A Brief Photo Essay of the Family and Life of Robert Hutchinson Foote

This restored house in Colchester, CT was built in 1702 by Nathaniel Foote, grandson of the original settler in Connecticut. I am eleven generations down the road from the settler.
Dedication

To family and friends, and the many students and staff who made the ups and downs of my life challenging, enjoyable, and meaningful.

Acknowledgment

To Marissa Richards of the Tompkins-Seneca-Tioga BOCES faculty, and especially to one of her students, Dustin LeBlanc, who helped me with the challenge of putting this book together, I am most grateful.
Preface

This short photographic essay was intended to be included as Appendix II to the book I wrote in 2003 “Born to Live and Living to Learn: Autobiography of a Farm Boy, Soldier, Parent and Educator”. That book, in the Cornell Archives, has only a few photographs in it.

Photography can convey feelings that are difficult to capture as realistically with prose, so here are more photos. There were many photographs to choose from, and at the same time there were gaps in the 81 years where few photos were found. However, the samples enclosed provide added glimpses of events and life during these past years which may or may not have been mentioned in the book. A short description accompanies each photograph.

The first section of this essay contains pictures of my ancestors and the farm where I was born. The next section catches a few memories of the farm family and farm activities. Then it was on to the University of Connecticut, followed by service with the famous Japanese-American Combat Team in World War II. Due to injuries in the war I had to change my career plans from farming to education. With the wonderful aid of the GI bill I headed for Cornell University where I started my own family. Next is a series of photos representing a career in teaching and research. Finally, a few photos provide glimpses of travel, parties, and retirement. Thousands of these events of early years are stored on colored slide film. These are yet to be dealt with, if time permits.

Ithaca, New York, 2004
The photograph of Grandma Foote was taken at a young age (around 40), young especially for her as she was nearly 112 years old when she died. Her hairstyle was modeled after that of President Taft’s wife (1908-1912 era). In 1891, Grandpa Foote bought the farm where I grew up. I had the good fortune of knowing all four of my grandparents. This added a sense of security and being that I did not recognize as a young man. They all had keen and clear minds all their lives.

The Hutchinsons said morning prayers daily. Grandpa H. farmed, kept bees, and marketed produce and eggs in Hartford. He was in the state legislature. Grandma H. was an outstanding student, with a remarkable memory. She was known throughout the area for her motto “Do right”. 
A formal portrait of my mother and father, early in their married life. Aren’t they a good-looking couple? This must have been taken about the time that she graduated as valedictorian of her class at Bacon Academy. She was a caring person, as reflected in her thoughtful face. This picture of my dad was taken when he was 18, probably about the time he graduated from Bacon Academy.

I always loved this picture of mother, and I think she did too. This must have been taken about the time that she graduated as valedictorian of her class at Bacon Academy. She was a caring person, as reflected in her thoughtful face. This picture of my dad was taken when he was 18, probably about the time he graduated from Bacon Academy.

A formal portrait of my mother and father, early in their married life. Aren’t they a good-looking couple? This is the unbiased opinion of a son. After mother graduated from Bacon Academy she taught several languages at a junior high school before attending Alfred University (valedictorian in 1912). My father was younger than mother, so when he went to Trinity College and Alfred University they were classmates at Alfred. After marriage my father taught math, chemistry and physics, and he was principal of a high school (1913-1919) while mother raised a family.
At the time of the picture to the left, ox power was the standard power. Later on, however, horses replaced oxen on the farms and this is the beginning of the expression “horsepower”. In the next generation, horses gave way to tractors. Looks like Grandpa Hutchinson is using a cell phone, but obviously not so around 1870.

Gilead Hill School probably in my grandparents’ time. Some were well educated for the times, with the wives teaching before marrying and raising families. Note the dress of the schoolmasters and the students. The girls look so old in their outfits. Where were the older boys? Working on the farms?

The Gilead Hill School in 1894, when my mother was 6 years old. She is sitting in the front row, second from the left. Many old-time Gilead families are represented, such as Way, Warner, Prentice, Perry, and Gilbert.
Home farm about 1902, looking east along the dirt road from the valley stream that in former times powered the gristmill built by Mr. Strickland. The mill was gone when I was a boy, but the millstones were in the brook. Grandpa Foote bought the farm in 1891. My mother and dad moved to the homestead in 1919 with their three children. My grandparents moved upstairs.

Home farm about 1942, looking down the hill from above the house. This is where I was born in 1922. The power lines run along the paved road. The new barn designed by brother Ed was completed about 1941. Note how much the Norway spruce tree has grown since the previous picture was taken. We call it Footehills Farm after Grandpa Foote and Grandma Alice Hills Foote. It is also in the foothills.

Front view of the farm home in the fall of 1998. It was well built. Mr. Strickland wanted it to be better built than any others. The spruce tree is visible on the left side. It still stands, although struck by lightning several times. The maple tree in front was rocking during the hurricane in 1938. Mother watched with great concern, as my dad and I nailed a big hay tarpaulin over the blown off flat tin roof at the right, now replaced with a conventional roof. This episode is described in the book.
My Grandpa and Grandma Hutchinson’s 50th wedding anniversary in May, 1922. This photo, taken in front of the Hutchinson homestead, included the four Hutchinson children, their spouses and grandchildren. The four children were Arthur Edwin, Carrie Jane, Carroll William and Annie Lovina. I am invisible in the picture because I was born 3 months later. My mom is sitting down two places to the right of the horses.

Probably 1923, with siblings Ed, Lovina, and Marje. Guess who is in the carriage. The old icehouse and hay wagon are in the background. We cut ice on the farm pond to cool the milk until we had electric power in the 1930’s. The open door at the far left is part of the old homestead built in the 1700’s. Now it is a garage and storage area.

Bobbie (me), age 2, picking dandelion blossoms, and learning to count. Mother would count the dandelions I picked (so I learned to count), and she paid me a penny per hundred. No wine production in this WCTU household was made from dandelions.
Bobbie, age 3, thinking he’s the king of swat. As a farm boy he belted more small stones out of the yard with a slab of wood than Babe Ruth or Hank Aaron ever hit in regular baseball games. But he was warned not to hit them into the hayfield.

The four Foote kids: Marje, Lovina, Ed and me with gladioli from the garden. I was about 5 years old, so Marje would have been 9, Lovina, 13, and Ed, 11, when this photo was taken.

Ed (now a young teenager) with a calf, plus Bobbie scratching its back. Later, when we had a pet fawn, a fenced paddock was built under the apple tree out along the stonewall that shows in the background of this photo.
Ed and the family dog, Bobbie (and another dog), and Marje with a kitten. We always had plenty of cats, between reproduction on the farm and drop-offs from the city. These pet farm animals were fed milk and grain supplemented with their catches of mice and woodchucks. Pets were only allowed to visit in the house; they were not house pets.

Lovina, Marje, Dad, handsome Deems Buell and his wife Helen Foote Buell (my dad’s sister), with brother Ed at the far right. In front is Irving Buell and future gentleman farmer Bobbie (pocketing his money). What money? Not much in the depression. Mother kept us neat and clean, and our hair combed.

Real farm boy, Bobbie, heaping hay (above left). Cousin Teddy (left, out of focus) and our dog sniffing for a mouse under the hay. Compliments were scarce in my family, but mother did say that she doubted anyone had heaped as much hay that day as 10-year-old Bobbie. I felt really good. Bobbie on his favorite wagon and own load of hay (above right).
Bringing the cows home for milking from a nearby pasture. Note the paved road, the electric power lines and the farm pond in the background. Ed had repaired the dam, so the pond is full of water. Cows are turning into the yard, with our house out of sight on the right side of the photo. I had many chats with Fred Way while bringing the cows home. He was coming home from Hartford. (see book)

Bobbie giving some calf grain to the pet deer. We found the fawn in the middle of a hayfield. The mother did not return after we cut the grass. Ed had the idea that we should care for the fawn. We built a fenced, shaded paddock for Deerie, letting her out to run in the fields where we worked during the daytime. Occasionally she followed me into the house.

Bobbie and his pet dog about the time he started high school. Ed and Marje were at the University of Connecticut (Conn. State College then). We obtained this Scotch Border Collie as an extra pup in a litter belonging to Mr. Pritchard, the Connecticut shepherd who trained his dog to handle sheep. Our dog was a loyal companion and loved to help bring the cows home.
Bob mowing (probably the barn lot) with the W-30 tractor at age 15. By this age I was expected to be able to handle most routine farm projects. There was no power steering and no shade on the tractor. You could burn your arm if it touched the fender on a hot day. All steering and lifting of the mowing machine was done by human muscle power. Good exercise.

Bob (note no longer Bobbie) at 16 thinks that he can handle the bull. Years later friends commented that I must have learned early how to throw the bull. Many farmers were killed by bulls, but none by artificial inseminators who replaced most bulls.

When Bob was 16 he had his driver’s license. The fall of his high school senior year Ivan London and Bob took two girls to a basketball game at Windham High School. Shown here is Bob with Beatrice Links and Lena Scagliotti. It was a nice cool December day when we started for Willimantic. When the game was over it was snowing. The book tells the story of getting stuck on the frozen rutted dirt road on a hill near the London home. How embarrassing, as this was the first time I borrowed my parents’ big car. The story ends well.
Mom and Dad on a brief break from the hard work on the dairy farm. Milking and caring for cows, and coping with uncertain weather and farm economics, plus caring for a family, welded strong families, and broke some. We had a job, and always there was good food on the table. Mom was very active in church affairs, Farm Bureau, Grange and other organizations. She served in the state legislature, where my dad earlier had served for two terms. Dad also served on and chaired the School Board, Farmers Cooperative, other boards, and was Commissioner of Domestic Animals.

Church was central to our family life. This photo was taken on the steps of the Gilead Congregational Church about the time I graduated from high school, and Ed and Marje graduated from college. Lovina was teaching in the Durham, CT high school. In the front row, left to right, is Marjorie, mother Annie, and Lovina. In back, left to right, is Edward, my dad Robert, and Bob.
The four kids as they leave or have left the home nest seeking their fortunes elsewhere.  
A. Bob is off to college.  B and C. Marje and Ed have finished college.  D. Lovina is a high school teacher.  Marje also taught high school.  Ed taught part-time at the university before returning full-time to the farm.  Bob eventually traveled far and wide, courtesy of the U.S. Army.  Our parents have done what they could for us.  Now it is up to us!  NO EXCUSES.  Read my lesson in the book on the last day of Officer Candidate School (OCS) on excuses.
Time for fun too. When I was in college, and Ed had returned to the farm, we had a summer softball league in Tolland County, CT. My dad coached the team that Ed and I played on. Dad had been a star athlete at Alfred University. We had snappy yellow and blue jerseys. One big plus, besides the fun of playing, was we had to get through farm chores early to start and finish a game before dusk.

Ruth Evelyn Parcells. At the University of Connecticut I met casually many fine cohorteds, but I was mostly busy with classes, clubs and student work (I mostly paid my way as the 4th child going through college in the depression). However, this all changed when Ruthie Parcells asked me to come to an informal dance at the Sigma Nu Sorority. Ruthie’s mother said that Ruthie was the sweetest, dearest daughter a mother could have. I agree!
Ruthie was one neat little girl. We walked and we walked. She always kept on smiling, not knowing at the time what the years ahead held for us individually or collectively. On the bottom left is Barbara Peschko, brother Ed, Ruthie and Bob. Ed was busy on the farm, so he had little social time. He had a convertible, so Ruthie and I made a simple plan. I wanted to take a ride in his convertible. Ruthie had a friendly friend who didn’t have a date. Voila! We then arranged a picnic and phoned the weatherman to arrange for picnic weather. Below we are at the picnic. Bob had lots of hair then. He is amused by Barbara’s joke, as is Ed (one quarter of his face showing), while Ruthie took the picture. Everything was fine, but farm schedules and university programs didn’t jive well, so the picnic arrangement faded into the past.
Bob is no longer the dairy farm boy seven days a week. His help on the farm is mostly during summers and vacations. Meanwhile he is keeping in shape running cross-country as well as across campus to the dairy classrooms and up to the poultry classroom on top of Horsebarn Hill. Also, he was in the ROTC and that helped him to “shape up”.

One of the extra-curricular activities was student club programs, including fitting and showing cattle at the student livestock show. I showed this young heifer one year. Ruthie came during my preparation of this animal, and would have been an attractive show woman.

The University of Connecticut had many super co-eds. Barbara (Bubs) Jones and Peggy Bruce are going for a buggy ride. Barbara is my present wife. She was a sorority sister of Ruthie’s. She married Roger Johnson, a fraternity brother of mine who died five years before Ruthie died. Peg married Ronnie Rood who died recently, and Peg visited us in 2003. It is fun to reminisce about old times, but don’t try to live in them.
Ruthie and Bob posing under more formal conditions at one of the college balls. When you pose too long the smile fades for the photograph, but it returns as the music starts and the dancing begins. I wasn’t a good dancer nor a campus socialite, but the dances were fun, and excellent experiences. We had dance programs. We arranged to exchange partners in advance with several other couples for several of the dozen or so dances. There were breaks for the orchestra and the couples. It was a great time for social sharing and putting your best foot(e) forward.

Cadet officer Foote giving a farewell salute to the University of Connecticut in the spring of 1943. While this seemed, at the time, to be the end of wonderful college days, it was only the beginning of friendships established and experiences gained that were meaningful in the many years since 1943. Some of the close friendships established were continued by correspondence, even when interrupted by the war. There were joys and sorrows, all a part of the challenges of a meaningful life. Connecting is so important for enriching one’s life.
Bob (Lieutenant Foote) on graduation day in November, 1943 from Officer Candidate School, Ft. Benning, GA. I am thankful for the past, and hopeful for the future when this photograph was taken. The promise of a hopeful future was fulfilled.

Go for Broke was the Hawaiian “go all out” motto for our 442nd combat team made up of Americans of Japanese ancestry. This peace-loving bunch of guys formed the most distinguished fighting machine in U.S. history. I was privileged to be one of their officers, and a friend ever since. I have wonderful friends with whom I formed very close bonds, during the stresses of battle, which tested our loyalties to each other and to a common cause.

Bob (Lt. Foote) and two of his sergeants (Ikehara and Shumida) receiving attack orders in the Vosge Mountains., France, from a headquarters officer (no helmet), October, 1944. In an ensuing battle, we (Company K and others) rescued part of the 36th Texas division that had been surrounded by the Germans. They had 8000 men to our 2000. My Company was one of those leading the attack. Ninety percent were killed or wounded, but they and the ten percent remaining were victorious. The Pentagon displays this as one of the 10 greatest battles in U.S. history.
I spent the next five months in the hospital with TLC that was part of why I am here. The battlefield medics, nurses and doctors were wonderful. They are real angels. I have known them. Here I am, while in the hospital recovering from wounds, with Frank Matsuda.

Here I am with Fugio Miyamoto.

Here I am with Tommy Homma.
Lt. General Truscott is pinning the Presidential Citation on the K Company Guidon, equivalent to the Distinguished Service Cross for each individual. The 442nd received seven of these citations, including one for the rescue of part of the 36th Division in France.

Our company passing in review after receiving the Presidential Citation. Lt. Foote is the officer, front, left (near the camera). To his left (right in the photograph) is Lt. Horace Smith, a very fine officer who I last saw at the 50th reunion in Hawaii in 1993. He died a few years later. In the front ranks are several fine sergeants.

1st Lt. Foote receiving the Bronze Star Medal from General Oxx for heroism in Italy. On another occasion the military records show a recommendation for the Distinguished Service Cross, but apparently it was never completed. I’m just glad to be here. There certainly were many acts of heroism, but who was there to be an observer and survivor to record them all?
The war is over in May, 1945. Lt. Foote (later captain) demonstrating his Thompson submachine gun, usually fired from the hip in emergencies. When fired in battle, these were emergencies. This gun, capable of firing 15 rounds of 0.45 caliber bullets in 1 or 2 seconds, saved my life. But the other side of the coin is most regrettable as it extinguished others.

Platoon Sgt. George (Masakazu) Nishi, Co. K. As fine a soldier as one could ever find. I relied on him a great deal and he never failed me or his men. He was offered a battlefield commission but refused on the basis that it would separate him from his men. He went home to take care of his parents. Then he was married. I still keep in touch with his widow, Flo, as I try to do with other 442nd families.

Relaxing in 1945. Taking a regular shower after the war. A helmet full of soapy water and then a helmet full of rinse water was the SOP (standard operating procedure). We kept our dog tags on at all times. They needed a shower too, along with our shorts.

Maria Grazia, 1945. She was a volunteer Italian USO girl who kindly helped me, as the K Company recreation officer, to locate a group of Italian girls to come to our company dance and party in the summer of 1945. I would order a truck from the motor pool, pick up Maria, and she would direct us to all the stops to load up. The reverse order was followed after the party. You can bet all the parents were waiting up to see that their daughters came home safely. They always did. Even Maria’s grandmother, who lived with Maria’s parents, waited. After the last party I escorted Maria to the door. We exchanged a big hug. I was ever so grateful for what she had done for us, and she was so thankful for what we had done to bring the war to a close. I found her address among boxes of war souvenirs in 2003. I sent her a letter of thanks and wished her well. The letter was returned with address unknown.
Faithful Ruthie writing Bob throughout the war. A wonderful morale builder. I believe this photo was taken outside of the Atwater Lab, University of Connecticut, where she worked. The photo she has is my OCS graduation picture.

Bob reading one of Ruthie’s letters after the war was over at Ghedi, Italy. A few of those letters, received just before I came home, I brought home with me. Ruthie saved them. They form appendix VI in my autobiography in the Cornell and Hebron libraries. Ruthie numbered her letters. There were 100 of them, but most during the war I couldn’t keep.

K Co. Bobbie ready to smash the ball in the photo at Ghedi in May, 1945. Unfortunately the final score was I Co. 2, K Co. 1. We did have some time for fun. We all had furnished uniforms too, the same for opposing teams. Now how do you keep track of who is on first?
Our K Co. mascot that adopted us after the war. Dogs know good people. Nothing more is needed to amplify that statement.

Chaplain Yamada when I saw him just before going home from Italy. He was our courageous chaplain from the 3rd battalion. I believe that he was a UCC ordained minister. The Chaplain in the second battalion was a Buddhist, I believe. Of course they administered whatever type of support and encouragement was needed by anyone. One of the wonderful things is that no questions were asked that might have created artificial barriers.

Gertrude Menzel’s relatives (the Marguerat family). A picnic at their home in Lutry, Switzerland, in July, 1945. Mr. Marguerat was head of the Swiss railways, and he gave me a pass to travel all over Switzerland. I did that. Gertrude Menzel was a French teacher in Rye, New York. She was a friend of Marion Odell who married my brother, Ed, in 1943.
The United States flag over a military cemetery. The flag is a great symbol of a country in which the founders hoped they would provide “liberty and justice for all”. Those who deface the flag don’t understand that the flag never hurt anyone. It is we the people who cause problems when we behave irresponsibly.

The crosses, row on row in Vada, Italy. Remember the feelings portrayed in “In Flanders Fields” by John McCrea. Soldiers who fought and lived, loved ones of those who died, and civilians in war-torn countries must tell of the futility of war and violence as a way of maintaining lasting peace. I now can tell, but I avoid seeing the crosses again.

Meanwhile, back on the farm, my mother and father are running the farm with brother Ed, and they are involved in many wartime activities on the home front. Dad and Ed are shown here with a Holstein heifer. In the background is the barn and two silos finished in 1941.

There were many changes beginning to take place in farming. Labor was expensive. Wages on farms could not compete favorably with what industrial employers could pay. Soon milking parlors and bulk milk tanks made it possible for more cows to be milked per worker. Machinery for working crops was designed for greater efficiency, and equipment costs were increasing dramatically.
Mom and Dad took time to pose for a formal photograph. Both were busy with chores on the farm, including the house and garden. Both were busy professionally in church and agriculturally related organizations. Dad was active in the Masons, as indicated by the pin he is wearing.

Mother Annie Hutchinson Foote was elected to the legislature in 1945. Here she is all dressed up in 1946. She felt at home in the legislature. She dressed differently for the hay field, as shown earlier.

My dad, Robert E. Foote, was appointed Commissioner of Domestic Animals about 1945. Here he is being interviewed at WTIC.

Commissioner Robert E. Foote, at one of the agricultural fairs, enjoying this team of horses.
Ruthie and I were married on January 12, 1946 at the Congregational Church in New Milford, CT. Here we are cutting the wedding cake at the reception in the Parcells home. Dottie Shepherd Jones is in the background. Bob had curly hair, and more of it then. In one month after I came home we had arranged a wedding, and by the end of two months, we were in Ithaca, where I had started graduate work at Cornell University.

January 12 was a lovely warm day. This photo was taken in the yard at the Parcells home. Ruthie designed and made part of her wedding dress. Lovely! The army designed my attire. Her dress is in the collection of special clothing in the Department of Textiles and Art at Cornell University. My uniform was donated to Ithaca High School to use in artistic productions when appropriate. So this is one of the “parts” of us that continues on.
Prof. Ken Turk and his wife Bernice. Ken accepted me to come to Cornell in 1946. He hired me after graduate work in 1950. He and Bernice were father and mother to all their academic family while he was head of the Department of Animal Husbandry. The name was changed later to the Department of Animal Science. The Turks had no children of their own. Graduate students and faculty were invited regularly to receptions at their home. In 1963 he left the department to be head of the new International Agriculture Development Program he founded.

A few times at Cornell I invited the staff in the Department of Animal Science to take a boat ride, and have lunch on the boat on Cayuga Lake. Also, I invited my own group to go on a dinner cruise of the lake. In this photo Ken Turk is enjoying the summer cruise.

Glenn and Dorothy Salisbury are shown here with their children, Laird and Susan, who they adopted when the children were babies. Glenn was chairman of my graduate committee until he left in 1947 to chair the Department of Dairy Science at the University of Illinois. I still keep in touch with Dorothy, the only one of the faculty families here when I came to Cornell who is living today.
Two sons were born in 1947 and in 1950. We moved into our first house in the fall of 1950. In 1951, Dale, 16 months old, and Robert, 4 years old, have unhooked their stockings from the Christmas tree. The team is building a tower. Look at the teamwork. Dale has the easier job at 16 months of age of being the supplier, and able to pose for the photographer. Robert is carefully, but confidently, stacking the blocks squarely on top of each other. My grandmother Hutchinson’s beautiful cherry drop-leaf table is in the background.

In 1952 our family modeled snowmen at 110 King Rd. West. I remember these as some of the best times of my life. The photo was taken with the camera on a tripod, using a delayed action shutter. Because I usually was the photographer I am the “unseen” person in most photos.
Christmas, 1954 at 110 King Rd. West. Ruthie’s mother and dad came with greetings and gifts. Ruthie has prepared a delicious Christmas dinner. Robert and Dale are patiently waiting while Bob (empty chair in front) takes a picture. We had many warm visits by these Grandparents. My study is in the corner at the left, and the corner of the kitchen is in the background at the right.

Our family in 1957, in front of Buttermilk Falls on one cool but sunny Sunday afternoon. Our dress indicates that we have been to church. The Congregational church was on the corner of Geneva and Seneca streets then. We often took short drives after church, eating at the Lehigh Valley Restaurant.

Our oldest son, Robert Wesley Foote, about 4th grade in school. One of his grandfather’s names was Wesley Parcells, therefore the Wesley. This is a photo taken at school. Robert was the more serious student of our two boys.
Our second son, Dale Hutchinson Foote, in grade school. Hutchinson is my mother’s family name and my middle name. Dale followed artistic interests, as did his mother.

In Denmark in 1958. Dale is 8 years old and Robert is 11 years old. Feeding pigeons in Kongens Nytorv, Copenhagen. That was a great year. My autobiography has a chapter on the year in Denmark. We traveled throughout Denmark in our VW, and visited other countries during school vacations. Robert and Dale went to Danish school. They spoke a foreign language when we went home.

On vacation with the family. This one was in 1963. I have photographed Dale, Robert and Ruthie on the Athabasca Glacier, Columbia Ice Fields, Alberta, Canada, August 6. I am surprised that we were allowed to walk on the glacier without special equipment. There were large cracks in the ice.
Ruthie and Bob, now senior citizens in 1978. Bob was on sabbatical leave at UC Davis, CA. This was a wonderful 6 months of work, play, and travel. Our Son, Robert, took care of our home in Ithaca. In Davis we had a comfortable apartment with a swimming pool outside. Davis is flat. The city is full of bicyclists riding in the bike lanes. I rode a bicycle to campus.

Besides campus activities we traveled in California on several weekends. Also many of my 442nd army friends put on a fine dinner for us in Sacramento.


We had planned this trip for some time, as Ruthie wanted to visit Australia. We were losing the battle with cancer. Good sport Ruthie insisted we still go. Australian friends arranged for a station wagon and wheelchair. Two sons took charge and wheeled mom through part of Australia.

We left our footprints in the sands of time. It was Ruthie’s last hurrah! She passed away on January 10, 1992.
Passport photos from the 1950’s, 60’s, 70’s and 90’s
In the early days of artificial insemination (AI), all semen was preserved in liquid form at 5°C (40°F) in an egg yolk medium developed at Cornell. The semen was sent as rapidly as possible to technicians in the field. It was packed with ice to keep it cool. The inseminator kept the package in his refrigerator and then carried tubes of semen with him in an insulated box. Here the technician is drawing the semen from the box into an insemination pipette (all glass, no plastic then). The farmer is watching this new procedure on his farm.

By the 1950s we were doing research with frozen semen. We had exhibits at Cornell Farm and Home Week and at the NYABC Cattle Show. In this photo Governor Dewey is observing results pointed out on the chart. At the far right is Cap Creal, a great dairy farm friend of mine, who also headed the NY State Fair.

The Beginning of AI
This photo shows Professor Stanley Brownell, Maurice Johnson and leading New York dairymen in 1938. They planned the Pioneer Artificial Breeding Cooperative in 1938, producing the first calf by AI in NY State 07-25-39.
Photos of my bacteriology studies in 1946-47. The three culture dishes on this page are Petri dishes containing sterilized agar medium that is favorable for growing bacteria. Each dish has a larger cover that fits over the top to keep out dust and bacteria that could be floating around the room and contaminating the culture medium in the dish. In our studies we mixed various dilutions of bull semen with sterile warm agar, and poured this into a series of Petri dishes. There it would cool and harden. Incubation at 37°C (98.6°F) for 24, 48, 72 and 96 hours resulted in growth of tiny colonies of bacteria. The number of colonies counted times the original dilution of semen indicated the number of bacteria in the bull semen that we were studying. My advisor and I were interested in controlling (killing if possible) the bacteria in semen without harming the sperm. This could control venereal diseases. I knew that some new drugs were available, as I received sulfanilamide and 240 shots of penicillin for wound infections in WWII. The top dish shows a typical number of bacteria after dilution. The next dish shows that all bacteria were inhibited by antibiotics. We also ran control dishes to check on sterilization procedures. The bottom dish shows different kinds of bacteria in highly diluted semen. We successfully controlled bacteria and raised fertility by controlling venereal diseases. **This was worth hundreds of millions to the dairy industry.**
We shipped both liquid and frozen semen by air freight to the Philippines in the early 1950s. This was before tanks of liquid nitrogen were available. The frozen semen here is in liquid nitrogen at -196°C (-320°F). Semen can be stored at this temperature for many years.

With the development of freezing bull semen successfully, insulated tanks to hold tens of thousands of breeding units were developed. The frozen semen here is in liquid nitrogen at -196°C (-320°F). Semen can be stored at this temperature for many years.

We shipped both liquid and frozen semen by air freight to the Philippines in the early 1950s. This was before tanks of liquid nitrogen were available. The frozen semen was packed in “Dry Ice” with a special permit showing that the fumes were not dangerous. Here is a crossbred calf produced and mother in the Philippines.

This photograph is an aerial view after NYABC became Eastern Artificial Insemination Coop., Inc. I had my lab there from 1946 to 1961, when Morrison Hall was built on the Cornell campus. The Coop board and staff were extremely generous in supplying semen and helpful with the research. My program owes an enormous debt to these cooperative people and their 30,000 farm members.
Professor Bob Bratton with the first calf born using frozen bull semen in New York State. Dr. Bratton contributed greatly to the AI industry. His work was not fully recognized by many because as a perfectionist he procrastinated often in formally publishing results that the AI industry adopted. Also, for various reasons, many not objective, he was not accorded the emeritus status that he deserved.

Young Assistant Professor Bob Foote (left) and a Ph.D. graduate student, Stan Wearden, manning one of the annual exhibits. Stan was a statistician, and went on to become Dean of the Graduate School at West Virginia State University.

This graph illustrates what our program contributed to the field of AI. The development of semen extenders (CUE, and Tris-yolk not shown), along with better cooling, and antibiotics to control venereal diseases, was worth billions of dollars worldwide.
Our AI work focused on cattle, but also included, sheep, goats, pigs, horses, and dogs. We collaborated with Ken Walden, a graduate student of Herb Everett’s, in freezing corn pollen so that samples of the same pollen could be tested in Ithaca and Florida. Here Ken is applying the pollen to the silk (pollen tubes) of young ears of corn.

The rabbit model was of tremendous help to our research program. This small animal allowed us to study how sperm and eggs were formed. We could collect and preserve both sperm and eggs, and perform artificial insemination, embryo transfer and cloning. The rabbit was an ideal model for domestic animals. Our work also put the rabbit on the map for EPA adopting it as one non-rodent model for toxicity testing.

**Basic research**

We were interested in antioxidants and the effect of radiation exposure of cells in vitro to different wavelengths of light. Here sperm cells, in closed capsules with oxygen versus inert gases, with and without antioxidants, are exposed. The inert gases and antioxidants provided major protection to sperm, especially against blue light.
Many research projects at Cornell and elsewhere led to one selected outstanding sire being able to provide semen for the insemination of 1000 times as many cows as was possible with natural service. This increase had a tremendous impact because selected AI sires were superior to those in natural service. No bulls on farms to kill farmers either.

The tremendous increase in milk production per cow (in 2004 nearly 4 times the production in 1955) has greatly reduced the number of cows needed to meet the nation’s milk requirements. Prof. Henderson, of Cornell, was the powerhouse geneticist behind this.

A basic study, that we were one of the pioneers in, was examination of the cytology and kinetics of sperm formation. This had application in the field of male infertility as well as AI. Here is an illustration of a cross-section of a bull testis tubule just before the sperm lining the lumen are about to be released.
This is a microspectrophotometer. We built this in 1959 with parts and help from Leica experts in New York City for about $5,000, plus the monochromatic light source for $3,000. A commercial unit would have cost at least $30,000. With the slide diaphragm (dark slide) we could measure the DNA in individual sperm heads after exposure to different agents, including light. There was a detrimental effect of light.

A bull sperm magnified about 7,000 times, as it resides in the oviduct of the female. The droplets on the head of the sperm reflect the beginning of a process called capacitation. This change permits the sperm cell to fertilize the egg after it continues its journey up the oviduct to meet the egg (oocyte). Note the many villi lining the oviduct.
Many studies were done with bull sperm. This abnormal sperm is duplex with double the normal DNA in the head, and with a double tail.

Normal spermatozoa fertilizing an egg in vitro. Many sperm are attached to the surface, but the one by the arrow had penetrated the egg. This causes the head of the sperm to swell as the DNA decondenses, before the head fuses with the egg nucleus.

The nucleus of this egg is near the center. The chromosomes have duplicated and soon the fertilized egg will divide to form a 2-celled embryo. Parts of other eggs are in the photograph.
Much of our research was done to improve the in vitro culture of embryos, useful in studying early embryo development and for embryo transfer. Here are 4- and 8-celled embryos surrounded by the zona pellucida.

The surface 3-D appearance of an 8-cell bovine embryo. This embryo will divide into 16 cells and then 32 cells, still as a ball of cells. Then it will form a cavity and start to differentiate into cells that will become the fetus and others will become the placenta. The embryo below is a blastocyst with a cavity inside (not visible).

This is an embryo with more than 64 cells, but the individual small cells are not clearly visible. This is the first embryo ever to be cultured in vitro from the beginning to a “hatched blastocyst” in a purified defined medium (Kane and Foote, 1969).
Dr. Harry Rajamannan, owner of Int. Cryo-Biological Services, Inc., arranged this conference. The participants in the photograph represented scientists known for their experience with embryo culture and transfer, cryopreservation of sperm and embryos, and cattle genetics. We had been researching embryo transfer, using the rabbit as a model for cattle breeding to obtain more progeny from the best cows, with superovulation, AI, and embryo transfer. We had been studying this with rabbits for 10 years and with cattle for 5 years. (1973).

**More Research**

Classic work by Jim Kennelly showed that all eggs in the adult female were formed by birth, here retaining an isotope (dots) in egg nuclei incorporated when injected with the isotope at birth. No new ones were found in the adult.
A very important part of a successful insemination or embryo transfer program is to identify correctly the stage of the reproductive cycle that each cow is in. Visual observation of sexual behavior is the most common technique. In estrus the cervical mucus has a higher salt content. It dries on a slide with a fern-like pattern.

Hormones in blood and milk change during the reproductive cycle. Milk is a convenient way to sample the cow’s progesterone concentration. It is relatively high most of the time, but reduces to near 0% at estrus, when estrogen increases, bringing the cow into estrus, with ovulation of the oocyte (egg).

Dr. Charles Hall, an extension veterinarian in the NYS College of Veterinary Medicine, and Bob Foote examine a chart that shows the cyclic changes in milk progesterone of one cow. I had many excellent collaborators in the NYS College of Veterinary Medicine.
A heifer painted by a marker bull when she stood to be mounted by a specially prepared bull with paint in a chin ball. The bull had been surgically treated to prevent mating.

Superovulated ovaries from a calf stimulated by hormones to produce multiple ovulations (Seidel et al). Note that there were about 100 (red areas) ovulations instead of one.

The most advanced technology developed to date for animal breeding is cloning. Here a stem cell (ESC) is being transferred to an egg (a,c,). Blastocysts produced (b,d) stained to show future fetal cells (blue) versus the outer cells which will form the placenta.
Dr. Jerry Yang with the first calf we cloned from ESC. We had to do it the hard way. We were planning to use ESC from good blastocysts produced in vivo at Em Tran. Unfortunately they had a complete failure that week, so we had to take ESC from blastocysts we had produced in vitro to make cloned embryos to transfer to synchronized recipient cows.

Dr. Paul Farrell, then a research technician, played an important role in the process of cloning this calf from an embryonic stem cell (ESC). The calf was born in May, 1992. She was a lively calf, and had to be held still for the photo taken at the Cornell T & R Center where she was born.

This calf is pictured here as a 1-year-old healthy heifer in May, 1993. She went on to breed normally, produced healthy calves and was a good milk producer. Unfortunately, we could not generate Cornell support to expand the work. Cornell was excited in 1997 when the British-cloned sheep, Dolly, was born. By then Dr. Yang had a big cloning program at the University of Connecticut.
Teaching is enhanced with a little appropriate humor, along with solid information. In the early days of artificial insemination some people had rather strange objections to AI, including the “poor cows missing the bull”. No, really, inseminators were more hygienic and gentle.

Inseminating the cows at the correct time is very important. We illustrated the use of many gadgets to aid the farmer, along with observation of sexual behavior, in detecting cows in estrus.

Teaching included the training of students from other countries. Here I am working with Dr. Tony Solis, a fine young veterinarian from the Philippines. We are going through a procedure for proper semen preparation prior to examination with the aid of a microscope. Note the older type of microscope with a mirror and separate light source used in the 1950’s.
The use of audiovisuals to enhance learning through pictures and sound as well as reading text material. By 1970 I built individual carrels where students could read text, examine colored photographs, and view with an accompanying audio, Super 8 films. My son, Robert, had given me a Super 8 camera, so along with my other cameras I shot the films and prepared the narration. Tom McDonald was a superb assistant technician, now an Associate Professor at NYU. This was before we had video equipment.

I taught some large classes, but they were divided into lab sections of about 32 students. I put name cards in front of the students to try to associate the correct names with the energetic young faces. My lab assistants were better at this than I was.
If one is planning a career in the animal field, practical experience in working directly with animals is indispensable. This was limited in some of the courses I took, probably because of the cost and difficulty of procuring animals. I tried to provide many living labs for my students, here collecting bull semen.

I liked to have classes in the morning when students and I were fresh. Here we are all set before 8 A.M. in our coveralls headed for the barn to practice artificial insemination. What a good bunch of students!

A class in AI at the Cornell Teaching and Research Center. Two very able graduate assistants, Dr. Dan Cavestany (left front), and Dr. Javier Arriola (right front) provided great expert help.
In my complete autobiography, to which this book was originally an appendix, there were a few photos of researchers in the laboratory or working with animals, such as shown in the miniature here. They helped with teaching the labs also.

On sabbatical leave in Davis, California in 1978. Most of my time there was teaching a graduate seminar (10 of the students are pictured here with me), or working with two of them in the lab. Also, I did some field work.

Graduate students at Cornell in 1981. Martha Doane and Dr. Javier Arriola, (both PhD candidates) are preparing to measure intrauterine contractions in the cow. Rob Warren, a superb animal tech in the background, is preparing the cow. What a great team! They helped to teach, too.
Another example of adding a little humor through this attention getter when discussing with students or with dairymen the importance of catching the cycling cow when in “heat”.

I greatly enjoyed working with a fine bunch of students. In 1967-68 the student honor society in the College of Agriculture awarded me this treasured plaque for teaching. The plow represents one used by Liberty Hyde Bailey in formally establishing the college in 1904.
World Travels
In conjunction with scientific meetings, sabbaticals, and family trips I visited many countries. This page of photos gives a few examples of the places visited. This first photo is of Westminster Abbey, England in 1956.

My family (Ruthie, Robert and Dale) spent 9 months in Denmark in 1958-59. Here we see the famous Little Mermaid in the harbor in Copenhagen.

While living in Denmark we took a tour of several countries of Europe in our Volkswagen. The four members of this family in Volendam, The Netherlands, are dressed in their Sunday native costumes. This was a delightful journey.
In 1956 I visited many major research centers in Europe to learn firsthand what were the high priority questions they were studying, and to meet the people doing the work. While in Stockholm, Queen Elizabeth was visiting King Gustaf. On Sunday they were going to the opera in Stockholm. Through some miracle (described in my autobiography) a member of the Swedish royal family took me up to the landing at the castle where the queen and king boarded the car. I took this photo, reproduced from my original slide.

This beautiful tower is the Emin Minaret in Turfan, northwest China. This area is very dry and hot today. It was more than 120ºF the day I was there. Nothing grows without irrigation. In ancient times a river flowed near there. The Minaret is a tower where Moslem clerics said prayers from the top.

This photo will be recognized as the Great Wall of China. I visited China several times. On this trip Barbara was with me, but I don’t see her in the photograph.
Parties

We celebrated birthdays, graduate students when they finished a graduate degree, and when anyone left Cornell. Also we had a Christmas luncheon each year. Here a bunch of us are having punch, cake and ice cream.

Two new PhDs. Drs. Ed Carney (left) and Dave Jasko (right) display their freedom, their theses, and the pewter mugs I gave every individual when leaving our group over a period of about 45 years. The mugs were engraved.

Mike Simkin (what form) was a great contributor to our program. His birthday was on April 1. We celebrated it with a bowling party for our lab families, including pizza, beverages and a birthday cake, along with free bowling.

Our group didn’t let me forget that I was growing older too. Here is one of the fancy cakes they made. There were always humorous birthday cards.
Summer picnic-parties in the backyard at 70 Woodcrest Ave. We had a small trampoline that we bought when Robert and Dale were young. The small children of grad students and visiting scientists got a big kick (or jump) out of this.

After the trampoline, and after others had played badminton or other sports, we sat down for a full picnic meal. Guests brought a variety of foods (including foreign dishes), and we supplied beverages, hamburgers, hot dogs and a large grill.

I’m not really praying here. This photo was taken at a Physiology picnic at the Vet School. I attended both physiology and animal science picnics. I put this picture in because I had been doing some carpentry work. You can see that I did not always hit the correct nail on the head.
A third life. My first one was on the farm, and nearly ended in WWII. My second life started when I married Ruthie. My third life started after Ruthie died when I had the good fortune of meeting widow Barbara Jones Johnson, a college classmate. Here we meet for the first time in 42 years at Barbara’s home, Lake Alfred, FL. I had a meeting in Florida. The squirrel is our chaperone.

September 25, 1993. We were married on a lovely day in the beautiful White Hills Church built in 1839. Essentially all of our two families attended. Originally we planned to be married at Thanksgiving time, but realized that bad weather for our older family members might make traveling difficult. No, not a shotgun wedding.

Barbara’s children, spouses, grandchildren, and one great grandchild, plus Sarge, and Bob in the background. Barbara’s son Philip took the picture, so he is missing. The photo was taken on the lawn of our cottage at Kendal, 474 Savage Farm Drive. We moved there in September, 1998.
On a cruise to the Panama Canal in June, 2000. It was lovely weather. We stopped at several Caribbean Islands for sightseeing and snorkeling (in rough seas). Food was fabulous. You can see it all went to waist.

Also, Robert organized this Panama Canal trip. He went with us. Here we are in the main dining room of one of the lovely ships owned by the Princess Cruise line.

In June, 2001 both of my sons, Robert and Dale, joined us on a cruise with the Holland-America line from Vancouver, B.C. to Alaska. We are ready for another yummy meal on board. In Alaska we took an inland trip. What a miracle – the Alaska pipeline construction.
Barbara and Bob near the tremendous falls at Foz du Iguassu, Brazil, in January 2002. This was a wonderful trip, viewing a rain forest, a bird sanctuary, and other scenic panorama. The International Embryo Transfer Society held their annual scientific meeting there. Bob received their Pioneer Award. Thank you, everyone.

Bob, Sarge and Barbara are enjoying a Blue Grass concert on the Arts Quad one fine summer day. Cornell has these free concerts each week every summer. Lots of people were sitting on the ground in front of us. A frisbee game is behind us.

A slide I prepared, and used in many talks. It focuses, obviously, on the need to work together locally and globally. It was natural for me to fall into the mold of ethics and service fashioned by my parents. One of my favorite slides follows.

**Ethics and Service**

Ask not what others can do for you, But what you can do for others.