

The Comstocks of Cornell:

John Henry Comstock and

Anna Botsford Comstock

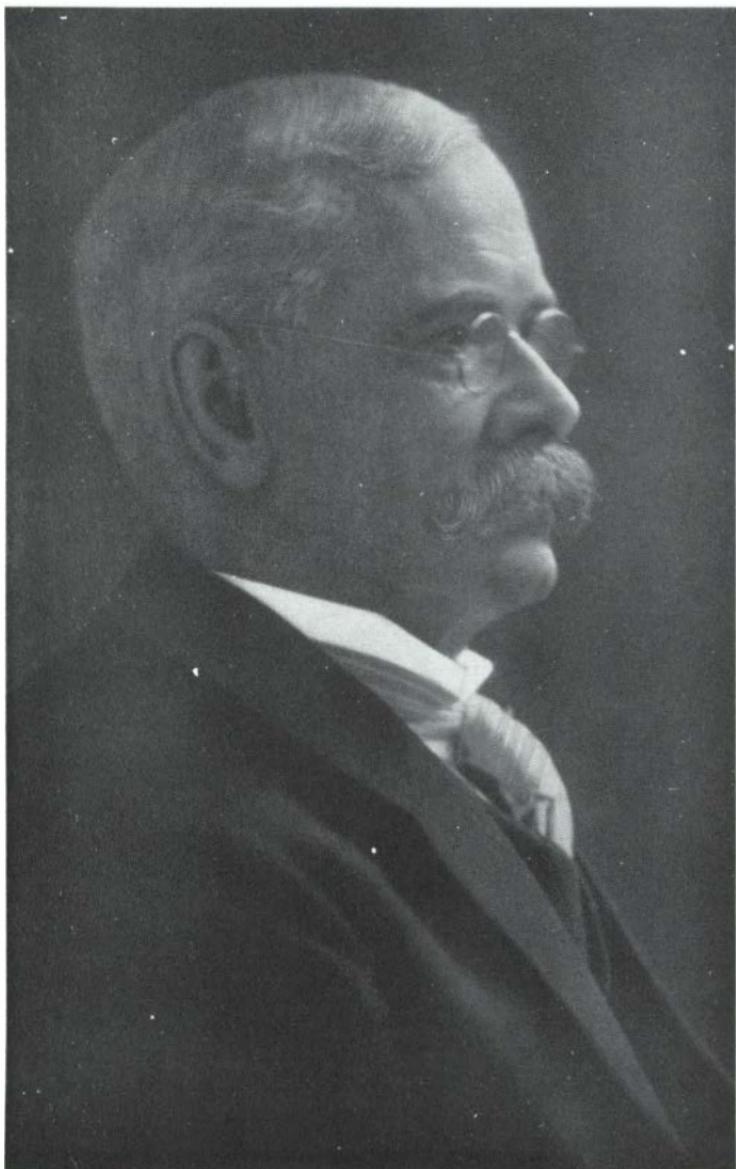


AN AUTOBIOGRAPHY BY
ANNA BOTSFORD COMSTOCK

Edited by GLENN W. HERRICK and RUBY GREEN SMITH



THE COMSTOCKS OF CORNELL



John Henry Comstock, 1849–1931

The Comstocks of Cornell:

John Henry Comstock and

Anna Botsford Comstock



AN AUTOBIOGRAPHY BY

ANNA BOTSFORD COMSTOCK

Edited by GLENN W. HERRICK *and* RUBY GREEN SMITH

Comstock Publishing Associates

A DIVISION OF CORNELL UNIVERSITY PRESS, ITHACA, NEW YORK

Open access edition funded by the National Endowment for the Humanities/Andrew W. Mellon Foundation Humanities Open Book Program.

Copyright © 1953 by Cornell University

First paperback printing 2019

The text of this book is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License: <https://creativecommons.org/licenses/by-nc-nd/4.0/>. To use this book, or parts of this book, in any way not covered by the license, please contact Cornell University Press, Sage House, 512 East State Street, Ithaca, New York 14850. Visit our website at cornellpress.cornell.edu.

Printed in the United States of America

ISBN 978-1-5017-4053-4 (pbk.: alk. paper)

ISBN 978-1-5017-4054-1 (pdf)

ISBN 978-1-5017-4055-8 (epub/mobi)

Librarians: A CIP catalog record for this book is available from the Library of Congress

THIS BOOK IS DEDICATED TO FELLOW ENTOMOLOGISTS,
TO OTHER SCIENTISTS, AND TO THE STUDENTS AND
FRIENDS OF MR. AND MRS. COMSTOCK, IN THE SPIRIT
OF THE GRACIOUS TRIBUTE PAID TO THEM BY CORNELL
UNIVERSITY STUDENTS IN THE DEDICATION OF THEIR
HISTORICAL YEARBOOK, *The 1929 Cornellian*.

To

John Henry Comstock

and to

Anna Botsford Comstock

*Partners in science, as in life,
by all revered as Scholars, Teachers, Writers,
and dear to many a student generation by reason
of their open home and helpful hearts,
we dedicate this volume.*

Foreword ↗

JOHN HENRY COMSTOCK was determined to get an education. He came to Cornell University because it offered him an opportunity to earn his living while pursuing his studies. Anna Botsford came to Cornell because women were admitted on an equality with men. She approved of coeducation. These two young people, each born on a farm and reared in a rural environment, had kindred sympathies and like ambitions. It was inevitable that they should gravitate toward each other and that Anna Botsford should become Anna Botsford Comstock. Happily, their pathway in life continued at the University through many years of gracious companionship and enduring achievement.

The Comstocks worked out their life program together and developed along with Cornell University. They shared the trials and struggles of the University during its early years and, with it, labored on to days of splendid fruition. From these early associations and mutual strivings, the Comstocks came to have an abiding love for Cornell and an unswerving loyalty to its ideals. It seemed to be the chief ambition of each of them to achieve something to the glory and honor of their Alma Mater.

Some months before her death, Mrs. Comstock completed a narrative of the lives of her husband and herself. The account was written during intervals of a busy life, the latter part of it during the year of the author's last illness. Anyone interested in Cornell will find much in the narrative concerning the University. Mrs. Comstock had intended to publish the account be-

FOREWORD

fore her death but the end came before she was aware of its approach.

Although the manuscript left by Mrs. Comstock was long, it was difficult for one who had worked with the Comstocks for thirty years to omit a single page, no matter how irrelevant it might seem to a stranger. I asked Dr. Francis Wormuth, with his more impersonal attitude, to assist in the arrangement of the manuscript material. Dr. Wormuth's experience in editing has been most helpful. I am most indebted to Dr. Ruby Green Smith (Mrs. Albert W. Smith) who, out of her love for the Comstocks and her devotion to their memory, put aside the writing of one of her own books to go over the manuscript with great care, make many constructive criticisms, and consent to become coeditor; also to Mr. George H. Russell, for his persistent efforts in aid of the publication of this book; and to the late Professors Simon H. Gage and George Lincoln Burr for kindly criticism and advice.

GLENN W. HERRICK

Ithaca, New York

October 1951

Contents ↗

FOREWORD, by Glenn W. Herrick	vii
1. John Henry Comstock, Childhood and Youth—1849–1864	1
2. A Sailor and a Scholar—1864–1869	15
3. Student and Teacher at Cornell University—1870–1874	34
4. Anna Botsford, Childhood and Youth—1854–1874	53
5. A Woman Student at Cornell University—1874–1876	73
6. Marriage of Anna Botsford and Professor J. H. Comstock—1876–1879	89
7. As United States Entomologist—1879–1881	105
8. Return to the Department of Entomology at Cornell—1881–1888	137
9. Studies of Entomology in Europe and America—1888–1891	163
10. Entomology at Stanford University; The Comstock Publishing Company—1891–1897	173
11. Nature Study Movement in New York State—1893–1903	189

CONTENTS

12. Scientific Farming; Studies in the South—1894–1903	198
13. Nature Study Across a Continent—1903–1906	209
14. Sabbatic Year Abroad—1907–1908	220
15. Cornell's New Quarters for Entomology and Nature Study—1908–1912	227
16. Summer in England; Plans for Retirement—1912– 1914	236
17. Retirement of J. H. Comstock; Research and Writ- ing—1914–1917	246
18. Retirement of Anna B. Comstock; Writing and Teaching—1919–1921	252
19. Tributes to Two Distinguished Scholars—1921–1926	260
20. "The Last of Life . . ."—1926–1930	267

APPENDIXES

"Sunset and Evening Star," by Glenn W. Herrick	271
In Honor of the Comstocks of Cornell, by Ruby Green Smith	273
The Comstock Books, by Glenn W. Herrick and Ruby Green Smith	274

INDEX

277

Illustrations ↗

Facing page

John Henry Comstock, Head of the Department of Entomology and Invertebrate Zoology in Cornell University	iii
1. Anna Botsford Comstock, Head of the Department of Nature Study in Cornell University	18
2. The Insectary, built on the Cornell Campus in 1888 as an Experiment Station for the study of insects	19
3. Comstock Hall, housing the Department of Entomology at Cornell since 1933	19
4. "The Chalet," built for the Comstock Publishing Company by the Comstocks and given by them to Cornell; now occupied, with an adjacent building, by Cornell University Press and its subsidiary, Comstock Publishing Associates	50
5. The Cornell University Campus in 1872	50
6. A glimpse of the beauty of Cornell University's setting and of a few of its buildings in 1920	51

THE COMSTOCKS OF CORNELL

Chapter 1 ↵ 1849-1864

John Henry Comstock, Childhood and Youth

IN 1848 an ambitious pair fared westward from Stephentown, New York, near the border of Massachusetts. Here Daniel Allen had reared a large family that was destined to scatter to the uttermost limits of America. His youngest daughter, Susan Allen, had married Ebenezer Comstock, who had come from Massachusetts in 1847 to teach school and to give singing lessons in the neighborhood of Stephentown. Immediately after their marriage they bade farewell to family and friends and migrated bravely to Wisconsin.

We know little of Ebenezer Comstock. In the Comstock genealogy, he is recorded as a descendant of Samuel Comstock, a Quaker who settled in Providence, Rhode Island, before 1848. Ebenezer was ambitious and an excellent singer. Through his own efforts he had obtained the means of studying for about two years at Williams College. He was several years older than his bride. Of Susan we know much, for she lived a long, brave life; and because of certain heroic qualities in her, we may believe a tradition that her Allen ancestors were relatives of the redoubtable Ethan. She was a sweet-tempered, gay girl, with a love for finery, which her husband secretly shared, although his religious convictions were against the pomp and vanities of the world. In an old chest in our garret, there is a beautiful velvet waistcoat

THE COMSTOCKS OF CORNELL

to witness that Ebenezer liked personal adornment for himself. The few of his things that we have left indicate a man of fastidious tastes.

Ebenezer had saved a little money. With it in 1848 he purchased a farm whose lands now lie within the city limits of Janesville, Wisconsin. Unfortunately, the farm was heavily mortgaged. But in their new surroundings, the pair found friendly neighbors and happiness in creating a pioneer home, where, on February 24, 1849, their son, John Henry Comstock, was born.

In this same year, gold was discovered in California, and dreams of riches drove everything reasonable from the minds of men. This contagious excitement captured the adventurous spirit of Ebenezer Comstock. The possibilities of future wealth were discussed by Ebenezer and Susan, always with a thought to the future of their little son. At last the arrangement was made: a neighbor agreed to work the farm and keep up payments on the mortgage for the three years Ebenezer planned to be gone; so he purchased his outfit and bade a hopeful farewell to wife and child—for who could doubt his return, possessed of wealth, in three short years? He joined a train of covered wagons and started on the long journey, while his wife settled down to the care of her baby and the farm.

But alas for high hopes and future plans! The emigrant train consisted of two hundred men and some women and children. In those days little was known of preventive medicine, and before the journey was fairly begun cholera broke out in the ill-fated group. At once they divided for safety. Ebenezer Comstock was one of twenty healthy, stalwart members who pushed on. But along the River Platte the scourge overtook them, and of the twenty only two escaped to go on. It was not until years later that one of those two sent back word of the death of Ebenezer and of the place where it had occurred.

Meanwhile, misfortune had overtaken Susan Comstock. The man left in charge of the farm was not efficient and did not make enough money to meet the mortgage payments. Ebenezer's wife discovered that she was in the hands of a scheming moneylender,

who made a business of selling farms and foreclosing as soon as the law allowed. Cheated of her property, she sold her household goods and with her year-old son started eastward, to rejoin her people. She spent a year at Milton, Wisconsin, with her sister and brother-in-law, Mr. and Mrs. Nelson Carr. These two were soon drawn westward by the charm of Eldorado. The next year Susan Comstock spent at Pierpont and Conneaut, Ohio, in each place finding a situation as housekeeper where she could care for her child and earn money. Finally, when Henry was four years old, she reached her people in New York State.

There are few stories of Henry's babyhood. He was of a nervous temperament and very active—characteristics that lasted throughout his life. I once said to his Aunt Hannah, "He must have been a little terror," to which she answered: "On the contrary, he was a very obedient child and very easy to manage. He needed to be kept busy, but I never saw a better child."

Susan was independent and ambitious and soon found a place in Troy, New York, as housekeeper for a merchant, a widower with a small daughter. Except for the uncertainty of her husband's fate, Susan and Henry were happy in this new home. Susan had the faculty of making a home even where she was only a temporary sojourner. But again adversity overtook her. She became ill and for two years was unable to support her child. She was taken to a hospital and her little boy was put in an orphan asylum. Alas for the children in orphanages in the benighted days when the contract for food was given to the lowest bidder! Mr. Comstock's recollections of this experience give a graphic picture of the conditions:

My memory is somewhat vague, [but] I think there were about three hundred children there. A few things stand out clearly. We slept in a large room immediately under the roof. The beds were double and were arranged around the sides of the room. I do not know how many of us were in this room—perhaps forty or fifty. There were recesses in the sides of the room, leading to dormer windows. The boys occupying these used to hang bedclothes in front and have a circus behind this curtain after the attendants were gone. We were all invited to the circus. The only toilet facility accessible to us at night was a

THE COMSTOCKS OF CORNELL

large vessel in the center of the room. Many of the children suffered from ophthalmia and one of the regular occurrences was the lining up of the children and administering to each an eye-wash. The attendants were invariably kind to us.

In the dining room were several long tables at which we stood when we ate and were served by several young women. Fare was scanty. For breakfast we had a liquid called chocolate and a half slice of bread. I do not remember so much about the midday meal, except that frequently it consisted of a dish of vegetable soup. I did not care for carrots, the boy who was my neighbor at table did not like turnips, so we used to exchange the few pieces of these in our soup.

The evening meal was not served in the dining room, but was brought up to the assembly room in large dishpans and consisted of a half slice of bread over which there had been spread molasses. On Sunday we marched to church and on our return were served with a meal, the big element of which was a piece of boiled beef for each child.

The one bright memory I have of my stay in this asylum is of the following incident: It was a rule that if anything was lacking at a child's place at the table, nothing was to be said about it until the close of the meal. One morning there was no bread at my basin of chocolate and I was forced to stand fasting through what seemed to me an interminable meal. After the children had left the dining room, I went to the serving table and told of the oversight to one of the attendants, at which she took up a loaf of bread and cut me a slice across the entire loaf. This full slice of bread seemed more sumptuous than any banquet of which I have partaken in my later years.

One day I was called to the reception room where I found an uncle of my mother who had come to see me. He made a short call and went away, but I have been told that he said to his wife on reaching home, "Polly, they are starving Susan's boy and we must take him out of the asylum." Soon I was brought to his home, to what seemed to me a heaven of plenty.

Uncle Daniel lived on a mountain, and this impressed the small boy very much. It was here that Henry had his first schooling, when he was five years old. He remembers the old-fashioned schoolhouse with the writing desk along the side of the room and a backless bench below it. The older scholars sat with their legs

on one side of the bench, when writing, then swung them over to the other side to face the teacher, when reciting. Henry remembers a great rock on which the children played near the schoolhouse. It was an awesome rock, because printed in it were hollows shaped like a foot and a hand, and the children firmly believed these prints had been made by Satan himself.

Henry was to stay with his uncle only until his mother might become able to care for him. Mrs. Comstock had a sympathetic, winning nature; because of this natural aptitude and the contacts made during her long illness in the infirmary, she decided to become a nurse. This was before the day of trained nurses. Her decision made it necessary for her to find a home in which Henry could be cared for while she was serving in her new profession. At this juncture Susan's elder brother, John Allen, who was a Freewill Baptist minister with a parish at North Scriba, New York, wrote to her offering to take the lad for the winter. The offer was accepted gratefully and the boy remained for more than two years a member of this uncle's family. Henry's memory of this period was not a happy one. Aunt Alma, the wife of John Allen, was kind to the child, but Uncle John, being a minister, was around the house most of the time and took the disciplining of Henry very seriously. With the old-fashioned theory that a boy can be whipped out of all error, he dealt "according to his lights" with the lad. His letters to his sister always assured Henry's mother that he was a good boy, that he was sent regularly to school and was learning fast. But Henry had the misfortune to stammer, and Uncle John undertook to break this highly nervous, sensitive child of stammering, by corporal punishment. Henry's nervousness was also the cause of further whippings, for he was required to wash dishes in a stone sink and was punished every time he broke a dish. His Aunt Alma had taught him to write, so that in his eighth year he wrote letters to his mother. The lad's stammering was a sore affliction to Uncle John who wrote to his sister:

I like Henry very well with the exception of his stuttering, which is quite annoying, and my little girl will mimic him every time she hears him, which gives me many painful feelings. I try to stop him

THE COMSTOCKS OF CORNELL

when I am in hearing and then, usually, he talks quite straight. I am sorry it is so. I would not have Sarah get into that habit—not for any money. I will keep him till Spring and will do my best to break him of it, and if I cannot succeed I would rather he would go.

The boy's well-to-do aunt, Mrs. Nelson Carr, who now lived in Santa Rosa, California, wrote to Uncle John asking about Henry with a view to adopting him. The reply was that he stammered and would never amount to anything and that they had best not consider the matter, which makes it clear that there was no love lost between Uncle John and his nephew; but although Henry disliked his uncle, he was always devoted to his Aunt Alma. Uncle John certainly never understood how his harshness cut to the soul the high-strung boy in his charge. On the contrary, he felt that he had done a great deal for the boy, and after Henry had a home of his own, made him a visit which, because of my influence with my husband, was amicable. I remember John Allen as an imposing man, big, with white hair, and evincing still the indomitable will that essayed by brute force to crush out the stammer from a little boy's speech.

Susan Comstock, owing to her success as a nurse, had been able to pay for the keep of her boy and had clothed him. Henry dutifully acknowledged the money and the clothing.

When John Allen received a call to another church, he left Henry in the family of a neighbor, Henry Green. These people were kind to the boy. It was inconvenient, however, for them to keep him during the winter of 1858, and they found a place for him in Timothy Donohue's family, whose members were kind to the little stranger under their roof. The Donohues had previously lived in Oswego and they continued to attend church there, driving in from Scriba. This impressed Henry. He wrote to his mother: "I go to Sunday School every Sunday. There are 70 scholars. . . . I go to meeting at the Episcopal church. . . ." His memory of his stay with the Donohues was pleasant, although the family was poor and their fare plain. His lunch for school consisted of bread with a piece of salt pork between the slices. He was ashamed to let the other children see his lunch and always ate it in the woodshed. However scanty his fare at the

1849–1864

Donohues, it was as good as the family had, and Henry was not dissatisfied.

The next summer he went back to the Greens. It was about this time that his letters revealed evidence of his longing for his mother, which was to be the undercurrent of his life for the coming years. But he realized that she was doing the best she could, and he never complained. In May, 1859, Mrs. Green added the following postscript to a letter which Henry had written his mother: "Henry writes a few lines with a broken heart to his mother and with tears in his eyes."

In the light of this information, Henry's letter is interesting:

My dear mother:

I take my pen in hand to write a few lines to let you know how I am well and like to live with Mr. Green. Mrs. Green sends her respects to you and she says that I am a good boy. She says she wants you to write to her. Mr. Green has had a letter from Uncle John stating that they are all well excepting Sarah has had the chicken-pox. Excuse this short letter.

Not one word in Henry's staunch missive indicated to the far-away mother that he was brokenhearted because he could not see her.

Henry was evidently a delicate child and the wonder is that he lived at all. In almost every letter from Mr. and Mrs. Green to his mother, they speak of his health as "improving" or tell of some illness. But there is one constant message in these letters, as in those of his Aunt Alma—"Henry is a good boy." This reiteration is reassuring when we consider that he was also quick-tempered, active, nervous, and high-strung. He always "moved like a flash," as has been said of him hundreds of times.

In the summer of 1860, when he was eleven years old, Henry took a hand in his own destiny. His longing to see his mother seemed about to be realized. He had made arrangements to go with a man to Schenectady, where Mrs. Comstock was living. The journey began with high hopes, but a heavy rain had torn out a railroad bridge and passengers were obliged to return to their homes. His heart almost breaking, the disappointed boy trudged homeward along the hot, dusty road. Suffering with

THE COMSTOCKS OF CORNELL

thirst, Henry stopped at a farmhouse to rest and get a drink of water. A kindly woman met him at the door and invited him to sit down on the porch. She sensed at once a troubled child and by dint of easy questioning drew forth the story of his young life. It touched her motherly instincts and she called to her husband, to whom the story was repeated. These two persons, Captain Lewis Turner and his wife Rebecca, then and there began their roles as foster parents of this lonely child. Before the story was fairly told, Captain Turner, encouraged by the unmistakable sympathy of Rebecca, had made up his mind to offer the boy a home. He told Henry that he needed a boy to help him about the place, for his own sons were all grown and away from home. But the boy was torn with his desire to see his mother, and he felt that he must consult the Greens before making a decision. The Greens assured Henry that this would be a fine place for him and that he would do well to accept the offer, especially since the railroad might not be repaired for a long time and no one knew when he might be able to reach his mother. So the boy went back to the Turners' and he and the Captain made the bargain. Henry was to have his board, clothes, and three months of winter schooling; in return he was to do whatever work Captain Turner wished. He was to come for the summer on trial, and if both parties liked the arrangement, it was to continue. In the new home he formed ties of affection that remained strong during his lifetime.

Captain Turner had served for years on the Great Lakes as a master of schooners which were engaged in the grain and lumber trade with the ports of Lake Michigan and Lake Superior. There was a large fleet of these boats and during the winters the harbor of Oswego was full of them. Oswego was an important city because it was the port farthest east. Its wharves were extensive and a row of grain elevators lined the east shore of the Oswego River.

Navigating a sailing ship on the Great Lakes is a highly specialized calling. No experience on salt water prepares a man for it. During the summer the waters may be smooth and the winds gentle, but in the spring and fall it requires great knowledge and skill to keep the ships off the dangerous shores; and many a vessel has gone down in the turmoil of open waters.

1849-1864

Captain Turner was capable, fearless, and honest. He had retired from sailing because of age and lameness. It was in 1882 that I first saw him. He was still a handsome man with clear-cut features and silvery hair; although then eighty or more years old, he was still an impressive person, vigorous and original in thought and expression.

Not less interesting was Rebecca, the wife of Captain Turner. She was born in New York's Mohawk Valley of Dutch parents and spoke Dutch fluently. Her personality was strong and vivid and her heart warm. She was a good housekeeper, a famous cook, and a woman of fine sentiment, judging from her many letters to Henry's mother. They were written in a fine, old-fashioned hand and were sweet and comforting, newsy and entertaining. Her sense of humor cropped out in the superscription of her letters —from "Hurricane Hall." Between the pranks of her sailor sons when they were at home in winter with nothing to do, and the stentorian commands of her husband, the Turner home was a breezy place.

The Turners had three sons; all were sailors, Joel, Henry, and Lucien. The advent of the Comstock boy made two Henrys in the family, a source of confusion. This was obviated by calling the smaller Comstock boy Hank, or more often Hanky. All of the Turner boys were at home when the Great Lakes were frozen. All welcomed Hanky, made playthings for him, and treated him kindly. He returned their affection with devotion such as only a lonely boy could give. The following letter is the first one Henry wrote to his mother concerning his new home:

April 18, 1860

Dear Mother:

I take my pen in hand to let you know how I am. I am well and hope you are. I was fortunate enough to find a place to live this summer, a mile from Scriba Corners, at Captain Lewis Turner's. I like to live here very much and I would like to have you come here this summer to see me. Excuse this short letter.

From your son,
Henry Comstock.

In his next letter he tells something of his duties at the Turners':

THE COMSTOCKS OF CORNELL

You wanted to know in your letter what I do here. I get up in the morning and get the cows and I milk one cow and feed the chickens and pigs and the little turkeys and the calf. I asked Mr. Turner if he thought he would keep me this winter and he said he didn't know anything to the contrary. I would like to see you very much.

It is interesting, through Mrs. Turner's letters to Mrs. Comstock, to trace the growth of the reciprocal understanding and affection between Henry and the Turners. Mrs. Turner's letters give a picture of the boy's life with them that first summer.

Scriba, April 21, 1860.

Mrs. Comstock,

Dear Madam:

Permit me to address a few lines to you; although a stranger to me you are the mother of "Little Henry" as we call him, whom circumstances have thrown under my care. I will try to do the best I can for him. We like your Henry very much and I think he is suited; he seems quite happy playing with his ships and other toys. He has four ships chasing each other on a pole like a windmill and when the wind blows they get wrecked quite often and he displays much skill in repairing them. He is very sensitive, and he often speaks of you and reads your letters over and over. I wish you would come and see him.

Yours respectfully,

Mrs. R. A. Turner.

Mrs. Turner's motherly sympathy had fathomed the boy's homesickness for his mother. She wrote again:

Scriba, N.Y.

August 30, 1860.

Mrs. Comstock,

Dear Madam:

I think it about time that you heard from your child. I tried to get him to write, but he said he did not know what to write. I told him what to write several times, but he would cry and say he could not. I do not know what has come over the child, but I think his heart pains to see his mother.

I told him he must write and gave him materials and left him alone in the dining room. In about two hours I went in and found him crying as if his heart would break. You will see the first page blotted with his tears. I wish you would write immediately and let me know when you will come.

Please accept my best wishes, Rebecca A. Turner.

In response to these letters Mrs. Comstock promised to come as soon as she could leave the patient she was caring for. She did so, and her visit was of infinite comfort to the boy. He slept with his mother and was loved and cuddled to his heart's content. But when she had to go the parting was very hard. To Mrs. Comstock, Mrs. Turner wrote:

I pity the poor child from my heart. Yesterday morning I heard him crying and tried to comfort him but he said, "I can't help it. I woke up and went to kiss my mother and she was not there this morning." I heard him crying again before daylight this morning. . . . I called Hanky and . . . he put his arms around my neck and kissed me and I told him I would be his mother and love him all I could. He said, "I know it, but I am lonesome." You don't know how much that child loves you and you have great reason to bless God for such a child. . . . He has his book tonight and is very cheerful; he is to have a sleigh and learn to skate and I will do all I can to make him happy.

The loneliness of the boy and his pathetic longing for his mother struck a deep chord of sympathy in Mrs. Turner's heart and she received the child into a corner of her affections on an equality with her own sons. To Henry, she and Captain Turner soon became "Ma Becky" and "Pa Lewis."

Life at Hurricane Hall was interesting. During summers Henry was alone with Captain and Mrs. Turner. When the sons came home in winter life became exciting. Captain Turner always had on the farm a yearling bull, and one of the "circus" performances of the Turner boys was to "break the bull" as soon as the first sleighing occurred. With an improvised harness, the boys would quietly hitch the bull to a stoneboat while they were safely in the barn with all the doors shut. When the door was opened, there was a war whoop, with the frightened bull tearing forth in a frantic effort to get away from the monstrous thing to which he was tied. The boys would ride on the boat when they could catch it right side up, but those moments were rare. Most of their efforts were spent in keeping out of the way of the skipping, bobbing boat and within capturing distance of the crazy bull. When the animal had run until he was tired out, the stoneboat was lifted around and the beast was headed for home. After a few lessons of this kind, the animal would become

THE COMSTOCKS OF CORNELL

docile and amenable to command; then, of course, the sport was over.

The year after Mrs. Comstock's visit, Joel Turner married, and there was a daughter in the house until a home nearby was prepared. Henry Comstock became fond of "Maggie," the new sister, and they remained staunch friends. Joel rose to command a schooner and was still young when his ship went down with all on board. "Captain Joe" left his young widow with five small children.

Henry Turner's wife, witty and interesting, proved to be an important factor in Henry Comstock's life. She was a reader and Henry's ally in political discussions; the Turners were all Democrats, but Henry, because of his views on slavery, was a "red hot" Republican. He remained firm in his belief, despite the constant influence of this family for which he cared so sincerely. He often said that he would have been "pretty lonesome" in his stand but for Mrs. Henry Turner.

Lucien Turner married early and lived near his parents. After many years, he abandoned the life of a sailor and spent his last years in Ithaca, where he was employed by the Ithaca Trust Company. The oldest son, dead before Henry Comstock joined the family, had also been a sailor, but had died of tuberculosis brought on by exposure during a storm. Although he was a mere lad, he was the only man of the crew who could be trusted at the wheel, where he stood, without relief, for forty-eight hours, until he brought his ship into port.

It was characteristic of Captain Lewis Turner that he kept his exact promise to Henry Comstock. The boy had his winter schooling, and on no occasion, however great the need for his help, was he allowed to miss one day at school. On the other hand, no matter how slack the work on the farm, he was never permitted to go to school in the summer.

Letters from Mrs. Turner to Mrs. Comstock often mentioned the fact that Henry was "learning fast." However, he had great difficulty with his spelling. He has often said, "I could learn to spell all right if the words of the English language were spelled as they sound." In his letters to his mother the words were usu-

ally spelled correctly, but he says this was due to his constant consultation of his spelling book. His handwriting from the very first was plain and showed many of the characteristics of his hand in his later years. When he was fourteen, a letter to his mother gives an account of his work on the farm and of his thrifty habits:

Ma Becky and Pa Lewis have gone visiting and Mate has gone to see her little brother and I am alone. We expect the boys home in a week and we have our fall work done and I am ready to go to school, which commences next week. We have raised four hundred bushels of corn, one hundred bushels of potatoes and a great many apples. I wish you were here to help eat them. We made eight barrels of cider besides many cider apples we sold. I have a turkey to sell that I raised. Pa Lewis has given me a lamb and is going to winter it for me. I have got the pay for my blackberries, which was ten shillings and six cents. Wasn't that a good day's work; 21 quarts at 6 cents a quart? I did not put any money in the bank. I am trapping for mink and muskrat. A good mink skin is worth from 3 to 6 dollars and a muskrat is worth 25 cents. I have got two muskrat skins. I am going to gather butternuts next week. I picked up a quart of beechnuts one day and I gave them to the old woman that knit me a pair of socks. I have knit a pair of suspenders and have commenced a stocking. It is getting late and I must go to bed, for I get up at daylight to go to my traps. Goodbye for the present.

Mrs. Comstock visited the Turners as often as she could, and Mrs. Henry Turner has told me that her visits were most welcome. There was a blitheness of manner in Susan Comstock that pleased people and was of great value to her patients. Mrs. Turner said: "She was such good company that we liked to have her come and stay as long as possible. She always brought us the latest fashions and helped us make or remodel our dresses in attractive ways. She had the knack of always looking handsomely dressed herself because she knew the value of lace collars, undersleeves, and ribbons and could make an ordinary dress look dressy."

During these days of boyhood Henry found two school friends who were his constant companions—Sarah Turner, a niece of Captain Turner, and Ida Bachelor, a niece of Mrs. Turner. He

THE COMSTOCKS OF CORNELL

played and studied with them and they were important to his happiness. Between duties on the farm there was always time for play, and the children enjoyed the freedom of the farm. There was a charming brook and a woodlot nearby, in which they spent many happy hours. Henry naturally loved everything out-of-doors—except snakes and walking-sticks.¹ Long after he became an entomologist and accustomed to handling insects, he still hesitated a moment before seizing a walking-stick. These uncanny insects, with their long, stick-like bodies and long, slender legs, always gave him a moment of revulsion.

When Henry was playing near a stream with boys from the next village, the boys asked, "Can you swim, Comstock?" Ashamed to own his lack of knowledge of this sport, he replied, "Of course I can swim," and plunged into the stream. By sheer force of will he paddled across the deepest part to the far bank. "Oh, you swim dog-fashion," jeered the boys. Happy to have escaped from drowning, he retorted, "Yes, that's the way *I* swim." It was not long before he had overcome all occasion for such reproaches.

Henry longed for a violin, for it seemed to him the best of all musical instruments. From his father the boy had inherited a love for music and good music was always a source of much pleasure for him. A violin was completely beyond his reach, but his mind dwelt upon it so much that he often dreamed he owned one, only to awaken to disappointment. Throughout his life he remained partial to violin music.

In Hurricane Hall, orderly housekeeping and excellent cooking exerted an unconscious but wholesome influence on this boy whose previous years had been spent under irregular conditions. His love of the beautiful was nourished by the appeal of the woodlands, fields, and streams through which he roamed with delight and with a growing appreciation of nature. Ma Becky sympathized with his love of the out-of-doors and often accompanied him on excursions for the gathering of wild flowers, and of the golden cowslips for dinner "greens."

Thus passed his boyhood, happier now that he had found a

¹ The walking-stick is a relative of the grasshoppers.—G.W.H.

home which welcomed him and welcomed his mother when she could spare time for a visit. His schooling was limited to three months in winter, but he made the most of it. He was clothed comfortably, but was so active that it was no small task to keep him mended. As she patiently patched his trousers, Mrs. Turner used to say, "Hanky, when you buy your own clothes you will be more careful of them"—but this was a false prophecy, as I can attest.

In 1861 Henry was greatly affected by the Civil War. He was nearly twelve years old, and he wrote his letters on paper with a colored print of the American flag in the corner and with this inscription under it: "If any one attempts to haul down the American flag, shoot him on the spot." ² In 1863 he tried to enlist in the United States Army but was rejected because of his youth and small stature.

Chapter 2 ↴ 1864-1869

A Sailor and a Scholar

IN MARCH, 1864, occurred an event that had a profound influence upon the relations of Susan Comstock and her son Henry. She had a patient who desired her services on a journey to California; this was a temptation she could not withstand. She had never heard a word about her husband since he had left her for California, fifteen years before, and she had a feeble hope that, were she in California, she might solve the mystery. Her brother-in-law and sister, Mr. and Mrs. Nelson Carr, were living in Santa Rosa, California, and had often urged her and Henry to come there. She decided to go and made the journey

² In the closing months of the Buchanan administration, United States revenue cutters were seized when they entered southern ports. John A. Dix, Secretary of the Treasury, telegraphed these famous words to a revenue official in New Orleans in January, 1861.—G.W.H.

THE COMSTOCKS OF CORNELL

with her patient by boat, crossing the Isthmus of Panama by train.

Henry took the news bravely and encouraged her to go; he wrote to his mother: "I am glad you have a good chance to go to California and I will do the best I can until I can go too." Living as he did among sailors, it was natural that he should turn to sailing as the most available means of earning money; but he was a slender youth, often ill from malaria, and Ma Becky knew that he could not go as a common sailor before the mast. With her usual tact and good judgment she proposed to teach Henry to cook so that he could have a berth as steward, a job better suited to his physical condition. He was an apt pupil and Ma Becky an excellent teacher. Before the season opened in the spring, he was well grounded in Ma Becky's art of good cooking.

His first experience was on a small lumber vessel plying between Oswego, New York, and Kingston, Canada. His wages were ten dollars a month. Of his experience on this boat he has written:

The first year I sailed on a small French Canadian schooner, the "Queen of the Bay," which traded between the Bay of Quinte and Oswego. The crew consisted of the captain, the mate, two foremast hands, and the cook; I was the cook. Although the members of the crew could speak English, the language of the ship was the patois of the French Canadians. I made no effort to learn this, for I soon divined the significance of certain expressions that were frequently used in an emphatic manner. One of these was *Sacré musdaw*. This was frequently addressed to me; and I recognized its import, although I did not know and have not yet learned the English equivalent of these words.

Naturally, my social intercourse with my shipmates was quite limited, which doubtless was fortunate. But I took an interest in the details of the management of the craft. I learned to steer a trick, to stow the gaff topsails, and to do various other things that did not pertain to my duties in the galley. I was not without resources, however, for I had a few books with me, and I bought an accordion. This instrument was probably of more comfort to me than to my associates, for I knew nothing about music and have no musical ability. The chief resource of my comrades on board was a game of chance played

with cards. This was always resorted to when the men had been paid off; and it invariably resulted in the wages of the foremast hands finding their way into the pockets of the captain and mate.

In port, my shipmates found other sources of enjoyment, and owing to the shortness of our trips we were in port often. I never went ashore with them and do not know what they did there; but frequently their condition on their return gave evidence of the drinking of strong liquors. They were all in this condition one morning in Sackett's Harbor, when they came aboard after spending the night ashore. We were to go from Sackett's Harbor to Kingston and some one suggested that, as the wind was fair, we might sail through the canal that then traversed Wolf Island, instead of making the longer trip around one end of the island. We made sail and reached the canal shortly. Soon we came to a bridge across the canal and a horn was blown to signal the keeper to swing the bridge. But the old woman on duty would not open the bridge until she had received the toll. There was nothing to do but to run the boat on to the shore, which was done, the operation being accomplished by many *Sacré musdaws*. After the fee had been paid, the boat was poled off the bank with much trouble by the inefficient crew and we passed through the bridge. I was asked to take the wheel, which I gladly did, as it was sport for me to keep the boat on its course between the banks of the canal. About this time the captain went below; and a little later, when I glanced down the companion-way, I saw he was lying in his berth in a drunken stupor. One after another the mate and the two men followed his example; and I found myself alone guiding the ship over a course that I had never before traversed. This seemed a simple matter; for the wind was fair, the sails properly set, and I had only to keep the boat from running onto either bank of the canal. All went well until I found the canal opening into a lake, on which we were soon sailing. Evidently the thing to be done was to cross this lake and to enter the other section of the canal that connects it with the open water on the Kingston side of the island. I endeavored to see some indication of where the entrance to this canal was, but could discover none. Finally I selected a point on the opposite shore that I thought might be the entrance and headed the boat for it. Before reaching this point the boat stopped moving and a glance over the side showed that she had been run into the mud of a marsh. It was evident that my role as a navigator had been played. I lowered the sails and waited for the crew to sober up. When the captain began to

THE COMSTOCKS OF CORNELL

curse, as he discovered what had happened, the mate rebuked him and said, "The boy was not to blame."

At the end of his first season of sailing, Henry bought his clothing for the coming year and started home with twenty dollars. But at Cape Vincent some one gave him a counterfeit ten-dollar bill, and it was a sorrowful boy who arrived at Hurricane Hall with just half of his savings with which to buy his books and to pay other expenses.

He started to school with the idea, prevalent at his age, of having a good time. But when he entered the schoolroom he saw a diminutive woman hardly reaching to his shoulder; and he was disgusted because he felt it wouldn't be fair to "raise Cain" with such a little teacher. She came to him, looked over his books, and asked him why he had an arithmetic different from that of the other pupils; he explained that he had "figured" through five arithmetics and the only way to get anything new was to find a new kind of arithmetic. She exclaimed, "Why, you should take up algebra and stop studying arithmetic." It was the first time that even a thought of higher education had dawned on his mind. He had seen on the back pages of one of his arithmetics an advertisement of an algebra by the same author and he had wondered vaguely what it might be like, but never thought that it might be something for him to study. He was excited at the alluring prospect of a new study and that very day walked five miles to Oswego and back to buy an algebra.

This book opened a new world to the boy. His devoted teacher, Miss Eleanor Dickinson, taught him algebra after school hours, for she had so many classes and pupils that she could not take the time during regular hours to teach an advanced subject. To her influence Henry always attributed his ambition for an education. She worked faithfully with him and at the end of the winter told him that he ought now to go to some seminary where he could prepare for college. He had become thoroughly imbued with the desire for a college education and gave his whole thought and energy to his work in school. Ma Becky writes of him to his mother at this time: "Hanky studies all he can,



Figure 1. *Anna Botsford Comstock, Head of the Department of Nature Study in Cornell University.*



Figure 2. *The Insectary*, built on the Cornell Campus in 1888 as an Experiment Station for the study of insects.



Figure 3. *Comstock Hall*, housing the Department of Entomology at Cornell since 1933.

more I think than he ought to for his health. Poor child! He is so anxious to learn, and if he has his health he will succeed. Susy, he is almost as big as Whig [Lucien Turner] and he grows handsomer every day. I think you will be proud of him when you see him."

The following summer was a happy one for Henry, for he sailed with Joel Turner on the schooner "Thornton." This was a prosperous and pleasant season. Joel Turner was captain, Henry Turner was mate, Lucien Turner sailed before the mast, and Henry Comstock was the steward. Henry was promised twenty-five dollars a month, and more, if matters turned out well. He wrote to his mother, May 17, 1866:

I commenced work the 16th of April. I like it well, but it keeps me at work all the time. I do not get any time to study, unless I do it evenings, and then I am too tired and go to bed.

I will finish my letter at Bay City. We had a rough night. It blew very hard but we came through all right. We passed a schooner yesterday that was capsized. It looked hard to see her lying on her side, not knowing how many poor men perished on her. Capt. Joel says he will give me a dollar a day on this trip.

In a later letter he tells his mother how much he will save and what he will do with some of his money. He will pay Pa Lewis and Ma Becky something in gratitude for their kindness to him, buy enough clothes to last him through the year and save from \$150 to \$200 for his winter term in some seminary. He ends by assuring her, "I can send you money instead of your sending it to me."

He never got over being homesick for his mother. He wrote her August 24 from Lake Erie:

I thought I would write you, although it is so rough that I can hardly write. I was so glad to get your letter. I look forward to the time when we can be together again. How we will enjoy ourselves. Oh, how I want to see you! I look at your photograph but it isn't mother!

Mother, I have been thinking how it would be if, when I go to California, I should, instead of taking a steamboat, get a berth on

THE COMSTOCKS OF CORNELL

some ship as steward and go around the Horn. It would take more than five or six months and I would get pay for it, instead of its costing me two or three hundred dollars.

I have a healthy family to cook for and they have good appetites. I have baked up five barrels of flour since I came aboard the "Thornton" this spring. Today I have been baking bread, huckleberry pies, green apple pies and gingerbread, in rough weather.

In a later letter he gives his bill of fare:

For dinner I had roast mutton, boiled potatoes, turnips, onions, pickled beets, bread, butter, and duff for desert [sic]. I guess you do not know what duff is, for it is a sailor's dish. It is a kind of pudding boiled in a tin form and eaten with a sweet sauce. I have been patching my clothes this afternoon and must now go and knead my bread and get supper.

Henry, ever sociable, was always making friends. He wrote in October, 1866:

We were in the Welland Canal over Sunday. There I got acquainted with Hugh Keefer, who keeps a grocery store and is only four months older than I. He asked me to come to his house Sunday and we had dinner and supper together on board ship. I went afterwards to his house. It is a nice place with a nice yard with flowers in it and I had a pleasant visit. In the evening Hugh, his mother, two sisters, two cousins, and myself went to church and heard a good sermon. The text was in the 21st chapter of Revelation, part of the first verse: "and there was no more sea." The minister spoke of the sea dividing nations and friends in this world, but in the other world there will be no more sea to part friends.

At the end of his second summer of sailing, Henry wrote to his mother:

I had a nice time on the lake this fall. We had some rough weather, but came out all right. Captain Joel gave me \$350 for my summer work, which was nearly \$50 a month. Then, after the Thornton laid up, I made a trip on another schooner at \$2.50 per day. I worked 13 days for \$32.50, making in all \$382.50 for my summer work, out of which I have bought enough clothing to last me about a year and have \$175 in cash, which will be enough to keep me in school this winter and have \$100 left in the spring. If I have good luck next summer, I

can save enough to keep me in school a whole year, which will cost about \$350.

Henry later described another experience of that summer:

In the fall of 1866 the schooner Thornton, on which I had sailed through the season, "laid up" in Milwaukee. As I was about to start home by rail I had a chance to ship as steward on a schooner that was to sail for Oswego. As this gave me a chance to go without expense and to add to my summer's earnings, I gladly accepted it. I hurriedly got a stock of provisions aboard and we sailed at once. We had been out of port only a few hours when we encountered a gale of wind from the west, which soon drove us nearly to the east shore of the lake. Then followed a battle with winds and waves that I shall never forget.

For three days and nights we endeavored to beat our way out into the lake; but, although we headed out, the schooner made so little headway that our course was nearly parallel with the shore, which was constantly in sight; if the schooner were driven upon this shore, there would be little hope of any one being able to get through the breakers to safety. During these desperate three days we were driven far toward the north end of the lake, where a projecting headland made it necessary for us to put about and work our way south. We kept on tack for a long distance, and then put about again and worked our way north. The trying nature of these days was greatly aggravated because the captain lost his nerve. One afternoon, when the schooner was pitching violently, he walked up and down the quarterdeck, clinging to the rail and saying repeatedly, "Wood and iron cannot stand this long." His fear might have made some of the crew more anxious; but several of them expressed their disgust with the performance.

This was a unique experience during my sailing days. The remarkably brave captains of the sailing vessels were accustomed to danger, and when it came, they met it calmly.

The attitude of members of the crew during this gale differed greatly. Some were unusually quiet and others unusually profane. One evening the men were trying to eat supper, which I had cooked with great difficulty, owing to the pitching of the schooner; they were seated on the floor of the cabin, braced in corners and elsewhere to keep from being thrown about. I was attempting to serve them without spilling the food and remarked petulantly, "I hope we shall

THE COMSTOCKS OF CORNELL

be in smoother water before breakfast." One of the men replied, "We shall be in hell peddling matches before that time." The meal was continued in silence.

Among the incidents of this experience that are indelibly fixed in my memory is the following: No one on board undressed for bed during the storm. At night I lay on a couch in the captain's stateroom. There was a small dog on board and when I lay down he would snuggle close to me, and when the schooner would shake itself free from a big wave, he would tremble in abject terror.

The performing of my duties during the three days of storm was attended by many difficulties. It was essential that the meals should be ample and served on time; and instead of merely a cold lunch set out for midnight, as was the usual practice, I served hot coffee with the lunch. It was not easy to make coffee on a stove that was oscillating through an arc of ninety degrees; but by partly filling my largest coffee kettle and securely lashing it to the stove the feat was accomplished. Most of the dishes ordinarily cooked on top of the stove were cooked in the oven, with the door securely fastened. But the most serious problem that I met was the baking of bread. When getting the supplies for the trip in Milwaukee I had not thought of yeast, and as I could find none on board it was necessary to resort to the making of salt-rising bread. I set emptyings promptly, but before it was time for them to rise we encountered the gale, and the constant motion of the vessel prevented their rising. I was forced, therefore, to make biscuits and other substitutes for bread. The second day I tried again, with the same result. More substitutes for bread had to be made. On the morning of the third day a brilliant idea occurred to me. I set the emptyings in a tin pail and suspended the pail from the ceiling of the galley, above the stove, where it was kept warm. The suspended pail preserved a vertical position in spite of the pitching and rolling of the vessel, so that the emptyings were undisturbed and "raised" splendidly. The sponging of the bread was equally successful; and in due time a fine array of loaves was placed under the stove to rise; they came up in fine shape, ready to be put in the oven, when I was interrupted.

The captain came to the companion-way and asked me where the ax was. On my telling him that it was at the wood pile near the foremast he asked me to get it and bring it into the cabin where it could be found quickly in case the schooner should become dismasted and it should be necessary to cut the stays and set the masts adrift to

prevent their pounding the ship to pieces. I started for the ax, but when I was about midship a great wave came over the rail and swept me across the deck and nearly over the rail. Just as I was about to be swept overboard, I seized hold of a rope, the reef-tackle downhaul, which extended beneath the fore boom, and clung to it until the water ran off the deck. I then secured the ax and started back in a somewhat excited condition. I had reached the narrow space between the cabin and the rail of the ship, when the mainsail split. We were still trying to beat our way into the lake, and were sailing as nearly head to the wind as possible. As soon as the mainsail was split the great pressure on the forward sails swung the vessel around into the trough of the sea, where it rolled violently; the vessel rolled over so far that the masts were parallel with the surface of the water. I saw the feet of the man at the wheel slip from the now vertical deck and the man hung suspended from the spokes of the wheel. I was in a comparatively safe position in the narrow space between the cabin and the rail of the ship and had thrown my arm about a timber-head. Suddenly I thought myself sitting by the stove in Ma Becky's kitchen at Scriba, where it was warm and comfortable. I had never had a dream that was more real than this illusion. The only explanation that I can offer of this occurrence is that I was scared out of my wits. My illusory visit home was a short one, and I returned to an active half-hour's work. The foresail was dropped immediately in order to balance the pressure on the two masts, the mainsail was mended as soon as possible, and then, with both foresail and mainsail set, we resumed our course. I went below and, passing through the main cabin, reached the doorway of the galley. There a sight met my eyes that produced in me the most severe fit of anger I have ever experienced. The beautiful bread that I had left ready to put in the oven had slid back and forth over the floor of the galley and all that was left was a coating of white dough on the floor. I said not a word, but jumped up and down in speechless rage. That was the end of my emotions; all fear had vanished and I quietly got down on my knees and scraped the dough from the floor.

The winter of 1866-1867 found Henry in Mexico Academy and delighted with the experience. He wrote his mother:

I am at school at last! I have one of the nicest rooms in the Academy; it is on the second floor, a corner room, 18 by 20 feet. It has three large windows, from which may be had a fine view of the country around.

THE COMSTOCKS OF CORNELL

My roommate and I have been fixing the room so that it looks a good deal better. We have bought new curtains for the windows, a wood box, a new table and chairs, a table spread, and a lamp.

My studies for the term are reading, grammar, algebra, arithmetic, chemistry, and Latin. We have good teachers here. One of them called to see me since I began this letter; he said that we kept our room in the best order that he had seen since he has been here.

The winter at Mexico Academy was a new experience for Henry. Mexico is a small village about fifteen miles east of Oswego. It had one main street, dominated by the academy, set in a grove. The building had schoolrooms below and dormitories above for boys who were nonresidents. The academy was coeducational; the girls found places to live in town, and the boys boarded in town. There were about a hundred and fifty pupils, largely local residents. Henry made the acquaintance here of attractive, gay young people, and he entered into their society with zest.

The term at Mexico Academy ended in February. Henry's cash had suffered unexpected inroads from livery bills and oyster suppers, and he decided to change schools and to be careful about becoming part of a gay social set in the new place. This was the first time in his life that he had had plenty of money and could at last enjoy some of the pleasures of youth. He may have looked upon his vanishing bank account ruefully, but surely fate smiled at him indulgently for this spirit of boyish recklessness.

He had some cash left, as is shown by a letter to his mother on the letterhead of Falley Seminary, March 30, 1867. This page bears the engraving of a dignified brick building of colonial type and the name of J. P. Griffin, A.M., Principal. Henry wrote:

There have been some changes since I wrote you last. I finished the term at Mexico Academy, then went home for two weeks vacation; I had heard so much about this Seminary that, having leisure time before navigation opens, I thought I would try and see how I like it. Then next fall I will go to the one I like best. This is a boarding school in Fulton, New York, a pleasant village situated on the Oswego River about twelve miles from Oswego.

I think I can do better here than in Mexico, for here they are more

thorough and a graduate from this school can enter college easier than from almost any other around here. You see, mother, I am bound to go through college and have a profession. I don't know what it will be, but I guess it will be Law. I have a long road before me, I realize, two years of hard study before I can enter college and four years in college and one in a law school. But when I am through I will be a man and will know something.

He adds news that he is to sail the coming summer with Captain Monroe Turner on a brig, "one of the largest ships that floats fresh water. She trades between Buffalo and Chicago, and she is so large she cannot go through the Welland Canal. I think I can earn enough next summer to keep me in school a year."

But alas for his hopes! He wrote June 3, 1867, from the schooner "Forest Queen," Ogdensburg:

I was taken with the fever on April 10 at Fulton and was sick ten days before I could get home. Professor J. P. Griffin and his wife were very kind to me. I went to Pa Lewis' and stayed 38 days. I had a chill every day for six weeks and had to try two doctors before the chills were broken up.

I was so sick I lost the berth with Captain Monroe Turner. I tried to get another cook's berth when I got well, but could not, so I shipped on this schooner as a sailorman. I worked one day at that, when the steward was paid off and the Captain wanted to get another. I thought it would be easier to cook than to work on deck, so I told him I was a cook and he gave me the berth.

Oh, mother, how I wish I were through school, so that I could come to California. It doesn't seem as if I could stay through college; but we can enjoy ourselves all the more when I do come. You would rather I should stay a year or two longer and come with a good education, would you not? You said in your letter you wished I were a Good Templar. I am. I joined the Lodge and have taken both degrees and served as Worthy Deputy Marshal. You will see my name in one of the papers I sent you. I signed a pledge last winter not to use tobacco in any form, chewing, smoking, or snuffing. I like the order of Free Masons and think I will join when I am old enough.

This was a sad summer for the sailor lad. On August 1 he wrote from the schooner "Corsican":

THE COMSTOCKS OF CORNELL

The schooner Forest Queen sank July 18. We were loaded with ashes, taking them from Toronto to Oswego. When about a half-mile out, the captain discovered the schooner was sinking. We had a tug tow us where the water was not deep, so that when she was at the bottom the water was level with her decks, filling her hold and cabin. We got all our things off from her before she filled. We worked five days unloading her. I did not have to work as hard as the rest. The captain let me work as second engineer on one of the steam pumps, but we had to work from two in the morning until nine in the evening. Then I shipped on this schooner and am now going to Milwaukee.

Despite his bad luck, he saved enough money to enable him to attend Falley Seminary that winter. In November news came of his mother's marriage to John Dowell, a mineowner and hotel-keeper in Forbestown, California, a town well up on the flank of the Sierras. At that time placer mining was a profitable business. The widow, wearied of buffeting the vicissitudes of the profession of nursing and having heard of the death of her husband, Ebenezer Comstock, had yielded to the pleading of her own heart in favor of a man of pleasing personality. She married "well," according to the report of the event sent by her sister, Mrs. Nelson Carr of Santa Rosa, California, at whose home the ceremony took place. It was a shock to Henry when he learned of his mother's marriage, for it had been his dream to be with her and care for her as soon as possible, and he had planned to go to California the next year. He met the situation with consideration, and gave his mother no inkling of his disappointment. He wrote her:

It is with mingled feelings of surprise, pleasure and regret that I write this letter. I cannot help being surprised at an event that has occurred so unexpectedly to me, but it is with feelings of pleasure that I think of you as having a companion upon whose arm you can lean in confidence and love. It also affords me great pleasure to think that although I am doomed to be absent from you, you have one with whom to pass the time and thus keep you from being lonely. I shall feel easier and not worry so much about you, but it is with feelings of regret that I think of staying here; but it may be all for the best.

1864–1869

Enclosed with this letter was one to Mr. Dowell, an evident labor of composition:

It seems strange for me to say father, for you will be the only father I have ever known. My own father died when I was too young to remember him, and I look forward with pleasure to the time when we shall meet. I have to study late and early to get my lessons. My studies are all good sound ones and a fellow has to work to master them. They are Latin, Greek, and Geometry. I like Geometry; anything in mathematics is easy for me but Latin and Greek make me work hard. Besides this I have to write one composition a week through the term. I am also a member of a literary society and have to debate in that every Friday night.

I have a very pleasant room; it is a corner one, so it has a good view in two directions. It has been newly papered and grained, so it looks as neat as a parlor. We do not study in our school rooms as they do in common schools, but every two students have a room to themselves.

Falley Seminary was typical of those remarkable schools which provided secondary education through New England, New York, and the new western states during the middle years of the nineteenth century. The teachers were well trained and were excellent drillmasters. The classics had precedence, yet some attention was paid to the sciences and great effort was made to stimulate the ambition of the pupils for higher education. Music and art were also taught. The schools were coeducational. In Falley Seminary, the girls' dormitories were at one end of the building, and the boys' at the other end, with classrooms between. Music and art were supposed to be largely the province of the "female department," but girls were welcomed in Latin and Greek classes and boys were encouraged to study music, drawing, and painting. Public high schools have now replaced most of these old seminaries but have never really taken their places. They stood for personal care of the pupils, responsibility for their morals and tastes, and severity of training. Henry Comstock often said that never did he receive the drill in any study that Principal Griffin gave him in Latin. Henry never studied Latin or Greek after he left Falley Seminary. The training he received

THE COMSTOCKS OF CORNELL

there in languages was a strong staff on which he leaned during his years of work as a scientist.

He did not tell his mother that, because of his disastrous summer, he was sweeping the halls and ringing the signal bell, in payment for his room rent and tuition. A characteristic incident occurred in connection with his duties as bellringer. He was obliged to ring the bell for rising and retiring, the latter at 10 P.M. One night he was very tired at a quarter to ten, so he threw himself on the bed and fell asleep; he awoke with a start, feeling sure that he had slept but fifteen minutes, and immediately rang the bell. He had barely got back to his room when the principal was pounding on his door and demanding why he was ringing the bell at two o'clock in the morning. All of his life Henry had this habit of falling asleep when tired and of waking up and going on with his work as if nothing had happened. After he entered Cornell, a student found him lying on his back on the parapet of Cascadilla Bridge, fast asleep. He had stretched himself out to look at the stars and listen to the rush of the water, sixty feet below, and had promptly fallen asleep.

In the winter of 1868, Henry's stepfather sent him an urgent invitation to come to California to make his home with him and Henry's mother and offered to defray the expense of the journey. This inclined Henry to go, especially as his health was not good and he hoped that change of climate might help him. But, unwilling to sacrifice his education, he began to look up schools and colleges in California. The State University had not yet been established. The only college he could find was the Catholic College of Santa Clara in San José, and he sent for a prospectus. The course of study was too classical and too theological to fit his plans. Many years later, when he was a professor at Stanford University, he made a pilgrimage to the college at Santa Clara and had a delightful afternoon with a priest who showed him the treasures of the college and who was vastly interested that his guest had thought of being a student there.

Henry decided not to go to California. He wrote his mother: "If I should come to California, I am afraid that I should not go through college; in the first place I do not think the colleges

are so good as in the Eastern States, and besides I couldn't find anything to do in California that I could make as much money at as I can to stay here and to sail summers."

In this summer of 1868, Henry sailed on the schooner "A. Ford." He wrote on April 27: "I am getting \$1.50 per day now and I have a good deal of leisure time. I have my books aboard and when I have time I study them. I have a good captain."

A letter from Mrs. Turner to Henry's mother in July gives a sympathetic account of him. She says:

Our Hanky was home for the Fourth and we had a good visit. I gave him a beautiful bouquet and I have made him a hanging basket with cypress and trailing vines to hang in his cabin, so he can have something from home when he is on the lake, he is so fond of flowers.

Susy, you don't know what a treasure he is—he is my child as well as yours. He is such a dear good boy. I love him more every year. I don't know what I shall do without him, and Pa Lewis thinks so much of him too! You don't know how he has twined himself around my heart! The principal of the Academy calls him one of his gems. If he lives he will be a self-made man, one of nature's noblemen and, dear sister, he will always be little Hanky to me, the child of my care.

When Henry first shipped on the schooner "A. Ford," he left his satchel and overcoat in the cabin while he went on an errand. The captain's wife was on guard and she noticed a book in the overcoat pocket. Thinking she would see what sort of book the new steward was reading, she found a Bible, one that had been given him by his teacher, Eleanor Dickinson. The captain's wife concluded that the young man was of the right sort. Later that season his ship suffered in a peculiar wreck, which he described as follows:

Late in the fall of 1868 I was steward on the schooner A. Ford, which was carrying a cargo of wheat from Milwaukee to Oswego. We were on our way through the Welland Canal when the catastrophe occurred. We were in the lock at Allentown, the highest lock of the old canal. If I remember correctly, it lifted vessels fourteen feet. The

THE COMSTOCKS OF CORNELL

lock had been emptied but the lower gates were still closed. The crew were in the cabin at breakfast, having taken the opportunity to eat while the lock was being emptied. As in all lake schooners of that period, the cabin was in the rear and largely below the level of the deck; and, as we were bound down the canal, the cabin where the crew was eating was only a few feet from the upper gates of the lock.

In the level above the lock there was a steamboat, which was getting ready to take the lock after we had passed out and the lock had been filled. The propeller had been run up close to the lock gates, when the signal was given to back hard, with the intention of stopping the boat in this position; but instead of backing hard, the engineer by mistake, sent the boat hard ahead. It crashed through the lock gates and dropped fourteen feet upon us. Our first intimation of what had taken place was a crash followed by the bisecting of the stern of our vessel by the bow of the propeller, which came within a few feet of the breakfast table. All hands rushed for the deck. A crew never turned out more promptly than did this one. As the propeller was tightly wedged between the broken lock gates, the water did not pour upon us from the upper level, but it passed freely under the propeller into the lock. When I reached the deck our schooner was being tossed up and down on the torrent that was rushing beneath us. I ran and seized the mainmast stays and stood looking up, expecting that the topmast would be shaken down. Very soon the hawsers that held the schooner in place in the lock were broken, and she was driven against the lower gates; this resulted in the destruction of the lower gates and the smashing of the bow of the schooner. The torrent of water carried the schooner out of the lock and down the canal about five hundred feet, where she sank, a helpless wreck, both stern and bow being crushed. A serious result of this affair was the stopping of navigation through the canal for two weeks, at the busiest time of the year, when the wheat crop was being shipped east and freights were high. The financial loss was great. More than two hundred schooners were held waiting above the lock before it was repaired. This was not my only shipwreck experience; but, occurring as it did upon a narrow ribbon of water flowing through a country landscape, and being the one in which I was in the greatest danger, I regard it as the most remarkable of my nautical experience.

The fall of 1868 saw Henry back in Falley Seminary for two terms, which finished his preparation for college. He wrote from the seminary, February, 1869:

1864–1869

Mother, what profession do you think I had best study for? I have thought a great deal about medicine but have not yet decided. I want to go where I can do the most good in the world. I do not think I have a call for the ministry and fear if I should undertake it I should not succeed. I have recently connected myself with the Methodist Episcopal church on probation and am striving to lead the life of a true Christian.

This reveals something of the religious nature of the boy. He had persisted during childhood in going to Sunday School without much encouragement from his surroundings. At Falley Seminary, as in other schools of its class, pressure was put upon the students to embrace religion. There were weekly prayer meetings and compulsory attendance at church. Those pupils already gathered into the fold were encouraged to plead with those who had not yet "experienced religion." This experiencing of religion was a stumbling block for Henry and caused him spiritual anguish. No sudden light shone upon his path, no ecstasies swept over his soul. The best he could do was to try earnestly to follow the precepts of Christ and to live an upright life. This was considered a very arid method of experiencing religion in those days.

Henry always attributed his escaping the pitfalls that beset the path of a sailor boy to two causes. First, he saw vice at its worst, with no glamour about it, and his natural refinement and fastidiousness made the life in the dens and dives along the water fronts revolting. The second factor was his deep religious faith, which held him aloof from wrongdoing in any form.

In July, 1869, he finished his course at Falley Seminary rather unexpectedly. He had found languages difficult, although by persistent effort he mastered several so that he could read scientific works. He was fascinated by all of the natural sciences and liked mathematics, but expected to take a classical college course because science courses in the colleges of that day were weak. He thought he needed another year of preparation for college, even though he had not yet chosen one.

During the last term at Falley, a visiting clergyman, addressing the students, rather incidentally but fervently said, 'I hope that no man here expects to go to that godless institution, Cornell

THE COMSTOCKS OF CORNELL

University, which has finished its first year with a great ball." Dancing was certainly no temptation to Henry, for he did not learn to dance until he reached middle life. But he was always of an investigating turn of mind, and there was something in this sweeping denunciation of an institution of learning that aroused his curiosity. He sent for a catalogue. Strange to say, his most intimate friend at Cornell University, Simon H. Gage, while attending a Methodist Seminary at Charlottesville, New York, also first heard of Cornell in a prayer meeting and through a similar stricture, with the same effect upon him as upon Henry, for denunciation is often an effective form of advertising. From the catalogues, both found that the courses in science at Cornell were most attractive. Thanks to a great educator, Cornell's President Andrew D. White, an institution had been founded where there was no caste in studies. All the more broadminded does this seem because Mr. White had been graduated from a classical course in Yale, where students at the Sheffield Scientific School were regarded with aloofness.

The more Henry studied the catalogue, the more he became convinced that Cornell was his college. He had had enough Latin and Greek to enter this wonderful school of science in which Agassiz was to teach. Moreover, he would thus save a year. When he broke the news to Principal Griffin, however, he was reprimanded. "You are a Methodist and you should go to a Methodist college," was the master's last word. It must have been a bitter disappointment to Mr. Griffin, who probably considered it equivalent to sending Henry to perdition to let him go to a nonsectarian college. When the day of Henry's departure came, he went to bid good-bye to the Principal and Mrs. Griffin. The lady was kind in her farewell, but Mr. Griffin would not see him. This was a hard blow to the boy, when leaving this school which had been so dear to him; after he was out of sight he sat down beside the road and wept.

Many years afterwards he saw Principal Griffin again. Henry was by this time a professor at Cornell University and was giving a lecture in Syracuse. Mr. Griffin, a feeble old man, came to hear the lecture. Time had mellowed his outlook and had reconciled

him to the career of his pupil. Henry had chosen the right institution for the development of his talents and powers. Little did he dream, when he entered Cornell, that he would spend sixty years there instead of four.

There was always a dramatic quality in every crisis in Henry Comstock's life. This is illustrated by the incident that made him choose entomology as the science to which he wished to give his life. He had studied the botany of the Great Lakes region until he was fairly familiar with its flowering plants. In the back of his Wood's *Botany* he found a brief discussion of the cryptogams, which made him desire to get possession of an adequate book on the nonflowering plants. Whenever his schooner was in port in a large city he visited bookstores in quest of such a volume, but had no success. One day in Buffalo he went into a shop and asked for "a book on cryptogamic botany." The clerk, puzzled by this scientific term, was nonplused; but he said to Henry: "Come with me. On these shelves are all the science books we have. Look them over for yourself." There was no botany of flowerless plants there, but there was another book that caught Henry's attention—Harris' *Insects Injurious to Vegetation*.¹ This admirable book on entomology was superbly illustrated with many engravings by Henry Marsh, which made the volume a classic in the history of that art, and with eight colored steel plates by J. H. Richard. The text is a model of lucidity. Henry was breathless over the discovery of this book, for he had not known that there was such a science as entomology. The price of the book was ten dollars. That was too much for a sailor lad, saving money to go through college, so he ruefully went back to his ship to get supper for the men. But he could think of nothing else save that wonderful book. That night he could scarcely sleep from thinking of it. The next morning, as soon as breakfast was out of the way, he drew ten dollars of his pay from the captain and hurried to the bookshop with

¹ Thaddeus W. Harris, "the father of Economic Entomology in America," studied medicine, practiced for a brief interval, and then became librarian of Harvard College. He continued his interest in entomology and published papers on economic species of insects.—G.W.H.

THE COMSTOCKS OF CORNELL

a terrible fear that someone else had bought the book meanwhile. But it was there and it became his own, and, "walking on air," he went back to the schooner, which was being loaded with coal. Since coal dust pervaded everything, he covered the book with paper and handled it with care, so that no smudge could deface it. He began to study it with an intensity of interest that absorbed every moment of his spare time. He learned the orders of insects with the book propped up before him while he was washing dishes. From that time on, he desired most of all to become an entomologist. But he thought he could not make a livelihood in that way! He could earn his living by being a doctor or a teacher, but the study of insects would be his chief interest in science.

Six years later, Professor Comstock made this notation on the flyleaf of his book: "I purchased this book for ten dollars in Buffalo, N.Y., July 2, 1870. I think it was the first Entomological work I ever saw. Before seeing it I had never given Entomology a serious thought; from the time that I bought it I felt that I should like to make the study of insects my life's work.

"Nov. 19, 1876.

J.H.C."

Chapter 3 ↴ 1870-1874

Student and Teacher at Cornell University

IN THE fall of 1869, Henry entered Cornell University. This institution had then had one successful year of existence. Except for Morrill Hall, set in a field on a hill above the village of Ithaca, there was little to indicate the present Campus. But Ezra Cornell, the founder, had expressed his vision in the words, "I would found an institution where any person can find instruction in

any study." He had great sympathy for youths who desired an education but had no money. Therefore a part of his plan was to give students work on the University farm and buildings in order to help them earn their way.

Robert Simpson, a Scriba friend, had come to Cornell with Comstock and the two had planned to room together. No dormitories were available except "Cascadilla Place," a water-cure establishment which had been converted into an apartment house for professors and their families and a few students. So the boys found a room in the town. Henry had brought with him equipment for boarding himself, but his landlady would have none of it, and he had to make other arrangements. It was not for long, however, for his sailing in the Saginaw region that summer had filled him with malaria and he stayed at Cornell only five weeks. He went home discouraged, shaking with ague every day. A stay with the Turners during the fall enabled him to subdue this disease. In the winter he wrote to his mother:

I went to Ma Becky and lay idle all the fall, and then I took charge of the school in the steam sawmill district, about one and one half miles from home. I boarded at home all winter, walking to and from school; when I had finished the time I had been engaged to teach, the school district hired me for two weeks more, so you can see that I gave satisfaction.

This was a large school of perhaps sixty pupils. Henry found three kinds of textbooks in arithmetic in use. Knowing the aversion of parents to purchasing new books covering the same ground, he hit upon the plan of urging the pupils forward and promoting them to new books. This method brought his parallel classes together and aroused pride instead of friction. He conceived the idea of making the pupils evolve their own rules in arithmetic. His improvements greatly pleased the school commissioners.

Throughout the summer of 1870 Henry sailed on the schooner "Delos de Wolf" with Captain Litz. He saved his wages, and in September he re-entered Cornell University, this time to stay. His friend, Robert Simpson, came again with him and the two

THE COMSTOCKS OF CORNELL

rented the basement of a house owned by Frank Cornell, son of the founder of the University. It was a large, pleasant house on Dryden Road, opposite Dwyer's pond. Here the two boys boarded themselves. Henry, mindful of the speed with which cash evaporates in college, sought work and found it in the construction of McGraw Hall.

At this time only one college building, Morrill Hall, was finished. White Hall was enclosed but unfinished and the foundation of McGraw had been laid. There was also a large wooden building called "The Laboratory" near where Goldwin Smith Hall now stands. The University also owned the faculty residence, Cascadilla Hall. The registrar's office and faculty room were also in Cascadilla.

The village of Ithaca, with its elms shading colonial houses, occupied the valley at the south end of Cayuga Lake and had begun to extend up the hill to the eastward. Seneca and Buffalo Streets were fringed with houses up to Spring Street, now Schuyler Place, but beyond this were only scattered dwellings. The Schuyler homestead, now a part of the University Infirmary, was noticeable for its ample grounds and its air of retirement behind attractive shrubbery. There was a house or two on Eddy Street and a farmhouse or two on College Avenue, then Huestis Street. Some students found rooms in these isolated houses and a few roomed in Cascadilla Hall. The end sections of Morrill Hall were dormitories, and White Hall was to be similarly used. But most of the students lived in the village and walked to the University by devious unpaved paths, the favorite being one through the village cemetery.

There was no compulsory afternoon work in laboratories and there were no evening entertainments on the Campus. Evening lectures of a popular or general character were given in Library Hall, an auditorium in the Cornell Library Building at Tioga and Seneca Streets. The Woodford Orations and the Commencement exercises were also held in this hall. Many noted men lectured there: Louis Agassiz, Bret Harte, Bayard Taylor, Edward A. Freeman, James Russell Lowell, George William Curtis, and Mark Twain.

Henry applied for work to Ezra Cornell's brother, Elijah Cornell, the builder in charge of the erection of McGraw Hall. "Very well," said Elijah Cornell, "you may roll that stone." It was a very large stone, much too heavy for a slight boy like Henry to lift; but, nothing daunted, he went at it with vim, pushing and tugging as hard as ever he could, finally rolling the stone over. Then Mr. Cornell sent two men to help move it to the gangway, and said to Henry:

"You can take a hod and carry up brick."

"Is that three-cornered thing a hod?" asked Henry.

"Yes, that three-cornered thing is a hod," answered Mr. Cornell, amused.

So Henry filled his hod with bricks and toiled manfully up to the place where they were being used. After about half an hour, Mr. Cornell gave him an easier task, one that lasted during the construction of the entire building. Evidently Mr. Cornell wished to convince himself of the grit of the boy and was satisfied.

The stone he had moved interested Henry and he noted that it was placed by the keystone of the arch of a window, above the west door of the north wing of McGraw. In after years he often went around to say "Howdy" to the stone that had started him at Cornell. The walls of McGraw were up to the second story. Stones for further construction were brought on a car to a platform where Henry and other Cornell students stood; the car was pulled up on an inclined plane by horse power in the basement. It was the students' business to unload the stones.

For their work the students received fifteen cents an hour. It was hard work, but between cars there were waits of ten minutes which they utilized for study. Mr. Cornell noted this with approval. One day when they had completed their studying and put their books away, he called out to them, "Get your books, boys, get your books." Henry always admired Elijah Cornell, who was sturdy and strong of personality, and American in the best sense of the word. Henry had noticed that the workmen pronounced his name *Corn'll* and asked about it. Elijah replied:

THE COMSTOCKS OF CORNELL

"Our name was always pronounced *Corn'll* until some of us got to be high-toned, and now it is pronounced *Cor-nell*."

When John Henry Comstock became a Cornell professor, he lectured to classes for thirty years from a rostrum on the very site of the platform on which he had stood, handling stones for the walls of McGraw Hall.

Thus Henry worked and studied and with his roommate boarded himself. He had the advantage of knowing how to cook; but, between working and studying, the cooking was neglected and was a good deal of a bore, since it was only incidental and not a business.

At Christmas he went to his home in Scriba, but he found the household of Captain Turner changed. The children were away, and Pa Lewis, whose tone of nautical command had helped to name the place Hurricane Hall, had become strangely quiet. He had stopped using sea oaths, a purely decorative profanity, to such an extent that Henry wrote to his mother, "I should not be surprised if he became a Christian yet." Ma Becky was not well, and she noted these changes in a letter to Henry's mother, Mrs. Dowell:

The Captain is so different; you know his whims. Well, he has got over most of them. Henry and I often talk about it. This old Hurricane Hall that used to be so full of life and joyousness is quite lonely now except for the little sunbeam grandchildren that often stray in to cheer us and to lighten it up. You know old Hurricane Hall has always stretched its long arms to all who would take shelter under its roof. But nearly all those that used to fill it have left and gone out into the world to do for themselves. Even my foster child, my little Hanky, has gone.

This Christmas homecoming of the foster child brought to Hurricane Hall some of its old activities. Ma Becky tells the story in a letter to Henry's mother:

Hanky wrote me he was coming home to spend the holidays; so I wrote him to fetch his big trunk empty. He and Squire Simpson's son room together. One cooks one week and the other the next. Robert Simpson brought his trunk home empty too. Now I will tell you what

we put in Henry's trunk. Maggie boiled corned beef, baked a shoulder of fresh pork, and added a can of pears, a berry pie, and pickles. Mate baked four mince pies, a fruit cake, and a chicken, and gave a bottle of catsup. I made him a fruit cake and a sponge cake, a pan of fried-cakes, two big milk pans full of molasses and sugar cookies, a lot of tarts, jelly, six pounds of sausages, head cheese, pickled pigs' feet, bread, lard and butter, cans of berries, cider apple sauce, and potted chicken, pork, a nice big pillow, two dish towels, and socks, and Mate gave him socks too and Maggie a towel.

Hanky said: "Ma Becky, I don't believe there is another such trunk going to Cornell this morning." Pa Lewis wanted the trunk to hold more, but when he helped put it in the sleigh, he thought it was heavy enough.

On his return to the University, January, 1871, with this famous trunk, something happened which was to influence his life profoundly. He announced the event in a letter to his mother: "Professor Wilder has chosen me as his assistant, so I think I shall be able to pay my expenses while staying here. Is not that grand?" Indeed it was grand, grander than he dreamed, for he thus came under the direct influence of a scientific investigator of high rank and charming, stimulating personality.

Dr. Burt G. Wilder had been a pupil of Agassiz. He had charge of the departments of Zoology and Physiology at Cornell and was a brilliant and an inspiring teacher. He had been a young surgeon in the Army during the Civil War. He had expected to devote his life to medicine but had been diverted to teaching at Cornell, through Agassiz's influence and recommendation. He wrote the following account of Henry's apprenticeship as his assistant:

At the opening of the University in the fall of 1868, the equipment for illustrating my courses in physiology and zoology comprised the purchased French and English charts and the Auzoux *papier mache* models of human organs and typical animals. These were in lecture rooms on the second and fourth floors of Morrill Hall. Professor Jeffries Wyman, my Harvard teacher, sent us parts of skeletons of various animals; and during the first two years these, together with specimens preserved in alcohol, collected in the vicinity or sent to us, were gathered confusedly in an ill-lighted basement room. For the

THE COMSTOCKS OF CORNELL

care of the room and its contents I depended upon the irregular assistance of students not especially interested in Natural History. While contemplating with dismay the boxes, bottles, jars and earthen crocks, and wondering how, for the presentable and useful arrangement of their contents time could be spared from my instruction and preparation for it, as if in answer to my prayer, suddenly there appeared a brown-haired, blue-eyed youth, a little older than the average freshman, with an expression both serious and alert. He introduced himself as John Henry Comstock, newly admitted to Cornell, wishing to become a naturalist, and willing to help himself by work. His aspect and desires appealed to me. Few words were needed for him to appreciate the conditions and their remedies. He hung up his coat, found water and utensils, and attacked the situation like an inspired anthropomorphic squirrel, bringing order out of chaos in a surprisingly brief period. The promptness, discrimination and energy displayed in this first humble task characterized his service in the higher positions to which he was advanced, and have been emulated by his successors, Simon Henry Gage, Pierre Augustine Fish, and Grant Sherman Hopkins. I shall always be grateful for the opportunity of contributing toward the success as teachers and investigators of these four representative early Cornellians.

Henry was still dreaming of studying medicine and was therefore greatly interested in the work in Dr. Wilder's laboratory. Besides earning fifteen cents an hour, he was learning how a laboratory of science was managed and was associating with a man whom he soon came to love and honor.

He wrote his mother that he would be able to earn enough to pay expenses, with an opportunity during vacations to earn money for his clothes. Later he informed her that he had joined the Methodist Episcopal Church and had become a "Master Mason in good standing." He also announced with pride, "Our president has gone to Santo Domingo as a member of the United States Commission." The honors conferred upon Andrew D. White, President of Cornell University, were matters of personal pride to every student.

The summer of 1871 found Henry in Ithaca, working on McGraw Hall and saving his money for the coming year, despite his longing to accept Ma Becky's invitation to spend the summer

with her. It was inevitable, from his democracy of spirit, that he should establish friendly relations with the laborers working on McGraw Hall. One of these men was afterwards coachman to Cornell's Presidents Adams and Schurman, to whom we were next-door neighbors. Once when this coachman had watched Mr. Comstock perform a mechanical operation with skill and dexterity, he exclaimed: "It's a pity, Mr. Comstock, that yez be a professor. Yez might have been something else for half the money."

In the fall of 1871, Henry took a room in Morrill Hall, where he boarded himself and managed to live on his small earnings. He spent every available moment in Dr. Wilder's laboratory. Somewhere he contracted typhoid fever. There was no hospital in Ithaca, so there was no place where a student could be cared for except in his room, and there were no nurses to be had. It was then that Dr. Wilder showed himself a philanthropist as well as a physician. He and his lovely wife, with their child, were living in a few rooms in Cascadilla, for there were not enough rooms anywhere in those days to accommodate the professors' families. They gave a room, the doctor's study, to the sick boy and saw to it that he had the best care possible. Fellow students took turns in nursing him; Roswell Leavitt was a very faithful nurse. In later years, a students' guild raised a fund to care for sick students, with Professor J. H. Comstock as treasurer.

By December he had recovered from the fever and went to recuperate at Captain Turner's in Scriba before returning to his work at the University. He wrote his mother:

I found during my sickness that I had a good many friends in Ithaca. Professor and Mrs. Wilder have proven themselves to be true friends to me and I feel as though I could never repay them. I am with Professor Wilder the greater part of the time. I work four hours a day for him and do the greater part of my studying in his private laboratory. He is one of the best lecturers in the University.

At this time Henry was studying geology with Professor Charles Frederick Hartt and comparative neurology with Dr. Wilder. He was reading a French play under Professor William

THE COMSTOCKS OF CORNELL

C. Russel and all the while studying entomology by himself because no professor of entomology had yet been appointed.

Of these three able men, Dr. Wilder was Henry's especial patron saint, always at hand to help, to offer suggestions, and to give encouragement. The other two came to have great influence upon his life and ideals. Professor Russel, afterwards Vice-President of the University, was one of Henry's inspiring and helpful friends. Charles Frederick Hartt was an admirable lecturer, and a musician, an artist, and a linguist, as well as a geologist. He had the power of linking his students to him in bonds of loyalty and devotion. It was under Professor Hartt that Henry received his first instruction in invertebrate zoology. In 1874 Hartt left the University to become Director of the Imperial Geological Survey of Brazil. He took with him a company of brilliant young men, including Cornellian John C. Branner, afterwards President of Stanford University. Hartt met an untimely death from yellow fever.

Henry had chosen Cornell primarily because the University catalogue informed him that a professor of entomology would be appointed, and his chief interest was in this science. But at the end of a winter term, in the spring of 1872, a crisis came in Henry's finances. "I have known lots of fellows," he often said, "who left college because of lack of money; but once when I tried to leave college, I did not have enough money to get out of town; so I stayed and things happened so that I continued to stay." What happened, he described to his mother in a letter in June, 1872:

At the beginning of this term it was found that the professor of entomology would not be able to be here this year, so I was asked to deliver a course of lectures on economic entomology in his stead, which I have done.¹ I gave the last lecture Tuesday. I like lecturing

¹ The incident was recorded as follows by the Secretary of the General Faculty of the University:

"A petition of thirteen students was made to the Natural History Faculty of Cornell University requesting that 'permission and facilities be given to J. H. Comstock to deliver a course of ten or twelve lectures during the present Trimester upon Insects Injurious to Vegetation' and also asking that 'attendance upon the lectures and an examination satisfactory to the Professor of Zoology be allowed to

1870-1874

very much. My class was made up of such nice fellows, most of them further advanced in other studies than I am. In fact, nearly all of them graduate this year. But they had not studied entomology, so I was not afraid to go before them to lecture.

At the exercises in connection with the presentation of the Comstock Memorial Library in 1914, a letter from Dr. David Starr Jordan, a fellow student in his early years with Comstock at Cornell and years later President of Stanford University, was read by Ruby Green Smith. In it Dr. Jordan related the following anecdote regarding Mr. Comstock in his sophomore year:

Now after forty-four years, I may freely tell a story which, so far as I know, has never been told before. In those days, it was believed that prizes were a help to scholarship. This is a fallacy. A prize may help a scholar sometimes, but not scholarship. That is forever its own reward. Old notions of education withered on every side under the clear gaze of our epoch-making young President White, but this one fallacy slipped by unnoticed.

And thus it happened that to a class in Zoology of the Invertebrates was assigned a prize of fifty dollars.

The committee in charge decided that three students showed like merit and that the prize should be divided equally among them. These three were Simonds, a geologist, now Professor in the University of Texas; Comstock, a chaser of butterflies, and myself, who passed in those days as a botanist. Simonds had made the neatest and most accurate drawings, so it was said. Jordan had written the best examination paper, and Comstock seemed to know the most about the subject.

Unknown to Comstock, in view of his dire need, Jordan and Simonds had withdrawn their claims so that the whole award went to the one who "seemed to know most about the subject."

count as one hour per week; and that regular participation in the field work be allowed to count for the other hour of the two assigned to Entomology in the Spring Trimester of the 2nd year of the 4-year course in Agriculture.'

"This petition bore the following signatures and endorsements: Herbert E. Copeland, E. R. Copeland, J. A. Thompson, F. P. Hoag, David S. Jordan, M. C. Johnston, W. R. Lazenby, G. E. Foster, P. M. Chadwick, W. H. Schumacker, Thomas W. Jaycox, C. Y. Lacy, R. W. Corwin. Forwarded approved by the Natural History Faculty. Burt G. Wilder, *Dean*.

"At a meeting of the Faculty held April 5, 1872, the accompanying application was granted. W. T. Hewett, *Secretary*."

THE COMSTOCKS OF CORNELL

At the suggestion of Dr. Wilder, Henry spent the summer of 1872 in Cambridge, Massachusetts, in the Harvard Museum of Comparative Zoology, under the special tutelage of Dr. H. A. Hagen, who had charge of the entomological collections of the museum. Dr. Hagen, an authority on the Neuroptera,² had been brought from Germany on the initiative of Agassiz, and although he gave no lectures in Harvard at that time, he received this student of entomology with enthusiasm and gave him a series of memorable lectures which proved a lasting source of inspiration. When Henry became Professor Comstock, he related this experience:

It was a very warm summer. Dr. Hagen would come into his room, where I had usually preceded him and was at work, take off his coat and vest and hang them on a hook behind the door; then he would light his pipe, which had a long flexible stein, sit down at the table, place the bowl of the pipe on the floor at his side and after a few puffs to make sure that the tobacco was burning well, would say, "Now you kom und I vill you tell some dings vat I know." He used a sheet of paper and a pencil in lieu of a blackboard; I sat facing him at the small table and took notes. These introductory rites took place every morning with almost no variation, and preceded lectures which dealt very largely with the morphology of insects. These lectures were superbly clear and well organized and my notes on them were of very great use many years later, when I gave lectures on this subject in Cornell University.

Henry felt justified in borrowing money for this summer's instruction, something he had never done before. He had asked Squire Simpson of Scriba, the father of his early roommate at Cornell, for a loan of fifty dollars, and it had been granted. Fifty dollars was not a great sum with which to meet expenses at Harvard for a summer, but he had a free room in a temporary building called Zoological Hall, and lived as cheaply as possible. When he found his money dwindling, he told Dr. Hagen that he could not stay very much longer but did not tell him why. The Doctor divined the cause and asked him to take his dinners with Mrs.

² A large group of insects with varied habits but in general with four clear, many-veined (nerved) wings.—G.W.H.

Hagen and himself, which Henry gladly did, and thus came under the influence of a gracious lady and a charming home.

In the autumn of 1872 unexpected good fortune came to Henry. He was doing janitor work in South University Dormitory (Morrill Hall). One room he cared for was that of Myron G. Stolp, the Cornell chimesmaster. Stolp was to leave college in June and advised Henry to apply for the position. Henry went at it in his usual thoroughgoing way; he took music lessons on the piano industriously until he could read music and then applied for the job, which was granted him. This was a good move financially because it gave him a room, heated, lighted, and cared for, and board at Cascadilla Hall. At that time Henry was rooming with George Berry, a classmate. Berry was something of a musician and Henry offered him a partnership. This was a good arrangement because it gave each more liberty. Berry developed into an expert chimesmaster.

The chimes, given by Miss Jennie McGraw, afterwards Mrs. Willard Fiske, were housed in a wooden campanile situated where the University Library now stands. They consisted of ten bells, to which Mrs. Andrew D. White had added the large one that strikes the hours. When McGraw Hall was built a central tower was constructed purposely for these bells, and in the summer of 1872 they were moved from the old campanile to their new quarters. Two rooms in the bell tower were given to Henry and his partner, one opening off a large museum room on the second floor for a study, and another above it for a bedroom. Thus they were very near the chimes. Board at Cascadilla cost four dollars a week and Henry asked the treasurer if the University would give the four dollars instead of the board. This was granted. So the partners boarded themselves, the two of them for the four dollars, and felt very rich and luxurious. Henry confided to his mother that everyone said they had the most beautiful room in the University because it had windows on three sides, affording fine views.

One of the advantages that Henry gained through this appointment was a friendly acquaintance with Miss Jennie McGraw, who often came to see the chimes and the boys. She was

THE COMSTOCKS OF CORNELL

interested in their transposing of tunes for the chimes. They worked at this industriously, preparing a large number. Her favorite was "Robin Adair," and never in the long years since her death has that melody been rung on the chimes without bringing to one man the sweet remembrance of a beautiful and noble woman. "Robin Adair" was rung, at Mr. Comstock's request, on the day of his retirement from active work in the University, June 18, 1914.

In the spring of 1873 an event occurred in Henry's life which determined his career. The hastily arranged course of lectures which he had given in his sophomore year had been so successful and had given him so much confidence that he had determined to forsake medicine and to follow the profession of teaching while going on with his studies in science. He wrote to his mother in May:

I am very happy tonight and I thought I would write and tell you about it. Yesterday, at a meeting of the Board of Trustees of this University, I was elected Instructor in Entomology. This will be a fine position for me. It will not interfere with my studies, so I shall be able to keep on with my classes as before. My work will consist of a course of lectures in the spring term, private instruction in my laboratory, and care of a collection of insects. I shall spend the summer vacation in the field making collections and studying the habits of insects. My salary will be for the first year five hundred dollars, which is enough to support me nicely here.

In Henry's room at this time there was a small case containing eight drawers, on each of which was painted the name of an order of insects. This was the beginning of his collection, and it is doubtful if even the sight of his hundreds of boxes of specimens in later years afforded him the pleasure and pride that he derived from this poor little cabinet. He expected in time to have each drawer full and spent his limited leisure in collecting. One day he was peeling the bark of a dead pine tree near the Cascadilla Bridge, collecting beetles, when President White saw what he was doing and called out:

"Young man, what are you doing there, ruining that tree?"

"Hunting grubs, sir! The tree is dead," was the frightened

reply. Then followed a conversation which was the beginning of a long friendship.

President White's most remarkable quality, the sign and seal of his genius, was his equal vision in the various fields of thought and education. His training had not been in the sciences, and yet, far more than most scientists, he foresaw what a part their work was to play in the development of the world. Thus it was that he, in those days of beginnings, was the sympathetic helper and the inspiration of every man teaching science in Cornell. It was his vision that planned for the teaching of economic entomology at Cornell, although at that time this science was scarcely known.

As soon as Comstock was appointed instructor in entomology, he had an enthusiastic adviser in Dr. White, who had the new idea that the relation of birds to insects was important. He encouraged Comstock to get a shotgun, kill some of the common birds, and examine their stomachs to identify their food. Shooting had never been in Henry's line, but he borrowed a gun and went at it. President White had as a house servant a man named Isaac, lanky, carroty-haired, and loose-jointed. The first day that Henry used the gun he went down into Cascadilla Gorge and began his hunting. He saw a bird in a tree above him, aimed hastily, and fired. A howl greeted his first essay at economic entomology and Isaac appeared on the bank above, shaking his fist and dancing weirdly. Henry had not killed the bird, but he had peppered Isaac's legs. A few days later Mr. White tactfully advised Henry to go further into the woods for his hunting.

During this year Henry came more under the influence of William Channing Russel, who was then Vice-President of the University. Russel was a striking figure, large, with iron-gray hair and with bushy eyebrows through which shone keen and kindly eyes. He was a man of thought and of great powers, interested in humanity and especially in the welfare of the students; yet his brusque manners hid from many students his kindly soul and warm heart. In those days a man might teach several diverse subjects in the University, and while Professor Russel taught French, his real strength as a lecturer was in Roman history. He

THE COMSTOCKS OF CORNELL

made it real and alive with issues to set the students thinking. The students called him "The Old Roman."

In 1873, Felix Adler came to lecture at Cornell for one term. He was young, attractive, and brilliant, and was regarded as a radical, although his views would seem conservative now. He was dreaming of a future of helpfulness to mankind and this dream he has lived to see realized in his great ethical movement. His classroom was thronged by enthusiastic young men who thought for themselves and enjoyed the daring leadership of "The Young Eagle," as they affectionately called him. A Sunday afternoon class, organized for social betterment, met in Professor Russel's study at his house on Seneca Street. Henry was a member of this class and enjoyed it. Dr. Adler had suggested that their efforts should not be limited to talking about things, but that they should do something, and it was proposed that they start a workingmen's reading room. A room was found in the Ithaca Calendar Clock Company's building at the corner of State and Albany Streets and was furnished by contributions; members of the class shared in keeping it open evenings. All went well until college closed in June, when Henry found himself the only member of the class left to take care of the room for the summer. That summer he worked industriously, especially in the orchards on West Hill in Ithaca. But however tired he was, after hard work during the day, he spent his evenings in the reading room until the last loiterer departed, and then he climbed East Hill to his room. He kept the reading room open all summer and turned it over to the class in the fall; but some of the best workers had graduated, others felt that they could not spare the time to keep it up, and it was abandoned.

In July, 1873, Henry met the greatest loss he had yet suffered, the death of his beloved Ma Becky. He spent three weeks caring for her during the Christmas holidays and visited her in the spring and again in July. Not one of her own devoted children mourned her loss more deeply or has kept her enshrined in more tender memory than has Henry, the son of her adoption. He truly loved Captain Turner and went to see him afterwards

whenever he could, but for him, as for the others, the heart went out of Hurricane Hall when the mother died.

In June, 1873, Henry made a pilgrimage to Dr. Asa Fitch, the State Entomologist of New York, a man whose remarkable work on the habits of insects had been published in State Reports, where it was read by no one except a few entomologists. Henry found him in a stately old home in Salem, New York. He had been a practicing physician, and, according to the custom of the doctors of that day, he had a small office building in his yard. This he had used as a museum for his collections. He received Henry genially and showed him every attention.

During the fall of 1873 it seemed best for Dr. Wilder to be away for part of Cornell's winter term, giving lectures before medical students at Bowdoin College. To enable him to do this, it was arranged that Henry should give the lectures in invertebrate zoology before Dr. Wilder's class of freshmen. He wrote: "Today, the first day of the winter term, I begin a course of lectures before a class of 150 students. I did not know of it until a few days ago and am very busy preparing for it." He was not only busy, but anxious. This class was inclined to be unruly. It was the only class where the freshmen met in a body, and they were subject to attack from sophomores in passing in or out of McGraw Hall. This kept the class more or less excited and turbulent. When the class assembled, the boyish-looking teacher told them that he was going to try to do his best for them and could not promise anything more. At the first occasion for clapping of hands and cheering, he lifted his hand for quiet, told them he could not do his best if they cheered, and asked them not to do it again. They never did—until the end of his final lecture, when they cheered their teacher heartily.

About this time, Henry became a member of the Delta Upsilon fraternity, where he made lifelong and congenial friends—David Starr Jordan, John C. Branner and William Dudley (later members of the Stanford University Faculty), Simon H. Gage and Edward L. Nichols (later Cornell Professors) and Jared T. Newman who became a lawyer in Ithaca and a Trustee of

THE COMSTOCKS OF CORNELL

Cornell. It was not a secret fraternity and used its rooms in the Cornell Library building in Ithaca for the reception of guests. Although Henry attended the fraternity dances occasionally, in the role of host, he did not dance, never having been disposed to learn. The life in Delta Upsilon was a potent factor in developing him socially, and the associations formed in the group played an important part in his life.

On April 26, 1873, he wrote: "I was very busy this term. Besides my studies I have a good many special students in my laboratory and I lecture twice every week." The laboratory referred to is the room in the McGraw tower opening off the second gallery of the museum. It was fitted up simply and the teaching was elementary; but it was here that L. O. Howard (later United States Entomologist) and others began their study of entomology. The tower room off the main floor of the museum, the chimes-masters' study, was afterwards made the entomological laboratory, and it was there that this new department began its real growth. This was a light room, though small, and had the advantage of being near the lecture room which Comstock shared with Dr. Wilder.

At first the entomological laboratory was without a microscope, a very expensive piece of apparatus in those days. John Stanton Gould, an eminent nonresident lecturer in agriculture, took a great interest in the entomological laboratory and gave it his own microscope. In later years Mr. Comstock always entertained a warm feeling for Romeyn Berry, a widely known Cornellian, because he was Mr. Gould's grandson.

Entomological books were few. Another rare gift came, William H. Edwards' *The Butterflies of North America*, in three volumes, illustrated in color. It had been issued in parts, between 1868-1884. It was the gift of Henry B. Lord, that scholarly Ithacan whose friendship shed a benign lustre on the University for more than forty years. Mr. Lord was self-taught but truly educated. Besides reading Greek with a joy and freedom known to few classical students, he was a botanist with a wide knowledge of plant species. Through his interest in botany he had become interested in butterflies and had subscribed for these great



Figure 4. "*The Chalet*," built for the Comstock Publishing Company by the Comstocks and given by them to Cornell; now occupied, with an adjacent building, by Cornell University Press and its subsidiary, Comstock Publishing Associates.



Figure 5. *The Cornell University Campus in 1872.*

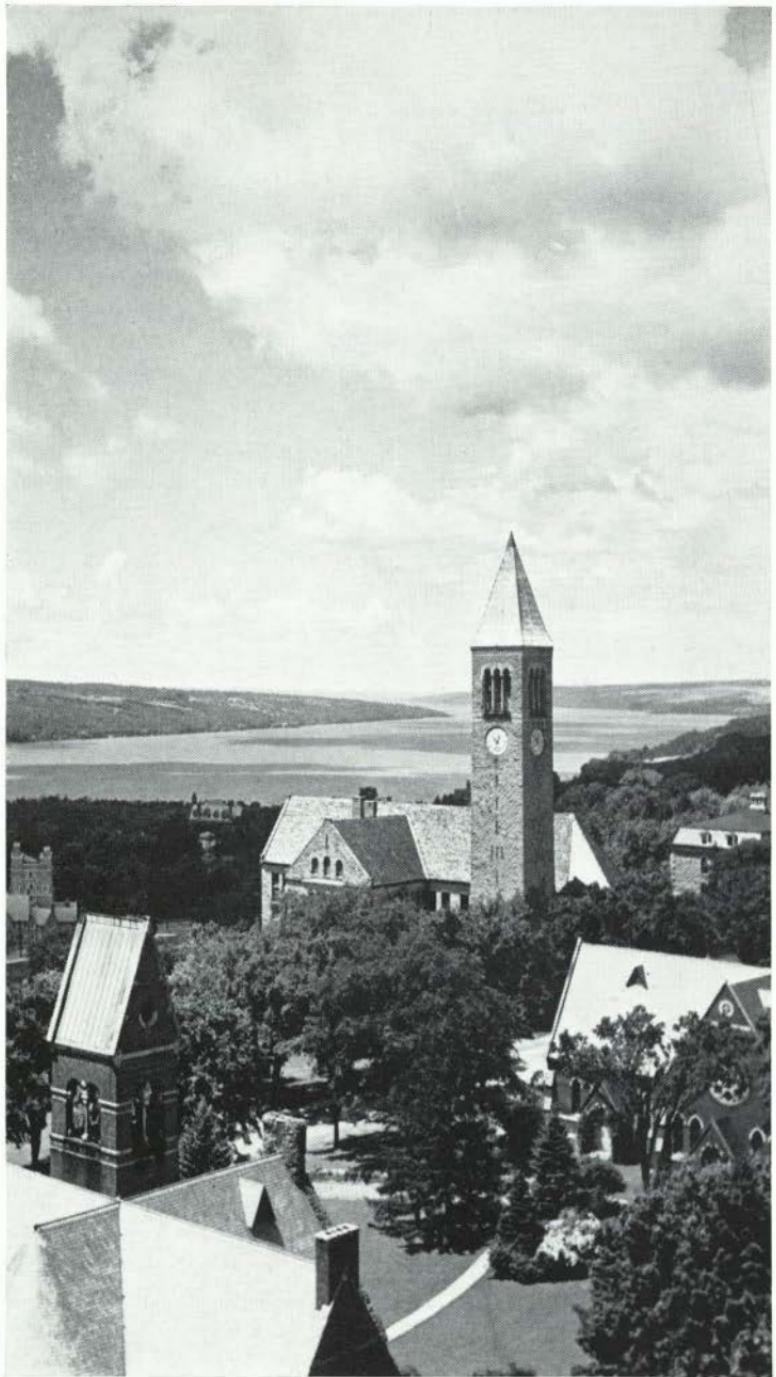


Figure 6. *A glimpse of the beauty of Cornell University's setting and of a few of its buildings in 1920.*

books; then, perceiving the scanty equipment of the new laboratory, he generously gave them to Cornell where they were needed.

Henry's collecting soon crowded all the cabinets at his disposal and he did not know what to do. When President White called, as he often did, Henry told him of his perplexity. There was no University money to be had, but President White did what he often was moved to do in those days—put his hand into his own pocket and gave money for the cases.

Early in 1874, good fortune again came to Henry. At that time Ithaca was the home of B. G. Jayne, a special agent of the United States Treasury Department. Mr. and Mrs. Jayne had two small children and a beautiful home on University Avenue. As Mr. Jayne had to be away much of the time, he sought a reliable Cornell student who could stay in the house with Mrs. Jayne and the children at night, for protection and company. Henry Comstock accepted the post and passed happy months with this fine, considerate family.

In June, 1874, Henry was graduated, one of a class of seventy which had entered Cornell about three hundred strong. Despite illness, a broken arm, and self-support, he had earned his diploma as a bachelor of science. He regarded it with pride and joy, and it proved to be the only degree he ever received. He would gladly have studied for advanced degrees, but his work always rested so heavily upon him that he never had time to go to another institution to study, and Cornell grants no degrees to its professors. Later he gave many graduate courses and conducted the examination of many a Doctor of Philosophy.

There were so few women at Cornell, in its first decade, that they were noticeable at lectures. One who came as a visitor to many lectures would have been noticeable anywhere, Mrs. Paul Z. Benchley. She believed in dress reform and wore bloomers which consisted of a short full skirt falling just below the knee and wide-legged pantaloons that reached to the feet. Her striking face was lined with character, framed by short gray curls, and crowned with a lace cap. She was always knitting while she listened to scientists or philosophers. In those days, to go from

THE COMSTOCKS OF CORNELL

town to the University one must walk or hire a carriage for a dollar and a half. Enterprising Mrs. Benchley, who resented the high cost of carriage hire, established an hourly bus line between the town and the University. The bus fare was ten cents. Many of us cherish her in grateful memory for that practical philanthropy!

Commenting on undergraduate life at Cornell to his step-father, Henry wrote: "College life is very different here from what it is at most colleges. Here the men are more earnest. A great part of the students are poor men who are working their way through. Consequently we do not perform as many boyish pranks as they do at other colleges."

A scientific society had arranged for a summer school of botany and zoology to be held in Peoria, Illinois, in 1875. Dr. Wilder was to teach zoology and Professor Alphonse Wood, botany; and through Dr. Wilder, Henry was invited to teach entomology. Henry was elated over this invitation, not so much because of the money as to be asked to teach with Dr. Wilder and Professor Wood. When he was a sailor boy on the Great Lakes he had studied the plants of the shores with the help of his Wood's *Botany*, which was his constant companion and, next to his Harris' *Insects*, his most loved book. So it was a rare privilege to become the colleague of its author.

The fall of 1875 was a happy one for Henry Comstock. His work was going well, he had an interesting class in his laboratory, and he was enthused by the wonders of creation that he was always discovering. He wrote to his mother: "Many of my friends here wanted me to study medicine, but I felt that I could do as much good in the world as a naturalist as if I were a physician, and I enjoyed Natural History so much. My work is so pleasant that the days are always too short. How I wish, mother, I could be with you and take you for walks in the fields. I could show you many things that are strange and beautiful." These words hold the keynote to his teaching and to his attitude toward his work. He felt so keenly the wonders of creation that he carried the classes along with him on the tide of his own earnest enthusiasm.

Chapter 4 ↵ 1854-1874

Anna Botsford, Childhood and Youth

MY EARLIEST memories are of the log house in which I was born, in Cattaraugus County, New York. This house was at the edge of an orchard, some distance from the road, and the path to the door was bordered with rosebushes and peonies. The entrance was through a porch which had at one side a pantry and milk room.

The first floor of the house consisted of one spacious room—spacious as compared with modern city apartments. One end of the room was both kitchen and dining room, with a stove, a dish cupboard, painted blue, and a cherry fall-leaf table which was extended for meals. The middle part of the room was the sitting room, with an inviting lounge on one side, a cherry bureau and stand on the other, and between them rockers and other chairs, cushioned for comfort. A rag carpet covered the floor. The other end of the room was for sleeping. In either corner was a four-poster feather bed, hung with white curtains and valances. The curtains were looped back, showing snowy coverlets and pillows. The space between the beds could be added to the sitting room when needed. When company came to stay all night they retired behind their bed curtains to undress or dress, and we did likewise. I slept in a trundle bed, which during the day was rolled under the bed in which my parents slept.

Between the beds was a wide casement window, beyond which a cinnamon rosebush bloomed. White fringed curtains at the window so enhanced the view of the pink roses that this picture has always remained in my memory. Under the window were

THE COMSTOCKS OF CORNELL

two green chests, their fronts white and ornate with initials and flowers in gay colors. One of these belonged to my father and the other to my mother. Each chest had a till and a drawer for letters and papers, receptacles of mystery to me, for I was seldom allowed to look while the contents were examined. Fringed covers of white linen were spread over the chests and on them were our small store of books and boxes for hats or other apparel, each covered with a white fringed doily. The walls and ceilings of the room were plastered, and papered in light colors. On the wall hung framed color prints—"Robert Burns and His Highland Mary" and "Washington on a White Horse."

In 1854, the year of my birth, the southwestern counties of New York State were in the postpioneer stage of development. My grandfather, Daniel Botsford, had moved his family with ox teams from Bristol, Connecticut, to Otto, Cattaraugus County, New York, in 1823. He was a descendant of Henry Botsford, who had settled in Milford, Connecticut, in 1699. His wife, Polly Foote Botsford, was a descendant of Nathaniel Foote, who had settled in Wethersfield, Connecticut, in 1640. My maternal grandfather, Job Irish, and his wife, Anna Southward Irish, had moved with their family by ox teams from Danby, Vermont, to Collins, Erie County, New York, about 1815. They were Quakers, my grandfather being a descendant of Joseph Irish, who had come to America soon after William Penn and had settled in Dutchess County, New York, but later with his eight sons had migrated to Rutland, Vermont. His sons were persecuted by both Colonials and British during the Revolutionary War because they refused to fight. One of my grandfather's uncles was shot down in his own doorway by a rascal in ambush. His home was in a clearing in the forest; his wife buried her husband with her own hands and with her four small children went through the wilderness to Rutland, Vermont.

Both of my grandmothers died before I was born, but I remember my grandfathers. Grandfather Irish was a quiet, dignified man whom I loved dearly. He wore a broad-brimmed, pale-gray beaver hat and walked with a cane, for he was partly blind. In meeting and at funerals he wore his hat during the services,

according to Quaker habit. Grandfather Botsford was active, rather nervous and somewhat deaf. He had been a soldier in the War of 1812 and had the traditional Yankee hatred of all things British. He was an ardent Methodist, a Whig, and later a violent Republican. He read newspapers thoroughly and enjoyed political argument. The angrier his opponent and he became, the keener his enjoyment. Industrious and honest, he brought up his family in the fear of God and of the rod. He had taught school and was an excellent penman.

My father, who was five years old when the family moved from Connecticut, remembered that as a boy he had been afraid to go after the cows because they were no sooner in the yard than the wolves in the woods behind them were howling. He had been terrified, but his father had made him get the cows just the same. When he was fourteen years old and was allowed to carry a gun, he lost his fear.

Grandfather and Grandmother Botsford put religious pressure on all their children. To each of them at the age of fourteen was given a Bible which must be read from cover to cover, and then each child was expected to "profess religion" and join the Methodist church. This worked well with the four elder children, but my father was not made of such malleable stuff. He read the Bible through—I now have the copy, bound in tooled leather—and declared that it was interesting history and nothing more. His parents labored with him, prayed with him and at him, scolded and punished him, to no avail. His younger sister Urania and brother Wiley joined in his rebellion. Probably as an aftermath of this experience my father and Uncle Wiley became Democrats. Political discussion at our family gatherings was often so hot that my Quaker mother left the room.

My father "bought his time" from his father after he was sixteen and worked for neighbors, clearing land and farming during the day and taking the daughters of his employers to dances and to singing or spelling schools in the evenings. There was no caste in this pioneer society. The hired help were sons and daughters of neighbors who were landowners of equal rank, but who had children to spare. There was winter schooling in a log

THE COMSTOCKS OF CORNELL

schoolhouse, where my father learned to read and write well and mastered enough arithmetic for business and enough geography to make him intelligent in world affairs.

People have told me that my father and Uncle Wiley were handsome youths with black hair, heavy eyebrows, blue eyes, and red cheeks. My memories of my father are of a powerful personality in whom I took much pride but of whom I stood in awe and fear, and yet I loved him. I remember as of yesterday his appearance when he started off for "general training," when he enlisted in the State Militia. He wore a dark blue suit, a wide red sash, leggings topped with red points, a red and white cockade on his hat; he sat very straight on his horse, and to me he was all that was gorgeous and grand. He read newspapers and was a thinker concerning political questions; he knew the record of every important Senator, Congressman, and State Legislator. He hated slavery, and thought the government should have bought the slaves and freed them. He regarded the Civil War as a conflict brought on by extremists in North and South, which might have been avoided had the leaders been moderate and reasonable; it was a horror to him. He was honest in business affairs and was kindhearted and generous to the unfortunate. He liked to work and was skilled in the varied industries of the farm. He was witty and had a keen sense of humor; he was also sarcastic and pessimistic.

My mother was my father's complete complement. She, too, was a pioneer's child. One of her earliest memories was of losing her pet lamb when the wolves killed twenty-six sheep in one night. Her mother was thrown from a horse when on an errand of mercy to a sick neighbor, and died, leaving a family of five, when my mother, next to the youngest, was nine years old. People who knew my grandmother, for whom I was named, spoke of her as a large, handsome woman possessed of a kind heart and a spirit of helpfulness. Two years after her death, my grandfather married again, a widow, who treated her own daughter as cruelly as she did my mother and her sisters. They slipped away as early as possible to work for the neighbors.

Mother loved her school in the old log schoolhouse. She loved

beauty and poetry. Her English reader, rich in the essays and resounding poetry of the seventeenth and eighteenth centuries, was a joy to her all of her life. She read the prose and learned the poetry. Through her Quaker ancestry, she had lost all sense of music and could not sing; so she used to put me to sleep by reciting poetry, implanting in me a love of rhythm and rhyme.

Mother had a passionate love of beauty in nature. My hours of great happiness were when she could go into the fields and woods with me. She taught me the popular names of sixty or more flowers and of a dozen constellations, an asset for enjoyment in afteryears. Her delight over the beauty of a fern, a sunset, or a flower made me appreciate them too. This love of nature lasted throughout her life. One evening, after she was eighty, she stood at the window watching the sunset, and turning to me, her face glowing, said, "Anna, heaven may be a happier place than the earth, but it cannot be more beautiful."

Mother had a sunny disposition and believed that everyone meant to do right. She refused to listen to critical gossip; the acme of her condemnation, when some one had broken the Decalogue, was, "I fear he doesn't live consistently." She was born into the Hicksite Society of Friends and always clung to her Quaker principles. She and my father were always in accord, for the Hicksites were quite unorthodox. Mother was not troubled by creeds. Later, when her meeting changed to orthodox, she attended it with the same serenity of spirit as when in her own Society. She enjoyed work and was quick and efficient in all of her undertakings. She was an excellent and resourceful cook, a neat, orderly housekeeper, and had the faculty for making a room look inviting and "homey." She was an expert cheese-maker, her products always bringing top prices. She could spin flax and weave woolen cloth and linen of beautiful, intricate patterns. She was an expert spinner of wool and could knit stockings in the dark. She was an exquisite needlewoman; her hemming was a work of art, so delicate and even were the stitches. She was strong of body, blithe of spirit, courageous, capable, fearless, peace-loving, and self-sacrificing. She was not tall and was rather stout in her early years. She had black wavy hair and

THE COMSTOCKS OF CORNELL

expressive, violet eyes. She was quick in movement and observant. She enjoyed fun, but had small sense of humor. She was an excellent nurse and deemed it no hardship, after working all day, to sit up at night with a sick neighbor; she helped to care for the sick within a radius of three or four miles of her home. Invalids said that her presence brought cheer, comfort, and healing.

My father and mother had both been married before they married each other, and were childless. My father had married a schoolmate, Hannah Bartlett. Six years later his young wife died of tuberculosis. My mother, when sixteen, had married Harlan King, an invalid for years, and the two lived at his father's home. Mother loved the King family and was beloved in return. Harlan King died twelve years after their marriage, and Mother stayed with his people until she married my father. These earlier marriages complicated my relationships but greatly enriched my life. The Kings and the Bartletts were interesting people and both families visited us often and made much of me; I supposed they were my own relatives and always called them so. Much has been said against second marriages, but I, being a product of one, have my own ideas. The former conjugal partners were spoken of with affection and reverence, and I always felt that they belonged to me. My father was devoted to Mother's mother-in-law, Grandmother King, and invited her to live with us. She was a reader and thinker, and he found her stimulating as well as charming. He loved her children as he loved his own brothers and sisters. Grandmother Bartlett, a formal, dignified old lady whom I visited occasionally, was so fond of me that she willed me her gold beads and pink china, although she had granddaughters of her own. The Bartlett brothers and sisters were highly esteemed by Mother, and one of the sisters, Aunt Sylvia Moore, a homeless widow, lived with us for seventeen years. Little wonder that I grew up with a conviction that second marriages need in no way detract from the love and loyalty belonging to the first.

Our home was an asylum for the unfortunate, owing to the generous attitude of my mother and father. I can remember

hardly a period when we did not have someone with us who was in need of physical support or spiritual and moral comfort. Sometimes it was a child needing care, but more often older folk, like my mother's stepmother, who chose to live with Mother rather than with her own daughter, although she had been so harsh that my mother had left home when she was twelve. To my parents a home was a sacred trust to be used for the benefit of humanity, although they never stated the matter in such a way. They simply did what to them seemed right toward those less fortunate than themselves. Their example in this respect made a deep impression upon me, and my husband and I have always looked upon our own home as a blessing to be shared and not to be regarded selfishly.

We left the log cabin when I was about three years old for a story-and-a-half frame house a short distance away, at the edge of a primeval forest. This house was more commodious, with a parlor, dining room, kitchen, and two bedrooms on the first floor, and bedrooms in the low-ceiled chambers above. There was a front piazza with a seat at each end. A cheese house was soon erected a few yards away, consisting of a room for the vat and presses and a storeroom. The floor of this large storeroom was painted yellow, the walls were plastered white and there were white shades at the windows. On rows of benches were cheeses, weighing thirty to forty pounds each, trim and shining yellow, each on its board; it was a room of beauty, neatness, and order. Between the cheese house and the farmhouse was the pump. Across the road were the cow barn and the horse barn, each with ample room for storing hay and grain, and fascinating places in which to play.

Until after the Civil War we were largely a self-providing family. We raised wheat and corn, which were ground in the village mill to serve as our own breadstuff. We raised our vegetables and buried our potatoes and apples in earth-covered pits to keep them fresh after those in the cellar had been eaten. We had sheep and spun our own yarn but hired it woven into cloth. We made enough maple sugar to last us the year round. We killed our own meat—cattle, pigs, and sheep; cured hams, salted

THE COMSTOCKS OF CORNELL

pork, and corned or dried our beef. We had plenty of hens and eggs. We bought tea, coffee, spices, white sugar, and salt; cotton cloth, calico, and delaines; thread, needles, pins, boots, shoes, and, on rare occasions, silk for a dress for Mother. For everyday wear for Father, wool from our sheep was made into "full cloth" at the village woolen mill and a tailoress came with her goose (a tailor's iron) and made him the suit. Mother spun the yarn and colored it for our blankets and coverlets. Now and then she wove rag carpets. The chief source of our income was the cheese, although my father also "broke steers." He was adept at training oxen and received high prices for them. We always had oxen on the farm, to supplement the horses.

Father was a progressive farmer and was among the first to buy a mower and other machinery. He knew the right ways of doing things and his farm was always good to look at. The stock was well fed and showed excellent care, the fences were kept up, the barns were clean, and the cattle were well bedded. Father was implacable toward Canada thistles and white daisies. Many a time I was sent into the meadow to pull up a daisy plant, which I had to bring back and destroy.

Though on a farm, we were not isolated. We had neighbors of a high type, intellectually and morally, people of intelligence, with eager minds. They read all of the books and newspapers available and were conversant with public interests and questions. Our nearest neighbors took *Harper's Magazine*, from the first issue. Our community was up-to-date on all of the issues afloat, and phrenology, spiritualism, water-cure, transcendentalism, and especially abolition impinged upon us and we upon them. The women found time for visiting about the neighborhood during the summer and autumn, and in winter there were frequent evening dances for which the empty cheesehouses proved to be satisfactory ballrooms. On such occasions the main refreshments were paid for by all and usually consisted of oyster soup, with crackers. Pies, cake, cheese, and pickles were contributed largely by the hostess. These gatherings were gay and helped to keep up neighborly morale. There was always someone in our circle who played the violin and who cheerfully donated

his services. My father was a skillful and graceful dancer. In those old square dances, he had a dozen fancy steps for "coming down the middle"; I remember that I was very proud of him.

Our school was an important factor in our home life. Set on a high hill, this rural schoolhouse was a frame building which had taken the place of a log house built by pioneers, who believed education to be the cornerstone of our national structure. The schoolhouse was on one corner of our farm, about a half mile from our home. We had three months of school in the winter, usually taught by a man because the "big boys" from the farms were free to attend school at that season; and three months of school in the summer, invariably taught by a woman because only the younger children attended that session. The teacher "boarded around," staying a week with each family, but our house was so near that my mother and father always welcomed the teachers, whenever they chose to stay with us. This resulted, in many instances, in making the teacher a member of the family and added to the interest of our evenings. One ambitious young man read to my parents *Timothy Titcomb's Letters* and a book of popular astronomy. Our teachers were superior, interesting young men and women, and I admired them almost without exception.

Of great interest to me were the peddlers who sold goods in the rural districts. As we were halfway between villages ten miles apart, and they usually arrived about suppertime, they were always welcomed and entertained free of charge. Among my favorites was "The Old Scotchman" who sold linens. He dressed in Scotch style and wore a tam-o'shanter. He loved children, and carried a tickingbag full of delicious small candies, a handful of which he would give to me. Whenever I saw him coming I ran to meet him. Another favorite was a tin peddler with his horse and covered wagon. He was handsome and interesting, full of fun, and with his popular songs could have made a success on the vaudeville stage. He was a natural vagabond and his business fitted his character. I doubt if he ever paid for lodging or a meal, for he was welcome everywhere.

I did not lack for friends of my own age. Our nearest neighbor

THE COMSTOCKS OF CORNELL

had a son, Herbert Northrup, a few months older than I, and from babyhood we were close friends. He was quiet, blue-eyed, and towheaded, and I was talkative, gray-eyed, and had hair as black as an Indian's. We seldom quarreled and our hours together were happy. We both learned to read when very young because each of us was an only child and had many hours of loneliness. Learning to read was one way of amusing ourselves, so we harassed our mothers to tell us the names of the letters. I learned many of mine from the inscriptions on our kitchen stove. Herbert and I always insisted on being together in our readers and in our other studies. His father was a victim of tuberculosis and there were times when Herbert spent weeks with us, when Mr. Northrup was very ill. We rejoiced in these visits for we did not realize the tragic reason for them.

No book gave Herbert or me complete satisfaction until it was shared with the other. We would sit together by the hour, each reading busily. Our parents remonstrated with us, telling us to play or visit; we listened to them tolerantly, knowing that they could never understand that we were happiest together when reading. This way of entertaining each other lasted until we were grown. No girl could have been more fortunate than I in an intimate boy companionship. Herbert was a thoughtful, intelligent, refined lad who liked me as much as if I had been a boy and I liked him as much as if he had been a girl. I continued fortunate in this respect; for after Herbert's family had moved away, my cousin Miriam Herrick, her husband, and their four boys came to be our near neighbors. Of these boys, two were near my age and two younger. They were bright, happy, modest boys and never did I hear an improper word from them or witness an act that could have been criticized by our parents. Blessed is the girl who learns early in life that men are good.

One of my greatest joys was when I was allowed to visit the home of my Uncle Harvey and Aunt Sarah Little, about a mile from our home. My Aunt Sarah had cared for me when I was a year and a half old, while Mother was ill; I loved her and called her "Ma Sarah." She was an attractive, intelligent woman, had been a teacher, and was cultured and stimulating. Uncle Harvey

was a big, handsome man who had a fascinating way with children. My cousins, Kate and Lidie Little, were beautiful and popular young women. I worshiped them and they permitted me to look at their ribbons, laces, and jewelry to my heart's content. Their beaux made much of me to win approval from the girls. Both had excellent taste in dress and were, in my sight, a whole art gallery of beauty.

The Little house was a long story-and-a-half structure. Upstairs, one room was a repository of papers and magazines, which were treasured for years. Curled up by the low window, I reveled in this literature. In one room was a dulcimer, a stringed instrument to be tapped with padded hammers. It tinkled under my efforts and I was enraptured with my own music. The sitting room had a fireplace and I remember my enjoyment when I was allowed to stay all night and could sit with the dog before the roaring fire, my feet proudly encased in my aunt's much too large slippers, while my aunt and uncle read by the table and Grandma Little knitted in her chair by the hearth corner.

One summer during the Civil War my cousin Lidie Little taught our school, bringing beauty and happiness to us all. She covered the marred walls of the schoolroom with boughs from the nearby woods and the rusty box stove with flowers and ferns. She was an artist and had painted many pictures. On the last day of school she gave each of us a treasured card with her name and a flower upon it. All of us wept when we bade her good-bye, for it was tragedy to us that she would never teach us again.

The Civil War made a deep impression on me. I had many cousins who enlisted and who came to visit us during their furloughs, dressed in blue, with buttons that were gold to my eyes. I had mastered the *Fifth Reader* when I was eight years old and was able to read the newspaper accounts of battles and the lists of wounded and dead. I scraped linen with a knife to make lint with which to dress wounds, and helped to knit stockings and wristlets for the soldiers. I remember the pall that fell over us when President Abraham Lincoln was killed.

I was early taught to work. I learned to sew before I was four years old and to knit when I was six. I had to knit my own woolen

THE COMSTOCKS OF CORNELL

stockings after I was seven. My stint was to knit ten times around the stockings each day, and it seemed an interminable task. Before I was ten, I pieced a bedquilt, each block a memento of a garment of my own or of some friend.

Mother had good taste and I always had one "best dress." Mother was also abreast of the times and adopted the bloomer costume for everyday wear for herself and for me. The full skirt stopped at the knee, but the legs below were encased in wide trousers of the same material that reached almost to the top of the shoe. For summer I wore a Shaker bonnet, a straw sunbonnet trimmed with material like my dress, usually pink calico. Other women and children of our community dressed thus "for everyday," but not "for best," nor for public appearance. I remember meeting a smart equipage filled with city people when I was coming home from school one day. A lady looked at me and said, "What an extraordinary costume!" and I thought, "What an extraordinary lady!"

Going to school in winter was strenuous. The fenced roads were drifted full of snow, and often my father and the neighbors would open the roads with ox teams before we could get to school or get home. One blizzly day our heroic schoolmaster had both hands frostbitten, holding his shawl in front of us younger children while he walked backwards until our house was reached. I wore copper-toed boots in winter and I remember getting them filled with snow.

Many duties fell to my share in our busy farm life. When I was nine years old I washed the breakfast dishes and the milk pails and swept the dining room and kitchen before I went to school. At night I washed the supper dishes and the milk pails (how I hated washing the two large ones!) and went to the garden and dug potatoes for the next day's meal. I had the chickens to feed and a canary to care for. That summer the hired girl was sick and away. I recall that I was struggling, quite successfully, with compound fractions that term. I never rebelled, even if the days were hard.

One of my joys was going barefoot from early spring until late autumn. I was wont to play I was a princess occasionally, for I

was very imaginative. Mother told me that if I were a princess I would have to wear shoes and stockings all summer. Never again did I play that game. "Poor princesses," I called them, and pitied them sincerely.

The great events of the year were agricultural fairs and circuses, the latter not always an annual event. How I gloried in the gorgeous spangles of the lady riders in the circus! Seeing this display was a great stimulus to my imagination. Later, when the family had gone to the village, I would array myself as best I could, and, standing on the back of our pet brood mare, pastured in the orchard, I would do my best to imitate the circus ladies; but my inconsiderate steed usually scraped me off with the help of the low-branched trees.

The "ladies' pavilion" at the agricultural fair was to me a glorious place: there were exhibited flowers, pictures, patchwork quilts, embroidered linen, framed wreaths of wax flowers, or perhaps a family hair wreath (locks of hair wired into flower shapes), and elaborately beaded broadcloth skirts made for themselves by squaws, who also exhibited beaded cushions and mats. In the afternoon a game of lacrosse was played by the young Indians of our Gowanda Reservation of Senecas—splendid athletes they were. Then there was the meeting of many friends, which meant much to my parents—and to me too, who loved everybody.

Our fairs and circuses were always in Gowanda, a much larger village than Otto. We were halfway between the two, but the ride to Gowanda was far more interesting, because we had to cross "The Breakers at Forty," which means that we had to go down one side of a gorge about two hundred feet deep, cross the South Branch of Cattaraugus Creek, and climb up the other side of the gorge, an exciting adventure. "The Breakers" were favorite places for picnics and excursions and afforded impressive, picturesque scenery.

Every spring and fall we were visited by Seneca Indians, since we were on one of the roads that led from the Gowanda to the Salamanca Reservation. The men were tall and gaunt, with deeply lined faces; their hooked noses, high cheekbones, and

THE COMSTOCKS OF CORNELL

piercing eyes made them impressive; they were taciturn and dignified. The squaws, usually fat, invariably wore broadcloth skirts embroidered with beads. They always had baskets and beadwork, and bartered these wares for food. All of our baskets, from the bushel size for grain and potatoes to the dainty pink and green or blue dinner basket for me, were acquired in this way. Father and Mother were always kind to the Indians; once when a terrible sleet storm overtook a company of them, they were brought into our kitchen and allowed to camp there for the night. I remember the thorough cleaning Mother gave the room after they left. In the spring, when the cows freshened, the male calves were killed when three days old. The Indians regarded this veal as a great treat and it was given them free of cost. The story of the Indians on our reservations is a sad one. They owned the best of land but did little in cultivating it. Whisky, sold by unprincipled saloonkeepers in the villages, wrought havoc, especially with the men.

When I was ten years of age, we moved to the house opposite the school, and for the first time I had a room of my own. This seemed a luxury, for although it was very plain, its white-curtained windows gave a view of the orchard.

This year, for the first time, I was naughty in school. Our teacher was a sentimental person who had made an unsuccessful marriage and was unfitted for teaching. Her discipline was capricious. Once she decided to whip me and seized the long apple-tree switch which she used for punishment. I ran out of the schoolhouse into a cornfield. She came after me; I kept near enough to her to know where she was and far enough away so that she did not know where I was. After a half hour, while the other pupils were holding revel in the schoolhouse, she gave up. I went home quietly, returned in the afternoon, took my seat as if nothing unusual had happened, and she too appeared to have forgotten it.

In English grammar I demanded reasons for rules and explanations, so that I could understand. She was no expert and, being annoyed, finally said: "Anna does not seem to get along as well as the rest of the class; hereafter I will hear her recite by

herself." I craftily asked her, "Will you hear me recite all I can learn?" She said, "Of course." I had a remarkable ability to commit words to memory, whether they meant anything to me or not. I studied grammar exclusively until the next afternoon and asked her to hear my lesson. I repeated the grammar rules through the remainder of the book. She tried once or twice to stop me, but I said, "You promised to hear all I could learn." Thus I finished grammar, but cordially hated the study until I came to appreciate it, after I studied Latin.

It had been a tradition in our school that one afternoon each summer we should move from the schoolhouse to the woods and recite our lessons there, always an orderly performance. During recess I climbed a tree, one of my favorite diversions. I was coming down peacefully when the teacher exclaimed sharply: "Anna, come down out of that tree immediately. Recess is over." At this, I stayed my downward course and announced that I would recite my lessons from there, and I did. A few years later, when I was a teacher in that same school and we were having school in the woods, one of the older girls said, "What would you do if one of us climbed a tree as you did when Susan Lee taught?" At this an older boy said, "We'd better not try it; Anna would climb right up after us."

It was surely a period of badness for me. I remember that a schoolmate, a sweet, refined girl, and I began swearing when we were alone together. We used every oath we had ever heard and swore at everything. One day we saw an apple-tree tent caterpillar on the fence and called it every wicked name in our vocabulary, at which it lifted up the front part of its body and swung back and forth; we were awestruck and concluded we had best stop swearing, and did so. The disturbed insect had made this motion to frighten away parasites, but when a mere worm turned on us, we thought it was time to reform. What our mothers would have thought of our performance, if they had known, was one element in our enjoyment of our wickedness.

The next year Father sent me to school in Cattaraugus village, where I could see Herbert Northrup every day, for he and his mother lived there, and where I could visit my uncle, Lucius

THE COMSTOCKS OF CORNELL

Botsford, and Aunt Mary, who always gave me something good to eat.

The summer that I was thirteen, Father bought land near the village of Otto and built a barn on it. The next summer we moved into the barn while the house was being built, as we were obliged to give room and board to the carpenters. The barn had never been used and made a commodious residence. The stalls were made into bedrooms and the carpenters slept in the hay loft; never before had any of us had so much fresh air for sleeping, and all agreed that never before had we slept so well.

It was a rapturous summer for me, for there were new experiences, new friends, and the thrill of watching our new house grow. It was a Gothic cottage with six gables and a dormer window. The house was painted cream yellow, the trimmings white, and the blinds pale pink. Although I have since roamed “’mid pleasures and palaces,” I still think it was a beautiful house; the scrollwork in the sharp gables and the spires fitted the style of architecture. The house was on a hillside above the road, with the orchard at one side and behind it, and it made a pretty picture. The view from the piazza was eastward across a wide valley, with a stream winding in and out of the “kneeling hills.” It was from this piazza that I learned to observe the exquisite pale coloring of the eastern sky at sunset.

The house was pleasant inside, with its large white kitchen and pantry. The dining room, opening on the piazza, was used as such only when the company was too large for the kitchen drop-leaf table. The parlor, with its dignified walnut and green rep furniture and marble-top tables, seemed grand, as did the parlor bedroom, with its walnut furniture; the walls of these rooms were papered with gray and green paper that looked like velvet. But the especial charm of the house for me was my study, a chamber with a dormer window overlooking the orchard and with a red carpet and white lace curtains which seemed to me the acme of elegance. Above all it was not a bedroom: it had a comfortable couch where I could lie and read, and a walnut bookcase and writingstand, with chairs and rocker to match. Never have I had such blissful hours as in that, my very own room.

There was a "select school" in Otto that I attended for the first year after we moved into our new home. The teachers were superior women, cultivated and interesting; two of them became my lifelong friends, for they married and lived near us. In this school I saw pupils taking lessons in oil painting; I longed to be one of them, but I was consoled by taking a few drawing lessons. Here I met Etta Holbrook and other lasting friends.

Etta Holbrook was the niece of Mrs. Constant Allen and was living with her. Mr. Allen was one of Otto's wealthy men, handsome, and dignified, and a lover of good literature. Mrs. Allen had been a teacher in Vermont and had come to Otto to teach, where she married Mr. Allen, a widower. Their home was a rambling structure in beautiful grounds at the edge of the village. To me it was a symbol of luxury, elegance, and culture. The mahogany furniture of the parlor and library, the bookcases filled with books, the handsome silver table service, the spacious sitting room with comfortable chairs and piano, impressed me profoundly. The many oil paintings and engravings on the walls filled me with awed delight. The master and mistress of this home were cultivated persons. They read aloud to each other and when I was their guest I was permitted to listen. Poetry, essays, political speeches, and magazine articles were read so well that it was a treat to hear them. There were always young visitors in the house, making it all the more attractive.

As my home was a mile from the village, I was welcomed at the Allen house during stormy nights. Father liked to have me there, for he knew that Mrs. Allen would not permit me to go on the streets in the evening. As I look back on my early life, I can see that Mrs. Ann French Allen was the one who aroused my ambition for a higher education and implanted in me a desire to make my work in the world count to the utmost of my ability.

One morning when I called upon Mrs. Allen, she had a newspaper in her hand and said: "Anna, here is your chance for a university education. Ann Arbor has opened its doors to women. Your Aunt Charlotte Willits lives near Ann Arbor and you can live with her." This seed, once planted, sprouted and grew. I had indeed prepared to enter the University of Michigan, when

THE COMSTOCKS OF CORNELL

Cornell gave me a chance for a university course nearer home.

There were two churches in Otto, whose membership included the best citizens, but there was hot rivalry between them, and this was echoed by the children. "You are a damned Methodist," or "You are a damned Congregationalist," I heard on the school grounds. My father was afraid that I would be influenced to join a church before I had reached "the age of reason"; so he insisted that if I attended the Sunday School of one church I must also attend the Sunday School of the other, and alternate my attendance at church services also. This had the desired effect and kept the two balanced in my interest. When a lovable pastor called on my father and asked why he was not a church member, Father said, with a smile, "I live in peace with *all* my neighbors." Both laughed and became good friends.

When I was fourteen, the teacher in the primary room of our village school became ill and had to give up work six weeks before the term ended. I was asked to take her place. I obtained a third-class certificate without examination and entered a noble profession joyfully. It was hard work but highly entertaining. I received three dollars a week and "boarded myself." At the end I had eighteen dollars. I told my father that I wanted to spend it for books. He proposed that we have a great holiday and go to Fredonia, New York, the nearest village that had a bookshop. I still have most of the books we bought, and this is the list, showing Mrs. Allen's influence: the complete works, in one volume each, sheepskin-bound, of Shakespeare, Moore, Burns, Byron, Scott; "diamond editions" of Tennyson and Longfellow; a half-dozen paper-covered novels by Dickens and Scott; and two books which the owner of the shop gave me, *Faith Gartney's Girlhood* and *Hitherto*, both by Mrs. A. D. T. Whitney. The riches of Golconda were nothing to me, as compared with my own treasures when all of these books were on the shelves in my study—all for only eighteen dollars. I reveled especially in the poetry. I had bought the volume of Byron because, when Mrs. Allen found me reading *Don Juan* in her copy, she had taken it away from me. I shall never forget how I waded through that poem in my own book, trying in vain to find out what was wrong with it. I thought it the stupidest of poems.

In 1871 there was no public high school in Cattaraugus County. There were, however, two seminaries under the direction of the Methodist Church. The nearer one was Chamberlain Institute and Female College at Randolph, about eighteen miles from Otto. In September my father put me, my precious trunk, and a bundle of bedding in the wagon and drove to Randolph. The institute was situated on a hill between two villages and consisted of a brick building, one wing a dormitory for the boys, the other for the girls, and a wooden building for classrooms. In the brick building were the offices, dining room, and rooms for the literary societies. Each table in the dining room accommodated fifteen or twenty, with the boys on one side and the girls on the other, while a professor presided at each.

The teachers were superior in character and attainment. The principal, James T. Edwards, an able man of long experience, was especially brilliant in the physical sciences. His wife was the preceptress, a fine-looking, dignified woman and a successful teacher of French and of painting. Darius Baker, who taught Latin and Greek, was afterwards a judge in Newport, Rhode Island. Isaac Clements, who taught mathematics, later became the principal of Cazenovia Seminary, in Madison County, New York. These men were graduates of Wesleyan University. They were men of high ideals and had great influence upon us all. Fine persons also were the teachers of music and penmanship.

For the first week, life was glamorous. New teachers, new friends, new studies, new environment, all seemed wonderful to me. There were brilliant young instructors, and also brilliant pupils, as later life proved. The eldest daughter of our principal, Grace Edwards, was a child of ten. One of her dearest friends was a little girl whose family lived in Randolph; her name was Martha Van Rensselaer and I saw her often, never dreaming how closely she would be associated with me later, when we were both professors in Cornell University.¹

¹ Minutes of the Cornell University trustees record that Anna Botsford Comstock, the first woman professor at Cornell, was appointed Nov. 8, 1898. Martha Van Rensselaer came to Cornell as an assistant in 1900 and was appointed a professor, as was Flora Rose, after the Cornell University faculty approved the appointment of women as Professors of Home Economics, Oct. 18, 1911.—R.G.S.

THE COMSTOCKS OF CORNELL

We had many activities at Chamberlain Institute and I was in them all, including a literary society where we debated, orated, and declaimed. We also "published" a paper. Each winter there was an oratorical contest. We could have no help in writing our orations but were instructed in their declamation. After the first competition, it became known that a majority of the judges had voted to give me the second prize but one of them had declared that if I were not to have the first prize, he would give me a special award. From him, I received a set of Scott's novels, a handsomer prize than either of the other two. I was near weeping for happiness, and these books have always been a joy to me. The next winter I won the first prize, Elizabeth Barrett Browning's poems.

One phase of life in Chamberlain Institute I found unpleasant—the pressure put upon me, mostly by my schoolmates, to "experience religion." They felt that my lack of faith was sending me to perdition. At first I did not attend weekly prayer meetings, but I was accused of being afraid that I might be "converted," so I went regularly and sat there like a wooden image, unimpressed. Meanwhile I developed a sharp tongue against these onslaughts on my spiritual life and inside was ugly and rebellious. One night, after prayer meeting, Darius Baker, my teacher in Greek and Latin, called me into his office and gave me a "straight talk." He advised me not to go to prayer meeting since it injured my character by making me cynical. I obeyed, but the bitterness remained with me. Just before I graduated, Dr. Edwards, our principal, took me aside and labored with me, and finally said with tears in his eyes, "I believe that sometime we shall believe alike." I answered, "I cannot believe it, for so many of the attributes of your God, such as jealousy, revenge, and sending poor mortals to eternal torment, are the attributes of a devil."

It was not until I went to Cornell, where no one questioned my beliefs, that I became tolerant. I had met intolerance with intolerance. Cornell taught me again the lesson taught me by my parents, to respect the spiritual experiences and religious beliefs of others. I have never had another argument about religion, and I have counted among my intimate friends people of

1874-1876

every creed and people of no creed. I agreed with my Shinto friend, S. Hori, who said, "No man has any more right to talk to me intimately about my religion than he has to talk to me about my wife." That early experience at Chamberlain set me firmly against propaganda.

I graduated from Chamberlain Institute in June, 1873. My salutatory I declaimed in Latin, to the disappointment of my friends, who had been in the habit of coming to our public exercises to listen to what I had to say. I had gained much from my stay at Chamberlain Institute. I had learned to study, had met cultivated, superior persons, and had been happy in my friendships. I had some "love affairs" but they did no more than exercise my emotions healthfully. I had my eyes fixed upon a university education and could not let anything happen that would interfere with that goal. This ambition was my insurance against sentimental entanglements. Among the boys of my acquaintance, I had good friends on whom I could rely and who built strong my faith in manhood.

The next year I taught school in Otto and enjoyed the experience. My parents and I spent the summer of 1874 with relatives in "the West." We tarried so long that I did not enter Cornell University for the first term. Instead I studied German with the principal of our village school.

Chapter 5 ↵ 1874-1876

A Woman Student at Cornell University

I FIRST thought of Cornell University, during my last term at Chamberlain Institute, when one of our graduates who had entered Cornell talked to me about it. He said: "It is a great place

THE COMSTOCKS OF CORNELL

for an education; but if *you* go there, you won't have such a gay time as you have had here, for the boys there won't pay any attention to the college girls." I thought about this seriously and finally concluded: "Cornell must be a good place for a girl to get an education; it has all the advantages of a university and a convent combined."

I started for Cornell in November, 1874, entering at the opening of the second term, in the university's sixth year, when Cornell had three terms. I stopped at Elmira on my way, and from there John Hillebrand, Cousin Fidelia's husband, came to Ithaca with me, to see me settled. This was discouraging business, but finally we found a room in a house on East Seneca Street, and a place to board across the street.

In 1874 there were no paved sidewalks between my home and the University. I climbed up East Hill as best I could, thankful that as a country girl I was accustomed to bad roads. Cascadilla Hall was a forbidding structure, housing many professors and their families and some students. The bridge across Cascadilla Creek had a low wooden coping; the fine stone bridge on Central Avenue was given to the University years later by William Sage, a Cornell trustee. Where the old Armory stands was the small wooden terminal station of the railway that had been admitted to the Campus to bring building material, but the station was no ornament. South of it was a ravine crossed by a wooden bridge. There were two houses on Central Avenue, Professor T. F. Crane's and the Commandant's. Sage College and Sage Chapel were in process of building. Morrill Hall, then called South University, and White Hall, called North University, had classrooms in their central portions and men's dormitories at the ends. At the top of each building was a large lecture room. Geology, zoology, and physiology were taught in McGraw Hall, and the central portion of its first floor housed the University Library. Of Sibley College, only the west section was completed, with the engineering department on the first and second floors and botany on the upper floor.

"The Laboratory," a large wooden building, occupying a place west of that given later to Goldwin Smith Hall, held the

shops and the departments of chemistry, physics, veterinary science, and civil engineering. On East Avenue, President Andrew D. White's house and, north of it, the houses of Professor Willard Fiske, Cornell's Librarian, and Dr. James Law were completed. The old Cornell farmhouse, with its orchards and barns, occupied the present sites of East Sibley and Lincoln Halls. A few old oaks and pines grew on the Campus, but all of the elms had just been planted and were protected by boxes. It was not a bleak place, however, because there were glorious views of Cayuga Lake and the valley.

I found that I must take several examinations in order to enter, and that was discouraging. I had not had enough German to enter the class; but I saw a Masonic pin on the vest of the professor in charge, Bela P. Mackoon. Father, thinking that I was to be plunged into a strange and dangerous world, had given me his Masonic pin and a letter from his lodge, asking all good Masons to be kind to me. Armed with these, I called upon Professor Mackoon at his house; he struck terror to the hearts of his students, but he was an excellent teacher. I presented my credentials and no one could have been kinder to me than he; he arranged for me to come to him for the needful lessons and would take no pay. Before I joined his fear-stricken class, I was convinced that, if his pupils knew how kind he was, they would not mind so much the lash of his sarcasm.

At my boarding place were several Brazilian students. They were young and had had only a few months' study of English. They had found their university work hard and discouraging and they were homesick. They were young, but they wore beards or mustaches or both, which made them seem much older. I found them serious, quiet, polite young men. Luckily I was not the only woman at the table, for our boardinghouse keeper always presided and one of her daughters usually sat with us.

One day, when I had been obliged to take two unexpected entrance examinations, I was low in my mind and looked longingly into the depths of the Cascadilla gorge, as I crossed the bridge. A letter from my mother was at my plate at the dinner table and I gave it a hasty glance. She had sensed my homesick-

THE COMSTOCKS OF CORNELL

ness and was sympathetic. It was too much for me; I felt the tears coming and fled to the other room, ashamed of my lack of self-control, but I soon recovered and came back to the table. Lo and behold! All the Brazilian youths were weeping, their tears rolling over their beards into the soup; they were just homesick lads, although they looked like men! I had never seen men weep, and I began to laugh. They laughed too and we ate our dinner in sympathetic sadness and cheer.

My room looked out over Ithaca and the valley. It was frankly a bedroom. Two students, William Berry and Spencer Coon, had their room off the same hall. I was not disturbed by this, for I expected no social relations with gentlemen. Imagine my dismay when, answering a knock at the door, I discovered a tall, dignified man who evidently expected to be invited in. I stood guard firmly, while he explained that he had called to invite me to join the Christian Association. I thanked him and he retreated. Then my neighbors called on me. Since they knew it was my bedroom, I managed to express my dismay at having no other place to receive callers, but they were cheerful and seemed to think it was all right. That night I asked my landlady if I might receive callers in her parlor and she refused; but not long afterwards she suggested that I take another small room for my bedroom and said that she would help me convert the other into a study, where I might receive callers without embarrassment. When we had made the change it was an attractive room and greatly needed, for there were many callers. Some women students came, but more men, naturally enough, for there were few girls in Cornell then. It appeared that my friend of Chamberlain Institute had been mistaken about the ostracism of girls at Cornell.

There was to be a ball in Library Hall at Thanksgiving, and E. F. Jordao, a dignified, handsome Brazilian who sat at table with me, invited me to go. I consented, for that seemed to be the only courteous thing to do, and sent home for my two evening dresses that I had not expected to need. In my ignorance of the social customs of Ithaca, I began to feel the need of advice. All was strange to me, and both my landlady and my boarding-

house keeper were newcomers to Ithaca. I "took my life in my hands" and called on Vice-President William Channing Russel, who looked so fierce and was really so gentle. I told him of my perplexities. He advised me not to go anywhere with Brazilian students because they were foreigners with very different customs from ours. I told him I had promised to go this time, but that I would not go again, at which he remarked, "Advice to young people always makes them more determined to go their own way." On the whole, however, we had an amicable conference, and it was the beginning of a long friendship. I went to the ball with Mr. Jordao, and no Puritan youth could have treated me with more courtesy and respect. I enjoyed it all greatly. The first people of Ithaca were in attendance and it seemed to me a brilliant affair. Professor Russel was certainly wrong about the Brazilian students whom I knew. They were all gentlemen, by our standards as well as their own.

As a result of my appeal to Professor Russel, his wife, a superior woman, called on me and invited me to dinner. Ruth Putnam, of the Putnam publishing family, a classmate of mine, was living with them, and she too called on me, and became a life-long friend.

In 1874, there was little afternoon work in the University except in engineering. I had none although I had laboratory periods in botany and zoology. The zoology museum, lecture room and laboratory were in McGraw Hall. The botanical laboratory was in Sibley College. Professor A. N. Prentiss and instructor William R. Dudley were happy the next year when the botanical department was moved to Sage College.

President White had furnished a room on the first floor of White Hall for the literary societies and had decorated it with pictures and bronze statuettes.

The days were busy and happy. We climbed up to the University through snow and slush and sometimes on ice. I observed that the native Ithacan was never self-conscious when he fell on the icy walks; he got up without looking around. Not so did recent comers take their tumbles; they looked around furtively to see who might have witnessed their humiliation. There was

THE COMSTOCKS OF CORNELL

a steep place by Cascadilla Hall up which, one icy morning, a South American student was carefully climbing and which I was about to attempt. Just as he reached the top, he slipped and came back down, landing at my feet. I was glad I did not understand the language he was using.

When spring came there were walks in the woods for the botany class, boat rides on Cayuga Lake, and scrambles through the gorges. I had two friends among the young men in my house, Will Berry and Spencer Coon, both of the class of 1876, excellent students, with high ideals, and deeply interested in their work. They were good companions and thoughtful of my enjoyment. The Lake was our favorite play place. In those days, two side-wheel steamboats made connection between the New York Central Railroad and Ithaca. (I still maintain that a side-wheeler is the most swanlike craft in the world.) As we paddled out through Cayuga Inlet, we passed many Erie Canal barges, some of them with picturesque families aboard, their multicolored washings flapping in the breeze. There were small sailboats in plenty and no cottages along the shores to take away the wildness that was their charm. There was an interclass crew regatta that was thrilling. The seniors spilled, the juniors stopped to rescue them, and the sophomores were impeded by the mishap, while the freshmen rowed manfully on and won the race.

The summer of 1875 was an emotional one. Will Berry and I had arrived at a stage in our relations that made a consultation with our parents desirable. On our way home from Cornell I stopped at Forestville and met his father, mother, and two sisters—excellent, interesting people. A little later Will came to Otto and visited my parents, and our engagement was approved by both families. In less than a year, the affair fell by its own weight. It was too emotional to meet the realities of life. I went with him to his senior ball in 1876, just to prove that there was nothing left of our tempestuous relations, and that night we bade each other a calm good-bye. I saw him only once afterward, when he called on us, after I was married. He had a brilliant career as a newspaper man, working for several years on the *New York Sun*, then a journalists' Mecca. But he was too high-strung for the

demands upon him, and mental illness shrouded his last years.

I returned to Cornell in the fall of 1875, rejoicing that Sage College was finished. It was a fine home for the women students and highly appreciated by those of us who had experienced the difficulties of living in town. There were small reception rooms and the large dining room, all well furnished. My pleasant room was on the north side of the second floor. My roommate was a junior, Minerva Palmer, a beautiful Quakeress, and our companionship proved ideal. There were only thirty women students in the big dormitory, so only the first and second floors, and a few rooms on the third floor, were in use. As thirty was too small a number to maintain a kitchen and dining room with profit, it was deemed expedient to give men students the privilege of boarding in Sage College. The dormitory sections in White and Morrill Halls were full of students, some of whom had formed an eating club in a tenant house, just behind the President's. It was called "The Struggle for Existence Club" but soon became known as "The Strug." I think David Starr Jordan (later President of Indiana and of Stanford Universities) gave the club its name.

Although women students were few, college spirit was with us. Ruth Putnam came to my room one evening, asserting indignantly that the freshmen were holding a meeting, and she averred something should be done about it. Something was done immediately; water from a pitcher was dashed over the transom, to dampen freshman ardor. But it did not work that way. They made a sortie upon us, and as they outnumbered us, there was a struggle on the stairs and a rumpus in the halls which shocked everybody not in the squabble.

This fracas resulted in the organization of a student government association in Sage College, and a committee was appointed to make rules for our guidance. These few rules, unanimously adopted, were not unlike the rules of the Cornell Women's Self Government Association of today, except for the restriction that women students should not bow to their men friends on the Campus. We were so few that it was embarrassing to be recognized in the crowds of men while changing classes. As

THE COMSTOCKS OF CORNELL

soon as we explained to our friends the reason for ignoring them, they not only accepted the dictum, but confessed relief.

President White and Mr. Sage thought we should have a chaperone in charge of Sage College; but we would not have it. We had come to Cornell for education, had been reared to care for ourselves, and we considered chaperoning insulting to our integrity. I confess, however, that some of our rules were made to govern any girl who might transgress our own ideas of propriety.

We had a happy social life in Sage that first year. The gymnasium was on the east side and was reached from the front hall by way of a covered porch. We had dances there every Friday night; sometimes there were girls only, but more often our men friends were invited. One evening the entire Kappa Alpha fraternity came and we had a pleasant evening, a social affair probably not recorded in the annals of that society. One of the members made each girl with whom he danced promise to bow to him when she met him on the Campus. We all promised, but it is doubtful that anyone kept her word. I did not, although he was a nice lad. But even nice lads could not make us break our rules.

We had musicals, thanks to the kindness of the Professor of Civil Engineering, Estevan Fuertes,¹ who played the flute well and brought with him a pianist and a violinist. We also had readings from Shakespeare and from modern American writers, by Professor Hiram Corson. I had never heard anywhere such a perfect rendering of the spirit of the printed word. Since he gave these readings generously, we thought we ought to do something to show our gratitude, so we bought a chair for his study, planning to give it as a surprise at the next meeting. Hoping to make sure of his presence, we took his son Eugene, a sophomore, into our confidence. He met our committee on the morning of the appointed day and reported: "Pa is cross this morn-

¹ The father of Louis Agassiz Fuertes, Cornell's famous bird artist, whose paintings illustrate the two volumes of *Birds of New York*, published by New York State; and part of the three volumes of *Birds of Massachusetts*. Many of the original paintings for *Birds of New York* are in the New York State Education Building in Albany, New York.—R.G.S.

ing, but I think he will be there." A prim young woman on our committee was shocked at this, but the rest of us were delighted, for it made our professor seem more like other men. If ever a mortal looked superhuman, he did—tall, spare, with flowing beard and hair rather long, his gaunt face illumined with eloquent eyes.

There were interesting personalities among the students at Sage College that first year. Some I remember distinctly. Julia Thomas, tall and slim, was dressed in a masculine fashion, her skirt reaching to her shoetops, while ours barely cleared the ground. Her short hair and her sailor hat and cape coat added to her appearance of masculinity. She had a strong face and keen eyes. She was studying for her Master's degree and did not encourage acquaintance but her charm of manner made her every word interesting. She later became President of Wellesley College.

Martha Carey Thomas was in appearance an ideal of purely intellectual young womanhood. Her broad forehead, clear-cut features, and hair drawn smoothly back to a Grecian knot gave her a scholarly look. She was dignified and cold to all but a few. She had come to Cornell to study, not to waste her time on social affairs, nor did she think we were worth her while. A great work, as President of Bryn Mawr College, lay in her future.

In my limited acquaintance with these two Misses Thomas, who were to be presidents of colleges, I found this difference at that period of their development. Martha Carey Thomas did not seem to care much for humanity, but Julia Thomas had a warm feeling for her fellow mortals. Years later I met Martha Carey Thomas and found her charming, kinder, and more gracious.

Margaret Hicks was the most beautiful girl in Sage. Her roommate, Harriet May Mills, a pretty girl with a round face, red cheeks, large, dark eyes, and dark, wavy hair, became a future leader on the fighting front of woman suffrage. Ruth Putnam was always influential. She was short and stout and had pretty red hair. We all knew that she was aware of her superior social position as a member of an illustrious family of publishers, yet

THE COMSTOCKS OF CORNELL

she was never a snob. Her historical work has brought great honor to the Cornell class of 1878. She also did excellent work for Cornell as a trustee.

Susanna Phelps, later Mrs. Simon Henry Gage, was one of the most charming of all. Short in stature, with an attractive face and beautiful eyes, she had winning manners, keen wit, and a joyousness in life that was infectious.

In Cascadilla Hall lived the most striking young woman in the University, Harriet Tilden, who became Mrs. William Vaughn Moody. She was fine looking, with a superb carriage and a winning dignity. Her elegant clothes were always in perfect taste. We in Sage saw little of her, but we all regarded her as a splendid personality. We were wont to weave romances about her, and gossip of her engagement to one of our most brilliant young professors thrilled us. None of us was surprised when she married a poet and did effective work for her Alma Mater when she was a Cornell trustee.

One great privilege we had this first year in Sage College was the frequent visits of President Andrew D. White. He gave us talks on various subjects, from our proper behavior to the art of the Renaissance. More than that, he invited us to his home, where we met beautiful Mrs. White, whose graciousness charmed us. There we gazed at treasures in books and pictures which Dr. White explained to us.

In President White's course in the history of the Reformation he revealed to us history in its relations to literature, religion, thought, art, architecture, and music, as well as to nations, wars, and individuals. As an eager student I read thirty volumes in connection with this course, in one term, reading avidly in the University Library every afternoon; Dr. White also lent me books from his library. I still treasure the syllabus of these lectures, with my class notes. It seems to me a pity that our college curricula have become so crowded since those days that a student would find it impossible to read as much as I found time to do, for my mind and my vision expanded in leaps.

We appreciated Sage Chapel, with its sermons by eminent divines of various denominations. When Henry Ward Beecher

came, the chapel was crowded. Even the windows were filled with eager faces.

Hjalmar Hjorth Boyesen, lecturer in literature and already an author, won our admiration. Young and enthusiastic, he was an interesting figure in the Sage drawing rooms in the early evenings, when we were wont to gather there. My first meeting with him had been an embarrassing moment for me. I was struggling against a strong wind, between Morrill and McGraw Halls, and lost my hat, which went tumbling over and over in full view of oncoming students. Professor Boyesen chased it, rescued it, and presented it to me with a profound bow, removing his silk hat with a flourish, to the obvious joy of the spectators. I was in his course in the history of German literature, the first part of which was given to folklore. He was an interesting lecturer, but restless; he would begin a topic on the platform in front of us and finish it at a window with his back toward us. In appearance he was a typical Scandinavian, with yellow curling hair and beard, milk-white complexion, rosy cheeks, and blue eyes. It had happened that a neighbor of ours, when I was a child on the farm, lent me a fat book of fairy tales, both English and German. I had read and reread this precious volume and was familiar with many of the folk tales given in this course. Professor Boyesen once said to me:

"Miss Botsford, I have not found among my students any other so familiar with German folklore as you. I think you must have given much time to it."

"Yes, I have given many happy hours to it," I answered, without further explanation.

Professor Boyesen had been educated in Europe and was not accustomed to our informal ways. He ate his meals at the Sage dining room. After one provocative incident, he said to Professor Lazenby,² "Cornell students have no more idea of caste than a cow." This remark delighted us.

The first year in Sage was notable for many things. There were

² William R. Lazenby, a classmate of Mr. Comstock, became Professor of Horticulture and Forestry in Ohio State University and was Director of the Ohio Agricultural Experiment Station for several years.—G.W.H.

THE COMSTOCKS OF CORNELL

among us several older women, teachers who had waited for the doors of a university to open and give them opportunities for advanced studies; serious-minded girls who studied hard, some of them typical grinds; and a sprinkling of those who were gay and socially-minded. Some of them came from luxurious homes, some from families of culture, and some, like myself, from village or farm, where in that day cultural influences were more or less accidental. Some of the women students were good to look upon and some were not. When in recent times I have heard complaints about the younger generation, I have thought of a slim girl of the class of 1879 who succeeded in keeping engaged to two Cornellians who were roommates for an entire year, before discovery revealed her double devotion—a feat that Cornell co-eds of today could scarcely equal.

Among the pleasantest of our social events were the Delta Upsilon "Quarterlies." These informal dances were delightful. One of them was a mask and costume party. Recently I found my costume in a trunk of bygones. Personifying "Night," I wore a long drapery of black tarlatan, set with silver stars, and a black silk gown that trailed. My long black hair was loose, the tarlatan veil was fastened on my forehead with a silver ornament, and my black domino was edged with stars. I had made this costume and I was a sombre figure, but no one had a gayer evening than I.

All of the fraternities had their chapter rooms in Ithaca's business blocks in the early days. The first fraternity house was built by Alpha Delta Phi on Buffalo Street. Kappa Alpha was the first to build on the Campus, followed soon by Psi Upsilon. President White was in favor of allowing the fraternities to build on University land, as he thought it best for the students to be near their work.

When Commencement came, the visiting trustees were lodged in Sage and we met them socially. Among them was Erastus Brooks, a pleasant elderly man. I had the privilege of a long talk with him about the education of women, and he said to me impressively: "There will come a time when every room in Sage

College will be taken, for young women will seek the advantages of Cornell. I shall not live to see this, and perhaps you may not, but the time is surely coming." I have lived to see two great dormitories for women, besides Sage, filled and overflowing. But however many halls may be built, Sage College will always be important, not only because it was the first, but because this munificent gift of Henry Sage secured the rights and privileges of Cornell University for women students, forever. This was the bargain Mr. Sage made with the University Trustees and the State of New York. There have been times when we were profoundly grateful for his foresight.

At this point in my college story, it is high time that I introduce John Henry Comstock. He had called upon me in February of my freshman year. He tells me, with vivid memory, how he had dreaded to make this call and had postponed it as long as possible, but came away feeling that it was time not wasted and confided to his roommate that it was not half so bad as he had feared. I remember that he kindly offered to do anything he could for me and that I liked him; and my landlady, who took a motherly interest in my callers, told me he was highly esteemed. Probably if we had guessed at that time what Fate held for us, he would not have come, and I would have bolted my door against him if he had, since we both were dreaming then of futures with other persons.

I was in Mr. Comstock's class in the winter of 1875 and liked his clear way of presenting what seemed to me a very complicated subject. I must have studied well, for I still have my term paper, marked 95 by Instructor Comstock's blue pencil. In a letter to my mother, I wrote: "Mr. Comstock called and stayed about two hours the other evening; he is very nice." In a previous letter I had written:

Mr. Comstock (the gentleman of whom Jennie Bartlett wrote me) took me through his laboratory after his lecture; he is our lecturer in zoology now. Such thousands of insects I never saw before! Then we climbed up and saw his chum, Mr. George Berry, ring the chimes, which was very interesting. Mr. Comstock is one of the kindest of

THE COMSTOCKS OF CORNELL

men. He is a young fellow, still in his twenties, and he has lectured in the University for two years. Report says he is engaged to Docie Willett, but don't mention it!

Our relations were amicable and casual during the remainder of that year. During the spring term he was very busy preparing lectures for a summer school in Peoria, Illinois, and I saw little of him.

In the autumn of 1875 my real acquaintance with Henry Comstock began. Men came to Sage for their meals, and we were allowed to invite our friends to sit with us at table. I asked for Mr. Comstock and Dan Flannery, class of 1876, one of my preparatory school friends; both were rooming in Morrill Hall. Other men sat at our table also. I was told afterwards by the manager of Sage that Mr. Comstock asked if he could sit next to me, since I was the only girl in Sage with whom he felt acquainted. Susanna Phelps was also at our table.

We had happy times at meals. We were so gay and laughed so much that we were looked at askance by some representatives of dignity and decorum; but we laughed as we chose. Susanna had a laugh of such silvery sweetness that it ought to have redeemed us. In a letter to my mother, I wrote: "Did I tell you that Mr. Comstock sits next to me at table at his own request? He is very pleasant and the very essence of kindness. This afternoon he invited me to go and gather moss and autumn leaves in the gorge. We had a charming time." After this he often invited me to walk; once I wrote: "We walked three hours, such a grand walk. Mr. Comstock and I thoroughly understand each other and that is why we are so thoroughly friends." But we apparently did more than walk, for I said in a letter of November 28, 1875: "On Thanksgiving Day, Mr. Comstock took me for a drive to Enfield Falls, about six miles from here. It was a beautiful day and the scenery magnificent. We had dinner at a charming, old-fashioned tavern. We returned about 4 o'clock." I reassured my mother by adding: "Mr. Comstock is noted for being a young man who is a sort of a general friend to young women of his acquaintance, but never wastes any sentiment upon them."

In March, 1876, there came a sad break in Mr. Comstock's

work. One reason for the good friendship between him and me was my knowledge of the understanding between him and Jennie Bartlett, a Cornell senior. She was a beautiful girl in face and character. It was she who had given me a letter of introduction to Mr. Comstock. The two were not betrothed, but were very dear friends; and I knew that he looked forward to marriage with her. It was discovered in this winter of 1876 that she was a victim of tuberculosis, and her mother took her to Florida. Mr. Comstock, with his usual directness, went to Dr. Wilder and obtained leave of absence from the University to be with her. He sailed on March 18 for Charleston on his way to Florida. There were several clergymen on board. Although Mr. Comstock was still a member of the Methodist Church, he disliked theological discussion. A letter from him declares: "I hope I shall never go to sea again with several clergymen. It is hard luck; one of them talked me nearly to death." It was a rough voyage and he confesses that many times he wished himself aboard a schooner or some other craft that would "keep its keel under it." He sailed up St. John's River on March 24. Florida's development had hardly begun in 1876.

It was at a Fort Reed sanitarium that Miss Bartlett and her mother found an abiding place. Mr. Comstock found a boarding place not far away, where he was of even more interest to an army of cockroaches than they were to him, for they ate the bindings off his books and the mucilage off his stamps. He was now able to do what he could to make happier the life of the girl he loved. In addition he had many hours in which to explore the country and give free hand to his activities as a naturalist. He wrote:

This is the richest entomological field in which I have ever worked. I have studied my specimens only a little, but I think I am finding many things new to science. I am making notes, and, if health permits, I shall probably have material enough for a thesis. I have begun systematic work on the Orthoptera (an order of insects containing the grasshoppers, crickets, cockroaches, *et al.*), especially the Acrididae (a family of grasshoppers); have already made some important observations on geographic distribution and mimicry; and my list of

THE COMSTOCKS OF CORNELL

probable new species is astounding to me. Leland Howard collected grasshoppers in Ithaca last year and obtained, I think, about 22 species. I collected in a single day, fifteen species.

In addition to his care of the invalid and his interest as a collector, Mr. Comstock had time to be a useful citizen of Fort Reed, for he wrote to W. R. Lazenby, a Cornell student, "I am tired today because I worked yesterday fighting wild fire until I was forced to lie down on the ground. It came near destroying the village."

The Florida experience ended sadly. Miss Bartlett's health did not improve and she decided that marriage was out of the question for her, although she did not anticipate the near approach of her death. Her decision was a hard blow to Mr. Comstock; probably no one knew better than I, how hard. He came home early in May. Luckily for him, he had work which was calling him to action, and he wrote from Fort Reed: "I shall come home soon. If I stay much longer, it will break in upon my summer work at Ithaca, and, as I was away last summer, it will not do. The work I shall do there is breeding insects and it is necessary to begin with the season to have the work amount to much."

We all welcomed him back to Ithaca. Since few had known of the real reason for his Florida trip, and as Mr. Comstock and I took frequent walks together that spring, we heard rumors as to our future relationship which amused us because they were so unfounded.

Chapter 6 ↵ 1876-1879

Marriage of Anna Botsford and Professor J. H. Comstock

THE SUMMER of 1876 was a busy one for Instructor Comstock, the only teacher of entomology at Cornell. He sprained his ankle late in June, just when he wished to be observing the habits of *Corydalus*, and he complained because that insect had no notion of taking a vacation to accommodate a lame entomologist. He gave his forenoons to dissecting and writing and his afternoons to his collection and catalogue. He also had some relaxation. He wrote exultantly of the crew races at Saratoga that "Cornell won all the races." He and his friends spent some evenings playing draw poker with matches for chips; they never played for money, a commodity much scarcer than matches. He also continued to read French novels in the original, including *The Count of Monte Cristo* in six small volumes. His devotion to this book lasted for years. Many times, when tired and in need of a complete change of thought, he would carry one of these volumes in his pocket, to read at every opportunity.

Mr. Comstock was working on his thesis for the Master's degree, the subject of which was "The Internal Anatomy of the Larva of *Corydalus cornutus*," called by fishermen, the dobson or hellgrammite.

Regarding his study of this interesting insect, which abounds in the streams about Ithaca, he wrote:

I have done a glorious week's work. I spent Monday and Tuesday on drawings and then it occurred to me that, as the water was very low, it would be a good time to collect in Fall Creek. When I started into the field I was blue and half sick. I had just discovered that all my

THE COMSTOCKS OF CORNELL

specimens of *Corydalus* were useless for the study of the muscular system. It is the larva that I am at work upon; my specimens were collected late in the season, just at the time they were about to change to pupae; their internal organs had already undergone a change which rendered the specimens unfit for the anatomical study. This was staggering. What should I do? Stop work on *Corydalus* until next spring, when the new brood will be large enough to dissect? No, I will not stop work altogether. I will look for small larvae; as the eggs were probably laid in June and July, they must have hatched ere this. The young larva has never been described and it will be worth my while to do it.

When I reached the creek I found the water very low and within fifteen minutes I had found several larvae about a half-inch in length. This was glorious. I pulled off my shoes and stockings, rolled my trousers above my knees, took off my coat, rolled up my shirt sleeves and went to work. A few minutes later, on turning over a large stone, I saw a large object crawling on the bottom of the stream; it looked familiar, could it be? No, impossible! The reflection of the light upon the water was such that I could not see the specimen clearly. Involuntarily I seized it, but as it squirmed in my hand I dropped it with a shudder like a frightened girl; fortunately I dropped it into my pail; and there it was, beyond a doubt a magnificent, apparently full-grown larva of *Corydalus*. What a strange thing! This fellow had evidently forgotten to undergo its metamorphosis in June, and was loafing around two months behind time. Presently I found another loafer, and then another, and then several little loafers about half grown; and then I began to be conscious of the dawning of an idea, i.e., *Corydalus cornutus* does not become full-grown in one year, as is generally supposed. The little fellows about a half-inch long were hatched from eggs laid this year; the half-grown fellows are one year old, and the large specimens are two years old and would have become full-grown next year. Thus it requires three years for this insect to reach the adult stage. This is an interesting point, but the thought which made me happy was that I need not now stop work for want of specimens.

I found but few specimens until yesterday, when I learned another thing which is very valuable to me. I had turned over every stone on several acres of creek bottom and found perhaps a dozen specimens. I then learned that this larva, as a rule, lives under stones in that part of the stream where the water is swiftest, sometimes where the water

is so swift that a man can hardly stand against it, although it be only knee-deep. I turned over stones in such places, and *saw* the larvae; but the water would sweep them away ere I could seize them. Another idea dawned: I will take a dip net, and, holding it in the current with one hand, at the same time turning over stones in front of it with my other hand, I will catch some of these fellows. I did so and caught as many as seven at a time. Yesterday and to-day I caught about eighty specimens, enough to keep me dissecting a year or two. Need I add that I forgot my blues and indisposition? I should like to spend ten years on my thesis and employ an artist the whole time. I feel that I could do something that would advance science and be an honor to my Alma Mater.

That summer Mr. Comstock published a syllabus of his lectures. This was the first step toward the textbook that as yet he hardly dared dream of writing. He wrote: "I sent you a copy of my syllabus last week. I did it with hesitation, for the book amounts to little when not supplemented by lectures. It is only an outline of the lectures with references to authors; and it was written under very trying circumstances. I hope to write a better one ere many years."

In September he had more students in his laboratory than he had expected. Among them was Leland Howard, who was specializing in entomology as a senior. Little did he or his teacher dream of the momentous import of these early associations. In addition to Instructor Comstock's work with these students and his regular courses in entomology, an extra duty confronted him. Dr. Burt G. Wilder had accepted invitations to give lectures at the University of Michigan and at Bowdoin College. This involved his absence from Cornell all winter and made it necessary for Mr. Comstock to give the course in invertebrate zoology in the winter term. Dr. Wilder had agreed to give him \$150 for the extra work, a welcome addition to his meager salary.

In September, 1876, Simon H. Gage was called home by an epidemic of diphtheria in his family. His brother and the brother's five children died of the disease; Mr. Gage himself contracted it, and Henry telegraphed him that he would take care of him if necessary. Fortunately it was a light case, easily cared

THE COMSTOCKS OF CORNELL

for. The incident shows the devotion of Henry Comstock to Simon Gage in a friendship that was to bring happiness to both for half a century.

Mr. Comstock's thorough manner of working is indicated by the fact that he set about compiling a catalogue of references to all available literature on insect anatomy, to aid him in writing his thesis. It was during this autumn of 1876 that he was first invited to speak before the Western New York Horticultural Society, and it was suggested that he become entomologist for this organization without salary. He feared that he did not have the time to do justice to the position, but he felt that he owed it to Cornell University to accept it. In the following January he read his first paper before the Society and was gratified by its reception. He continued to discuss economic insect problems before this important group of practical men for many years.

In October, 1876, he visited the Centennial Exposition in Philadelphia. While in the city, he looked up references in the library of the Academy of Natural Sciences. He wrote:

I did not expect to find much in the entomological collections at the Exhibition; but I was decidedly surprised to learn that the American Entomological Society had no biological collection. It shows what I knew before, that the members of the Society, among whom are the leading entomologists of this country, have studied species only. Before the next Centennial, I hope that entomologists will learn that it is as important to know what insects do as it is to know their names. I expected to learn much about the arrangement of museums, but as yet I have obtained hardly a single idea that is new and practical. The exhibitors have aimed to produce an artistic effect rather than to give instruction. On the other hand, the library of the Academy is as good as I expected to find it; and of course I had no idea of the magnitude of the Centennial Exposition.

Mr. Comstock had now been serving as an instructor for three years with little prospect of advancement in salary. The University's financial means were restricted, and he feared that at Cornell he might have to continue to be an instructor for many years. There were tempting positions open for teachers elsewhere. But he felt that in the United States, the importance of

economic entomology was gaining recognition and that ultimately he might attain a better position in that field than in teaching other subjects. He talked the matter over with Vice-President Russel, whose "I don't want you to go" did him much good and settled him down again to his work. He did not wait long for advancement. In December, 1876, the Cornell trustees elected him Assistant Professor of Entomology at a salary of \$1000. Professor Russel was so delighted with this promotion that, after an evening session of the trustees in town, he walked up the hill to Mr. Comstock's room in White Hall and awakened him to tell him the good news. Vice-President Russel carried a similar message to Instructor William R. Dudley, later Professor of Botany at Stanford.

Soon after Instructor Comstock was made an assistant professor, he spent the Cornell Christmas vacation at my home. His picturesque arrival I shall never forget. It was very cold weather and his train was late, so that the stage connecting our village with the nearest railroad station did not bring him. A little later he appeared in a livery sleigh. It was then the fashion for a man to wear a silk handkerchief folded cornerwise as a scarf to protect the throat. This was a zero day and with his usual directness Professor Comstock had tied his scarf over his ears, the free corners flying in the blasts and the whole topped by his hat. My parents liked practical young men and he made a most favorable impression upon them. That was the beginning of a near and dear relationship between him and them that was to be a life-long happiness to them. My mother and father looked with favor upon the friendship between their daughter and this energetic, enthusiastic, industrious young professor. They apparently saw which way the wind was blowing and welcomed the probable result. It was at Otto at this time that Professor Comstock gained the family name of "Harry," which clung to him all of his life.

I remember clearly Harry's personal characteristics in those days. He was very active and moved with a rapidity that gave the observer a breathless sensation. He was unconsciously restless; even when he sat reading, he moved constantly, much to the detriment of his trousers, as I was to discover later. Harry played

THE COMSTOCKS OF CORNELL

havoc with the "tidies" with which the housewives of that day were wont to decorate their easy chairs; he usually bore a tidy on his back when he rose. He always stood straight; his face was deeply lined, and if he became bored, the lines went deeper, giving him a remarkably old look. My father, who loved to tease me, asked *sotto voce*, "Anna, does he ever sit down and sit still?"

We had a happy visit, but there was no engagement to announce until several months later. We were becoming very well acquainted and the close companionship on which our marriage was based was steadily becoming more important to both of us.

After Harry's return to Ithaca, he was excited by the prospect of joining a party of sixty students to make a trip around the world; he was to go as zoologist; but this trip did not materialize. He now planned definitely to work in economic entomology at Cornell and had an ambition some day to become State Entomologist of New York. This dream was never fulfilled.

That winter Harry gave a successful course of lectures in invertebrate zoology to a large class. His small entomological laboratory was full of students, and he said of them: "I wonder what these men would do if they had to determine species of insects alone, as I did; still I suppose that if I had had a teacher, I should have bored him to death in the same way that these fellows do me, they are so fearfully careless." This was his feeling as a young teacher; later he learned the patience needed to start a beginner on the pathway to science.

In January, 1877, Harry sent me India ink in the stick with directions for using it, pens, a drafting board, and a T-square, so that I could try my hand at drawing insects. I still have those first attempts, and now, instead of scorning them, I think they are rather good.

In the spring of 1877, Professor Comstock made an application for a building lot on the Cornell Campus. It was the site that he had always longed for, on the knoll at the north edge of the Campus, a site now occupied by Baker Hall. Harry was gratified to be able to lease this large lot, 150 feet wide and 300 feet deep, commanding a view of Cayuga Lake. He began to plan a home

for some future time and did not seem to be in doubt as to who would share it with him.

In February, 1877, Professor Comstock began copying his business letters in the old-fashioned screw-press letter books. The many letters to entomologists all over the country copied in this book show his activity in building up the collection of insects for Cornell University. He asked Dr. Samuel H. Scudder,¹ of Cambridge, Massachusetts, to send him types of the families and genera of common Orthoptera, in return for insects that Harry had collected in Florida; and he issued a circular to the members of the Western New York Horticultural Society about the apple leaf folder, a new pest. All of the letters were written by hand and the circular was hectographed.

In the spring term of 1877, he gave a course of lectures on entomology; only three students were required to take it, but more than fifty attended the course, among them Simon H. Gage and Susanna Phelps. Professor Comstock had to turn many students away from the laboratory for lack of room. After his term's work was completed, he gave a course of lectures at Vassar College. He wrote that he sometimes felt a little odd when he and one other man were in a dining room with 357 girls.

All of this work proved to be more than Harry could stand, and later in the summer he had a hemorrhage of the lungs. He came to my home at once. After consultations, he went to Buffalo and placed himself under the care of an eminent physician who found that his patient was breathing with the upper part of his lungs only and had thus strained them to the bleeding point. The treatment consisted chiefly of teaching him to breathe deeply; after that was accomplished there was never any trouble with his lungs.

As Harry did not have to lecture during the fall term, he was able to bring some of his work to Otto and remain with us until his recovery was complete. During the Christmas vacation, I painted while he read aloud from Lewes' *History of Philosophy*

¹ Former Harvard University Librarian. He worked with Orthoptera and with fossil insects and wrote the *Butterflies of New England. How to Know the Butterflies*, by the Comstocks, is dedicated to Samuel Hubbard Scudder.—G.W.H.

THE COMSTOCKS OF CORNELL

and Draper's *Intellectual Development of Europe*. We were surely serious-minded young persons.

Harry had let the contract for our cottage, and the walls of the cellar were laid early in the spring of 1878. The house became a reality during the summer. He wrote: "I cannot tell you how strongly I am becoming attached to our little house. I am more than glad to tell you that the critics, so hard to please, pronounce Fall Creek Cottage an 'architectural success.' Leland Howard says, 'It is pretty from all points of view.' "

The same spring, Cornell gave a great impetus to his work when he was enabled to go to Rochester and buy at a discount for his laboratory three microscopes and stands with seven objectives, and for his personal use a triple pocket lens. These were riches indeed.

On the first of July, 1878, Professor Comstock was invited to go South to investigate the cotton-worm, *Alabama argillacea*, with a view to halting its ravages. It seemed an excellent opportunity for him to get experience in field work and research. Moreover, the salary of \$100 a month, with expenses, was most acceptable, for our house must be paid for. C. V. Riley had been Chief Entomologist in the United States Department of Agriculture only a short time, but the appropriation had already been made for this work. The cotton belt was divided into sections, Riley to have the eastern, A. R. Grote the middle, and Comstock the western and southern sections.

Mr. Comstock started from Washington on July 19 for Dalton, Georgia. He was amazed at the damage done by the pest which he had come to study. He wrote: "It appears by myriads and often completely destroys the crop in some localities, ruining many people. The planters with whom I have conversed talk in a hopeless sort of way. They think when the worms appear nothing but an intervention of Providence can save the crop."

He settled for the summer in Selma, Alabama, in one of the chief regions for cotton growing, where the insects had made havoc. He sent me this description of the region: "The Cane-brake is a tract of land extending from the Junction just west of Selma to Demopolis, and is about twenty miles in width. This

is the field of my observation. This region is called Canebrake because in early days it was an almost impenetrable jungle of cane. It is now cleared and is the richest part of Alabama, both in fertility of soil and in wealth of the inhabitants."

Harry enjoyed his association with many men whom he met during this work. It was his first acquaintance with the South and southern people, and he found that he was obliged to modify many of the ideas gained through his strong Abolitionist and Republican affiliations during the Civil War. Of his reaction, he wrote:

Captain R. M. Nelson invited me to go with him to his plantation. He is a very fine man and the days which I spent with him were very profitable to me. We occupy the same bed; and one night we lay awake till two o'clock talking. I wish you could see and talk with some of these men. The men of the South are noble men, or I have been very fortunate and have met only the best. I wish our people of the North could see them nearer and not be obliged to depend on the reports of politicians who are more anxious to further their own ends than to tell the truth. As Captain Nelson said: "I wish the people of the North and of the South could be brought together like the right and left pages of a book when we close it." If that could be, the suspicions and jealousies now rife would disappear.

In another letter he wrote:

I believe I have not told you of my return journey from Huntsville. It was a very pleasant one. Alabama's Governor Chapman made me acquainted with General L. P. Walker, who was the Confederate Secretary of War. General Walker was going to Blount Springs that day and we were together from early morning until the middle of the afternoon. After General Walker left me, Senator Morgan, who was returning to Selma, took his place. This gave me excellent company all day. I have become very well acquainted with Senator Morgan. I first called on him in an unofficial way, afterwards socially. Then he took dinner with me at a hotel. He has done much to make my stay here pleasant.

The date of our wedding had been set for about the middle of August and I disliked a postponed wedding, largely out of superstition. So at first, to please me, he planned to come north

THE COMSTOCKS OF CORNELL

to be married and go back to his work. But I could see that he thought this was not wise, and soon I agreed with him. By the middle of August, yellow fever broke out in Mississippi. Selma was quarantined and trains went only to Demopolis. Day after day, the yellow fever was closing in a ring about the region where my lover was working, and my family and I were not happy, during these last weeks of August. I found it rather upsetting to get love letters that had been fumigated for yellow fever.

On September 4, Mr. Comstock was called to meet C. V. Riley, Chief Entomologist in the United States Department of Agriculture, in Nashville, Tennessee. Harry felt that he had finished his work, as he had watched the cotton-worms disappear. At Nashville he and Riley wrote a quarterly report on the work and then Mr. Comstock went to Atlanta. It was while he was with Riley in Nashville that he made the arrangement, so fraught with later results, for Leland Howard to go to Washington as Riley's assistant.

Harry started north on September 24 and reached Otto on October 1, Cornell having granted him a leave of absence. While in Georgia he had been a victim of malaria and he still suffered from chills every other day; so we chose a "well day" for our wedding. To our dismay, two days before the event, his chill changed and became due at the exact hour of the wedding. I pictured my horror should his assent to the minister's questions be made with chattering teeth; but the excitement of the event scared off the chills and he did not suffer from this disagreeable disease any more that autumn.

The seventh of October, 1878, dawned bright and beautiful. We can vouch for it, because long before dawn we were up and at sunrise were on our way to East Otto, a distance of seven or eight miles, to attend the wedding of my early playmate, Herbert Northrup. Herbert and I, who had always done everything together in our childhood, were now to be married on the same day. It would be a very brief trip today by motor, but it was a different matter with Father's pursy span of mares. My father liked his horses fat and placid. But it was a beautiful drive among

the Otto hills, gorgeous in autumn coloring. We reached East Otto with time to spare before the wedding at the Beach home-stead. After that we drove back for our own afternoon ceremony.

Our house was decorated with evergreens and autumn leaves. The arch under which we stood was made of hemlock twigs and hazel blossoms, flowers we both loved because of our enjoyment of Whittier's poem about them. The guests were near relatives, a few intimate friends, and the wedding party of the morning. Professor James T. Edwards, principal of Chamberlain Institute, where I prepared for college, performed the ceremony, which seemed to us very impressive and solemn. After a wedding supper, the two pairs started off together on a double wedding journey. There was no need to wait for change of costumes because we were married in our traveling clothes. I shall never forget my father's little speech to his new son: "You are now our son and belong to us, as Anna does." This proved a true prophecy, for to my parents Harry was a devoted son, and they so regarded him.

At Buffalo we left the Northrups, who were going on for a month's travel. Harry was obliged to return to his teaching, so we went to Rochester and paused there only long enough to buy furniture for our little home, with one hundred and fifty dollars, enough then for a great many furnishings.

On the evening when we returned to Ithaca, we were met at the train by a group of dear friends: Simon Gage, "Mandy" Mandeville, W. R. Dudley, W. R. Lazenby, Leland Howard, Lena Hill, and Susanna Phelps. They escorted us to supper at a restaurant and to the home which neither of us had seen finished. Mr. Mandeville had had the carpets put down, but there were no chairs, so we sat on the floor in the parlor and visited, all talking at once, and "Mandy" sang two songs to us in his fine high tenor voice. The party then escorted us to the home of Professor Isaac P. Roberts,² which was the Ezra Cornell farmhouse, standing where East Sibley stands now. Professor and Mrs. Roberts were very kind to us, and nothing could have been of greater

² Professor of Agriculture and later, Director of the Cornell University College of Agriculture and Agricultural Experiment Station.—G.W.H. and R.G.S.

THE COMSTOCKS OF CORNELL

help, since theirs was the only house near ours. The friendship then begun lasted strong and loyal.

We were proud of our little home, Fall Creek Cottage. It stood where the northwest corner of Baker Hall now stands and commanded a wide outlook over the Campus and Cayuga Lake. The old farm barns were directly below and in front of us, and a winding road through a cornfield was the only approach to our dwelling from what became the corner of East and Reservoir Avenues. But the house was pretty and compact and the special pride of its designer, Professor Charles Babcock, the head of the University's Department of Architecture. On the first floor, on the west side, there was a large, cheerful living room with a fireplace. A hall and stairway divided this from the dining room at the southeast corner of the house and the kitchen and pantries at the north. On the second floor the rooms were similar: a large west room, used later as a study, and two bedrooms. On the third floor there was a large square tower-room with closet, hall, and attic.

We were so happy and interested that our cares and perplexities were quickly forgotten. Shortly after we were settled, we invited guests to dinner and had laid our first fire in the living-room fireplace. When we saw the guests coming, Harry lighted the fire—and smoke poured out into the room. We had to throw water on the blazing wood and open all of the windows, which gave our approaching guests the impression that the house was on fire. This was a terrible blow to us, for Harry had directed the architect to "build two fireplaces and as much of a house around them as (a certain sum) would permit." The one in the dining room we had found perfect.

The next morning I heard a queer noise on the roof and stepped out to see what it meant; there stood my husband on the peak of the roof with a window weight attached to the end of a cord which he was "chugging" up and down in the recalcitrant flue. He had donned his oldest coat, which happened to be a Prince Albert, and an old hat whose brim was blown back by a gale of wind that was flapping the tails of his coat. He was loosening two batches of mortar which the masons had carelessly

dropped in such a way as to close the flue; ever afterwards the living-room fireplace was as satisfactory as we had anticipated.

Fireplaces had gone out of fashion fifty years before, with the advent of stoves. Later, with houses warmed by furnaces, their aesthetic value began to be appreciated, but there were no dealers in andirons within our ken. Harry had haunted junk shops and had picked up one fine old pair of brass andirons in Syracuse, another pair in New York, and a shovel and tongs in Washington. It was several years before such articles were again manufactured for the market.

On Thanksgiving Day we invited the friends who had welcomed us to our first home to eat our first turkey with us. Mr. Comstock's direct methods came again into play: he had never carved a turkey, so he spent a part of the morning in the museum studying the skeleton of this delectable bird, and when he carved the turkey for dinner he did it with so much assurance that no one even smiled. He had his cares that morning as well as I. After breakfast we discovered that we had no platter big enough to hold our turkey, and Harry walked to Ithaca to buy an ample dish.

I had a conviction that in order to know how to manage a house, I ought to do all of the work myself. This was both good philosophy and good economy. I knew how to perform all of the household tasks, but had never mobilized them into a day's work, and I found this more of a problem than it had seemed. I even did all of the washing, and my strong young arms and hands, that soon became skilled, ironed successfully Harry's shirts, collars, and cuffs, a feat which I now regard with respect.

An incident which taught me much about pies, and also about my husband, occurred during those early weeks of housekeeping. I had not mastered the art of making just enough pastry for one pie, and on the day I made cranberry pies, which had no upper crust, I had so much dough on hand that I made three. Since there were only two of us for dinner, it seemed that I had enough dessert on hand to last nine days; on the third day, however, my new husband mutinied and declared he would eat no more pie. I maintained that we would have to use the pies

THE COMSTOCKS OF CORNELL

because we could not waste food like that, at which he took the offending pies and threw them into the garbage, shocking and scandalizing my frugal self.

Although our house was isolated and far from town, a grocer's wagon came twice a day, a meat wagon once, and the milk wagon morning and night. We were economical, for our first ambition was to pay off the mortgage on our home. Professor Russel came to call one day and rapped vigorously with his knuckles on our front door. When we opened the door, he said: "My dear children, you must buy a door bell. It is an absolute necessity." We obeyed, but we felt rueful over the \$3.50 that bell cost us. It was a good bell and lasted as long as the house stood.

At this period, Cornell University was a small institution and the faculty families were very neighborly. Everyone called on us and we returned the calls promptly. In a letter to my mother I wrote, "President White stayed about two hours, the first time he called, and made us extraordinarily happy." Dr. and Mrs. Caldwell³ gave us a reception at their home; and Leland Howard's mother gave a reception for the Delta Upsilon fraternity in our honor, especially to introduce me to the fraternity brothers of my husband and her son. We had much company in our home. This was the first time that Harry had ever had a home of his own and he wrote to my mother: "I never before appreciated how much happiness one may have in entertaining one's friends in one's own home." During the first month in our home, a memorable incident was the establishing of Simon Gage in our tower room November 11, 1878. It had been one of Harry's dreams to have Mr. Gage occupy a room in our house.

Despite our work and visitors, we found time for intellectual pursuits. We attended President White's lectures at noon every day. I doubt if either of us ever found lectures so stimulating and interesting as those he gave on the Reformation. Moreover, we had writing of our own to do. Professor Comstock was

³ George Chapman Caldwell, for whom Caldwell Hall is named, was Professor of Agricultural Chemistry at Cornell from 1867 until his retirement in 1902.—G.W.H. and R.G.S.

obliged to write a report of his cotton-worm investigations in the South and send it to the United States Department of Agriculture as soon as possible. I gave him every spare moment of my time, sometimes copying his manuscripts and sometimes writing at his dictation. Mr. Gage also helped and the report was finished by the middle of November. I shall never forget how Mr. Comstock toiled on this, for it was his first writing of any considerable importance. He has always written laboriously, his method being to think carefully, to place his facts logically in his mind, and then to find words to express his thought. There can be no doubt that his lucid, terse style, which has won him so much praise, is the result of his thorough method of overcoming his difficulties.

At that time Cornell had the trimester system, and the second term began on January 15, 1879. Mr. Comstock had three students in his laboratory of whom he was especially proud: Leland Howard, William Trelease, and Cooper Curtice. In those days, laboratory work was an adjunct to lectures rather than an integral part of a course. While Mr. Comstock's work as a lecturer and teacher was quite apart from my duties, we worked together then as later. He used to help me wash the dishes and I used to go to the laboratory and help him in all possible ways. I enjoyed putting the laboratory in order. I wrote his business letters, at his dictation, and made diagrams to illustrate his lectures in invertebrate zoology, using holland curtain cloth and oil paints. I also made stencil outlines of his lectures. Thus we worked hard during the days; evenings, we had company or went to receptions or lectures at a rate that seemed, later, veritable social intoxication.

I think our house was always a hospitable place. I remember in our first year we had a visit from Professor and Mrs. Straight of Oswego Normal, the parents of Willard Straight, for whom Cornell's student union building is named. We also entertained President Andrew D. White and Mrs. White, Dr. and Mrs. George C. Caldwell, Dr. and Mrs. Burt G. Wilder, Leland Howard's mother, and our valued friends, Mr. and Mrs. Henry Lord of Ithaca. I find a note about my household activities that

THE COMSTOCKS OF CORNELL

I gave my mother: "My week is systematized as follows: Monday forenoon, do the washing, afternoon, laboratory; Tuesday, laboratory; Wednesday forenoon, iron, afternoon, odds and ends of housework; Thursday, cook and bake, afterwards laboratory; Friday, laboratory; Saturday, sweep and dust the house from top to bottom and mop the kitchen." I also told of days that went wrong: "Monday was certainly blue. The clock had stopped, the telephone line had broken, the grate in the furnace had melted down and not another grate like it this side of Boston! The buckwheat cakes for breakfast were overburdened with soda, the bread was dry, and the coffee like dish water. In fact everything was so ridiculously desperate that we laughed until we cried." It is an interesting fact that we had a telephone on the Cornell Campus before the instrument was in general use. Professor William A. Anthony built the line because he wished to experiment with it, in the University's Physics Department.

The Entomology Department of Cornell started early to interest and to instruct the farmers. There was a large Grange meeting at Ithaca in 1878, and we showed the members, in relays of eight or ten, what seemed to them and to us the wonderful collection of insects, which then consisted of only a few boxes. Mr. Comstock had a letterhead printed which gave practical suggestions as to the best way to send insects to Cornell, for identification. This proved very useful and many insects were received from all parts of New York State.

Simon Gage gave his first lectures in 1878 and Harry and I attended them. I began to study the microscope with Mr. Gage that winter. He had become a part of our family life, and his future wife, Susanna Phelps, was with us often. Mr. Comstock had eighty students in his lectures in invertebrate zoology and I was deeply gratified to see the attention and devotion they gave him. It was characteristic of him that the more complex his subject, the plainer he made it to his class. During our first year together, Harry and I began an enterprise that we carried out as consistently as possible for forty years, the entertaining of Professor Comstock's students in our home. We invited his laboratory class of nine to tea; I was the cook, and the menu was scal-

1879-1881

loped oysters, chocolate cake, lemon layer cake, pickles, jelly, sliced oranges, tea and coffee. In 1879, another edition of Professor Comstock's syllabus of lectures was published, to be sold to his students at five cents a copy.

Early in the spring of 1879 we had a rare treat in a visit from Professor Priscilla Braislin of Vassar College, who spent her spring vacation with us. She was a charming woman. We enjoyed her stay and shared her with many of our friends. One event of her visit was notable. Gilmore's Band gave a concert in Ithaca and Professor W. A. Anthony connected our telephone, two miles from the music hall, and gave us two receivers. Mr. Comstock invited Professor Braislin to attend the concert with him and Mr. Gage invited me. We all sat in our front hall and listened to the concert. This seemed to us almost a miracle.

Cornell's trimester system gave us fairly long vacations at Christmas and at Easter, which we spent at Otto with my parents; we usually returned to Ithaca laden with as many farm products as we could carry, and this lessened our living expenses. During that year, Mr. Comstock had his university professor's salary of a thousand dollars, and although we had extra expenses in beginning our housekeeping, we saved more than four hundred dollars to pay on the debt we owed on our home. This illustrates the difference in living expenses, between 1878 and fifty years later.

Chapter 7 ↗ 1879-1881

As United States Entomologist

IN APRIL, 1879, news came from Leland Howard in Washington, D.C., that Dr. C. V. Riley had had a disagreement with General William G. LeDuc, the Commissioner of Agriculture, and was about to resign as United States Entomologist. Mr. Howard suggested that Mr. Comstock try for the place. It seemed a great opportunity for a young man and when General LeDuc

THE COMSTOCKS OF CORNELL

came to Elmira to address a Grange meeting, Harry went to see him and made a formal application for the position. He pointed out that he had worked on the cotton-worm all the preceding summer and would be able to finish the report which must be forthcoming from the Department of Agriculture this year. We heard nothing until the last of April, when a bomb struck Fall Creek Cottage in a telegram from General LeDuc asking Mr. Comstock to come to Washington on important business. Telegrams also came from Riley and Howard saying that Riley had resigned. Money had been granted the Department to carry on the cotton-worm investigation and this must be finished. Howard wished Mr. Comstock to come because he wished to work with his former instructor, and General LeDuc wanted him because he must have a man who could finish the cotton-worm report in a way that would bring honor to the nation's agricultural work.

Professor Comstock obtained a short leave of absence from Cornell and went to Washington, April 29, 1879, excited at the prospect of a change of work. He found everything ready for him on his arrival; the position was tendered to him within fifteen minutes after he had called on the Commissioner, and he took the oath of office on May 1.

He wrote to me:

My talk with Commissioner LeDuc was very satisfactory. I said to him everything I wished to say and it all met with his approval. When I told him of my desire to keep clear of politics and simply devote myself to scientific work, he assured me that the latter was all that he would expect me to do; that politics belonged to the head of the department—and added feelingly, "the head of a department of the government needs a skin as tough as that of a rhinoceros."

Thus Mr. Comstock entered upon his duties as Entomologist of the Department of Agriculture and into a cordial association with Commissioner LeDuc. The Commissioner was a true friend and a considerate superior officer, who always did his best to help him. Harry wrote me: "Leal [Howard] is almost too happy to contain himself; we both were fairly wild last night. I never knew that two men could talk as fast as we did."

Now that Mr. Comstock had been appointed Entomologist, he asked for a two-year leave of absence from Cornell. This leave was granted, on condition that he return for a fortnight in May to complete his course of lectures. To take his place at Cornell, Dr. Wilder appointed Dr. William Stebbins Barnard.¹

It seemed almost cruel to have our small home disrupted, just as we had begun to appreciate what a home meant. At first it had seemed like a wonderful plaything, but now it was a real abiding place. I invited Susanna Phelps to stay with me during Harry's absence.

Mr. Comstock was very busy in Washington. The work immediately before him was to finish the investigation of the cotton-worm and write a report of it. The staff consisted of himself as Chief Entomologist; L. O. Howard, Assistant Entomologist; and Theodore Pergande, whom Riley had engaged for special work in the care and rearing of insects and whom Mr. Comstock liked and asked to remain, considering his work most valuable. Harry wished to go south at once, to see the conditions relative to the cotton-worm, but he was obliged to modify his plans. He had been told that there was about eleven hundred dollars at his disposal, but his predecessor had left unpaid bills that had to be met. Consequently but one field assistant could be appointed. Harry chose William Trelease, who came from Cornell to Washington May 7 and was at once commissioned and sent to Selma, Alabama, to continue the cotton-worm investigation.

In contrast with later decades, these were the salaries in the Division of Entomology in 1879. Comstock, \$2,000; Howard, \$1,200; Pergande, \$750—a stipend which Mr. Comstock soon raised to \$1,000. George Marx, the staff artist, received five dollars a day, and the copyist two dollars. All letters were written by hand. Although the staff was small, Mr. Comstock was full of joy at the prospect of so much assistance and wrote:

It is just glorious, the facilities for work here. Just think! the appropriation for my division for next year is \$5,000 and this does not include my salary. The entomological books come out of another

¹ Afterwards assistant entomologist, for five years, in the United States Bureau of Entomology in Washington. In 1886 he went to Drake University as Professor

THE COMSTOCKS OF CORNELL

fund and the insect cases from the furniture fund. I feel sure that I shall be able to write a very valuable report next winter. One of the good things so far is the discovery of the eggs of the peach-tree borer. Leal is a great help to me. I don't know how long it will last, but the Commissioner is interested in our work. Before going to him about anything, I make up my mind fully concerning it and then ask his advice and he always seems to agree with me.

About this time I received a scolding from my husband which set me aright for the rest of my life. I had innocently used one of his stamped departmental envelopes in writing him. I assumed that as he was the United States Entomologist he had all of the rights there were; but I was enlightened in his next letter, which warned me: "You must not use official stamps on private letters; the penalty for it, in case of detection, is three hundred dollars for each offence, which would buy ten thousand ordinary stamps; and that leaves the question of right and wrong out entirely." No one could have been more careful than Harry, during his connection with the Government, never to infringe upon the spirit or letter of the law in using the franking privilege or official postage.

He returned to Ithaca the last of May to put his affairs in order, rent the house, store some of our goods, and to finish the lectures. Then he was laid low with the mumps, and Simon Gage and I took care of him. I recalled that one of the standard remedies, or rather alleviations, for fever, in my own home, had been to bathe the patient in cool water, but Harry was very sensitive to cold. Brother Gage and I were administering the bath and I was trying to cool his hot spine when he groaned between his gritted teeth: "I'll be damned if I believe in this kind of treatment."

I had worked very hard that spring and had had plenty of worry over the problems involved in leaving Ithaca. With a sick husband added, the situation proved too much for me. I learned then that I was, by both nature and temperament, unfitted to care for the sick. I was very sympathetic and always so worried

of Biology. His untimely death the next year, 1887, brought to a close the promising career of a real scientist.—G.W.H.

myself that I worried the patient. When I could not do anything else, I stood around gazing at the sick one until we were both perturbed and unhappy. Thus I learned that when a member of my family fell ill, it was best to send for an experienced nurse.

After Harry recovered, I went to Otto for recuperation and rest. He remained to finish the lectures and, with the help of a packer, emptied our home, rented it for \$250 a year, and sent our household goods to Washington. I had a letter from Mr. Gage telling how enthusiastically Mr. Comstock's Cornell classes greeted him on his return, and how they cheered at the end of his last lecture. When he started for Washington, I joined him at Elmira, New York.

On our first day in Washington, Dr. Thomas Taylor and his daughter invited us to join them with a party of friends, among them several Congressmen, for an evening trip by boat down the Potomac. Dr. Taylor had charge of the Division of Microscopy in the Department of Agriculture. When anything too small to be observed with the unaided eye came to the Department, it was handed over to him for examination through the compound microscope. The specialist of today would smile at such an arrangement. Dr. Taylor specialized in mycology more than in entomology and all specimens of insects were studied in our offices.

The trip down the Potomac was an eye-opener to me. The Taylors introduced us to five Congressmen. My provincial soul was scandalized by the conduct of four of the Congressmen. I made the following note: "They were fooling and flirting with some girls in an outrageous manner; I was actually ashamed to be seen looking at them. I was relieved to find that none of them were Democrats." Two years after this experience, when Mr. Comstock was trying to put the Entomological Division on a broader basis, he found Congress cool to his plans. Dr. Taylor said: "Well, I gave you a chance to know some influential Congressmen when you first came here and you made no use of the opportunity, so what can you expect?"

We began house hunting and were fortunate in finding an apartment on F Street between Eleventh and Twelfth, N.W.

THE COMSTOCKS OF CORNELL

The house had originally been a dwelling for people of means and was built with special reference to the Washington climate, with thick walls, large rooms, and high ceilings. We had two large rooms on the second floor with folding doors between, a large hall bedroom, a roomy bathroom, and a balcony porch; we rented this suite for \$20 a month. The rooms were so large that they engulfed all of the furniture which had been so ample for Fall Creek Cottage; but after we were settled the apartment seemed homelike and pleasant and we felt fortunate to find such quarters, near restaurants, and only a fifteen-minute walk from the office.

The servant who cared for us was an endless source of interest to me, for I had never hitherto come in contact with colored people. Nancy was large and homely, wore a colored handkerchief turban around her head, and was clad in two skirts, the lower one trailing on the floor. With this amazing arrangement of skirts she wore any kind of waist, nearly always out at elbows and gaping in various places. In appearance a towering ragamuffin, she had beautiful manners and a sweet voice. Not if I had belonged to the aristocracy of the old South could I have had my visitors ushered in with greater courtesy and dignity. She lived in the back kitchen on the first floor, which was the most hopelessly disordered and dirty room I had ever seen; and yet she could cook a meal there which she would bring up on a server, arranged daintily on spotless linen—a meal fit for the gods. I often ate these repasts, knowing that if I had seen them cooked, I could not have touched a morsel.

Nancy had been a slave in a Virginia family and was proud of the standing of her white folks, looking with disdain on other colored people less favored. I said to her once, "Nancy, isn't it true that you have to work much harder and have more cares now than when you were a slave?" Her answer was, "Yes, honey, I has to work a heap harder and I has more 'sponsibilities, but I'se a heap easier in my mind." The only recreation Nancy ever had came through her membership in a burial society. She paid a small amount each month which not only ensured her a decent

burial but also gave her a ride in a hack to the funeral of every departed member of the society.

As soon as we were settled, I went every day to the office to help my husband with the many details of his work. I had no housework to do and rejoiced that I was able to be of some use where I was needed. As a result of my volunteer work, we had a surprise. Late in June Commissioner LeDuc came into the office, where I was busy, and asked me if I would object to being paid for my services. I said that I had never thought of such a thing, for I knew that there was a rule against two of the same family being employed in one governmental office. He answered: "Rule or no rule, you shall be paid for your services. If they don't wish me to pay you, then they must give a better salary to Mr. Comstock." He appointed me then and there as a clerk at a salary of \$900 and made me very happy.

Commissioner LeDuc was anxious to help the impoverished South and he was about to make an attempt to introduce silk culture there. I was to help in this enterprise, but nothing could be done with silkworms before the coming spring, so I began as a general helper. When Howard had to attend to other work, I wrote letters. I also wrote entomological notes and answered queries for the agricultural papers. Mr. Comstock read and verified what I wrote, since his name was signed to such articles.

The entomological division was housed in two rooms on the second floor of the old building of the Department of Agriculture. In the center of this floor was the museum. Mr. Comstock's office was a long, narrow room, with the word "Entomologist" emblazoned above the door. As people came through the museum, we could hear their conversation through our open transom. At least a dozen times a day, someone would look up and spell out the word and say, "Oh! bugologist," and then laugh at his own wit. This amused us at first but after we heard it scores of times, it palled upon us; and when some man looked up and said "Entomology, syntax, and prosody," we were all so delighted that we cheered, much to his mystification.

Mr. Comstock had been the devoted friend of Leland Howard

THE COMSTOCKS OF CORNELL

for years, and naturally we were more intimately associated with him than with the others. Especially important were the discussions between the two men as to the policies of the Division of Entomology. During our two years in Washington, Mr. Howard was our greatest and happiest social resource. He and his Cornell chum, J. McK. Borden, played whist with us evenings or went with us to the theater or on excursions. One experience, often repeated, has been an especially zestful memory. We were all saving money as fast as possible. Soon we discovered that the sure way to save was to put in the bank what we thought we ought to put by, from each pay check, reserving only what we deemed necessary for our expenses for a month. Too often some good play would come to one of the theaters during the last week of the month, when we were all reduced financially to the price of our meal tickets. Under such distressing circumstances, Howard always came to the rescue: he had inherited a watch which he did not use; he would take the watch to a pawn shop, get a six-dollar loan upon it, and we would all go to the play, enjoying it all the more because of the way we had achieved the wherewithal. On the first of the month we paid up and the watch was redeemed and laid aside for the next emergency. Those who have had the pleasure of knowing Leland Howard will understand how much his society meant to us in those days. He was one of the most interesting men in Washington, which is saying much, and he had the power of winning admiration and affection to a remarkable degree. His wit has been the prized alleviation of after-dinner speeches for three-score years.

Theodore Pergande was a small, delicate-featured, bearded German with a gentle manner and lovable character. He was about thirty-nine years old and had come to America before the Civil War. A rich man in the town where he was born in Germany had wanted him to become a Catholic, marry his daughter, and go into business with him. Pergande told me that he would have liked the partnership with the man but that he could not stand either the church or the daughter, so he came to America. He served in the Northern army throughout the Civil War, after which he married a pleasant, thrifty little German woman who

took good care of her husband and their daughter. He was a tireless worker, faithful to his task and to his fellow workers; he wrote an exquisitely fine hand, as legible as print. His notes on the insects he studied were of the greatest value because of their accuracy and careful descriptions. He was ambitious to write in perfect English, so he began studying Shakespeare. Mr. Comstock and Leland Howard had many a secret chuckle over notes on some minute insect, written in true Shakespearian diction. Pergande had discovered the male form, never before observed, of a scale insect. When Dr. A. S. Packard² of Brown University, visited our offices, he remarked, "You are fortunate to have so many of these rare insects." Pergande answered with a smile, "Fortunate? No, not fortunate! We hoont for them." Pergande was not fitted for independent scientific work, but his knowledge of insects was great, and as an observer in a scientific laboratory he was invaluable. He could mount the most minute insects to perfection; his slender hands could manipulate, with exquisite precision, the wings of the smallest Tineid moth. He loved his work and loved to discover new things. When my mother wished him a long life, he answered: "Jes, jes, I hope so too, dare are so many tings to find out and I hope I live to fine dem."

Dr. George Marx, artist for the scientific divisions of the Department of Agriculture, was a striking character. He too was German, and was tall, blonde, handsome, and dignified. He had studied medicine but he liked scientific work better. He was an excellent, painstaking artist. Not only were his pictures accurate, but with the feeling of an artist he made them beautiful whenever possible. His wife was a typical German *frau* of the upper class, devoted to her home, to her husband, and to music. Dr. Marx was an authority on spiders. He was witty and often entertained us when there was a lull in the work. The systematists had wrought chaos in the genera of spiders; there was a tangle of synonyms hard to unravel. In recounting his perplexities, Dr. Marx said: "I shall tell you about it. The man who studies spiders

² Dr. Packard's *Guide to the Study of Insects* (1869), is among the earliest books devoted entirely to insects; while his *Text-book of Entomology* (1895) is a mine of information on the insect world.—G.W.H.

THE COMSTOCKS OF CORNELL

stays out with his friends an evening, drinking much beer, comes home late, wakes up next morning with katzenjammer; his breakfast is late, his coffee muddy, his eggs bad, his wife cross, and he says 'God damn' and goes upstairs and erects a new genus." When one of us remarked, "The spirit is willing but the flesh is weak," he repeated it in German and translated it into English as "the ghost is willing but the meat is weak"—a saying we long remembered and which relieved many a trying situation. With this congenial staff the work went on satisfactorily. Mr. Comstock was obliged to get out the Department's cotton-worm report. He built it around his own report which he had made while at work in the cotton fields the previous summer.

Mr. Comstock sent a letter to twenty-five leading agricultural journals, offering to answer, to the best of his knowledge, queries about insects and their control. He received many appreciative answers, and replies to these queries became a part of our regular work. This was a wise move, for many journals had been inimical to the Department; the *Prairie Farmer* had been a bitter critic of General LeDuc, but the editor wrote a warm letter of commendation to Mr. Comstock for his offer.

All of the correspondence was in long hand, but the task of writing the letters was only a minor part of the work in answering the mail. Often, before a reply could be made to a letter, much time had to be spent in determining the identity of an insect in question and in searching the literature for facts concerning its habits, life history, and control.

I learned early a lesson in the proprieties of public life. When the mail was ready, I would take it downstairs to the mailbox. After some weeks of this, Commissioner LeDuc called me into his office and asked, "Why don't you send your mail down by your porter?" I replied, "It is more trouble to find him than it is to take it down myself." "I know it is," he said, "but the porter is here to do those things and you must let him do them."

Mr. Comstock adopted a broad policy regarding the work and development of the Entomological Division. He decided to keep the work practical and useful and to build up a collection of

insects. He gave all of the systematic work on the collections to specialists and paid them for their labor. Thus he brought the most eminent entomologists of the United States into close relations with the Division of Entomology.

During the last week of August, 1879, Mr. Comstock attended a meeting of the American Association for the Advancement of Science at Saratoga, New York, although he could ill afford the time. He thought it important to meet the entomologists who might be there, and he had written a paper for the occasion on the Coccid-eating moth *Laetilia coccidivora*. Results were even better than Harry had expected. He met there Professor Charles H. Fernald ³ and began a long friendship. He talked with Dr. Samuel H. Scudder of Cambridge about his aims for the Division, and the president of the Entomological Club, Dr. J. A. Lintner, asked Mr. Comstock to give an account of what he was doing in Washington and of his future plans. After he had finished his discussion, Dr. Scudder arose and said that since there was now at Washington a nucleus of what might ultimately be a national museum of entomology, and since there was a man in charge of it who was in earnest, and who held broad ideas about the development of the work, entomologists everywhere should give him support and aid. After the meeting, Dr. William Saunders, editor of the *Canadian Entomologist*, spoke most encouragingly to Mr. Comstock, as did several others.

In October, 1879, Mr. Comstock introduced an innovation in the office: he bought a typewriter. As there was one of these machines in the Commissioner's office, ours was the second in the United States Department of Agriculture. We had no typist, but Leland Howard and I learned to use it. Probably an expert typist today would smile, could she see the achievements of which we were so proud. Other purchases for the division were a microscope that cost \$200, and 500 insect boxes that cost \$1,500. The boxes were ordered for us by Commissioner LeDuc, of his own accord, and unsolicited.

While all of our efforts were directed toward finishing the

³ Head of the Department of Entomology, Massachusetts State University, and author of numerous papers on the Microlepidoptera (small Moths).—G.W.H.

THE COMSTOCKS OF CORNELL

cotton-worm report, Mr. Comstock was interrupted so much by visitors that it was difficult for him to write. I worked every spare moment, editing answers to a questionnaire which had been sent to cottongrowers the year before. These answers were supposed to give information that would help to oust the cotton-worm, and since it was understood that they were to be a part of the report, they had to be prepared for printing, although Mr. Comstock and Leland Howard thought they were not worth publishing. I had another interesting piece of work—the examination of all the moth-traps at the patent office, to see if any of them could be used in trapping the cotton-worm moth. Of all absurd plans for capturing insects, some of these patents were the capsheaf. In using one of them, you were supposed to catch the insect and put it in the trap.

Labor on the cotton-worm report was pushed steadily. In those days, all manuscripts had to be copied by hand before being sent to the printer. Four copyists were detailed for this work at a cost of \$500. One day we had a scare: General LeDuc came to the office and announced pleasantly that he had come to talk about cutting down expenses, as only \$570 was left of the appropriation—not enough to pay Howard for the rest of the year, to say nothing of Pergande and me. Mr. Comstock was dumbfounded, for he had supposed there was a balance of \$2,000. The next day we went over the accounts with the disbursing clerk and found, to our relief, that \$1,000 had been lost in adding a column.

Our official and private life was very happy, except for growing differences between C. V. Riley and Mr. Comstock. Reasons for the disagreement were as follows: In 1877, an Entomological Commission had been formed for the study of the Rocky Mountain locust, with Riley at the head of the commission. Associated with him were entomologists Dr. Cyrus Thomas of Illinois and Dr. A. S. Packard of Rhode Island. This Commission's appropriation from Congress had been placed under the Geological Survey of the Department of the Interior. In 1878 Riley had been made United States Entomologist and the investigation of the cotton-worm had begun, but the appropriation for this had

been made to the Department of Agriculture and not to the Entomological Commission. All of the work done by Mr. Comstock and others, in the cotton fields of the South, had been charged to this appropriation, and the Commissioner of Agriculture was in honor bound to get out a report to justify these public expenditures. The quarrel between LeDuc and Riley was a personal one, and when Riley resigned, he claimed that all of the data on the cotton-worm and all of the specimens of insects sent in during his official connection with the Department of Agriculture belonged to the Entomological Commission of the Department of the Interior. Therefore he took them with him when he left. If Mr. Comstock had not had a copy of his own cotton-worm report, he would have been without any data with which to make the report for the Commissioner, except for the useless answers to the questionnaires.

Mr. Comstock and Dr. Riley had been good friends and Harry had anticipated no trouble when he went to Washington. He pleaded with Riley to return the notes on the work and the specimens collected while he was in the Department of Agriculture, but to no avail. Finally the men drew apart. General LeDuc, through the Attorney General, forced a return of some of the specimens and some of the manuscripts. The insects had been put in Dr. Riley's private collection. Mr. Comstock saw the dangers inherent in such a practice and ruled that no one connected with the Division of Entomology should have a private collection of insects.

The break with Dr. Riley hurt Mr. Comstock deeply. After we returned to Ithaca Riley made us a visit, during which he and I kept up an amiable conversation but Mr. Comstock remained rather silent. The quarrel had been distressing to me. I would give up anything rather than have trouble about it—one reason why I could never be an efficient executive.

We had many visitors at the office—some who knew us and others who had something to say or ask. Among others came Dr. Mary Walker. Mr. Comstock had roomed with her nephew at Cornell and had met her in Ithaca. I had never seen her and I was interested in her appearance and personality. It was the

THE COMSTOCKS OF CORNELL

irony of fate that she of all women should elect to wear trousers and fight for the privilege: she was in every way essentially feminine; but she wore trousers, coat, and vest, and a man's derby hat over her short hair. Her voice was that of an old woman. Despite her man's garb she walked mincingly, like an old-fashioned lady going to church, but she swung her cane jauntily. She was a brave woman who had earned her right to dress as she pleased through her work as a doctor in the hospitals and on the battlefields of the Civil War. She had borne imprisonment, repeated arrest, and endless jeers, but she had stuck to her principle that a man's costume was better fitted for active work than a woman's. How she would rejoice if she could see our girls of today.

Commissioner LeDuc was an aggressive man of indomitable will, combative, imperious, impatient of obstacles, and not very tactful, but loyal and devoted to people he trusted or to a cause he had undertaken. He was a big, handsome man near the age of seventy-five when we knew him, with abundant gray hair and gray pointed beard. In the Civil War he had been made Brevet Brigadier General of United States Volunteers. LeDuc was overbearing, at times, with reporters, which provoked bitter attacks on him in certain newspapers. After one of these attacks, some reporters came up to the Department to get his reaction. He pointed to a span of mules standing in the street and said: "Gentlemen, I am too wise to start a kicking match with those mules. I have nothing to say." In our two years of close association with Commissioner LeDuc, we had an excellent opportunity to judge him, and we found that he always had foremost in mind the welfare of farmers and the advancement of agriculture.

The Report on Cotton Insects went to the printer late in 1879. Early in January, Mr. Comstock began research which he and Leland Howard had been considering—an investigation of Coccidae, the scale bugs, and of other insects affecting citrus fruits. This was especially important, in view of the growing citrus industry in California and Florida. Mr. Comstock wished to plan and supervise the work. General LeDuc was encouraging and gave him letters of introduction to the Senators and Congress-

men from Florida. When Harry went to the Capitol with these letters, my cousin, Congressman Edwin Willits, introduced him to the men. They received him cordially and gave him letters to prominent orangegrowers. Armed with these, Harry started for Florida. While I should have liked above all things to go with him, I felt that my work and my presence in the office were essential, and this made me content to remain in Washington.

Mr. Comstock started on this journey with as much of the spirit of the explorer as did Columbus when he set sail for unknown lands of the west. In a letter written on the train on his way south, my husband exclaimed: "O, the Coccidae! I want to get off the train and examine every tree I see, for specimens." He stopped for a day at Macon, Georgia, and spent a morning in the field, collecting. Among the insects which he sent back from this morning's work was a leaf miner in the needles of the southern pine. From Macon he went to Brunswick, Georgia, and took a boat to Fernandina, Florida. It was a small steamer that traversed St. Andrews Sound, upon the waters of which he saw thousands of wild fowl, especially ducks. From Fernandina to Jacksonville may be about thirty miles as the crow flies, but the train was from 11 A.M. to 5 P.M. traversing this distance, "through pine woods all the way, any one mile of the route appearing like any other, the country as level as the sea when calm. The long-leaf pine with its magnificent slender leaves, the saw palmetto, and wiregrass were all we saw of vegetation except when we passed hammocks; in these were many shrubs bearing red and black berries."

At Jacksonville he called on Dr. C. J. Kenworthy, an influential man who obtained passes for Mr. Comstock over every railroad and on nearly every line of boats in Florida. A dinner, in Mr. Comstock's honor, to which all local men of science were invited, was given by Mr. W. H. Ashmead, the proprietor of a bookstore in Jacksonville, but an entomologist by avocation, who had made collections of Florida insects. Afterwards he became connected with the Department of Entomology in Washington. There were few railroads in Florida in 1880. In order to reach various plantations Harry had to travel by boat, by

THE COMSTOCKS OF CORNELL

horse and buggy, and on foot. He visited several large orange groves and collected many scale insects which he sent to Washington for further study. At Mandarin, he met Harriet Beecher Stowe and was impressed with her strong personality.

At Alexander's Landing on Lake Beresford, Harry found a large, waxy scale insect which he called the barnacle scale.⁴ Here he also discovered the caterpillar⁵ which bores a tunnel down the leaf stem of the water-lily and lives in the burrow several inches below the surface of the water. The following letter in which he describes his trip in quest of the sweet-potato beetle⁶ gives an idea of the difficulties of travel with which he had to contend.

I learned at Manatee that the sweet-potato beetles came from across the river a short distance and if I were to cross over to Palmetto, I could get a horse and drive out to Daniel Gillett's place where the beetles were to be found. I went across the river and tried to hire a horse but one was not to be had. Mr. G., I was told, lived eight or nine miles away. Although it was then 3 P.M. and I was tired, having run about in the cane all day, I determined that I would not leave that section without learning something about those beetles; so I started across the prairie on foot. Just before nightfall I reached a house where I was told that the place was only a mile further on—that I was to go through a piece of woods and there I would find a trail which led to Mr. G.'s. I found the trail and followed it for a distance, but it soon forked. I took the larger branch. I did this several times, each time the trail became fainter. At last I found myself in the open prairie where no path was to be seen by the dim light. Night soon came on. I could not see the stars and so had no idea in which direction I was going, for I had lost my bearings while following the winding of the trail across the prairie. At last I struck a road which I felt sure was the one leading to Mr. G.'s place. I followed the road, came to a woods, and crossed a creek that was about the same size as the one I had crossed in the woods through which I passed, just after receiving my directions. This made me think it was the same one and that I was returning in the direction of Palmetto. Not being sure, I followed the road a mile or two; finding no residence, I

⁴ *Ceroplastes cirripediformis*.—G.W.H.

⁵ *Bellura melanopyga*.—G.W.H.

⁶ *Cylas formicarius*.—G.W.H.

retraced my steps to where I first struck the road and went on much further. Finally I decided to camp and was looking for a place at which to do so when I saw a light. This gave me new strength. I hurried on for a mile and found some trees on fire in the woods. I was discouraged, and began to make preparation for a camp. Before doing so, I shouted long and loud and had no answer. Before I had my camp arranged, I heard a dog bark. Then I felt sure I was near some residence or camp. By going in the direction of the dog, I reached the house of a son of Mr. G. He put me on the right road.

Finally, late at night I reached my destination, foot-sore and tired, only to learn that Mr. G. had dug all the potatoes the week previous. My bed seemed good that night. In the morning I found that no horse could be had for the return trip. In the meantime I had been thinking over the proposed trip to Tampa, Fort Mead, and Ocala and concluded that with the delays incident to travel in that country, it would take me till the middle of March to make it. The "Lizzie Henderson" was expected on her return trip from Tampa at noon. I thought that perhaps if I could get back to Manatee in time I would take passage on board her. I was fortunate in obtaining the company of a lad who was going to Manatee, and as soon as we had breakfast of grits and bacon, we started. I found my companion a good pedestrian. We walked to Palmetto, nine miles, in two hours and a half. There, after talking for a half-hour to a fellow, we induced him to rent his boat to us to cross the river. When we reached Manatee the steamer had not come and there was no doubt as to the best plan for me to follow. I was so foot-sore and weary that I could hardly step. It was of no use to stay in the field, as I could not go about the groves in that condition in a country where there were no men to be hired. I took the steamer, reached Cedar Keys yesterday, and left there at 5 A.M. I have now to see the Orange Lake region and then I shall come home.

On the morning of February 4 he left Titusville on the sail-boat "Mist" bound down the Indian River for Rockledge, where he examined the orange trees in that region for scale insects. The trees in that section proved as a rule free from insects but he did find the cotton stainer, *Dysdercus suturellus*, at work. From there he went across country, in a wagon drawn by mules, to Lake Poinsett, where he boarded the steamer "Fox" on the return trip to Sanford. He was having trouble with his specimens:

THE COMSTOCKS OF CORNELL

"As they were collected in the rain I did not dare to do them up ready to send by mail for they would certainly mold before reaching Washington, so I have been obliged to spread the leaves out to dry and watch lest the larvae escape. I have several boxes which I have got to restock with food at Sanford before sending."

While my husband was going through these experiences I was having pleasant diversions in Washington. I went with my cousin, Congressman Edwin Willits, and his family to a reception at the White House, an important event to me. Mrs. Rutherford B. Hayes received us graciously. She was a woman of vivid personality. Her rich, dark coloring, her dark hair combed smooth and low over the ears, her dignity and yet true friendliness made her seem to me the ideal of what our President's wife should be. In diplomatic society, she had hurt her popularity in Washington by her refusal to have alcoholic beverages served at the White House. It required courage to take this step but her stand on prohibition won her many friends.

Thanks to my cousin Edwin, I was able to hear Charles Stewart Parnell describe vividly the sufferings of the people of Ireland under the land tenure laws, in a speech before the House of Representatives. Parnell was attractive, his face pale and refined. In his bearing, he was an aristocrat, about as much like my conception of an Irishman as a lily is like a peony. He spoke without emotion or oratorical embellishment, but his terse sentences were effective.

Meanwhile in Washington, we were co-operating with Mr. Comstock in every way possible. Almost every day specimens he had sent from Florida, arrived, to be taken care of and studied. The many living specimens that he sent kept us busy. He was keen to get every insect that had any relation to citrus fruits or other Florida crops. I had acquired enough skill with the typewriter so that L. O. Howard dictated letters to me. I also worked in transferring the old insect collections into the new boxes. I found life too full for loneliness.

I went with the Willits to see Lotta Crabtree in her characteristic gamin plays, a genuine pleasure. I also saw Fanny Davenport as Lady Cecil and I heard Mrs. Scott Siddons read; all of

these opportunities meant much to me. One day I received a pleasant call from a man who had been with Mr. Comstock for several days in Florida. He said, "Mr. Comstock is the most economical man I ever saw traveling at government expense." He was indeed as careful of the money of the government as if it had been his own.

The last of February, Harry returned to Washington, much pleased with the work he had accomplished in Florida and the interest he had aroused among orangegrowers. Soon after his return, my parents came to spend a week with us. It was a great joy to show them the Washington they had read about and the Mount Vernon they had revered. It was an education to us to go with my father to the Houses of Congress. He was an old-fashioned farmer with New England traditions, who read and thought about what he read; consequently every man of prominence in Congress was known to him through his support or rejection of measures for the country's good or harm. Father was never in doubt as to whether measures were harmful or useful. During this visit, he was able to hear many men speak whom he had long known through their political careers, and it was undoubtedly the greatest experience of his life to see their faces and hear their voices. Cousin Edwin was amazed at my father's knowledge of the public records of so many of his colleagues. Mother was more interested in the beauty of the Capitol, the statuary, the pictures, and the parks. The visit meant more to them both than we of the present day can imagine.

On March 10, the silkworm eggs ordered from China arrived with many of them already hatched, probably because they were kept too warm in transit, and General LeDuc was deeply disappointed. Mr. Comstock had been called to Long Island for consultation concerning the ravages of some insect pests, so Pergande, a woman clerk, and I, working in almost freezing temperatures, cut the cards, packed, wrapped, and franked 150 boxes of silkworm eggs, in one day. All that night in my dreams my fingers insisted on tying knots. By doing this work so promptly we were able to send to each person co-operating in the project 4,000 unhatched eggs.

THE COMSTOCKS OF CORNELL

On May 18, 1880, a copy of the *Report on Cotton Insects* was on the desk of every Congressman, although it was not officially published until a few days later. On the strength of the report Representative Aiken of Georgia made a speech in favor of a larger appropriation for the Department of Agriculture and a raise in the salaries of the heads of the divisions. The publication of this volume was a great occasion for us. There were 343 pages of the *Report* proper, ten pages of which were given to a valuable bibliography, and 170 pages of appendix and of answers to circulars. We were pleased by the colored plate frontispiece, representing a cotton branch with blossoms and the cotton-worm in all of its stages, an excellent, artistic picture, painted by George Marx and lithographed. There was also a most satisfactory lithographic plate of the nectar glands by William Trelease. The report was well received. Mr. Comstock had many letters of congratulation and appreciation from scientists. The one from Dr. H. A. Hagen, with whom he had studied in Cambridge, Massachusetts, was characteristic: "It is a very good and very sensible work; and what I like more is that you stand on your own legs." Following these words of approval, he rebuked Mr. Comstock for wasting the government money by printing the appendix. Harry replied that he agreed with him entirely, but that he was obliged to print it, since this appendix was all that Riley had left of the work done the year before.

The most gratifying of all of the commendations on this Report came from Charles Darwin, who thanked Mr. Comstock for the volume and said that he found in it many interesting things bearing upon his theory of evolution.

The agricultural editor of the *New York World*, Dr. L. C. Benedict, wrote: "Your *Report on Cotton Insects* has not only been largely copied from but heartily commended to the large class for whose benefit it was prepared, which is evidence of what we think of the work. I cannot refrain, however, from adding that I consider it a most valuable book, which ought to be in the hands of every cotton planter."

In July, 1880, we started on a memorable journey to the Pacific Coast. Congress had granted an appropriation of \$5,000 to

the Entomological Division and Mr. Comstock felt that he could not do a more valuable work than to finish the investigation of the scale insects infesting citrus-fruit trees. It was arranged that I should take charge of the laboratory while Mr. Comstock did the field work in California. In Chicago and Omaha, Harry succeeded in getting free transportation for us to Salt Lake City, which materially lessened the expense for us personally, as well as for the Government. Between Chicago and Omaha we had our first experience in a dining car, a luxury that had not yet reached the eastern railroads. It seemed quite wonderful to us to sit at table and eat, while viewing from the windows the crop-covered, rolling lands of Iowa. Those who use the dining cars of today little realize how great this luxury seemed to us.

All of one day we followed the Platte River, the bottom lands of which are about thirty miles wide, bordered by bluffs. Along the north shore of the river, we were able to observe the old immigrant trail over which so many passed when seeking their Eldorado. We were awed by the tragic fate of scores of these pioneers, for here and there could be seen the board markers of the graves of those who had died along the way. We suddenly awoke to the sad realization that we were passing near the unknown grave of Mr. Comstock's father, who had died somewhere along this trail thirty years before.

The ride from Ogden to Salt Lake City was a revelation to us. The Oquirrh Mountains beyond the lake, the green of the fertile valley between us and the lake, and the lake itself, by the light of the sunset, made a picture we could never forget.

The Mormons had always seemed to us a strange, almost mythical people. We gained a new respect for them when we realized that the beautiful valley we were gazing upon had been a desert of sage brush before these people brought water from the mountains for the irrigation that changed the desert to a garden. The more we saw of the Mormons and their work, the more we admired their pluck and industry. We found Salt Lake City very attractive. I think the thing that impressed us most was the open irrigation. Dashing along each street, at the side, was a stream of water, brought from the melting mountain snows.

THE COMSTOCKS OF CORNELL

Mr. Comstock met the most prominent fruitgrowers of the Salt Lake region and found them intelligent and eager for assistance in fighting their various insect enemies.

There had been a personal interest in this journey of ours. Harry had not seen his mother since he was a boy of thirteen and had never seen his stepfather nor his little stepsister, Margaret Dowell, born February 1, 1870. So it was with eagerness that we took a side trip from Sacramento to visit our family. We went first to Marysville, a lively town of five thousand inhabitants, with pretty houses, embowered with flowers and trees. From Marysville we took a train to Oroville and a stage for twenty-two miles to Forbestown. We were vastly interested in this region, which we had come to know through reading the books of Bret Harte.

We found our people in their mountain home, the view from which was superb, but we were so happy to see them that we could give scant time to gazing at scenery. Harry found that his mother had failed much in health but her splendid spirit remained. She made light of the trials of life and made the most of its joys. His sister Margaret was an attractive child of nine, with long golden curls and eyes as blue as the skies. We found our stepfather a very interesting man; his many years of pioneer experience in California had yielded him a wealth of wisdom and knowledge. His keen wit and his ability to tell a story well made him a delightful companion. He was the owner of placer mines, some of them fairly good and some worked out. While we were there he "panned out" some gold for me that I had made into jewelry. He had formerly owned two hotels in the mountains, and it was a joy to hear him tell of his experiences as host to the various actors and to minstrel troupes that had come up to entertain the miners, in the old golden days.

Harry's mother and sister Margaret went with us to San Francisco and thence to Santa Rosa to visit Mr. and Mrs. Nelson Carr, who had a delightful home on a ranch, about seven miles from Santa Rosa. Mrs. Carr was Mother Dowell's sister and our Aunt Hannah. Uncle Nelson Carr was prominent among the agriculturists of the region and almost immediately took Harry with

him to San Francisco to attend a meeting of the State Horticultural Society, where Mr. Comstock met Mr. Wickson of the *Pacific Rural Press* and Professor Eugene W. Hilgard of the University of California, both agricultural leaders in the state. Later, when we started south, we visited Professor Hilgard at the University of California.

My first impression of the California climate, as exemplified in San Francisco and Oakland, I shall never forget. Palms had the effrontery to grow in the parks and around the grounds of private estates, and there were quantities of calla lilies in front yards and gardens; and yet, for twenty of the twenty-four hours of the day, I was shivering with the cold. We were warm enough, however, on our journey down through the San Joaquin Valley. Harvesting was going on in the grain fields that quivered under the heat of an almost tropical sun.

The day before we started for Santa Rosa, we had climbed to the crest of a hill to see the ocean; we evidently helped ourselves up by grasping shrubs along the steep pathway and these shrubs were poison oak. As Harry was susceptible to its poison, the result was disastrous. He suffered terribly and by the time we reached Los Angeles his hands and face were swollen until he looked as if he had been a loser in a prize fight. On our arrival at Los Angeles, he was embarrassed to find awaiting him the mayor of the city and other important men who invited him to a banquet that night, which he had to decline.

Mr. Comstock was received cordially by the fruit growers; Mr. S. W. Niles, his Cornell classmate, drove with him to visit many orchards. I was kept busy caring for the insects which Harry brought in, noting their habits and making drawings of those which could not be preserved. I remember how excited we were when we found the males of several of the coccid species. I made careful drawings of each. These drawings helped us to reach the conclusion that these ephemeral individuals were of little use in determining species.

One of our fellow boarders in Los Angeles was Mrs. Caroline M. Severance, later a potent force in developing educational facilities in Los Angeles. Kate Douglas Wiggin pays her en-

THE COMSTOCKS OF CORNELL

thusiastic tribute in *My Garden of Memory*. We left Los Angeles about September 30. At our last luncheon, our landlady, anxious to show us what California could do, had seventeen varieties of ripe fruit on the table. We visited San José, and Mr. Comstock, working in the orchards there, found a scale insect that was doing much damage; he gave it the appropriate name of the "pernicious scale," *Aspidiotus perniciosus*. By some twist of fate, the insect soon became known as the San José scale, much to the disapproval of the inhabitants of that fine city. Dr. C. L. Marlatt has since traced the scale to its original home in China.

We went again to Santa Rosa, and on our return the whole Dowell family came with us to San Francisco. Harry's mother and sister Margaret went with us as far as Sacramento, where we bade them farewell. That night we stopped at Truckee and visited Lake Tahoe. We stopped at Yank's, a well-known hospice on the shores of Lake Tahoe. For a day we gave ourselves up to admiration of the beauty of this sheet of water, hardly realizing that it lay, with its unfathomed depths and mighty mountain wall, six thousand feet above the level of the sea. We spent the sunset hour amid the glories of Emerald Bay, gazing up the snow-clad sides of Mount Tallac, whose rugged brow hung five thousand feet above us. The desire seized us to mount those heights and view the beauty of Tahoe from the summit. Yank, our ubiquitous host, assured us that he could furnish conveyance for the excursion. We arose early the next morning and, with two fellow excursionists, started out in an old stagecoach drawn by two rawboned, balky horses, with three Indian ponies trailing behind. At Soda Springs we left the coach and three of us mounted the ponies for the final ascent, while one of the excursionists remained behind to fish. It was a stiff climb, but the view from the summit was magnificent. We had not realized the steepness of the trail until we began the descent. The ponies were cautious and sure-footed, but it seemed at times as though we must pitch over their heads into the depths below. When we finally reached the level area about the Springs we found our fisherman with a fine string of trout. Our strenuous exercise and meager lunch had given us ravenous appetites. We decided to

build a fire and make a supper of roasted fish. My memory recalls it as one of the most delicious meals I ever had. By the time supper was over it was dark, and we were dismayed at the thought of returning in the coach over the awful eight miles of road along which we had toiled in the morning. Our doubts were soon settled by the horses, which balked beyond our powers of persuasion; indeed one of them kicked a whiffletree into slivers. We decided to camp overnight and soon had a great fire roaring. With the coach cushions for pillows and the men's coats for covers, we passed the night as best we could. With the return of the blessed daylight, we finally reached Yank's Inn, a tired, hungry lot of people and horses but with an experience not easily forgotten.

We traveled from Chicago to Washington through mountains that were covered with brilliant autumn tints, feeling that our visit to California had given us a new insight into the beauty and grandeur of nature, and yet the experience had unsealed our eyes to the beauty of the East.

The coming Presidential election seemed likely to be an important event to us. Commissioner LeDuc was a personal friend of James A. Garfield, and if he were elected, we hoped much could be done for Mr. Comstock's work. A letter to me from my cousin, Stacey Cochrane, who had once tried working on the Erie Canal, and later, was an editor in South Dakota, summed up the situation in a way that pleased us. He said:

It is a great thing for the American boy to know that although he may be poor and friendless he can go on the canal, then go to school, get an education and by and by the people will call him a thief and a liar and elect him President. Then he can have half of the people find fault with everything he does and the other half admire everything he does no matter whether they know anything of the results or not. Then after a while he can die, have a grand funeral and after a while a fine monument will be raised to him and sporting men will name their fast horses and fighting dogs after him. My motto is: Go on the canal young men.

Garfield was elected President of the United States but we did not feel confident that all would be well with us. Mr. Comstock was

THE COMSTOCKS OF CORNELL

able to get Professor Charles H. Fernald to come for the winter, to work on the Microlepidoptera for the annual report. Mrs. Fernald was also an entomologist and she offered to work on the Tineids of this collection free of charge, a kindness greatly appreciated, for the collection at the Department of Agriculture was in a sad way. The Fernalds brought with them their son Henry, a boy of fourteen, who was even then something of an entomologist.

Mr. Comstock began in earnest a more scientific, detailed report on scale insects, for which I gave three days of every week to the making of drawings from the microscope. With an eyepiece micrometer, marked with rectangular spaces, I studied and portrayed the pygidiums of the female coccids. I was thus enabled to differentiate the fringes with their lobes and spines, characters upon which Mr. Comstock later based the specific differences of these insects. After I worked out the anatomy of the individual coccid as it appeared under the microscope, my task was done. Harry classified the collected drawings, and combined their characters with others, and thus built the foundation for the classification of the Coccidae of America.

There was but one book that gave us definite help in studying the Coccidae; it was written in French by the eminent scientist, M. Signoret. We had paid \$20 for the volume and considered it money well spent. After I had made many drawings, Mr. Comstock sent specimens to Signoret for determination and also one of my drawings of a male coccid. In his reply he said: "The drawing of the male is magnificent. It was made by the hand of a master. I wish I could make as good a one. Without impertinence, may I ask if the artist is your wife or sister?" I think this commendation did much to start me on my career as an artist in natural history. M. Signoret was also curious as to the means used to print our letters, for the typewriter had not yet appeared in France.

Early in January, 1881, Washington experienced a temperature below zero, accompanied by a heavy snowstorm. This caused so much suffering among the poor that a mass meeting was held to raise money for their relief. There was an amusing side to the

experience, for everyone wished to go sleighing, since the opportunity was so unusual. The contrivances invented to enjoy this sport were laughable. Iron runners were put on the axles of carriages and wagons, giving them a long-legged spidery aspect; dry-goods boxes were set on runners; and we saw one horse hitched to a stout rocking chair. Pennsylvania Avenue was gay, despite the cold. The reckoning came when the snow thawed. I remember a river flowing between Pennsylvania Avenue and the Department of Agriculture. We took a streetcar to the office and had to stand on the seats to escape two feet of water on the floor.

We had a visit from Dr. A. S. Packard of Brown University, and Dr. Cyrus Thomas, Entomologists on the United States Commission for the study of Rocky Mountain Locusts. A law had been passed placing the Entomological Commission under the Department of Agriculture and these gentlemen came to see Commissioner LeDuc concerning it. That ruthless soldier said to them: "All right, gentlemen, if there is work to do and you can do it better than anyone else, you may do it; but if you work under this Department you will do it a damn sight cheaper than you ever have done. You won't get any more salary than Comstock does." The Commissioner brought the men to our office and said to Mr. Comstock, "Show them the drawings that your wife made and read them that Frenchman's letter." This was rather embarrassing.

We were having pleasant times socially; a great many of our friends came to see us: David Starr Jordan, L. O. Howard, and Frank Carpenter, a Cornellian who had gone to Brazil with geologist Charles Frederick Hartt and had just won a thousand dollar prize for a poem on the subject of connecting the two Americas with a railroad. Many other friends came to see us—Dr. James Law of the Veterinary College at Cornell, Mr. George Harris, Cornell Librarian, Susanna Phelps, and many others. That winter we heard John McCulloch in his entire repertoire, and I have yet to see as perfect a Richelieu as his, although he probably ennobled the part. We also saw Mary Anderson, young and beautiful, in *Ingomar*, and Sarah Bernhardt, who was a

THE COMSTOCKS OF CORNELL

revelation of artistic interpretation. It was a sad little play and she made an indelible impression upon us. In her audience, I remember seeing George Bancroft, John Hay, and Frances Hodgson Burnett.

In March, our dear friend William Channing Russel was asked to resign the Vice-Presidency of Cornell University and also his professorship of history, with no reason given. This was a shock. We could have understood why he might be called upon to resign the Vice-Presidency, for that office had brought him into unfortunate contact with students; it had in fact made him do the disagreeable work of the President, without the other compensations. But as a teacher of history he had always been successful. This summary dismissal of a scholar,⁷ a man whom we revered, was a blow to us. Mr. Comstock called a meeting of the Cornellians in Washington and the following petition was transmitted by them to the Cornell trustees:

We the undersigned, alumni and former students of Cornell University now residing in Washington, have learned with great surprise and the deepest regret that you have requested the resignation of Vice-President W. C. Russel from his executive and professional positions.

Believing as we do that no officer of the University has labored more faithfully for the welfare of the institution than he has done, and that his labors have been eminently successful, we can see no reason why this step has been taken. And we respectfully but earnestly request that the matter be reconsidered and that Professor Russel's resignation be not accepted.

We are loath to believe that the time has come when our beloved Alma Mater seems to reward one of its most faithful and efficient officers with degradation and disgrace; and the belief that your honorable body has been deceived by some malicious persons, and the hope that you may be induced to reconsider the action you have taken and render justice to one who is now greatly wronged, enables us to make this request quietly and respectfully.

No reply was ever made to this petition. Moreover, this manner of dismissing a professor was repeated and in an even more

⁷ Of the Russel case, see Walter P. Rogers, *Andrew D. White and the Modern University* (Ithaca: Cornell University Press, 1942), pp. 150-154.—G.W.H.

abrupt manner in the case of a professor who received the first news of his resignation in 1885 through an item in the newspaper.

An appropriation giving the Division of Entomology \$16,200 passed Congress. Although, after the inauguration of President Garfield, the prospect that General LeDuc would be retained was not bright, Mr. Comstock went ahead with plans for the work. He visited Baltimore, Philadelphia, New York, and Boston, to engage entomologists of standing to assist in carrying on the work of the Division. He put his plan for a practical Division of Entomology before the entomologists of the country, with flattering results.

The bitter fight in the Senate, between President Garfield and Roscoe Conkling of New York, had so occupied the President that he had had no time to consider the Department of Agriculture for many weeks. On May 19, however, General LeDuc was removed, and George B. Loring of Massachusetts was made Commissioner. We had heard that C. V. Riley had been advocating Loring's appointment, but we knew that he had worked hard to have Orange Judd appointed. The farmers, especially the Grangers, were indignant at Loring's appointment. Soon Loring had a favorable interview with Mr. Comstock who certainly had strong backing. The New York and Michigan Senators and other Senators were doing their best to have Mr. Comstock retained. It was from the scientific men of the country, however, that Harry's strongest endorsements came. The following letter from Dr. Samuel H. Scudder reveals the attitude of prominent entomologists:

Cambridge, Mass.

My dear Mr. Uhler:

You do not need to enlarge at all upon the labors of Mr. Comstock, to enlist my sympathy for him. I know for myself that no person has yet filled the post he occupies in half so faithful or efficient a manner. I have commended his work on every occasion, for it seems to me admirable in every way, thorough, honest, fearless, well judged; while his industry is beyond all praise. He is making his special department thoroughly respected for the first time in its history; and I, for one,

THE COMSTOCKS OF CORNELL

will defend his moral right to the place (by virtue of the dignity he has given it) against all comers, be they my dearest friends or the most distinguished scientific men in the country. Command my services in this direction in anything I can do and I will thank you for the chance. You are at liberty, indeed, to use this letter in any way in which you think it may serve him.

Very cordially yours,
Samuel H. Scudder

Amid all of this excitement, we had to work steadily on the Annual Report, due June 15. After that was accomplished, I went to Otto for a little vacation, knowing that on July 1 the axe might fall, but I hoped for the best. Before I left Washington, I had one happy, carefree afternoon when Mr. G. K. Gilbert took me to visit W. H. Holmes, the artist of the Geological Survey. Mr. Holmes' sketches of the western desert pleased me. Mr. Gilbert had thought that Mr. Holmes might help me to find a teacher who could give me instruction in drawing, especially for my work with pen and ink. Mr. Holmes knew of no one, so I had to keep on doing the best I could. My drawings for the Annual Report made a good showing, however; Loring deigned to praise them, and I had much to encourage me. Concerning my drawings of chalcids, L. O. Howard told my husband, "It was the rarest thing that she made a mistake or overlooked anything, and she found lots of things that I did not see in my descriptions."

Mr. Comstock had a personal interview with President Garfield, who said that he had talked with Loring and thought that he did not intend to make any changes in the heads of Divisions. In closing, the President said, "If you have any trouble, I will take your letters of recommendation under consideration myself." That was encouraging, as letters from entomologists all over the country and pledges of support continued to pour in. The *Nation* had an editorial most complimentary to Mr. Comstock. The Boston Natural History Society sent in requests for his retention and the librarian of the Peabody Library in Baltimore came to Washington to interview Loring. The Secretary of the Pennsylvania Agricultural Society came to see Mr. Com-

stock and told him that the four largest agricultural societies of Pennsylvania were backing him. Dr. Scudder sent Loring a petition, signed by thirty-six entomologists, asking for the retention of Mr. Comstock. Professors Cook and Beal of the Michigan Agricultural College and the Michigan State Agricultural Society sent letters of similar purport.

Then came tragedy—the shooting of Garfield—and all was in suspense while he made his fight for life. This tragedy had direct results for us, for had President Garfield lived, we had every reason to think that he might have insisted on retaining Mr. Comstock. Although Loring had promised Riley the position, yet with all of the pressure from the scientific men of the country and from some politicians, Loring dared not throw Mr. Comstock out, and so he tried to compromise. He presented a plan for having both Riley and Comstock in the Division. As a matter of fact, he admitted that he did not “care a tinker’s dam about Comstock’s work or plans.” He simply took this way to satisfy those who had declared against Mr. Comstock’s removal. Loring’s plan was quite impossible. It would have been difficult to have two entomologists managing the work of the Division, had they been entirely in agreement on policies. Harry refused to consider this proposal.

Instead, he proposed that Commissioner Loring grant him a salary of \$1,500, \$500 for illustrations, and \$1,000 for an assistant, in order that he might carry out the following work at Ithaca: complete the monograph on scale insects; prepare for publication, accounts of the insects bred and studied in the Division under his direction; and investigate any entomological subjects which the Commissioner might refer to him. The Commissioner acceded to this proposal and established an entomological station at Cornell University, a valuable enterprise in which, however, he took not the slightest interest and which he soon allowed to lapse for lack of support.

After the first wrench that caused us to throw aside our ambitious plans for the national work in Washington, we found that we were entranced with the prospect of carrying on the work at Ithaca and of returning to our attractive little home. The only

THE COMSTOCKS OF CORNELL

drawback to our entire happiness was the dismissal of Professor Russel and the feeling that the Cornell trustees had the power to dismiss a professor at any time and give no explanation. This was a cloud that darkened Cornell skies until professorial tenure was more clearly defined.

Mr. Comstock handed his resignation to Commissioner Loring July 5, to take effect August 1. Before he left Washington, after many interviews with Loring, Harry wrote me, "So thoroughly have I lost confidence in Loring that were he and Riley to have a row tomorrow, and were he to invite me to come back, I should hesitate to accept." Another extract from my husband's letters to me shows his way of taking reverses:

I feel my personal disappointment but little. I look upon my case as simply an exponent of a system, the existence of which should make the heart of every lover of our glorious country ache with shame. And too, I feel very sad to believe that entomology cannot have in the near future what we believe was in store for it.

Still, everything is not lost; my administration, and the struggle which accompanied its close, will have an effect on entomology. The attention of every American entomologist has been called, in a most forcible way, to the existing state of affairs, and to what might be, and the end is not in sight.

And how much we have grown in the past two years! We will take up the work at Ithaca with much more confidence. We will have a happy home. We will give my students the best facilities for obtaining an entomological training that can be found in the world. And we will do some original scientific work.

I am planning my Ithaca work as enthusiastically as I have planned anything. Just now I am at work on a plan by which the students, after the first term, shall do original scientific work. In that way I shall have a large corps of assistants and they will get the best of training.

Chapter 8 ↵ 1881-1888

Return to the Department of Entomology at Cornell

EARLY in August, 1881, we returned to Ithaca and began the work of settling the laboratory and our home. Housecleaning and paper hanging added to the confusion of our homecoming. It had been decided that Cousin Helen Willits should come with us to Ithaca and pursue her studies in the University. She was to have charge of the house in order that I might have time to finish my drawings for Mr. Comstock's coccid report. In addition to all of his other work, Harry enthusiastically planted a strawberry bed and set out raspberry and currant bushes, all with his own hands, at odd moments. He bought a carpenter's bench and tools, which he installed in the cellar; this acquisition helped us in many an hour of need. That fall he made a herbarium for Helen which stands staunch and strong in our cellar today. I wrote my mother: "The only drawback to Harry's happiness, while at his carpenter work, is lack of company. Usually, on some pretext or other, he inveigles either Helen or me to go down there with him. I think if he could have his carpenter bench in the parlor, he would be entirely happy."

We hired a maid, fresh from the bogs of Ireland, ruddy as to cheeks and blue as to eyes and with the single accomplishment of being able to wash windows. With Helen's patient training, Katie developed into a capable, efficient maid, loyal and willing. One summer day, Katie, pale with fright, rushed into the parlor where I was receiving callers and cried, "Ooch! Koom in the kitchen, the devil is on the doorpost." I hurried out to find a

THE COMSTOCKS OF CORNELL

large adult dobson, *Corydalus cornutus*,¹ on the doorcasing, snapping his great curved jaws angrily. I did not wonder at Katie's characterization of this creature.

In September, 1881, President Garfield died, and on the twenty-eighth President White pronounced an eloquent memorial address in our University chapel, decorated with flowers for the occasion. Soon another sad event occurred—the death of Jennie McGraw Fiske, donor of the Cornell chimes. She and her husband, Cornell's Librarian, Professor Willard Fiske, had come from Europe, expecting to take possession of a beautiful home which was nearly completed, the notable "Fiske McGraw Mansion" on the site of the present Chi Psi Lodge. She never saw the house finished, but her funeral was held there.

We entered wholeheartedly into the University life. We were glad when President White added to our Cornell faculty Professor Moses Coit Tyler, author of *A History of American Literature*. Harry and I attended his first course of lectures. We went regularly to Cornell's Sage Chapel and rejoiced in the privilege of hearing the great preachers who came to Cornell—Phillips Brooks, Lyman Abbott, and others.

In 1881, the eminent English historian, Edward A. Freeman, gave lectures at Cornell which we attended. Unforgettable were his appearance and method of lecturing. He was stout and had an immense beard which gave him a patriarchal appearance. He was a victim of gout and delivered his lectures sitting, with one foot encased in an immense slipper and elevated on a footrest in front of him. He read his lectures from a manuscript with the inflection of a country schoolboy who lets his voice slide down at every period.

President White, who had been American Minister to Germany from 1879 until 1881, returned this fall and we were happy to have him back at Cornell. He and Mrs. White were neighborly and often called on us. On one occasion I was interested to hear Mr. White's private opinion of President Garfield. He said that Garfield had been a strong man, but no upholder of the civil

¹ An aquatic insect with a wing-expanses of four to five inches; the male has long curved mandibles.—G.W.H.

service, and related some shocking stories of the manner in which able, efficient United States consuls had been replaced by inexperienced politicians. He maintained that, although people had the idea that Garfield was a reformer, he had begun his administration as badly as any President in history; and he believed there had been less hope for governmental reform from Garfield than from his successor, President Arthur.

That fall my father and mother came to visit us for the first time in our Ithaca home. They found much to interest them. Father was especially interested in the University farm and the stock, and during his visit he bought two Holstein cows to add to the value of his own herd.

A momentous event occurred just before the opening of the University in the fall of 1881. The entomological laboratory in the tower of McGraw Hall had become so crowded that it could not accommodate the students and Mr. Comstock was given a new laboratory on the second floor of White Hall at the north end, with a small office adjoining, and an assistant so that Harry could find time for his government work. The new laboratory seemed palatial, and yet, as the years passed, more room was needed until the whole north section of this second floor was given over to entomology.

In November, 1881, the University raised the salaries of assistant professors from \$1,000 to \$1,200, and we paid \$200 on the mortgage of our house, reducing it to \$900. About this time Mr. Comstock began seriously to write a textbook for his classes, although he still had much to do on the coccid report. He took a lamp to the laboratory and worked there nights. A telephone had been installed in the laboratory so that I could reach him if necessary, and this seemed a great luxury. It is now hard to realize the difficulties we were experiencing in 1881 in the mere matter of daily living. We had no mail delivery and were obliged to go to the Ithaca post office on foot or in an omnibus to get mail.

As Mr. Gage was soon to be married to Susanna Phelps, he did not again take a room in our house; but he came to us for his meals and, as ever, added greatly to the family cheer. In 1881 he

THE COMSTOCKS OF CORNELL

was working with Dr. Burt G. Wilder on the "cat book," a laboratory manual for the dissection of the cat. Dr. Wilder had introduced a new nomenclature in describing the relations of anatomical parts to each other, and in a measure this appealed to Mr. Comstock. The discussions between Gage and Harry were characteristic. They would argue excitedly and pound the table for emphasis, until my gentle cousin Helen was frightened, fearing that they might quarrel. But every discussion ended suddenly in the complete yielding of one or the other, with "Well, I think you are right, Brother Gage," or "I think you are right, Brother Comstock."

When his approaching marriage was discussed, Professor Gage showed signs of nervousness. He feared that the Episcopal ceremony would be a long, trying rite. He confided his fears to Harry, who hunted up the Prayer Book and with great gravity began to read to him the visitation of the sick, doing a little judicious skipping. Gage's face grew more and more serious until finally he began to suspect something wrong, and took the book to see for himself, at which Mr. Comstock and I laughed until we wept. We went to Morrisville, New York, for the wedding, in the Phelps home, the house which now contains the village library, a gift from Mrs. Gage to her native town. It was a beautiful wedding, and the dear twain, made one, were soon in Ithaca, where the four of us, now joined in double bonds, began anew an intimate friendship which lasted for more than thirty years.

An important improvement in the entomological laboratory was a new cabinet of white ash which Mr. Comstock had had built for the insect collection. It was about seventeen feet long, nine feet high, and deep enough to hold insect boxes two feet square; it had eight sections for the boxes, each of which could be pulled out like a drawer. Mr. Comstock had put much thought on the best means of building up a collection of insects. One problem was that of adding acquired specimens to the collection, which often meant the repinning of a whole box of insects in order to insert the additions in the right places. To meet this problem, he devised a system on the plan of a card catalogue, using blocks of cork, later of wood, in multiples to fit the box.

This system enabled him to make new entries by shifting the blocks. It also gave opportunity for making the boxes tighter and more nearly pest-proof, for the bottom and the top of each box could be made of a single pane of glass. Another problem connected with the insect collection was to find a way of preventing the loss of alcohol from straight vials containing specimens, when laid flat on the blocks. This difficulty was met eventually by devising a quadrangular vial with the neck bent sharply upward. This form of bottle became known in the laboratory as the bent-neck vial. Mr. Comstock possessed considerable mechanical skill, and when he gave his thought to this type of problem the result was usually effective and practical.

Mr. Comstock's influence as a teacher was growing steadily. The outline for the study of a grasshopper, which he had written for his own use in his laboratory, as an introduction to insect anatomy, was adopted, in the spring of 1882 for the entomological laboratories of the Universities of Iowa and Wisconsin.

During this year Cornell had two notable nonresident lecturers from Ann Arbor: Charles Kendall Adams, who lectured on English history, and Henry Carter Adams, who gave a course on the tariff, especially the tariffs of England and America. We attended these courses of lectures and became well acquainted with both men, never dreaming that Charles Kendall Adams would be the next President of Cornell and our nearest neighbor for years.

The number of students at Cornell was small in the academic year of 1881-1882. Mr. Comstock had only twenty in his lectures and ten in his laboratory, the smallest classes he ever had. His lecture class increased to thirty before the term was far advanced. During the spring he and Cousin Helen continued their botanical collecting. I went with them on their excursions and for the first time undertook to sketch in water color.

On June 28, we finished the report on injurious insects for the Department of Agriculture² and sent it to Washington, know-

² *Report of the Entomologist of the United States Department of Agriculture for the Year 1880*, by John Henry Comstock, 1881. This report contains the notable work on the Coccoidea by which Professor Comstock established for the first time

THE COMSTOCKS OF CORNELL

ing that this would be the end of Mr. Comstock's official connection with the Department, despite Commissioner Loring's promises of future work. Harry had utilized every possible moment in writing this report, and I had worked every day on the drawings. While the report discussed some insects of economic importance, aside from the scale insects, more than 100 pages were devoted to the Coccidae. We were proud of this report at the time, and we would have been even more so, had we known that it would become the basis of all future work on this important family of insects. The part of the report that was devoted to the parasites was written by L. O. Howard and included many of my drawings of the chalcids.

After Commencement at Cornell, we went to Otto and remained there until August, when we went to the meeting of the American Association for the Advancement of Science, at Montreal. On our way we stopped at Oswego where we visited all branches of the Turner family. I was especially interested in our visit with Captain Turner, Mr. Comstock's "Pa Lewis," whom I had never seen. He was a large, fine-looking man with white hair and a ruddy face; he talked in tones of thunder. He had once been very profane but had become a "professor of religion"; Harry said that his way of saying "God bless him" was very reminiscent of his former "God damn him." Captain Turner was so excited and happy over our arrival that at dinner he forgot to say grace until after he had begun to eat; suddenly he raised his hand and thundered: "Hold up, and we will ask the blessing of God." I wanted to laugh, but when I saw my husband drop his fork and bow his head, as calmly as if this were the usual method of procedure, I suppressed my smile. I enjoyed the company of Pa Lewis greatly and have always been glad that we made this visit, for I never saw him again. We took a long drive while at Oswego, visiting all of the schools where Harry had been a

a simple, accurate basis for the classification of the species of scale insects in the important family *Diaspidinae*. The work was based on the characters of the pygidia (posterior segments of the body) drawn by Mrs. Comstock from the actual specimens and illustrated in the report by many fine plates. The article by Dr. Howard on the parasites of the Coccidae established his reputation at this early time as an authority in the field of insect parasitism.—G.W.H.

pupil and the schoolhouse where he had taught, and calling on many of his friends.

The American Association for the Advancement of Science was in its youth and the novelty of holding the meeting in Canada was a special inducement to attend. Montreal was most hospitable to its scientific guests and the meetings were successful and enjoyable. Mr. Comstock read a paper before the Agricultural section and C. V. Riley, who was present, attacked him quite rudely. My husband kept his temper and answered in a few quiet words that made controversy impossible. Later, several of the entomologists congratulated him on his manner of dealing with the matter.

On our return trip we visited Quebec, the White Mountains, and Boston, to see its many historic buildings and monuments. From Boston we journeyed to Orono, Maine, to visit Professor and Mrs. C. H. Fernald of the State University of Maine, which then had four dignified buildings on an attractive campus and a faculty of about twelve professors and instructors. On our return to Boston we went to Cambridge to visit Dr. and Mrs. H. A. Hagen. They took us for an extended drive around Cambridge and Brookline, Massachusetts. Dr. Hagen always seemed to consider Mr. Comstock his chief disciple in America. When we were discussing the difficult servant problem in America, Mrs. Hagen told me of a nobleman from Europe who had visited them. Mrs. Hagen had no regular servant but was able to get a woman to come in to cook and wait on the table while she attended to the other housework. On the Baron's departure, he said to his hostess: "I have tried in vain to see the maid who has kept my room in such good order, but I have been unable to find her. I have left something for her on my bureau." Mrs. Hagen said, laughing, "I thanked him and I think I enjoyed spending that \$2.50 more than any other money I have ever spent."

Momentous decisions were made this autumn. I determined to go back into the University, take the course in science which my husband had taken, and get my Cornell degree. Mr. Comstock thought I should have more training and knowledge in the sciences allied to entomology, and that I would be better satis-

THE COMSTOCKS OF CORNELL

fied to have a degree. I was allowed the same privilege of free tuition that was granted later to children of professors. Thus I could register for a minimum number of hours, which would allow time for my other work. We had also come to the conclusion that I must learn wood engraving to illustrate *An Introduction to Entomology* which Mr. Comstock was to write as soon as possible. I saw an advertisement of wood engraving tools, with a booklet of directions, and promptly sent for them; and with my usual daring on untried paths I went at it.

That autumn the trustees raised the salaries of the professors \$250. We were delighted that Professor Gage's salary was increased from \$1,000 to \$1,500. President White went with Dr. Burt G. Wilder and Mr. Comstock to Ward's Natural Science Establishment in Rochester. The President became enthusiastic over the beautiful models of invertebrates, made in glass by the Blaschkes of Austria, and saw new possibilities for the department of invertebrate zoology at Cornell, and as a result, the appropriation for running the laboratory was raised from \$50 a year to \$675. Besides that, Mr. Comstock received \$1,200 with which to buy a set of the glass models to illustrate his lectures, and \$300 for the purchase of museum specimens of invertebrates. He was delighted and encouraged. He engaged a student assistant and thus was relieved of much drudgery. Harry kept his assistant busy at odd moments in pinning and mounting specimens, thus adding many new boxes of insects to the University's collection. After a long period of waiting, all of these changes constituted one of those unexpected leaps forward that have characterized the growth of the Department of Entomology at Cornell. During this period running water was brought into the laboratory and Mr. Comstock established a series of glass jar aquaria which enabled him to show his students aquatic insects in their natural element.

President White went with Mr. Comstock to Rochester to select and buy the glass models. As they did not spend all of the appropriation for the models, they purchased needed specimens of insects. On the way back from Rochester, President White sat with Harry and authorized him to inquire from leading ento-

mologists what collections were for sale, and promised that he would get the money for their purchase as fast as possible. Harry was greatly encouraged and confided to me that he expected to build up the third best collection in America, for he could hardly expect to overtake the Cambridge and Philadelphia museums. Harry's idea, consistently carried out, was to limit the Cornell collections to North American insects.

A considerable part of the *Report on Scale Insects*, which Mr. Comstock had prepared for the United States Department of Agriculture, was left out of the annual report by Commissioner Loring. The reason given was lack of space. The Cornell Experiment Station proposed to publish the omitted part as a bulletin. As some of the illustrations were outline figures on wood, I was asked to engrave them and was given \$50 for the work. I had been practicing with my shallow tools that were later characterized by my teacher, Mr. Davis, as "very curious." But I managed to engrave those complicated outlines and did a fairly good job, meanwhile getting "loads of experience." I lamed the muscles of my arm in the process, something that would have seemed ludicrous to a skilled engraver.

I took an added responsibility when on November 4, 1882, I joined the Kappa Alpha Theta sorority, the first sorority established at Cornell. Many of us would have preferred that none should come to our University. However, this one was established and others were sure to follow. I was too democratic and too catholic in my tastes to be in sympathy with any organization that was exclusive, and I had little use for secret societies of any kind. I consulted President White and he advised me strongly to join this first sorority, because, he said, I "might have a wise influence within it and also upon the relations of the sororities to each other, when others should be established." Membership in the sorority has brought me many fine, happy friendships and has enriched my life by the close companionship of noble women. Through Kappa Alpha Theta I have been closely and constantly associated with a group of women students during forty-eight years. It has brought me a great deal of extra work and care and has sometimes caused me mental anguish, for it has

THE COMSTOCKS OF CORNELL

been in some measure a barrier between me and other students, a source of much regret to me. I have seen both boys and girls develop splendidly under the spur and responsibilities of fraternity life, and I have seen others ruined through it. I believe it would be better for colleges and universities if the social life were to center in clubs which have their inception in some special interest or activity, rather than in fraternities, where the membership is restricted to personal choice or caprice, and which are, at their best, a menace to the democracy of an American institution of learning. With all due modesty, I think I may say that I have exerted an influence that has been felt in three directions: the maintenance of friendly relations between the sororities, the widening of the sympathies and interests of my sorority sisters, and the impressing, upon the members of my chapter, of a sense of their responsibilities to their sisters and to the University.

I was never a good nurse but I was a good doctor. Mr. Comstock came home from a meeting of the Western New York Horticultural Society, in Rochester, with a terrifying cold. I gave him a "hemlock sweat," a remedy employed by my New England ancestors. It broke up his cold but after it he was weak for days. Later, he had lumbago and the doctor told me to paint his back with iodine. His back was so white and smooth that, as I dipped my brush in the colorful liquid, my artistic instincts were aroused and I painted a lake, with a forest on the far side, reflected in the still waters. I did not dare tell the patient what I had done, but the doctor enjoyed telling Harry of the beautiful outcome of his lumbago.

In 1882, Dr. E. L. Sturtevant, the head of the State Experiment Station at Geneva, paid Mr. Comstock one hundred dollars a year and his traveling expenses to do entomological work for the station; and Dr. Samuel H. Scudder, planning to start a scientific periodical, asked Harry to become a regular contributor, which meant a further addition to his income.

While Mr. Comstock never called the roll in his college classes, he kept in touch with his students through weekly quizzes, and this term he looked over fifty examination papers every week.

Three of the faculty wives attended his classes and he felt much complimented. The glass models added to the interest of his work. In the first term, when Harry's work was entirely on entomology, we entertained the whole class one evening at our home. We also did other entertaining of the women of my sorority and of the men of Harry's fraternity.

It seemed best for us that I finish my university course as soon as possible, so we gave up housekeeping and took our meals at Sage College. This brought us into rather close association with many of the women students and resulted in much more gaiety on our part than we had anticipated.

I registered for the largest possible number of hours and Mr. Comstock took the course in physics with me; if any of the instructors in that department had been as good as he, in explaining to me the mysteries of that science, the class would have had an easier time. Several of the women in the class used to come to our house to get the benefit of Mr. Comstock's explanations. He could always make the most abstruse subject clear, a faculty contributing greatly to his power as a teacher.

After Commencement I went to Otto, but Mr. Comstock remained at home because he had much to do for his department and was also writing the article on *Hymenoptera*³ for the *Standard Natural History*. He lived at home and took his meals at a boarding house on Eddy Street. Professor William R. Dudley⁴ also ate there and the two had delightful collecting excursions together. An undergraduate was working for the department and Mr. Comstock was teaching him to collect and care for living insects in breeding cages in the laboratory. Harry wrote me: "I tried today for the twentieth time to impress upon him that I want all data respecting insects saved. I like him very

³ *Hymenoptera*, an order of insects with four clear, membranous wings, familiar examples of which are the bees, wasps, and ants.—G.W.H.

⁴ Dudley was a Cornell graduate who, with David Starr Jordan, explored the flora of the Cayuga Lake region. A leader in the conservation of plants in New York and in California, Dudley led in the conservation movement for the preservation of the giant redwoods, *Sequoia gigantae*, and *Sequoia sempervirens*, and of other trees, shrubs, and flowers, while a Professor of Botany at Stanford University.—R.G.S.

THE COMSTOCKS OF CORNELL

much, but he is a very, very young boy and I have to watch every step of his work." My husband described his day's work: "I work on the Hymenoptera article all of the mornings. Afternoons I have to go over the notes and the breeding cages and attend to my correspondence. I have found a caterpillar in the seeds of currants that seems very important. It causes the fruit to shrivel and is quite common here."

This was the first year of an important change in the Entomological Department at Cornell. Mr. Comstock was to remain in Ithaca and work during the summer and have a three months' vacation in winter. He had proposed this because it seemed to him the only way in which he could develop his collections and assemble data concerning injurious insects. He had no thought then of establishing the summer school in entomology; that came years later. Unfortunately for his plans, I fell ill of fever at Otto and he came on at once. There was no nurse to be had in that country village, and as my mother was not well, Harry nursed me through nine weeks of low fever. He was an excellent nurse and was a great comfort to me, because of the telepathy that had always existed between us and which now reached an amazing perfection. All I had to do was to wish for something and he responded immediately, relieving me of the effort of speaking. It was a discouraging summer, but by the end of September I was well enough to return with him to Ithaca, a shadow of my former self. The parlor of our little house was filled with flowers from friends when we arrived.

Mr. Comstock had finished the first part of the Hymenoptera article before he had left Ithaca. He worked on the second part at odd moments while he was nursing me. I remember that he worked out the history of the little carpenter bee, *Eumenes fraternus*, by bringing in the stems of sumac and raspberry and entertaining me with the story as fast as he was able to decipher it. That is why in my book, *Ways of the Six-Footed*, I entitled this chapter "The Story We Love Best."

That fall Harry joined a Republican revolt against Blaine and brought all of his influence to bear in favor of the election of Grover Cleveland to the presidency of the United States. From

one of the enemy political meetings which he attended he did not get home until 1 A.M., and he was in bed with a sick headache the next day. I cheered him up by telling him that nowadays men did not often have a chance to suffer for their country.

As my strength returned, my hair fell out—the thick, black hair which had been my chief claim to beauty. But I had to have it cut off, and, as usual, I spent no time mourning over what could not be helped. Bobbed hair was unheard of in those days and I had to become resigned to appearing different from other women. I wore my hair short for two or three years because I found it convenient and time saving. Then Harry announced one day: "My dear, one member of our family must have long hair; shall it be you or I?" I took the hint and let my hair grow again.

In those days, students at Cornell had to write theses for the degrees of B.A. and B.S. I wrote mine with Professor Gage, on "The Fine Anatomy of the Interior of the Larva of *Corydalus cornutus*." The work was most interesting: I imbedded tissues and cut sections and wondered at the beautiful structure of this horrible-looking creature's insides. I told Professor Gage that a dobson (a larva of *Corydalus*) was like a stained-glass window; it could only be appreciated when looked at from the inside.

This spring Mr. Comstock and I attended a course of lectures on public institutions by Franklin B. Sanborn, the biographer of Bronson Alcott and Henry David Thoreau. Sanborn's lectures were interesting, although wandering and sketchy. For us the value of the course lay in our Saturday trips to visit institutions we could reach—Willard State Mental Hospital, Auburn Prison, Elmira Reformatory, and our county courthouse and jails. After these visits Mr. Sanborn would give us the latest ideas as to how each should be conducted; and I believe that we all regarded the course as valuable training for citizenship. Professor Sanborn, a charming man socially, was frequently a guest in our home. He was a transcendentalist. As an example of his methods of thought, this incident is pertinent: there had been a scandal in the University, through the theft of examination papers from the printing office. To avoid any such danger, Pro-

THE COMSTOCKS OF CORNELL

fessor Sanborn had his examination papers printed in Boston. His class was large, and, for the examination, was divided into forenoon and afternoon sections. To the astonishment of the morning section, the examination papers contained the questions for both sections. Needless to say the afternoon section was well prepared.

In June, 1885, I received my degree, taking my diploma from the hand of President White; this was the last class that was so honored. Mr. Comstock had asked that his salary be raised, stating that my doctor's bill, of several hundred dollars, was not yet wholly paid. His request was not granted but it brought us a beautiful experience. Professor Henry S. Williams, head of Cornell's Geology Department, came to Harry, handed him some bonds, and told him he could have the use of them as long as he needed. All of our lives, we have been grateful to this noble, kindly man. Later, through his influence, his brother, George R. Williams, a Cornell trustee, looked over the Entomology Department and talked with Mr. Comstock about his plans for its development, a visit that resulted in an advance in Harry's salary.

In the summer of 1885 Mr. Comstock conducted his first summer term in entomology. He had sixteen students, several of them graduates, and he found his class most satisfactory. It was the beginning of the policy that made his work so successful. It offered an opportunity for a graduate student to do a trimester's work in the summer, and many came. His plan was to give two mornings each week to collecting and studying insects in the field and to spend the rest of the time in working up the material collected. As there were no other classes, these students gave all of their time to entomology. The varied environment of Ithaca affords a wide range of forms and summer is the best season for the study of insect life.

I had sent some of my scientific drawings to the New Orleans Exposition of 1885 and received first honorable mention. I still have a diploma and the blue ribbon of award, signed by Julia Ward Howe and Isabel Greeley. This recognition encouraged me so that I took up my engraving with new vigor.

Charles Kendall Adams was inaugurated in November, 1885, as President of Cornell University, and occupied the residence next to ours on the Campus. As a result, our end of the Campus was landscaped and became a more important section. President Adams' household consisted of his wife, a fine, dignified woman who sacrificed much of her time and strength in caring for her invalid niece, an interesting young woman and a great sufferer. Also with them was President Adams' mother, the highest type of New England womanhood. "Grandma Adams," we called her, and we loved her devotedly. She was seventy-eight years old, keen, intelligent, and simple in her way of living.

In the fall of 1885, Harry had trouble with his eyes and had to wear glasses. There were several cases of typhoid fever this autumn and the burden of seeing that they were properly cared for fell on him because he was president of the students' guild, an organization to which students contributed small sums each year to cover expenses, in case of sickness. There was no hospital in Ithaca until many years afterward.

Harry and I were disappointed at having no children of our own and at this time thought seriously of adopting a child. Had an attractive child for adoption appeared within our range of vision, we should certainly have taken it.

My husband and I worked hard at the University and our only hours of rest came when we took long drives with our pony over the picturesque hill roads about Ithaca. These drives were usually taken on Saturdays. On Sundays we attended chapel twice; our reward that autumn lay in hearing Lyman Abbott, Edward Everett Hale, H. R. Haweis, and Washington Gladden. In 1886 I did social work for the Cornell Christian Association, despite my too liberal views. One of our friends explained it by saying, "Mrs. Comstock may not be much of a Christian but she is great as an association."

Mr. Comstock had asked definitely to have his salary raised. He had a long talk about his ideals for his department with President Adams, who seemed interested but said that he considered entomology a part of zoology and thought it could be cared for by an instructor. This instance illustrates President Adams' lack

THE COMSTOCKS OF CORNELL

of vision and of real interest in the scientific work of Cornell University. He was so different from President White in relation to science at Cornell that all scientists in the faculty felt discouraged, and our famous Professor William A. Anthony, head of the Physics Department, resigned. President Adams was a good and an able man, but he had little imagination. However, he learned by experience, and his troublous seven years as President of Cornell produced a crop of wisdom in him which the University of Wisconsin harvested later.

Mrs. Simon Gage had also become interested in wood engraving. Always practical, she had sought instruction in the art and was receiving correspondence lessons from John P. Davis, teacher of wood engraving at Cooper Union, in New York City. I read his letters and concluded that I too would like to study with him. Accordingly I made arrangements to go to New York soon after Thanksgiving. There, Professor Russel, Cornell's former Vice-President, met me at the train and took me to a boardinghouse in Washington Square where he and his daughters lived. This was convenient for my work at Cooper Union and gave me delightful society at table.

The experience at Cooper Union was a wonderful one, for Mr. Davis was a lovable man, a gifted teacher, and a true artist. The room assigned to our engraving class was long, high, and rather dingy. It was well lighted by windows on one side, and by an arrangement of sash shades the light came in above our heads and fell upon our work. The opposite wall was hung with well selected specimens of wood engravings. We sat at one long table, under the windows and facing them; each of us worked on a block of boxwood, placed upon a leather cushion filled with sand to insure solidity; each had her tools, and the study from which she was engraving was placed against the wall in front of her; most of us worked with an engraver's lens, held high above the block by a standard, but some students used spectacles that magnified. In 1885 there were a dozen of us in the engraving class, and we came from the four corners of the United States.

Our red letter days were the three mornings of the week when Mr. Davis gave us instruction in engraving. After many years, it

is difficult to tell why his students liked him so much, but I recall that when we heard his step outside the door and saw him as he came in with a breezy good morning and genial laugh, we were elated. He criticized our work so kindly and tactfully that we felt honored rather than disgraced. His criticism was constructive, the kind that results in improvement rather than in discouragement. He sat beside each of us in turn, took the tool from the unskilled hand, and cut wondrous lines upon the block. His conversation was sincere and earnest, yet graced with flashes of humor. It was almost as much of an education to us as were his lessons upon the blocks. He was wont to tell us that we "must see and feel and live," before we could expect much of ourselves as artists. One of the pupils asked him, in despair, after he had given her a lesson upon her block, "Oh, Mr. Davis! How shall I ever learn to cut a line so full of feeling as this?" He looked at her with a puzzled expression and then his face lighted up as he said, "Read Browning, my dear child, read Browning."

We knew that Mr. Davis had a studio in a mysterious "somewhere" and that it was the meeting place of the Society of American Wood Engravers, a coterie of masters whom we mentioned with bated breath. We looked with awe upon some favored members of our class for they had met a few of these demigods—Kingsley, King, and French. Two years later, Mr. Davis allowed me to work for a time in this studio, this Elysian Field where our Olympians met.

The memory of these happy days remained throughout my life, as an inspiration. My bungling hand forgot to blunder when the master stopped his own work to read to us pages from "Saul" and "Paracelsus," to teach us art from "Andrea del Sarto" and "Fra Lippo Lippi," or to sing to us passages from *The Creation* or *The Messiah*. With music in our ears, the spirit of Browning in our souls, and the grace of God, as exemplified in our teacher, in our hearts, small excuse had we if we did not become masters. That winter I spent about six weeks under Mr. Davis' instruction and then came home to practice what I had learned. I had always taken insects as the subjects of my lessons, so that if the results were good, the engravings could be used in my husband's text-

THE COMSTOCKS OF CORNELL

book. In addition to my work on the engravings for the book, I did some line engraving for one of the Cornell professors in engineering.

In the spring of 1886, Mr. Comstock had more than thirty students in his entomology courses. He was so busy teaching all day that he tried to write his textbook in the evenings. He began to use the typewriter, thinking that it would not tire him so much as writing by hand; but this experiment did not last many months. In the spring, he began a new phase of entomological instruction, apiculture. He obtained three colonies of bees which he divided into five, and we were all interested in seeing them established in the area east of our property.

The honorary society of Sigma Xi was formed at Cornell in 1886. There had been a feeling for some time that a society for the recognition of students in science should be established, comparable to Phi Beta Kappa for students in arts. The engineers were especially keen for such an organization. One of the instructors, Frank Van Vleck, was the prime mover in the enterprise. Mr. Comstock represented zoology, as Dr. Wilder was opposed to any kind of Greek-letter society. Professor Henry S. Williams, who represented geology, was influential in forming the organization's policies. At first it was thought that Sigma Xi might be limited to Cornell University. But scientists at other institutions became interested and chapters were organized in the leading universities in the United States. In December, 1888, Mrs. Simon Gage and I were elected among the first women accorded this honor.

After Mr. Comstock finished his term's work he went with a friend to the Adirondacks for fishing, for he needed a rest before his summer teaching. He became expert in trout fishing and it gave him pleasure and recreation.

Our friend Charles Thurber graduated in June, 1887, and I entertained his parents and his aunt and uncle during Commencement week. Mr. Thurber was soon appointed private secretary to President Adams, and had a room with us during this summer. He was learning to ride a high wheel, the only kind of bicycle known then, and hardly a day passed for the first few

1881-1888

weeks that he did not come home for bandages, but he was no quitter and rode on to final success. The next year he was appointed registrar and did heroic work in starting the present card system, in place of dear old Dr. William Dexter Wilson's rather sketchy records.

The summer term for entomology kept Harry very busy, but the wisdom of his judgment, regarding the advantages of the summer season for the study of insect life, became more apparent. The following was the first formal announcement concerning Cornell's summer course in entomology.

CORNELL UNIVERSITY
DEPARTMENT OF ENTOMOLOGY AND
GENERAL INVERTEBRATE ZOOLOGY.

Summer Course of 1886

The summer course in Entomology and General Invertebrate Zoology of Cornell University will begin Monday, June 21st, and continue ten weeks. The course will be given at the University and will comprise lectures, laboratory practice and field work.

The laboratory and field work will be arranged with reference to the needs and attainments of each student. After completing an elementary course in either general zoology or entomology the student may select some subject in systematic zoology, economic entomology, or insect anatomy for special investigation. It is planned to have the work of each student, as far as possible, an original investigation. The chief object of the course is to give training in methods of natural history work.

Members of this class will have free use of the library and all other privileges of students of the University. Tuition will be free to college graduates, and to undergraduates taking regular courses in this University; for all other persons the fee for the term will be \$25.

Those desiring to join the class should make application before June 10th. Address:

Professor J. H. Comstock, Ithaca, N.Y.

Harry attended the meeting of the American Association for the Advancement of Science at Buffalo in August, 1887, and we went to Otto for our vacation. Mr. G. K. Gilbert, who had attended the meeting, went with us. He enjoyed our beautiful

THE COMSTOCKS OF CORNELL

Cattaraugus County hills, and Mother and Father enjoyed his company. During this vacation Harry and Father had glorious days hunting bee trees, a diversion that took them over hill and dale, beautiful in early autumn coloring.

In the fall of 1887, Cornell had 300 freshmen, a large class for any university at that time. This made about 750 students at Cornell. Mr. Comstock had only thirty-five attending his lectures, but his laboratory was crowded.

In October, we rejoiced with Professor and Mrs. Gage in the birth of their son, Henry Phelps Gage. Former President and Mrs. White returned from Europe this autumn and we were all happy to see them. George Burr⁵ had been searching libraries in Europe for Mr. White and had discovered a valuable manuscript that had been lost for three hundred years. All were proud of his success. In November I went to Cooper Union for further instruction from Mr. Davis, with special reference to the engraving of insects.

After his talk with President Adams, Mr. Comstock had been so discouraged about the future of his department that he concluded he had made a mistake in his profession and sent for catalogues of medical colleges. I felt that with my two resources, as natural history artist and engraver, I could probably keep us going while Harry was studying. After reaching this conclusion, we were surprised and delighted to learn that the Cornell trustees had raised Mr. Comstock's salary to \$2,500. From New York, where I was studying, we went to Otto for Christmas, and with the new year, 1888, returned to Ithaca, full of enthusiasm for our work on the entomology textbook.

About this time Mr. Comstock began the experiment of photographing my drawings and printing them on boxwood blocks—a device just coming into vogue and proving to be very helpful, since the engraver had only to follow the lines of the photographic print. My husband soon became expert at this. He made

⁵ George Lincoln Burr had been a student of history under President White and was one of the Comstocks' best friends. Burr stayed at Cornell and became Goldwin Smith Professor of History.—R.G.S.

a black box three feet long, just large enough to admit the printing frame at one end; by pointing the other end toward the sun he was able to get the direct rays and thus make a sharp print. He was firm in refusing invitations for evenings, but he made an exception when my sorority, Kappa Alpha Theta, gave a faculty reception at Sage College, the first time a sorority had dared so much. The girls made the cake at my house and Mrs. Estevan Fuertes, wife of a Cornell professor and mother of Louis Agassiz Fuertes, allowed Beth Boynton, later Mrs. Frederick Coville, the use of her kitchen, where that capable young woman cooked a washboiler full of fowls and made a delectable chicken salad.

In February, 1886, a Farmers' Institute was held at Cornell. Mr. Comstock and I wrote letters and addressed circulars and invitations, to help Professor Isaac P. Roberts, Director of the College of Agriculture. The Institute was a great success. The chief speaker was my cousin, former Congressman Edwin Willets. His address was so admirable that Professor Roberts had it printed at his own expense for his students. In 1885 Cousin Edwin had been made President of Michigan State College at Lansing, an office which he filled successfully for four years, resigning to become Assistant Secretary of Agriculture.

Mr. Comstock made addresses at other Farmers' Institutes that winter, one of them at Oswego, which enabled him to visit Captain Turner again. Harry was asked to edit the entomological section of the *American Naturalist* in 1887, and he continued to do so for three years. In the spring term of 1887 twenty attended the lectures in entomology. The laboratory was full and seven were taking apiculture. One of the experiences of this class was the cutting of a bee tree and the transfer of the bees to a hive. Professor Goldwin Smith was visiting former President White and both of them came over, put on veils, and inspected the tree and the hives. Mr. White came over afterwards and, again protected by a veil, examined the bees with Mr. Comstock.

The social event of that spring was the reception given by Mrs. Ezra Cornell with the aid of her daughters, Mrs. J. B. Blair and

THE COMSTOCKS OF CORNELL

Miss Mary Cornell, to celebrate Mrs. Cornell's seventy-sixth birthday. Mrs. Cornell was a woman of great dignity and we all prized this opportunity of meeting her.

Just before Commencement in 1887, our Cornell community was grieved by the sudden death of Mrs. Andrew D. White. We had been present at a party at the Whites' only a few days before, and Mrs. White had seemed well. We were afraid that her loss would have an injurious effect upon Mr. White's health, which was never robust. Mrs. White was gentle, thoughtful, and considerate of others. These characteristics, added to her delicate beauty and gracious manner, had endeared her to everyone. I spent the day after her death at the house of mourning, giving what help I might. To add to the sorrow of this Commencement, one of our fairest young women students fell into Cascadilla gorge and was killed.

In June, 1887, Harry took another vacation for trout fishing in the Adirondacks. Charles Wing, later Professor of Civil Engineering at Stanford University, was one of the party, and this fishing trip established an enduring friendship between Wing and Comstock. Harry came home brown and vigorous and with a basketful of trout which we shared with former President White, President Adams' family, and other neighbors. In August Grove Karl Gilbert and John P. Davis of Cooper Union came for a visit, the former for two or three days and the latter for two weeks. After luncheon on the day of their arrival, while we were on the piazza, some laborers were digging a ditch on the University Campus, below our house. Our bees did not like this intrusion and attacked the men, who protected themselves by throwing soil at them. Mr. Davis took Mr. Gilbert to view the fray and cried, "Geology versus Entomology! Which do you bet on?"

Mr. Davis gave me lessons in wood engraving during the mornings, and in the afternoons we went sketching. One afternoon we were sketching on the shores of Beebe Lake when suddenly he dropped his brushes, stood up under a great hemlock, and sang "The Brook," from Haydn's *Creation*.

George Burr was with us much this summer; he used to come

to supper early enough to play tennis on our lawn court. Other frequent visitors were Mary Roberts, Professor Roberts' daughter, and Gertrude Van Dusen, a cataloguer in the Cornell Library, who stayed with me while Harry went to New York in August to attend the meeting of the American Association for the Advancement of Science. He had worked hard at preparing a paper for this meeting, in the intervals of his teaching, but he felt repaid by the interest and appreciation that were accorded it. C. V. Riley was at the meeting, in a conciliatory mood; Mr. Comstock met him halfway and the hatchet was buried. As soon as the term closed, late in August, Mr. Comstock, John Stedman, a Cornell student, and I went to Maine to collect material for the course in invertebrates, which always preceded the course in entomology. We settled at Linekin on Booth Bay, and used a fishhouse on the beach for a laboratory. A can of alcohol, for preserving specimens, fascinated the village idlers, who said they could smell it a mile away. Mr. Comstock was afraid that the temptation might be too strong, in this prohibition state, and hastened to put some repulsive animals to pickle in it. We had the use of sailboats and rowboats for our collecting. The sea fauna along that coast is rich in quantity and variety of form—the most interesting of any that we had ever found. On our way back to Ithaca we visited Wellesley College and had the pleasure of dining with Alice Freeman Palmer, its President.

In the autumn of 1887, Mark Slingerland, later a Cornell professor, entered Cornell. Mark had been my pupil when I taught school in Otto. I had found him exceedingly bright, had encouraged him to come to college, and had promised to find him work to pay part of his expenses. He had passed the Cornell entrance examination with a high grade. Clara Kerr, the daughter of a cousin of my mother, entered with the same class, and was a joy to us during her college course. In October, our friend Gertrude Van Dusen, on leave from the Cornell Library, sailed for Europe for a two years' stay. We missed her witty conversation and her skillful piano playing. Other events of this autumn were a visit from Dr. David Starr Jordan, then President of Indiana University and an alumni trustee of Cornell, and the coming of

THE COMSTOCKS OF CORNELL

Professor and Mrs. Benjamin Ide Wheeler to live in the second house from ours.⁶

Mr. Comstock had taken great interest in organizing an Experiment Station at Cornell. Austin Wadsworth, President of the New York State Agricultural Society and *ex officio* a trustee of Cornell, came to Ithaca because he was interested in the project. President Adams invited Mr. Comstock to dine with him. Soon after this, Harry spoke at a Farmers' Institute at Albion, New York, and I went with him. There I also met Mr. Wadsworth. I had read about the Genesee Valley fox hunts and knew that Mr. Wadsworth owned foxhounds; this had prejudiced me against him, and I was unprepared to find him such a fine man. I felt acquainted with him at once, and when he came to Ithaca to perfect the organization of the Experiment Station, we invited him to stay for several days with us—an invitation we should hardly have given, had we known of the luxury in which he lived at home. He was a gracious guest and entered into our simple life as naturally as if born to it. He was also interested in my engravings.

In March, 1888, my husband and I spoke before a Farmers' Institute at Hornellsville. The happy side of farm life had always appealed to me, and the conductor of the Institute asked me to give a cheerful message to the assembled women.

The manuscript for half of the textbook, *An Introduction to Entomology*, was sent to the printer in March, 1888. Mr. Comstock was determined that my engravings for this book should have the best possible printing. Therefore he chose the DeVinne Press of New York, famous for its engravings in magazines, although the cost was greater than with other printers. Mr. Comstock had forty students in entomology, this spring term, and the laboratory was crowded, but he hoped to have the textbook before the end of the term. Vain hope!

The Hatch bill, establishing experiment stations at the Land-grant Colleges of the United States, passed Congress and was signed by the President in 1887. Professor Roberts was made

⁶ Later, Dr. Jordan became President of Stanford University and Dr. Wheeler, President of the University of California.—R.G.S.

Director of the Cornell Experiment Station and this pleased us. Delay in getting the bill through meant that the funds were not available until the last of April. Since this was too late for starting experiments, the money was used for equipment. Then Mr. Comstock realized one of his many dreams for his department. He asked for an "Insectary"—a greenhouse where he could grow the plants on which insects feed and could study the life histories and habits of the injurious species. Because he had his plan ready, he obtained a goodly share of the funds, and by May first, a site for the building was staked off, just behind our home. The contract, providing for a two-story cottage with a glass house sixty feet long attached to it, was let for \$2,500. Two rooms on the first floor, one on each side of the entrance hall, were to be used as offices; one room upstairs was for storage and the other was for a student janitor. There were two divisions to the conservatory—one to be used as a hothouse and the other to be kept cold. There was a dark room for photography and running water for aquaria; outside there were several pits bricked up, for holding root cages with glass sides in which plants could be grown and which could be lifted out for observation of the habits of insects infesting the roots.

This Insectary (see Figure 2) was the first building of its kind in the world. As Mr. Comstock had coined the name "insectary," he was asked to define the word for the *Century Dictionary*.

From the Hatch fund he also obtained \$400 for a microscope and money for two student assistants. I wrote my mother: "Harry is the happiest entomologist in all America." As the appropriation had to be spent before the first of July, work on the Insectary was hastened and he watched every phase of its erection eagerly. In June he tore himself away for a fishing trip in the Adirondacks.

We moved equipment into the Insectary in the first week of July, when it was practically completed. It was of great interest to the Cornell Campus neighborhood. Andrew D. White was enthusiastic about it, but some had their doubts. Professor Moses Coit Tyler, after looking through the building, said he hoped we would keep the windows closed and all the bugs inside. Mr.

THE COMSTOCKS OF CORNELL

Comstock assured him that any of the insects that we reared would rather starve than take a bite out of a professor, for of all creatures the insects were the most "notional" about their food. I found a north window in the Insectary office which gave me a good light for my engravings, a charming outlook into the woods, and a glimpse of Cayuga Lake.

For twenty years, my father had been renting the farm on which I was born, and it had deteriorated steadily. He and my mother decided to return to it for one year and try to "bring it back." Father was seventy years old, yet well and strong. Mother was sixty-five and far from well, but she was so interested in this experiment in conservation that she improved in health during the summer. It was a valuable experiment, for it helped improve the farm and it taught my ambitious parents that they were not so strong as they thought they were, when it came to farm work. Harry and I enjoyed our vacation that summer. We slept at a little homestead which it had been the delight of my childhood to visit. We spent our days on my home farm and I renewed my acquaintance with the trees of the virgin forest, still standing near the house, and with the birds—the hermit, wood, and Wilson thrushes, the teacher bird, and many others. The view from the farm was magnificent: rolling hills with their farmsteads, and along the western horizon blue Lake Erie, thirty miles away.

Cornell had an entering class of four hundred in the fall of 1888, and we were all encouraged. George Burr came to live with us; he had not been well and needed the regularity of home life. We could not give him a room in the house, but he chose to room with the student in the new Insectary.

In the autumn we went to Geneseo to attend a Farmers' Institute and were Austin Wadsworth's guests at "Homestead," a great house, filled with treasures collected by three generations of Wadsworths who had traveled far and wide. For the next thirty years we visited "Homestead" at least once a year.

The first part of the textbook, *An Introduction to Entomology*,⁷ was published November 1, 1888. When the book appeared

⁷ *An Introduction to Entomology*, by John Henry Comstock, with many original illustrations drawn and engraved by Anna Botsford Comstock, 1888. This book of

we both felt the depression common to authors and artists at such times. We were almost discouraged, for the book did not seem to amount to much, after all of our labor. But when letters began to come from entomologists expressing their appreciation of it, we felt more cheerful. Fifteen copies were sold in the first week and that seemed to augur well for the future.

Chapter 9 ↵ 1888-1891

Studies of Entomology in Europe and America

FOR a long time Mr. Comstock had struggled with the German language, in which so many treatises on zoology were written. He had concluded that a winter in Germany was necessary before he could finish Part II of his textbook, *An Introduction to Entomology*. We sailed on the steamship "Westernland" December 15, 1888.

We had a pleasant but rather cold voyage. The captain would not allow the ship to be heated, for he had a cargo of cotton and was afraid of fire. There were only seven first class passengers. We landed at Antwerp December 28 and were interested in the two-wheeled carts loaded with milk and produce and the hard-working dogs that drew them. From Antwerp we went to Aix-la-Chapelle and visited Charlemagne's cathedral, thence to Cologne and paid awed tribute to the beauty of the cathedral. There we took a "gepack" boat up the Rhine River, from St. Goar to 234 pages, bound in paper, treated of only eight of the twenty-five orders of insects that Professor Comstock described in his much later and more elaborate *An Introduction to Entomology* (1925). There was no second edition of the paper-covered book. Instead of completing it with a discussion of the remaining orders of insects, the Comstocks planned and in 1895 published an entirely new book, *A Manual for the Study of Insects*.—G.W.H.

THE COMSTOCKS OF CORNELL

Mainz. Although it was winter, the green fields and the Rhine, with its high terraced banks and ancient castles, seemed to us a page from a fairy tale. From Mainz we went to Karlsruhe where our friend, Gertrude Van Dusen, of the Cornell University Library staff, was living in a pension. There we found accommodations, and Mr. Comstock began German lessons with the daughter of our hostess. His early attempts to speak the language were amusing. He was trying to tell his teacher about bees, when she burst out laughing. She would not tell him why, but we learned later that he had called bees *beine* instead of *bienen* and had given her a lecture on the habits of social and solitary legs. In Karlsruhe, we went to the theater or opera often, and observed one of the privileges of the military class of Germany. The front rows were reserved for officers. Between acts they were wont to stand, face the audience, and inspect it coolly through their opera glasses. Gertrude Van Dusen went with us to Leipsic for the winter.

We stopped at Heidelberg, where Mr. Comstock wished to pay his respects to Baron Osten-Sacken, a noted entomologist. We went on to Frankfort and thence to Eisenach, the home of Luther. At Cornell we had attended Andrew D. White's lectures on the Reformation and events in Luther's life were fresh in our minds. Our visit to Castle Wartburg was full of interest. There in seclusion, for safety, Luther had translated the Bible. The old pictures, the majestic arched ceilings, the galleries, the dungeons, and the armor worn by Crusaders, were like a visit to the Middle Ages. Luther's desk and the spot on the wall, where he threw his ink bottle at the devil, made us feel as if he had but recently departed. Someone told us that the ink spot was renewed as often as it faded, but that made it no less real to us.

In Leipsic we took rooms with an old peasant woman who had cooked for the nobility. We had a pleasant sitting room, in which our landlady served us bountiful meals, and two bedrooms furnished with plethoric beds and short feather *decken* which we never learned to use with comfort. Mr. Comstock arranged at once for his university work under Rudolph Leuckart, the zoologist. The officials were kind and the professors said

things to him in German about his book which he guessed, by the expression on their faces, were complimentary. In Leuckart's laboratory, Harry met a graduate of Ann Arbor, Professor Henry Sherring Pratt, who for many years taught zoology at Haverford College. There were about 4,000 students in the University of Leipsic, apparently about the age of Cornell students but looking very different, with their bright-colored caps and their faces scarred from cuts received in duels. Women were not admitted to the university but Professor Leuckart permitted Miss Van Dusen and me to attend one of his lectures, asking only that we come early and depart late—before and after the regular students. Professor Leuckart came in like a shot, after the class was assembled, and talked like a Gatling gun, so rapidly did he eject his explosive words.

We left Leipsic in March, 1889, spent a week in Dresden, and went to Berlin for a week. When we visited the Berlin Art Gallery, the first thing that met our astonished and delighted eyes was a group of my own engravings of moths and butterflies, displayed in a case near the entrance! This exhibit had been borrowed by the Berlin Art Gallery from the Society of American Engravers.

In some of our walks about the city we saw the young Emperor William in the royal carriage, which could be recognized by the white plumes on the hat of the footman, who sat with the driver. Men on the street lifted their hats to the Emperor and he gave a military salute. One morning we were walking "Unter den Linden" when the Emperor passed. Harry lifted his hat, I waved my handkerchief, and the Kaiser saluted; when we discovered that we were the only pedestrians in sight we "soaked up" all the glory. After our return to Cornell, I asked former President White what he thought of the young Emperor. He answered: "He will either make or break the German Empire; only the future can tell which."

Our impressions of the visit to Germany may be briefly stated: It was a great country, but the government was too paternal and the magnification of the military was exasperating; to step off a narrow sidewalk and let a haughty officer pass "went against the

THE COMSTOCKS OF CORNELL

grain." We liked the subsidized theater and adored the German music. We found the Germans a kindly, childlike folk, with much charm, but we thought the German women much too servile to their lords and masters. Our hostess had reproved me when she saw Mr. Comstock bringing home the bundles after we had been shopping, saying that I should have carried the packages and not the Herr Professor.

We were happy when we arrived home again. The sale of the first part of Mr. Comstock's *An Introduction to Entomology* had been satisfactory and now we must finish the book.

The summer term of 1889 in entomology was well attended and Harry enjoyed the summer teaching, as he always did, with its opportunities for the study of insects in their natural environment. He had two student assistants, John Stedman in the laboratory and Mark Slingerland in the Insectary. Mark had come to college with no definite idea as to his future work but from Mr. Comstock's lectures in invertebrate zoology had learned that caterpillars change to moths and butterflies—a revelation so wonderful to Mark that he could scarcely sleep that night for thinking of it. Harry had given him work in the Insectary to help him earn his expenses, but had soon discovered that Mark's interest in entomology would make him a good assistant.

In the autumn of 1889, Mr. Comstock began to write entomological articles for the *New York Ledger*. The price offered was generous, but that alone would not have made him undertake this writing. He felt that the future of economic entomology lay in arousing and educating public opinion, and he believed that these articles in the *Ledger* would reach people untouched by more serious periodicals. When one of his colleagues heard that he was writing for the *New York Ledger* he asked, "What in the world are you writing for that paper?" "My story," he replied, "is called *The Barber's Washerwoman*, or *The Bloody Stocking*." I was tempted to illustrate his articles, but he thought this unnecessary. He wrote me at Otto:

There is no necessity for earning money; it is much more important that the book (the projected second part of *An Introduction to Entomology*) should be finished. After I get these articles done, I do not

intend to do any more outside work for remuneration till the book is finished. And if you feel as I do about it, you will not do an hour's work on anything else until the book is done. I think it will be well to make figures for my bulletins, provided they will be of use later in the book, but not otherwise; and I hope you will not think of making a single figure for anything else. Our lives would be a good deal of a failure if one of us should break down before the book is done. It is to be *our book*; not a book projected by us and finished by some one else.

The first part of "our book" had been selling at a rate which astonished and encouraged us. As soon as I returned to Ithaca in November, I began work on my engraving.

Gertrude Van Dusen came back from Germany to her work in the Cornell Library and was with us often. The Gages moved into their new house on South Avenue and became permanent neighbors, to our great satisfaction. For Thanksgiving Day we went with George Burr, who had now become an established member of our family, to his home in Newark Valley. His father, Dr. William J. Burr, was the typical nineteenth-century village doctor, skillful and with a wide knowledge of the world and of politics and science, a man on whom a large community depended for sympathy, advice, and professional service. His wife was a sensitive woman, efficient in her home and community. Their home was a large, old-fashioned house, full of comfort and replete with good housekeeping. We had a bountiful Thanksgiving dinner, with oysters, turkey, chicken pie, pumpkin and mince pies, and tapioca cream.

Mr. Comstock worked so steadily during the evenings that our social life was one-sided. John Wilson Battin, a young Quaker belonging to Delta Upsilon, invited me to attend the military ball in the Cornell Campus armory and Harry insisted that I go. My escort came for me in full evening dress—silk hat, white satin waistcoat and white kid gloves—and I wore a crimson velvet evening dress with a long train and carried a great bouquet of roses. We wondered what our Quaker grandfathers would think, if they could see us, and agreed that they would turn over in their graves.

THE COMSTOCKS OF CORNELL

Harry and I spent the Christmas holidays at Geneseo, New York, with Austin Wadsworth. The winter of 1889–1890 was spent largely at Otto, with my parents. Harry brought his writing there and I my engraving. We returned to Ithaca for Cornell's spring term. This spring the Faculty held "socials" every Saturday night in Barnes Hall, the new Christian Association Building, given to the University by A. S. Barnes, a publisher. The University was growing so fast that we felt the need of some regular informal social functions, to keep us acquainted. Mrs. Gage and I gave a reception to the young women of the graduating class and to the Cornell graduates who had married members of the Faculty. There was also a Sigma Xi reception, which was important to us because Mr. Comstock was president.

I did some drawing and engraving for Professor Liberty Hyde Bailey's use in the *Experiment Station Bulletins*. I was also working hard on moths and butterflies for my husband's book. I sent some proofs to Mr. Davis, my former teacher at Cooper Union, for his criticism. I was very happy when he wrote me:

I can hardly believe you trembled when you enclosed me the proofs of your admirable work. To me they are a cause for wonderment and admiration. I notice an earnest study of Marsh (a great engraver) in their technique; and then you have the knowledge of your subject, and Harry keeps you right as to structure. These little insects seem to possess a superlative accuracy such as no mere engraver could give. Proud as I am to own you as my pupil I can but feel that in this department of our art you could be my teacher.

In the academic year, 1889–1890, Mr. Comstock inaugurated a new plan of work. He had found that after a day of teaching he was too tired to do efficient writing on his textbook. To write during the day, when his laboratory was filled with students from 8 A.M. until 5 P.M., was out of the question. Therefore he formed the habit of rising at 4 A.M. Preparations were made the night before so that all he had to do was to warm the *café au lait* and cook an egg. That took but a few minutes and he had three hours free for work when his mind was fresh and there were no students around to interfere. This mode of life meant going to bed so early that most men would have failed at it, but not Harry.

The laws he made for himself were as those of the Medes and Persians. He retired at eight o'clock, making few exceptions. When we had a parlor full of callers, he would explain the situation if he felt well acquainted with the company, but otherwise he would steal away and leave me to explain. It was a heroic mode of life but it accomplished its purpose. The manuscript for the textbook grew encouragingly and the pace once set was easy to follow. As soon as the textbook was finished, Harry changed to the ordinary schedule of living, but the old adage applied—"If a man gets the reputation of rising early, he can lie abed all day." For years, people believed that he still arose at

4 A.M.

Up to this time he had had, as an assistant in the laboratory, one student part time, but in 1890 Mark Slingerland was appointed his first full-time assistant, at a salary of \$500 for the first year and \$750 for the next. It was in this year that Mr. Comstock's salary was raised to \$3,000. Slingerland did not help in the teaching. Students were still the rule as laboratory helpers, and after John Stedman was graduated, Alexander MacGillivray, who took his place, remained with the department until 1917 when he was called to the University of Illinois.

Among those who frequented our house at this time was a young Russian, Alexis Babine. He had been in the University of Moscow but had tired of the restrictions, and when he found in the library there an early Cornell catalogue, promising students manual employment for pay, he learned the carpenter's trade and came to America. He arrived at Cornell to find that the plan of combining manual and mental labor had long been abandoned. He found employment, however, in the University Library, making a catalogue of a large collection of Russian books, gifts of Eugene Schuyler. Afterwards Mr. Babine became Librarian at Indiana University; next he worked in the Stanford University Library and later was connected with the Library of Congress. He was caught in Russia during World War I and escaped from the Soviets through the influence of the American Relief, for which he was interpreter. He came back to Ithaca and again found work in the University Library. He had written a

THE COMSTOCKS OF CORNELL

history of the United States in Russian, having begun it at Cornell, under Professor Moses Coit Tyler. This history was published under the Czar and was republished by the Soviets, probably because it discusses the problems of democracy, as exemplified in the United States. Under the Czar's regime, Mr. Babine received royalties on the book, but not under the Soviets.

C. V. Riley came to Ithaca in 1890, to look over the Insectary and to see Mr. Comstock's new methods of caring for living insects under observation. We invited him to tea and had a pleasant visit. Just before he left, he said to me, "Mrs. Comstock, it is better for Comstock that he came back here when he did, for this is one of the best entomological positions in the country and a much happier one than the Washington position." "Yes," I replied, "it was the best thing that ever happened to him."

About this time Mrs. Adeline Prentiss, wife of a Cornell professor, started a day nursery in town but made it really a kindergarten for children of Ithaca's slum section near Cayuga Inlet, a place of poverty, misery, and vice. Mrs. Prentiss had each child provided with a little table, tablecloth, dishes, dishcloths, and towels. With these, the children were taught the proper way of setting table and washing dishes. Each had a bed about two feet long, furnished with sheets, pillows, slips, and blankets, and learned how to make it properly. Each child had a little washtub and board and was taught how to wash clothes. The enterprise was supported by private subscriptions and many of us in the Cornell Faculty were contributors for years.

In November, 1890, I went to New York for more lessons in Mr. Davis' studio. Harry came to New York while I was there, being called as an expert witness in a lawsuit. A cargo of wheat had been injured by the weevil and the owner had sued the ship-owners, maintaining that the damage had been done while the cargo was in transit from Chicago to Buffalo.

Soon after I returned to Cornell, former President White came over to talk with Mr. Comstock about David Starr Jordan's success as President of Indiana University. Senator and Mrs. Leland Stanford were Dr. White's guests, having come to ask his advice in selecting a president for Stanford University. I think they had

hoped that he would take the position himself but had found him unwilling to consider it. I told him all I knew of Jordan and later Dr. White sent for me to come to his house and talk to the Stanfords, which I was glad to do. Senator Stanford was a large man, florid, with white beard and hair. He was keen but reticent. Mrs. Stanford was large, dark-complexioned, dark-eyed, and very dignified. I told them something of Jordan's breadth of vision as an educator and of his high standing as a scientist. They asked me about Mrs. Jordan and I testified to her high ideals, excellent scholarship, and integrity. From Ithaca, the Stanfords went directly to Bloomington, Indiana, and invited Jordan to be the president of the university which they were founding as a memorial to their only child, Leland Stanford, Jr., who had died before reaching manhood. Dr. White said to me afterwards, "You carried a high hand with Senator and Mrs. Stanford and you nominated Jordan for their president"—but this was Dr. White's way of being pleasant.

In February, 1891, Mr. Comstock was feeling very tired and miserable. Finally he decided to go to Cuba for rest and change. Long hours of hard work had resulted in an unhappy nervous condition and a rest was imperative. It was quite as imperative that I stay at home and work, although I longed to go with him. I was upset by Harry's breakdown and worried over the outcome. None of my friends realized this except my neighbor, Mrs. Benjamin Ide Wheeler, whose understanding and sympathy filled my heart with love for her.

During this winter, a note from Dr. J. A. Lintner, New York's State Entomologist, is among my treasured memories. We had come to know Dr. Lintner at the Farmers' Institutes. He was a man of great reserve, but when he heard of Mr. Comstock's illness, he wrote me a sympathetic letter, full of solicitude for Harry's health and with kind words of praise for a proof which I had made for him, from an engraving of a moth.

Harry came home on April 7, improved in health but still far from strong. Our good Dr. John Winslow, whose sons and grandson are Cornellians, believed that he did not get enough nourishment and advised a cup of hot milk between meals. All of that

THE COMSTOCKS OF CORNELL

spring, one of my chief cares was to see that he had this milk. Harry told me with an injured air one day that what he needed most was sympathy, but that I gave him hot milk. This remark afforded evidence that I had kept my worry about him from his knowledge. I would not have dared to tell him how discouraged I was about his health. Soon after Harry returned, my mother visited us and I found her in an even worse condition than my husband. When she went home, I went to Otto with her for a few days of rest. After I came back, we began to take our meals at the old Cornell farmhouse, which had been moved to the corner of East Avenue and Forest Home Road and was now a boardinghouse.

President Jordan and two of his Stanford professors, Joseph Swain and Oliver P. Jenkins, visited us in May. Dr. Jordan asked Mr. Comstock to take the chair of entomology at Stanford at a salary of \$4,000, but he had built up one entomological department and did not feel equal to establishing another. It was finally arranged that he should go to Stanford for three successive winters to give lectures, and that an instructor would care for the laboratory throughout the year. It pleased me when Dr. Jordan told me that Mrs. Stanford had asked that I come to Stanford.

In June, Gertrude Van Dusen and I accompanied Harry on his fishing trip to the Adirondacks. We went by rail to Prospect, where we were met by team and taken twenty miles to Wilmurt. From there a big Welsh driver took us on a buckboard, drawn by great Percherons, for fifteen miles, over rocks and stumps, to Jock's Lake, where there was a well-kept hotel, Forest Lodge, headquarters of the Adirondack League Club. From here it was easy for Harry to reach West Canada Creek, his favorite fishing ground. In the last week of our stay, G. K. Gilbert joined us, and we all felt that it was an ideal vacation.

That summer of 1891 there were twenty-seven students in entomology. They crowded the laboratories except on two days of the week when they were in the field, collecting. Many of them were advanced students and that made his teaching more difficult for Mr. Comstock, but the hot milk treatment must have

helped him, for he stood the summer better than I had expected. We had been boarding and I feared that he was not getting proper food. So, although I could get no maid for a time, I threw the engraving to the winds and became cook as well as house-keeper at Fall Creek Cottage.

In September, Mr. Comstock and I spoke before a Farmers' Institute at Fredonia. My topic was "Some Uses and Abuses of Education"; I wonder now what I found to say on that subject! From Fredonia we went to Otto for a little rest, until college opened.

Our new library building at Cornell was dedicated during this fall of 1891. We were all proud of it. It seemed such a large building that we could hardly imagine it full of books. We did not dream that we should live to see it overcrowded and inadequate.

Chapter 10 ↵ 1891-1897

Entomology at Stanford University; The Comstock Publishing Company

WE LEFT Ithaca for Stanford University on December 23, 1891. Our cousin, Clara Kerr, having finished her course at Cornell, decided to take a graduate course at Stanford and to be with us during the winter. We traveled by northern routes, and even in midwinter we found the journey overland most interesting. When we crossed the timberlands of Wisconsin, with their infrequent settlements, we felt that the United States was indeed a new, virgin country. The snow-covered plains of North Dakota, dotted here and there with forlorn little farmhouses, seemed to us desolate, and we pitied the horses and cattle pawing in the

THE COMSTOCKS OF CORNELL

snow to find mouthfuls of frozen grass. The mountains of Montana and Idaho won our admiration, they were so glistening white in their snowcaps and so blue in their shadows. We learned to pronounce Helena properly. We had always called it *He-le-na* but now we found that it was *Hel-e-na*, and after hearing stories about the town from a man who lived in Butte it seemed quite fitting to put the emphasis on *Hel*, although a man from Helena gave us just as lurid a picture of Butte. This was our first acquaintance with the vigorous rivalry of western cities. We admired Tacoma, with beautiful Puget Sound stretching at its feet, were surprised to find that it took eight hours to go from there to Portland, and felt cheated because the mountain ranges were hidden in clouds. As we went south through California we saw evidence of placer mining. In the Siskiyous we were stopped by six feet of snow, until eight puffing, wood-burning engines opened the track. Soon we were moving through walls of snow ten feet high; two hours later, we were looking out on palm trees and the air was as balmy as in May at Cornell.

When we arrived at Palo Alto, we found no station, only a platform. A bus drawn by ponies took us through the sphinx-guarded portals of Stanford University's grounds and down the broad avenue, lined on each side with baby palms. Then the beautiful Quadrangle met our eager gaze. The pale yellow of the building stones and the red-tiled roofs were bright against the green hills and blue mountains of the Coast Range.

Our destination was Encina Hall, a new dormitory for Stanford men. It was "spic and span," with a handsome entrance, wide halls, and a dignified dining room. I found myself the only woman in the establishment; even the Japanese servants were men. I was permitted to go to the dining room for a late breakfast, but my other meals were served in my room by a Japanese servant, who bowed low as he entered and bowed himself out of the room. The manager of Encina had been major domo to Queen Liliuokalani in Honolulu and had manners equal to that office. From our sitting room we had a view of a wide plain, green from recent rains, and of purple mountains, and through the windows came the song of meadow larks. Mrs. Stanford had sent

us two large vases which were kept filled with flowers. Once when they were filled with narcissi, the fragrance was so heavy that at night I set them on the window ledge. The next morning they were gone, although the window sill was at least fifteen feet from the ground. Near the close of the term they reappeared on the window ledge, with a note thanking me for the loan and assuring me that certain young ladies of Roble Hall, the Stanford women's dormitory, had enjoyed the flowers. Our loss was small compared to that of Benjamin Harrison, who had put on the same ledge some bottles of wine that Senator Stanford had sent him. He did not even get the bottles back.

The unmarried professors and those who had not yet brought their families with them also lived in Encina. Among these were Edwin Woodruff who later became Dean of the Law School at Cornell, and Martin Sampson who became head of the English Department at Cornell. To relieve the monotony of the rather limited variety of food provided, I began making after-dinner coffee in our room and inviting those who wished to do so to come and partake. President and Mrs. Jordan lived in Escondite (hiding place) cottage, the only available house when they came to Stanford. Dr. Jordan told stories of "the Frenchman" who had built the house after the plan of Le Petit Trianon and had later absconded because of financial irregularities. At the gates of Escondite, President Jordan kept a chained monkey, for study. It was amiable enough with men but hated women; it was exciting to pass just beyond the reach of its chain while it made savage efforts to get at me.

The "Quad" housed all of the lecture rooms, the laboratories, the library, and the engineering departments. Professors' houses were the only buildings near the Quadrangle and only a few were finished. Electric lights in the dormitories and in the professors' homes were put out at 10:30 P.M., and we attended many parties that were finished by candlelight.

On the dormitory bulletin board I put a card saying that we would be at home on Thursday evenings to any of the students of Encina who wished to call, and many came. Musical Stanford students in Encina improvised charming concerts. I do not recall

THE COMSTOCKS OF CORNELL

ever passing through the Quadrangle on a moonlight night that I did not hear, along the arcades, singing, accompanied by guitar or mandolin. The professors called to Stanford from Eastern colleges had found that Stanford students were different from those to whom they were accustomed. The outstanding difference was an entire lack of respect for the professor as such. This was disturbing to the uninitiated, and the success of the professor depended somewhat upon the manner with which he met this attitude. Luckily President Jordan had appointed many young men, who perhaps did not have so much dignity to hurt. Edward Holden, then at the head of the Lick Observatory, said to me, "The youth of Jordan's faculty would make the gods pale with envy."

Mr. Comstock had enthusiastic students in all of his classes. His friendly way of talking, not to men or to women or to students but just to other human beings, won and held their attention. For the untried professors, the students' lack of reverence was offset by the devotion they gave to one who had gained their confidence. Especially marked was the loyalty of the student to the professor whom he had chosen to be his adviser and under whom he was pursuing his major study.

I gave a lecture on wood engraving, as I had my work with me and plenty of illustrative material. It was my first university lecture and I was gratified by the interest I aroused.

When Mr. Comstock addressed the fruitgrowers of San José, we found friends we had met in Ithaca. At San José, we experienced the effects of one of President Jordan's jokes. He had said to us: "The Leibs at San José expect you to visit them when Mr. Comstock goes to meet the fruitgrowers." Accordingly we appeared on Judge Leib's threshold and were made welcome. We soon discovered that they had not invited us. We were mortified and would have left at once, but they insisted on our remaining. On our return to Stanford, we reproached Dr. Jordan for doing such an outrageous thing, but he calmly said, "You are all such nice people I thought you ought to know each other."

Over the weekends we found opportunities to visit points of interest. We "did" San Francisco in a way that no tourist can do

it now, for the Chinatown of that day was wiped out in the great earthquake and fire of 1906. After going to the Chinese theater, we saw the gorgeous joss house, restaurants where girl slaves waited on guests, and threaded our way through opium dens. We had the pleasure of being entertained at luncheon by Adolphe Sutro at his home on Sutro Heights. With all of his dignity, he was genial and entertaining. At the end of one of the courses, he took a bit of bread, molded it into two little animals, and gave them to me as original works of art. He took us over Sutro Heights, pointing out their great possibilities as a park, and showed us the public baths he had given to the city. Mr. Sutro was tall and handsome, and when wearing a broad-brimmed, light-gray hat, was a striking figure.

When we returned to Ithaca in the spring of 1892, we found the University agitated by rumors of acute disagreement between President Adams and the Cornell Board of Trustees. Early in May the President resigned, and later served as President of the University of Wisconsin. Until the board met on May 18th, the community was excited by uncertainty as to his successor. Talk on the Campus was concerned mainly with two members of the Cornell Faculty, Jacob Gould Schurman, Dean of the Sage School of Philosophy, whom the board eventually elected, and Benjamin Ide Wheeler, Professor of Greek and Comparative Philology. Both of these men have since had long and successful careers as university presidents. Both were eminent scholars before they were made executives and neither of them did much as scholars afterwards; it remained for the early twentieth century to demonstrate that a university president must be primarily an executive and that his presidential duties inevitably crowd out and starve his research and writing, as well as his teaching.

In the autumn of 1892, my cousin, Glenn W. Herrick, came to live with us during his college course and was a joy to all. He roomed in the Insectary with George Burr and cared for the greenhouses and the furnace. As I had named him when he was born, after his mother's death I felt as if he in a measure belonged to me; I was anxious that he should have a university education and happy to have him as a member of our household. His subse-

THE COMSTOCKS OF CORNELL

quent development into a scientist of note and a superb teacher has given us heartfelt joy and pride.

The work on the book¹ went slowly. There was so much teaching to do during the autumn that Mr. Comstock arranged with President Jordan for a leave of absence from his winter teaching at Stanford in 1892. This gave Harry an opportunity to spend his three months of vacation in writing. My mother was in such poor health that I was called home, leaving Harry and Glenn Herrick to board at Sage during my absence.

Harry's letters to me this winter were full of joy in his freedom from teaching: "It seemed so good to have practically only one thing to do." He spent two weeks working out the classification of the Geometridae,² the results of which are condensed to a page in the *Manual for the Study of Insects*. Harry put much enthusiasm in his work. He said: "The chapter on Lepidoptera,³ I am sure, is going to be a delight to us. I believe in it more and more. I think it will put the study of the order on a firm basis at once and it is not going to be difficult." His prophecy has indeed come true, but lepidopterists in general were slow to adopt his classification. However, thanks to the *Manual* and to the many students Mr. Comstock has trained, his classification is widely used.

Harry joined me in Otto during the spring of 1893. As usual, when we returned to Ithaca we found plenty of work to do. Mr. Comstock had to begin teaching immediately. He began again his early rising at 4 A.M. to work on the book. Part I of *An Introduction to Entomology* published in 1888, had been in use in his laboratory long enough for him to realize more clearly what kind of book was needed in entomology. Therefore he decided to write a new book, allowing Part I to stand by itself for the time being. This change did not affect my work on illustrations.

At Commencement time in 1893, my husband and I were so busy finishing our book, *A Manual for the Study of Insects*, that we took a cottage on the Cayuga Lake shore for two weeks, to

¹ *A Manual for the Study of Insects*.—G.W.H.

² A family of moths, the larvae (caterpillars) of which are commonly known as "measuring worms."—G.W.H.

³ An order of insects having their wings clothed with minute delicate scales. The order embraces the moths, butterflies, and skippers.—G.W.H.

avoid the social attractions of the season. We returned in time for the Summer School in Entomology which proved especially successful this year. Students from other colleges, many of them graduates, had come to realize the character of the work in entomology at Cornell. The class of students in the summer school was, therefore, of a high order, a quality that contributed greatly to the satisfaction of all. Harry and I gave our usual evening reception to the students this summer and we had to put lanterns and rugs on the piazza to accommodate them. Mr. Comstock still did his writing on the book in the early mornings and I worked on the engravings from 8 A.M. to 6 P.M. After supper we often went for a bicycle ride for recreation and exercise.

Mr. John P. Davis, my teacher in New York City, had urged me to engrave a block for the Chicago World's Fair and I had promised to do so, although I had begrudged the time. The subject was night moths, and as there were several, I called it "A Moonlight Sonata." In May, 1893, I had the pleasure of taking Mother and Father to Chicago to see the World's Fair. It was a great occasion for them and for me. Of course, I hunted up the wood engraving exhibit and had the thrill of seeing my "Moonlight Sonata" and many of my moths and butterflies hung with the work of the great masters. However, when it came to giving awards, the judges eliminated me from the competition, together with the bank note engravers, because of the specialization of our work. I thought this fair enough.

In August of this year Harry attended the meeting of the American Association for the Advancement of Science which met in Rochester, N.Y. He gave a paper entitled "The Descent of the Lepidoptera; an application of the theory of natural selection to taxonomy." Behind this address was a long story. When Mr. Comstock wrote the article, on the Hymenoptera⁴ for the *Standard Natural History*, in 1884, he tried to classify the order by the wing venation and found it impracticable; but the problem continued to interest him and in 1887 he wrote for the *American Naturalist* a review of a paper by Redtenbacher on

⁴ An order of insects with four clear, membranous wings, comprising bees, wasps, ants, and related forms.—G.W.H.

THE COMSTOCKS OF CORNELL

"The Homologies of the Wing Veins of Insects." When Harry began to work on the Lepidoptera for the textbook, he found that chaos reigned in the classification of that interesting order of insects. I remember how faithfully he worked week after week and month after month, before he began to see light. I was never so impressed with my husband's patience and dogged perseverance in search after truth, as when he was feeling his way in the dark in trying to find a logical, clear classification of the moths and butterflies by the record of their wing veins. He had blue-prints, enlarged, of the wings of many species pinned upon the walls of his office at the laboratory. Finally, he found the thread to the labyrinth in the division of the Lepidoptera into two groups, or suborders, the *Jugatae* and the *Frenatae*, based on the methods of holding the fore and hind wings together during flight. He was led to this by the study of *Hepialus*; ⁵ he decided that this was a primitive type which had retained the veins in the hind and fore wings in the same number, and that the fewer veins in the hind wings of the other forms meant reduction and therefore evolution to a more specialized type.

In October, 1893, Mr. Comstock was sent by the University to an Agricultural Congress at Chicago. Thus he saw the Exposition and had a week away from teaching and labor on the book.

The notable event of 1893 was the publication of the *Wilder Quarter Century Book*, a memorial to Dr. Burt G. Wilder for his twenty-five years of teaching at Cornell. Many of his old students contributed to it, but the burden of the publication fell on Simon Gage and Mr. Comstock. It was a success in every way. Mr. Gage and Harry realized fully how much they owed to Dr. Wilder, especially in training and encouraging them as investigators, and were glad to make public acknowledgment of their gratitude. Mr. Comstock's paper ⁶ was a study on the classifica-

⁵ A genus of primitive, more generalized moths.—G.W.H.

⁶ "Evolution and Taxonomy: An essay on the application of the theory of natural selection in the classification of animals and plants, illustrated by a study of the evolution of the wings of insects, and by a contribution to the classification of the Lepidoptera."

A rereading of this paper leaves a renewed glow of admiration for the concise, clear, logical style in which Professor Comstock discussed certain basic principles

tion of the Lepidoptera,⁷ which he based on wing venation.

As the summer neared its end, we saw that we could not get the textbook finished this year. As our need of money was always with us, Mr. Comstock wrote the article on "Insects" for *Johnson's Encyclopedia*; for this he received \$150, and I made drawings for the Texas Experiment Station and received \$150.

On Wednesday afternoons my studio was open to visitors, and usually a good number came. Through a study of wood engravings by the masters which I had on exhibition, I believe that many people learned to appreciate pictures in black and white and to realize that the nuances of tone, at the command of the wood engraver, can interpret color.

After the introduction of photographing on the block, the engraver had the opportunity to study the color of his original. Immediate success followed. Philip Gilbert Hamerton, in his *Graphic Arts*, wrote:

Tone, in wood cutting, depends upon the management of greys, and I cannot but heartily admire the almost unlimited ingenuity with which the Americans vary, not only the time, but the very quality of these intermediates, getting not one gamut only but several, with the faculty of going from one to another on occasion, as if changing the stops of an organ. Some of their greys are pure and clear, others cloudy; others, like "veils of thinnest lawn"; others, again, are semi-transparent, like a very light wash of body-color, and whatever may be their quality it is always surprising how steadily a delicate tone is maintained in them. As for texture, these engravers seem to be able to imitate anything that is set before them.

The study of color and texture by our engravers had the inevitable result of changing them from engravers to artists. A group of them, led by Elbridge Kingsley, began engraving their own creations, with remarkable results. Of the original engravings, my collection embraces the following: "New England Slums" and "White Mountains" by Kingsley; "An Autumn Hill-

of evolution and development. Today the paper seems a masterpiece of exposition of a scientific subject, in style, argument, and conclusion.—G.W.H.

⁷ Lepidoptera is an order of insects having their wings clothed with minute delicate scales. The order embraces the moths, butterflies, and skippers.—G.W.H.

THE COMSTOCKS OF CORNELL

side" by my teacher, John P. Davis; "The Pirate's Cave," by Victor Bernstrom; "Evening on the Wissahickom" by A. M. Lindsey; "Daughter Clara" by Frank French; the finest portrait of Lincoln extant, engraved by Gustave Kruell from the death mask; an exquisite study of birches by Edith Cooper; "Winter Sunshine" by William B. Classon; "Scene in France" by W. M. Aikman; and my own "Moonlight Sonata" and "Two Incarnations."

I was the third woman to be elected to the American Society of Wood Engravers. My work, from the first, was original, for I worked always with the insect before me. Undoubtedly I would have made sorry business of interpreting the work of another. It was because my work was all original that I was elected to this body of craftsmen and artists, an honor I have always greatly valued. The group of engravers who became their own artists was called "The Original Wood Engravers" and had for their sign a wood pecker working on the side of a tree.

My collection of wood engravings consists of proofs on Japanese paper, signed by the engravers and given to me by them. There are about three hundred proofs in the collections, which would be impossible to duplicate now. I have taken great pleasure in willing my whole collection⁸ of engravings to Cornell University.

During the autumn of 1893, I addressed several Farmers' Institutes in the Hudson Valley. Mr. Comstock was too busy to go but I enjoyed working with Mr. George Powell, for I believed in his plan for helping the farmers. I was at the Millbrook Farmers' Institute when the news came of Grover Cleveland's election as President of the United States. Professor Benjamin Ide Wheeler, although he was a Republican, had taken the stump for Cleve-

⁸ In addition to the two collections described above, Mrs. Comstock's gift to Cornell included the originals, or copies, of the hundreds of engravings she designed and executed to illustrate the books written by her husband and by herself. Both artists and scientists praise and value this group of engravings by Anna Botsford Comstock, because of their combination of scientific accuracy and of artistic values.

All of these collections are now (1952) in the Treasure Room of the Cornell University Library.—R.G.S.

land, and was invited to a dinner in New York given to honor Cleveland, after his election. There Professor Wheeler talked with a man who had been present at the interview between Cleveland and the Tammany leaders. When Cleveland was asked to give pledges to repay Tammany for its support, he said: "I shall do what I can conscientiously for those who have worked hard for the party's success, but as to giving any promise or pledge, I'll be damned if I will."

Mr. Comstock had fifty students in invertebrate zoology this fall but not as many as usual in the laboratory. We both bent our energies to completing the *Manual*. I often worked nine hours a day on my engraving and Harry put in three hours in the early morning and utilized every spare moment of the day.

The last week in December, 1893, we again journeyed overland. We were made happy by the warm welcome extended to us on every side at Stanford. There was a faculty reception at President Jordan's soon after our arrival and I shall never forget that evening with our many friends. We found a place to live in a boardinghouse where the food was much better than at the Encina dormitory, but I missed our large, steam-heated rooms. The only means of warming our room was an oil stove that gave off as much smell as heat. I never think of that room without shivering. Never have I suffered so with the cold as during that winter in sunny California.

Mr. Comstock was very happy in his work this winter, largely because Vernon L. Kellogg,⁹ who had been studying with him at Cornell, came with him to Stanford. Kellogg was a graduate of the University of Kansas and had registered for an advanced degree at Cornell. However, he could study only during periods when he could leave his work in Kansas and this winter of 1893 was one of those free periods. We had come to regard him almost as a member of the family while he was at Cornell. His charming personality, his delightful sense of humor, his brilliance in con-

⁹ On the recommendation of Professor J. H. Comstock, in 1894 V. L. Kellogg became head of Stanford University's Department of Entomology. He resigned in 1920 to become permanent secretary of the National Research Council. For many years Kellogg was associated with the Comstocks.—R.G.S.

THE COMSTOCKS OF CORNELL

versation and his devotion to science made him an ideal companion. Vernon and my husband often went off together on bicycles to collect insects. Sometimes I went with them, when they did not go too far afield.

I took to Stanford a collection of proofs of engravings by members of the Society of American Wood Engravers. When I showed them at Stanford, I sold a goodly number. I exhibited them also at Sacramento, at the invitation of the Women's Art Club of that city. For me, this was a happy experience. The interest in the collection and in my lecture was most agreeable. The wife of the Governor of California gave a luncheon for me and showed me the Capitol and the city. When I left, the president of the society gave me a little box in which I found a beautiful gold brooch with a diamond in its center. When Harry and I passed through Sacramento on our way home, some charming ladies came to the train and brought me a tray of camellias, to brighten our journey.

Quite different was my experience in San Francisco. I had shown some of the engravings at a meeting of the Women's Club of San Francisco and the members asked that I exhibit them to the students of the Academy of Art in that city, which I was glad to do. On my return from Sacramento, I stopped in San Francisco and went to the Academy to make arrangements. The man in charge told me it could not be done because there were no funds available for it. I told him that it was quite free and that I neither expected nor would accept any money for the exhibit; and I gave him the names of the prominent women who had asked me to display the engravings.

He looked at me doubtfully, spat copiously into a huge spittoon and called in another man, as a witness to my assertion that this exhibit would cost the institution nothing. By that time I was angry and determined to go ahead. I put up the exhibit alone, no one offering to help me; the Grand Mogul dropped in twice meanwhile, to tell me that there was no money in it for me. I smiled at him, thanked him, and went on hanging the engravings, which was no small job. Then I sat down to await visitors. Soon they came, at first a few, but on the second day the

room was full. That night the Grand Mogul came, apologized for his attitude, and excused it by saying that people were always trying to beat the Academy. I said, "Well, now you know that there was someone who was glad to do something for the Academy without any compensation, and maybe there will be others." He thanked me and called the janitor to help take down the pictures. I departed, triumphant.

Of that winter at Stanford University, the experience that remains most clearly in my memory was the intimate acquaintance I made with Irene Hardy. She was one of the most interesting persons that it had been my fortune to meet. She had been a teacher of English in the High School of Oakland, California, and had made a reputation through her poems when she was called to Stanford to instruct in English. She had exquisite literary taste and her conversation was of the sort that lifted thought to a higher plane. From a visit with her, I always came away with a spiritual glow and mental stimulation. "Anna Una," she always called me, and she wrote some sweet verses to me. Her friendship enriched my life for many years.

In April, 1894, we returned to Ithaca, leaving Stanford reluctantly. We are both proud of Cornell and glory in her achievements; but we loved Stanford with an intimate personal love that people rarely lavish upon institutions.

In the winter of 1894, the New York State Legislature appropriated \$150,000 to establish a State Veterinary College, which opened in 1896, at Cornell. This was a real triumph for our new President, Jacob G. Schurman, and for Dr. James Law,¹⁰ and we were all greatly pleased. As the winter passed, our work on the textbook proceeded steadily. Rufus Pettit finished the drawings of the insect wings and Alexander MacGillivray worked hard in looking up names and authorities for nomenclature. Dr. A. C. White, of the University Library staff, looked over the list of scientific names, to correct the derivations and pronunciations.

¹⁰ Dr. James Law, a member of Cornell's first faculty and first Dean of the New York State Veterinary College, had gained the respect of the New York State Legislature and of the New York State Agricultural Society, through his work with the farmers.—G.W.H.

THE COMSTOCKS OF CORNELL

Great credit is due Dr. White for the care and time he spent in tracing the derivation of the more obscure names. Mr. Comstock's decision to have the pronunciations given, made no end of work, but it has proved to be a valuable asset of the book. In one of his letters, he wrote: "This task we have in hand now is something over five hundred names to be divided into syllables, and the like of some of them neither the Latins nor the Greeks ever knew."

It was characteristic of Mr. Comstock's modesty that he should call his first textbook, which was really too advanced for college work in those days, *An Introduction to the Study of Entomology*. In 1925, when he published his last textbook, he used this same modest title. He had planned to call his more elementary book *First Lessons in Entomology*. Later, when he saw how large the volume was to be, he decided to call it *A Manual for the Study of Insects*.

All of this winter, I was engraving steadily at Otto, eight or nine hours a day. Getting proofs of the blocks was always very exciting to both Harry and me. Finally, in March, 1895, Mr. Comstock wrote me:

"For the first time since I began work on this blessed book, a job has proven less of a job than I expected it would. I reached work on the Tineids¹¹ Saturday night instead of Sunday as I expected to do. The work started off right from the word go. In fact I got the Tineids on the run at once and I determined to keep them going as long as the mood lasted. It was done and I think done well in forty hours and I had expected to devote a week to it."

Commenting on his classification of the Lepidoptera, he continued:

As I look on the work I am not surprised that it has cost so much time. A greater shuffling of the families could hardly be possible. Still I have faith that my results will be accepted by the more scholarly entomologists. Of course the amateurs will kick against the necessity of rearranging their collections.

Mr. Comstock's article, "Evolution and Taxonomy," published in the *Wilder Quarter Century Book*, had made more of

¹¹ A group of very small moths, among which is the common clothes moth.

a ripple in the entomological pond than had his "Descent of the Lepidoptera" in the *Proceedings of the American Association for the Advancement of Science*. A writer in the *Canadian Entomologist*, Mr. H. G. Dyar of Washington, commented on the Wilder article: "It is a valuable contribution to American Entomology and should be carefully read by all who wish to see a scientific classification take the place of a misty division in use in Lepidopterology." The entomological section of the Academy of Natural Sciences, at Philadelphia, gave an interesting evening to the discussion of the wing vein classification of insects, after Mr. Comstock's paper was presented. Dr. Phillip Calvert, Professor of Entomology in the University of Pennsylvania, presided. Dr. Howe said he considered the methods pointed out by Professor Comstock the proper way to study. The question should always be asked of oneself when any new anatomical structure is found: "Why is it?" Even Dr. Samuel Scudder probably did not understand nor accept Mr. Comstock's views, but he wrote to Harry: "The man who confutes you will have to do a great deal of hard work."

Stanford University was beginning to experience financial difficulties in 1894, and in reply to Dr. Jordan's statement of conditions, Mr. Comstock wrote:

"I do not want to come to Stanford next winter unless it is best for the University, all things considered. As I am printing my textbook I shall be too cramped financially to make the trip this winter unless our expenses are paid. But if you can spare enough for our travelling and living expenses while there, I shall be delighted to come. \$750 will do this. I am unable to give any money to Stanford but I shall be very glad to give my services for that term. Now, my dear friend, I want to do what you think is for the best interests of the University."

Dr. Jordan answered immediately, asking us to come. We left New York on December 28, 1894, after placing our book in the printer's hands.

On our return to Ithaca, we found Mr. Comstock's *Manual for the Study of Insects* published, and we had all of the happy excitement of reading letters about it and reviews, all of which were most satisfying to the author and engraver. However, our

THE COMSTOCKS OF CORNELL

chief pleasure was in the book itself; it was beautifully printed by the Trow Directory of New York and much pains had been taken in printing the engravings. It was a big, leisurely book, with ample spaces at the beginnings and endings of chapters and with wide page margins. The binding was pale gray, more beautiful than practical, with a silver orb-web spider's web in the lower right hand corner.

Mr. Comstock sent complimentary copies to teachers of entomology in the United States and within thirty days, thirty institutions had adopted the *Manual* as a class text. Mr. Comstock had decided to publish this book himself, and the wisdom of this decision now became apparent. The publishers who had considered the matter had concluded they could not afford to put the book on the market for less than \$5.00, but we were able to sell it for \$3.25.

The publication of the *Manual* gave rise to the permanent establishment of the Comstock Publishing Company.¹² At the same time, Professor Gage wished to publish the fifth edition of his book, *The Microscope*. He wished to put it out in small editions and hold the type so that he could rewrite it for each edition. Publishers did not look with favor on this scheme, so he and Harry joined their projects under the name of the Comstock Publishing Company, and hired a Cornell student to fill the orders, pack, and send the books. Neither member of the firm dreamed at that time that the Comstock Publishing Company would become a business house of considerable importance.

The *Manual for the Study of Insects* fulfilled all and more of our dreams of its usefulness. It was the means of bringing knowledge of insects to the general public: it was placed in school and public libraries, besides serving as a textbook in colleges and universities. At this writing, 1926, it is in its seventeenth edition; nearly 50,000 copies have been sold.¹³

¹² The Comstock Publishing Company had been tentatively established by J. H. Comstock and S. H. Gage in 1893, for the publication of the *Wilder Quarter Century Book*. See a brief history of the Comstock Publishing Company, Inc., in the Cornell University *Comptroller's Report for 1934*, pp. 197-198.—G.W.H.

¹³ In 1942, the *Manual* was in its 22nd edition and still in steady demand.—G.W.H.

1893-1903

No sooner was the *Manual* fairly launched than we began work on *Insect Life*, a book of very different character, for the use of the teacher of children or for the novice in reading facts from "Nature's book." After a brief account of insect morphology and classification, the volume discusses the insect life of the pond, the brook, the orchard, the forest, and the roadside. Directions followed for making a collection of insects and studying their life histories. I engraved many new illustrations, trying my hand for the first time in engraving landscapes. We had intended to publish this ourselves, but the Appletons heard of it and sent a very tactful and charming man to get the book. Their offer to pay \$1,000 for my engravings helped us to decide not to publish this book privately, for we needed the money to help pay the cost of the *Manual for the Study of Insects*. *Insect Life* was published in 1897 and after thirty years is still used by many teachers. The book was written at the very inception of the Nature Study movement at Cornell and was written with the needs of the teacher in mind. This year also, Mr. Comstock and Vernon Kellogg wrote the *Elements of Insect Anatomy*, for use in entomological laboratories. This was published by the Comstock Publishing Company.

Chapter 11 ↗ 1893-1903

Nature Study Movement in New York State

DURING the years 1891 to 1893 there was general agricultural depression in the East, and New York City found itself called upon, for the first time in history, to help people who flocked in from the rural districts in search of work. A conference was called by the philanthropists associated with the city charities to see

THE COMSTOCKS OF CORNELL

what could be done about the matter. Mr. George T. Powell, who was director of Farmers' Institutes, was called in as an expert on rural problems. Several at Cornell were invited to be present but I was the only one who was able to attend. At this conference, in 1895, a Committee for the Promotion of Agriculture in New York State was created with the following personnel: The Hon. Abraham S. Hewitt, Chairman, R. Fulton Cutting, Treasurer, and William H. Tolman, Secretary; William E. Dodge, Jacob Schiff, G. Howard Davidson, Howard Townsend, C. McNamee, Mrs. J. R. Lowell, Professor I. P. Roberts of Cornell, George T. Powell, and Anna Botsford Comstock. Mr. Powell was retained as adviser. He maintained that poor farming was one of the reasons for agricultural depression, and that the only permanent remedy was to interest the children of the rural districts in farming, and thus retain the abler ones on the farm, instead of sending them to the city. He also declared that Nature Study was the means to use to interest the child in the farm.

The committee wished to test the value of Nature Study, and Mr. R. Fulton Cutting gave the money to make a trial of Mr. Powell's suggestion in Westchester County. Mr. Powell undertook this task and asked me, with others, to help. The experiment was encouraging and the committee was favorably impressed. After the experiment in the Westchester schools, Mr. Hewitt declared, "This is too large a proposition for private responsibility; it must be carried on by New York State." Accordingly, the committee arranged a conference with Senator S. F. Nixon, Chairman of the Ways and Means Committee in the New York Legislature.

Mr. Nixon had always been deeply interested in the agriculture of the State, and in 1894 had established an extension course in horticulture, with teachers from Cornell, in his own county, Chautauqua. Mark Slingerland had conducted classes in entomology in this school. When Mr. Nixon, large, pink-cheeked and earnest, stood before us, and listened to the proposal for interesting children in the farm, he answered: "Gentlemen, I would rather have considered some plan for immediate help to the farmer, but if you believe this will help in the future, you

shall have the financial support of the State. How do you plan to administer the money when appropriated?" Mr. Hewitt answered quickly and decidedly, "We have an efficient State College of Agriculture at Cornell, and the money should be given to it for this work." This decision was ratified immediately by the committee. As the outcome of these plans and decisions of Senator Nixon and the committee, \$8,000 was given by the State, in 1896, to the College of Agriculture in Cornell University, for the teaching of Nature Study in the rural schools of New York.

To say that the Agricultural Faculty of Cornell was dismayed at this task is putting it lightly. Not one among them had even thought of the rural school curriculum since he was a boy. Professor Roberts, Director of the College of Agriculture, suggested that there should be a survey of the rural schools to find out if Nature Study was being taught anywhere. He asked Mr. Powell, Professor J. G. Stone, Mr. John W. Spencer, a farmer of Chautauqua County, and me, to help in this work. We visited scores of public schools but found almost no Nature Study teaching anywhere. As a result, Mr. Spencer volunteered to come to Cornell to help, and leaflets for teachers were written by Professors L. H. Bailey and George Cavanaugh, and by me. Later, Mr. Spencer started the Junior Naturalist Clubs, which, in some years, embraced 30,000 children in the schools of the state. Professor Roberts asked me to help by meeting the educators in the State Department of Education at Albany and by presenting the idea at Teachers' Institutes.

It is a familiar observation that the success of a movement for the betterment of the world has often been dependent on the genius of its leader. It was therefore fortunate for the Nature Study movement that in 1897 Professor Roberts placed the whole enterprise in the hands of Liberty Hyde Bailey, head of the Department of Horticulture in Cornell University. No wiser step could have been taken. Professor Bailey is a great man from any standpoint, but perhaps his greatness is never more in evidence than in his genius for leadership. He had great vision concerning this Nature Study movement, and great faith in it. He was well fitted for the work, for he had been born and had spent

THE COMSTOCKS OF CORNELL

his childhood on a farm, and had an innate love of nature and a poet's imagination.

On November 10, 1898, I received my appointment as Assistant Professor of Nature Study in the Cornell University Extension Division. This was the first time a woman had been given the title of professor in Cornell University; and although the title lapsed at the end of the period for which I was appointed, because of the objection of certain trustees to having women professors, the fact remains that President Schurman bestowed upon me this title. After the adverse decision of the Board of Trustees, President Schurman appointed me Lecturer in Nature Study at the same salary, which I think was \$1,200.

This work of Nature Study propaganda had really engulfed my time by taking me hither and thither in New York State and in other states, upsetting my plans for drawing and engraving. It seemed best to let other things go and take up the nature work in earnest. I was especially glad to do this under the inspiring direction of Liberty Hyde Bailey, and the following summer, we had a successful Nature Study School at Cornell, with 100 pupils. Two days a week, I gave them instruction in insect life, with lectures, field and laboratory work. Two days a week, they were given plant study under Professor Bailey, and one day Professor Roberts gave them instruction in general agriculture. Professor Glenn W. Herrick came to help me with the summer school work. He had taken graduate work at Cornell and at Harvard, and had been teaching for two years in the State College of Mississippi.

In February, 1899, my father died of pneumonia. It was a heart-breaking loss. He had meant so much to Harry and to me that we did not know how to go on without him. We were grateful that we were with him and could give him every care. The funeral was on a blustering winter day, with zero temperature, drifted roads, and heavy skies; but just as we laid him away, with the beautiful Masonic rite of casting into the grave a twig of evergreen, the sun broke through the clouds and sent a comforting shaft of light over us and touched the snowy hills with a halo.

I did not return to Ithaca to work until late spring. In 1899,¹ Professors Comstock and James G. Needham published a paper entitled, "The Wings of Insects with Special Reference to the Taxonomic Value of the Characters Presented by Wings." Reprints of the article were sent to many entomologists, abroad as well as in America.

During Cornell's winter term of 1899-1900, we went again to California to give some lectures on economic entomology for the fruitgrowers of California. While in California, Harry had trouble with a stoppage of the Eustachian tubes and was very miserable because of the roaring in his ears, and still more miserable with the prospect of deafness. As soon as his spring term's work was done, he went into the Manhattan Eye and Ear Hospital in New York, for an operation on his nose by Dr. Arthur B. Duel. After he had recovered from this, Dr. Duel began to give electrical treatment to clear the stoppage in the Eustachian tubes. All of the summer and autumn Harry went to New York frequently, for treatment by skillful Dr. Duel who had become our friend.

In the summer of 1900 we had another Summer School in Nature Study at Cornell, with the same plan of work as in the previous summer. This school was successful in every way but one—our one hundred pupils came from cities, whereas the task set us by the State was to reach rural teachers. Therefore this type of summer school was given up. Henceforward we did our teaching in the summer sessions of the State Normal Schools which were attended by many rural teachers.

During the autumn of 1900 I gave many lectures at Teachers' Institutes about New York State. Mr. Comstock was doing research, although his teaching required most of his time and strength. He wrote a leaflet on spiders which was published in the series of *Cornell Nature Study Leaflets*. He planned that

¹ This year Mr. Comstock was given another assistant, William A. Riley, a graduate of DePauw University. After Mr. Riley had attained his Ph.D., he was made instructor and later Professor of Insect Parasitology. In 1918, Dr. Riley became chief of the Division of Entomology at the University of Minnesota.—G.W.H.

THE COMSTOCKS OF CORNELL

when he revised the *Manual for the Study of Insects* he would take out the chapter on spiders² and publish it separately.

I lectured before the Teachers' College at Columbia during the academic year, 1900-1901, and in many other places. The winter course in agriculture, for young men and women of the farms, was established at Cornell this winter, an important step forward. I gave a course on the farm library in which I tried to inculcate a love of books on natural history, United States history, and poetry about nature. While Professor Filibert Roth was writing, for use in our nature study teaching, a *First Book of Forestry*, I helped him by reading the chapters as he wrote them. I also induced Professor George F. Atkinson, my neighbor and classmate, to write a book on botany for Nature Study. His *First Lessons in Plant Life* was the result; it is a charming, scientific book.

Harry had in his laboratory a student sent by Professor John M. Aldrich of Idaho State College, Bayard Simpson, who later did excellent entomological work in South Africa, and, alas, died there. Simpson was a giant, with a soft voice, gentle manners, and a shy disposition. When he called upon me, I sought some subject for conversation and asked him what he had enjoyed most while in high school. It nearly bowled me over when he bashfully murmured, "fighting."

As soon as the Winter Short Course in Agriculture was finished, I went to New York, to Dr. Duel for an operation on my nose and tonsils, at the Manhattan Eye and Ear Hospital. This was a new experience for me. I was made ready two hours before being taken to the operating room and amused myself by reading Omar Khayyam. I was nervous and a little scared, but I found reassurance in that passage, "Think what you are today, what yesterday you were; tomorrow you shall not be less." Omar must have lingered in my mind for when I came out from the effects of the ether and saw Dr. Duel bending over me, with smears of blood on his white operating coat, I murmured, "Hello, Angel of the Darker Drink." "A case of mistaken iden-

² This decision led to the publication of *The Spider Book* in 1912.—R.G.S.

tity," answered the doctor, and again I lapsed into unconsciousness.

Professor S. H. Gage was working in New York at that time, and he came to see me every day. Many other friends came, among them Mr. Austin Wadsworth of Geneseo, New York. After a week, I went to the home of our friend, Mary Nichols Cox, who had been awarded a Ph.D. at Cornell and was living in New York.

I returned home April 11, "revised and expurgated," and found my family glad to see me. I also found that my office had been moved to the second floor of the Insectary. I was glad, for it was much more convenient to be near our house.

We were much interested in the new edition of Mr. Comstock's *Insect Life*, published in the spring of 1901. Six colored plates of moths and butterflies had been added to it. Except for this addition, the book remains as it was written in 1897, and sales continue.

In 1900, through John Spencer and me, Miss Martha Van Rensselaer of Randolph, New York, was brought into the Cornell Extension work, with the special purpose of giving aid to farm women. She herself had not lived on a farm, but as Commissioner of Schools in Cattaraugus County, she had been efficient in her care of the rural schools and had had much experience in visiting farm homes. She was a young woman of broad sympathy and understanding and great capacity for work. The tale of how she helped to develop the College of Home Economics, from a small beginning, is a story by itself.

In May, our friend Mrs. Hiram Corson died. I spent days with the bereaved family. Professor Corson had been an inspiring teacher of Harry and me, when we were Cornell students, and had led us to an appreciation of English literature. Mr. Corson was a man of wide culture and thorough scholarship. His career had begun as a reporter in Congress, in the time of Webster, Jefferson Davis, Calhoun, Clay, and Edward Everett. He had worked in the Smithsonian Institution before coming to Cornell in the early days of the University. His impressive personality,

THE COMSTOCKS OF CORNELL

his sonorous, pleasing voice, and his interpretation of Shakespeare, Browning, and other writers drew large audiences to his readings. After his wife's death, he spent much time with us. He was a spiritualist and got comfort from his belief.

I pay tribute here to the sympathy of President Schurman for those in sorrow. When he came to see Professor Corson and his son, Dr. Eugene Corson, I was at their home. I shall never forget President Schurman's expressions of sympathy which brought real comfort to the bereaved. He was a man who, as a Professor and as President of Cornell, walked alone, for he had no intimate friends; but when sorrow came to members of the University Faculty, he was full of genuine sympathy. Through this, many learned to love him.

As in previous summers, I went again, in July, to Chautauqua, to teach Nature Study. As an assistant, I had William C. Thro, now Dr. Thro of the Cornell Medical School Faculty. Dr. Thro was one of Mr. Comstock's ablest students and gave me efficient aid, that year and for the years thereafter when I taught in Chautauqua Institution. We had large classes and the work was as satisfactory as possible, in the three weeks given to it. The summer term at Ithaca was as large as usual and Mr. Comstock had the happiness of having the help of J. G. Needham, then a Professor of Biology at Lake Forest College. At Cornell, Mr. Needham had taken his Ph.D. degree in 1898 with Mr. Comstock as Chairman of Needham's Graduate School Committee.

Mr. Comstock and Vernon Kellogg, who had spent the summer together, spent a week at Otto, in driving over the beautiful Cattaraugus hills. Vernon Kellogg also worked with Harry this summer in preparing the revised third edition of *Elements of Insect Anatomy*, then in press. Mr. Comstock was revising the section dealing with the head of the grasshopper, to bring it into line with his recent research.

During our stay at Otto, this September of 1901, Harry and I worked on *The Spider Book*. We went collecting and he did some photographing. When we returned to Ithaca, my mother came with us, for it was arranged that she should stay in her Otto home summers only. I was very busy, for in addition to a Uni-

versity class of twenty in Nature Study, I gave a course of lectures for the teachers of Ithaca.

All of the autumn, whenever there was an hour to be snatched, Mr. Comstock and I went out to study spiders—he to make definite observations and I to enjoy the experience. I find this note, for October 21: "Went spidering with Harry and saw spiderlings migrating, making a carpet of web over the grass."

I was happy when Professor Bailey invited me to look after the poetry in *Country Life in America*. We were all eager to make this journal one of real inspiration and utility to those who lived in the country. Professor Bailey had three things clearly in mind: to give practical help to farming and horticulture; to lead people to appreciate the beautiful in nature; and to learn the many things of interest in the fields and woods. To these ideals he held fast, and when he realized that the publishers had other ideals, he resigned as editor. He said he had no interest in a periodical that should be called *City Life in the Country*.

In November, I went to New York where John Spencer met me; we visited the schools of the East Side and then the markets, to see if perchance we might teach a little Nature Study in this great city, through garden produce. My work in the Nature Study department at Cornell was varied. I helped wherever help was needed. It was in December of 1901 that I wrote *Trees at Leisure*, published in *Country Life in America*. In my opinion, this is as good a bit of writing as I ever did.³

In December I went to Grand Rapids, Michigan, to speak at a State Teachers' Institute. Booker T. Washington was another speaker there and I enjoyed his address very much; I came to the conclusion that he had Irish blood in his veins, his humor was so delightfully Irish. I had great respect for him, for I had learned from experience the force of his personality. When Mr. Comstock rose at 4 A.M. to do his writing he always took a short siesta after luncheon, and I stood guard vigilantly, lest anyone should disturb him. One day, during this sacred hour, I answered the doorbell and found on the threshold a clever-looking young

³ This essay was republished in 1916 by the Comstock Publishing Company at Ithaca, N.Y.—G.W.H.

THE COMSTOCKS OF CORNELL

Negro who wished "to see Professor Comstock." I invited him in, but said he could not see my husband at that hour. I am quite unable to remember how Mr. Washington did it. I am sure he was absolutely courteous and not oppressively insistent, but a little later I awakened Mr. Comstock and said: "There is a young Negro downstairs, Harry, and you will just have to see him now." Mr. Comstock arose meekly, went downstairs, and became a permanent yearly subscriber to the Tuskegee Institute.

Mr. Comstock worked on *The Spider Book* during all of his spare time in the winter of 1901-1902. With a Japanese student who could draw exquisitely, but couldn't do much else, Harry had prepared a paper on "The Skeleton of the Head of Insects." He had also written a paper entitled "The Wings of the Sesiidae."⁴

In April, I went to New York and carried on an experiment in the Allen Street School, trying to introduce a study of nature from market produce, a thrilling experience, recounted by Carlyle Ellis in the *Cosmopolitan Magazine*.

During the fall and winter of 1902-1903, I collected some of my writings which had been published in various periodicals and added others to make a small volume. This was published by Ginn and Company, in the spring of 1903, under the title, *Ways of the Six-footed*.

Chapter 12 ↵ 1894-1903

Scientific Farming; Studies in the South

IN THE fall of 1894, Harry had bought from my father the farm on which I was born. He did this because the farm had

⁴ A family of clear winged moths.—G.W.H.

deteriorated through poor tenants, and the worry of management was too much for my father, in his old age.

Mr. Comstock's career as a farmer was one of the most remarkable achievements of his life. He knew little of farming and almost nothing of modern methods. But he went at the problem with his usual thoroughness. He sent for bulletins, purchased books, and read them. He consulted the Director of the Cornell College of Agriculture, Professor Roberts, repeatedly, and this friend and neighbor took as much interest in the affair as though my husband had been his own son. When my father lived on the farm he kept forty cows and young stock for replenishing, but now the farm was so depleted that the tenants could barely keep twenty cows. Harry secured as foreman, a young neighbor, Edward Ryder, who actually was a cheese maker and not a farmer. Ryder had intelligence and enterprise and co-operated enthusiastically in rehabilitating the farm. Mr. Comstock had to build a barn and a house and remodel the other farm buildings. He built two silos, considered foolhardy by the community, and planted forty acres to corn, an unheard-of thing in that neighborhood. Ten years after Harry bought Hilltop Farm, silos had been built on all neighboring farms and the acreage of corn trebled. Soon Harry was able to increase the herd to sixty cows and to add the necessary teams and young stock.

The care of the farm added much to Mr. Comstock's activities, for he visited it once a month. This meant leaving Ithaca, after his week of teaching, on Friday evening, spending that night in Buffalo, taking the train to Gowanda the next morning, and driving five miles over rough roads to Hilltop Farm, where he would work with the foreman on Saturday and on Sunday morning, and return to Ithaca at 11 P.M. Sunday night. Nothing but his interest and enthusiasm could have sustained him through such efforts.

The farm responded wonderfully to the new regime of a rotation of crops; miles of old fences were removed to clear the fields for cultivation. Modern machinery was bought and used. The herd was steadily improved and purebred stock bought from time to time. The stables were kept clean and scales were intro-

THE COMSTOCKS OF CORNELL

duced so that each cow's milk could be weighed. The milkers wore white caps and suits, while milking. People had told Harry that he could never get help that would do this, but he found the help very interested in the records of the cows they milked, and entirely willing to wear the uniforms. Harry kept this farm for twenty years and it became one of the show places of the region. He lost only two foremen who bought farms of their own; the third was on the farm when it was sold in 1916.

Mr. Comstock wrote Dr. David Starr Jordan in 1896: "Anybody can be a professor, if he studies hard enough along one line, but it takes a man of wide knowledge of all of the sciences, to be a farmer."

After the text for *Insect Life* was completed, Mr. Comstock did not undertake other writing for a time, since the farm took all his spare time and energy. After the publication of *A Manual for the Study of Insects*, Cornell's entomological seminar adopted the name "The Jugatae." Mr. Comstock continued to work on wing venation at every possible spare moment and presented a paper on his investigations before the seminar in 1897. He wrote of one of his field excursions at this time: "We had a glorious field day yesterday; it was a study of brook life in Fall Creek between Triphammer Falls and the swinging bridge. The class was very enthusiastic over it. I think every student got specimens of everything on the list that I made out before going." He continued to rise not later than 4 A.M., and to go to the laboratory to study and write.

Mr. Comstock had worked on spiders during the preceding months, and while we were at Otto I made several drawings for him. He felt keenly the need of more field work on these interesting creatures and soon after our return to Ithaca, Harry started south to study them. Soon after his departure in 1903, an epidemic of typhoid broke out in Ithaca. Hundreds were ill and the death toll was great. The public water supply had been contaminated; but the supply for the Campus was from another stream and was pure, so we were safe. Our friend Mark Slingerland was very ill. We almost despaired of his life, and he was never well afterward. As a result of this plague, Andrew Carnegie

built a filtration plant for Cornell University and paid for the medical aid and hospital fees of all of our working students who were ill. This act endeared Mr. Carnegie to Cornellians for all time.

During the epidemic, I was able to repay an old debt. Earlier I told how Roswell Leavitt, of the Cornell class of 1872, helped nurse Mr. Comstock through an attack of typhoid. This year Clyde Leavitt, son of Roswell, was taking graduate work at Cornell and lived in the most afflicted area of Ithaca. I invited him to be our guest for the rest of the year. He came and escaped the plague.

Mr. Comstock started south in 1903 in good spirits. One of his characteristics is the way he drops out of hustling at high speed, into a vacation mood. In his letters written on the train and after arrival, he said:

I learn this morning that we are four hours late and that it is an outrage, but I don't feel outraged. My only emotion, evoked by the management of the Railroad, is one of thankfulness that they hitched the dining car to a northbound train to meet us so that we had breakfast on time. The breakfast was good and so was the cigar and I don't care whether we get to New Orleans tomorrow or next day.

Here I am in New Orleans in a comfortable hotel. Immediately after breakfast, I started with a pocket full of bottles and have had a successful day collecting. It has been a perfectly clear summer day. I have seen a few flowers in the parks, a few flying insects, and one newly made orb-web. A good many jumping spiders are running about on the sunny sides of buildings; and, in their winter quarters, I have found representatives of several other families. I have collected continually for five hours, except when I stopped in a café in the old French Quarter for a dozen oysters and a glass of beer. But I have not been blind to the very interesting human world about me.

My way had led first to the levee where I could see this great river and the ships loading and unloading. Here on the sides of the warehouses I saw the remarkable Dictyna-like webs of *Filistata* and secured several specimens of the spiders, the first I had seen; and I found, too, what I think is *Oecobius*, which completes the series of

THE COMSTOCKS OF CORNELL

families of curled-thread weavers that occur in the United States. This, too, I had never seen before.

Several hours were spent examining the sunny sides of buildings in the old French Quarter. I drifted along, at one time greatly helped by some bright-eyed kids. I gave no thought to direction and finally found myself beyond the city in an open field where there are many cows, each with a bell. Sunning themselves on the warm side of a fence there were several beautiful lizards much like the California swifts. From New Orleans I went to Lake City, Florida. As I was writing my name in the hotel register I felt something crawling on the back of my neck, and concluded that descendant of one of the many cockroaches that used to make free with me, twenty-seven years ago, was welcoming me back. I calmly finished writing my name and put my pen in my pocket and then brushed off on to the register, a scorpion! I was delighted for I felt sure that this was an indication that I was to find arachnids in Florida.

I was met at the station by Professor H. Harold Hume, of the College of Agriculture in the University of Florida. Professor Hume was to leave this morning on some horticultural field work; but after we had visited a while he said he would postpone his trip and would spend the day with me.

You will remember that one of the most important things that I had hoped to find was the purse-web spider, the spider that I wrote to Glenn [Herrick] about. In our visit last night Professor Hume told me of a curious spider that he knew. I recognized his account at once as of the purse-web and was delighted. I think it was this that made him change his plans. He took me today into a forest where there are many of them. He took his camera and made splendid negatives of the nest, one of which I hope to use for a full-page plate. He took me to lunch, not explaining, until after we were at his house, that he was alone. Mrs. Hume had made plans to be away during his absence and she could not change, when she learned that his plans were changed; but she left a fine "hurry up" lunch for us.

From Lake City Mr. Comstock went to Miami, Florida, where he was given a room in the subtropical laboratory of Dr. P. H. Rolfs. The following extracts from his letters give a clear account of his success in collecting and photographing spiders.

I had a very comfortable journey last night. There was a rather stout German on the train whose face seemed familiar. I thought a

long time before I could place him; and then concluded rightly that it was E. A. Schwartz, who you will remember was a slim man when we knew him in Washington twenty-three years ago. He is on his way to Cuba to study the cotton boll weevil. I had a delightful visit with him, and a very profitable one, as he has collected in this place and could give me many suggestions.

Well, I am settled for my laboratory work in just as nice a place as could be made in this climate. The subtropical laboratory is a beautiful cottage on the shore of the bay; and I have a room, about the size of your room in the Insectary, entirely to myself.

I have rented a bicycle. It is about eight minutes ride from the hotel to the laboratory, over a splendid rock road. The roads here are even better than in California's Santa Clara Valley.

There is a beautiful new butterfly very common here; it is about the size of the cabbage *Pieris*. This was so abundant in the Rolfs' orchard that several hundred of them were on a single bush, half as many butterflies as leaves; the most remarkable display of butterflies I ever saw! They are gentle creatures; one can easily pick them from the bushes, like the birds on the Pacific Islands. Several of them alighted on us and remained a long time. This strip of land between the Everglades and the ocean, about five miles wide here, is mostly like the northern part of the state, i.e. a pine barren. The pine trees are very scattered, and have few branches; so that practically there is no shade; the ground is quite thickly covered by a dwarf palmetto. The number of species of plants and animals to be found in these barrens is comparatively small and I hear that they are the same as are found in the northern part of the state.

I found a man at the laboratory making some prints today and I knew then that it was proper for me to photograph on Sunday.

I told you I had found *Nephila plumipes*, Dr. Wilder's *Nephila*. I thought I had found two specimens, a young one and an adult. Now I think the supposed young one is some other species of *Nephila*. I have examined neither closely; but have left them on their webs out in the jungle. I have paid little attention to the smaller one, beyond noting that its web is of the characteristic form of *Nephila*; but with the old lady I have spent many hours; and I have spoiled a good many plates trying to photograph her web.

This noon, when the maximum amount of light was leaking through the dense foliage, I took an instantaneous plate, set the diaphragm wide open (a combination that would make a picture in the

THE COMSTOCKS OF CORNELL

open in $\frac{1}{100}$ of a second) and set the shutter at $2\frac{1}{2}$ seconds, then waited for a lull, for there are moments when the breeze does not stir the undergrowth. At the right moment I pressed the bulb and hastened back to the laboratory to develop the plate. Result, a magnificent negative. Not wishing to have all my eggs in one basket, I returned and took two more, both splendid negatives.

I have developed such an affection for that old spider that I fear I shall be unable to put her in alcohol.

The day has been a beautiful one, clear and with a comfortable temperature. It has been a very successful one in my work. The heavy rain of yesterday injured the webs so that the spiders were obliged to make fresh ones and I have devoted the entire day to photographing them. I secured some of the best photographs of webs I have ever made out-of-doors. There was less wind than usual so the difficulties were not so great. But I tell you my legs ache tonight. I made three trips into the jungle, each time with four plates; and between trips developed the plates.

This morning I started out to get a photograph of the orb-web weaver, the most common one here. It is a difficult subject to get a background behind it. I examined a hundred webs, and tried to get several. I would carefully cut away the interfering bushes and perhaps get the background placed, when some invisible thread supporting the web would be touched and the web spoiled. This happened several times but finally about noon I succeeded in getting a picture.

The epidemic of typhoid in Ithaca was a great worry to Mr. Comstock, especially after Mark Slingerland was stricken, and it required all of my powers of persuasion to keep him from coming home. He could not have been of any use and it was a comfort to have him out of danger. He wrote:

While I was sick for the past two days I thought out a new method of photographing the hubs of webs enlarged. I made the apparatus for this new method, tested it, and it worked. It is used in connection with the vertical camera and the magnifying lens that I have. The first subject of our apparatus was a remarkable, two-tailed spider¹ with four large humps on its body, which makes an orb web. It rests at the center, its star-shaped body covering the hole in the hub. But

¹ *Gasteracantha cancriformis*. See J. H. Comstock, *The Spider Book*, p. 513, for an account of this remarkable spider.—G.W.H.

the remarkable thing is that it decorates some of the radii, and frequently also some of the lines in the outer foundation, with shining white patches of flocculent silk; these are very conspicuous. What are they for? They are evidently made of the same material as the stabilimentum of *Argiope*, but each patch is connected to a single line and waves free in the wind. Are they lures to attract insects to the web? I believe that is their function.

After getting photographs of this, I mounted some specimens on glass for lantern slides. Then we took some views of the Florida Experiment Station so as to show you what it is like, when I return.

I spoke in my note of this morning of doing the necessary things now before beginning to pack. I felt that getting pictures and specimens of the web of this angling spider was one of the necessary things. Don't you think so? After lunch there was the making of some more photographs, the mounting of some more webs for more careful study after I came home, and the collecting of some remarkable spiders which I had not seen before and which as yet I have only glanced at; and now I am dead tired.

After supper and a cigar, I feel O.K. and have enjoyed writing you this little note. You say it can't be too long.

About snakes. That too is a saga. I don't take a step out of a public highway without thinking of them and haven't seen one! But damn the mosquitoes! There are sixteen about my head now. I don't think they are *Anopheles* for they are little black cusses that come right through the screens.

One of the most striking things one sees in Miami are the Seminole Indians that come out from the Everglades. They wear cotton shirts of various colors and gayly trimmed. One day when I was in at a photographer's two of the men were having their picture taken. I asked the photographer to make a print for me and today I got it. I will try to send it tomorrow.

I wanted to write you about these Indians and the Miami crows the first day I came, but other things crowded these two topics out.

As to the crows, they are here in hundreds; they are the city scavengers. They keep just out of reach and that is all. They have a soft southern accent, as unlike the voice of the northern crow as is that of the southern Negro from that of a northern white man. There is a tree under my window in which there are frequently fifty of these crows at once.

I am very glad you have taken Leavitt into the house; both for his

THE COMSTOCKS OF CORNELL

sake and for yours. I know it will be a comfort to you to have him there.

I shall make my plans to go to Austin. If anything happens to make you wish to stop me you can reach me Monday P.M. or Tuesday A.M. at Lake City, after which I shall be out of reach till I get to Austin.

As I closed up my work here, and took stock of what I have accomplished I felt that the trip had been a great success. I have accomplished more in the three weeks that I have been here than I expected to do on the whole trip.

It is now late in the evening. I have just returned from Professor Rolfs', five miles in the country, where I took supper and spent a part of the evening. Professor Rolfs returned last night from his trip to Jamaica, so I have had a chance to see him, and thank him for the aid that he has given me.

This has been a busy day. I shipped my specimens by freight this morning, and spent the remainder of the forenoon packing my trunk.

Mr. Comstock left Miami, March 8, 1903, and went to Lake City, where a letter from me informed him of Mark Slingerland's critical condition; he wrote:

Since receiving your message I have been terribly broken up; but I have forced myself to think and talk about other things. It came just as we were going out to lunch at the Humes. This afternoon I went into the field but I could put no heart into my work. It was while there that I decided to start for home as soon as possible. This evening I was invited to supper with the President of the University of Florida, T. H. Taliaferro, and his wife. They are charming people from Baltimore.

A telegram from me met Mr. Comstock in New Orleans. I was able to tell him the crisis had been passed and Mark would recover and I advised him to go to the University of Texas, as he had planned—which he did.

At Austin he was the guest of Professor and Mrs. William Morton Wheeler and his enjoyment of the stay with them has been a happy memory. Certainly they are two of the most delightful people that have graced university circles in America. Harry wrote me at various times during his trip:

1894-1903

I reached Austin in time to take breakfast with the Wheelers, and received a very cordial welcome.

This forenoon Professor Wheeler took me into the field where we found many things new to me. The collecting is excellent here, and the fauna is very different from that of Miami. Our collecting was done almost entirely by looking under stones. We found two kinds of tarantulas, several scorpions, and a considerable number of spiders new to me.

It has been a delightful day. Fortunately for me the Wheelers are not Sunday people. So Dr. W. and I have had two collecting trips, a long one this morning, and a shorter one this afternoon, both of which were successful.

My stay at the Wheelers has been a delight and an exceedingly profitable one for the spider work. I had splendid weather the entire week till this morning, but left Austin in a pouring rain. I wish you knew Mrs. Wheeler—she is a charming woman.

I am riding through the land of the agricultural ant. It is an exceedingly abundant species here. One day Professor Wheeler pointed out the place where McCook camped when he made the observations for his book on these ants.

During our walks, Wheeler has told me enough wonderful things about ants to make a large volume. He is making a very exhaustive study of the group.

I had a whiff of Texas atmosphere this morning, on my way to the train. I was about 300 feet from a man when he shot and killed another man. I had heard the shots and saw the crowd gather about the fallen man. I then went on to the station. Before our train left Austin I heard that the man that was shot lived only a few minutes.

I had a fine day in New Orleans yesterday, spent the entire day collecting from the sides of old buildings and making notes. Came out here to Baton Rouge in the evening. This morning it has been raining hard and I have collected in old buildings. Have had an excellent morning's work.

I am going to stay here till Thursday morning, which is a day longer than I had intended to stay. But Morgan wishes me to give a lecture Monday night.

THE COMSTOCKS OF CORNELL

I have had a delightful and very profitable time at Baton Rouge. Sunday afternoon, F. H. Burnette, Professor of Horticulture, took H. A. Morgan and me down the river on a tug to a place where the levee was nearly destroyed and 200 men were at work building a new one behind the old one. A turn in the direction of the current had caused the river to cut into the levee so that only a little shell, less than a foot in thickness at the top, kept this great river more than a half mile wide, from rushing over the country.

I made a large collection here at Baton Rouge, yesterday. H. A. Morgan took a class of twelve men out with me and all collected spiders. We collected along the edge of a dike by some overflowed land where the water had driven the spiders to the shore of the lake.

Among the spiders collected at Baton Rouge was one which is a most remarkable instance of mimicry. It looks exactly like the dropping from a bird, and rests exposed on the surface of a branch or leaf.

Mr. Comstock went on to Starkville, Mississippi, to visit our cousin, Glenn Herrick, now Professor of Biology and Entomology in the State College of Mississippi, and his wife, who was Nannie Burke, one of our friends when she was a student at Cornell. It was too early in the season there to do much collecting of spiders. Harry wrote:

I had a delightful and heart-satisfying visit with these cousins who seemed like children of our own.

I can't complain as, up to date, I have not lost an hour on account of rain since I left Ithaca, and it has been a very rainy winter in all parts of the south. I do want, however, another half day of good weather here, as Glenn and I found nests of a turret-building spider yesterday and we want to go and dig the spiders out. We got one specimen and it is a different species from one that I found in Texas.

Mr. Comstock also found there one of the most remarkable engineering spiders in his collection, *Ariadna bicolor*. He speaks of its "nests of such marvellous engineering skill that I have never ceased to wonder at them."²

² See J. H. Comstock, *The Spider Book*, pp. 300-301.—G.W.H.

Chapter 13 ↵ 1903-1906

Nature Study Across a Continent

HARRY met me at Otto when he returned from the South, April 4, 1903. After attending to the business of the farm, we returned to Ithaca. As I had many lectures at Teachers' Institutes before me, we continued to board. Neither of us enjoyed this way of living, but we knew it was for the best, and our usual way has ever been to pretend that we like whatever happens.

The last week in June I taught in a summer school for teachers in the University of Virginia at Charlottesville. William Thro went with me to take care of the field trips and laboratory periods. The beautiful old college with its quaint buildings permeated with the memory and spirit of Thomas Jefferson, together with the picturesque scenery around it, gave us a new setting for our nature study work. Soon after we arrived we made a pilgrimage to Monticello and our sojourn in Charlottesville gave us added interest in Thomas Jefferson and respect for his educational ideals.

Edward C. Glass, a brother of Senator Carter Glass, was superintendent of schools in Lynchburg, and was in charge of the school at the University of Virginia. He seemed to me a rather remarkable man, especially in his broad vision in educational matters. He said to me: "I have here, in the colored high school, the Negro teachers who have come to get what I can give them. I have no money to pay for instruction for them and you are under no obligation to give them anything, but if you choose to lecture to them, they and I will be very glad." Of course I assented. Strange to say I found among the colored teachers better nature observers, by far, than I found among the white ones. Soon I discovered a fact that has been a stumbling block in the

THE COMSTOCKS OF CORNELL

way of Negro education. The Negroes look upon the white college men of their acquaintance as the truly educated. The white men of the South study Latin, Greek, and philosophy; therefore the Negro insists that only these studies educate anyone. A part of my work with them was to try to counteract their ideas in this regard. I talked the matter over with Professor Glass and he made a memorable answer: "They talk about the Negro problem. There is none outside of proper education. If we educate them and widen their intelligence and their interests, the problem is solved."

From Virginia Mr. Thro and I went to Chautauqua. My problem in the Chautauqua classes was difficult. The teachers had no background of science, and it seemed best to get each one in the class interested in some phase of nature that she could follow by herself later. I found trees, ferns, birds, and butterflies adapted for this work. All of the butterfly books were too advanced for use in these courses and I had besought my husband to write one with me. The Appletons had asked for such a book and I needed it. Mr. Comstock, who objected to my summer teaching as too hard for me wrote me: "I am devoutly thankful that the weather has been cool. That adds to the chance of your getting through the summer alive. The contract for our 'Butterfly Book' came from Appletons yesterday; but I shall not sign it until I see in what condition you are, at the end of the summer's work."

I lived through the summer of 1903, and soon after I returned home, Harry and I began working on our book, *How to Know the Butterflies*. Harry had been so busy in constructing what he termed a "pig palace" on Hilltop Farm, that he had had no time for writing during that summer vacation. We returned to Ithaca the last of September.

October 7, 1903, was our silver wedding day, but we did not mention the fact. We drove off into the country in the afternoon to celebrate by ourselves. We were surprised that evening by Cornell's Agricultural Faculty, augmented by the Wilders and the Gages, appearing at our Fall Creek Cottage and presenting us with a beautiful loving cup. Mark Slingerland had engineered

the affair. Professor Bailey's speech was full of feeling and affection. Miss Van Rensselaer smuggled in refreshments and we had a most pleasant and gratifying evening, an experience that has ever warmed our hearts when we glance at the loving cup with its inscription written by Liberty Hyde Bailey:

We count the sum of gain and loss
To make things what they seem;
And find it all as pain and dross,
Save love and high esteem.

In November, after my return to Ithaca from a course of lectures at the Phoebe Hearst Kindergarten School in Washington, D.C., we had so many interruptions that we were in despair of finishing our "Butterfly Book" and we held counsel; this resulted in our taking possession of a very small room on the floor above the entomological lecture room in White Hall. The room had a window and was heated. We called it "the cubby hole." When one of us retired into it, only the other knew about it, and the one who knew never told. Thus we were able to steal time for this book. In the laboratory, Mr. Comstock had the help of Alexander MacGillivray and so he was able to take an hour off now and then.

On November 13, 1903, I accepted a trusteeship at William Smith College, at that time a dream of a remarkable man, William Smith of Geneva, New York. He was born in England and never went to school after he was seven years old. He came to Geneva as a youth, and had never married. By thrift, hard work, and good management, he accumulated about a half-million dollars. He had an exalted ideal of the place of women in the world; he believed they should be educated and fitted in every way for motherhood, and to this end he wanted to found a college for women, at Geneva. When I accepted the trusteeship, the college had not yet been started, but Mr. Smith, then eighty-seven years old, had bequeathed his property to the trustees, to be used for this purpose. As trustees, we certainly had a problem before us.

This winter my husband and I bought a piece of land between

THE COMSTOCKS OF CORNELL

the University's land and Forest Home, called "The Pinnacle."¹ We knew that sooner or later the site of Fall Creek Cottage, our home on the Cornell Campus, would be needed for a University building and we wished to find a place for a new home nearby. At that time a trolley line was projected from Ithaca to Freeville. This would pass near our new tract, and we began to make plans for a home.

Early in May, 1904, Governor Odell signed the bill giving Cornell money for the College of Agriculture and designating it The New York State College of Agriculture. On May 12, the students celebrated this significant legislation by parading with floats and made a great show. One float showed the dairy girls and boys in white caps and aprons, churning and making butter ready for market. Other floats represented other departments. Still another float, on which twenty nations were represented, showed the international character of Cornell's students of agriculture. There was a great banquet that night with Governor Odell present. There were many speeches. Mr. Comstock made an excellent one.

This spring of 1904, our friend Albert W. Smith was called to Cornell as Dean and Director of the Sibley College of Mechanical and Electrical Engineering, a matter of much rejoicing to us. During the year, especially in the spring, we saw much of several Brazilian students. Mr. Comstock helped them in all ways he could, and at Commencement they gave him a loving cup inscribed: *Ao nosso mestre, J. H. Comstock, como prova de estima e consideracao A. Botellio, A. S. Coelho, L. Fagundes, C. Fagundes, J. Tibirica, W. Fagundes, 4 Maio 1906.*

On May 21, 1904, our book *How to Know the Butterflies* was published, and we were delighted with the colored plates in it. We took copies to former President White, and to Professor Bailey, and sent it to other friends. For Harry and me, it was always great fun to give our books to our friends.

¹ This forested hill has been designated by the University as Comstock Knoll, a forest reserve, in the Cornell Plantations, dedicated to the conservation of natural resources and beauty. See Ralph S. Hosmer, *The Cornell Plantations: A History*, and the University Quarterly, *The Cornell Plantations*, edited by Professor Bristow Adams.—R.G.S.

In the summer of 1904, I taught Nature Study at Chautauqua Institution, for the last time. Mr. Thro was again my helper. We had many good times together, for I had induced him to begin sketching in water color. Mr. Comstock was tired of living alone every July, and had decided that I must close this work. I too, thought it best to stop, but my classes had been large and appreciative and I was sorry to say good-bye to Chautauqua.

As soon as the term at Cornell ended, we fled for a rest to "The Hermitage," our summer cottage on Cayuga Lake. Ross Marvin² went with us to help put things in order. He was interested in nature. It was while we were staying there this summer that we bought this lake cottage we had learned to love. The house was in the woods about fifty feet above the lake and we bought the lake shore for some distance to the south, so that no one could build and disturb the wild beauty of the rocky shore.

In September we went to Otto. Mother had determined to sell her home and had promised to live with us permanently. It was a painful experience for us, especially for me, for I had loved this home and its surrounding hills with the passionate devotion of young girlhood, which had ripened into the restful devotion of maturer years. I shall never forget my mother's courage. We sent her to stay with a friend while we broke up the home. She sat upright and sturdy as they drove away and never turned her head to look at the place in which she had lived for forty years, the happiest years of her life. Meanwhile my cousin, Mary King, and I sat on the piazza steps and wept. Probably there is no sadder or more wearing experience in life than the breaking up of a home that has been established for many years. A house long lived in has a soul, a soul imparted by those who have dwelt in it. On that September 22, when we left the empty house, I felt that its soul departed also.

We established my mother in the study in our Fall Creek Cottage home, the pleasantest room in the house. Her old bureau and stand and rocker, and her pictures, made her feel at home,

² After graduation from Cornell, Ross Marvin was drowned, on his homeward journey, after serving as a member of Robert E. Peary's expedition to the North Pole.—R.G.S.

THE COMSTOCKS OF CORNELL

and she fell into our ways of living as naturally as if she had always lived with us.

Doubleday, Page and Company had asked me to write a book on bees. As I had been associated with Mr. Comstock during all of his experience with bees, I believed that I could write something that would be of use to beginners. I was also writing a little book for children on the study of wild flowers, for the American Book Company. And every month I had to get out a lesson leaflet for my large Cornell extension class in Nature Study. We spent the winter months at Ocean Springs, Mississippi, and there I finished two leaflets and the book, *How to Keep Bees*. Mr. Comstock was writing *The Spider Book*. We considered the climate at Ocean Springs ideal for winter, not enervating and yet warm enough so we could enjoy the out-of-doors.

On May 1, 1905, the ground was broken for Roberts Hall, the new Agricultural Building at Cornell, an impressive rite. Former President White spoke and so did Dean Bailey, who plowed the furrow, with students pulling the plow. Then we all spaded the earth and felt that we were entering on a new era of agricultural education.

This spring, Cornell came into the newspaper limelight because of the advertised bullfight, on our first "Spring Day," May 18, 1905. We had several young men from Cuba, Mexico, and South America, and they took for their part of the entertainment the putting on of a fictitious bullfight. In their beautiful costumes of matadors they marched in the procession, leading the great amiable dehorned bull belonging to the agricultural college herd. We paid admission to get into the bullfight tent and there saw our gloriously dressed matadors riding sticks with horses' heads carved on them; the bull was another stick with a bull's head on it. The program was carried through with perfect imitation of a real bullfight and with absolute seriousness. It was a rich performance. Dr. White lunched with us that day, and he declared the "bullfight" the funniest thing he had ever seen. He also brought us his *Autobiography*, in two volumes, very precious to us, both for its contents and its inscription.³ But

³ "To Prof. and Mrs. J. H. Comstock with the thanks and best wishes of And. D. White, May 1905."—G.W.H.

the newspapers, the length and breadth of the land, published the news that Cornell was having a bullfight for entertainment and President Schurman was overwhelmed with indignant letters. One, the most censorious of all, was from a person in Mexico who said that they had made great efforts there to stop this brutal sport and felt discouraged when a great university like Cornell countenanced it.

In California, Mr. Comstock's mother, Mrs. Dowell, was in poor health, and we were greatly worried about her, but it seemed impossible for us to make her a visit for many reasons, one being the expense of the journey. When, however, President Benjamin Ide Wheeler asked me to teach in the Summer School at the University of California, Harry and I felt that I ought to accept. My mother was feeble and I was not sure she would be with us to welcome me back but I thought of that other mother so far from us, and I made up my mind to go. When I reached San Francisco, I found Father Dowell awaiting me. I was glad to find Mother Dowell better than I feared. She was not ill but just failing physically and mentally.

I found a pleasant suite of rooms awaiting me at Hillcrest, near the Campus of the University of California. I lectured in the astronomical observatory, which was very pleasant. I had a class in Nature Study Methods and another in Nature Literature. My daily routine was lecturing in the morning and going to San Francisco to see Harry's family every afternoon.

Meanwhile the summer school at Cornell was in session. For twenty years, Mr. Comstock had had a summer term of ten weeks in entomology, with very important results. It had brought to his laboratory many graduates from other institutions who were able to accomplish a term's work toward an advanced degree. Later, when the University established a summer session of six weeks, it was not practicable to demand all of a student's time for entomology, as had been done formerly. Thus the entomological work was so changed that Mr. Comstock gave up the ten-week term. After his teaching became a part of the regular summer school, it was never quite of the quality of that of earlier summers.

Harry had begun again to arise early, to work on *The Spider*

THE COMSTOCKS OF CORNELL

Book. On July 10, 1905, he wrote: "I worked on spiders in the early morning (4:45 to 7); lectured at 8; went into the field for a reconnaissance from 10 to 12; and took the class into the field from 2 to 5 P.M. It would have been a delightful day's work if it had not been so long." My husband worked with characteristic enthusiasm on the spiders, as another letter of his shows:

My own day has been a successful one. I went to the laboratory at 5 A.M. and, except for a little break at breakfast time, worked on *The Spider Book* until noon, and the work went well. I wrote up five species, which is an unusually large day's work for me. Today I have finished threshing out a table of the genera of the Theridiidae, the cob-web weavers, upon which I have been at work for three weeks. It is one of the jobs I have been dreading, as no one has written a table that will work, and these spiders are very common so I *had* to have a table. We have tables by Simon, Keyserling, Cambridge, and Banks, and in each case, one of the principal divisions was 'males with stridulating organs' and 'males without stridulating organs.' As females do not have stridulating organs, and as three out of four specimens collected are females, these tables are of little use; so I have had to find a new set of characters. None of these authors is a teacher; if they had tried their tables on students, I think they would have modified them. This forenoon I spent in the field. We went up along Fall Creek and found many interesting spiders. This afternoon I have been photographing some of them; a big *Dolomedes* and her egg-sac; and a *Lycosa* with her back covered with young. Both were very trying subjects as neither would stay posed; but I think I got good negatives of both at last.

Harry was planning a short visit to his mother in California when, on December 16, 1905, we received the news of her death. Her failing health and strength had left her little pleasure in life, but her courage was unfailing. Her cheerful outlook, her integrity, and her happy way of making the most of the pleasant things of life, combined to make a strong character and a lovable woman. Her death was a great sorrow to both of us. Harry had always held for her deep love and tender devotion.

On January 2, 1906, William Smith of Geneva spent the day with us and I took him to the photographer for what is the only authentic picture of him in possession of the college which he

founded. I also took him in the afternoon to see Professor Corson, and as both were ardent spiritualists, they enjoyed each other greatly.

For years after my long illness in 1884, I found it difficult to go to sleep at the scheduled time. To weary myself into sleepiness, I would write in my "Journal Intime" my reactions from the experiences of the day. These comments finally came to be more or less philosophical, but I never dreamed of giving them publicity. The habit continued, however, and I finally began to fashion a story in the setting of the nineties for my own amusement. Wilhelm Miller⁴ had given me a little Japanese figure cut in teakwood. This figure gave me the motif of my story, *Confessions to a Heathen Idol*. Harry was aware of this late-hour occupation of mine but he was too busy with his scientific work to be diverted by anything so unrelated. To my great surprise, I finished the tale in 1906. Then I went to my husband and said, "Harry, you will just have to read it. I shall not send it to a publisher until you do." So I gave it to him one night and then retired upstairs, leaning over the banister, with my heart in my mouth until I heard him laugh. Then I felt better. His judgment was absolutely correct: "For people who want this sort of thing, it is just what they want." It proved to be a book that has meant much to some, and nothing to others.

I sent the manuscript to Doubleday, Page and Company and it was accepted within four days; naturally I was jubilant. I felt that it would be scandalous for a scientific woman to write a novel so I insisted upon the *nom de plume*, Marian Lee. This was a futile gesture, for my friends guessed the name of the author within a short time.

On September 27, 1906, *Confessions to a Heathen Idol* was published, and I was breathless with excitement and delight. It received many interesting and favorable reviews, the best of all by Marion Reedy in the *St. Louis Mirror*. The book was so well

⁴ Wilhelm Miller was a Cornellian and a writer, editor, and teacher of horticulture. His wife, Mary Rogers Miller, also a Cornellian and dear friend of the Comstocks, did much noteworthy work in nature study in New York State.—G.W.H.

THE COMSTOCKS OF CORNELL

received that a second edition was published under my own name.

In April, my cousin, Eliza Little McCutcheon, and her daughter, Bertha Bard, from Gowanda, New York, visited us, at my earnest request. Bertha was a beautiful woman just verging on forty and I wished to use photographs of her to illustrate *Confessions to a Heathen Idol*. Meanwhile I had made an enlarged replica of the little teakwood image in plaster so that it could be used in the photographs. These illustrations received many compliments.

This year Mr. Comstock became interested in the organization, at Cornell, of the first of many Cosmopolitan Clubs in American universities. He was well acquainted with the men who were the chief factors in starting it, especially with Christian Bues, one of the students who met at our house on Sunday nights. Many Cornell students felt that they had no opportunity to know their fellow students from other nations, as each racial group persisted in keeping to itself socially. One of the fundamental articles in the constitution of the Cosmopolitan Club required that one half of the membership should consist of students from the United States. The Club has had a successful career at Cornell and similar Cosmopolitan Clubs have been established in other American universities.

About this time I was called to Geneva for a meeting of the William Smith College trustees, with President Stewardson of Hobart College. Other trustees at the meeting were Professor Nathaniel Schmidt of Cornell, Felix Adler, Henry Graves, President Stewardson, and Professor Turk, who represented Hobart, while I represented William Smith. We made plans for William Smith College in its relation to Hobart. It was left with me to decide whether it should be coeducational or co-ordinate; I decided on the latter because, with an old institution like Hobart, I felt coeducation would so change it as to alienate the alumni body. I had always been, and shall always be, a believer in coeducation. But circumstances alter cases, and I am sure that my decision was wise in the case of William Smith College, whose President Stewardson, an astute administrator, saw no end of trouble

with two boards of trustees, and so these colleges were combined. On December 14, 1906, I was elected a trustee of Hobart College.

My election as a trustee of Hobart was a source of amusement to Andrew D. White. He had spent his freshman year at Hobart and was greatly impressed by the dignified, ecclesiastical trustees of Hobart at that time, all of them bishops or noted churchmen. Mr. White said: "The world does move. The idea of a woman being elected a trustee of Hobart and of all things such a woman as you, Mrs. Comstock, born and reared a Hicksite Quaker and now a Unitarian!" And he laughed long and heartily. I found the trustees of Hobart a group of devoted, able businessmen with whom it was a pleasure to be associated. I am sure I showed more respect for the wishes of the only bishop among the trustees than did my colleagues.

During the fall of 1906, we were making habitable The Hermitage, our summer cottage on Cayuga Lake. We put a large window in the living room which gave us a wide view of the lake. This room was given a hardwood floor and was ceiled, to make it warm. Here we set up the wood stove that had been in my mother's parlor when I was a child. It had a grate and in the evenings we opened its front doors; this made it as cheerful as a fireplace. Harry and I spent weekends there, and on each trip he would walk the mile and a half from Taughannock Station to The Hermitage, carrying on his back a basket filled with materials for fixing the house.

The labor my husband performed in and about this place was remarkable. He added paths and built a fine wharf and a double-decked boat house, in the upper part of which we swung our hammocks, and from which we enjoyed the glory of many sunsets. The Hermitage was always a place where work was play; we dumped our cares at the Ithaca station when we left, but they were always waiting to jump at us on our return.

On April 26, 1907, there was a celebration at Cornell of Ezra Cornell's hundredth birthday, and the next day Roberts Hall, for the New York State College of Agriculture, was dedicated with imposing ceremonies. There was a large reception at the College in the evening. We entered into these ceremonies only

THE COMSTOCKS OF CORNELL

halfheartedly, for my mother was ill and we were filled with anxiety about her.

Mother always smiled at us with her face alight as she greeted us. Dr. Eugene Baker was sick and in his place sent us young Dr. Floyd Wright. Mother thought he was some friendly boy and patted his hand when he felt of her pulse. White wavy hair framed her face, her cheeks were pink, and her eyes, violet blue, were shining. Doctor Wright was greatly impressed by her beauty, and said to me: "I have never seen anyone so beautiful." Mother's last thoughts were of love and happiness for us. She died May 1, 1907, a beneficent, lovable presence during her life, a dear and vital memory since her death.

We had a simple ceremony in our home. Mr. Heizer, the Unitarian minister, spoke, and a Cornell student friend, Edna Mertz, sang "Crossing the Bar." As we were leaving the cemetery at Otto, a chickadee followed us, calling "Phoebe-Phoebe-Phoebe"—her name which she always loved to hear the chickadee repeat. It was as if he were calling good-bye.

Chapter 14 ↵ 1907-1908

Sabbatic Year Abroad

[In 1907-1908, Professor Comstock was granted his first sabbatic leave from Cornell. With Mrs. Comstock he visited Egypt, Greece, Italy, Switzerland, and France. Most of the trip was like that of other tourists, but the visits to the homes of dragomen, in Alexandria, were unusual and diverting experiences. The attendance of the Comstocks at the wedding of Professor Vernon Kellogg of Stanford University, in Florence, Italy, was also not a typical tourist experience.—G.W.H.]

AT ALEXANDRIA, we fell into the hands of a beguiling dragoman, Alexander Mustafa, called Alex. He spoke English well, as he had been in the employ of an English officer. He took us first through the solid, handsome streets of New Alexandria and then

through the native bazaars and narrow streets where stalwart men of every shade jostled each other. They were dressed in baggy trousers or long nightgown-like robes, their heads covered with turbans or red fezzes. The Egyptian women were clothed in black, and their eyes looked out on the world above their black veils. Over the lower part of their faces, the Turkish women wore white veils, some thin enough to show their features. The Bedouin women swung along with a second upper black skirt over their heads, their unveiled faces swarthy and purposeful. But of whatever nationality, each woman carried her small child astride one shoulder, one little leg down its mother's back and one on her breast where she could hold it firmly when necessary, and its little arms were clasped around her covered head.

The native boys were amusing, all in nightie-like garments reaching almost to their heels. But they were as full of pranks as any properly breeched American boy. They played ball and caught on behind carriages; they wrestled and ran and were full of mischief.

Alex took me shopping and his finesse as a buyer was worth remembering. He took me to a native restaurant and treated me to a cup of Egyptian coffee; I asked: "Alex, are you married?"

"Yes, madam."

"Have you children?"

"No, madam, not yet, I have been married only six months. I have also my mother and sisters to support."

"Cannot they find some employment to help themselves?" I questioned, at which he answered scornfully: "Any man who would allow his mother and sisters to work for money would be contemptible." I meekly held my peace. Then Alex asked, "Would you like to visit my home?" I was delighted to have this chance and thanked him.

We went to the Egyptian Quarter, where a narrow, crooked street wound through houses which were standing in Cleopatra's time and contained all of the smells which, since her time, had been hoarded there. Finally we came to an open doorway into a tiny hall where a man and woman were working, pounding some-

THE COMSTOCKS OF CORNELL

thing in a mortar. The hall was so narrow that they had to get up before we could enter. We went up a flight of solid but battered winding stairs and came into another tiny hallway. There was a scampering of women and I was ushered into a tiny front room, one side of which was taken with a huge four-poster bed with white spread and immaculate curtains. The window of the room was the finely carved *mashrabiyyeh* common to harems. Under the window was a red plush sofa covered with white, and in front of the sofa a marble-top table; at the other corner of the room was a wardrobe. Mrs. Alex was a buxom woman with olive complexion and languishing dark eyes. She was most impressive when her soft, black silk shawl was brought around to cover her lower face; for she was not pretty with her veil off, as her teeth were rather prominent. She welcomed me with both small hands, hurried out to make coffee, and brought it in tiny gilt cups on a silver server. It contained a bit of spice, and was delicious. She unlocked the wardrobe and took out a plate of pie-crusty cakes with holes in the middle. These were the Mohammedan Christmas cakes, and she urged me to take them with the coffee. She had a gold bangle in the middle of her forehead, gold bracelets on her small wrists, pretty slippers on her tiny feet, and silver bands about her ankles. Her dress was of calico, and she told me in sign language that she had been working and was so sorry that she was not dressed up.

Occasionally she came over and patted me and kissed me on both cheeks. She asked her husband to invite me to stay all night and sleep in the bed with her. I was obliged to decline. She was voluble and laughed excitedly. When, in a moment of thoughtlessness, she dropped her veil, her husband lowered his eyes, and, never looking at her, went out of the room. When he came back, she hastily put up her veil. She examined my dress with joyous laughter, and showed me her wedding garment, a beautiful ecru broadcloth dress, braided with white. Then she took down a dozen or more gay flowered dresses, made after the usual loose nightdress fashion of the near East. These made up her trousseau and her husband said they cost much money. He had told me that it cost him \$105 to get married, \$25 of which was for the

wedding breakfast, and that, as she was an orphan, she had no fortune. When I came away, she crossed herself and blessed me. All during my visit a rather handsome manservant came in and out, smoking cigarettes, took a cup of coffee in the hallway and looked at her as much as he wanted to; this seemed to argue a rather democratic relationship between mistress and servant. She did not appear to worry when she was unveiled before the servant, but before her husband it was another matter.

Alex was a dignified and courteous man while I was his guest, his dignity contrasting with the excitement and chattering of his wife. Alex said he gave his servant food, clothing, and four dollars a month. I asked him what the servant did and he said, "He sweeps out the house, gets up early, makes coffee for me, goes out on the street and buys things for the household, as the women do not go out." Alex took punctilious care of me on the street, assisting me at every step, and shooing everybody out of my way; the joke of it was, everybody took him seriously, and if I had been the Queen of Sheba, I could not have had the street made clearer for me, unless traffic were entirely stopped.

My interest in a new country is chiefly human, and the magnificent dragomen with their handsome clear-cut features, expressive eyes, and beautiful, becoming garments appealed to my artistic sense, a circumstance they were quick to discover. Mr. Comstock was bored beyond expression by them, because they always wanted to take us somewhere, or do something that had a price, and he would have none of them, an attitude they at once perceived. So one of the sights on the streets of Cairo that winter was myself walking along with two or three dragomen in close attendance, while my husband stalked on gloomily, ahead of the procession.

The night we arrived in Cairo a young man followed us to our room and had a fight with some of the servants, on the way up. His beautiful dove-colored gown was torn and he was breathing hard; I so admired his prowess that I promised him that if we had a guide in Cairo, it should be he, and he gave me his card. However, we never employed a dragoman in Cairo, but this young man met us often and my talks with him were enlightening. His

THE COMSTOCKS OF CORNELL

name was Abduhl Lamia; he was a tall handsome Arab with gray complexion, intelligent, quiet eyes, and beautiful teeth. He was an Algerian, and instead of the fez or turban he wore a little cap of striped silk and a long, black outer garment, "ah-by-yah"; under that, a dove-colored "yelleck" with wide flowing sleeves, and under that a pale yellow, silken garment that I saw only at the neck and wrists where it falls over the hands. He had a beautiful silken girdle wound around his waist. He invited me to visit his harem and we had an interesting walk and talk across to Mena village where he lived. He told me then that his mother and a married sister were living with him and that he was to be married the next summer to a very pretty and sweet girl. Abduhl's home consisted of two parts, one house above the other, like two huge steps up the side of a hill where formerly, there was a city, now in ruins. The house was whitewashed and had blue Venetian blinds. We ascended the steps and he threw open a door and ushered me into the parlor. It was a fair-sized, high-walled room with a brilliant, red-flowered carpet on the floor. There were no chairs, but around the edges of the floor on all sides, and set up against the walls, were cushions, a foot thick and three feet long, rather flat and hard looking, covered with varied bright cotton material. Two or three chairs were brought into the room, in my honor. The walls were white with pale blue dado, the timbers overhead were painted pale blue, and the ceiling white. From the open door we looked up at the great pyramid almost above us.

Finally Abduhl's mother appeared, pushing two small boys ahead of her and carrying a bright but delicate baby on her arm. They were all children of her daughter who was but sixteen years old. She was a handsome woman with a fine dignity of carriage, a full face, a healthy complexion, cheeks and lips painted red, eyelids touched with black pencil, a blue tattoo on her chin, teeth white, her nails stained with henna, and her small hands well shaped. Her earrings were long strings of bead-like stones and she wore many strings of beads to match with a green bracelet on one arm and a silver one on the other. She was dressed in black with a black shawl around her head and about her fore-

head in Egyptian style, so as to show her earrings. Abduhl brought in the coffee which he had prepared and gave me a cup, which I passed to his mother. The baby wanted it, got it, and another cup. When Abduhl left the room, we each talked our own language, neither understanding a word the other said; but we understood each other's attitude and smiles and when we said good-bye we made many bows and amicable salaams. I gave her a bunch of violets and she thanked me by putting her folded hands to the side of her head and bowing. She was evidently a woman of character and Abduhl told me that she lived with him because his father had married a young wife. He said that he would build her another house when he married.

Abduhl and I had a discussion of marriage. He said that he would marry and if he were happy he would not take another wife. I told him if he was not happy with one, he would be twice unhappy with two. He looked puzzled. I explained to him that in America the father of the girl paid the expenses of the wedding. He smiled a brilliant smile and said if he were an American, he should get married very often, for "it costs a young man very much to get married here." I replied that if he were in America he would get married only once and asked him if he knew why. He said:

"Yes, when American marries two wifes, they hang him by the neck until he is dead." I asked him:

"If a Mohammedan has two wives and they quarrel what does he do?" He answered seriously:

"Then the husband goes in with a stick and makes peace."

However, I noticed that his mother would not live in the house with the second wife, despite sticks. Abduhl said that his father and mother had made a pilgrimage to Mecca together when he was ten years old and had taken him because he cried to go. It took them only a month. He said many women went to Mecca but, of course, they were not allowed to enter the temple. I asked Abduhl if he thought a woman had a soul and he said: "Oh yes, I know it"—and then I asked the age of his fiancée.

"Fourteen."

"Too young," said I.

THE COMSTOCKS OF CORNELL

"No, just the right age for marriage," he maintained and asked:

"How old were you when you were married?"

"Twenty-four."

"How did you manage to get a husband if you were as old as that?" he asked in astonishment.

"How do you know your sweetheart is pretty and sweet?" I asked. "You surely have not seen her face." He gave me a knowing look out of the corners of his expressive eyes.

"I have seen her, I was not going to put my head in a bag," which showed Abduhl was a modernist, as did his next questions. He asked:

"Tell me what they teach in the University where your husband is Professor."

"Literature, Law, Medicine, Engineering, and Agriculture," I answered. He asked eagerly:

"Do they really teach engineering there?"

"Yes."

"Then if I were in your country I should go to that University. I think it a waste of time to spend years in learning the Koran."

Abduhl was a real friend. He did us many favors and offered to do more, without pay. All he ever got from us was a box of cigarettes which Mr. Comstock bestowed upon him and which Abduhl took reluctantly. After our return to Ithaca, he sent me a snapshot of his mother and of his wife, who really was sweet and pretty.

When we had left home, in December, 1907, we had but one definite engagement for the months we were to be gone. We had promised to be in Florence, in April, to attend the wedding of one of Harry's students, Professor Vernon Kellogg of Stanford University, to Charlotte Hoffman of California. The wedding took place immediately after our arrival. Charlotte had been staying in Florence for several weeks and had rented the Villa Orchio at Settignano, an ancient village on the hills east of Florence, where Michelangelo was born, had put it in order, engaged servants, and made it ready for the nuptials. The villa had a rose

1908-1912

arbor, a terraced garden with an olive orchard below it, and a commanding outlook, with the villa of d'Annunzio and that of Duse in the foreground.

On April 27, 1908, with other friends, we drove up to the Villa Orchio. Mary Austin, novelist and essayist, Professor and Mrs. C. M. Gayley, of the University of California, and Mrs. Charles Wheeler of San Francisco, California, were among the guests. The drawing room had a ceiling of inlaid wood and its furniture was of carved oak; for this wedding it was a bower of apple blossoms and in it the twain were made one—a noble pair, fitted each for the other and both for helping the world, as their subsequent life together demonstrated in many ways. After the wedding the guests left, for the honeymoon was to be spent at the villa, one of the most beautiful spots in the world. During our three weeks in Florence we spent three days at Villa Orchio, charming days with an unselfish bridal pair who made our intrusion seem like invited pleasure.

Chapter 15 ↵ 1908-1912

Cornell's New Quarters for Entomology and Nature Study

WHEN WE returned to Ithaca, August 4, 1908, it was very warm weather, but we were so glad to be at home that we did not mind. The Gages and the entire Entomology Department staff came to welcome us: Professors MacGillivray, Riley, Needham, and Slingerland. In September, I gave the address at the formal opening of William Smith College in Geneva. The founder of the College, Mr. William Smith, had asked me to speak for him, say-

THE COMSTOCKS OF CORNELL

ing: "You know what I would like to say and I wish you would say it for me." My address is printed in the William Smith Bulletin.

Our new official quarters in Roberts Hall were of great interest to us. At last Mr. Comstock had a large laboratory with ample windows, with no sashes to bring a bar across the field of the microscope. He won this point by showing Emmons Williams, the Treasurer of Cornell, a close friend, that window sashes impede clear vision in the field of the microscope. Mr. Comstock found his office pleasant. From its windows may be seen a broad landscape to the south and east. The insect collections were placed on the same floor as the lecture room, a great convenience. With three large laboratories, a lecture room, a workroom, and four department offices, Mr. Comstock felt richer than Midas.

My experience was not so gratifying. The Nature Study Department was housed in the two west rooms on the fourth floor. The window in my room was so high that one could see out only when standing. However, I had shelves for my books and a roll-top desk, which seemed a luxury. My assistant, Miss Ada Georgia, had an adjoining room in which we kept files. My classes met around a long table in my room. I kept the north room on the second floor of the Insectary as an overflow office, and as a place for speedy retreat, when social life in the house threatened to interfere with official duties.

On January 31, 1909, a great sorrow came to us. The wife of our beloved Cornell Professor George Burr died in giving birth to a son, and the child died also. I cannot describe the effect of this calamity on our Cornell community. Professor Burr had led such a noble and unselfish life, in helping others, that he had not married while young. His wife, Dr. Mattie Martin, was a beautiful woman, very able, an excellent scholar, and endowed with a charming and inspiring personality; we had all rejoiced that the two had found each other, and were glad when we knew they expected a child, for George was passionately fond of children. He had too much spiritual strength to succumb to this blow, but we all knew what he was enduring. Soon after his return from the funeral in Virginia, he again took his place at our table, as a member of our family.

It was during the winter of 1909 that I conceived the idea of writing my *Handbook of Nature Study*. I had worked for so long with teachers that I believed I knew how to help them and had already written many lessons in my Extension Service course in Home Nature Study. I consulted some publishers but received no encouragement. Professor L. H. Bailey also seemed to think a nature study book would not be successful financially; and my husband, who had so heartily and generously backed me in my former undertakings, was most discouraging. He said the book would never pay for the printing. I disagreed with the judgment of my friends and family. I believed that the book would pay for itself after several years; and I felt that I could not let all of the hard work I had done for teachers be lost. So I went at my task with defiant courage. I knew that my husband would help me financially with my book, even if he believed it would be a total loss, and so I put in every spare moment writing, although it was hard to find spare moments.

The Cornell Commencement in 1909 marked the thirty-fifth reunion of Mr. Comstock's class. There was no special provision for the class reunions in those days and no place available for a class dinner, but Harry was class secretary and felt that a dinner was his responsibility. We decided that we must take care of it ourselves. Mr. Comstock cleared out his big laboratory and the tables were set there. A smaller room was turned into a temporary pantry where viands could be kept hot. Our efficient house-keeper, Mrs. Margery Smith, cooked the food in Fall Creek Cottage and our student helpers carried it to Roberts Hall. A janitor in Boardman Hall, Lawrence Powers, a handsome, dignified, and reliable man, served the dinner with great éclat. It was pronounced a success.

We fled to The Hermitage as soon as Commencement was over. We were so tired that for two days we did not do much but sleep, and listen to the songs of the veery thrush when half awake. Soon Professor Glenn Herrick joined us. He had been called to fill the position made vacant by the untimely death of Mark Slingerland. Glenn had built a fine reputation as a teacher in the State College of Mississippi and had been called at a larger

THE COMSTOCKS OF CORNELL

salary to the State Agricultural and Mechanical College of Texas. In considering his call to Cornell, there was only one possible objection, that he was my cousin's son. However, as to reputation and accomplishment he was the best available man and had been elected.

We spent the summer of 1909 at The Hermitage. In the mornings I worked on the lessons for my *Handbook of Nature Study* and Mr. Comstock on his *Spider Book*. During the afternoons we worked on the house and grounds, making them more convenient and beautiful. Every evening at sunset, we went down to the boathouse and from hammocks swung from its upper deck, watched the sky, radiant with sunset colors that were reflected in the shimmering, opaline waters of Cayuga Lake.

In December, 1909, we took a step that was to lead to unimagined results. The Comstock Publishing Company had expanded to publish a textbook, *General Biology*, by Dr. James G. Needham. He had been suddenly called upon to give a course in biology to Cornell freshmen. This meant large classes. He had part of the text written and wished to write the rest in installments, to keep ahead of the class. Of course no regular publisher would consider such a proposal, and so Dr. Needham became a part of the Comstock Publishing Company and financed his own book. This added to the work of the Company, which had hitherto been managed by Mr. Comstock, with a student helper. Some work for the Company had been done by William A. Slingerland, a salesman in Ithaca, and he proposed to devote his evenings to the work, on a salary. On December 9, 1909, he was installed as manager of the Comstock Publishing Company, which continued to thrive. In April, 1912, Mr. Slingerland was given full-time employment, a fortunate decision, for he was resourceful in placing our books before the public. Publishers who knew of our expansion, prophesied a short life for the Comstock Publishing Company that had only four books to sell, but it is still prospering after seventeen years.

Another step in the growth of the Company was our purchase of a new home in 1910. We had bought "The Pinnacle," a forested hill east of Beebe Lake, when we were sure a trolley line

from Ithaca to Freeville would pass it; this, we thought, would solve the problem of getting help, at least so far as transportation was concerned. Now we heard disturbing rumors that this line was not to be built. At this juncture, our friend, Mary Fowler, Curator of Cornell's Petrarch Library, said that she wished to sell her house at 123 Roberts Place. I had always liked the inside of the house, but I think the thing that interested Mr. Comstock most was the light, dry, spacious basement. He saw that an office for the Comstock Publishing Company could be finished there, and the laundry used for the storage of books. For this rapidly growing infant industry, a suitable place was a pressing problem.

On November 6, 1910, we bought the house for \$10,000. Our next problem was to get the money to pay for it. Mr. Comstock went at once to Comptroller Emmons Williams and found that the University wished to buy our Fall Creek Cottage, on the Cornell Campus. The price agreed upon was \$5,000. We were well satisfied. The house had cost \$3,000 and we had lived in it thirty-three years, paying ground rent of one dollar a year. Next we must arrange to sell "The Pinnacle," which Harry had bought for \$1,100. I was in a plight, for I had always had a devastating ambition, to keep a cow, an ambition not shared by my husband, who did not wish to add the milking of a cow to his already too numerous professorial and domestic duties. So, without his knowledge, I had bought two lots in the little valley east of "The Pinnacle," for a barn and pasture. George Burr had helped me to make the first payments. I think I paid \$450 for the two lots. Now I had to confess to my ownership. Harry forgave me, and we sold my plots, with "The Pinnacle," to the University for \$5,555. We had heard severe things said by our professors of political economy about the sin of the "unearned increment," but we waxed jubilant that, without forethought, we had plucked such plums from this forbidden tree.

On February 8, 1911, Mr. Comstock finished the manuscript of *The Spider Book*. He always finished his manuscripts to the last footnote, and had every illustration ready and numbered, before sending anything to the printer. Long before I had sent

THE COMSTOCKS OF CORNELL

the earlier sections of my *Handbook of Nature Study* to my printer, and I was striving to keep ahead of the printer, a chapter at a time, trusting that I would have health and strength to finish the book.

Harry and I devoted as much time as we could snatch from our manifold activities to the necessary changes in the house that was to be our home. We had asked Cornell's Professor C. A. Martin, the architect who had built it, to help us. We planned to throw two rooms together on the second floor, to make a study for Harry; to add a sleeping porch above the entrance porch, and a bay window to the dining room; and to finish a room in the basement for the Comstock Publishing Company.

We had to purchase new furniture and I longed to go to Grand Rapids where I could select from a wide range of patterns; but that would cost so much that it did not seem worth while. At this juncture, I was invited by Miss Mary Wheeler to go to Grand Rapids, to teach a week in her Kindergarten Training School, with my expenses paid and a hundred dollars besides. This seemed a miraculous occurrence. I felt as if my wish had been granted by magic and I almost expected to take the journey on a flying carpet. I went by rail, however, and I never enjoyed a week of work more. It has seemed to me that all of the women I have known in charge of training for kindergarten teaching have been superior in every respect. Miss Wheeler was charming, lovable, and able. Although my week was busy with teaching and social activities, I found time to visit furniture warerooms and to order what we needed; after nineteen years of constant use, it is still in good condition.

In July carpenters began working on our new home. We had named it "The Ledge" because it was set upon a ledge of rock, meagerly covered with soil. In looking up the meaning of "ledge" I found it to be "a shelf on which things may be laid." This made it even more appropriate, for we were both nearing the age when we were to be laid on the shelf.

Both Mr. Comstock and I had long days of teaching and I had my book's proof to read; Harry often found time to help me at

this task. Although he believed that my *Handbook of Nature Study* would lose \$5,000, he was kindness and consideration personified in helping me get material and in helping me make up the book; this illustrates well, the kind husband he was. However busy the days, we stole time to go over to The Ledge and note the progress of the carpenters.

Days before we were to move, our dear capable housekeeper, Mrs. Margery Smith, began packing. The hegira occurred August 7, 1911. Mr. Comstock had estimated that there would be three van-loads and there were twelve. Harry was amazed that so small a house as our Fall Creek Cottage could contain so much and said we could never have put it back again if we had tried, but I knew where every piece was stowed. Those first days at The Ledge were chaotic. I had to teach every day and so did Mr. Comstock.

In many ways, it was heart-rending to leave Fall Creek Cottage, the house we had built and in which we had experienced half a lifetime of happiness and sorrow, success and perplexities, and the working out of a life program together. It had been hallowed by precious associations, through the many friends who had sat by its hearth; my mother had lived there for some years and had died there. There were innumerable ties that bound Harry and me to this home. Perhaps it was best that at this time the University was grading off a great section of our lawn and the dust was almost unbearable, so we were not in an atmosphere in which we could indulge in the sentiments natural to the occasion.

Our experience of uprooting from one home to settle in another gave me the feeling that a house has a soul which it attains only after it has become a home. For weeks after our moving, I felt that we were living in a house in which I was an alien; Harry confessed to a similar sensation. It was only after many friends had sat by the new hearth that we felt that we had another home. One of the great advantages of The Ledge was its charming sleeping porch that looks out into the tree tops beside Fall Creek. We slept here summer and winter for many years, until we were

THE COMSTOCKS OF CORNELL

commanded by the doctor to come in during very cold weather. Many a morning in zero weather, Harry looked like an Arctic explorer with his mustache iced.

On September 30, 1911, my *Handbook of Nature Study* came from the printer. It certainly was a ponderous volume, printed as it was on glazed paper. I was so glad to have it done that I was not so much elated over the appearance of the volume as I was relieved that it was finished. I looked it through and said to myself, "I am sure it will pay for itself, if it is given time enough." Mr. Comstock, ever practical, spent his spare time for a week wrapping my books to get ready for the day of publication, on October 7, the thirty-third anniversary of our wedding. I knew the book would help teachers, if they wanted help, but I was also aware that many would not desire anything whatever about Nature Study. I certainly did not foresee that teachers all over the United States, fifteen years later, would speak of it as their "Nature Bible."¹

In November, 1911, I went to Geneva to see William Smith, founder of the college that bears his name. He felt himself failing and had sent for me. We both thought it would be our last visit. His mind was clear and he talked as well as ever. I think he wished me to reassure him concerning the life he was soon to enter upon, and was comforted when I spoke to him of Cornell's Professor Hiram Corson and of his belief in messages from the spirit world, and his feeling that it was glorious to be a part of the great scheme of the universe and at one with its underlying power. Mr. Smith declared that a man should do his duty to the world without any thought of reward or fame. He said our friendship would not cease when one of us was gone and asked me to be true to my trust in looking after his college. He was infinitely gentle and lovable, and liked to have me hold his hand while we talked, as if he wanted to cling to his earthly friends as long as possible. I think he felt lonely at passing the barrier alone,

¹ Mrs. Comstock's *Handbook of Nature Study*, now in its twenty-fourth edition, has proved to be the best seller among books published by Cornell University. Before Mrs. Comstock's death, in 1930, this generously illustrated book of 938 pages had been translated into eight languages and had sold in North and South America, in Asia, and in Europe.—R.G.S.

although his faith told him that loved ones awaited him. I saw him twice after that. He died February 7, 1912, and Harry and I went to his funeral. Seventeen years have passed since then and I have attended every meeting of the Hobart and William Smith trustees since, except two or three, when I was ill. I have done my best to be true to my trust.

On January 13, 1912, Mr. Comstock lectured before Sigma Xi. His subject was spiders. It was a delightful lecture, illustrated with lantern slides of the webs he had photographed with so much skill. It was 16 degrees below zero that night; I noted in my diary: "Getting ready for bed in the sleeping porch, at 16 degrees below zero, is an extended, almost ritualistic performance."

In January, 1912, President Schurman asked Mr. Comstock to represent Cornell University at the celebration of the two hundred and fiftieth anniversary of the Royal Society of London, the following summer. This was exciting and delightful. Harry had intended to be in Oxford in August to attend the International Congress of Entomologists, and this important London function added to our anticipation.

Cornell's Commencement exercises this June were held out of doors, in the natural amphitheater, west of McGraw Hall, which, as a Cornell Freshman, Harry had helped to build. Mr. Comstock, in academic robes, gave the diplomas to the students of the College of Agriculture, as Dean Bailey was away. The students, in their black gowns and mortarboards, with gay tassels, were seated to face a platform on which were seated the University Faculty and Trustees, also in academic dress. It was a beautiful scene, lighted by sunshine and set in the vivid green of the June landscape.

Chapter 16 ↗ 1912-1914

Summer in England; Plans for Retirement

ON JUNE 26, 1912, we sailed from Boston on the S.S. "Parisian." The chief event of the voyage was seeing an iceberg of grand proportions; it was far enough away so that we could enjoy looking at the gleaming white, broken mass, with ultramarine shadows. One morning we saw whales spouting. The geography text of my youth had contained a picture of a whale spouting but I never believed it could be true until I saw it.

The morning after our arrival in London, Professors George Burr and Charles Hull of Cornell called on us, and later, two other Cornell friends, Florence Slater and Clara Meyers. We all went out to Kew Gardens and had a joyful day. That evening Mr. Comstock went to the first informal meeting of the delegates to the Royal Society anniversary celebration.

On July 16, at noon, there was an impressive service for the delegates in Westminster Abbey. It was a memorable sight: the delegates were all in academic dress, which ranged from the modest Cornell black gown with red and white hood, up through gowns of gorgeous reds and purples, to the ermine-trimmed green velvets of the Russians. That evening there was a great dinner in the Guildhall for the 490 delegates and guests. Mr. Comstock was greatly impressed by the beauty of the hall and the magnificence of the function.

The event of the following day was a garden party at Syon House, the home of the Duke and Duchess of Northumberland. It is a large old house, full of impressive furniture, beautiful pictures, and what seemed to us miles of shelves containing books.

Our host and hostess were attractive, dignified elderly people; they shook hands with us cordially and gave us the liberty of the house. A beautiful lawn extending from the house to the River Thames was the scene of the social part of the function. As we were passing toward the refreshment tent, a Hindu in gorgeous apparel approached us and Mr. Comstock presented me to His Royal Highness the Maharajah of Jhalipuhr, for me an exciting moment. Harry had told me of making his acquaintance, on the evening of the reception at the Guildhall. Mr. Comstock had met a few men whom he knew and then wandered around, lonely and ill at ease, until he saw a Hindu, in glorious raiment, standing alone and apparently ignored. Harry had had Hindu students whom he had tried to keep from being lonesome in America, so he approached the gentleman and introduced himself, by showing his name on the list of delegates. The Maharajah did the same and they had an interesting conversation. It was only afterwards that Mr. Comstock realized that the reason this Hindu was standing alone was that royalty is supposed to be alone unless it makes a sign that it desires company. But the Maharajah was pleased and ever after sought Mr. Comstock in the crowds; since then he has sent us a remembrance each Christmas and has given us a book describing his travels.

The closing event of the celebration was the garden party at Windsor Castle. The delegates were received by Their Majesties in the palace and were shown through it afterwards. The King and Queen were very cordial and shook hands with the delegates, an act which filled the English with awe.

Five of us made a pilgrimage to Selborne. I had always longed to visit the place where Gilbert White¹ lived and wrote. George Burr, Clara Meyers, and Florence Slater joined Harry and me for the day. We went from London to Farnham by train and took a taxi to Selborne. We motored through lanes where two carriages could not pass, narrow roads between high hedges made up of hawthorne, linden, elm, and other plants.

The approach to Selborne is up hill and down dale, past stone

¹ Gilbert White (1720-1793) was the author of *The Natural History and Antiquities of Selborne*, a pioneer work in natural history.—G.W.H.

THE COMSTOCKS OF CORNELL

and brick cottages, vine-covered and with gardens ablaze with flowers. The one long street of the village is perhaps as picturesque as any in England. Gilbert White's house, known as "The Wakes," is at the far end of the street opposite the village green, which is called the Plestor. Part of the house borders the street and some of it is slightly back, with an attractive tile and stone fence. The house is of brick and much has been added since Gilbert White's time.

The Plestor is on a side hill, and is not a spacious park. It has a large tree in it with seats around its trunk, even as in White's time. A path across the Plestor to the far corner leads to the church. Near the church is a tremendous old yew tree that arches the path to the church door and around whose massive trunk is a circular seat. The church is a stone edifice with mahogany pews and an oak-beamed ceiling. It is light, restful, and simple. There is a stone baptismal font by the entrance, and in the chancel floor is a dark stone slab with Gilbert White's name; above it is a tablet stating that he was for forty years a fellow of Oriel College, Oxford, and historian of his native town. The church is set in an ancient graveyard whose decaying headstones, covered lovingly with rose brambles and tall, graceful grasses, make it a beautiful "garden of sleep."

We visited the Hanger, to which White referred in his book. I had only a vague idea of what a Hanger might be, so I was full of interest as we followed a path up a slightly rising meadow and entered the woods on a steep hillside. The trees were beeches but differed from the American species in many ways. The boles were tall and slender and at the base were bent toward the valley, making me wonder if Hanger meant a forest where the trees hung on to the hillside by sheer strength of their roots. The branches were long and pendulous and the leafage was luxurious. The bark was greenish, perhaps because of some mossy growth. Looking out through the smooth high boles the atmosphere seemed filled with a pale green mist, so prevalent was the green of the bark and so fully did the leaf canopy shut out the light; it was like a vast cathedral. It was a day of deep satisfaction to me. For

years my Cornell students had studied the writings of Gilbert White, who had never traveled and yet had seen so much and had written so well that he had made countless men and women love his *Selborne*.

Harry and I left our companions at Faringdon that evening, they to return to London and we to make another pilgrimage to Winchester, so that I might see the River Itchen where another nature lover, Isaac Walton, forgot his troubles in fishing and in companionship with all that the fields and woods can give to one who understands and loves them. We spent a day wandering about this beautiful, quaint old town.

We were tired with sight-seeing and Charles Hull had suggested Porlock Weir as a place of rest. Here it rained almost continually. Finally came a fair day and we took a carriage to Oare and the Doone Valley, a drive of nine miles and a walk of six more. Our road took us zigzag up the mountainside through a forest of small white oak; some trees not more than six inches in diameter were growing from the old gnarled stumps of ancestor-trees. When we left the forest, we came out upon a moorland of great rounded hills, covered with magenta and lavender patches of heath blossoms against the almost black background of heath not in bloom. When we reached the crown of the hill, Oare Valley opened before us, beautifully green and winding among the hills. From here we could see the Dunkery Beacon, a barren hill, seemingly miles away.

A little hamlet of vine-covered cottages, Oareford, nestled close to the road, and shortly after we left it we came to Oare Village, the home of John Ridd, hero of Blackmore's classic *Lorna Doone*. A fine mansion now stands on the site of his home and the farming lands about it look fertile. The special feature of the village is the small but dignified church, built in the thirteenth century and set in a shaded graveyard. We were shown the window through which Lorna Doone was shot by Carver Doone, at her wedding. He could have done this easily, from the slope back of the church.

We drove on through narrow hedged lanes, which made us

THE COMSTOCKS OF CORNELL

nervous for fear we might meet another conveyance, and finally reached the place where the Badgeworthy Water meets the Wear to make the River Lynn. Here we left our carriage and walked on up a cart track, a green-hedged corridor, to an open road skirting a hill, where we saw a farmhouse called Lorna's Bower.

The Doone Valley lay before us. Stately hills, covered richly with heath and bracken, sloped down steeply to Badgeworthy Water, a rather wide stream, turbulent where it dashes over rocks and forming dark pools in level places. We entered the Valley by a path along the bank of the stream, in a forest of scraggly white oaks, whose trunks were covered with thick ochre-colored moss.

After a half hour's walk we reached the "water slide," where the water comes down swiftly over a smooth, steep stream bed. On the brink of this, Blackmore placed Lorna's house. It is a rugged valley, much more beautiful than the one where the Doones actually lived. Dotted with gray rocks, the slopes are rich with heather and bracken, and there are a few scattered, gnarled trees.

The water slide is the most picturesque point in the valley, but we desired to see the haunts of the Doones, so we went on and on over a rocky path along the sides of the hills until we came to a place where two mountain streams joined. We followed the stream that came in at right angles to the main valley. Here we found the ruined foundation of the Doone houses; one, rather large, was covered with heather. This last stronghold of the Doones is in a shallow valley. Sheep were feeding peacefully on the hillsides. There was a shepherd's cottage where we bought mineral water for much-needed refreshment. Our memory of the spot is that it was bleak and lonely, redeemed only by the limpid, flashing mountain stream.

On July 30, we went to Woking to visit Dr. Francis Morice, the President of the London Entomological Society, who had invited us to spend a few days in his home. This was a gracious recognition of the honor which had been bestowed on Mr. Comstock the year before, in making him an Honorary Fellow of the Ento-

mological Society of London. There were only twelve men thus honored, each representing a foreign country. Harry represented the United States.

We found that Dr. Morice was very fond of Lowell's poems and was curious concerning the pronunciation of those written in dialect. I read him "The Courtin'" and parts of the *Biglow Papers*, explaining as I read the "crooknecks" against the "chimbley" and the "ole queen's-arm" and "sparked," all terms unfamiliar to our host. It made me realize anew what we owe to Lowell for preserving to us the words, the thoughts, and the intimate environment of our ancestors.

The International Congress of Entomologists was a new organization. There had been but one meeting previous to this one at Oxford. We came from London on August 4 and found that we were to be entertained in a delightful home. The first day of the Congress was given over to attending different sections and listening to people of whom we had never heard. We were with the Vernon L. Kelloggs, of Stanford University, at lunch, in a great tent on the lawn of Wadham College. The next morning Mr. Comstock gave his address on "Spider Silk." I was so excited that I could not judge whether he had "done himself proud" or not; however, people were very complimentary, so I felt satisfied. On August 7 Mr. Comstock presided at one of the meetings.

To us, one of the important events of this Congress was meeting Dr. Anton Handlirsch of Vienna, the greatest of paleoentomologists. Mr. Comstock had worked hard and long on the venation of insect wings, as a means of tracing natural relationships and as a basis of classification. This had failed utterly to receive any real understanding or co-operation among systematic entomologists in either Europe or America, until the publication of Dr. Handlirsch's great book, *Die fossilen Insekten und die Phylogenie der rezenten Formen*. In this he paid tribute to my husband's work, saying that without the article by Comstock and Needham on classification by wing venation he would not have been able to classify his fossils. I was so grateful to him for this

THE COMSTOCKS OF CORNELL

recognition that I tried to thank him, and he said, with real feeling, that my husband was his master and he the student, in the study of wings.

Dr. and Mrs. Edward B. Poulton² had been kind enough to invite us to their summer home at St. Helen's on the Isle of Wight, and we were glad to accept. Their home was large, set in an intricate garden that was interesting as well as beautiful. Their two handsome, attractive married daughters, with their husbands, were there also.

Two incidents of this visit remain in my memory. Harry awakened early one morning and decided to get up and take a walk. I think it was 6 A.M. when he went down and soon came tiptoeing back; for as he attempted to pass through the drawing room, he discovered all of the servants there, while Mrs. Poulton was reading prayers. The other incident was a conversation which we four women had about domestic affairs: Mrs. Poulton said that the thing she could not understand in America was that the maid waited on the breakfast table, just when she should be attending to the beds and other housework. One of Mrs. Poulton's daughters told me how, in England, the house and financial standing of the family were judged by the number of servants kept. Then they asked me how I kept my house and I explained that I had one housekeeper and a woman who came for cleaning and washing, and that I always had a Cornell student to wait table and do some other light work. This dumbfounded my listeners and one asked:

"What kind of fellow would it be who would wait table while studying?"

"Oh, any kind of good ambitious American," I answered. Then she asked:

"Would he perhaps drop his h's?"

"Oh, never!" I cried, chuckling inwardly. "Why, I once had a relative of Kaiser Wilhelm who waited table for me for two years." This seemed so improbable to these Englishwomen and, I am afraid, so outrageous that they could not quite understand

² Hope Professor of Zoology in Jesus College, Oxford, and an eminent entomologist.—G.W.H.

it. How could I explain that one could rake over our proletariat with a fine-tooth comb without finding a lad who dropped his h's?

Dr. Anton Handlirsch was elected President of the International Entomological Congress. He made us promise to come to the Vienna meeting in 1915, and we hoped that we might. How impossible it was to imagine that this great scientist would experience not only financial ruin but hunger and privation, before the next meeting of this Congress.

After the closing of the International Congress we visited Rugby, because of Mr. Comstock's devotion to *Tom Brown's School Days*, then Warwick, where we found the most interesting castle of all those we visited in England.

Our next stop, Stratford-on-Avon, was delightful and interesting. There was a Shakespeare celebration going on, attended by a large number of teachers from Europe, as well as from Britain. In an antique shop in Stratford, Mr. Comstock found an old sundial, in a heap of junk, and purchased it at a small price. It was a perpendicular dial and later we mounted it on the gate-post at our home, The Ledge. The original owner, we judged, was an old royalist who had been a bitter recluse during Cromwell's regime. The inscription, translated, reads, "O happy solitude! O only happiness! To me the city a prison is, and solitude is paradise. God be with us and bless the work of our hands. 1663. Long live Charles II."

Next we made our way to the Lake Country. In my early years, my appreciation of Wordsworth was small. The lack of fire in his poems made them seem commonplace, but I had grown to understand and care for them and often I carried in my pocket a copy of the *Prelude*. It was not until I studied his life that I truly appreciated him. His generous, radical views had obsessed his youth. After seeing the results of such views in the French Revolution, Wordsworth was disillusioned, turned his back on the struggles of man in the political arena, and found diversion and healing in companionship with nature, even as did Isaac Walton. This gave me a new insight. For years I had recognized in Wordsworth the first poet who had found in nature the in-

THE COMSTOCKS OF CORNELL

spiration and the chief field of his art. One of the treasures I brought home was a copy of Wordsworth's *Guide to the Lakes*, a gold mine for a nature lover and perhaps the most generally popular book of the author. Matthew Arnold told of a reverend gentleman who naively inquired of Wordsworth if he had written any other books beside this guide.

We embarked for America on the S.S. "Haverford" at Liverpool on September 4. George Burr returned with us, which added much to our pleasure.

In Ithaca I busied myself with a new enterprise. I had conceived the idea of field notebooks for children in the public schools. They were to contain a series of questions which the students should answer from personal observation, and other questions to be looked up in books; one purpose was to relieve the teacher and put the responsibility upon the pupils. I began with bird notebooks.

On June 4, 1913, I received notice that I had been given the rank of Assistant Professor at Cornell. I had been given this rank once before, on November 10, 1898, but a year later was demoted to the rank of Lecturer when the University trustees refused to have women professors. The Faculty of the College of Agriculture was open-minded and progressive; and two years before, Martha Van Rensselaer and Flora Rose had been made professors because of their work in Home Economics. I had never asked for promotion, but my assistant, Alice McCloskey, felt that we were being overlooked, and I believe it was through her stand that I was given the title. My salary was \$1,500.

We were plunged into gloom in 1913 by the resignation of Liberty Hyde Bailey as Dean of the College of Agriculture. He had been most successful in getting recognition for the College, both at Cornell and in New York State, and had built it up in a magical manner. He was an ideal leader. It was a privilege to work under him and we hardly knew how we could go on without him. The moving reasons for Dr. Bailey's decision were that he was wearied with executive burdens and was eager to continue his research and writing.

On June 19, 1913, a meeting of the Faculty of the College of Agriculture was called. We were seated in the faculty room and when Dr. Bailey came in, we all stood. He spoke to us of his desire to live his own life and to do the work he loved best. He spoke feelingly of the co-operation he had received from us all. When he finished, we all stood in silence, as he went out. Not a word had been said. We were all too stricken to speak, and I look back on it as one of the most dramatic experiences of my life.

On December 6, 1913, Mr. Comstock resigned his Cornell Professorship, to take effect at the end of the year, as his sixty-fifth birthday would occur in February. President Schurman tried to dissuade him and urged him to stay a few years longer, but my husband was eager to do scientific research and writing which he could not do if he retained his active professorship. His time was entirely filled with executive duties and with his lectures. He had excellent graduate students this last year, among whom were W. A. Clemens, now Director of the Pacific Biological Station at Nanaino, B. C., I. O. Tothill, now Commissioner of Agriculture in the Province of Uganda in Africa, and Harold Morrison, now Senior Entomologist in the Federal Bureau of Entomology in Washington, and many others, but he had less and less time to give them. He longed for freedom to do the work he loved best.

The new year of 1914 found Mr. Comstock struggling with the reorganization of his department, against the day when he should leave it. It found me with the manuscript for the *Pet Book* nearly completed. It found the Comstock Publishing Company making a little experiment. Our friend, Mrs. J. E. Creighton, wife of the Dean of Cornell's Graduate School, had literary ability and artistic feeling. She had written nature songs for children and we published them. Louis Agassiz Fuertes and Anna C. Stryke made the illustrations, and when the little volume, *Nature Songs for Children*, by Katherine Creighton, appeared, we were very proud of it. However, our publishing organization was not adapted to selling this book for children. While we sold many copies, we

THE COMSTOCKS OF CORNELL

never did it justice and this experiment taught the Comstock Publishing Company a lesson regarding its limitation to the scientific field, in the book market.

In February, Mr. Comstock was elected Honorary Fellow by the Société Entomologique de Belgique, Brussels. I was always more excited than he over honors conferred upon him. He took his honors soberly and hoped he might show by his future work that they were deserved.

Chapter 17 ↴ 1914-1917

Retirement of J. H. Comstock; Research and Writing

FOR THE first time, Harry was willing to have his birthday celebrated, when he was sixty-five on February 24, 1914. The day began with a temperature of twenty-three degrees below zero but that did not cool our ardor. We invited all of the members of Cornell's entomological staff and their wives. Sixty came. It was particularly enjoyable, for, as an eminent entomologist, Dr. Paul Marchal, said, we were "like one family." Our housekeeper had made a gorgeous cake with sixty-five candles on it. I never saw Mr. Comstock in a happier mood. To him, his retirement as Professor and Head of the Department of Entomology, symbolized freedom from executive slavery and an unfettered opportunity to do the work he loved best—research and writing.

The principal events in our lives this spring were Harry's retirement and the fortieth reunion of his class. In connection with the reunion, he was very busy with correspondence and in making arrangements for the entertainment of his Cornell classmates. Harry engaged a house at 516 University Avenue, as the 1874 reunion headquarters. Twenty-five members of the class re-

1914-1917

turned, and nine of them brought their wives. This class reunion was really a house party. At the class dinner on June 13, the members presented Harry with a leather traveling bag and a silver water pitcher, in appreciation of his efforts in arranging for the reunion.

Harry was more or less anxious regarding his part in the University's program for the presentation of the Comstock Memorial Library Fund. The exercises were held in the afternoon of the same day as the reunion dinner. The following account is from the report of these exercises, published by Cornell University.

On the occasion of the retirement from active service of John Henry Comstock, Professor of Entomology and General Invertebrate Zoology in Cornell University, his former students presented to him a fund (\$2,500) for the establishment of a memorial library of Entomology. This fund was then presented by Professor Comstock to Cornell University, to keep in trust and to use its income for the purposes indicated by the donors of the fund.

The exercises in connection with the presentation of this memorial were held in the Assembly Room, Roberts Hall, Saturday afternoon, June 13, 1914. The Floriculture Department had prepared elaborate decorations; the date '73, when Professor Comstock was made instructor in Entomology, and '14, the year of his retirement, together with a large C, were formed in flowers and hung on the wall back of the stage.

At the hour set for the meeting, the University chimes were rung in honor of Professor Comstock, and very appropriately, for he was the chime master in 1872-3; and scores that had been arranged by him at that time were played. Some of these scores had been arranged at the special request of Jennie McGraw, the donor of the chimes.

The exercises were largely attended by former students, colleagues, trustees of the University, and other friends of Professor Comstock. An especially pleasant feature was the presence of many of his college classmates, who were in Ithaca, it being the fortieth anniversary of the graduation of their class (1874).

ORDER OF EXERCISES

Ringing of the Chimes	F. O. Ritter
Introductory Remarks by the Chairman	S. H. Gage, '77
Address	L. H. Bailey

THE COMSTOCKS OF CORNELL

A Letter from David Starr Jordan	read by Mrs. Ruby G. Smith
Address by a Classmate	W. R. Lazenby
Address by a Former Student	L. O. Howard
(Dr. Howard was detained by Government business, but sent a letter, which was read by G. W. Herrick)	
Presentation of the Memorial	J. G. Needham
Acceptance and Presentation to Cornell University	Professor John H. Comstock
Acceptance on Behalf of the University	President J. G. Schurman

Dr. Needham, at the conclusion of his presentation of this book fund, turned to Mr. Comstock and said,

I beg to hand you here the first volume of the special collection of books in entomology that we desire shall bear your name. Funds for the purchase of other books are at your command. We hope you yourself may use these books for many years to come for you will still be our co-laborer and guide. We ask you to accept this offering as a slight acknowledgment of our debt to you, and of our well wishes for your future years.

The volume was a handsomely bound copy of John Henry Comstock's essay on "The Theory of Evolution Illustrated by the Wings of Insects in Relation to the Classification of the Lepidoptera."

On December 2, 1914, my *Pet Book* was published. I had written it with the idea of making the lives of all sorts of pets happier and I trust the book has done this.

The Comstock Publishing Company now had enough books to make a display in the windows of the Corner Book Store of Ithaca. This display included my nature study notebooks, published recently. In an effort to lead the pupils in the grades to observe nature for themselves, I had written questions for the observation of birds, and Louis Agassiz Fuertes had made outline drawings of birds, for the pupils to color with crayons or water colors. These outlines, colored, made the exhibition window very attractive. Later, I wrote lesson outlines for flowers, trees, and the common animals. To this series of notebooks, Dr. Needham added a notebook on insects, and Dr. G. C. Embody, one on fishes.

On February 23, 1915, we moved the Comstock Publishing Company to a building which we had erected for its accommodation across Roberts Place from our home. We felt that this building was very attractive. Its proportions are excellent. It is a true Swiss chalet, with a second-floor balcony all around, and an outside staircase. Built of concrete and steel, with the casement windows leaded, this building is fire-proof. Across the front is the motto "Through Books to Nature." The beauty of this building has been a deep satisfaction to Harry and to me.

We celebrated Harry's sixty-sixth birthday by spending it in the chalet, settling the Publishing Company's effects and our own desks. We had such a wealth of room and light and beauty! We did not dream that in a decade this chalet would be so crowded with the book business that there would scarcely be standing room for visitors. It was such an expensive building that we had placed two apartments on the second floor and a bedroom and bath on the third floor, so that the rentals might help to meet the overhead of the Publishing Company.

During that fall Susanna Phelps Gage had been in failing health. I saw her and her husband in their car on October 4, 1915. The next morning she died. For thirty-five years, she had been my dear, intimate friend. Although she had never been robust, she had done a great deal of anatomical research that had won for her a name in the annals of science. She had kept a home for her husband and son, a home that was always hospitable and cheery, where hundreds of Cornell students had spent happy hours. It was always a privilege to be invited there to dinner; the spiritual good cheer was equaled by that of the physical, for Mrs. Gage knew how to prepare a good dinner quite as well as she knew how to cut microscopic sections. Her laugh was the sweetest I have ever heard. She was one of the most cultured and interesting women associated with the Cornell faculty.

On Professor Gage's sixty-fifth birthday, May 20, 1916, a banquet was held in his honor, in Risley Hall. It was a delightful, memorable occasion. A fund of \$10,000, for the establishment of a University fellowship in animal biology, had been raised by Professor Gage's former students and admirers, and the presentation of this fund to the University was an important part of this

THE COMSTOCKS OF CORNELL

celebration. There was a most appreciative letter from former President Andrew D. White. Addresses were made by Dr. B. F. Kingsbury, Dr. Abram Kerr, Dr. Theobald Smith, Dr. G. S. Hopkins, Dr. P. A. Fish, Dr. Veranus Moore, President J. G. Schurman, and Mr. Comstock. Professor Gage's charming, interesting personality won the love of his associates; and his devotion to his work and his scientific achievements have gained the admiration and respect of the academic world.

Mr. Comstock had been elected by the faculty to represent its professors on the Board of Trustees of Cornell University. This experiment, an innovation in University management, was looked upon by many as a mistake. Mr. Comstock had no vote, but was present in an advisory capacity, at meetings of the Board.

On October 5, 1916, we sold Hilltop Farm for \$15,000, without the herd, which was valued at \$2,000 more. It was a wrench to our feelings to sell this abiding place, for this farm had been in possession of our family for nearly a century. However, the monthly trips to the farm, although not so hurried as when Harry was teaching, were exhausting, and the care of so large an investment, so far away, was wearing him out. I loved the place where I was born, but I loved my husband a great deal more and was glad to have him free from this incubus, free to spend all of his energies on his scientific work.

Mr. Comstock was nearing seventy and was working steadily eight or ten hours each day, trying to unravel the tangled skein of the evolutionary relations of insects, as shown by their wing venation. As soon as he worked one thread free, at one turn of the reel it would tangle again. Never had he been more vigorous mentally than now. He had no university duties except to be present at meetings of the Cornell trustees.

In November I was invited to speak about trees before the seventh and eighth grades of the school at Perry. When I arrived at the school, I found 200 of the primary children and 300 of the upper grades, awaiting me, all in one room. I was at my wits' end, for it is very difficult to hold the interest of small wrigglers while talking to older pupils. I had an inspiration. I began by saying

that I had a pet at home, guess what? Many guesses were made, none of them right. My pet was a scarlet oak tree and I told how its leaves had to prepare its own food, how it lived and breathed and blossomed, and how its acorns were scattered. Guess how old my pet tree is? Many guesses—all wrong. It is 400 years old; and then I told them of all my pet tree might have seen, of Indians and panthers, of bears and wolves and deer, in four centuries.

About this time, I rewrote an article on the winter aspect of trees, written several years before for *Country Life in America*, and made it into a booklet, *Trees at Leisure*. Illustrated prettily with photographs, it was published in time to send to our friends for Christmas, and a second edition has been printed.

In 1917 new duties began for me. During my attendance at the meeting of the American Association for the Advancement of Science in New York, during the Christmas holidays, the American Nature Study Society elected me Editor of the *Nature Study Review*. I had been writing for this periodical ever since it was started, in 1905, by Dr. Maurice Bigelow of Columbia. The Comstock Publishing Company had taken over the printing of the magazine in 1915 and since then I had done much editorial work on it. Dr. Elliott Downing was weary of the responsibility and labor of the editorship; for he was teaching and had other writing that he was anxious to do.

The Department of Entomology suffered a great loss this year, when Dr. Alexander MacGillivray was called to the University of Illinois. His interests and work had always been in systematic entomology and the position in Urbana was a chair in this subject; it was the chance in a lifetime for Dr. MacGillivray to get the position he most desired. Mr. Comstock was always glad to have his assistants better themselves. However, Dr. MacGillivray had been an important part of the Department of Entomology at Cornell for so many years that we all felt lost without him and his excellent wife and young sons in whom we had taken so much interest.

Suddenly our nation was plunged into war. On April 4, 1917, President Woodrow Wilson sent his war message to the United States Congress. Ever since the sinking of the "Lusitania," the

THE COMSTOCKS OF CORNELL

fear of German aggression had been increasing. Now it had swollen to a flood of indignant emotion and, like a slow wave, had moved from the East to the West. Yet when war was declared, our hearts sank, for we knew that many of our young men would never come back from France. My husband and I had vivid memories of the horrors of the Civil War and we had no illusions about what war meant. However, when the Germans refused to modify their submarine policy, it seemed that we might have to fight them on our own territory, if they conquered the Allies.

Many of us had been in Germany and had resented the overbearing manner of the German officers and the glorification of the military. We had objected to getting off the narrow sidewalks to let officers pass. When Andrew D. White was United States Ambassador to Germany, he and Mrs. White were visited by a spirited American girl. She declared she would not step aside for a German officer again. One day she stood her ground. She stopped. The officer stopped. She probably looked mutinous, for he lifted her by the elbows into the street and passed on. Such incidents had made Americans revolt against what seemed a petty military tyranny, dangerous in its possibilities.

Chapter 18 ↵ 1919-1921

Retirement of Anna B. Comstock; Writing and Teaching

ON JANUARY 2, 1919, we started south. The packing and starting were, as usual, a cataclysm in our establishment. Professor Gage took us to the restaurant in the basement of Sibley College for dinner and he and Jim and Mrs. Margery Smith went with us to the train.

The trains were all packed to the limit. Surely traveling under the aegis of McAdoo in those days was an achievement as well as a journey. The middle of January found us happily settled in the excellent St. George Hotel in St. Augustine, Florida, for we had decided to spend the winter there. I had taken a severe cold, and my winter was made somewhat miserable by my enemy of many years' standing, bronchitis.

Mr. Comstock had brought along the chapter on Diptera¹ of *An Introduction to Entomology*, and he worked steadily on it mornings and evenings. In the afternoons we wandered about the ancient town and studied its relics of the past. I sketched picturesque old Fort Marion and we tried to imagine what its grim cells and torture chambers had seen of human misery. One way to become optimistic concerning the present is to take a careful look at the past.

Some afternoons we spent on South Beach. It had its own peculiar charm: the dunes, beset with prickly pear and saw palmetto, each trying to hold the sands in place; the pelicans fishing; the fascinating flocks of sanderlings that follow each receding wave, probing the sands for food, then arising, as a flock, in retreat before the oncoming billows. We never wearied of watching them. Sometimes we went to the lighthouse on Anastasia Island where the wind-swept trees take tortured, fantastic shapes; sometimes we took the little steamer "Pauline" to North Beach, where we had sea food at the famous "Capot's Local."

On the last of February, "Jim" Russell² arrived, and then we had plenty of activity. We wanted to take him to all of the places we had found, and introduce him to all of our friends. He went with us on an inland voyage to Daytona, on the little steamer "Sea Gull." We threaded our way through tropical scenery for sixty-four miles; we were especially interested in the hosts of herons of at least three species, the ospreys and kingfishers, and the many species of ducks which had taken possession of these

¹ Diptera—an order of two-winged insects: flies, mosquitoes, gnats, *et al.*—G.W.H.

² George H. Russell, nicknamed "Jim," lived with the Comstocks for some years and became like a son to them. A Cornell graduate, he is now an attorney in Ithaca.—G.W.H.

THE COMSTOCKS OF CORNELL

waters. We took a tourist's glance at Ormond and at the magnificent Daytona beaches.

When we returned to Ithaca in late March, Professor Gage and Will Slingerland met us and brought us up East Hill through snow a foot deep, while the air was filled with sharp, blinding flakes.

In June, 1919, Cornell celebrated its semicentennial.³ It was a great occasion. The big State Drill Hall (Barton Hall) was used for the first time for a social function when a dinner was served there, June 20, 1919, to 4,800 persons. The School of Home Economics had charge and it was a great success. Mr. Comstock and I met more of our former student friends on this occasion than ever before. Harry's class and mine had reunions, and as their dinners occurred on consecutive nights, we attended both.

At Commencement, June 23, Mr. Comstock and I walked together in the academic procession. It was George Russell's twenty-first birthday and the day on which he received his B.S. degree, although he had finished his undergraduate work in December.

On July 31, 1919, I was made a full professor. I regarded it a tribute to my long service, but it was a tribute also to the Department of Nature Study which I had developed. I was near the retirement age and was glad that my successor would be a professor, instead of an assistant professor or an instructor, to carry on the nature study work.⁴

On September 1, 1919, I was sixty-five years old. Two of my students spent the afternoon with me and photographed me in our yard by the sundial. Its shadow showed that evening was approaching and that seemed fitting. My student, Mary C. Lowe, honored my birthday with the following poem:

³ The celebration had been deferred a year on account of the war.—G.W.H.

⁴ As an educational pioneer, Anna Botsford Comstock's teaching of nature study led to her appointment as a Cornell Professor and as first head of the University's Nature Study Department. Through her leadership and teaching, her books and other publications, she helped to extend Nature Study, as an academic subject, to the schools and colleges in the United States and in other nations.—R.G.S.

To Anna B. Comstock,

On her sixty-fifth birthday

You show us beauty everywhere,
In flower and bird and tree;
You open windows which look far
Into infinity.
And we who love these things turn back
Today with word of praise
And grateful hearts to wish you joy
For all the onward ways.
And through the greetings, like a bird,
A something sings and sings
A blessing on you every day,
Interpreter of Things.

That autumn of 1919, women voted for the first time. I went to the polls with mixed feelings. I had never belonged to the suffrage movement for two reasons. First, I did not think the women's vote would change the state of national politics, and I believed that women would be more influential in municipal affairs in which suffrage had been granted quite widely. Second, I felt unequal to voting wisely. Both of these reasons still hold good. I had always believed women should have the same political rights as men, as a matter of justice, but I did not feel like taking up the cudgels for the cause. I had been using all of my strength to fight narrowness, prejudice, and injustice, in the curriculum of the common schools, and I was weary with fighting. Harry and I had always been in accord in our political views; and he welcomed my advent as a voter so that I could take a more active part in trying to discover how we ought to vote. We were always independent of parties, sometimes registering in one and sometimes in the other, but with no confidence in the platform of either. We tried to choose the candidate whose record showed that he would do right and would represent the people's interests. It was this motive that made us vote for Alfred E. Smith for Governor when we were registered as Republicans.

THE COMSTOCKS OF CORNELL

Mr. Comstock was so enthralled by his writing and research that he felt he did not have time or energy to attend the 1919 meeting of the American Association for the Advancement of Science, during Christmas week, in St. Louis. I was obliged to go, since I was Secretary and Editor of the *Nature Study Review*, and the American Nature Study Association always met with the A.A.A.S. The *Nature Study Review* was not paying its expenses, and at this meeting a method of extending the subscription list, by establishing clubs for Nature Study, was decided upon. Several clubs were established.

In January of 1920 the Comstock Publishing Company bought our book, *How to Know the Butterflies*, from the Appletons. They would not reprint the book unless they could sell it at a practically prohibitive price. We have been able to keep this useful volume in print at a moderate price.

The Comstock Publishing Company, this winter, published outline drawings of animals with the idea of helping teachers of geography. Louis Agassiz Fuertes made superb drawings for the set. Strange to say, this publication has never been used as widely as we believed it would be. Teachers of geography do not seem to realize the interest of children in the wild animals of the forests, plains, and mountains—just the things that would help to fix in their minds the nature of the country.

This was a very cold, stormy winter and my husband declared that he could work at his writing only for short intervals, between stokings of the furnace. He would never trust the care of the furnace to anyone else, for he knew best how to keep the house warm and the coal bills down. Most of the Cornell professors attended to their own furnaces; few of them were wealthy enough to keep a house-man, and in this particular branch of labor student help was often a delusion and a snare. I was amused, when I visited Dr. and Mrs. Paul Shorey of Chicago, to find that this eminent classicist also attended to his own furnace. I had always held him in awe but this brought him off the pedestal and made him a brother to other professors in American colleges.

In January Mr. Comstock was re-elected to represent the Fac-

ulty on the Board of Trustees. He was surprised at this, but felt glad to be trusted in this office which he believed was most important. It turned out to be even more important than any of us dreamed, for President Schurman resigned, February 14, 1920. This was a great disappointment to us, for he seemed to be at the height of his success and usefulness. Many of us felt hurt at what seemed to be his desertion, and our feeling of injury was greater because this meant we would lose Mrs. Schurman also, and we were devoted to her. We all had to realize, however, that a man's life is his own. Mr. Schurman had labored long and ardently for Cornell and the University had flourished mightily under his administration.

Mr. Comstock, as the Faculty representative on the Board of Trustees, found new duties and interest in trying to find a President for Cornell. Albert W. Smith, Dean of the Engineering College, was named Acting President, in March, 1920, and carried the work successfully for nineteen months. On November 19, 1920, after more formal entertaining, there was a great get-together of the entire Cornell faculty and their families in the immense State Drill Hall—due to the enterprise of our Acting President and his wife, Mr. and Mrs. Albert W. Smith.⁴ It was a revelation to us all. None of us had realized how large Cornell had grown. Twenty-five hundred men, women, and children were present for dinner and fun. The psychological effect was marked. A new pride and *esprit de corps* was engendered by the realization of the bigness of our University and we were all grateful to "Albert and Ruby" for giving us this experience. I doubt if there has ever been a man connected with Cornell who was loved by so many Cornellians, both students and professors, as was Albert W. Smith. His radiantly beautiful wife was a joy to our eyes and a treasure socially.

On April 17, 1920, the first part of Mr. Comstock's *An Introduction to Entomology* was published. This part deals with the structure and metamorphosis of insects. It was published separately so that it could be used in the Cornell laboratory. We were

⁴ See *Who's Who in America*.

THE COMSTOCKS OF CORNELL

very glad to have it in print but I knew that Harry, when looking at it, felt the urge to complete the second part, which meant much more work.

The last of April, 1920, I went to New York as the guest of Dr. William C. Thro and Mrs. Thro. My business there was giving lectures in nature study, before the Brooklyn Teachers' Training School, the New York Teachers' Training School, and at the Brooklyn Botanical Garden. From New York I went to Providence, Rhode Island, where I lectured before the students of the Rhode Island Normal College and was the guest of Professor and Mrs. W. G. Vinal. Dr. Vinal talked to me about the value and convenience of loose-leaf notebooks for nature study. I came home enthusiastic over this idea, and W. A. Slingerland, manager of the Comstock Publishing Company, thought well of the plan. This was the beginning of our extensive loose-leaf series, which are printed in many thousands every year.

Mr. Comstock was hard at work on the second part of *An Introduction to Entomology* and I was writing articles for *Compton's Young People's Encyclopedia*. Our writing was the thread on which our days were strung, despite a thousand interfering activities.

After the Cornell Summer School of 1920, Harry and I sat for our portraits in the studio of Professor Olaf Brauner of the University's Fine Arts faculty. We had always been appreciative of Professor Brauner's portraits because of excellent likenesses, as well as of artistic rendering.

During the last days of September, 1920, we had as our guest Dr. R. J. Tillyard of Australia, an eminent entomologist and an interesting man. He liked to argue and, as he did not agree with some of Mr. Comstock's conclusions in the matter of veins in insect wings, he wanted to discuss the matter on every opportunity. Harry regarded such discussion as futile and I was greatly amused to see how adroitly he changed the conversation to other topics. Dr. Tillyard, like other Englishmen, put his shoes outside the door of his bedroom at night and Cornell's Professor Comstock blacked them. Mr. Comstock gave him a dinner at the University Club to which all the Department staff was invited

and we were happy and honored by his visit and have received charming letters from him since.

On January 27, 1921, I gave my last lecture before a class of regular students at Cornell. I gave it in the old Insectary—that place of so much excellent scientific work and of so much of our happiness in teaching and in writing. My class was most appreciative and gave me a handsome portfolio. This pleased me greatly. My classes had always been appreciative, and teaching had been a joy to me. This last day, in the dear old place, gave me the shock that always comes when one realizes that periods in life end as well as begin.

A pleasant incident occurred in the summer of 1921. Mr. Comstock had always kept in touch with Captain Lewis Turner's family at Oswego; however, we knew next to nothing of the great-grandchildren of "Pa Lewis," until I received a letter from one of them, Margaret, daughter of Joel Turner, Jr., stating that she had graduated from the Oswego Normal, was interested in nature study, and asking my advice. We invited her to come to the Cornell Summer School and live with us, as a daughter in the family. She came, a shy, quiet girl, very good looking, with an exquisite complexion, perfect teeth, and fair hair with a glint of red in it. She was earnest and studious and found her niche in our family life. Her "Uncle Harry," as she always called Mr. Comstock, had been a tradition in her family and she regarded him with loving reverence. Soon there grew up between them a rare companionship which developed in a matrix of silence. She sat in his room to study or read and would never speak, unless he spoke first. This gave him a sense of having someone near, but one who never interrupted his work or thought.

At the end of this summer session, on August 12, 1921, I gave my last lecture as an active professor in Cornell. It seemed to me then a greater occasion than it really was. My class presented me with \$25 in gold "to buy books," a gift I greatly appreciated and used as directed.

That fall we went with our good friend "Jim" Russell [George H.] for a vacation trip through the Adirondacks to Ticonderoga, where we visited the Ethan Allen museum, because it was to this

THE COMSTOCKS OF CORNELL

branch of the Allen family that Mr. Comstock's mother belonged. My mother's family came from Vermont and she knew several tales of Ethan Allen that are not in print. In view of Harry's relationship to Ethan, I relate one of them.

Ethan and a comrade were riding through the forest one day when a violent thunder shower occurred and a tree was struck by lightning, a few rods ahead of them. Ethan exclaimed: "Well done! Now try that old pepperidge." The words were scarcely out of his mouth when the tree indicated was riven by a thunderbolt, at which Ethan came back with: "Now, damn ye—try old Ethan." It is said that his companion immediately dropped behind the Colonel a safe distance, but nothing happened.

Chapter 19 ↗ 1921-1926

Tributes to Two Distinguished Scholars

THE LAST week in December, 1921, the American Association for the Advancement of Science met in Toronto. As the retiring President, Dr. Leland O. Howard gave a memorable address and Harry and I were very proud of him.

During this annual meeting, December 28, 1921, a surprise came to Mr. Comstock, when a dinner was given in his honor in Annersley House. Sixty-nine were present, many of them my husband's former students, and all of them friends. Dr. P. W. Claassen of Cornell had arranged the affair in a masterly manner, characteristic of this able young scientist. Dr. Howard presided most happily, his customary brilliancy made cordial, as well as scintillating, by his love for Mr. Comstock. The impromptu speeches paid heartfelt tribute to my husband; and he, in turn, spoke with much feeling and delightfully. I think Harry was hap-

pier over this unexpected honor than at anything that had happened since his retirement.

The entomological meetings were excellent. We listened to the scientific papers by many of our former students; and there was one new one among them in whom we took great interest, Miss Grace Griswold of Cornell, who did exceedingly well in this, her first appearance before a scientific gathering.

We were entertained in interesting ways. There was a reception for us in the palatial Government House and a *conversazione* in the magnificent Hart House, the Student's Union of Toronto University. A dinner was given to the women in attendance in the great hall of the Hart House. To my utter dismay, I was seated at the table on the platform next to the Governor's wife and the President and was told that I must say something. Lady Falconer made a good speech and so did several others. My heart had sunk to the very heels of my slippers and my mind seemed devoid of ideas. But when I was called upon help came from above. I spoke of my childhood in western New York when Canada had been a purple line on my horizon, beyond Lake Erie, of how I dreamed that it was a land of beauty, and of my ambition to visit it. I said that I found it both beautiful and friendly, a sister country, with all of the conflict of a hundred years ago gone, as I could illustrate in my own family history. At the time of the American Revolution, Amos Botsford, of my family, was a professor in Yale University. He remained loyal to England and was made the leader of the Tory migration to Canada after the war. For his loyalty he was knighted, and a coat of arms was found for him, a dove upon a shield. My grandfather, who fought in the War of 1812, was so angry that a Botsford had thus acted that he disowned him. Behold the change! Now the "Band of Botsford"—all of whose members are loyal United States citizens—have proudly put on their stationery, as I have on mine, the dove and shield, the coat of arms won from King George by our Tory ancestor. This was greeted with cheers and laughter.

In March, 1922, I was launched as a candidate for Alumni Trustee of Cornell. I was reluctant to permit my name to be used, for I did not wish to assume the responsibility of a trustee-

THE COMSTOCKS OF CORNELL

ship. I had retired from my active professorship and I wanted freedom from university cares. However, I was overpersuaded, but I was not elected. In 1923 I was again persuaded to be guilty of the same folly, although I knew I would not be elected. The Cornell alumnae felt that I was the only woman graduate who stood any chance of election, and so I yielded, only to experience a second defeat, by a small margin. The majority of men graduates was so overwhelming that it seemed hopeless to try to elect another woman to the Board. However, Dr. Mary Crawford, although twice defeated as a candidate, won the third time. I was indignant that the men were so unfair toward women, but I was thankful that I was not elected. I had already planned for some winters away from Ithaca and I did not wish to be tied down to the work of a woman trustee. It was interesting and characteristic that I had the loyal support of the *Cornell Countryman* and of the men graduates of the College of Agriculture.

Late in the spring of 1922, President Farrand addressed a meeting of the Alumni in Chicago, which I attended. He pleased everyone by his remarkable gift of saying perfectly what he wished to say. On the train coming home, I had an interesting talk with Robert H. Treman, who felt deeply gratified that Cornell had finally acquired such a President, as he had been on the committee for selecting a man for this position. Mr. Treman was a member of my original class of 1878 in Cornell. I remember him as a handsome blonde youth, athletic, and with a reputation for honest study. I remember well the shock I received when he came with a man from his father's hardware store, to set up a stove in a room of our Fall Creek Cottage. Mr. Treman was in working clothes and was most businesslike, and I approved of the way he went into his father's business, by beginning at the bottom. He has certainly made good in the many enterprises he has undertaken. Cornellians are proud of his high achievements and profoundly grateful to him for his generous efforts to make Ithaca more beautiful.

On June 16 I was initiated into Phi Kappa Phi and was very pleased at this honor. Cornell had need of this honorary society, which is broader in its elections than Phi Beta Kappa or Sigma

Xi, since it chooses its members from the classical, scientific, and vocational colleges.

On September 4, 1922, George H. Russell began his law work in the office of Jared Newman and son. The fact that Jared Newman, Mr. Comstock's lifelong friend, found a place in his office for "our boy," gave us supreme satisfaction. Mr. Newman is a man of charming personality, of absolute integrity, and of high ideals. At the beginning of his practice of law, it has meant much to our "Jim" to be associated with a man like Jared Newman.

On October 5, my husband and I attended the exercises at the unveiling of the tablet, when the forestry building was named Fernow Hall. Professor Ralph S. Hosmer, Professor Fernow's successor in charge of forestry at Cornell, had felt that this was an act of justice, but it took him a long time to get those in authority to see it as he did. Professor Fernow was an eminent man who had done great pioneering in forestry education in America. At Cornell some could not forget that his disregard of the desires of certain wealthy people with summer homes in the Adirondacks had caused Cornell the loss of the State College of Forestry. Afterwards he did fine work for Canada, as head of the Forestry Department at the University of Toronto. He died too early to know that Cornell honored his memory but his wife, a remarkable woman, and his sons were present at the ceremony.

On May 6, 1923, we read a surprising announcement in the *New York Times*, reporting that I had been named by the League of Women Voters, as one of the twelve greatest women in America. I not only believed but declared that this was a mistake and that some more famous Comstock woman was meant. However, the next day the fact of my election was made clear. I found that the method followed in the election was to choose from different fields the women who had helped and influenced the most persons. I was chosen from the field of natural history, and Cornell's Martha Van Rensselaer was chosen from the domestic science field. She was the first to write a leaflet from the University to help farmers' wives in 1901, and the first to carry the movement for better homemaking to the places where it was most needed, while in 1898, I was the first professor in the Cor-

THE COMSTOCKS OF CORNELL

nell University Extension Service. Other women chosen were Jane Addams in philanthropy, Cecilia Beaux in painting, Carrie Chapman Catt in politics, Annie Jump Cannon in astronomy, Minnie Maddern Fiske from the stage, Louise Homer in music, Julia Lathrop in child welfare, Florence R. Sabine in anatomy, Martha Carey Thomas in education, and Edith Wharton in literature.

I expected that, because we were both professors in one university, the selection of Martha Van Rensselaer and me would be criticized. I felt very meek and overwhelmed by the honor. My husband reassured me by saying that the forty thousand copies of my *Handbook of Nature Study* which had been sold to schools and teachers would probably affect the lives of many children and therefore do so much good that I need not feel unworthy of my election. Harry always comforted me in my perplexities and crises. I received many letters of congratulation, but I was certain that my friends were as astonished as was I at this honor bestowed on me. The Ithaca Cornell Alumnae Association gave Martha Van Rensselaer and me a dinner to celebrate our election.

In September, 1923, I received a visit from Arthur Newton Pack, who made an offer to merge the *Nature Study Review* with the *Nature Magazine*. Personally I felt that I should be glad to be rid of the work of editing the *Review* and also of the financial responsibility connected with it, for it was a lucky year when I did not sink two or three hundred dollars in the enterprise; moreover, the making up and the editing took a great amount of time every month. However, the *Nature Study Review* was getting along better, at this time, and seemed likely to pay its expenses for the coming year. As a result of Mr. Pack's offer I sent a letter embodying the following proposition to all members of the Council of the American Nature Study Society: The *Nature Study Review* was to be a unit in each number of the *Nature Magazine* and was still to be the official organ of the American Nature Study Society, with its editor elected from that body. With one or two exceptions, the members of the Council agreed, and the December, 1923, number of the *Nature Study*

Review was the last because the *Nature Magazine* did not carry out this agreement.

Mr. Comstock was still working on *An Introduction to Entomology*. He started his writing by eight-thirty every morning, and took a siesta from twelve o'clock until luncheon at one. After luncheon he smoked and read until three; occasionally he did some work in the garden in the afternoon, but usually he went back to his desk at four and worked until dinner at six-thirty. After dinner, he smoked and read for a time but was back at his writing by 8 P.M. and worked steadily until ten-thirty. Harry rested while working by changing his position. Part of the time he sat at his desk by the west window of his study, but he usually worked longer at his "stand-up desk" by the north window. When he was tired, he reclined on his sofa, using a writing tablet to support his paper as he wrote.

For Harry and me, November 4, 1924, was one of the great days in our lives, for on that day his book of 1,064 pages, *An Introduction to Entomology*, was published. In this book Mr. Comstock had put his best work as a scientist and as a teacher. It has proved a noble and fitting climax to the lifework of a man who labored valiantly in search of truth and of whom Dr. Walter K. Fisher, of the Hopkins Marine Laboratory, said, "He has been probably the greatest teacher of natural history that America has known." The book was received enthusiastically by the entomologists of America and of other countries. Letters of appreciation and praise came pouring in with every mail, and brought to Mr. Comstock reassurance and comfort and to me much happiness. Harry had worked so long on the book that he was tired and had begun to doubt its value.

For our winter, we had come to a happy decision. Professor Gage suggested that we spend it in Hawaii. He had long desired to visit this garden spot of the Pacific and invited his sister, Dr. Mary Gage Day of Kingston, to go along as his guest. Our autumn was filled with the excitement of this prospective journey.

On December 11 Harry and I, with Professor Gage, his sister, and several other friends went aboard the S.S. "President Hayes." Professor Gage had thrust upon him a new role. As there was no

THE COMSTOCKS OF CORNELL

clergyman among the passengers, he was asked to conduct the Sabbath services. He did this with great dignity and success, owing largely to his engaging personality and to his sister's Prayer Book; fortunately she was a member of the Episcopal Church and had a ritual at hand.

It was after we left Panama, December 3, 1924, that I engaged in a new undertaking. Soy Chong, the Chinese lad who passed the bread and biscuits in the dining saloon, had attracted Harry and me by his charm of manner. Finding the monotony of the voyage from Panama to Hawaii weighing heavily, I proposed to the boy, to the head waiter, a relative of the boy, and to the ship's captain that I teach English to Soy Chong during the remainder of the voyage. All were willing and I entered upon a new phase of teaching. The boy knew very few English words but had learned in a Chinese school to write English script. I devised an unorthodox method of teaching. We began with the blue sky, the blue sea, and the white clouds, and arrived finally at furniture, clothing, and the human body. I found Soy Chong so bright and attractive and Mr. Comstock was so charmed with him that we offered to educate him. The United States immigration laws had much to say about this wholly benevolent plan on our part, and not until February, 1928, did Ernest Soy Chong Sze¹ become a member of our family; since then he has been a source of interest and happiness to Harry and to me.²

¹ Ernest Sze lived with the Comstocks in Ithaca for several years and made rapid progress in Cascadilla Preparatory School. After the death of the Comstocks, their executors sent him to the Bliss Electrical School in Takoma Park, Maryland. He made an excellent record there and graduated in June, 1932. He was last heard of in China, as second engineer on a large river boat on the Yangtze River.—G.W.H.

² Mr. and Mrs. Comstock had enjoyed their winter in California and in Hawaii. They spent the winter of 1925-1926 in Europe. These years were the happy conclusions of a life of joint activity. A few months after their return to Ithaca from Europe a paralytic shock incapacitated Mr. Comstock for the remainder of his life. Mrs. Comstock describes the tragic event in language affecting in its restraint and simplicity.—G.W.H.

Chapter 20 ↵ 1926-1930

“The Last of Life . . .”

AUGUST 4, 1926, was a very hot day, but Mr. Comstock had become much interested in our garden and grounds, and for exercise, he had mowed the lawn, which is not large. However, on this morning the heat was so great that he felt ill from the effects of his gardening. When he drove to the Campus with me, as I went to give my lecture in the Cornell Summer School, he preferred to rest in the car.

The next day Harry said he still felt seedy. But, since he had looked forward for a week to the pleasure of entertaining a distinguished Cornellian and his family, Alfred Sao-Ke Sze, the Chinese Minister to the United States, he dressed and came to dinner but did not act natural. After dinner we gave the children some of our books. When Harry signed his name I was shocked to see how his hand shook and how wavy were the lines.

The next morning he was still worse, and we sent for Dr. Harry Bull, who had not only administered for many years to our physical infirmities but had been a loyal friend, sharing in our joys with pleasure and in our perplexities with cheering words of comfort and encouragement. Dr. Bull found no very marked symptoms, but the next day we knew that Mr. Comstock had suffered a hemorrhage of the brain.

There are no words to describe his bravery and patience and cheerfulness after this calamity which, for us, ended life. All that came after was merely existence.

APPENDIXES AND INDEX

“Sunset and Evening Star”

IT REMAINS to record the slow-moving events of the final years of The Comstocks of Cornell.

On August 5, 1926, Professor Comstock had a strange sickness. The next day the “cruel blow” became evident,—he was paralyzed on his left side. The attack, more serious than at first realized, was the prelude to successive hemorrhages of the brain during the next four and one-half years which affected him in a progressively vital manner. After the first shock had spent itself, he rallied sufficiently to leave his bed and with the aid of a nurse to walk about his room and to take short rides, on propitious days.

Early in 1927 he became worse, and in June was again confined to his bed in a sleepy, listless condition. Following this shock, he lost the faculty of speech and became practically helpless. Nevertheless, he remained alert mentally and seemed to understand what was said to him. He did not seem to suffer pain. This condition continued during the next four years, until the final shock that quickly resulted in his death, on the morning of March 20, 1931.

In Mrs. Comstock’s diary in July, 1926, she spoke for the first time of her “fibrillating heart.” Thereafter, she frequently spoke of being tired and languid. Early in 1927, she felt worse and her blood pressure became abnormally high, but she “must be doing,” she “cannot sit still and think.” She confided to her diary, “Strange days these,—the struggle on my part to self-control.” Through all of the next three and one-half years of her husband’s invalidism she maintained her round of activities, attending

THE COMSTOCKS OF CORNELL

functions, often speaking in public and teaching in the Cornell University Summer Sessions. However, she grew slowly worse and through 1929 and 1930 was obliged to spend many hours in bed.

On June, 1930, Hobart College honored her with the degree of Doctor of Humane Letters. By reason of her indomitable will, and in spite of her physical condition, she made the trip to Geneva to be present at the conferring of the degree. She did not improve as the days wore on, yet she managed to guide her husband's care, to interpret his wishes, to give him her inspiring companionship, and to carry her work of teaching through the Summer Session of 1930. She even received her class in her home, at the close of the term, about the middle of August. Less than two weeks thereafter, on Sunday morning, August 24, 1930, she died as bravely as she had lived.

The ashes of each rest in Lakeview Cemetery, in Ithaca, beneath some fine oaks on a high knoll facing the west. The site overlooks the valley below with Lake Cayuga winding away to the horizon, a scene they had loved and enjoyed together through all of their years at Cornell.

GLENN W. HERRICK

In Honor of the Comstocks of Cornell

AT CORNELL UNIVERSITY.

Comstock Hall, Cornell Entomology Headquarters.

The John Henry Comstock Memorial Library of Entomology.

Anna Botsford Comstock Hall, a Cornell dormitory.

The Comstock Publishing Company, a gift to Cornell University by Professors J. H. and A. B. Comstock and S. H. Gage. This gift included the Company's copyrights, equipment, and the lands and buildings now occupied by the Cornell University Press and by the Comstock Associates, a division of the Cornell University Press.

Cornell University's Graduate Fellowships, financed in part by a gift from the estates of John Henry Comstock and Anna Botsford Comstock.

Comstock Knoll, the hill on the southeast boundary of Beebe Lake, now part of the Cornell Plantations.

Portrait of the Professors John Henry and Anna Botsford Comstock. This portrait is in the Reading Room of the Cornell University Library.

AT ITHACA AND ELSEWHERE.

Anna Botsford Comstock Camp for Girl Scouts, on the shore of Cayuga Lake.

Mrs. Comstock's portrait at William Smith College, Geneva, New York.

Memorial stained glass window in memory of Mrs. Comstock, presented to the Unitarian church of Ithaca, by Mr. and Mrs. George H. Russell.

RUBY GREEN SMITH

The Comstock Books

*"Our writing was the thread on which our days were strung,
despite a thousand interfering activities."*

ANNA BOTSFORD COMSTOCK

JOHN HENRY COMSTOCK

- 1888 *An Introduction to Entomology.* Illustrations drawn and engraved by Anna Botsford Comstock.
- 1889 *The Elements of Insect Anatomy,* with Vernon L. Kellogg.
- 1895 *A Manual for the Study of Insects.* Illustrations by Anna Botsford Comstock. Twenty-second edition, 1942.
- 1897 *Insect Life,* an introduction to Nature-Study, with Anna Botsford Comstock. Illustrations by Mrs. Comstock.
- 1904 *How to Know the Butterflies,* with Anna Botsford Comstock. A manual of the butterflies of the eastern United States.
- 1912 *The Spider Book.* A Manual for the Study of Spiders and Their Relatives.
- 1918 *The Wings of Insects.* An exposition of the uniform terminology of the wing veins.
- 1925 *An Introduction to Entomology.* The development of Entomology before and since his first book was published under the same title. Illustrated.

ANNA BOTSFORD COMSTOCK

- 1903 *Ways of the Six-footed.* Illustrated.
- 1904 *How to Know the Butterflies,* with John Henry Comstock. Illustrated.

APPENDIXES

- 1905 *How to Keep Bees*. Illustrated.
- 1906 *Confessions to a Heathen Idol*.
- 1911 *Handbook of Nature-Study*. Twenty-fourth edition, 1948.
- 1914 *The Pet Book*.
- 1916 *Trees at Leisure*.
- 1920 *Nature Notebook Series* with outline drawings by Louis Agassiz Fuertes. Seven notebooks in the series: five on birds and plants by Anna Botsford Comstock; one on fish by G. C. Embody; one on insects by James G. Needham.

No complete bibliography of the writings of John Henry Comstock or of Anna Botsford Comstock has been compiled or published. In addition to their books, both contributed articles to scientific publications. For examples, Mrs. Comstock was a contributing editor for *The Nature Study Review*, 1905-1917, and its editor, 1917-1923; and Professor Comstock edited the entomological section of the *American Naturalist*, 1887-1889.

GLENN W. HERRICK and RUBY GREEN SMITH

Index ↵

- Abbott, Lyman, 138, 151
Academy of Art (San Francisco), 184
Academy of Natural Sciences (Philadelphia), 92, 187
Acrididae, 87
Adams, Bristow, 212n
Adams, Charles Kendall, 41, 141, 151-152, 154, 158, 160, 177
Adams, Henry Carter, 141
Addams, Jane, 264
Adirondack League Club, 172
Adler, Felix, 48, 218
Agassiz, Louis, 32, 36, 39, 44
Agricultural Congress (Chicago), 180
Aiken, Representative (Georgia), 124
Aikman, W. H., 182
Alabama argillacea, 96
Alcott, Bronson, 149
Aldrich, John M., 194
Allen, Alma, 5-7
Allen, Ann French, 69-70
Allen, Constant, 69
Allen, Daniel, 1, 4
Allen, Ethan, 1, 259-260
Allen, Hannah, 3
Allen, John, 5-7
Allen, Sarah, 6-7
Allen, Susan, *see* Comstock, Susan Allen
Allen Street School (New York City), 198
Alpha Delta Phi, 84
American Association for the Advancement of Science, 115, 142-143, 155, 159, 179, 187, 251, 256, 260
American Book Company, 214
American Entomological Society, 92
American Naturalist, 157, 179
American Nature Study Society, 251, 264
American Society of Wood Engravers, 182
Anderson, Mary, 131
Anthony, William A., 104-105, 152
Appleton, D., and Company, 189, 210, 256
Architecture Department (Cornell), 100
Ariddna bicolor, 208
Armory, Old, 74
Arthur, Chester A., 139
Ashmead, W. H., 119
Aspidiotus perniciosus, 128
Atkinson, George F., 194
Auburn Prison, 149
Austin, Mary, 227
Autobiography of Andrew D. White, 214
Babcock, Charles, 100
Babine, Alexis, 169-170
Bachelor, Ida, 13
Bailey, Liberty Hyde, 168, 191, 197, 211-212, 214, 229, 235, 244-245, 247
Baker, Darius, 71-72
Baker, Eugene, 220
Baker Hall, 94, 100
Bancroft, George, 132
Banks, Nathan, 216
Bard, Bertha, 218
Barnard, William Stebbins, 107
Barnes, A. S., 168
Barnes Hall, 168
Bartlett, Hannah, 58
Bartlett, Jennie, 85, 87
Barton Hall (State Drill Hall), 254, 257
Battin, John Wilson, 167
Beal, W. J., 135
Beaux, Cecilia, 264
Beecher, Henry Ward, 82

INDEX

- Belgium, 163
Belura melanopyga, 120
Benchley, Mrs. Paul Z., 51-52
Benedict, L. C., 124
Berlin Art Gallery, 165
Bernhardt, Sarah, 131
Bernstrom, Victor, 182
Berry, George, 45, 85
Berry, Romeyn, 50
Berry, William, 76, 78
Bigelow, Maurice, 251
Blaine, James G., 148
Blair, Mrs. J. B., 157
Blaschkes of Austria, 144
Bliss Electrical School, 266n
Boardman Hall, 229
Borden, J. McK., 112
Boston Natural History Society, 134
Botellio, A., 212
Botsford, Amos, 261
Botsford, Anna, *see* Comstock, Anna Botsford
Botsford, Daniel, 54-55
Botsford, Henry, 54
Botsford, Lucius, 67-68
Botsford, Marvin, 54-73, 93, 98-99, 123, 139, 156, 162, 179, 192, 198
Botsford, Mary, 68
Botsford, Phoebe, 54-73, 75-76, 85, 86, 93, 98-99, 104, 123, 139, 155, 162, 172, 178-179, 196, 213, 215, 220, 233
Botsford, Polly Foote, 54
Botsford, Urania, 55
Botsford, Wiley, 54-55
Bowdoin College, 91
Boyesen, Hjalmar Hjorth, 83
Boynton, Beth, *see* Coville, Beth Boynton
Braislin, Priscilla, 105
Branner, John C., 42, 49
Brauner, Olaf, 258
Brooklyn Botanical Garden, 258
Brooklyn Teachers' Training School, 258
Brooks, Erastus, 84
Brooks, Phillips, 138
Brown University, 113
Bryn Mawr College, 81
Buchanan, James, 15n
Bues, Christian, 218
Bull, Harry, 267
Burnett, Frances Hodgson, 132, 208
- Burr, George Lincoln, viii, 156n, 158, 162, 167, 177, 228, 236, 237, 244
Burr, Mattie Martin, 228
Burr, William J., 167
- Caldwell, George Chapman, 102-103
Caldwell Hall, 102
Calhoun, John C., 195
California, University of, 127, 160n, 215, 227
California State Horticultural Society, 127
Calvert, Phillip, 187
Cambridge, F. O. P., 216
Canadian Entomologist, 115, 187
Cannon, Annie Jump, 264
Carnegie, Andrew, 200-201
Carpenter, Frank, 131
Carr, Mr. and Mrs. Nelson, 3, 6, 15, 26, 126-127
Cascadilla Hall, 36, 41, 74, 78, 82
"Cascadilla Place," 35
Cascadilla Preparatory School, 266n
Catt, Carrie Chapman, 264
Cavanaugh, George, 191
Cazenovia Seminary, 71
Century Dictionary, 161
Ceroplastes cirripediformis, 120n
Chadwick, P. M., 43n
Chamberlain Institute and Female College, 71-73, 76, 99
Chapman, Governor (of Alabama), 97
Chautauqua Institution, 196, 210
Chicago World's Fair, 179-180
Christian Association (Cornell), 151, 168
Cicolepidoptera, 130
Civil War, 15, 56, 59, 63, 97, 112, 118, 252
Claassen, P. W., 260
Classon, William B., 182
Clay, Henry, 195
Clemens, W. A., 245
Clements, Isaac, 71
Cleveland, Grover, 148, 182-183
Coccidae, 115, 118-119, 130, 141-142
Cochrane, Stacey, 129
Coelho, A. S., 212
Committee for the Promotion of Agriculture in New York, 190
Compton's Young People's Encyclopedia, 258

INDEX

- Comstock, Anna Botsford, vii
childhood and youth, 53-73
meeting with John Henry Comstock,
85
marriage to John Henry Comstock,
89-105
employed by U.S.D.A., 111
scientific drawings by, 130-131, 134,
137, 144-145, 150, 152-154, 160,
162n-163n, 165-168, 179, 189
completion of Cornell degree by, 143-
144, 147, 149-150
membership in Kappa Alpha Theta,
145-146
Ways of the Six-footed, 148, 198
elected to Sigma Xi, 154
travels in Europe, 163-166, 220-227,
266n
at Stanford University, 172-177, 183-
185, 187
lectures on wood engraving, 176
collection of wood engravings, 181-
182, 184-185
elected to American Society of Wood
Engravers, 182
Committee for the Promotion of
Agriculture in New York, 190
Nature Study work, 190-198, 209-220,
228
Assistant Professor of Nature Study,
192, 244
Trees at Leisure, 197
at University of Virginia, 209-210
at Chautauqua, 210, 213
How to Know the Butterflies, 210-
212, 256
trustee of William Smith College,
211, 218, 227, 235
How to Keep Bees, 214
at University of California, 215
Confessions to a Heathen Idol, 217-
218
trustee of Hobart College, 219,
235
Handbook of Nature Study, 229-230,
232-234, 264
summer in England, 236-244
Pet Book, 245, 248
retirement, 252-259
full professorship, 254
candidate for Alumni Trustee of
Cornell, 261-262
elected to Phi Beta Phi, 262
named one of twelve greatest women
in America, 263-264
trip to Hawaii, 265-266
illness of, 271-272
Doctor of Humane Letters (Hobart
College), 272
death of, 272
Comstock, Ebenezer, 1-2, 26, 125
Comstock, John Henry, vii-viii
childhood and youth, 1-15
sailing days and early education, 16-
34
selection of entomology as life work,
33-34
student and teacher at Cornell, 34-52
Instructor in Entomology, 46
meeting with Anna Botsford, 85-88
marriage to Anna Botsford, 89-105
Assistant Professor of Entomology,
93
investigation of cotton worm in
South, 96-97
U.S. Entomologist, 105-136
An Introduction to Entomology, 144,
160, 162-163, 166-167, 178, 186,
253, 257-258, 265
summer classes in entomology, 150,
215
first Insectary built by, 161
Manual for the Study of Insects, 163,
178-181, 185-188, 194, 200
travels in Europe, 163-166, 220-227,
266n
at Stanford University, 172-177, 183-
185, 187
studies of wing venation, 179-181, 187,
193, 241, 250
founding of Comstock Publishing
Company, 188
Elements of Insect Anatomy, 189, 196
Insect Life, 189, 195, 200
Spider Book, 196, 198, 214-216, 230,
231
scientific farming, 198-200
study of spiders in the South, 201-208
organization of Cosmopolitan Club
(Cornell), 218
new quarters for Entomology Depart-
ment at Cornell, 228
purchase of 123 Roberts Place, 231
at Royal Society of London, 235-237
Honorary Fellow of London Ento-
mological Society, 240

INDEX

- Comstock, John Henry (*cont.*)
 at International Congress of Entomologists, 241-243
 retirement, 245-248
 Honorary Fellow of Société Entomologique de Belgique, 246
 on Cornell Board of Trustees, 250,
 257
 trip to Hawaii, 265-266
 final illness and death, 267, 271
 Comstock, Samuel, 1
 Comstock, Susan Allen, 1-15, 18, 23, 26,
 35, 46, 126, 128, 215-216
 Comstock Knoll, 212n
 Comstock Memorial Library, 43, 247
 Comstock Publishing Company, 188,
 189, 197n, 230, 232, 245-246, 248-
 249, 251, 256, 258
Confessions to a Heathen Idol, 217-218
 Conkling, Roscoe, 133
 Cook, A. J., 135
 Coon, Spencer, 76, 78
 Cooper, Edith, 182
 Cooper Union, 152, 156, 158, 168
 Copeland, E. R., 43n
 Copeland, Herbert E., 43n
 Cornell, Elijah, 37-38
 Cornell, Ezra, 34-35, 99, 219
 Cornell, Frank, 36
 Cornell, Mary, 158
 Cornell, Mary Ann Wood, 157-158
 Cornell Agricultural Experiment Station, 99n, 145, 160, 161
Cornell Countryman, 262
 Cornell Medical School, 196
Cornell Nature Study Leaflets, 193
Cornell Plantations, The, 212n
 Cornell Public Library, 36, 50
 Cornell University, vii-viii, 28, 31-52,
 70-71, 73-88, 107, 132, 135-136, 141,
 151, 154, 177, 185, 257, 262; *see also*
 colleges, departments, dormitories,
 etc., by name
 Cornell University Extension Service,
 192, 195, 264
 Cornell University Library, 45, 74, 159,
 167, 169, 173, 182n, 185
 Cornell University Summer School, 272
 Corner Book Store, 248
 Corson, Eugene, 80, 196
 Corson, Hiram, 80, 195, 196, 217, 234
 Corson, Mrs. Hiram, 195
 Corwin, R. W., 43n
Corydalus, 89-91, 138, 149
 Cosmopolitan Club, 218
Cosmopolitan Magazine, 198
Country Life in America, 197, 251
 Coville, Beth Boynton, 157
 Cox, Mary Nichols, 195
 Crabtree, Lotta, 122
 Crane, T. F., 74
 Crawford, Mary, 262
 Creighton, J. E., 245
 Creighton, Katherine, 245
 Cuba, 171
 Curtice, Cooper, 103
 Curtis, George William, 36
 Cutting, Fulton R., 190
Cylas formicarius, 120
 Darwin, Charles, 124
 Davenport, Fanny, 122
 Davidson, G. Howard, 190
 Davis, John P., 145, 152-153, 158, 168,
 170, 179, 182, 195
 Day, Mary Gage, 265-266
 Delta Upsilon, 49, 50, 84, 167
 DePauw University, 193n
Diaspidinae, 142
 Dickinson, Eleanor, 18, 29
 Diptera, 253
 Dix, John A., 15n
 Dodge, William E., 190
Dolomedes, 216
 Donohue, Timothy, 6-7
 Doubleday, Page and Company, 214,
 217
 Dowell, John, 26-27, 126, 128, 215
 Dowell, Margaret, 126, 128
 Dowell, Susan, *see* Comstock, Susan
 Allen
 Downing, Elliott, 251
 Drake University, 107n
 Dudley, William R., 49, 77, 93, 99, 147
 Duel, Arthur B., 193, 194
 Dyar, H. G., 187
Dysdercus suturellus, 121
 Edwards, Grace, 71
 Edwards, James T., 71-72, 99
 Edwards, William H., 50
 Egypt, 220-226
Elements of Insect Anatomy, 189, 196
 Ellis, Carlyle, 198
 Elmira Reformatory, 149
 Embody, G. C., 248

INDEX

- England, 236-244
Entomological Commission, 131
Entomology Department (Cornell), 104,
 137-162, 227-228, 246-248, 251
 Summer School, 155, 179
Eumenes fraternus, 148
Everett, Edward, 195
Experiment Station Bulletin, 168
- Fagundes, C., 212
Fagundes, L., 212
Fagundes, W., 212
Falconer, Lady, 261
Fall Creek Cottage, 96, 100, 106, 110,
 172, 210, 212, 213, 229, 233, 262
Folley Seminary, 24, 26, 27, 30-32
Farmers' Institutes, 157, 160, 162, 171,
 173, 182, 190
Farrand, Livingston, 262
Fernald, Charles H., 115, 130, 143
Fernald, Henry, 130
Fernow, B. E., 263
Fernow Hall, 263
Filistata, 201
Fine Arts Department (Cornell), 258
First Book of Forestry, 194
First Lessons in Plant Life, 194
Fish, Pierre Augustine, 40, 250
Fisher, Walter K., 265
Fiske, Jennie McGraw, 45, 138, 247
Fiske, Minnie Maddern, 264
Fiske, Willard, 45, 75, 138
Fitch, Asa, 49
Flannery, Dan, 86
Florida, University of, 202, 206
Florida Experiment Station, 205
Foote, Nathaniel, 54
Foster, G. E., 43n
Fowler, Mary, 231
France, 220
Freeman, Edward A., 36, 138
Frenatae, 180
French, Frank, 153, 182
Fuertes, Estevan, 80, 157
Fuertes, Louis Agassiz, 80n, 157, 245,
 256
Gage, Henry Phelps, 156
Gage, Simon H., viii, 32, 40, 49, 91-92,
 95, 99, 102-104, 108-109, 139-140,
 144, 149, 156, 167, 180, 188, 195,
 210-211, 227, 247, 249-250, 252, 265-
 266
Gage, Susanna Phelps, 82, 86, 95, 99,
 104, 107, 131, 140, 152, 154, 156, 167,
 168, 210-211, 227, 249
Garfield, James A., 129, 133-135, 138-139
Gasteracantha cancriformis, 204
Gayley, C. M., 227
General Biology, 230
Geological Survey, 134
Geometridae, 178
Georgia, Ada, 228
Germany, 163-166, 251-252
Gilbert, Grove Karl, 134, 156, 158, 172
Gillett, Daniel, 120-121
Ginn and Company, 198
Gladden, Washington, 151
Glass, Carter, 209
Glass, Edward C., 209-210
Goldwin Smith Hall, 36, 74
Gould, John Stanton, 50
Gowanda Reservation, 65
Grand Rapids Kindergarten Training
 School, 232
Grange, 104
Graphic Arts, 181
Graves, Henry, 218
Greece, 220
Greeley, Isabel, 150
Green, Henry, 6-8
Griffin, J. P., 24-25, 27, 32
Griswold, Grace, 261
Grote, A. R., 96
Hagen, H. A., 44-45, 124, 143
Hale, Edward Everett, 151
Hamerton, Philip Gilbert, 181
Handbook of Nature Study, 229-230,
 232-234, 264
Handlirsch, Anton, 241, 243
Hardy, Irene, 185
Harris, George, 131
Harris, Thaddeus W., 33
Harrison, Benjamin, 175
Harte, Bret, 36, 126
Hartt, Charles Frederick, 41-42, 131
Harvard Museum of Comparative Zool-
 ogy, 44
Harvard University, 39, 95n, 192
Hatch Act, 160-161
Hawéis, H. R., 151
Hay, John, 132
Hayes, Mrs. Rutherford B., 122
Heizer, Rev. Cyrus, 220
Hepialus, 180

INDEX

- Hermitage, The, 213, 219, 229-230
Herrick, Glenn W., viii, 177-178, 192,
202, 208, 229-230, 248, 272
Herrick, Miriam, 62
Hewett, W. T., 43n
Hewitt, Abraham S., 190
Hicks, Margaret, 81
Hilgard, Eugene W., 127
Hill, Lena, 99
Hillebrand, Fidelia, 74
Hillebrand, John, 74
Hilltop Farm, 198-200, 250
Hoag, F. P., 43n
Hobart College, 218-219, 272
Hoffman, Charlotte, *see* Kellogg, Charlotte Hoffman
Holbrook, Etta, 69
Holden, Edward, 176
Holmes, W. H., 134
Homer, Louise, 264
Homestead, The (Wadsworth home),
162
Hopkins, Grant Sherman, 40, 250
Hopkins Marine Laboratory, 265
Hori, S., 73
Hosmer, Ralph S., 212n, 263
How to Keep Bees, 214
How to Know the Butterflies, 210-212,
256
Howard, Leland O., 50, 88, 91, 96, 98-
99, 103, 105-108, 111-113, 115-116,
118, 122, 131, 134, 142, 248, 260
Howe, Julia Ward, 150
Hull, Charles, 239
Hume, H. Harold, 202, 206
Hurricane Hall, 9, 11, 14, 18, 38, 49, 97
Hymenoptera, 147-148, 179

Idaho State College, 194
Illinois, University of, 196, 251
Indiana University, 79, 159, 169-171
Insect Life, 189, 195, 200
Insectary (Cornell), 161, 166, 170, 177,
195, 228, 259
International Congress of Entomolo-
gists, 235, 241-243
Introduction to Entomology, An, 144,
160, 162-163, 166-167, 178, 186, 253,
257-258, 265
Iowa, University of, 141
Irish, Anna Southward, 54
Irish, Job, 54
Irish, Joseph, 54

Italy, 220, 223, 226-227
Ithaca, Cornell Alumnae Association,
264

Jaycox, Thomas W., 43n
Jayne, B. G., 51
Jenkins, Oliver P., 172
Johnson's Encyclopedia, 181
Johnston, M. C., 43n
Jordan, David Starr, 43, 49, 79, 131, 147n,
159, 160n, 170-172, 175-178, 183,
200, 248
Jordan, Mrs. David Starr, 171-172
Jordas, E. F., 76
Judd, Orange, 133
Jugatae, 180
Junior Naturalist Clubs, 191

Kansas, University of, 183
Kappa Alpha, 80, 84
Kappa Alpha Theta, 145, 157
Keefer, Hugh, 20
Kellogg, Charlotte Hoffman, 226-227,
241
Kellogg, Vernon L., 183-184, 189, 196,
220, 226, 241
Kenworthy, C. J., 119
Kerr, Abram, 250
Kerr, Clara, 159, 173
Keyserling, G. E., 216
Khayyam, Omar, 194
King (wood engraver), 153
King, Harlan, 58
King, Mary, 213
Kingsbury, B. F., 250
Kingsley, Elbridge, 153, 181
Kruell, Gustave, 182

"Laboratory, The," 74
Lacy, C. Y., 43n
Laetilia coccidivora, 115
Lake Forest College, 196
Lakeview Cemetery, 272
Lamia, Abduhl, 224-226
Lathrop, Julia, 264
Law, James, 75, 131, 185
Law School (Cornell), 175
Lazenby, William R., 43n, 83, 99, 248
League of Women Voters, 263
Leavitt, Clyde, 201, 205
Leavitt, Roswell, 41, 201
Ledge, The, 232

INDEX

- LeDuc, William G., 105-106, 111, 115-116, 118, 123, 129, 133
Lee, Marian, *see* Comstock, Anna Botsford, *Confessions to a Heathen Idol*
Lee, Susan, 69
Leib, Judge, 176
Leipsic, University of, 164-165
Lepidoptera, 178-181, 186-187
Leuckart, Rudolph, 164-165
Library Hall, 36, 76
Library of Congress, 169
Lincoln, Abraham, 63, 182
Lincoln Hall, 75
Lindsey, A. M., 182
Lintner, J. A., 115, 171
Little, Harvey, 62-63
Little, Kate, 63
Little, Lidie, 63
Little, Sarah, 62-63
Litz, Captain, 35
London Entomological Society, 240
Lord, Henry B., 50, 103
Loring, George B., 133-136, 142
Lowe, Mary C., 254
Lowell, James Russell, 36
Luther, Martin, 164
Lycosa, 216

McCloskey, Alice, 244
McCook, C., 207
McCulloch, John, 131
McCutcheon, Eliza Little, 218
MacGillivray, Alexander, 169, 185, 211, 227, 251
McGraw, Jennie, *see* Fiske, Jennie McGraw
McGraw Hall, 36-38, 40, 45, 49, 74, 77, 83, 139, 235
Mackoon, Bela P., 75
Maine, University of, 143
Mandeville, "Mandy," 99
Manhattan Eye and Ear Hospital, 194
Manual for the Study of Insects, 163, 178-181, 183, 185-188, 194, 200
Marchal, Paul, 246
Marlatt, C. L., 128
Marsh, Henry, 33
Marsh (wood engraver), 168
Martin, C. A., 232
Martin, Mattie, *see* Burr, Mattie Martin
Marvin, Ross, 213
Marx, George, 107, 113-114, 124
Massachusetts State Univeristy, 115
Mertz, Edna, 220
Methodist Seminary, 32
Mexico Academy, 23-24
Meyers, Clara, 236-237
Michigan, University of, 69, 91, 141, 165
Michigan State Agricultural Society, 135
Michigan State College of Agriculture, 135, 157
Michigan State Teachers' Institute, 197
Microlepidoptera, 115n
Microscope, The, 188
Miller, Mary Rogers, 217
Miller, Wilhelm, 217
Mills, Harriet May, 81
Minnesota, University of, 193n
Mississippi, State College of, 192, 208, 229
Moody, Harriet Tilden, 82
Moore, Sylvia, 58
Moore, Veranus, 250
Morgan, H. A., 207-208
Morgan, Senator (Alabama), 97
Morice, Francis, 240-241
Morrill Hall, 34, 35, 39, 41, 74, 79, 83, 86
Morrison, Harold, 245
Moscow, University of, 169
Mustafa, Alexander, 220-223

Nation, 134
National Research Council, 183
Nature Magazine, 264
Nature Songs for Children, 245
Nature Study Department (Cornell), 189-198, 254-255
Nature Study Review, 251, 256, 264
Nature Study School, 192-193
Needham, James G., 193, 196, 227, 230, 241, 248
Nelson, R. M., 97
Nephila, 203
Neuroptera, 44
New Orleans Exposition, 150
New York Ledger, 166
New York State Agricultural Society, 160, 185
New York State College of Agriculture, 99n, 157, 191, 199, 212, 219, 235, 244, 245
New York State College of Forestry, 263
New York State College of Home Economics, 195, 254

INDEX

- New York State Department of Education, 191
New York State Experiment Station (at Geneva), 146
New York State Legislature, 185, 190
New York State Normal Schools, 193
New York State Veterinary College, 131, 185
New York Sun, 78
New York Teachers' Training School, 258
New York Times, 263
New York World, 124
Newman, Jared T., 49, 263
Nichols, Edward L., 49
Niles, S. W., 127
Nixon, S. F., 190-191
North University, 74
Northrup, Herbert, 62, 67, 98-99
- Odell, B. B., 212
Oecobius, 201
Ohio State University, 83n
Orthoptera, 87, 95
Osten-Sacken, Baron, 164
Oswego Normal School, 103, 259
Oxford University, 235, 238, 241, 242n
- Pacific Biological Station, Nanino, B.C., 245
Pack, Arthur Newton, 264
Packard, A. S., 113, 116, 131
Palmer, Alice Freeman, 159
Palmer, Minerva, 79
Parnell, Charles Stewart, 122
Peabody Library, 134
Peary, Robert E., 213n
Penn, William, 54
Pennsylvania Agricultural Society, 134
Pergande, Theodore, 107, 112-113, 117, 123
Pet Book, 245, 248
Petrarch Library, 231
Pettit, Rufus, 185
Phelps, Susanna, *see* Gage, Susanna Phelps
Phi Beta Kappa, 154, 262
Phi Kappa Phi, 262
Philadelphia Centennial Exposition, 92
Phoebe Hearst Kindergarten School, 211
Physiology Department (Cornell), 39
"Pinnacle, The," 211-212, 230-231
- Poulton, Edward B., 242
Powell, George T., 190, 191
Powers, Lawrence, 229
Prairie Farmer, 115
Pratt, Henry Sherring, 165
Prentiss, A. N., 77
Prentiss, Adeline, 170
Psi Upsilon, 84
Putnam, Ruth, 77, 81-82
- Reedy, Marion, 217
Report of the Entomologist of the United States Department of Agriculture, 141
Report on Cotton Insects, 118, 124
Report on Scale Insects, 145
Revolutionary War, 54
Rhode Island Normal College, 258
Richard, J. H., 33
Riley, C. V., 96, 98, 105-107, 116-117, 124, 133, 135-136, 143, 159, 179, 227
Riley, William A., 193n
Risley Hall, 249
Ritter, F. O., 247
Roberts, Isaac P., 99, 157, 161, 190-192, 199
Roberts, Mary, 159
Roberts Hall, 214, 219, 228, 229, 247
Rocky Mountain locusts, 116
Rogers, Walter P., 132n
Rolfs, P. H., 202, 266
Rose, Flora, 71, 244
Roth, Filibert, 194
Royal Society of London, 235-237
Russel, William Channing, 41-42, 47-48, 77, 93, 102, 132, 136, 152
Russell, George H. ("Jim"), viii, 253-254, 259, 263
- Sabine, Florence R., 264
Sage, Henry, 80, 85
Sage, William, 74
Sage Chapel, 74, 82, 138
Sage College, 74, 77, 79-86, 147, 157
Sage School of Philosophy (Cornell), 177
St. Louis Mirror, 217
Salamanca Reservation, 65
Sampson, Martin, 175
Sanborn, Franklin B., 149-150
Santa Clara University, 28
Saunders, William, 115
Schiff, Jacob, 190

INDEX

- Schumacher, W. H., 43n
Schurman, Jacob Gould, 41, 177, 185,
 192, 196, 215, 235, 245, 248, 250, 257
Schuyler, Eugene, 169
Schwartz, E. A., 203
Scudder, Samuel H., 95, 115, 133-135,
 146, 187
Seminole Indians, 205
Seneca Indians, 65-66
Sesiidae, 198
Severance, Caroline M., 127
Sheffield Scientific School (Yale), 32
Shorey, Paul, 256
Sibley College of Mechanical and Elec-
 trical Engineering (Cornell), 74,
 77, 212, 253
Sibley Hall, 75, 99
Siddons, Mrs. Scott, 122
Sigma Xi, 154, 168, 235, 262-263
Signoret, V., 130
Simon, E., 216
Simpson, Baynard, 194
Simpson, Robert, 35, 38
Simpson, Squire, 44
Slater, Florence, 236, 237
Slingerland, Mark, 159, 166, 169, 190,
 200, 204, 206, 210, 227, 229
Slingerland, William A., 230, 258
Smith, Albert W., 212, 257
Smith, Alfred E., 255
Smith, Margery, 229, 233, 252
Smith, Ruby Green, viii, 43n, 248, 257
Smith, Theobald, 250
Smith, William, 211, 216, 227, 234-235
Smithsonian Institution, 195
Society of American Wood Engravers,
 153, 165, 184
South University, 74
Spencer, John W., 191, 195, 197
Spider Book, The, 194, 198, 215-216,
 231
“Spring Day,” 214
Standard Natural History, 147, 179
Stanford, Leland, 170-171
Stanford, Leland, Jr., 171
Stanford, Mrs. Leland, 171, 174
Stanford University, 28, 42-43, 49, 79,
 93, 147n, 158, 160n, 169-177, 183-
 185, 187, 223, 226, 241
State Drill Hall, *see* Barton Hall
Stedman, John, 159, 166, 169
Stewardson, President (William Smith
 College), 218
Stolp, Myron G., 45
Stone, J. G., 191
Stowe, Harriet Beecher, 120
Straight, Emma, 103
Straight, H. H., 103
Straight, Willard, 103
“Struggle for Existence Club, The,” 79
Stryke, Anna C., 245
Sturtevant, E. L., 146
Sutro, Adolphe, 177
Swain, Joseph, 172
Switzerland, 220
Sze, Alfred Sao-ke, 267
Sze, Ernest Soy Chong, 266
Taliaferro, T. H., 206
Tammany Hall, 183
Taylor, Bayard, 36
Taylor, Thomas, 109
Teachers’ Institutes, 193, 209
Texas, University of, 206
Texas Experiment Station, 181
Texas State Agriculture and Mechani-
 cal College, 230
Theridiidae, 216
Thomas, Cyrus, 116, 131
Thomas, Julia, 81
Thomas, Martha Carey, 81, 264
Thompson, J. A., 43n
Thoreau, Henry David, 149
Thro, William C., 196, 209-210, 213, 258
Thurber, Charles, 154-155
Tibirica, J., 212
Tilden, Harriet, *see* Moody, Harriet
 Tilden
Tillyard, R. J., 258
Tineids, 113, 130, 186
Tolman, William H., 190
Toronto, University of, 260-261, 263
Tothill, I. O., 245
Trees at Leisure, 197, 251
Trelease, William, 103, 107
Treman, Robert H., 262
Trow Directory, 188
Turk, Professor (Hobart College), 218
Turner, Henry, 9, 11, 19
Turner, Mrs. Henry, 12-13
Turner, Joel, 9, 11-12, 19-20
Turner, Joel, Jr., 259
Turner, Captain Lewis, 8-13, 19, 38-39,
 41, 48-49, 142, 157, 259
Turner, Lucien, 9, 11-12, 19
Turner, “Maggie,” 12, 39

INDEX

- Turner, Margaret, 259
Turner, Monroe, 25
Turner, Rebecca, 8-16, 19, 23, 29, 35,
 38-49
Turner, Sarah, 13
Tuskegee Institute, 198
Twain, Mark, 36
Tyler, Moses Coit, 138, 161, 170
- Uhler, P. R., 133
United States Bureau of Entomology,
 107n, 245
United States Department of Agriculture, 96, 98, 103, 106, 117, 124, 131,
 133
United States Department of the Interior, 116-117
- Van Dusen, Gertrude, 159, 164-165, 167,
 172
Van Rensselaer, Martha, 71, 195, 211,
 244, 263
Van Vleck, Frank, 154
Vassar College, 95, 105
Vinal, W. G., 258
Virginia, University of, 209, 210
- Wadsworth, Austin, 160, 162, 168, 194
Walker, L. P., 97
Walker, Mary, 117-118
Walton, Isaac, 239
War of 1812, 55
Ward's Natural Science Establishment,
 144
Washington, Booker T., 197-198
Ways of the Six-footed, 148, 198
Webster, Daniel, 195
Wellesley College, 81, 159
Wesleyan University, 71
Western New York Horticultural Society, 92, 95, 146
Wharton, Edith, 264
Wheeler, Benjamin Ide, 160, 171, 177,
 182, 215
- Wheeler, Charles, 227
Wheeler, Mary, 232
Wheeler, William Morton, 206-207
White, A. C., 185-186
White, Andrew D., 32, 40, 43, 46-47, 51,
 75, 77, 80, 82, 84, 102-103, 132n, 138,
 144-145, 150, 152, 156-158, 161, 164,
 170, 212, 214, 219, 250, 252
White, Mrs. Andrew D., 45, 82, 158
White, Gilbert, 237-239
White Hall, 36, 74, 77, 79, 93, 139, 211
Wickson (*Pacific Rural Press*), 127
Wiggin, Kate Douglas, 127
Wilder, Burt G., 39-44, 49-50, 52, 87, 91,
 103, 107, 140, 144, 154, 180, 203,
 210-211
Wilder Quarter Century Book, 180, 186,
 188n
Willard State Mental Hospital, 149
Willett, Docie, 86
William, Kaiser, 165
William Smith College, 211, 218, 227,
 234-235
Williams, Emmons, 228, 231
Williams, George R., 150
Williams, Henry S., 150, 154
Williams College, 1
Willits, Edwin, 119, 122-123, 157
Willits, Helen, 137, 141
Wilson, William Dexter, 155
Wilson, Woodrow, 251
Wing, Charles, 158
Winslow, John, 171
Wisconsin, University of, 141, 152, 177
Wood, Alphonse, 52
Woodford Orations, 36
Woodruff, Edwin, 175
World War I, 251-252
Wormuth, Francis, viii
Wright, Floyd, 220
Wyman, Jeffries, 39
- Yale University, 32
- Zoology Department (Cornell), 39