

CONTENTS

INTRODUCTION.....	1
Microscopy.....	2
The Preparation of Tissues	6
The Examination and Interpretation of Sections.....	10
Stains	10
Histochemistry.....	14

PART I GENERAL PRINCIPLES AND PRIMARY TISSUES

Chapter 1	
THE CELL	19
Components of the Body	19
Protoplasm.....	19
Components of the Cell	22
Cytoplasm.....	22
Nucleus	57
Cell Cycle	63
Chromosomes.....	64
Cell Division.....	67
Cell Differentiation.....	74
Protein Secretion and Transcription of DNA	74
The Four Primary Tissues.....	77
Chapter 2	
EPITHELIUM	81
Membranes	81
Simple Epithelia.....	83
Pseudostratified Epithelia	84
Stratified Epithelia	85
Endothelium, Mesothelium.....	87
Cell Adhesion in Epithelial Membranes	88
Specializations of the Cell Surface in Epithelia.....	92
Gland Epithelium.....	98
Chapter 3	
CONNECTIVE TISSUE PROPER	106
Tissue Fluid	107
Intercellular Substances	109

Connective Tissue Cells.....	118
Types of Connective Tissue Proper	127
The Macrophage (Reticuloendothelial) System.....	134

Chapter 4

SPECIALIZED CONNECTIVE TISSUE: CARTILAGE AND BONE	137
Cartilage.....	137
Bone	145
The Joints.....	161

Chapter 5

SPECIALIZED CONNECTIVE TISSUE: BLOOD.....	165
Erythrocytes.....	165
Leukocytes.....	167
Blood Platelets.....	172
Plasma.....	173
Lymph	173
Life Span and Disposal of Blood Cells.....	173
Hemopoiesis.....	174
Interrelationships Between Cells of Blood and Connective Tissues: Developmental Potentialities	183

Chapter 6

MUSCLE	187
Striated Muscle	187
Cardiac Muscle	203
Smooth Muscle	208

Chapter 7

NERVOUS TISSUE	216
The Reflex Arc.....	218
Structure of the Neuron	219
Types of Neurons	224
Ganglia.....	225
Nerve Fibers	229
Peripheral Nerves	233
The Synapse	236
Auxiliary Tissues of the Nervous System	240
Neuroglia	240
Membranes and Vessels of the Central Nervous System	245
Choroid Plexus and Cerebrospinal Fluid	248
Cytoarchitecture of the Central Nervous System	248
Differentiation and Proliferation.....	252
Degeneration and Regeneration	252
Special Stains.....	253

PART II HISTOLOGY OF THE ORGAN SYSTEMS

Chapter 8	
THE CIRCULATORY SYSTEM	257
The Blood Vascular System.....	257
The Lymph Vascular System.....	279
Development of the Circulatory System.....	281
Chapter 9	
LYMPHOID ORGANS	283
The Lymph Nodes.....	285
The Tonsils.....	290
The Thymus.....	293
The Spleen.....	297
Chapter 10	
THE SKIN AND ITS APPENDAGES (THE INTEGUMENT)	308
The Skin.....	308
The Nails.....	315
The Hair.....	317
Glands of the Skin.....	323
Blood Vessels, Lymphatics, and Nerves of the Skin.....	325
Chapter 11	
THE DIGESTIVE TRACT	328
General Organization.....	328
SECTION I. THE ORAL CAVITY	
The Lip.....	328
The Cheek.....	329
The Tongue.....	330
Taste Buds.....	333
Teeth.....	333
The Major Salivary Glands.....	344
SECTION II. THE TUBULAR DIGESTIVE TRACT	
Layers of Digestive Tract.....	350
The Esophagus.....	351
The Stomach.....	353
The Small Intestine.....	361
The Large Intestine.....	370
SECTION III. THE MAJOR DIGESTIVE GLANDS	
The Pancreas.....	374
The Liver.....	383
The Gallbladder.....	398
Chapter 12	
THE RESPIRATORY SYSTEM	401
The Nose.....	402
Paranasal Air Sinuses.....	405

The Nasopharynx	405
The Larynx.....	406
The Trachea	407
The Lungs.....	410
Developmental Origin of the Respiratory System.....	425
Function of the Respiratory System	426

Chapter 13

THE URINARY SYSTEM	428
The Kidney.....	428
The Nephron.....	432
Excretory Passages	451

Chapter 14

THE ENDOCRINE SYSTEM	456
Hypophysis	457
Thyroid Gland	467
Parathyroid Glands	470
Suprarenal Glands	472
The Paraganglia (Chromaffin System)	480
The Pineal Body	480

Chapter 15

THE FEMALE REPRODUCTIVE SYSTEM	484
The Ovary	484
The Fallopian Tubes	492
The Uterus	495
The Vagina.....	506
The External Genitalia.....	507
The Mammary Gland	508
Embryology of the Male and Female Reproductive Systems.....	511

Chapter 16

THE MALE REPRODUCTIVE SYSTEM	514
The Testis	514
The Male Genital Ducts	527
The Auxiliary Genital Glands	530
The Penis	534

Chapter 17

ORGANS OF SPECIAL SENSE.....	538
Sensory Receptors.....	538
The Eye	542
The Ear.....	572

INDEX.....	583
------------	-----