The Rounded Life of Aldred Warthin

BY JAMES TOBIN

ONE DAY IN 1895, A YOUNG Ann Arbor seamstress told a client that she was terribly afraid of an early death. She was healthy now, she said, but she did not expect to remain so for long.

Her client was Aldred Scott Warthin (M.D. 1891, Ph.D. 1893), a young pathologist in the Medical School. Warthin asked why she was so afraid.

She told him that in her family — residents of Washtenaw County since long before the Civil War — one generation after another had seen an uncommon number die of cancer of the intestinal tract or the female organs.

How many? Warthin wanted to know. The seamstress couldn't say for sure. Warthin, his curiosity provoked, traced the young woman's genealogy, searching for death records and administering questionnaires.

The answer to his question was frightening indeed. The first member of the family to settle in Michigan had died of intestinal cancer at 60 in 1856. Four of the pioneer's five sons and two of his five daughters died of cancer. Of the 70 members of the next generation, 33, many of them young, died of cancer — colorectal and endometrial cancers, leukemia, sarcomas, brain tumors. Only two branches of the family were free of the disease, both of them descended from two of the cancer-free daughters in the second generation.

Year after year, as he became director of the pathology lab, professor of pathology, then chair of the department, Warthin followed the morbidity and mortality of the seamstress's family, which he called "Family G." Searching for other "cancer families," he became interested in the scarcity of reliable data about cancer as it occurred in families over time. He went through the records of all cancer surgeries at University Hospital from 1907-09 and found that fewer than 1 percent of the patients had mentioned any cancer in the family when interns took their medical histories. Yet when Warthin followed up with letters and personal visits, he found cancer among the forebears of more than half the patients. People were about as eager to report cancer among their ancestors as they were to report repeated cases of syphilis, Warthin concluded. "Many have a certain horror or a fear of stigma attaching to a family history of multiple incidence of neoplasm," he wrote.

The candor of the seamstress — whom Warthin saw die prematurely of cancer, as she had feared — had been unusual indeed, and it led to profoundly important medical findings.

Of course, physicians had noticed that cancer sometimes ran in families. But Warthin's study — published in the *Archives of Internal Medicine* nearly 20 years after his first conversation with the seamstress — was among the first to make a persuasive scientific case that cancer was heritable in humans.

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His perseverance was carried on by his protégé, Carl Vernon Weller, M.D., into the 1940s and '50s, when it was picked up by a third group of investigators who showed that Family G suffered from Lynch Syndrome, also known as hereditary nonpolyposis colorectal cancer, a genetic disorder that commonly causes premature death. Family G's misfortune has provided medical scientists with one of the longest and most detailed cancer genealogies in the world.

Aldred Scott Warthin

LUCK PLAYS ITS PART IN scientific discovery, but as Pasteur famously said, "Chance favors the prepared mind." Warthin's mind was not only well prepared but unusually open. Whatever was in front of him, it seems, provoked a sharp and acute interest, and one interest often informed or ignited another. Trained in youth as a pianist, for example, he hit upon the technique of requiring his students to learn enough about music to be able to differentiate among the tones of Ann Arbor's various church bells and carillons — preparation for detecting the varying sounds of patients' disease-ridden lungs. One of the pulmonary sounds of pericarditis was named "Warthin's sign" as a tribute to his investigations.

As medical specialization flourished, Warthin simultaneously specialized and generalized. From 1910-30 he studied the pathology of syphilis, becoming the world's leading authority. Yet he also led a public-health campaign against tuberculosis in Michigan, then published several articles on the "White Plague." During World War I he defined the effects of poisoning by mustard gas. All the while he continued his work on the heritability of cancer.

His mind was as active outside of his laboratory as it was within. His close acquaintance with death spurred a literary interest in the subject; over many years he collected hundreds of artists' images of death, which he compared and commented upon in a scholarly monograph, *The Physician of the Dance of Death*. On a trip to the west coast he discovered a snail species that was named in his honor. In the yard of his stone house on Ferdon Street, where he and his wife raised several children, he built a rock garden where he planted specimens of phlox retrieved from around the world, and he was a frequent judge at Detroit flower shows. Concerned about the sedentary life of the average physician, he bubbled to his colleagues about the healthful gifts of a game of golf. "It is not the crack player" who reaped the most benefits, he wrote, but the "foursome of gossipy middle-aged companionable gentlemen who receive as much recreation from their out-of-door association as they receive from the game itself."

Warthin's work on human heredity — and his peripatetic intellect — led him to an interest, common enough in his era, in eugenics, the now-discredited doctrine of eliminating supposedly undesirable human traits through selective breeding. Warthin's was a wide-ranging, influential career that benefited many. "He drained his life's blood to its dregs," wrote his friend, C.F. Martin, dean of the medical faculty at McGill University in Toronto, Ontario, Canada. "No man's life was ever more completely rounded than his." [M]