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Ronald H. Petersen

William Alphonso Murrill: The Naturalist

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Preface

For the casual naturalist, William Alphonso Murrill's name is associated with a plethora of new species of fungi, his mysterious resignation from the New York Botanical Garden, his disappearance from New York, and rediscovery as a free spirit in Florida. Pivotal were his years in New York City, of course, but the process through which he arrived there, the people who acted to shape him, and his activities while there, leading to his life-changing trauma, have not been previously adequately summarized. Three academic biologists were especially important to his development: George Francis Atkinson at Cornell, Lucien Marcus Underwood at Columbia, and Nathaniel Lord Britton at the New York Botanical Garden. Other individuals appeared omnipresent to the story: John Torrey, John Newberry, and Seth Low, the latter President of Columbia University and Mayor of New York City. The Torrey Botanical Club played an important role in Murrill's integration in the city and the spread of his name to the wider biology community. Edna, the love of his life and his wife, remains a mysterious personage. The articulation of forces, individuals, and the times combined to produce an interesting man attempting to forge his own path as the Naturalist.

Knoxville, TN, USA Ronald H. Petersen

Acknowledgments

A manuscript of this size and detail cannot be compiled without considerable input by other authorities on various subjects. Two men have been particularly generous with their materials: William "Wallace" Martin, Professor Emeritus at Randolph-Macon University, long-time collector of Murrilliana, and David Rose, former archivist at the New York Botanical Garden, who weighed in substantially (and continue to do so).

Don Pfister at Harvard, Greg Mueller from the Chicago Botanical Garden, and Egon Horak in Austria, all provided archival material on Rolf Singer. Stephen Simon, Archivist at the New York Botanical Garden, always freely responded to numerous requests for materials and answers to historical questions. Other folks who contributed substantive materials: Brad Bolman, Princeton Program in Advanced Studies; Christine Jankowski at the Lloyd Library, Cincinnati; Roy Halling, reviewer on behalf of the Garden; and Diana Murphy at the New York State Museum in Albany for information on C. H. Peck.

I owe a deep debt of gratitude to Bill Buck, Editor of the MEMOIRS series for the Garden. Apparently, he saw some worth in this project, although the amount of secretarial editing turned out to be mammoth. Many of his hours were spent in formatting and matching the text to the bibliography, and my thanks are wholehearted.

The mass of Murrill's larger publications in the database of the Hathi Trust is immense, and made possible much of the research on these strange (and rare) resources. Equally, Mycoportal (and its mycological director, Andrew Miller) provided much detailed and revelatory information. In mycological nomenclature, *Index Fungorum* and its Director, Paul Kirk, furnished accurate information otherwise arcane at best.

Slavomir Adamcik and Bart Buyck generously shared their bibliography on Murrill *Russula* types.

Two men, now deceased, were most generous: James W. Kimbrough, at the University of Florida, wrote and lectured on Murrill, and provided the script and illustrations of his lecture. Emory Simons, elder statesman of mycology, was more than willing to chat over mycological history, including William Alphonso Murrill.

Over the past 7 years, Karen Hughes, my wife and love, has listened to tale after tale of mycological history, always with patience and pertinent questions. I offer my unmitigated gratitude.

To all these, and others, sincere thanks.

Contents

The Early Years

The Early Years

Chapter 1
The Making of the Man

In the Appalachian Mountains of Virginia, mid-October is unpredictable. The warm, cloudless remnants of summer could extend warmth. Gray-bottomed occlusion from the northwest could drop wet snow on high elevation; the Peaks of Otter and Apple Orchard Mountain north of Bedford can take on white summits, largely melted by the afternoon. Harvest is a daily gamble. When tobacco was a money crop, it was hung to cure for the November–December auctions, making possible a calculation of the year's hard work and therefore the oracles of the next. For rural families, October brought the birth of winter conceptions, William Alphonso Murrill being one.

William was a second son, born October 13, 1869, to Samuel L. and Virginia D. Woodruff Murrill (1945a; Weber 1961). "William" was commonly sprinkled in the larger family, but "Alphonso" was Virginia's cousin. Mid-October was the season for tobacco harvest and curing, and the birth, with help from "Aunt Minnie,“ could not disrupt the "all hands present" ritual. Big brother Ashby was hardly a year old and still a suckling. But after all, tobacco was the chief money crop for the farm—nothing to be trifled with (Fig. 1.1).

Like so many rural post-Civil War families, the Murrills were multiplying, seven live births in 12 years: four boys, three girls. The parents opened a girls' school in Lynchburg, but Samuel later took a job as manager of a large farm outside town. Eventually, the Murrills came to own their own small farm in the vicinity of Blacksburg (more below). A formal roster of Samuel and Virginia's offspring follows: Ashby (1868), William Alphonso (1869), Minnie Douglas (1872), Howard Agassiz (1873), Anna Elizabeth (1876), Virginia Wood (1878), and Pitt Samuel (1881) (William Martin pers. comm.).

At the time of William's birth, the Murrills ran a farm near Lynch's Station, a crossroads which still exists a few miles south of Lynchburg on the railroad. The James River winds and twists its way from northwest to southeast, so 15 "river miles" north of Lynchburg is difficult to judge, and two miles from it does not reveal

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Fig. 1.1 Curing tobacco. October curing tobacco in Virginia hill country. (Getty image)

whether east or west (or north or south, depending on its direction when used as the starting point; Fig. 1.2).

In his autobiography (Murrill 1945a), some personal characteristics of William are mentioned in passing, but give small glimpses of the man. Although the slant of the mature handwriting would indicate right-handedness, he may have been left-handed, if his description of operating a cross-cut saw with Ashby is any indication. He was probably mesomorphic when young, but with a significant spurt of limbs (and feet) in early teenage. He almost surely spoke with a Southern mountain drawl, for whenever he wrote about the speech of family or friends, he juggled letters and apostrophes just as did Horace Kephart (1913) in his characterization in "Our Southern Highlanders," written only in Murrill's mid-life, and just down the Appalachians. Murrill was not only well-versed on nature by living in its midst, but must have been inquisitive of parents and teachers, and remained quite proud of the

Fig. 1.2 James River. The James River snaking its way near Lynchburg, Virginia. (Getty image)

extensive lore he could relate. By teenage, he possessed most of the "horse sense" for rural, temperate living. He attended Sunday school and church and seemed not to resent it. He took piano lessons and must have become quite adept at it. His mother was more than the average educated farmer's wife, a college-graduate in fact, and baptized William with poetry from which he could recite—and write—verses at length. By mid-teenage, he had eaten squirrel, groundhog, raccoon, 'possum, rabbit, weasel, snake, turtle, several avians, domestic and hunted, eels and several varieties of fish and scads of personally cultivated vegetables, led by potatoes. He had captured numerous insects and watched their metamorphoses. He fought off all the diseases of youth—measles, mumps, whooping cough, each treated with remedies from nature. He knew the basics of rock and soil types and the agriculture they could support, and he could hold forth on the heavens—galaxies, stars, planets, meteorites, constellations. Perhaps most pervasive of all, he was born and raised a Confederate, referring to his father's role in the Civil War and some

Fig. 1.3 Meadow and fence. Pastoral boundaries in Virginia hill country. (Getty image)

memorabilia in his house when a child (Murrill 1918a, 1945a; Fig. 1.3). "The North" was an unsettling apparition, from its lingering, strange political world view to its packed neighborhoods, museums and galleries.

Billy made friends easily, it seems. He had his own siblings, of course, but boys his own age were always in the neighborhood, which could mean on a farm a mile away, but all converging on school each day, clear or inclement. But Billy was also friends with girls, although they had habits of their own, not the rough and tumble of the boys. In fact, Billy had at least three "sweethearts" over his young years, from whom one, Maggie, he had to part when his family decamped for far-distant Blacksburg, at William's tender age of twelve (Murrill 1918a).

By the time he was prepared for his first (but not his last) departure from the Virginia hill country (Fig. 1.3), Billy had attended three different schools, all one-room affairs, the last of which bore the name "Possum-trot." Three types of competition were left behind, spelling, recitation, and arithmetic. Billy excelled in all of them, for a while with the fierce competition of his sweetheart of the moment, Maggie (Murrill 1918a). His less intellectual world also played a part of those days. He could daydream a world of living beings with whom he could converse or learn more about their worlds. One aged, wise, and kind being on whom he could call for comfort and advice was "mother oak." With only a few days left to nestle on her leaves between her spreading roots, he could reveal his love of nature and receive her blessings for his continuing growth. For her part, she pledged nature's support in his intentions to learn more of her world. This conversation, when he was twelve, was revealed to us from New York City in 1918, when he was 49.

His more rational timeline, though, was recouped in the closing days of "big school." His decision for a life occupation as a teacher had been reached. He would also be a "Naturalist" (with a capital N), but had not yet crystalized this impulse.

In Billy's recollection of those years, there is almost no mention of race. This was not plantation country, where Blacks often outnumbered whites (Pierce and Little 2020). Murrill referred to them as negroes (without a capital n) and described them only as workers. In one instance, he opined: "We like the negroes much more and treat them a lot better than your [Northern] people do, when it comes to facts, because we understand and appreciate them" (Murrill 1918a).

The Emancipation Proclamation had little effect on the hill country folk, except that it seemed to usurp the rights of the state. Billy's father had fought in several battles during the War, only a few to victory, but Confederate sentiment didn't seem of paramount importance for the hill-country farm folk.

The Murrill family might easily be branded as nomadic. In a decade, it moved from the big farm north of Lynchburg to Bedford County, a somewhat more northerly locale visited repeatedly by William in adulthood, to the tiny crossroads of Bonsack, just outside of Roanoke. "At the age of twelve the Naturalist became a student at the Virginia Agricultural and Mechanical College, located in Blacksburg. His father was now manager of the Miller Farm, south of the town, and the family occupied a small house surrounded by broad cultivated fields and stretches of virgin timberland" (Murrill 1945a).

Arrangements must have been made aforehand for Billy to enroll at the prep school, considering his age. The school was associated with Virginia's land-grant school, founded in 1872. As a Confederate state, Virginia might not have been ready for such an idea both for political and financial reasons, neither of which affected William. In fact, the first six presidents of the College had previously served as officers in the Army of the Confederacy (VPI history 2023), and the College was all-male. William was a commuter, walking to and from school daily, summer and winter, and in 1887, age 18, he graduated with highest honors and a Bachelor of Science degree. Had he followed the normal routine of the day, summer holidays (and perhaps a week at harvest time) would have been spent at home, adding a pair of cheap hands to the farm chores.

A socio-economic move from farm manager to farm owner was not common, but Sam Murrill succeeded. "A few years later the family moved to a roomy house north of town, which was a real home because they owned it. There were six acres of land; enough for a cow, a garden, a good orchard and a stable with two horses" (Murrill 1945a). This was to become the destination of frequent pilgrimages for many years.

In his autobiography, written at the age of 75, Murrill (1945a) looked back at those early years in regard to music. "The Naturalist inherited his love for music mostly from his father, who had helped Stuart lead the singing at the head of his cavalry troop and whose strong voice [William] had heard since childhood in the songs at Sunday-school and Church. Before William could talk he would sing.

We know that he continued his piano lessons and performed at a recital. When he played the piano, organ or guitar he always sang with the instrument if the music allowed it. In Sunday-school, Church, Glee Clubs, at parties, in camps, on the road—everywhere he sang. Before ten he attended a singing school in the country…"

> The removal of tonsils was formerly a matter of much discussion. The Naturalist would probably have been a baritone if he had happened upon the right doctor while he was still young. Although offered voice training free he could not take full advantage of it because of his tonsils…. (Murrill 1945a).

The male Murrills were coached by their father about their life choices. William himself wrote of the bargain: "Now," Billy's Father had said to each of his four boys, 'If you don't drink whiskey, use tobacco, or say bad words before you are twenty-one, I will give you a fine riding-horse and a gold watch.' The boys thought a good deal of this promise, but they thought a lot more of the good example set them by their Father. If he had done any one of these things, a whole team of horses couldn't have held them back from doing just the same thing.

"Many years after, the boys decided they would rather go to college than have riding-horses and gold watches, so that was agreed upon, and it was also agreed that the oldest boy should wear the family watch when he got to be twenty-one and pass it on to the other boys in rotation—just as is sometimes done with trousers. So the old family watch kept time for each one in turn, getting them out of bed in the morning and bringing them home at night, like a faithful old servant; and they were very proud to wear it" (Murrill 1919a). Whether the story played out in reality is no longer available, but upon graduation from VAMC, William moved on to Randolph-Macon College, many miles away on the Piedmont Plateau, just north of Richmond, the ex-Confederate capital. If nothing more, the unique "Northern Neck" enunciation of the natives would have brought a grin, but the state of Black citizens would have erased it.

Unlike VAMC, all male with a corps of cadets, and emphasis on agriculture and mechanical subjects, Randolph-Macon was a small, liberal arts, Methodist-related, albeit male school. Founded in Boydton, Virginia, close to the North Carolina border, the institution, minus physical plant, was moved to escape the anticipated ravages of the Civil War (Randolph-Macon history 2023). Perhaps a location near the Confederate capital, Richmond, was thought safe. The curriculum was heavily structured around Latin and Greek, with other philosophical seasoning of religious study and science. Murrill took to it, and degrees followed: in 1889 a Bachelor of Science, in 1890 a Bachelor of Arts, and in 1891 the Master of Arts (Fig. 1.4). George Weber (1961), surely based on conversations with Murrill in the last decades of Murrill's life, wrote: "During these academic years he always helped his father on the farm during the summer, closely observing nature, and studied Latin, Greek, music and philosophy."

William Martin (see acknowledgments) added the following. At Randolph-Macon, Murrill lived in a boarding house "near the railroad tracks," run by a Mrs. Hill, also a friend of the College President, W.W. Smith, whose brother, Richard was a

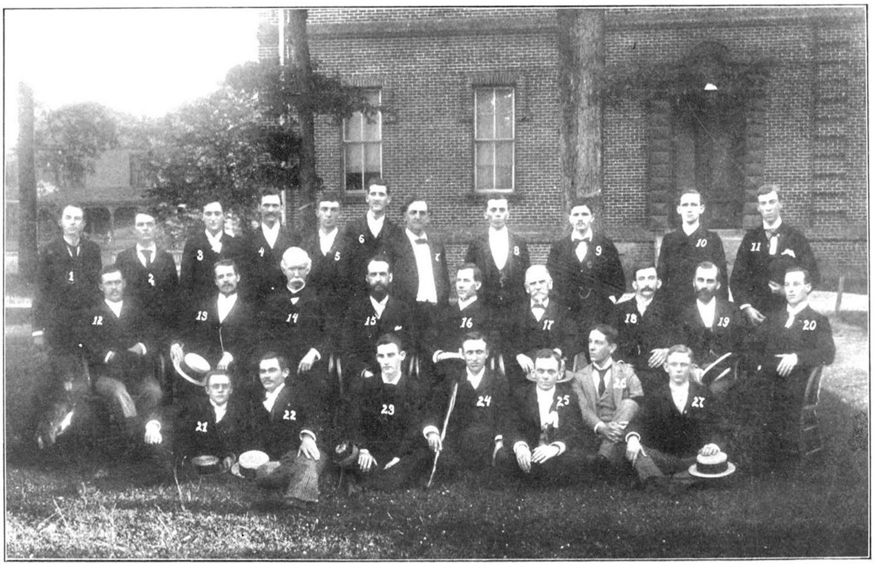

Fig. 1.4 Randolph-Macon Class. Class photo at Randolph-Macon College, 1891. William Murrill is no. 6. Note the fashionable flat-crown straw hats for summer. (Image courtesy of William Martin)

professor, and probably a teacher to Murrill. Murrill's roommate (he wrote in his autobiography) was a divinity student, now thought to have been young Andrew W. Sledd, son of a Methodist clergyman influential in college affairs. Young Andrew developed into an early and controversial leader in the civil rights movement, and eventually the first and youngest president of the University of Florida at Lake City, one of four campuses merged to form the University of the State of Florida in Gainesville, a tenure lasting only 4 years. A peripatetic scholar of classical languages and The New Testament, Sledd continued his academic career, finally succumbing to a heart attack in 1939 (Sledd Wiki 2024). Sledd Hall residence, at the University of Florida, named only after his death, is part of his legacy. As a roommate, Sledd was no "shrinking violet" for Murrill.

Murrill related that the Principal of the Bowling-Green (Virginia) Female Seminary paid a visit to Randolph-Macon College in the spring of his senior year, and among social calls, must have expressed his idea of hiring an unmarried male teacher for his girls. A bit chancy for obvious reasons, he inquired whether any of the soon-to-graduate young men (no longer boys) might qualify. Why he was directed to Murrill is missing data, but William later pictured the "interview" as "a little general conversation and a few questions," resulting in an offer of $500 plus board for the upcoming academic year. These terms being apparently acceptable, the deal was sealed. Any equivocations by William also remain untold (Murrill 1919a).

If a line between Richmond and Fredericksburg were divided into thirds, Ashland (and Randolph-Macon) was at the southern third mile marker and Bowling Green was at the northern. The Seminary stood atop a knoll—in essence an island on the outskirts of town. Murrill was introduced to the rest of the staff, either female or married, but cross-gender interaction was reserved for the classroom. “The Naturalist had completed courses at two colleges containing a great variety of subjects, so he was given the senior classes in English, Latin, French, German, and Mathematics as well as all the work in Physics, Chemistry, Zoology and Botany. There were a few other subjects in his teaching curriculum, but those mentioned are sufficient to prove his audacity” or minimize any self-doubts. The girls included William’s younger sister, Minnie, so any untoward rumors could abe pipe-lined home.

Murrill took special enthusiasm in excursions, always Natural History, regardless of the title. Very much later, he wrote: “The fields and woods were used as both laboratory and museum, with the advantage of actual life and a natural setting. Nature was studied and loved both as a whole and as made up of infinite details, all of which were beautiful and wonderful.” Although he might not have been exposed to the pedagogical controversy of the day, his teaching method was close to the growingly popular, imported “new Botany” (see below).

A major event of his time at Bowling Green was a trip to Washington (with “his” girls) to hear the music of the visiting New York Symphony Orchestra under the baton of the young Frank Damrosch, in whose father’s name Carnegie Hall was being constructed in New York. Murrill would have been dismissive had he been told that by the end of the decade, he would live in that very city, free to enjoy the music in person.

In the spring of 1893, the Naturalist received a letter from the President of the Wesleyan Female Institute in Staunton, Virginia, offering him a position there at a marginally higher salary. He accepted and left Bowling Green, hopefully leaving a good impression. He carried with him a much-prized, handsome set of Shakespeare’s works, a present from his Sunday School Class. His collections of rocks, flowers, bugs, skeletons and the like were apparently left to the next teacher (Murrill 1919a).

Staunton, a good distance from his family home, was at least in the same general geophysical part of Virginia (Murrill 1919a). The town seemed a Mecca for institutions, from the School for the Deaf, Dumb and Blind and the Insane Asylum, to Capt. Kable’s Military Academy for boys and the Baptist, Lutheran and Methodist seminaries for girls, the latter named for the Methodist preacher, John Wesley, and the Naturalist’s home-base (Murrill 1919a, 1945a). All this on top of the local public school system. While his domicile was small, his teaching facilities were more than adequate.

There is no indication that the Wesleyan headmaster and Murrill had personal contact before the letter of invitation, but what better impression could there be than a man of 24 with degrees including a Master of Arts, who seemed able to teach nearly everything and with not so much as a blemish on his personal behavior (Fig. 1.5). The headmaster took a chance and asked the Naturalist to spend the summer in Staunton, helping with planning the upcoming year’s schedules, announcements and student recruitment—as far away as Arkansas and Missouri. His expenses were paid, of course, by the school, and may have been his first experience with the American West. Part of the deal was permission to visit Chicago and the World’s Fair, in full swing. As Murrill (1919a) later wrote: “This was a wonderful

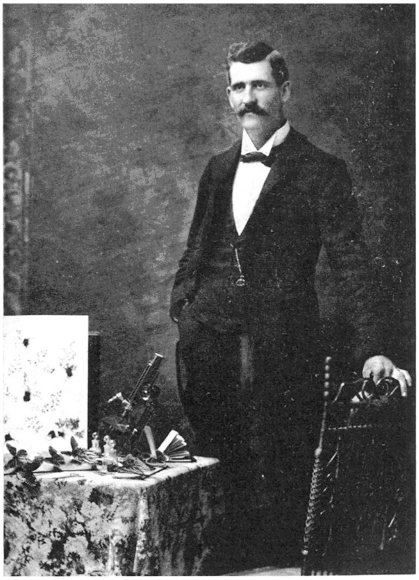

Fig. 1.5 Murrill at Staunton. Mustached William Murrill with research paraphernalia during his teaching time in Staunton, Virginia. (Image courtesy of Jim Kimbrough 2003)

opportunity and very much appreciated. Nothing could have given him a better insight into the best that the world offered than those busy days in the famous White City on the shore of Lake Michigan." Probably unknown to him, a later friend and icon, William Ashbrook Kellerman, editor of the Journal of Mycology, recently added to the faculty of Ohio State University, had won praise for his exhibit of the timber trees of Ohio.

Also at the World's Fair, an electric car was introduced by William Morrison from Iowa. Some crude battery vehicles had preceded, but Morrison's contraption featured rechargeable batteries, rack-and-pinion steering and high-spoked wheels for traversing rutted roads. Murrill remembered that such vehicles came to Staunton early in his residency, equaled in curiosity only by Mrs. Henry St. George Tucker's bicycle, which was rumored to have cost $150.

During the academic year, some peculiarity of class scheduling left William with free Mondays which he frequently used to travel eastward to Charlottesville and the campus of the University of Virginia. There, as often as possible, he listened to lectures in science, particularly those by a Professor John William Mallet, the Irish theoretical chemist, on the emerging Atomic Theory: nuclei seemed to be composed of electrons of negative charge, circling a larger, positively charged particle. "The zoology museum, the medical school, the chemistry laboratories, and the observatory were highly influential in generating the decision that he would be a naturalist" (Weber 1961).

Among the several books he read during this period was "The life of Agassiz," written by the wife of Harvard zoologist Louis Agassiz (about whom more significantly below). Murrill came to believe that "the true scientist is the noblest of the race, without greed or hatred, an altruist and a lover of beauty, justice, and truth"

(Murrill 1919a). In some ways, science was theism in different clothing and religion must be comfortable with observable data. Agassiz was attractive enough to provide William's younger brother Howard, with Agassiz as a middle name in 1873.

Another use for free time was the newly established Young Men's Christian Association—the YMCA—which Murrill described as "well housed in a handsome building, and … one of the most efficient institutions in the city. The gymnasium, library, and reading-room was [sic] much used by the Naturalist."

The Naturalist remembered that he taught a Sunday School class "of several splendid girls," each of whom he described. Three stood out. "Virginia and Anna, the nieces of a great artist, were pretty, dainty, clever, good, and demure, about as near perfection as healthy young mortals ever get." A rare opportunity to probe Murrill's ideal.

"Nelle had been a pupil of Dr. Underwood in Indiana." Surely this was Lucien Marcus Underwood, at that moment on faculty of the Alabama Polytechnic College in Auburn (Petersen 2019), but who would soon be appointed to the faculty of Columbia University, where he would meet Murrill in New York. Even sooner, ferns would act as an interlocutor. So Murrill and Underwood may have known of each other since perhaps 1893 or so. Neither could have predicted Underwood's influential role in the botanical community, both domestic and international, or the role he would play as mentor in Murrill's time in New York City.

Another period away from the classroom was summer vacation, during one of which Murrill attended Summer Normal School at Bedford City, about halfway between Roanoke and Lynchburg. As its title indicated, classes were on various subdisciplines of pedagogy, and one of these might have been the teaching of natural history. The instructor was a Prof. Apgar from Trenton, New Jersey, who made a mighty impression on the Naturalist. Apgar not only lectured ("In drawing on the blackboard, he used both hands at once and used them quickly and skillfully."), but led excursions west to the Peaks of Otter (Fig. 1.6) and north to Apple Orchard Mountain. Both are part of the Appalachian chain, not far from the present-day Blue Ridge Parkway and Bedford, Murrill's home just a few years previous. Apgar showed the Naturalist a Carolina hemlock (*Tsuga caroliniana*)—the first seen by Murrill, and fortuitous considering Murrill's later Ph.D. dissertation on fertilization in *Tsuga*. These exposures to Apgar surely bolstered Murrill's growing conviction to make natural history his life's work (Murrill 1919a; Fig. 1.7).

Murrill's (1919a) "The Naturalist in a Boarding School" proceeds in chronological order as condensed above, but at a particular point, Murrill (writing in 1919 at age 50) abruptly changed styles, stating a particular date followed by a few lines of poetry brought to memory by it. For example, the first entry (p. 75) is March 10, 1895, followed by a short paragraph on a partial eclipse of the sun and an elegiac image therefrom. With even more spartan words: "April 14, 1895. I took a party of girls to Washington and spent Easter week showing them the sights. They had a wonderful time." No mention of his own experience.

Notable: "April 29, 1895: I agreed to return next [academic] year [starting fall, 1895] for the following courses: Zoology, followed by Botany; Physics, followed by Astronomy; Chemistry, followed by Geology; three classes of German." And with

Fig. 1.6 Peaks of Otter. An autumnal view of the Peaks of Otter, a favorite Murrill destination. (Image courtesy Virginia Tourist Bureau)

Fig. 1.7 Shenandoah Park. High-altitude spring rhododendrons in Shenandoah National Park, Virginia. (Image courtesy, Shenandoah National Park)

that, he spent the summer of 1895 in Blacksburg with family, day after day shooting and stuffing birds, hiking, studying Strasburger's book and preparing for the new school year in Staunton.

Just as abruptly, Murrill (1919a) interwove some paragraphs without dates. The first of these might be deduced to be tied to his birthday (October 13). "How I feel at 26. Young as ever, with work hardly yet begun. The disappointment as to our salary made me a little reckless for a time, but I can wait two more years, I guess, for Johns Hopkins. I will learn all the Biology I can before that time. Our school may come out, but, if she does not, money is not life. Shall I be rich? Never. As to religious beliefs and duties, I hope I am true, if negligent. As to love, I am wedded to Science. My life work shall be biology." This passage, pointing in several directions not previously introduced, is important, especially as written in 1919, in his 21st year of marriage, not 1895 as his memory disinters.

Immediately, though, Murrill expanded on his remark about Johns Hopkins. "The Naturalist visited Dr. Remsen, whose textbook he was using in chemistry; Dr. GiIdersleeve, the great Latin scholar; Dr. Brooks, the animal embryologist; and Dr. Humphrey, the botanist, to arrange work at The Hopkins for a doctor's degree, and Dr. Humphrey contributed a number of plant types to be thoroughly studied and drawn in connection with work outlined in Strasburger's 'Practical Botany.' On a subsequent visit, Dr. Lotsy suggested trying the experiments given in Oels' 'Physiology' …" (Murrill 1919a). It was Gildersleeve, a family friend, who arranged for a fellowship aimed at Murrill. Faithful to his promise, Murrill spent hours over late winter and spring of 1896 reading Strasburger's book and working out whatever experiments he could with limited equipment (Murrill 1919a).

At two locations in the Virginia mountains, Murrill collected *Asplenium ebenoides*, a spleenwort fern assumed to be quite rare and a new report for Virginia. When his discovery became known, he was asked by Willard N. Clute, Editor, to contribute a paper to FERN BULLETIN, which he did (Murrill 1897), but reproducing most again in the "Staunton Book" (Murrill 1919b). It was his virginal contribution to scientific writing, in which he held that *A. ebenoides* was a discrete species, not a hybrid as had been conjectured by some. In the paper, he acknowledged help from Underwood, who had just arrived at Columbia in New York, and who proceeded to request herbarium material of all Virginia ferns. Murrill also sent a couple living plants to Cornell, where they were successfully maintained in the greenhouse.

In the "Boarding School" book (Murrill 1919a), there follow several adages and short stories making various, unrelated points. Chapters XIV (The English language), XV (How to live wisely); XVI (Character); XVII (A love story in outline); XVIII (Condensed paragraphs); XIX (Quotations relating to man) are all a collection of quotes, aphorisms, maxims, short rhymes from poets, Shakespeare, Bible, etc., but with no information about the author except deductions about his state of mind in 1919. The last dates are in spring, 1896. If there is a rational theme to this 136-page soliloquy, it eludes this reader, except perhaps as a self-effacing demonstration of otherwise negligible tidbits—as young men might display baseball cards, political lapel buttons, marbles or penknives.

Murrill's last-minute switch from zoology at Johns Hopkins to botany at Cornell—made on the night of March 10, 1896—was expanded only slightly in Murrill's autobiography. "When he was about ready to enter Hopkins, however, he was met by two Cornell men, Coville and Howard, who argued that new positions in biological teaching would be open to botanists rather than zoologists and he should therefore go to Cornell and take graduate work under [George Francis] Atkinson. To make their argument more convincing they actually secured a fellowship for him at Cornell to match the one offered by Hopkins. The result was a victory for Cornell which was never regrated." William entered Cornell University in the fall of 1897, where he had, indeed, been awarded a fellowship in botany.

Even during the days of decision for Murrill—Johns Hopkins and zoology versus Cornell and botany—there was a muffled backdrop of war in the headlines. The wonderous magic of telegraphy carried the news from the Atlantic coast where news was written, to the interior—say, Staunton, Virginia. Workers in the Spanish Caribbean were rioting, especially in Cuba. But the United States had deep economic roots in Cuba, from the sugar cane industry to the furniture factory of Elizabeth Britton's family near Havana. More below.

THE AWAKENING. As remembered in maturity from his boyhood days, William had sought to bring nature under his mental control, whether tracing the burrows of moles, shooting birds for their skins, pinning and spreading butterflies and illustrating their wing patterns to exercise who was master of their beauty, to recognizing all the ferns of Virginia. He had crowned himself as The Naturalist; third person singular substituted for his given name (or even "I"). In Bowling Green and Staunton (Murrill 1919a, b), he had been the king of his classroom, passing on his experience to his vassals. Now, suddenly, he was to be baptized into a world of science—often as opposed to his brand of Natural History—as a serf rather than king, gathering materials for his professor in a milieu of academics. He related that he arrived "with a ton of fungi," almost all of parasitic types gathered during the previous summer but previously almost unmentioned in his descriptions of life to that point. MycoPortal records from the Cornell Plant Pathology Herbarium vouch for the feast of Virginia fungi shipped north.

It would be easy to judge his expertise with a cruise through the lengthy lists of plants (not animals) collected during his Staunton days (Murrill 1919b), only to recognize that in the fall of 1897 he would meet those who might have spent years studying a single small genus in the list, but who were at a loss to recite even a single Victorian quote describing the emotions of a cloudburst.

EDNA LEE. Perhaps most poignant, we know nothing substantial of Edna Lee Luttrell from William; the observer had to wait for William's obituary and Gleason's (1961) "thumbnail sketches." From the latter we read: "His wife, whom he had married while she was in her teens…" (he was 28) indicate a difference of some years between the two, perhaps mirrored in differences in life view and aspirations for the future. The summer preceding their September 1, 1897, wedding went this way:

"After the school closed at Staunton, I went to Blacksburg and devoted myself especially to collecting, pressing and studying all the parasitic fungi to be found within a radius of about twenty miles of the place, often walking thirty miles a day over the mountains and finishing off with a game of tennis." Moreover, his two-line description of leaving Virginia reads: "Early in the autumn I departed for Cornell University with a ton or so of fungi and a fund of health and experience sufficient to last for many years. My record for the summer was over a thousand miles." MycoPortal records from Cornell divulge a single specimen collected in Cascadilla by Murrill on August 29. Edna's name is not attached.

Murrill (1918b) often wrote in allegory. In "Three young Crusoes," the thinly veiled Edna was described: "Edna was thirteen [only one year younger than William, another of the Crusoes], with golden hair and eyes of the deepest blue. She was slightly under size for her age, so that the two boys [William and Henry] seemed older than they really were by comparison. All her life previous to this fateful voyage had been spent in a Virginia town [Falls Church] where she had learned something about books and a great deal about housekeeping and the care of babies" (Fig. 1.8).

Later in the same book: "When their college courses were finished … William [became] a Professor of Natural History in one of the Virginia colleges. A few months after his appointment, William (Fig. 1.9) married Edna and took her to New York to spend the Christmas holidays." If accepted, these passages run counter to those of Gleason (1961) and Weber (1961).

By far, the most revealing narration is Chap. XVII of "The Naturalist in a boarding school" (Murrill 1919a). Although written in melodic style in Murrill's 50th year, the facts ring true (i.e. "The Girl was almost twenty, and he was just twenty-seven.")

Fig. 1.8 Edna in Virginia. Edna, female lead of "Three Young Crusoes" suspected to be Edna Lutrell, William Murrill's wife

FIG. 82. Edna at her home in Virginia.

Fig. 81. Henry and William during their senior year at college.

Fig. 1.9 Henry and William. Henry and William, male leads of "Three Young Crusoes," the latter suspected to be William Murrill. Note the fashionable Bowler hat

Edna was born in Tennessee; her father moved to accept a job in Washington, DC, and the family moved to a small town, Falls Church, quite near the District. Her middle name might indicate an "aristocratic" Southern association. Her name (as "Mrs. Murrill") is mentioned occasionally in William's reports on Caribbean, European, Mexican and Pacific coast travel and, thanks to MycoPortal, recorded on herbarium labels of specimens collected. It is quite possible that her withdrawal from the marriage was so traumatic that Murrill (1945a) could not mention her name even in advanced age—his death certificate noted "never married."

Photos of the hypothetical characters, Henry, William and Edna, appear toward the end of "Three young Crusoes" with no parenthetical cautions. It may be the only such picture of Edna.

CORNELL. Telltale evidence indicates that Murrill visited Cornell twice in 1896, a year before enrollment (Fig. 1.10). In June, a single specimen of *Russula emetica* was gathered in Ithaca Cemetery, and in August, two boletes were found in Cascadilla (MycoPortal CUP), both by Murrill. No data include a co-collector, and both trips were probably made during vacation periods.

William Murrill and George Atkinson were both engaged in introducing young people to natural history, including botany, but Atkinson's tuning was at least an octave higher than Murrill's. Exemplifying the role of naturalist, Atkinson had made a tour of several Southern colleges, and published very widely, especially on insects