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Prologue

Almost everyone has heard that no two snowflakes are alike. I don't remember when I first heard this, but it was a long time ago. Miss Parsons may have told me. In the 1930s, she was the teacher at the one-room schoolhouse in the small farming community of New Lenox in the Berkshire Hills of western Massachusetts, where about fifteen children were scattered among six grades. We children loved the snow. During stories told by Miss Parsons, she probably said that every snowflake is unique.

Miss Parsons may not have known that Wilson Bentley, a farmer from Jericho, Vermont, was the first to photograph and to popularize the uniqueness of each snowflake. He did this in his first published article in 1898 and continued to extoll the rare beauty and loveliness of each snowflake in numerous articles and lectures until his death in 1931. I first heard of Bentley about 1948 when, as a young and very inexperienced scientist, I was working at the Research Laboratory of the General Electric Company in Schenectady, New York. I was the newest member of a small team of scientists excitedly exploring new ideas made possible by the recent discoveries of cloud seeding by silver iodide particles and dry ice.

Curiously, my introduction to Bentley was not through his classic work with the snowflakes. Though we had projects to measure the sizes and types of snowflakes, we were equally interested in understanding how rain formed in clouds, and that meant trying to measure the sizes of raindrops, a project I was working on. One day Vincent Schaefer, a senior scientist and the discoverer of dry-ice cloud seeding, came by my desk, gave me an article, and said, "Dunc, I think you'll find this of interest." It had

been published in 1904 by Wilson Bentley on how to measure raindrop size and on his ideas of how rain formed in clouds. Yes, I was interested but didn't yet know enough about the science of rain formation to realize how startlingly original Bentley's work was.

Nearly twenty years later, as an atmospheric scientist at the Woods Hole Oceanographic Institution on Cape Cod, Massachusetts, and very familiar with the frontiers of research on rain formation, I knew that Bentley was an American pioneer in the science now known as cloud physics, and that his work was about forty years ahead of its time. I also had seen and was enthralled by the exquisite beauty of the thousands of photographs in his great book *Snow Crystals*, his life's work published the year of his death. I had learned that by the 1920s, Bentley, at the height of his fame, was known to tens of thousands across the country simply as the Snowflake Man.

In 1967, Doubleday published my book *From Raindrops to Volcanoes*, an account of the scientific adventures my colleagues and I at Woods Hole shared over the years. Intended for a general audience, I wrote about the clouds over the rain forests of Hawaii, how the oceans influence the electrification of the atmosphere, and how the fury of volcanic eruptions in 1963 on the newly-formed island of Surtsey just south of Iceland was intensified when tons of seawater poured into the crater to crash into the hot upwelling lava in the throat of the volcano. Though I mentioned Bentley and his work with the raindrops and snowflakes only in the first chapter, I kept thinking about him during the next year or more while writing the rest of the book.

What sort of a man was this Bentley, who was so obsessed with the water wonders of the atmosphere — the raindrops, the dew, the clouds and the frost, but mostly the snow — that he spent a lifetime photographing snowflakes and talking about their haunting beauty to all who would listen? The week after giving the manuscript of my book to the publisher, I took several days vacation and drove up to Jericho, a small town in northern

Vermont snuggled up against the majestic Mount Mansfield, the Olympus of the Green Mountain range. I saw the state historical marker alongside the road in Jericho commemorating the genius of Bentley, the store on the village green in Jericho Center where Bentley bought his supplies, and on a remote dirt road winding through a small valley in eastern Jericho — the farmhouse where Bentley lived his entire life. But best of all I met the late Amy Bentley Hunt. During long animated, tape-recorded conversations, she told me about her Uncle Willie and life in Jericho during the early years of the century. When I left Jericho to return to Woods Hole, I was determined to write this biography.

But it would have to wait. Soon after *From Raindrops to Volcanoes* was published, I left Woods Hole to accept a position at the Atmospheric Sciences Research Center of the State University of New York at Albany. My research began to take new directions, and I became involved in teaching and in the supervision of graduate students. Research on the Bentley biography slowed to a crawl. I did, however, make several more trips to Jericho and other towns in Vermont over the next few years to record conversations about Bentley with nearly fifteen other people who knew him well. Becoming frustrated with not being able to find the time I knew would be needed for the extensive research preparatory to writing in detail about Bentley's life, I resorted to writing shorter articles about him.

I retired from the Atmospheric Sciences Research Center late in 1989, primarily to work nearly full-time on chasing down the ghost of Wilson Bentley. I obtained copies of his notebooks from the Buffalo Museum of Science, where they and all his photographic plates had been sent after his death. Though the best of his photographs had appeared in his book *Snow Crystals* in 1931, it has long been out of print. Fortunately, in 1962, Dover Publications reprinted it, and it is still in print today. The book is a classic still being used by the connoisseurs of the beautiful in nature. Hardly a Christmas season passes without my seeing a Bentley snow crystal on a Christmas card, and throughout the year

my wife calls my attention to silver-plated Bentley crystals on necklaces and earrings in gift catalogs she receives.

After retirement I made more trips to Jericho, talked to more people, visited once again the old Bentley farmhouse, and slowly walked along the dirt road that passed by it. Standing on a bridge just down the road from the Bentley house, I saw what appeared to be an old swimming hole in Mill Brook just before it crossed the road to wind through a meadow behind what had been Bentley's barn. In my mind's eye I could see Bentley and his boyhood friends swimming there. It was an eerie yet comforting feeling, for as a young boy in New Lenox I, too, spent many a summer's day with my friends in a swimming hole in a brook that tumbled down the mountain to pass near our house. And my brook, like Bentley's, was named Mill Brook.

Putting together the pieces of the puzzle of the life and times of Wilson Bentley has been rewarding but difficult. The main difficulty by far has been the lack of his letters. I think I have unearthed all his published articles and have read them over and over again to find those little nuggets that reveal something about the inner man. But every biographer knows that it is our letters that reveal our true selves, our frustrations, our hopes, our dreams. It is not that Bentley didn't write letters. He did, by the hundreds, perhaps thousands. But all were burned a few months after his death by a member of his brother's family. When I asked this woman why she had burned them all indiscriminately, she said that "his personal letters were his business. I didn't think anyone had any right to read letters he got from his girlfriends . . . so we burned them." *C'est la vie!* With help from various people, historical societies, and libraries, I have found over twenty letters to or from Bentley. All reveal touching aspects of his kind and gentle nature that did not always come through in his articles. Most of these letters have been woven into the fabric of this book.

Had Bentley lived long enough to read C. P. Snow's *The Two Cultures*, he would have wondered what the fuss was all about. To him, science and the humanities all blurred together into

one grand tapestry of nature. For Bentley, the snow crystals were not just a cold sliver of ice to be scientifically analyzed. They were also a metaphor for all things beautiful on earth. He once wrote that "The snow crystals . . . come to us not only to reveal the wondrous beauty of the minute in Nature, but to teach us that all earthly beauty is transient and must soon fade away. But though the beauty of the snow is evanescent, like the beauties of the autumn, as of the evening sky, it fades but to come again."

Of all the reasons I had for writing this book, there is one that must be mentioned. While Bentley saw the snow crystals as a metaphor for beauty on earth, I saw Bentley himself as a metaphor for every person, be it ourselves or one of our neighbors down the street, who has been laughed at or ridiculed for wanting to pursue a new idea. Were it not for his mother, who recognized the sensitive artistic temperament in her youngest son and constantly encouraged him in his pursuit of the beautiful in nature, Bentley would never have accomplished what he did. His own father and brother until their dying days thought he was wasting his time "fussing with snowflakes," and for many years, until he became famous in the 1920s, most of his neighbors thought him "a little cracked."

Nothing worthwhile in life is ever accomplished unless one has the courage to pursue one's dreams in spite of daily frustrations and obstacles thrown in his or her path by others. Wilson Bentley is a shining example of one who had this courage.

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