steroidogenesis in the Vertebrate Embryonic Gonads <i>Giovanni Chieffi</i>	653
27	Fetal Hormones and Their Role in Organogenesis <i>Lemen J. Wells</i>	673

28	Sexual Stabilization of Müllerian Ducts in the Chick Embryo <i>Terrell H. Hamilton and Ching-sung Teng</i>	681
29	Hormonal Control of Sex Differentiation in Invertebrates <i>Helene Charniaux-Cotton</i>	701
B	PLACENTATION	741
30	Organogenesis of the Human Placenta <i>P. G. Wilkin</i>	743
31	The Principal Interchange Vessels of the Chorioallantoic Placenta of Mammals <i>H. W. Mossman</i>	771
Index		787