of lesions induced in the kidneys of rabbits by large doses of cortisone or related steroids, when, for example, it is said that the lesions "resemble those of human diabetic glomerulosclerosis,"[14] whereas the lesions induced by these steroids are clearly of the nonspecific exudative type[15] and have not been shown to have any definite relation to diabetes. Indeed, superficial resemblances between the cortisone-induced and the human diabetic lesion seem to have been largely responsible for speculations, now increasingly doubted,[16] concerning a possible role of the adrenal cortex in the pathogenesis of renal disease in diabetes. It is, of course, conceivable that the exudative lesion in man may in fact be associated with adrenal cortical activity and yet have no direct relation to diabetes.

There are thus three glomerular lesions which may be found in the diabetic kidney (to say nothing of the commonly present arteriolar sclerosis and pyelonephritis) which need to be clearly differentiated both histologically and semantically if confusion is not to arise.

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Eugene L. Opie

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In 1901 Eugene L. Opie, then twenty-eight years of age, first reported the pathological lesions of the islands of Langerhans in diabetic man. His published papers were titled "The Relations of Chronic Interstitial Pancreatitis to the Islands of Langerhans and to Diabetes Mellitus"[1] and "The Relation of Diabetes Mellitus to Lesions of the Pancreas: Hyaline Degeneration of the Islands of Langerhans."[2] These have become accepted as classics in the scientific literature of diabetes and are associated in the minds of investigators in this field as the sequels to the paper of von Mehring and Minkowski[3] in 1890 on the relationship between the pancreas and diabetes and as the precursors of Banting and Best's famed paper announcing the discovery of insulin in 1922.[4]

Eugene Opie's interest in the islands of Langerhans was stimulated by his curiosity during his student days at Johns Hopkins. In Opie's own account written in an article titled "The Peripatetic Education of a Pathologist"[5] he states, "During the laboratory course in pathology I found in a class section of the pancreas a strange body which I showed to Dr. Welch when he made his unhurried round of the class. He told me it was an island of Langerhans described in an inaugural dissertation.

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" 'Find out all you can about these islands of Langerhans,' he said.

"Langerhans' dissertation was accessible in the Surgeon General's Library. Several years later I published studies of the relation of these islands of the pancreas to diabetes mellitus which pointed the way to the endocrine control of the disease."

Opie's first publication on the islands of Langerhans was in 1900. This was titled "On the Histology of the Islands of Langerhans of the Pancreas."[6] Another paper titled "The Pathological Changes Affecting the Islands of Langerhans of the Pancreas"[7] was published in the same year. In his article in the *Archives of Pathology* on "An Inquiry into Certain Aspects of Eugene L. Opie,"[8] Peyton Rous said, "It is plain from Opie's early papers that he started to discover by asking himself urgently what each and every thing meant that came under his eye. When examining postmortem material he was no recorder of final states; the changes met in the dead had for him the livest of implications. He was an inquirer into riddles, who sought after the meaning of diseased organs much as one might seek for the answers to charades. It was with this approach to the unknown that he observed in postmortem sections from the pancreas of a diabetic person the nearly complete destruction by hyaline change of the islands of Langerhans. The hint was enough. He had proved to himself while yet a medical student that the islands of Langerhans were not modified or undeveloped acinous cells, as was currently thought, and had discriminated between the interlobular and interacinous types of chronic interstitial pancreatitis. Now he went on to demonstrate by the perceptive collection of instances that severe injury to Langerhans' islands is followed by diabetes." These papers of Opie's relating diabetes mellitus to chronic interstitial pancreatitis and to hyaline degeneration of the islands of Langerhans[1,2] were published in 1901.

In another autopsy case Opie found hemorrhagic pancreatitis and fat necrosis associated with a stone blocking the ampulla of Vater. This suggested to Opie that the causative agent of the pancreatic damage was the bile diverted into the pancreatic duct by the impacted stone. Experimental proof of this theory was soon forthcoming and Opie published this evidence in 1901 in a paper titled "The Relation of Cholelithiasis to Disease of the Pancreas and to Fat Necrosis."[9]

In the years between 1901 and 1904 Opie carried on extensive research into diseases of the pancreas. His work during these years gained him a recognition as a world-wide authority. His publications during these three years were titled "Etiology of Acute Hemorrhagic Pancreatitis,"[10] "The Causes and Varieties of Chronic Interstitial Pancreatitis,"[11] "Disease of the Pancreas: Its Cause and Nature,"[12] "Disease of the Pancreas: The Symptoms and Treatment of Disease of the Pancreas,"[13] "The Anatomy and Histology of the Pancreas,"[14] "The Anatomy of the Pancreas"[15] and "Lesions Peculiar to the Pancreas and Their Clinical Aspect."[16]

Eugene Lindsay Opie was born in Staunton, Virginia, in 1873. Five years after graduation from medical school he married Gertrude Simpson, the daughter of Dr. Thomas Simpson of Montreal. Four children were born of this marriage. Gertrude Opie died in 1909 and in 1916 Opie married her sister, Margaret. Dr. and Mrs. Opie live in Manhattan.

Dr. Opie's forebears came from Cornwall, England. They left there in 1660 to settle in Virginia at the junction of the Potomac and Yeocomico rivers. Eugene Opie's father was Dr. Thomas Opie of Staunton, Virginia. His mother was Sally Harmon also of Staunton. Dr. Thomas Opie was a graduate of the Medical School of the University of Pennsylvania in the class of 1861. It may be of some interest to note and perhaps indicative of Thomas Opie's open-mindedness and curiosity that after his graduation, on his way south to enlist in Stonewall Jackson's army as a surgeon, he stopped over in Washington to attend Lincoln's inaugural ball. After the war Thomas Opie moved to Baltimore and entered practice. He became one of the founders and later Dean and Professor of Obstetrics and Gynecology of the College of Physicians and Surgeons in Baltimore.

Eugene L. Opie received the degree, Bachelor of Arts, at Johns Hopkins in 1893 and started medical school at the College of Physicians and Surgeons in Baltimore where his father was Dean. He transferred in his second year to Johns Hopkins Medical School and was graduated in 1897 with the first class of that school. Next to Opie's father, no one had more influence on the development of his scientific career than did one of his teachers at Johns Hopkins, William H. Welch. After graduation Dr. Opie became an Associate in Pathology in Dr. Welch's laboratory and remained there until 1904 when he left, at the invitation of Simon Flexner, the Director of the Rockefeller Institute, to become one of the original staff members along with Samuel J. Meltzer, Hideyo Noguchi, J. E. Sweet and P. A. Levene.

In 1910 Opie became Professor of Pathology at Washington University School of Medicine, St. Louis, and served as Dean of that school from 1912 to 1915 during its period of reorganization. On the occasion of the dedication ceremony of the Washington University Medical School Opie said, "The school cannot afford to

neglect any means by which the benefits of medical knowledge of today may be transmitted through its students and its teachers to popular use. Its first purpose will be to make available to them the knowledge of today and it must make sure that they obtain a preparation which will fit them to acquire new knowledge of the future. The ultimate success of the school will depend upon the relatively small number of unusually able men who will become fitted either as practitioners or as teachers to take the highest places in medicine. The habit of keeping pace with the development of knowledge may be acquired by attempting to add to knowledge. The teacher who has contributed to a science has an immense advantage when he attempts to inspire others with a love of truth. Investigation is founded upon the capacity to express reality and is opposed to pretense, egotism and contention. All who have the success of this institution at heart will continue to foster a spirit of loyalty to the purposes which they support. Remedial and preventive medicine represent only one phase of exact knowledge, but the establishment of an institution devoted to the pursuit and dissemination of truths intimately related to individual and social welfare cannot fail to become a significant contribution to the intellectual life of a community in which it is established." G. Canby Robinson in his recent book "Adventures in Medical Education"[17] said of Opie, "He took a leading part in establishing high standards of teaching and in cultivating true university spirit of scholarship in medicine."

During the First World War Opie served with the United States Army Medical Corps in France. Later he served on commissions to study trench fever, pneumonia and influenza.

Opie left St. Louis in 1923 to accept an appointment as Professor of Experimental Pathology at the University of Pennsylvania and Director of the Laboratories at the Henry Phipps Institute for the study, treatment and prevention of tuberculosis. Later he also was appointed Professor of Pathology and Director of the Department of Pathology of the medical school.

In 1932 he became Professor of Pathology at the reorganized Cornell University School of Medicine and Pathologist to the New York Hospital. In 1939 he was appointed visiting Professor of Pathology in the Peiping Union Medical College during the period of the Japanese occupation. Mrs. Opie accompanied Dr. Opie on this trip to China. In 1941 Opie became Professor Emeritus at Cornell. He then returned as a specially invited guest to the Rockefeller Institute to pursue his research interests.

During the second World War, Opie returned to Cornell to help with the teaching. He also acted as part-time visiting Director of the Henry Phipps Institute of the University of Pennsylvania. At the conclusion of these responsibilities Opie returned to the Rockefeller Institute where he is presently busy pursuing his research interests as an Affiliate of the Institute.

During his period of research activities at the Rockefeller Institute, 1904 to 1910, Opie began to study leukocytic enzymes. He identified leukoprotase and carried out studies on anti-enzymes. This led him to study the enzymes of the epitheloid cell and to look into the inflammatory processes involved in tuberculosis. While at the Rockefeller Institute Opie served as co-editor of the *Journal of Experimental Medicine* and became editor of the *Proceedings of the Society for Experimental Medicine and Biology*. He was a founding member of the Harvey Society.

From 1910 to 1923 while at Washington University, St. Louis, Opie interested himself in studying the influence of diet in warding off liver necrosis produced by toxic substances. He then became interested in the problem of tuberculosis and studied the changes in the incidence and character of tuberculosis produced by preceding infection. He also studied the pathological changes seen in children with tuberculosis as compared to the changes seen in adult patients.

From 1923 to 1932, while at the Henry Phipps Institute of the University of Pennsylvania, Opie's researches and activities are well described by Esmond R. Long[18] who succeeded Opie as Director of the Phipps Institute. "I believe there will be universal agreement at the Phipps Institute that Opie combined the scientific disciplines of epidemiology, pathology, clinical medicine and public health in a manner that had never been accomplished before. Under his wise guidance a development of dispensary practice was brought about which at the same time improved the effectiveness of medical service to the public and added a rich source of material for study. The studies of Opie and his colleagues on family contagion in tuberculosis led to an exact understanding of the manner of spread of tuberculosis in children and adults, and to a wide adoption of the method of family study and case finding on a contact basis in tuberculosis clinics throughout the country. Opie's influence has been profound in this respect in public health practice."

From 1932 to 1941, while Professor of Pathology at Cornell Medical College, Opie continued to study tuberculosis and its spread in families. While at Peking he made an investigation of tuberculosis of the Chinese.

In 1941 as a specially invited guest of the Rockefeller Institute, Opie began to study the influence of diet on the occurrence of tumors of the liver produced in white rats by butter yellow. He also studied the pathogenesis of tumors of the liver and the role of ribonucleic acid in pancancerous lesions of the liver. In 1947 he studied and reported on the normal structure and degenerative changes of the cytoplasm of tumor cells.

Opie has interested himself more recently in the osmotic relationships between cells and intercellular fluid and has shown that the parenchymatous cells of liver or kidney or muscle fibers maintain by their metabolism an osmotic pressure approximately twice that of serum. He has demonstrated that with disturbed protein metabolism pathological changes occur in hepatic cells such as necrosis, hydrosis and lipidosis. These results have been reported each year from 1941 through 1957 in the *Journal of Experimental Medicine.*

Dr. Opie's academic honors include a Doctor of Science from Yale University in 1931, a Doctor of Laws from Washington University in 1940 and a Doctor of Laws from Johns Hopkins in 1947. Among the recognitions Dr. Opie has received for his scientific work is the Banting medal which was awarded to him by the American Diabetes Association in Toronto in 1946.

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BOOK REVIEWS

FOOD, NUTRITION AND DIET THERAPY. *By Marie V. Krause, B.S., M.S. Second edition, $6.00, pp. 621, 144 illus., W. B. Saunders Company, Philadelphia, 1952.*

This book is written primarily for the student nurse, with emphasis on the relation of diet to total nursing care. It is also aimed toward workers in the socio-economic field.

Part I concerns subjects of a basic nature. There are sections dealing with the metabolism of foods, general nutritional requirements, and a particularly interesting section discussing food habits of different races. There are valuable sections on nutrition and public health, especially dealing with problems of food handling and intoxication.

Part II deals with diet therapy. The normal hospital diet is described and emphasis placed on the proper approach to make meals attractive to the patient. There are sections dealing with systemic disease and surgical conditions. Brief descriptions are given of the physiology and medical treatment of the disorders concerned. However, the material is somewhat outdated in several instances. For example, in adrenal failure, therapy with DOCA is discussed, but no comments are given about steroid preparations. Diabetes mellitus is taken up in Chapter 24. Benedict's qualitative test for urinary sugar is given instead of the Clinitest method. The dietary system advocated for diabetics is almost wholly that published by the American Diabetes Association and the DIABETES GUIDE BOOK FOR THE PHYSICIAN of 1950. The exchange lists are presented, and there is a discussion of meal planning for correlation with insulin administration. However, the insulins discussed are regular and Protamine, or combinations thereof, and no mention is made of meal planning with the intermediate-acting insulins. Part III gives the dietary management of pregnancy, lactation and childhood.

The monograph is amply fortified with photographs and tables. There is a large section containing recipes and food tables. The book is, in general, very complete and is written for the person who is not a dietitian. A good bibliography is listed at the end of each section for further reading. There are also exercises given to stimulate study by the nurse or other student of dietetics.