Burrill B. Crohn
(1884 – 1983)
Life and Work

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Cover:
Burrill B. Crohn, 1945

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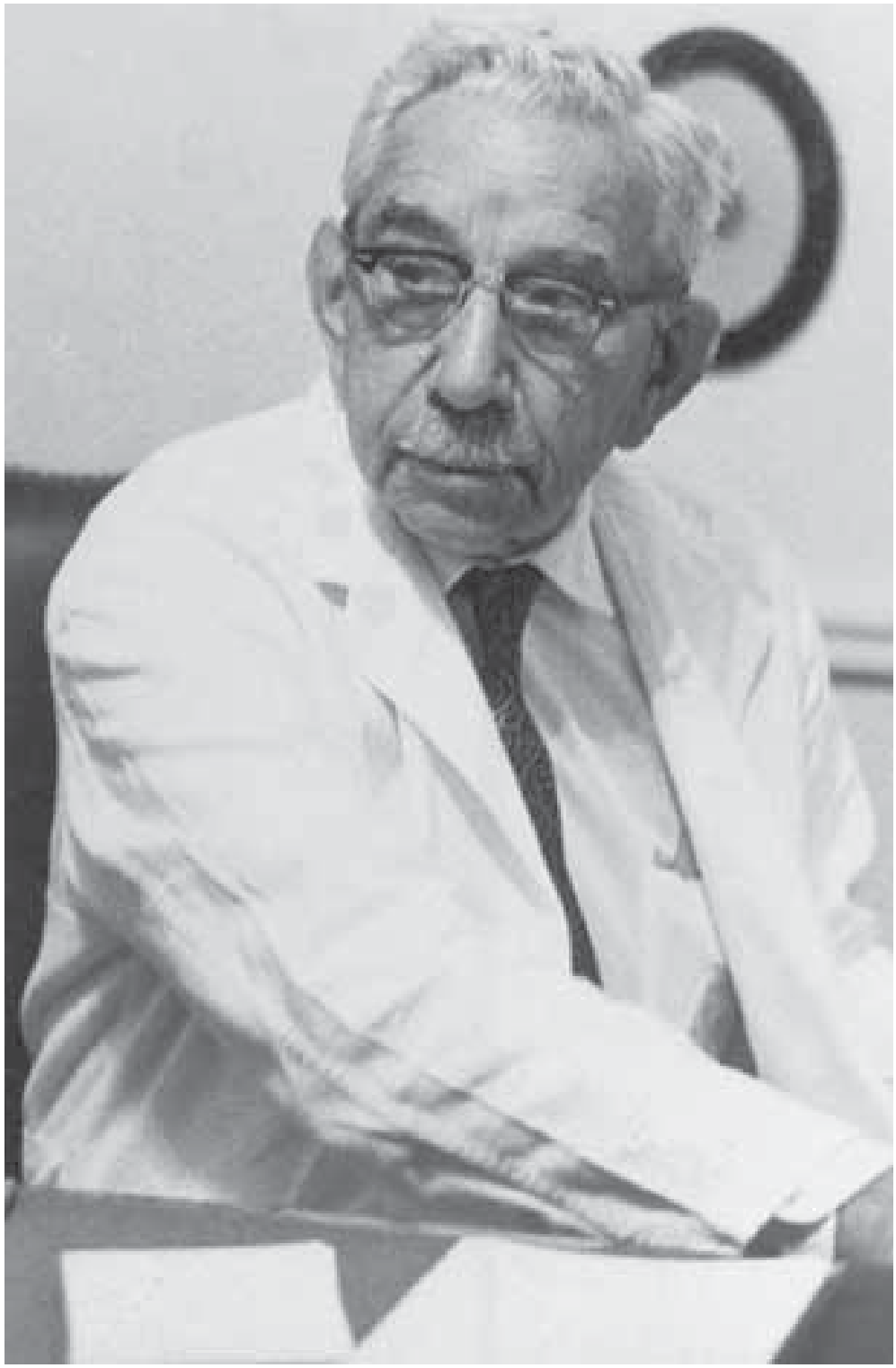

Burill B. Crohn, 1955

Biography

Family Background

Burrill B. Crohn was born in New York City on June 13, 1884. His paternal grandparents had emigrated from Europe (the grandfather from Germany "a religious, fully bearded, orthodox Jew" in Burrill's own words; the grandmother from Poland) as '49ers as part of the Gold Craze of California after the repression in Europe of the revolution of 1848. But they returned promptly to New York after the brief Gold Craze was over.

His mother (Leah) continued to live in New York, saw the cortege of Lincoln's funeral pass through the city, and lived through the draft and riots in New York City during the Civil War. Burrill's father (Theodore) had emigrated independently as a small boy during the Civil War. With the discovery of oil in Pennsylvania he moved to Oil City remaining there till the dissipation of the huge excitement of the discovery, when he moved to Central City, Colorado, attracted there by the discovery of lead and silver. Ruined by a devastating fire his mercantile business there was finished and he again moved from Colorado to Rockdale, a small town in Texas with a large cotton industry. He established himself as a merchant, and periodically came North to obtain credit. It was on one such trip he met Burrill's mother-to-be, courted and married her and took her South. But she was a New Yorker, had lived all her life there, missed its cultural life and could not tolerate the transplantation to Texas. She made it clear that her husband would have to give up his business and come back to her New York. "He was amenable" was Burrill's later comment.

Interviewed later in life, Burrill B. Crohn fondly remembered his mother Leah and her beautiful singing voice. She sang in Temple Emanuel on Saturdays, and at St. Bartholomew's Church on Sunday and had sung in the chorus in the first Oratorio Society that came to America under Walter Damrosh.

As for his father, he sold his business in Texas and became a member of the New York and Petroleum Exchange: for the rest of his life; his eleven children were brought up on "eights and quarters," in terms of that trading world and were educated in the public school system of New York. They had all the necessities and lived well, but lacked luxuries.

All those who met Burrill B. Crohn as an adult were amazed at his earlier upbringing by his father: Crohn wrote about his father: "Imagine a little German boy becomes an American citizen, a Southerner, who'd lost all signs of religion, marries my mother and becomes obsessed with her cultural religious background. Like all late converts he became the most zealous Orthodox that I ever met in my life."

Burrill B. Crohn and his mother - on graduation from City College, NYC, 1902.

"Saturdays we weren't allowed to move. Speak about the Puritans or the Pilgrims! On Saturday morning you weren't allowed to walk outside the limits of our building; one spent his entire morning, afternoon, and evening in the synagogue and could eat only a restricted diet."

"With maturing years I hoped to escape from this orthodoxy. As an intern at Mount Sinai Hospital, I ate for the first time outside my home and was allowed to ride on a trolley on Saturday when the occasion demanded. This was the first time I could break away from the tradition of which I had been a part."

Early Education

Apparently in 1897, there was only one high school on the west side of New York City. The public school system of the city conducted competitive examinations for entrance into City College and admitted the two hundred young men with the highest grades. The ambitious and self-directed Burrill was among them. As he told the story: "My father told the only lie of his life when he deliberately misstated my age. The minimum age for entrance into the City College was 14; I was only 13. At the age of 18, I had a degree of Bachelor of Arts."

Following his college education, Crohn decided to study medicine at Columbia University's Medical School, The College of Physicians and Surgeons (P&S), where he received his M.D. degree in 1907, at age 23. When he was asked what factors led to his choosing medicine as his profession, he wasn't exactly certain. It was not a tradition of his family, but as he pointed out in his *Notes on the Evolution of a Medical Specialist (1907-1965)* "American medicine was a field in which a bright boy could hold his own and possibly attain eminence" that was impossible in the Europe that his forebears had so recently left. In much of earlier Europe during the 19th century all professions – almost all vocations with the exception of money lenders and peddlers – had been proscribed for Jews. But before this the first year at City College had stirred his interest in science. And at P&S, he was in love with the laboratory, and served as a volunteer in the Biological Laboratories of Professor William T. Geis. It was there with a classmate Fred S. Weingarten they undertook to study "The Effects of Intraperitoneal Hemorrhage on the Chemistry of the Body." From this piece of research, rather useless in general, they learned a lot of lab techniques. Let Crohn tell us the end of this story: "For an M.A. degree, Fred and I published this thesis which was accepted for publication. Columbia University offered us both an M.A. and a Ph.D. and a Sigma Xi. But I didn't have and I didn't want to ask my father for the $35 for the parchment of the Ph.D., so the degrees were declined without too much concern."

The Intern

The natural next goal of an internship for an individual with Burrill's background at that time was undoubtedly at the Mt. Sinai Hospital in New York City, which he achieved for a three-and-a-half-year term, after a combination written and oral examination, for one of eight positions among the 120 applicants. His first meeting with the hospital had been in his senior year at P&S as a summer substitute for staff members who were about to go on vacation. He had looked at the hospital, on East 67th Street and Lexington Avenue, with ambitious interest as he walked up Lexington Avenue while at City Col-

lege. The usual internship was for a $2^1/_2$-year tour of duty, a mixed medical and surgical one, but Burrill stood out in another competitive oral examination this time for a year of pathology. Dr. Emanuel Libman chose Burrill and he began his internship with the year with Libman, which was "the most exciting and most interesting year of my life in the laboratories, preparing for medicine, doing all the surgical pathology, doing the autopsies with Dr. Libman, all the bacteriology for the whole hospital . . . no assistants . . . no secretaries." Crohn felt "it was the pathology internship that set me on the path of combined scientific laboratory and clinical medicine. That had given me the beautiful balance which has served me throughout my professional career."

For Burrill B. Crohn the combined internship placed him in a most exciting medical world. Although the medical staff had very few full time positions, all senior clinicians (medical and surgical) were talented volunteers, earning their livelihood in private practice, but all were expected to do research and publish their clinical investigations. In this world were Koplik with his spots for measles, and Nathan Brill's rediscovery of recurrent endemic typhus in a group of Russian patients from a small area in the Bronx

Burrill B. Crohn, 1912.

(we interns as late as 1940 were making this diagnosis on the slender epidemiological basis of home address). Richard Lewisohn introduced use of citrated blood transfusion here, and a few years later Eli Moschcowitz was to discover hemolytic thrombocytopenic purpura, and publish with A. O. Wilensky their paper on nonspecific granulomata of the intestine.

While it was customary for these serious physicians after their internships to go to Europe to supplement their training in medicine or surgery in Germany and/or Vienna, Crohn declined to do the year abroad feeling he had not yet narrowed his interest down to a specific specialty. Thus he set out as a general medical practitioner.

The General Practitioner

Burrill B. Crohn soon developed a marvelous practice which increased very rapidly so he could get married to Lucille Pels in 1912, attracted by her beauty and her ability to play Beethoven's Appassionata Sonata. They had two children, Ruth (b. 1913) and Edward (b. 1917).

The marriage was not a happy one, which he partially blamed on his constant preoccupation with medicine, paying house calls after dinner almost every evening, devoting holidays in the laboratory, and spending every active moment for two years writing "*Affections of the Stomach",* published in 1928. He had no time to join the family for vacation. So the marriage was dissolved by divorce in Paris.

When asked for the reason for his success as general practitioner, his explanation included the fact that he had a good training in general medicine, never spared himself, making house calls almost every evening, with apologies to his wife, because he had continued spending his afternoons in the Laboratory of Biological Chemistry, then under the direction of Dr. Sam Bookman.

I was not acquainted with Crohn when he was a general practitioner, so I will quote from Doris Grumbach's memoir *Extra Innings*: "An old friend, Woodie Crohn, comes by from Buffalo. We talk about his famous father, for whom Crohn's disease is named. I hear, for the first time, that Burrill B. Crohn was one of eleven children of an impoverished immigrant family. Then I remember Burrill telling me years ago that he had no carfare to get to City College of New York, so he would walk the hundred blocks early in the day and home again after dark. He became one of New York City's most eminent internists, practicing still when he was in his nineties".

"Burrill and I became friends when I was a college freshman. In the days of house calls, he came to treat me for infectious hepatitis. I stayed in bed for months, feeling so sick that dying seemed an attractive alternative. Dr. Crohn's visits were the only virtue of that awful winter. After he examined me, he would stay to talk about books he had read recently, and often,

Burrill B. Crohn's children: Edward Crohn and Ruth Dickler.

when I showed some valetudinarian interest, would bring them on his next visit for me to read. I remember that in this way I became acquainted with George Santayana's only novel, *The Last Puritan. The Letters of William James,* and the novels of his brother [Henry]."

"I often find it hard to believe in the death of someone at whose demise I was not present. The past, for me, is increasingly present. So Burrill is still over there on Park Avenue, packing his black bag full of syringes, brown urine-specimen bottles, and maybe a novel by Edith Wharton, whom he admired, on his way to our apartment on West End Avenue to medicate me, tell me a funny story, and ask what I thought about "*The Wings of the Dove.*"

I would add, aside from my experience of his role as gastroenterologist, which I discuss later on, that his professional attitude was always optimistic in outlook for his patients. He conveyed his personal interest to each patient from the very beginning of the office visit. Whatever his private reservations regarding formal psychotherapy, he was a very intuitive therapist. He knew when to scold the patient, and when to hug or kiss him or her. He knew how important it was to touch the patient, which we have learned again. Dr. Crohn's pamphlet is filled with interesting cases which I would now call a series of one, N = 1.

The Evolution of a Medical Specialist

Gastroenterologists of course existed long before Gastroenterology became a recognized defined specialty of internal medicine. Whatever its standing in Europe, in the United States gastroenterology was held in low esteem. Indeed, until World War II, the leading medical school in New York had no formal divisions or department of gastroenterology! At Mt. Sinai Hospital, the organized care of gastrointestinal disorders was in the hands of the surgeons; the Wimpfheimer Ward for the Surgical Treatment of Disease of the Stomach and Intestines (1917) existed. But an outpatient GI clinic as early as 1913, headed by an internist was where Burrill served for two years. He always felt that the needs of the public made him a specialist in gastrointestinal diseases.

Burrill B. Crohn, 1920.

However, it was his continuing interest in the scientific basis of the gastrointestinal tract that really led to his focus on that area, and its association with the formal organization of the American Gastroenterological Association (AGA). As far as the public was concerned Crohn always felt that the American Board of Internal Medicine's recognition of the subspecialty of gastroenterology was much more important than the early influence of the AGA.

Because of the problems arising from the standard operation of the day for duodenal ulcer, the gastroenterostomy, Crohn and A. O. Wilensky studied ulcer patients with this operation, using kymography, fractional test meals and gastric acidity with a limited use of x-rays. They were discontented with the results which showed that the operation of the gastroenterostomy did not improve motility unless there was pyloric obstruction; it did not lower the acidity of the stomach; and it did not relieve the symptoms. He was engaged in the very heretical endeavor to discountenance the operation of gastroenterostomy.

Crohn's account of his introduction to the AGA follows: "One afternoon, Dr. Libman introduced me to a stranger named Dr. William J. Mayo, who was paying a visit to the laboratory. Dr. Libman said to Dr. Mayo, 'You might like to sit down with that young man. He's doing some interesting work.' And Will Mayo said, 'Well, I'll spend a few minutes with him.' Three quarters of an hour later, he was still talking with me, examining the records. 'Young man, would you like to do us a favor? Would you come down to the American Gastroenterological Association and deliver a paper on your studies?' I was quite swept off my feet and hesitated but Libman encouraged me to accept."

"That May (1916) we went to Atlantic City, Dr. Wilensky and myself. The paper was received with such interest that when I finished with the discussion, Dr. Mayo moved a rising vote of thanks to the young men for their interesting paper. Never having heard of a rising vote of thanks before, I stood up with the rest, whereupon somebody put his hand on my shoulder and said 'Young man, you're supposed to sit.'

"The next year, 1917, I was made a member in the American Gastroenterological Association. Thereafter I was in attendance, missed none of the meetings and by 1933 was president of the Association, truly a rapid rise!"

Crohn felt that he was a member of a progressive group whose aim was to build the AGA rapidly on a progressively scientific basis, transforming the organization from its purely anecdotal meetings of aging clinicians. This group included Sarah Jordan of Boston, Russell Boles and Henry Bockus, both of Philadelphia, and J. Arnold Bargen from the Mayo Clinic. He was proud of what had taken place especially after his Presidency, valuing the influence of Walter Alvarez, President in 1928, and the presence of such a thoughtful individual as Chester Jones of Boston.

The Clinical Investigator

What Crohn later called his "Pancreatic Period," dated from 1913 to 1921 and was directed to the study of pancreas function and diseases. It was triggered by the gift of a long rubber tube from Dr. Max Einhorn of the then German Hospital (now Lenox Hill Hospital) when he was visiting the rounds of Nathan Brill, during Burrill's senior year as an intern at Mt. Sinai. So a study of biliary and pancreatic secretion was begun with the help of Dr. Sam Bookman, the hospital biochemist.

Since normal baseline studies were needed, Crohn went about this in characteristic fashion, as he tells it: "In order for me to study the diseases of the pancreas, it was important first to establish the norm. To put ward patients through the test, which is uncomfortable for even healthy persons, seemed an injustice. Who was more normal and more accessible than myself? Night after night, at bedtime, I would swallow that 36-inch long rubber catheter, drink a glass of milk to stimulate pancreatic secretion and go to sleep. In the morning I would aspirate the pancreatic secretions and the bile from my duodenum. The tube constituted no great discomfort or inconvenience and on every afternoon the secretions would be tested and the normal pancreatic enzymes evaluated at the laboratory."

Armed with the results of these tests (seven), the duodenal aspirate and stools were measured for amylase, lipase and bile. His patients included those with gallstones, pancreatitis, cancer of the pancreas, cirrhosis of the liver and diabetes. Then followed a series of papers on the diagnosis of tumors, obstruction of the biliary or pancreatic ducts, and to distinguishing between the different causes of jaundice such as cholecystitis and gallstones, "catarrhal jaundice," impacted bile duct stones and between malignant strictures of the biliary system, pancreatitis (acute and chronic), cancer of the pancreas and liver cirrhosis. He also studied the effect of duodenal instillation with magnesium sulphate, the so-called Lyon test. Crohn made no claims for fundamental novelty of these studies, but they were competent, and he felt that the Lyon test should be done as a routine in the study of gastroenterological cases.

I have already cited Crohn and Wilensky's study of the results of the standard gastroenterostomy for peptic ulcer. This study of 77 patients operated on by Dr. A. A. Berg was original and important since it demonstrated that this operation failed to achieve its aim of markedly reducing gastric acidity or improving or hastening motility. The results were considered highly controversial but had the practical effect that Dr. Lewisohn after visiting the surgeon von Haberer in Vienna in 1922 convinced Dr. Berg to abandon gastroduodenostomy and use partial gastrectomy as the standard operation. Following this, Berg, Lewisohn and Crohn spoke at medical meetings throughout the U.S. enthusiastically advocating the new operation, convinced that the old one was ineffective.

The Inflammatory Bowel Diseases

It was not purely by chance that at Mt. Sinai Hospital inflammatory bowel diseases became one of its leading disorders. It served a large population of Jews, most of Eastern European origin; the incidence of these disorders was rising; and it had a staff of talented gastroenterologists, whatever their official titles were: internists and gastroenterologists such as Eli Moschcowitz, Asher Winkelstein, Burrill B. Crohn, pathologists like S. Otani and Paul Klemperer; surgeons like A. A. Berg, John Garlock, and Ralph Colp, radiologists like Marcie Sussman and Richard Marshak.

Up until 1932 the chief example was ulcerative colitis, which had been fairly well described by the English pathologist Wilks in the mid 19th century. Crohn saw more than his share of patients with ulcerative colitis, all studied with the rigid electrically lighted sigmoidoscope. His most important contribution to the natural history of ulcerative colitis was the publication with H. Rosenberg of the first case of cancer of the colon in ulcerative colitis in 1925. Little attention was paid this observation at that time. Then the cancer incidence in ulcerative colitis became the tremendous problem it is now, since B. C. Morson and L. S. C. Pang provided the evidence linking dysplasia to cancer in ulcerative colitis in their landmark paper of 1967 in *Gut.* Intrigued by the case of a patient with ulcerative colitis who got better after his febrile reaction to a transfusion which contained the malaria organism, Crohn for a considerable period treated all his patients with typhoid vaccine to try to duplicate his clinical observation. He thought it worked and although he read a paper he never published his findings. For a long time too he treated ulcerative colitis with a nonabsorbable sulfonamide sulfathaladine, and in the steroid era used oral steroids freely, even for periods of maintenance, but his major concern after 1932 was Crohn's disease.

The Path to Crohn's Disease

The disease now called *Crohn's disease* is not a new disease. Records going back to the Renaissance and up to the 20th century reveal cases which appear to be of this variety. Yet Crohn's disease had to be discovered several times before it was accepted as a true clinical entity.

For the ileal form it required three separate discoverers: by T. K. Dalziel, surgeon of Edinburgh 1913, Eli Moschcowitz and A. O. Wilensky from Mt. Sinai and Beth Israel Hospital in 1923, Crohn, Ginzburg and Oppenheimer at Mt. Sinai 1932. For colonic form at least four were needed: 1) Dalziel, 2) Moschcowitz and Wilensky, 3) Ginzburg, Oppenheimer with Crohn as part of a joint paper 1932, and 4) Lockhart-Mummery and Morson in 1960.

Dalziel's paper in a leading British journal attracted very little attention; in retrospect the surgeons at Dalziel's hospital were getting ready for the First

Gordon Oppenheimer, Burrill B. Crohn and Leon Ginzburg, Honorary Co-Chairman, NFIC and CCFA, 1969.

World War and he was soon to retire to his farm. Moschcowitz and Wilensky's contribution seemed to elicit no response even at their home hospitals. The landmark paper of 1932 which had a wide reception was the result of a collaborative effort. The pathologic specimens were all the result of Dr. A. A. Berg's operations and recognitions at the surgical table. Burrill B. Crohn used this tremendously endowed individual as his regular surgeon for all his intestinal patients requiring operation, and followed these patients and reviewed the resected specimens. Leon Ginzburg's interest in inflammatory bowel diseases of the granulomatosis variety arose from his assistantship with A. A. Berg, and he and Gordon Oppenheimer, an assistant in surgical pathology, did their work in Paul Klemperer's Department of Pathology. When Berg learned that the clinical studies of Crohn were being paralleled by the pathological studies of Ginzburg and Oppenheimer, he insisted on the collaboration in the reporting of these findings. Further, he refused his place as first author (indeed requested no citation of his name in the paper: see the xerox copy of the paper read at the American Medical Association; AMA) and according to Burrill's comment to me, decreed that the names should be in alphabetical order.

The interaction of these individuals and their publications resulted in some discussion as to their individual contributions. The bibliographic research of Dr. Hugh Baron has clarified this area, a confusion which arose from the presentation of this material from Mt. Sinai at **two** national meetings in May 1932, both sponsored by Crohn.

On December 11, 1931, Crohn wrote to the American Gastroenterological Association (AGA): "I have an important scientific contribution I would like to present before the American Gastroenterological Association next May. I have discovered, I believe, a new intestinal disease, which we have named Terminal Ileitis. I should like to present the facts before the Association in the abstract on a separate sheet. My very kind regards.

P.S. I should like the name of Dr. Leon Ginzburg associated with mine, by invitation, at the reading of the article. B.B.C."

The first of the two presentations at Atlantic City on May 2/3, 1932, to the American Gastroenterological Association was by Ginzburg & Oppenheimer "in conjunction with Dr. Burrill B. Crohn" and was published in the 1932 *Transactions of the AGA* and subsequently in part in the *Annals of Surgery.*

The discussants of the Ginzburg and Oppenheimer paper at the AGA were all physicians. Bockus thought these lesions rare. Alvarez, however, thought otherwise. "I have long felt that there must be such a thing as terminal ileitis. I think it is a fairly, common disease." Crohn re-emphasized this point: "One may mistakenly think that we are demonstrating a very rare lesion. Now that we are aware of the clinical condition, we are seeing at Mount Sinai at least three, four or five cases a year. We had one case two months ago and I have now a case which will be operated upon on our return."

The Ginzburg and Oppenheimer AGA 1932 presentation is always cited even by Ginzburg himself, as the 1933 *Annals of Surgery* publication. There is no previous account, even by Ginzburg or Oppenheimer, which cites their presentation in Atlantic City to the AGA as published in the *Transactions of the AGA* in 1932: 241-283.

The second presentation was made by Crohn on May 13, 1932 to the Section on Gastroenterology and Proctology of the AMA in New Orleans and the landmark paper of Crohn, Ginzburg and Oppenheimer was published as "Regional Ileitis: a pathologic and clinical entity" *JAMA* 1932; 99:1323-1329. All the patients had been those operated by A. A. Berg, and the 14 cases combined some that Crohn had followed. The remainder were those studied by Ginzburg and Oppenheimer. The paper which was read was entitled "Terminal Ileitis" and J. Arnold Burger who discussed the paper suggested that the word "Terminal" conveyed the meaning to some as agonal and the authors wisely accepted his suggestion to use the term "Regional."

It seems obvious now that the two papers should be read together to appreciate the magnitude of the contribution that this group made. Since the AGA presentation was published in a form seen only by the 100 members of that organization, and the surgical and pathological aspects offered only in 1933, it is clear why the widely read *JAMA* paper (1932) had such widespread influence.

Since the involvement of the colon with the same pathologic process is clearly found in the 1933 version, it has been asked why Crohn's colitis took so long to be recognized even at Mt. Sinai Hospital. One reason is the effect of a dogma of the official Pathology Department at Mt. Sinai. As late as 1955, S. Otani insisted that regional enteritis originated in the terminal ileum, and that involvement of the right colon was caused by a direct fistula from the terminal ileitis. Ulcerative colitis originated for him below the ileocecal valve, and regional enteritis above the valve. I believe this influenced Crohn's thinking, for he had been occupied in the late 1970s with Berg in discovering a separate form of colitis, as right sided, but not identified as of the granulomatous variety. However, Crohn finally accepted the concept of granulomatous colitis. The emergence of the concept that Crohn's disease occurs throughout the gastrointestinal tract came like a flood after Lockhart-Mummery and Morson's paper in 1960.

Crohn and Crohn's Disease

My personal knowledge of Burrill B. Crohn began when I first entered Mt. Sinai as an intern in the Fall of 1939, just seven years after the publication of the seminal paper which I had read as a fourth year medical student. At that time I was amused by the slightly skeptical medical atmosphere at the institution which surrounded Burrill's continual enthusiasm for the impor-

Burrill B. Crohn in his office, 1960.

tance of regional ileitis. When I returned to Mt. Sinai in 1948 after World War II, I got to know him more closely. Indeed, when I needed office space to moonlight during the eight years I spent in Frank Hollander's laboratory, Burrill graciously allowed me his office in the evenings and weekends. For a period of six months, I helped him in the morning sessions seeing his old and new patients.

It became clear that his persistent and scholarly recording and substantive writing about regional enteritis had convinced his institution that his subject was going to be an important one. Years later, Leon Ginzburg wrote "There is no doubt that Dr. Crohn 'put regional enteritis on the map' so to speak. He popularized, publicized and spent much time and travel on lecturing and spreading knowledge about it. His extensive collection of statistics gathered from his own practice helped clarify matters in the early years."

Although a paper appeared a year after the 1932 presentation with the eponymous title "Regional Ileitis (Crohn)" the routine use of Crohn's name to describe the pathology and clinical entity wherever it appeared in the gastrointestinal tract was ascribed by him to his great London friend, and surgeon Brian Brooke, who began to refer to "Crohn's Disease" repeatedly in his editorials in *Lancet.* Crohn was appropriately modest about his role in the discovery of regional enteritis, and never used the term "Crohn's disease." At this time I saw him *in situ* he was a very good gastroenterologist, not a master of internal medicine (it must be remembered that during most of his life nei-

Rural retreat - New Milford, CT.

ther he nor other senior gastroenterologists were assigned to general medical ward rounds at Mt. Sinai) and his practice did turn mainly to the care of patients with inflammatory bowel disease. His approach to Crohn's disease was firmly based on his detailed records of his experience and he was an ardent exponent of steroids for Crohn's disease as well as for ulcerative colitis, but he had no hesitancy in referring patients with Crohn's for surgery. He thought these disorders were infections, probably of viral origin, and saw no reason why a patient might not have both diseases, although he considered this rather rare. Presented with x-rays presumed to show a specific lesion he did not accept them, but had Richard Marshak, his radiologist, repeat the films. Impatient to make the diagnosis he insisted on reading and seeing all the wet plates.

The Last Phase

Burrill B. Crohn's post World War II years were happy ones. He continued to see patients, moving his office to 1000 Park Avenue in 1958, and retired from practice at the age of 91. His personal life became joyful, as he married Rose Blumenthal Elbogen in June of 1948, whom he had met in 1947 in New Milford, Connecticut, when he and his daughter and son-in-law were purchasing an old refurbished colonial house.

Rose and Burrill B. Crohn in their garden, New Milford, CT.

This rural retreat served Rose and Burrill for vacations, and weekends away from New York and he enjoyed fussing about the landscape and garden. Rose died in 1991, Burrill in 1983.

He enjoyed his worldwide reputation associated with Crohn's disease, and received some notable honors. When the Mt. Sinai Hospital became the Mt. Sinai Medical School in 1962, he received the title of Clinical Professor of Medicine Emeritus; he had served as President of the American Gastroenterological Association from 1932 to 1933, and was awarded its Friedenwald Medal "for outstanding achievement and lifetime service to gastroenterology," in 1953, the association's highest award. It was my pleasure to present him with the honorary degree of Doctor of Science from Mt. Sinai Medical School.

Burrill B. Crohn at Masada, 1960.

Now he had time for vacations and trips and in 1960, after fifty years of continuous medical practice, he and Rose, joined by Frederic March and his wife Florence (the actress Florence Eldridge) made a four-month trip to the Far and Near East which included Israel, Iran, India, Singapore, Indonesia, Bali, Ceylon, Hong Kong, Taiwan and Japan) the very listing seems tiring, but Burrill enjoyed every moment of it.

He now had time for everything. When I requested him to serve as Honorary Chairman of the National Foundation for Ileitis and Colitis, now the **Crohn and Colitis Foundation**, along with his collaborators, he willingly accepted.

He was modest about his fame, enjoyed taking care of the well-known, but treated all patients with equal courtesy. He was generous to me, giving me access to the office in the evening and on weekends. He was honest about his difficulties in understanding the flood of scientific new information about granulomatous diseases. He relished his introduction at a meeting of the New York Academy of Science devoted to the entire subject of granulomatous disease of all varieties, in 1976, but was free to admit to me the next day his trouble in understanding the papers on Crohn's disease.

Posthumous honors are essentially for the survivors, but I'm sure Burrill would have appreciated the formation of the Burrill B. Crohn Research Foundation at Mt. Sinai by his friends and family, to support research on inflammatory bowel disease. Now his daughter Ruth serves as its president. Most

Burrill B. Crohn and extended family at his 99th birthday.

important for the future growth of gastroenterology at the Mt. Sinai Medical School was the generous endowment in 1991 by his widow, Rose, of the Dr. Burrill B. Crohn Chair in Gastroenterology, which is permanently attached to the Chief of Gastroenterology at the hospital for the future.

Burrill B. Crohn at 99.

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Appendix

REGIONAL ILEITIS

A PATHOLOGIC AND CLINICAL ENTITY

BURRILL B. CROHN, M.D.
LEON GINZBURG, M.D.
AND
GORDON D. OPPENHEIMER, M.D.
NEW YORK

We propose to describe, in its pathologic and clinical details, a disease of the terminal ileum, affecting mainly young adults, characterized by a subacute or chronic necrotizing and cicatrizing inflammation. The ulceration of the mucosa is accompanied by a disproportionate connective tissue reaction of the remaining walls of the involved intestine, a process which frequently leads to stenosis of the lumen of the intestine, associated with the formation of multiple fistulas.

The disease is clinically featured by symptoms that resemble those of ulcerative colitis, namely, fever, diarrhea and emaciation, leading eventually to an obstruction of the small intestine; the constant occurrence of a mass in the right iliac fossa usually requires surgical intervention (resection). The terminal ileum is alone involved. The process begins abruptly at and involves the ileocecal valve in its maximal intensity, tapering off gradually as it ascends the ileum orally for from 8 to 12 inches (20 to 30 cm.). The familiar fistulas lead usually to segments of the colon, forming small tracts communicating with the lumen of the large intestine; occasionally the abdominal wall, anteriorly, is the site of one or more of these fistulous tracts.

The etiology of the process is unknown; it belongs in none of the categories of recognized granulomatous or accepted inflammatory groups. The course is relatively benign, all the patients who survive operation being alive and well.

Such, in essence, is the definition of a disease, the description of which is based on the study, to date, of fourteen cases. These cases have been carefully observed and studied in their clinical course; the pathologic details have resulted from a close inspection of resected specimens from thirteen of fourteen patients operated on by Dr. A. A. Berg.

RELATIONSHIP OF REGIONAL ILEITIS TO OTHER BENIGN INTESTINAL PROCESSES

There exists in the medical literature a heterogenous group of benign intestinal lesions which have now and then been described under the caption of "benign granulomas." The latter loose term covers a multiplicity of conditions in which both large and small intestines may be involved; it includes all chronic inflammatory lesions of the intestine whose etiology is either unknown or attributable to an unusual physical agent. It represents a hodge-podge or melting-pot in which are thrown all those benign inflammatory intestinal tumors which are neither neoplastic nor due to a specific bacterial agent. Within this group one finds descriptions of foreign body tumors, chronic perforating lesions with gross inflammatory reactions, traumas of the mesentery with intestinal reactions, Hodgkin's granuloma, a late productive reaction to released strangulated hernias of the intestinal wall and numerous other and similar conditions. The so-called benign granulomas all present a tumor-like inflammatory mass which usually simulates carcinoma

From the Mount Sinai Hospital.
Read before the Section on Gastro-Enterology and Proctology at the Eighty-Third Annual Session of the American Medical Association, New Orleans, May 13, 1932.

Fig. 1a Title page of seminal papers, JAMA, 1932; 99:1323–1329.

Landmark Article
Oct 15, 1932
(*JAMA* 1932;99:1323-1329)

Regional Ileitis

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Burrill B. Crohn, M.D.

Leon Ginzburg, M.D.

and

Gordon D. Oppenheimer, M.D.

New York

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Fig. 1b Title page of "Landmark Paper," JAMA, 1984, 25:73.

Dr. Henry Janowitz invited
has based it so well upon
our findings. Leon Ginzburg

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NON-SPECIFIC GRANULOMATA OF THE INTESTINES*

(INFLAMMATORY TUMORS AND STRICTURES OF THE BOWEL)

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DURING the past few years we have encountered cases in increasing frequency which clinically and radiologically gave the impression of tumor or tuberculosis of the bowel. The appearance of the bowel at operation likewise was usually considered to be either that of hyperplastic tuberculosis or of malignant disease. Examination of the resected specimens, however, failed to substantiate such a view. No evidence of specific disease, such as tuberculosis, syphilis or actinomycosis could be found. Amœbic disease of the bowel was excluded on study of the microscopical sections and of the stool, also by the inefficacy of emetin therapy in suspected cases. Carcinoma, lymphosarcoma, and Hodgkin's disease were definitely excluded. In a few of these cases the condition was evidently secondary to diverticulitis. Aside from these, a large heterogeneous group of cases remained, differing from one another etiologically, but with certain common clinical and pathological findings. These cases, showing various degrees of chronic productive inflammation in different stages of healing, have long been known to English as well as continental surgeons. In 1921, Tietze[1] published a thorough résumé of the subject with a very complete bibliography. In 1923, Wilensky and Moschcowitz[2] reported four cases collected from various institutions under the designation "Non-Specific Granuloma of the Intestine," perhaps the most useful classification from the standpoint of the underlying pathology. Mock[3] recently reported a series of cases using practically the same designation. Clinically, these cases manifest themselves either by the development of palpable masses or by symptoms pointing to stricture of the bowel with ulceration. They may, therefore, with propriety, also be designated as non-specific inflammatory tumors and strictures of the bowel.

Both the intestine and its peritoneal covering are known to possess remarkable powers of resistance to infection and inflammatory lesions within them show a striking tendency to undergo resolution. Moreover, the intestinal mucosa in itself possesses marked regenerative power.[4] Surgeons have frequently recorded the amazing rapidity and completeness with which huge inflammatory exudates and masses may disappear from the abdomen. Very extensive disease or injury of the mucosa may heal without permanent scarring resulting. In some instances, however, following infection or injury, *restitutio ad integram* does not occur. The persistence of infection or other

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Fig. 2 *Title page of "Non-specific Granulomata of the Intestines," Annals of Surgery, 1933; 98: 1046–1062.*

Terminal Ileitis

A Pathological and Clinical Entity

by

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We propose to describe , in its pathological and clinical details, a disease of the terminal ileum, affecting mainly young adults, characterized by a subacute or chronic necrotizing and cicatrizing inflammation. The ulceration of the mucosa is accompanied by a disproportionate connective tissue reaction of the remaining walls of the involved intestine, a process which frequently leads to stenosis of the lumen of the gut ~~and~~ associated with the formation of multiple fistulae. (fistulae)

The disease is clinically featured by symptoms that resemble ulcerative colitis, namely, fever, diarrhea and emaciation, leading eventually to an obstruction of the small intestine; the constant occurrence of a mass in the right iliac fossa usually requires surgical interference, (resection). The terminal ileum is alone involved. The process begins abruptly at, and involves, the ileo-cecal valve in its maximal intensity, tapering off gradually as it ascends, orally, the ileum for eight to twelve inches. The familiar fistulae (fistulae) lead usually to segments of the colon, forming small tracts communicating with the lumen of the large gut; occasionally the abdominal wall, anteriorly, is the site of one or more of these fistulous tracts.

The etiology of the process is unknown; it belongs in none of the categories of recognized granulomatous or accepted inflammatory groups. The course is relatively benign, all of the cases that survive operation being alive and well.

Such, in essence, is the definition of a disease, the description of which is based upon the study, to date, of ~~fifteen~~ fourteen cases. These

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Fig. 3 Page 1 of original manuscript of "Terminal Ileitis."

cases have been carefully observed and studied in their clinical course; the pathological details have resulted from a close inspection of resected specimens of ~~fourteen~~ fourteen out of ~~fifteen~~ fourteen cases operated upon by Dr. A. A. Berg, by whose courtesy it has been possible to collect the material, and with whose cooperation and leadership the observations necessary for the description of this symptom-complex have been coordinated. omitted

Relationship of Terminal Ileitis to Other Benign Intestinal Processes.

There exists in the medical literature a heterogenous group of benign intestinal lesions which have now and then been described under the caption of "benign granulomata". granulomas This latter loose term covers a multiplicity of conditions in which both large and small intestines may be involved; it includes all chronic inflammatory lesions of the intestine whose etiology is either unknown or attributable to an usual physical agent. It represents a hodge-podge or melting-pot in which are thrown all those benign inflammatory intestinal tumors which are neither neoplastic, nor due to a specific bacterial agent. Within this group one finds descriptions of foreign-body tumors, chronic perforating lesions with gross inflammatory reactions, traumata traumas of the mesentery with intestinal reactions, Hodgkin's granulomata granulomas, late productive reactions to released strangulated hernias of the intestinal wall, and numerous other and similar conditions. The so-called benign granulomata granulomas all present a tumor-like inflammatory mass which usually simulates carcinoma, but which eventually unmasks itself as a benign process of unknown causation. The multiplicity of the possible sites of gastric or intestinal or colonic involvement, and the accompanying protean clinical manifestations defeat any effort to include them all in a clear-cut clinical entity. The very confusion defies classification.

In this literature however, there have appeared on occasions, references and descriptions that approach the picture we are about to describe. The entire literature of benign granulomata masses was reviewed

Fig. 4 Page 2 of original manuscript of "Terminal Ileitis."

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