

E603.5

A TEXTBOOK OF SURGERY

By American Authors

R6 TS

Edited by

FREDERICK CHRISTOPHER, B. S., M. D., F. A. C. S

Professor of Surgery, Northwestern University Medical School; Chief Surgeon, Evanston (Illinois) Hospital

1465 ILLUSTRATIONS ON 742 FIGURES



PHILADELPHIA AND LONDON

W. B. SAUNDERS COMPANY

1950

Copyright, 1936, 1939, 1942, and 1945 by W. B. Saunders Company

Copyright, 1949, by W. B. Saunders Company

Copyright under the International Copyright Union

All Rights Reserved

This book is protected by copyright. No part of it may be duplicated or reproduced in any manner without written permission from the publisher

Reprinted January, 1950

MADE IN U.S.A.

PRESS OF
W. B. SAUNDERS COMPANY
PHILADELPHIA

CONTRIBUTORS

WILLIAM E. ADAMS, M.D., F.A.C.S.

[Inflammations, Hernia and Tumors of the Chest Wall.]

Professor of Surgery, University of Chicago School of Medicine; Attending Surgeon and Chief Thoracic Surgeon, University of Chicago Clinics; Consulting Thoracic Surgeon, Provident Hospital, Chicago.

ALFRED W. ADSON, M.A., M.D., M.S. (in Surgery), D.Sc. (Hon.), F.A.C.S.

[Glossopharyngeal Neuralgia, Sciatica, Cervical Ribs and the Scalenus Anticus Syndrome.] Professor of Neurosurgery, the Mayo Foundation, Graduate School, University of Minnesota; Chief Neurosurgeon, the Mayo Clinic, Rochester, Minn.

JOHN ALEXANDER, M.A., M.D., Sc.D. (Hon., U. of Pa.), F.A.C.S.

[Postoperative Atelectasis, Pulmonary Abscess, Gangrene and Bronchiectasis.]

Professor of Surgery, University of Michigan; Surgeon-in-Charge, Section of Thoracic Surgery, University of Michigan Hospital, Ann Arbor, Mich.; Chief Surgeon, Michigan State Sanatorium, Howell, Mich.; Consulting Thoracic Surgeon to various hospitals and sanatoria.

RUFUS H. ALLDREDGE, M.D., D.Sc. (Med.) [Amputations, Prostheses.]

Assistant Clinical Professor Orthopedic Surgery, Tulane Medical School; Chief-Orthopedic Surgeon, Veterans Hospital; Senior Orthopedic Surgeon, Baptist Hospital; Senior Associate Orthopedic Surgeon, Touro Infirmary; New Orleans.

ARTHUR W. ALLEN, M.A., D.Sc. (Hon.)
[Gastric Ulcer.]

Consultant in Surgery, Massachusetts General Hospital, Boston.

EDWARD ALLEN, M.D., F.A.C.S.

[Disturbances of Menstruation.]

Associate Clinical Professor of Obstetrics and Gynecology (Rush), University of Illinois; Obstetrician and Gynecologist, Presbyterian Hospital, Chicago.

WILLIAM A. ALTEMEIER, M.D., M.S., F.A.C.S. [Acute Pyogenic Osteomyelitis. Chronic Pyogenic Osteomyelitis.]

Assistant Professor of Surgery, University of Cincinnati; Attending Surgeon, Cincinnati General Hospital, Children's Hospital, Holmes Hospital, Cincinnati.

WILLIAM DEWITT ANDRUS, M.D.

[Tumors of the Sympathetic Nervous System.

Tumors and Cysts of the Mediastinum.]

Professor of Clinical Surgery, Cornell University
Medical College; Attending Surgeon, New York
Hospital; Director Second Surgical Division,
Bellevue Hospital, New York City.

CARL E. BADGLEY, M.D., F.A.C.S.

[Fractures of the Femur.]

Professor of Surgery in charge of Orthopaedic Surgery, University of Michigan Medical School, Ann Arbor.

DONALD C. BALFOUR, M.D., F.A.C.S.

[Tumors of the Stomach.]

Director Emeritus, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, Rochester, Minnesota.

HOWARD C. BALLENGER, M.D., F.A.C.S.

[Infections of the Nasal Accessory Sinuses.]
Professor and Chairman of the Department of
Otolaryngology, Northwestern University Medical School; Surgeon, Department of Otolaryngology, Evanston Hospital, Evanston, Ill.

CLAUDE S. BECK, M.D., Sc.D., F.A.C.S.

[Surgery of the Heart and Pericardium.]
Professor of Neurosurgery, Western Reserve
University School of Medicine; Associate Surgeon, University Hospitals, Cleveland; Visiting
Neurosurgeon, Cleveland City Hospital; Chief
Consultant in Neurosurgery, Crile Veterans Hospital, Cleveland, Ohio.

JOHN A. BENJAMIN, M.D.

[Chronic Prostatitis and Seminal Vesiculitis.]
Assistant Professor of Urological Surgery, the
University of Rochester, School of Medicine and
Dentistry, Rochester, New York.

J. DEWEY BISGARD, M.D., F.A.C.S.

[Unusual Hernias.]

Professor of Surgery, University of Nebraska College of Medicine; Visiting Staff Surgeon, University, Bishop Clarkson Memorial, Nebraska Methodist, Immanuel Lutheran, St. Joseph's Hospitals, Omaha, Nebraska.

VILRAY PAPIN BLAIR, M.D., F.A.C.S.

[Repair of Defects of the Face, Hands and Feet.]
Professor Emeritus of Clinical Surgery, Washington University School of Medicine; Professor Emeritus of Oral Surgery, Washington University School of Dentistry; Associate Surgeon,

Barnes and St. Louis Children's Hospitals; and Consulting Surgeon, St. Louis Maternity Hospital, St. Louis.

ALFRED BLALOCK, M.D.

[The Thymus, Traumatic Shock.]

Professor of Surgery; Director, Department of Surgery, Johns Hopkins University School of Medicine; Surgeon-in-Chief, Johns Hopkins Hospital, Baltimore.

WILLIAM BOYD, M.D., M.R.C.P. (Edin.), F.R.C.P. (Lond.), LL.D (Sask.), M.D. (Oslo), D.Sc. (Man.).

[Inflammation.]

Professor of Pathology and Bacteriology, University of Toronto; Pathologist, Toronto General Hospital, Toronto.

JOHN I. BREWER, M.D., Ph.D.

[Uterine Retrodisplacements; Descensus and Lacerations of the Childbirth Canal.]

Chief Obstetrician and Gynecologist, Passavant Memorial Hospital; Associate Professor of Gynecology, Northwestern University Medical School, Chicago.

*THEODORE PREWITT BROOKES, M.D., F.A.C.S. [Dislocation of the Spine.]

Late Assistant Professor of Clinical Orthopedic Surgery, Washington University School of Medicine; Assistant Surgeon, Barnes and St. Louis Children's Hospitals; Orthopedic Surgeon, Lutheran, Deaconess, and the City Hospitals, St. Louis.

JAMES BARRETT BROWN, M.D., F.A.C.S.

[Repair of Defects of the Face, Hands and Feet.]
Professor of Clinical Surgery, Washington University School of Medicine; Consulting Surgeon, Shriners' Barnard & Fischall State Cancer Hospital; Associate Surgeon, Barnes and St. Louis Children's Hospitals, St. Louis; Consulting Editor, Surgery, Gynecology and Obstetrics; Chief, Division of Plastic Surgery, U. S. Veterans Administration, Washington, D. C.

ALEXANDER BRUNSCHWIG, M.S., M.D., F.A.C.S.

[Surgical Diseases of the Pancreas.]

Professor of Clinical Surgery, Cornell University Medical School; Attending Surgeon, Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York City.

STERLING BUNNELL, M.D.

[Injuries of Tendons. Rupture of Tendons and Muscles. Severed Tendons.]

Civilian Consultant, U.S.A. and U.S.N., San Francisco.

LOUIS T. BYARS, M.D., F.A.C.S.

[Repair of Defects of the Face, Hands and Feet.]
Assistant Professor of Clinical Surgery, Wash-

ington University, School of Medicine, St. Louis.; Assistant Surgeon, Barnes and St. Louis Children's Hospitals; Consulting Plastic Surgeon, Barnard Free Skin and Cancer Hospital, St. Louis.

*JAMES A. CAHILL, JR., M.D., F.A.C.S.

[Anomalies, Injuries, and Foreign Bodies of the Colon; Diverticulitis; Fistula, and Ulcerative Colitis.]

Late Professor of Surgery and Director of the Department of Surgery, Georgetown University School of Medicine; Chief Surgeon, Georgetown University and Providence Hospitals; Consulting Surgeon, Columbia and Gallinger Municipal Hospitals, Washington, D. C.; Consulting Surgeon, Tuberculosis Hospital, Glendale, Md.

*WILLIS C. CAMPBELL, M.D., F.A.C.S.

[General Considerations of Dislocations. Dislocation of the Shoulder.]

Late Professor of Orthopedic Surgery, University of Tennessee College of Medicine; Chief of Staff, Dr. Willis C. Campbell Clinic, Crippled Children's Hospital; Hospital for Crippled Adults; Consulting Orthopedic Surgeon, Baptist Memorial, St. Joseph's and U. S. Marine Hospitals; Attending Orthopedic Surgeon, Methodist Hospital, Memphis, Tenn.

B. NOLAND CARTER, M.D., Ph.D.

[Surgery of the Spleen.]

Professor of Surgery, College of Medicine, University of Cincinnati; Director Surgical Services, Cincinnati General Hospital, Children's Hospital, and Dunham Hospital, Cincinnati.

JAMES THOMAS CASE, M.D., D.M.R.E. (Camb.), F.A.C.S.

[Diagnostic and Therapeutic Roentgenology in Surgery.]

Professor Emeritus of Radiology, Northwestern University Medical School; Consulting Radiologist, Passavant Memorial, and Radiologist, U. S. Marine Hospitals, Chicago, Highland Park (Illinois) Hospital and Chicago Tumor Institute.

RICHARD B. CATTELL, M.D.

[Anomalies, Injuries, and Foreign Bodies of the Colon; Diverticulitis; Fistula, and Ulcerative Colitis.]

Surgeon, Lahey Clinic, New England Deaconess Hospital, New England Baptist Hospital, Boston, Mass.

HENRY W. CAVE, M.D., F.A.C.S.

[Umbilical and Ventral Hernia.]

Clinical Professor of Surgery, College of Physicians and Surgeons, Columbia University; Chief

First Surgical Division and Attending Surgeon, Roosevelt Hospital, New York City.

FREMONT A. CHANDLER, M.D., F.A.C.S.

[Tuberculosis of the Bones and Joints.]

Professor and Director of Department of Orthopedic Surgery, University of Illinois Medical School; Senior Attending Orthopedic Surgeon, St. Luke's Hospital, Chicago.

FREDERICK CHRISTOPHER, M.D., F.A.C.S.

[Rabies. Erysipelas. Ganglion. Developmental Anomalies of the Cervical Region.]

Professor of Surgery, Northwestern University Medical School; Chief Surgeon, Evanston Hospital, Evanston, Ill.

EDWARD DELOS CHURCHILL, M.A., M.D., D.Sc. (Hon.)

[The Scope and Nature of Military Surgery. Tumors of the Lungs and Bronchi.]

John Homans Professor of Surgery, Harvard University; Chief of the General Surgical Services, Massachusetts General Hospital, Boston; Colonel, M.C., A.U.S.

LOUIS H. CLERF, M.D., LL.D., F.A.C.S.

[Larynx and Trachea.]

Professor of Laryngology and Broncho-Esophagology, Jefferson Medical College; Attending Bronchologist, Jefferson Hospital; Consulting Laryngologist to the Radiologic Clinic, Philadelphia General Hospital; Consulting Bronchologist, Rush, Philadelphia General, Germantown and St. Mary's Hospitals.

GEORGE MORRISON COATES, M.D.

[The Ear.]

Professor of Otorhinology, Graduate School of Medicine, University of Pennsylvania; Emeritus Professor of Otolaryngology, School of Medicine, University of Pennsylvania; Otorhinologist to Graduate Hospital, Philadelphia; Director of Department of Otolaryngology, Abington (Pa.) Memorial Hospital; Consulting Otolaryngologist, University, Presbyterian and Germantown Hospitals, Philadelphia, and Chester County Hospital, West Chester, Pa.

ELLIS N. COHEN, M.D.

[Regional Anesthesia.]

Clinical Instructor in Anesthesia, University of Minnesota Medical School; Attending Anesthesiologist, University of Minnesota Hospitals, Minneapolis General Hospital and Ancker Hospital, St. Paul.

WARREN H. COLE, M.D., F.A.C.S.

[Tumors of the Gallbladder and Bile Ducts.]
Professor of Surgery, University of Illinois College of Medicine, Chicago.

BRADLEY LANCASTER COLEY, M.D., F.A.C.S. [Hernia: General Considerations. Inguinal Hernia. Femoral Hernia.]

Visiting Surgeon, Lincoln Hospital; Attending Surgeon, Memorial Hospital and Hospital for Special Surgery (formerly Hospital for Ruptured and Crippled), New York City; Assistant Professor of Clinical Surgery, Cornell University Medical College; Surgeon-in-Chief, Mary McClellan Hospital, Cambridge, N. Y.

FREDERICK AMASA COLLER, M.S., M.D., F.A.C.S.

[Acidosis and Alkalosis. Water and Electrolyte Balance.]

Chief Surgeon, University Hospital; Professor of Surgery and Chairman of Department of Surgery, University of Michigan, Ann Arbor, Mich.

PAUL C. COLONNA, M.D., F.A.C.S.

[Pathology and Repair of Fractures.]

Professor, Orthopedic Surgery, University of Pennsylvania; Chief, Orthopedic Department, University of Pennsylvania Hospital; Consultant, Children's Hospital and Episcopal Hospital, Philadelphia; DuPont Institute, Wilmington, Delaware.

WILLIAM CONE, M.D., F.R.S.C. (C.), F.R.S. (C.) [Spina Bifida and Cranium Bifidum.]

Associate Professor of Neurosurgery and Neuropathology, Faculty of Medicine, McGill University; Associate Professor,* Department of Neurology and Neurosurgery, Faculty of Graduate Studies and Research, McGill University; Neurosurgeon, Montreal Neurological Institute,

Montreal.

H. EARLE CONWELL, M.D., F.A.C.S. [Fractures of Ribs, Clavicle, and Scapula.]

Associate Professor of Orthopedic Surgery, School of Medicine, University of Alabama, Birmingham, Alabama; Orthopedic Chief of South Highlands Infirmary, Birmingham, Alabama; Visiting Orthopedic Surgeon, Jefferson Hospital, St. Vincent's Hospital and East End Memorial Hospital, Birmingham, Alabama; Consulting Orthopedic Surgeon, Baptist Hospitals and Carraway Methodist Hospital, Birmingham, Alabama; Staff Member, State Crippled Children's Service; Attending Orthopedic Surgeon Children's Hospital, Birmingham, Alabama.

OLIVER COPE, M.D.

[Thermal Burns.]

Assistant Professor of Surgery, Harvard Medical School; Visiting Surgeon, Massachusetts General Hospital, Boston.

* In charge of Graduate Studies.

JOHN S. COULTER, M.D., D.T.M., F.A.C.S.

[Physical Medicine in Fractures.]

Professor and Chairman, Department of Physical Medicine, Northwestern University Medical School; Consultant, Physical Therapy Department, St. Luke's, Illinois Central, Passavant Memorial Hospitals; Chairman, Council on Physical Medicine, American Medical Association, Chicago.

VIRGIL S. COUNSELLER, M.S., M.D.

[Vaginal Fistula.]

Professor of Surgery, Mayo Foundation, University of Minnesota; Chief of Gynecologic Surgery in Mayo Clinic, Rochester, Minnesota.

WINCHELL McK. CRAIG, M.D., M.S. (in Surgery), D.Sc. (Hon.)

[Tumors of the Peripheral Nerves.]

Professor of Neurosurgery, Mayo Foundation, Graduate School of Medicine, University of Minnesota; Head of Section on Neurosurgery and Neurosurgical Consultant, Mayo Clinic, Rochester, Minnesota; Neurosurgeon, St. Mary's, Colonial and Kahler Hospitals, Rochester, Minnesota.

BRONSON CROTHERS, M.D.

[Birth Palsies.]

Clinical Professor of Pediatrics, Harvard Medical School; Visiting Physician, Children's Hospital and Infants' Hospital, Boston.

HARRY CULVER, M.Sc., M.D., F.A.C.S.

[The Male External Genitals.]

Professor of Genito-Urinary Diseases, Northwestern University Medical School; Urologist, St. Luke's Hospital, Chicago.

GEORGE M. CURTIS, M.A., Ph.D., M.D., F.A.C.S. [The Lymphatic System.]

Professor of Surgery and Chairman of Department of Research Surgery, Ohio State University School of Medicine; Attending Surgeon, Ohio State University Hospital, Columbus; Chief Surgeon, Clark County Tuberculosis Hospital, Springfield; Licking County Sanatorium, Newark, Ohio.

WILLIAM CLARK DANFORTH, M.D., F.A.C.S. [Tumors of the Uterus.]

Professor Emeritus of Obstetrics and Gynecology, Northwestern University Medical School; Chief Emeritus of Division of Obstetrics and Gynecology, Evanston Hospital, Evanston, Ill.

VERNON C. DAVID, M.D., F.A.C.S., Sc.D.

[Benign Polypoid Tumors of the Large Bowel.]
Rush Professor of Surgery, University of Illinois; Senior Attending Surgeon, Presbyterian Hospital; Consulting Surgeon, Cook County Hospital, Chicago.

DAVID M. DAVIS, M.D.

[Tumors and Cysts of the Kidney and Ureter.]
Professor of Urology, Jefferson Medical College;
Attending Urologist, Jefferson Medical College
Hospital, Philadelphia.

LOYAL DAVIS, M.D., M.S., Ph.D. (in Surgery), D.Sc. (Hon.), F.A.C.S.

[Trigeminal Neuralgia.]

William C. Grunow Professor of Surgery, Chairman of Division of Surgery, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital, Chicago.

ARCHIE L. DEAN, M.D.

[Tumors of the Urinary Bladder. Cancer of the Penis.]

Attending Surgeon, Memorial Hospital, New York.

MICHAEL DEBAKEY, M.D., M.S. (Surgery) [The Liver.]

Professor of Surgery and Chairman of the Department of Surgery, Baylor University, College of Medicine, Houston, Texas.

GÉZA DE TAKÁTS, M.D., M.S., F.A.C.S.

[Varicose Veins. Venous Thrombosis. Embolism.] Clinical Associate Professor of Surgery, University of Illinois College of Medicine; Senior Attending Surgeon, St. Luke's and Research and Educational Hospitals, Chicago; Consultant in Vascular Surgery, Great Lakes Naval Hospital, Great Lakes, Illinois.

EDWARD J. DONOVAN, M.D., F.A.C.S.

[Congenital Malformations of the Stomach.]
Associate Professor of Surgery, College of Physicians and Surgeons, Columbia University; At-

tending Surgeons, Columbia University; Attending Surgeon, Babies' Hospital; Attending Surgeon, St. Luke's Hospital, New York City.

LESTER R. DRAGSTEDT, M.D., Ph.D.

[The Parathyroid Glands. The Adrenal Glands.]
Professor of Surgery, and Chairman, Department of Surgery, University of Chicago; Attending Surgeon, Albert Merritt Billings Hospital, Chicago.

ELDRIDGE LYON ELIASON, M.D., Sc.D., F.A.C.S. [Fractures about the Elbow Joint. Dislocation at the Elbow.]

Professor of Surgery, University of Pennsylvania School of Medicine and University of Pennsylvania Graduate School of Medicine; Surgeon, University of Pennsylvania, Philadelphia General and Presbyterian Hospitals, Philadelphia.

LEO ELOESSER, M.D., F.A.C.S.

[Surgery of the Pleura.]

Emeritus Clinical Professor of Surgery, Stanford University, San Francisco; Surgeon, UN World Health Organization China Mission.

WILLIAM L. ESTES, Jr., M.D., F.A.C.S., D.Sc. (Hon.)

[Fractures of the Tibia and Fibula Involving the Ankle.]

Chief Surgeon, St. Luke's Hospital, Bethlehem, Pennsylvania; Lecturer, Graduate Medical School, University of Pennsylvania, Philadelphia.

EVERETT I. EVANS, Ph.D., M.D.

[Traumatic Shock.]

Associate Professor of Surgery, Medical College of Virginia; Attending Surgeon, Medical College of Virginia, Hospital Division, and Stuart Circle Hospital.

JAMES IRVING FARRELL, M.S., Ph.D., M.D. [The Anatomy and Physiology of the Genitourinary Tract.]

Assistant Professor of Urology, Northwestern University Medical School; Chief Urologist, Evanston Hospital, Evanston, Ill.

EGBERT H. FELL, M.D.

[Fractures of the Upper Arm.]

Clinical Associate Professor of Surgery (Rush), University of Illinois College of Medicine; Attending Surgeon, Cook County Hospital; Consulting Surgeon, Municipal Contagious Disease Hospital, Chicago.

WARFIELD M. FIROR, M.D.

[Appendicitis.]

Associate Professor of Surgery, Johns Hopkins Medical School; Visiting Surgeon, Johns Hopkins Hospital, Union Memorial Hospital and Church Home and Infirmary, Baltimore.

IDYS M. GAGE, M.D., F.A.C.S.

[Pilonidal Sinuses and Cysts.]

Associate Professor of Surgery, School of Medicine, Tulane University of Louisiana; Member of Section on General Surgery, Ochsner Clinic; Assistant Chief of the Tulane Surgical Service, Charity Hospital, New Orleans; Senior Surgeon, Charity Hospital, New Orleans; Member of Staff, Foundation Hospital; Visiting Surgeon, Touro Infirmary, New Orleans; Consulting Surgeon, Illinois Central Hospital, New Orleans.

THOMAS CYRUS GALLOWAY, S.M., M.D.

[Neoplasms of the Larynx.]

Associate Professor of Otolaryngology, Northwestern University Medical School, Chicago; Chief of Division of Otolaryngology, Evanston Hospital, Evanston, Ill.

WILLIS D. GATCH, M.D., F.A.C.S.

[Infections and Tumors of the Small Intestine.]
Attending Surgeon, St. Vincent's, Methodist and
Indianapolis City Hospitals, Indianapolis.

CHARLES F. GESCHICKTER, M.D.

[Tumors of Bone.]

Pathologist, U.S. Naval Medical School, Bethesda, Md.

RALPH KALB GHORMLEY, M.D., F.A.C.S.

[Acute Suppurative Arthritis.]

Professor of Orthopedic Surgery, the Mayo Foundation, University of Minnesota; Head, Section on Orthopedic Surgery, the Mayo Clinic, Rochester, Minn.

*SANFORD R. GIFFORD, M.A., M.D., F.A.C.S.
[Injuries and Surgical Infections of the Eyes and Adnexa.]

Late Professor of Ophthalmology, Northwestern University Medical School; Attending Ophthalmologist, Passavant Memorial, Cook County, and Wesley Hospitals, Chicago.

$\begin{array}{ccc} \text{EDGAR} & \text{LORRINGTON} & \text{GILCREEST,} & \text{M.D.,} \\ & \text{F.A.C.S.} \end{array}$

[Surgery of the Muscles and Ligaments.]
Formerly Instructor in Surgery, University of
California Medical School; Visiting Surgeon,
St. Mary's Hospital, San Francisco.

ALBERT E. GOLDSTEIN, M.D., F.A.C.S.

[Congenital Anomalies of the Genitourinary Tract.]

Assistant Professor in Genito-Urinary Pathology, University of Maryland; Chief of Genito-Urinary Department, Sinai Hospital, Baltimore; Genito-Urinary Consultant, Mt. Pleasant Sanatorium for Tuberculosis, Reisterstown, Md.; Medical Director, Hebrew Home for Aged and Infirm, Baltimore; Director of Hoffberger Urological Research Laboratory, Sinai Hospital, Baltimore.

A. STEPHENS GRAHAM, M.D., M.S. (in Surgery), F.A.C.S.

[Carcinoma of the Colon. Carcinoma of the Rectum and Anal Canal.]

Associate Professor of Surgery, Medical College of Virginia; Attending Surgeon, Stuart Circle and Medical College of Virginia Hospitals and Retreat for the Sick, Richmond, Va.

FRANCIS CLARK GRANT, M.D.

[Injuries of the Spinal Cord. Tumors of the Brain.]
Professor of Neurological Surgery, Medical
School, University of Pennsylvania, Philadelphia.

HOWARD K. GRAY, M.D., M.S. (in Surgery).

[Cholecystitis, Cholelithiasis, Choledocholithiasis,
and Associated Diseases of the Liver.]

Head of a Section in General Surgery, Mayo Clinic; Professor of Surgery, Mayo Foundation, Graduate School, University of Minnesota, Rochester, Minn.

R. ARNOLD GRISWOLD, M.D., F.A.C.S.

[Fractures of the Patella and other Sesamoids.]
Professor and Head, Department of Surgery,
University of Louisville School of Medicine;
Director of Surgery, Louisville General Hospital; Consulting Surgeon, Louisville Veterans
Administration Hospital; St. Joseph's Infirmary;
Kentucky Baptist Hospital; Kosair Crippled
Children Hospital; Children's Hospital; Surgical Staff, Norton Memorial Infirmary, Louisville.

MANUEL GRODINSKY, M.D.

[Infections of the Tendon Sheaths and Fascial Spaces of the Foot and Leg.]

Associate Professor, Anatomy and Surgery, University of Nebraska, College of Medicine, Omaha, Nebraska.

C. D. HAAGENSEN, M.D.

[Disorders of the Breast.]

Associate Professor of Clinical Surgery; Director of the Institute of Cancer Research, Columbia University, New York City.

SAMUEL F. HAINES, M.D., M.S., F.A.C.P. [The Thyroid Gland.]

Professor of Medicine, Mayo Foundation, Graduate School, University of Minnesota; Chairman of Section on Metabolic Diseases, Mayo Clinic, Rochester, Minn.

JOHN MUNN HANFORD, M.D., F.A.C.S.

[Wounds of the Neck.]

Former Associate Professor of Clinical Surgery, College of Physicians and Surgeons, Columbia University; Associate Attending Surgeon, Presbyterian Hospital, New York City.

EDWARD M. HANRAHAN, M.D., F.A.C.S. [The Scalp.]

Associate Professor of Plastic Surgery, Johns Hopkins Medical School; Plastic Surgeon, Johns Hopkins Hospital; Visiting Plastic Surgeon, Union Memorial Hospital and Women's Hospital; Consultant in Plastic Surgery, Baltimore City Hospital, Baltimore.

MAXWELL HARBIN, M.D., F.A.C.S.

[Osteochondrosis of the Growth Centers.]

Associate Clinical Professor of Orthopedic Surgery, Western Reserve University School of Medicine; Associate Orthopedic Surgeon, Lakeside Hospital, Cleveland; Orthopedic Surgeon in Charge, Rainbow Hospital for Crippled and Convalescent Children, South Euclid, Ohio.

STUART W. HARRINGTON, M.D., M.S. (in Surgery), F.A.C.S.

[Diaphragmatic Hernia.]

Head of Section on Thoracic Surgery and Professor of Surgery, the Mayo Foundation, Graduate School, University of Minnesota, Rochester, Minn.

(JULIAN) DERYL HART, A.M., M.D., F.A.C.S.

[Injuries Due to Cold. Injuries Due to Chemicals.]
Professor of Surgery, Duke University School
of Medicine; Head of Surgical Department,
Duke Hospital, Durham, N. C.

HAROLD D. HARVEY, M.D., F.A.C.S.

[Diseases of the Peritoneum.]

Assistant Attending Surgeon, Presbyterian Hospital, New York City; Assistant Professor of Surgery, College of Physicians and Surgeons, Columbia University, New York City.

JEROME R. HEAD, A.M., M.D.

[Physiology, Anomalies and Traumatic Emphysema.]

Assistant Professor of Surgery, Northwestern University Medical School; Associate Surgeon, Evanston (Ill.) Hospital; Medical Director, Edward Sanatorium, Naperville, Ill.; Attending Surgeon, Cook County Hospital, Chicago.

CASPER FRANK HEGNER, M.D., F.A.C.S.

[Surgery of Pulmonary Tuberculosis.]

Formerly Professor of Surgery, University of Colorado School of Medicine; Consulting Surgeon, Denver Episcopal Hospital for Children, Formerly Chief, Surgical Staff, Colorado General Hospital; Staff Member, St. Joseph's, St. Luke's, and Mercy Hospitals, Swedish National Sanatorium and Jewish Consumptive Relief Society, Denver.

MELVIN STARKEY HENDERSON, M.D., F.A.C.S. [Mechanical Derangements of the Knee Joint.]

Professor of Orthopedic Surgery, the Mayo Foundation, University of Minnesota; Senior Orthopedic Surgeon, the Mayo Clinic; Senior Consulting Orthopedic Surgeon, Colonial and St. Mary's Hospitals, Rochester, Minn.

LOUIS G. HERRMANN, M.D., F.A.C.S.

[Indolent Ulcers.]

Associate Professor of Surgery, College of Medicine, University of Cincinnati; Attending Surgeon, Surgical Services, Cincinnati General Hospital; Director, Vascular Disease Services, Cincinnati General Hospital and the Christian R. Holmes Hospital, University of Cincinnati; Associate Surgeon, Children's Hospital, Cincinnati, Ohio.

H. CLOSE HESSELTINE, M.D.

[Diseases of the Vulva.]

Professor of Obstetrics and Gynecology, and Secretary of the Department, University of Chicago; Attending Obstetrician and Gynecologist, Chicago Lying-in Hospital; Attending Gynecologist, the Albert Merritt Billings Hospital, Chicago. GEORGE J. HEUER, M.D., LL.D., F.A.C.S.

[Tumors and Cysts of the Mediastinum.]

Emeritus Professor of Surgery, Cornell Medical College; Surgeon-in-Chief, New York Hospital, New York City.

STANLEY O. HOERR, M.D., F.A.C.S.

[Foreign Bodies, Gastritis, Gastric Hemorrhage, and Wounds of the Stomach.]

Associate Professor of Surgery, Ohio State University; Attending Surgeon, Ohio State University Hospital; Assistant Chief Surgeon, 5th General Hospital, Columbus.

EMILE HOLMAN, B.A. (Oxon.), M.D., F.A.C.S. [Congenital Abnormalities of the Vascular System. Wounds. Occlusive Diseases of the Peripheral Vessels. Erythromelalgia. Amputations in Peripheral Vascular Disease. Aneurysms.]

Professor of Surgery, Stanford University Medical School; Chief Surgeon, Stanford University Hospital, San Francisco.

CHARLES HUGGINS, M.D., D.Sc.

[Diverticula of the Urinary Bladder.]
Professor of Urology, the University of Chicago.

ROBERT HENRY IVY, M.D., D.D.S., F.A.C.S.

[Fractures of Facial Bones. The Salivary Glands and Ducts. The Jaws. Dislocation of the Temporomandibular Joint.]

Professor of Plastic Surgery, University of Pennsylvania; Chief of Plastic Surgery, Graduate and University Hospitals; Consulting Plastic Surgeon, Presbyterian Hospital; Consulting Plastic Surgeon, Children's and Chestnut Hill Hospitals, Philadelphia; Consultant in Plastic Surgery, U.S. Naval Hospital, Philadelphia; Former Consultant in Plastic Surgery, Office of the Surgeon General, U.S. Army.

W. KENNETH JENNINGS, M.S., M.D., F.A.C.S. [Minor Surgical Procedures.]

Chairman, Surgical Division, Cottage Hospital, Santa Barbara, California.

HUGH J. JEWETT, M.D.

[Injuries to the Kidney.]

Assistant Visiting Urologist, Johns Hopkins Hospital, Union Memorial Hospital and Church Home, Baltimore; Assistant Professor, Johns Hopkins Hospital, Baltimore.

JULIAN JOHNSON, M.D., D.Sc. (Med.)

[Fractures about the Elbow Joint, Dislocation at the Elbow.]

Associate in Surgery, University of Pennsylvania Medical School; Associate Surgeon, University of Pennsylvania Hospital, Philadelphia.

ROBERT W. JOHNSON, JR., M.D.

[Congenital Deformities—Part I.]

Adjunct Professor of Orthopedic Surgery, Johns Hopkins Medical School; Visiting Orthopedic Surgeon, Johns Hopkins Hospital; Assistant Director, Children's Hospital, Baltimore.

CHARLES G. JOHNSTON, M.D.

[Injuries of the Small and Large Intestine.]

Professor of Surgery, Wayne University College of Medicine; Director of Surgery, Detroit Receiving Hospital; Surgical Consultant, Dearborn Veterans' Administration Hospital; Consulting Surgeon, Charles Godwin Jennings Hospital, Detroit.

*EDWARD STARR JUDD, M.D., F.A.C.S., D.Sc. [Cholecystitis, Cholelithiasis, Choledocholithiasis and Associated Diseases of the Liver.]

Late Chief of the Surgical Staff, the Mayo Clinic, and Professor of Surgery, the Mayo Foundation, Graduate School of the University of Minnesota.

P. J. KEARNS, M.D., C.M., M.Sc. (Path.), F.R.C.O.G., F.A.C.S.

[Ovarian Tumors.]

Obstetrician and Gynaecologist to the Royal Victoria Hospital; Director of the Gynaecological Pathological Laboratory at the Women's Pavilion, Royal Victoria Hospital, Montreal.

ROBERT H. KENNEDY, M.D., F.A.C.S.

[General Discussion of Fractures, Open (Compound) Fractures,

Professor of Clinical Surgery, New York University Post-Graduate Medical School; Surgical Director, Beekman-Downtown Hospital; Attending Surgeon, New York University Hospital and Bellevue Hospital, New York City.

JOHN ALBERT KEY, M.D.

[Some Diseases of Bone That Are Not Infectious in Origin.]

Clinical Professor of Orthopedic Surgery, Washington University School of Medicine; Associate Surgeon, Barnes, Children's, and Jewish Hospitals, St. Louis.

RALPH T. KNIGHT, M.D., F.A.C.S.

[General Anesthesia. Regional Anesthesia. Spinal Analgesia.]

Clinical Professor of Anesthesiology, University of Minnesota Graduate School of Medicine and Medical School, Director of Division of Anesthesiology; Director of Anesthesia, University of Minnesota Hospitals, Minneapolis General Hospital, Minneapolis; Consultant in Anesthesiology, U.S. Veterans' Administration Hospital, Minneapolis.

SUMNER L. KOCH, M.A., M.D., F.A.C.S.

[Infections of the Tendon Sheaths of the Hand and of the Fascial Spaces of the Palm.]

Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital, Chicago.

HERMAN L. KRETSCHMER, M.D., F.A.C.S., D.Sc. (Hon.)

[Abscesses, Cysts and Calculi of the Prostate. Benign Hypertrophy of the Prostate. Malignant Neoplasms of the Prostate.]

President, Institute of Medicine of Chicago; Former President, American Medical Association; Former President, Interstate Postgraduate Medical Association of North America.

WILLIAM EDWARDS LADD, M.D., F.A.C.S. [Anomalies of the Small Intestine. Congenital Obstruction of the Bile Ducts.]

William E. Ladd Professor of Child Surgery, Harvard Medical School; Chief of Surgical Service, Children's Hospital, Boston.

THOMAS HINCKLEY LANMAN, M.D., F.A.C.S. [Anomalies of the Small Intestine. Congenital Obstruction of the Bile Ducts.]

Clinical Professor of Surgery, Harvard Medical School; Surgeon, Children's Hospital, Boston.

WYLAND F. LEADBETTER, M.D.

[Calculi of the Kidney and Ureter; Strictures and Kinks of the Ureter.]

Senior Surgeon and Chief of Urology, New England Center Hospital, Boston; Professor of Clinical Urology, Tufts College Medical School, Boston.

MAURICE LENZ, M.D.

[Roentgen Therapy of Cancer of the Breast.]
Professor of Clinical Radiology, College of Physicians and Surgeons, Columbia University; Consulting Radiotherapist, Presbyterian Hospital; Manhattan Eye, Ear and Throat; and Montefiore Hospitals, New York City.

PHILIP LEWIN, M.D., F.A.C.S., F.I.C.S.

[Common Disturbances of the Foot and Ankle.]
Professor of Bone and Joint Surgery, Northwestern University Medical School; Professor of Orthopedic Surgery, Cook County Graduate School of Medicine; Attending Orthopedic Surgeon, Cook County Hospital; Senior Attending Orthopedic Surgeon, Michael Reese Hospital, Chicago; Chief of Orthopedic Surgery Section, Mayo General Hospital, Galesburg, Ill.

MANUEL EMIL LICHTENSTEIN, M.S., M.D., F.A.C.S.

[Fractures of the Metacarpals and Phalanges.]
Associate Professor of Surgery, Northwestern
University Medical School; Professor of Surgery, Cook County Graduate School of Medi-

cine; Attending Surgeon, Norwegian-American Hospital; Associate Surgeon, Cook County Hospital, Chicago.

PAUL R. LIPSCOMB, M.D., M.S., F.A.C.S. [Mechanical Derangements of the Knee Joint.] Instructor in Orthopedic Surgery, Medical Graduate School for Education and Research, Mayo Foundation; Consulting Orthopedic Surgeon, Mayo Clinic, St. Mary's Hospital and Colonial Hospitals, Rochester, Minnesota.

JENNINGS CRAWFORD LITZENBERG, M.D., F.A.C.S.

[Ectopic Pregnancy.]

Professor Emeritus of Obstetrics and Gynecology, Medical School, University of Minnesota, Minneapolis, Minn.

JOHN SALEM LOCKWOOD, M.D., Med. Sc.D. [Chemotherapy of Surgical Infections.]

Professor of Surgery, Columbia University; Attending Surgeon, Presbyterian Hospital, New York City.

CHAMP LYONS, M.D.

[Pyogenic Infections of the Skin. Felon.]
Associate Professor of Surgery, Tulane University School of Medicine, New Orleans, La.

GEORGE MILLER MACKEE, M.D.

[Injuries Caused by Irradiation.]

Professor Emeritus of Clinical Dermatology and Syphilology, New York Post-Graduate Medical School and Hospital, New York University; Professor Emeritus Clinical Dermatology, Columbia University; Consulting Dermatologist and Syphilologist, St. Luke's and St. Vincent's Hospitals, New York City.

WALTER G. MADDOCK, M.D., M.S. (in Surgery), F.A.C.S.

[Acidosis and Alkalosis. Water and Electrolyte Balance.]

Professor of Surgery, Northwestern University Medical School, Chicago, Ill.

PAUL BUDD MAGNUSON, M.D., F.A.C.S.

[The Operative Treatment of Fractures.]

Professor of Surgery, Chairman, Department of Bone and Joint Surgery, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital; Senior Orthopedic Consultant, Wesley Memorial Hospital, Chicago.

HENRY C. MARBLE, M.D., F.A.C.S.

[Dislocations of the Carpals, Phalanges, Pelvis, Coccyx, Hip, Knee and Ankle.]

Consulting Surgeon, Massachusetts General Hospital, Boston; Assistant in Industrial Hygiene, School of Public Health, Harvard University; Surgeon, Veterans' Administration Hospital, Bedford, Mass.; Surgeon-in-Chief, Chelsea (Mass.) Memorial Hospital; Consulting Surgeon, Faulkner Hospital, Boston.

HAYES MARTIN, M.D., F.A.C.S.

[Cancer of the Lip. Cancer of the Tongue.]
Attending Surgeon, Memorial Hospital; Assistant Professor of Clinical Surgery, Cornell Medical College, New York City; Consulting Surgeon, Jersey City Hospital, New York Infirmary for Women and Children, White Plains (N. Y.) Hospital, National Hospital for Speech Disorders (N. Y.), and Lawrence Hospital, Bronxville, N. Y.

MICHAEL LIVINGOOD MASON, M.D., Ph.D., F.A.C.S.

[Tuberculous Tenosynovitis.]

Associate Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital, Chicago.

HARVEY BURLESON MATTHEWS, M.D., F.A.C.S.

[Benign Lesions of the Cervix. Surgical Lesions of the Vagina.]

Professor Emeritus of Clinical Obstetrics and Gynecology, Long Island College of Medicine, Brooklyn; Attending Obstetrician and Gynecologist, Long Island College Hospital, Brooklyn; Member, American Board of Obstetrics and Gynecology; Hon. Consultant, Coney Island Hospital; Consultant, Obstetrics and Gynecology, Methodist, Beth El, Victory Memorial, Brooklyn; South Side, Bay Shore, N. Y.; Mather Hospital, Port Jefferson, N. Y.; Lake Placid General Hospital, Lake Placid, N. Y.; and Huntington Hospital, Huntington, N. Y.

HARRISON L. McLAUGHLIN, M.D., C.M., F.A.C.S.

[Fractures of the Radius and Ulna.]

Attending Orthopedic Surgeon, Presbyterian Hospital and Vanderbilt Clinic, New York; Professor of Clinical Orthopedic Surgery, Columbia University College of Physicians and Surgeons, New York; Consultant Surgeon, Northern Westchester Hospital, Mt. Kisco, N. Y.

RAYMOND WILLIAM McNEALY, M.D., F.A.C.S. [Fractures of the Metacarpals and Phalanges.]

Associate Professor of Surgery, Northwestern University Medical School; Chief Surgeon, Wesley Memorial Hospital; Attending Surgeon, Cook County Hospital, Chicago.

JOE VINCENT MEIGS, M.D., F.A.C.S.

[Congenital Malformations of the Vagina, Uterus, Ovaries and Tubes. Urethral Caruncle.] Clinical Professor of Gynecology, Harvard Medical School; Chief of the Vincent Memorial Hospital, the Gynecological Service of the Massachusetts General Hospital, Boston; Gynecologist, Palmer Memorial Hospital, Boston; Surgeon, Pondville Hospital, Wrentham, Mass. (Massachusetts Dept. of Public Health).

FRANK LAMONT MELENEY, M.D., F.A.C.S.
[Relationship of Bacteriology to Surgery. Tetanus.
Infectious Gangrene of the Skin and Subcutaneous Tissues. Chronic Undermining
Ulcer. Aseptic Surgical Technic.]

Associate Professor of Clinical Surgery, College of Physicians and Surgeons, Columbia University; Associate Visiting Surgeon, Presbyterian Hospital, New York City.

KARL A. MEYER, M.D., F.A.C.S.

[Syphilis of the Stomach.]

Professor of Surgery, Northwestern University Medical School; Senior Surgeon, Grant Hospital; Chairman Surgical Division, Cook County Hospital, Chicago.

HENRY WILLIAM MEYERDING, M.D., M.S. in Orthopedic Surgery, F.A.C.S., F.I.C.S.

[Diseases of and Injuries to Bursae.]

Professor of Orthopedic Surgery, Mayo Foundation, Graduate School, University of Minnesota; Orthopedic Surgeon, Mayo Clinic, Rochester, Minn.

EDWIN M. MILLER, M.D.

[Fractures of the Upper Arm.]

Clinical Professor of Surgery (Rush), University of Illinois; Attending Surgeon, Presbyterian Hospital; Consulting Surgeon, Cook County Hospital, Chicago.

*HIRAM E. MILLER, M.D.

[Coccidioidal Granuloma.]

Late Clinical Professor of Dermatology, University of California Medical School; Dermatologist to University, San Francisco, St. Luke's, Southern Pacific and Shriners' Hospital; Consultant in Dermatology, Children's and Mount Zion Hospitals, San Francisco.

*ALBERT HORR MONTGOMERY, M.D.

[Traumatic Separation of the Epiphyses.]

Late Clinical Professor of Surgery (Rush), College of Medicine, University of Illinois; Formerly Attending Surgeon and Head of Surgical Department, Children's Memorial Hospitals; Formerly Attending Surgeon, Cook County Hospital; Associate Attending Surgeon, Presbyterian Hospital, Chicago.

HAMILTON MONTGOMERY, M.D., M.S. (in Dermatology).

[Neoplasms of the Skin.]

Associate Professor of Dermatology and Syphilology, the Mayo Foundation, University of Minnesota; Consulting Physician in Section on Dermatology, the Mayo Clinic, Rochester, Minn.

JOHN JAMIESON MORTON, M.D., D.Sc. (Hon.) [Duodenal Ulcer.]

Professor of Surgery, University of Rochester School of Medicine and Dentistry; Surgeon-in-Chief, Strong Memorial and Rochester Municipal Hospitals, Rochester, N. Y.

*CLAY RAY MURRAY, M.D., F.A.C.S.

[Pathology and Repair of Fractures.]

Late Professor of Orthopedic Surgery, College of Physicians and Surgeons, Columbia University; Attending Surgeon and Director of the Fracture Service, Presbyterian Hospital, New York City; Consulting Surgeon, Hackensack (N. J.), Sharon (Sharon, Conn.) and St. Joseph's (Far Rockaway, N. Y.) Hospitals.

GORDON MURRAY, M.B. Toronto, F.R.C.S. England, F.R.C.S. Canada.

[Fractures of the Pelvis.]

Hunterian Professor, Royal College of Surgeons, England; Surgeon, Toronto General Hospital, Toronto.

REED M. NESBIT, M.D., F.A.C.S.

[Urologic Diagnosis.]

Professor of Surgery, University of Michigan Medical School; Chief of Section on Urology, University of Michigan Hospital, Ann Arbor.

J. PEERMAN NESSELROD, M.S., M.Sc. (Med.), M.D., F.A.C.S., F.A.P.S.

[Anatomy and Physiology. Anal Infection; Anal Fissure; Anal Abscess and Fistula. Anal Stricture; Anorectal Venereal Disease; Benign Rectal Stricture; Anorectal Tuberculosis; Prolapse.]

Associate in Surgery, Northwestern University Medical School; Associate Surgeon, Division of Proctology, Evanston (Ill.) Hospital; Member, American Board of Proctology.

FRANK R. OBER, M.D., F.A.C.S., D.Sc. (Hon.)
[Amyotonia Congenita, Cerebral Spastic Paralysis,
Sprengel's Deformity, Poliomyelitis.]

John B. and Buckminster Brown Clinical Professor of Orthopedic Surgery, Harvard Medical School, Emeritus; Orthopedic Surgeon-in-Chief Emeritus, Children's Hospital, Boston.

ALTON OCHSNER, M.D., F.A.C.S.

[The Liver.]

William Henderson Professor of Surgery and Chairman of Department, Tulane University School of Medicine; Director, Section on General Surgery, Ochsner Clinic; Surgeon, Foundation Hospital; Visiting Surgeon, Touro Infirmary; Senior Visiting Surgeon, Charity Hospital; Consultant in Thoracic Surgery, Eye, Ear, Nose, and Throat Hospital and Veterans

VINCENT J. O'CONOR, M.D., F.A.C.S.

[Infections of the Urinary Tract.]

Professor and Chairman of Department of Urology, Northwestern University Medical School; Chairman, Urology Dept., Wesley Memorial Hospital; Advisory Urologist, Chicago Memorial Hospital, Chicago.

ERIC OLDBERG, M.S., M.D., Ph.D., F.A.C.S. [Intractable Pain.]

Professor and Head of the Department of Neurology and Neurological Surgery, University of Illinois College of Medicine; Attending Neurosurgeon, Research and Educational Hospitals and St. Luke's Hospital, Chicago.

EDWARD A. OLIVER, M.D.

[Anthrax. Blastomycosis.]

Professor of Dermatology and Chairman of Department of Dermatology, Northwestern University Medical School; Senior Dermatologist, St. Luke's Hospital, Consulting Dermatologist to Passavant, Wesley, and U.S. Veterans' Hospitals, Chicago.

ASHLEY W. OUGHTERSON, M.S., M.D.

[Abscesses and Tumors of the Neck. Mediastinitis.] Clinical Professor of Surgery, Yale University School of Medicine; Attending Surgeon, Grace New Haven Community Hospital, University Service; Attending Surgeon, Hospital of St. Raphael, New Haven, Conn.

FRANKLIN L. PAYNE, M.D., F.A.C.S.

[Endometriosis.]

William Goodell Professor of Obstetrics and Gynecology, Medical School of the University of Pennsylvania, Philadelphia.

FELIX L. PEARL, M.D., F.A.C.S.

[Electric Shock.]

Associate Chief Visiting Surgeon and Chief of Department of Sympathetic and Vascular Surgery, Mt. Zion Hospital, San Francisco; Formerly Surgeon, San Francisco Emergency Hospital Service.

JOHN DEJ. PEMBERTON, M.D., M.S. (Surgery). [The Thyroid Gland.]

Professor of Surgery, Mayo Foundation Graduate School, University of Minnesota, Minneapolis; Surgeon, Mayo Clinic, Rochester, Minnesota.

SPENCER PHILLIPS, M.D.

[Stricture of the Bile Ducts.]

Fellow in Surgery, Mayo Foundation, Graduate School of the University of Minnesota, Rochester, Minn.

Hospital; Consulting Surgeon, Illinois Central Hospital, New Orleans.

^{*} Deceased.

LEWIS JOHN POLLOCK, M.D.

[Injuries of the Peripheral Nerves.]

Professor of Neurology and Chairman of Department of Nervous and Mental Diseases, Northwestern University Medical School; Attending Neurologist, Passavant Memorial, and Evanston (Ill.) Hospital; Consulting Neurologist, Chicago Memorial and Wesley Memorial Hospitals, Chicago.

ARTHUR W. PROETZ, M.D., F.A.C.S. [The Nose.]

Professor of Clinical Otolaryngology, Washington University School of Medicine and Oscar Johnson Institute; Associate Otolaryngologist, Barnes, St. Louis, Children's, St. Louis Maternity and McMillan Eye, Ear, Nose and Throat Hospitals; Laryngologist, St. Luke's and St. Louis Jewish Hospitals, St. Louis.

CARL WHEELER RAND, A.M., M.D., F.A.C.S. [Head Injuries.]

Clinical Professor of Surgery (Neurology), University of Southern California School of Medicine; Chief of Neurological Surgery, Los Angeles County General, Children's, and Santa Fe Hospitals, Los Angeles; Chief of Neurological Surgery, Hospital of the Good Samaritan, California Lutheran, Methodist, St. Vincent's, Queen of the Angels, Hollywood, and Cedars of Lebanon Hospitals, Los Angeles.

FRED W. RANKIN, A.M., M.D., Sc.D., F.A.C.S. [Carcinoma of the Colon. Carcinoma of the Rectum and Anal Canal.]

Clinical Professor of Surgery, University of Louisville; Attending Surgeon, St. Joseph's and Good Samaritan Hospitals, Lexington, Ky.

*NATHANIEL P. RATHBUN, M.D., F.A.C.S. [Injuries of Ureter and Bladder; Foreign Bodies

and Ulcers of the Bladder.]

Late Consulting Urologist, Brooklyn Hospital; Consulting Urologist, Lutheran, Norwegian, Harbor, and Beth-El Hospitals, Brooklyn, N. Y.

I. S. RAVDIN, M.D.

[Wound Healing.]

Director Harrison Department of Surgical Research and John Rhea Barton Professor of Surgery, University of Pennsylvania; Surgeonin-Chief, Hospital of the University of Pennsylvania, Philadelphia.

BRONSON S. RAY, M.D.

[Intracranial Abscesses.]

Professor of Clinical Surgery, Cornell Medical College; Attending Surgeon, New York Hospital, New York City.

* Deceased.

FREDERICK LEET REICHERT, M.D., Sc.D. (Hon.)

[Hydrocephalus.]

Professor of Surgery, Stanford University Medical School; Attending Surgeon, Lane and Stanford University Hospitals, San Francisco.

PAUL REZNIKOFF, M.D.

[The Spleen.]

Professor of Clinical Medicine, Cornell University Medical College; Visiting Physician, Bellevue Hospital; Attending Physician, New York Hospital; Chief of Medicine, Mount Vernon (N. Y.) Hospital; Consulting Physician, Hackensack (N. J.), New Rochelle (N. Y.), St. Johns Riverside, Yonkers (N. Y.), Hospitals; Consulting Hematologist, Tarrytown (N. Y.), United (Portchester, N. Y.), Engelwood (N. J.), Ossining (N. Y.), Holy Name, Teaneck (N. J.), and Halloran Veterans' Administration (N. Y.) Hospitals.

WILLIAM F. RIENHOFF, Jr., M.D.

[Wounds of the Thoracic Wall, Pleural Cavity, Lungs and Mediastinum.]

Associate Professor of Surgery, Johns Hopkins University, Baltimore.

JONATHAN EVANS RHOADS, M.D., D.Med.Sc. [Wounds.]

Associate Professor of Surgery, School of Medicine, University of Pennsylvania; Assistant Professor of Surgery, Graduate School of Medicine, University of Pennsylvania; Assistant Director, Harrison Department of Surgical Research, University of Pennsylvania; Chief of Division II, General Surgical Service, Hospital of the University of Pennsylvania; Senior Surgeon, Children's Hospital of Philadelphia.

LYMAN ŔICHARDS, M.D.

[The Throat.]

Associate Otolaryngologist, New England Baptist Hospital, New England Deaconess Hospital; Bronchoscopist, Massachusetts Eye and Ear Infirmary; Consulting Bronchoscopist, Union Hospital, Fall River; Consulting Otolaryngologist, Peter Bent Brigham Hospital; Research Associate in Otolaryngology, Children's Hospital, Boston; Assistant Surgeon and Fellow in Otolaryngology, Harvard Medical School, Boston.

WILLIAM ALEXANDER ROGERS, M.D., F.A.C.S. [Fractures of the Vertebral Column.]

Instructor in Orthopaedic Surgery, Harvard Medical School; Visiting Orthopaedic Surgeon, Massachusetts General Hospital, Boston; Editor, The Journal of Bone and Joint Surgery; Consulting Orthopaedic Surgeon, Palmer Memorial Hospital, Boston, and Winchester Hospital, Winchester, Mass.

LEROY ALLEN SCHALL, A.M., M.D., Sc.D.

[Tumors of the Nose, Nasal Sinuses and Naso-pharynx.]

LeCompte Professor of Otology and Professor of Laryngology at Harvard Medical School; Chief of Otology and Laryngology, Massachusetts Eye and Ear Infirmary, Boston, Mass.

HARRY R. SLACK, JR., M.D., F.A.C.S.

[Fractures of Hyoid Bone, Thyroid and Cricoid Cartilages, and Trachea.]

Assistant Professor, Laryngology and Otology, Johns Hopkins Hospital and Medical School, Baltimore.

MORRIS K. SMITH, M.D., F.A.C.S.

[Desmoids of the Abdominal Wall. Wounds and Contusions of the Abdominal Wall. Surgical Affections of the Umbilicus.]

Chief of Surgical Service, Halloran Veterans' Administration Hospital, Staten Island, N. Y.; Consulting Surgeon, St. Luke's Hospital, New York City; Associate Professor, Clinical Surgery, Cornell University Medical School, New York.

NEWTON D. SMITH, M.D.

[Anal Pruritus and Hemorrhoids.]

Associate Professor of Proctology, Mayo Foundation, Graduate School, University of Minnesota; Associate in Section on Proctology, the Mayo Clinic, Rochester, Minn.

M. N. SMITH-PETERSEN, M.D.

[Painful Affections of the Lower Back.]
Clinical Professor of Orthopedic Surgery, Har-

vard Medical School; Chief of Orthopedic Service, Massachusetts General Hospital, Boston.

J. S. SPEED, M.D.

[General Considerations of Dislocations, Dislocation of the Shoulder.]

Professor of Orthopedic Surgery, University of Tennessee; Chief of Staff, Willis C. Campbell Clinic, Hospital for Crippled Adults, and Crippled Children's Hospital School; Consultant in Orthopedic Surgery, Baptist Memorial, St. Joseph, and U. S. Marine Hospital #12; Attending Orthopedic Surgeon, Methodist Hospital.

KELLOGG SPEED, M.D., F.A.C.S.

[Fractures of the Carpal Bones.]

Clinical Professor of Surgery (Rush), University of Illinois; Attending Surgeon, Presbyterian Hospital, Chicago, and Highland Park Hospital, Highland Park, Ill.

RANDALL G. SPRAGUE, M.S., Ph.D. (in Medicine), M.D., F.A.C.P.

[Management of the Surgical Diabetic Patient.]
Consulting Physician, Division of Medicine,
Mayo Clinic; Assistant Professor of Medicine,
Mayo Foundation, Rochester, Minnesota.

JAMES KEANE STACK, M.D., F.A.C.S.

[The Operative Treatment of Fractures.]

Assistant Professor of Bone and Joint Surgery, Northwestern University Medical School; Attending Orthopaedic Surgeon, Passavant Memorial and Cook County Hospitals, Chicago.

ARTHUR STEINDLER, M.D., F.A.C.S.

[Static Deformities of the Spine.]

Professor and Head of Department of Orthopedic Surgery, State University of Iowa; Head of Department of Orthopedic Surgery and Chief of Orthopedic Service, University Hospitals, Iowa City, Iowa.

BYRON STOOKEY, A.M., M.D., F.A.C.S.

[Tumors of the Spinal Cord.]

Professor of Neurological Surgery, College of Physicians and Surgeons, Columbia University; Attending Neurological Surgeon, Neurological Institute; Consulting Neurological Surgeon, Memorial Hospital for Treatment of Cancer and Allied Diseases (N. Y.), Middlesex Hospital, New Brunswick (N. J.), Nassau Hospital, Mineola, New Rochelle Hospital, New Rochelle, St. Luke's Hospital, Sharon Hospital (Conn.), St. Francis Hospital, Poughkeepsie, Norwalk General Hospital (Conn.).

ARTHUR PURDY STOUT, M.D.

[Vascular Tissue Tumors. Tumors of Tendons and Tendon Sheaths. Disorders of the Breast.] Professor of Surgery, Columbia University; Attending Surgical Pathologist, Presbyterian Hospital, New York.

DAVID C. STRAUS, M.D., F.A.C.S.

[Tularemia.]

Formerly Assistant Clinical Professor of Surgery, Rush Medical College, of the University of Chicago, and later Assistant Professor of Surgery (Rush), College of Medicine, University of Illinois; Senior Attending Surgeon, Michael Reese Hospital, Chicago; Chief of Surgical Staff, The Clinic Hospital, Michigan City, Indiana.

RICHARD H. SWEET, M.D.

[The Esophagus.]

Associate Clinical Professor of Surgery, Harvard Medical School; Visiting Surgeon, Massachusetts General Hospital, Boston.

EDWARD D. TRUESDELL, M.D.

[Birth Dislocations of the Cartilaginous Epiphyses.]

Consultant in Surgery to St. Luke's, the Lincoln, and the Huntington (L. I.) Hospitals, New York.

DERRICK VAIL, M.D., F.A.C.S.

[Injuries and Surgical Infections of the Eyes and Adnexa.]

Professor and Director, Department of Ophthalmology, Northwestern University Medical School; Chief Attending Ophthalmologist, Cook County Hospital; Attending Ophthalmologist, Passavant Memorial Hospital; Consultant Ophthalmologist, Wesley Memorial Hospital, Chicago.

FREDERICK H. VANBERGEN, M.D.

[Spinal Analgesia.]

Clinical Instructor in Anesthesia, at University of Minnesota Medical School; Attending Anesthesiologist, University of Minnesota Hospitals, Minneapolis General Hospital and Ancker Hospital, St. Paul.

*EARL E. VANDERWERKER, M.S., M.D., F.A.C.S. [Congenital Abnormalities—Part II.]

Late Assistant Professor of Orthopedic Surgery, Columbia University; Attending Orthopedic Surgeon, Ruptured and Crippled Hospital, New York City; Consulting Orthopedic Surgeon, St. Luke's (Newburgh, N. Y.), St. Agnes (White Plains, N. Y.), Lawrence (Bronxville, N. Y.) and Eastern New York State Orthopedic (Schenectady) Hospitals; Diplomate, American Board of Orthopedic Surgery.

RICHARD L. VARCO, M.D., Ph.D.

[Preoperative Care. Operative Care. Postoperative Care.]

Associate Professor of Surgery, University of Minnesota Hospitals, Minneapolis.

PORTER P. VINSON, M.A., M.D., F.A.C.P., D.Sc. [Cardiospasm (Achalasia).]

Professor of Bronchoscopy, Esophagoscopy and Gastroscopy, Medical College of Virginia, Richmond, Va.

GEORGE WAGONER, M.D.

[Atrophic Arthritis and Hypertrophic Arthritis.]
Orthopedic Surgeon, Bryn Mawr (Pa.) Hospital, and Graduate Hospital, University of Pennsylvania; Consulting Orthopedist, Women's Hospital, Philadelphia, Valley Forge General Hospital, U.S.A., Professor of Orthopedic Surgery and Director of Research, Graduate School of Medicine; Associate in Pathology, School of Medicine, University of Pennsylvania, Philadelphia.

WALTMAN WALTERS, M.D., M.S. in Surgery, D.Sc. (Hon.), LL.D., F.A.C.S.

[Stricture of the Bile Ducts.]

Professor of Surgery, Graduate School, University of Minnesota (the Mayo Foundation); Surgeon of the Mayo Clinic, Rochester, Minn.

* Deceased.

OWEN HARDING WANGENSTEEN, M.D., PH.D.

[Actinomycosis. Intestinal Obstruction.]

Professor and Head of Department of Surgery, University of Minnesota; Surgeon-in-Chief, University Hospital, Minneapolis.

JOHN M. WAUGH, M.D., M.S. (Surgery), F.A.C.S. [Tumors of the Stomach.]

Head of a Section on General Surgery, Mayo Clinic; Associate Professor of Surgery, Mayo Foundation, University of Minnesota, Rochester, Minnesota.

ROSCOE C. WEBB, M.D., F.A.C.S.

[Fractures of the Tibia and Fibula Shafts and Upper Ends.]

Clinical Associate Professor of Surgery, University of Minnesota Medical School; Surgeon, Abbott, Asbury and Northwestern Hospitals; Consulting Surgeon, Maternity Hospital, Minneapolis; Chief Surgeon, Great Northern Railway Company.

JEROME P. WEBSTER, M.D.

[General Principles of Plastic Surgery.]

Professor of Clinical Surgery, College of Physicians and Surgeons, Columbia University; Attending Surgeon, Presbyterian Hospital; Consultant in Plastic Surgery, New York Orthopedic Dispensary and Hospital, New York City.

CARNES WEEKS, M.D., F.A.C.S.

[Aseptic Surgical Technic.]

Assistant Professor in Surgery, College of Physicians and Surgeons, Columbia University; Assistant Surgeon, Bellevue and Post-Graduate Hospitals, New York City.

CLAUDE E. WELCH, M.A., M.D.

[Gastric Ulcer.]

Clinical Associate in Surgery, Harvard Medical School; Associate Visiting Surgeon, Massachusetts General Hospital, Boston.

C. STUART WELCH, M.S., M.D., Ph.D.

[Cysts of the Skin and Mucous Membrane.]
Professor of Surgery and Head of Department,
Tufts College Medical School; Surgeon-in-Chief,
New England Center Hospital, Boston.

LAWRENCE RICHARDSON WHARTON, M.D. [Pelvic Infections in Women.]

Assistant Professor in Gynecology, Johns Hopkins Medical School; Assistant Attending Gynecologist, Johns Hopkins Hospital; Consulting Gynecologist, Union Memorial Hospital, Hospital for the Women of Maryland, and Church Home and Infirmary; Associate in Gynecology, Sinai Hospital, Baltimore.

ALLEN O. WHIPPLE, M.D., Sc.D., F.A.C.S.

[Non-Ulcerative Lesions of the Duodenum.]
Clinical Director, Memorial Hospital; Emeritus
Valentine Mott Professor of Surgery, College of

Physicians and Surgeons, Columbia University, New York City.

JAMES C. WHITE, M.D., F.A.C.S.

[The Autonomic Nervous System.]

Associate Professor of Surgery, Harvard Medical School; Chief of Neurosurgical Service, Massachusetts General Hospital, Boston.

PHILIP D. WILSON, M.D., F.A.C.S.

[Fractures of the Bones of the Foot.]

Clinical Professor of Orthopedic Surgery, College of Physicians and Surgeons, Columbia University; Surgeon-in-Chief, Hospital for Ruptured and Crippled, New York City.

NATHAN ANTHONY WOMACK, M.D.

[The Islands of Langerhans.]

Professor of Surgery and Head of the Depart-

ment of Surgery, State University of Iowa, Iowa City.

HAROLD A. ZINTEL, M.D., D.Sc. (Med.), F.A.C.S. [Wound Healing.]

Assistant Professor of Surgery, Schools of Medicine, University of Pennsylvania; Assistant Surgeon, Hospital of the University of Pennsylvania, Philadelphia.

ROBERT ZOLLINGER, M.D.

[Foreign Bodies, Gastritis, Gastric Hemorrhage, and Wounds of the Stomach.]

Professor and Chairman of the Department of Surgery of the Ohio State University College of Medicine and Chief of the Surgical Service of the University Hospitals of the Ohio State University, Columbus, Ohio.