Unpublished MS

When we are children, our interests are directed by the influences of adult relations and the circumstances of our early lives. Our parents in particular, as well as our playmates, often have a determining influence on the course ~~they~~ we take, but exterior events outside the family circle ~~could~~ can also have an effect that may not be recognized until much later in life. Most children, almost as soon as they learn to talk, if provided with the means, express their visual impressions of the world around them by drawing. This world at first encompasses mother and father, sisters and brothers, the dog or cat, and the house they live in; later it includes the books they read or are read to them, and today what they see on television. The subject~~s~~ that especially obsess ~~are~~ boys is space age warfare. But manual dexterity, of which drawing is one expression, is manifest early in playing with toys, building with blocks, and as skill develops, assembling mechanical models. With some children and perhaps with all, if fundamental, inherent attributes are fostered by parental interest and example, using simple material, c to make their own toys and other objects provides a basic creative satisfaction.

I have observed these influences and consequent developments in my own children and grandchildren, but I am unable to point to any that could have determined the course of my life before the age of six. I am sure that the parental influences of a humanist mother and a scientifically ~~minded~~ oriented father

was strong. I have no recollection of having spent any time drawing imaginary pictures, but very early I did get real pleasure from making things out of wood with my first tool, a pocket knife. I was also, while still quite young, attracted to the natural world, to the first growing things of spring, and to birds, a fascination which ~~later~~ in my adult life became for many years a passionate ~~pre~~occupation. All these interests were treated with sympathy and encouragement by my parents, especially by father, ~~with whom my sister and brothers and I would go~~ who would take us for Sunday walks on Lake Michigan's shore and ~~be told~~ tell us about the geological history of the Great Lakes, about the significance of fossil crinoids that could occasionally be found in the gravels of the beaches, and about how it all was tied together by evolutionary change.

My precocious interest in making things out of wood received strong support one Christmas when I was given a work bench with a vice and a chest ~~full~~ of tools. It was a day I can still vividly remember; my surprise and overwhelming excitement when after Christmas dinner the doors to the parlor were opened, the lighted Christmas tree revealed in all its glittering splendor and ~~I was introduced to~~ the ~~present~~ The Presentation of gift that was to have such a profound and lasting effect in broadening (the range of my opportunities for self-expression) my childhood activies.

Christmas was always a day of intense excitement, as I am sure it ~~was~~ is for most middle class children. It started early ~~Christmas~~ in the morning when we went downstairs in our pajamas before breakfast to empty our stockings, which Santa Claus was supposed to have filled while we slept. We had hung them the night before

from the fireplace mantelpiece in the living room we called the library because it was lined with book cases. The Christmas tree had been set up ~~in~~ during the night and decorated by ~~father and mother~~ our parents in the room across the ~~front~~ hall from the "library" called the parlor, a more formal room with a grand piano and an aeolian pipe organ ~~that~~ which my father played. The floor in the parlor was covered with several oriental rugs - Kazak, Tabriz, and Bokhara of moderate size leaving much polished wood in between, enhancing the formality of the room. The floor in the library, on the other hand, was almost completely covered by a thick red Chinese rug, figureless except for a decorated border ~~in~~ blue and black. The sliding doors to the parlor were kept closed all Christmas morning - a challenge to us children who would peek through the cracks - because it was here ~~where~~ that we would receive most of our presents after Christmas dinner. The one exception to this custom was the year I was given an electric train. It had been set up in the library and the tracks could be seen from the stairs into the front hall as we came down to open our stockings. The electric train was not a great success. Mechanical toys with their limited possibilities for operation and holding attention often appeal more to fathers than to sons. A child soon tires of an electric train on its circle of track; it offers no possibility for variation as a model railroad does for an older boy or an adult with ~~the~~ its challenge for improvement and enlargement.

Somehow Christmas morning, the time before we opened presents, had to be gotten through, so to ease the strain we were sent out to ~~play~~ in the snow or to go coasting ~~or~~ taken ~~for~~ a walk on the beach. ~~The reason for~~

~~delaying~~ the distribution of presents Was delayed until Christmas afternoon ~~was that~~ because granny and grandfather, mother's parents, and Aunt Peggy, her sister, came out late in the morning for Christmas dinner on the Northwestern Railroad. Although We loved them and they helped reduce the tension, ~~but~~ nevertheless our excitement and impatience continued to grow throughout the interminable meal ~~from a~~ as first Course cream soup, which began to roast turkey with chestnut stuffing, mashed sweet potatoes baked with brown sugar, turnips, and cranberry jelly, ~~and salad~~ finally ended with ~~to~~ mince and pumpkin pies topped with ice cream. After this leisurely meal, ~~all that~~, around ~~one-thirty or~~ two o'clock in the afternoon, the most important event of the day began when father opened the parlor doors.

The carpenter's bench was installed in my bedroom where it soon became the source of much litter and shavings ~~on account of which~~ seldom, however, causing ~~were there~~ complaints from higher up. Eventually the hand tools were supplemented by an electric scroll saw, and from bass wood purchased at the local lumber yard, I made ~~among other things~~, nest boxes for house wrens and toy boats, some with propellers driven by rubber bands. In this impressionable receptive period of my ~~early~~ life new experiences and knowledge in retrospect cannot be placed in strictly chronological order. They flash into ~~my memory~~ consciousness in kaleidoscopic disarray; one thought superseding es another in no logical sequence, mysteriously recalled from ~~deep~~ hidden recesses ~~in the brain~~ of the mind. Visions of my tool bench tucked in a corner of my bedroom, disorder all about, suddenly is veiled by thoughts of Halloween pranks. of the time my friends planned to raid my father's fruit cellar which I had to circumvent. or by a vision of the first aeroplane

I saw, a red biplane, flying low over Lake Michigan. No doubt physiological processes connect these random memories, but the vast network of routes defies ~~resolution~~ understanding. When one gives in to uncontrolled thinking it is called daydreaming, and when one tries to direct ~~his~~ one's thoughts, they often become channeled into

A series of events that had implications for the future occured in my second year of high school. I chose the chemistry course taught by Mr. Boyle, an inspiring teacher who opened doors to a whole new world of science. ~~and as~~ supplemental reading to ~~support~~ satisfy my eagerness for more information, he recommended Slossen's Creative Chemistry, a new popular book which I read repeatedly from cover to cover. As an aniversary present, birthday or Chrostmas, that year I was given a chemistry set with which ~~one~~ I could perform simple demonstrations of elementary chemical phenomena.

pulsively attracted, I made from potassium nitrate, carbon and sulphur a variety of gunpowder-like explosives but failed, fortunately, to make nitroglycerine. ~~An~~ One explosive device that I made with my friends from simple materials consisted of a hollow stem key and a nail ~~to~~ which fit snugly into the hollow joined by a loop of string and the heads of common kitchen matches. Scrapings from the match heads are packed into the hollow key and the nail is wedged in against them. When the assembly is swung by the string to strike the nail against a hard surface, the blow will cause the match heads to explode with a loud bang. The device can also be made into a miniature bomb by attaching a ribbon to the head of the key so that when it is thrown up in the air it will land on the nail and detonate. Below my window a flight of stairs led to an exterior

entrance to the basement. The laundry window opened onto the stairway and the laundry tubs inside were directly under the window, ~~inside~~. When I dropped my key bomb onto the cellar stairs, it exploded in front of the laundry window, frightening the Swedish laundress who protested with inarticulate expletives. Later she reproved me more gently, "You such a nice boy; why you so awfully?"

Experiments with chemicals, to ~~find out~~ discover what would happen if two substances were mixed together, to see if what was supposed to happen actually did ~~take place~~, to satisfy ~~that~~ such curiosity, became for me a compelling impulse. Reactions of the most vigorous kind were of course the most challenging and irresistable to try. I experimented with potassium perchlorate ~~and~~, permanganate and with metalic sodium, which violently reacts with water to produce hydrogen. I discovered that perchlorates mixed with sugar are explosive. ~~That I never started a fire or had a bad accident, can probably be attributed to good luck~~. Fortunately, I never had a mishap.

One of the phenomena I played with was the differential affinity for oxygen of metals: thus aluminum can capture the oxygen from iron oxide or rust under proper conditions. The phenomenon was used in the thermit process for welding railroad rails. A mixture of powdered aluminum and iron oxide in a graphite crucible can be ignited with magnesium ribbon and the reaction will proceed rapidly (at several thousand degrees Fahrenheit with a fountain of incandescent sparks) to completion when the aluminum has combined with the oxygen of the iron oxide leaving a puddle of molten iron in the bottom of the crucible. In my room the display was spectacular; it burned

holes in my rug and charred spots on the painted floor, but I never actually set anything on fire and I am sure my parents knew nothing about these pyrotechnics ~~experiments~~.

My activities ~~weren't~~ were not devoted solely to solitary pursuits in my room; I did have friends who participated in some of the more spectacular experiments, and with whom I played out ~~of~~ doors. The community of Hubbard Woods, originally called Lakeside, (renamed for Gordon Saltonstall Hubbard, an early Chicago settler,) was the northern part of the village of Winnetka; although not politically independent ~~although~~ it did rate its own station on the Northwestern Railroad on which my father commuted to Chicago. The part of Hubbard Woods where my friends and I lived was on the lake front east of the tracks.

7a

A wooded knoll within the marsh called Crow Island, mysterious for ita isolation in a sea of grass, was a haunt for a band of crows, frequented by occasional owls (anathema to the crows) and a pair of red-shouldered hawks. To enter the dense stand of oak and hickory in summertime from the openness of the marsh was to become ebveloped, by contrast, in stygian gloom, where unfocused, muted sounds produced an atmosphere in which the prevailing sensation was that of an indruder in a forbidden sanctuary.

Sheridan Road entered the ravine ~~it~~ was the only hill within the entire northern suburban area of Chicago and in winter it became a popular coasting hill for both children and adults. The house my father built was east of the ravine on a bluff overlooking the lake, whereas most of my friends lived on its

west side. The Wallings and Fishers were directly across and the Nelsons farther west on a side branch of the ravine, the only part without a road ~~in it~~, and for that reason the place where we played more than anywhere else. South of where the ravine cut through the bluff onto the shore of Lake Michigan were the homes of the Matz, the Merrills, and the Carpenters. ~~in that order~~. Since there were no Matz boys, that home remained always a mystery. An older Merrill boy, Billy, was the bully of the neighborhood. I was very afraid of him because he was always threatening to beat me up and, when my mother urged me to stand up to him, I am told I replied, that would be dangerous. Fairbank Carpenter was just my age and became my very best friend ~~up~~ until college days.

Curtis Nelson, the third in a family of four children, with an older brother and an older and younger sister, was a constant member of our group. His brother Thatcher, who seemed aloof and superior, we seldom saw and looked upon with awe. Curtis's older sister, Lois, who was a friend of my sister Nancy, entered little into our daily lives except in ~~my case~~ years later, when by chance circumstances she became an important factor in events that influenced the course of my life. Phoebe, his younger sister, was the indirect cause of much unhappiness for Curtis. Discipline in the Nelson family, particularly as it pertained to Curtis, was strictly enforced by a martinet of a governess, Miss Ridgeway. Mrs. Nelson, who from the perspective of Curtis's friends, seemed never to be involved with the regulation of her children's lives, had presumably delegated authority for their upbringing to Miss Ridgeway, who would

summon Curtis home by telephone from ~~in whatever friend's home~~ wherever he happened to be playing { he was required always to keep her informed ~~where he was~~ of his whereabouts } most frequently on the pretext that Phoebe was alone and he must come home to play with her. After

11

Backed against ~~this~~ one wing of the barn was ~~one end of the~~ clay tennis court that father, a dedicated player, had constructed soon after his house was built. When ~~xxxhadxbexxxxxxxid~~ ~~xxxughxandxadxexitxrxxxxxs~~ as little boys we had become adventurous enough, Edward and ~~I used to~~ I would climb up and watch tennis games from the top of the roof. One day when aunt Frances, father's adopted sister, Arthur, was playing with one of the older Fisher boys, Edward and I being in a mischievous mood, began throwing ~~things~~ trash down on the court, an old broom and other objects, expecting a reaction but not the one ~~what~~ we elicited. We felt quite secure from retribution and ~~kxpixxpxxxx~~ persisted with our ~~teasing~~ nefarious activity even after being ordered to stop, whereupon Arthur ~~Fisher~~ much to our surprise to put an end to our harassment by direct action ~~so~~ and carrying out his threat of dire punishment by climbing up on the roof. In Panic I fled down the roof to the tennis court backstop and, acording to Frances, (I have no recollection of how I escaped,) ran cat-like along the top board of the backstop ~~at the top~~ ~~to the end~~ and jumped off at the end. The board was ~~xxixxx~~ not more than two inches wide and the drop was ten feet.

This was quite a feat, as

sport would have gone unnoticed by our parents is a matter of speculation, although sooner or later inevitably they would have learned about it. The game was brought to an end finally one day ~~after school~~ when Edward slid over the gutter on the horse stall ell and landed feet first in a trash barrel. He went howling into the house more frightened than hurt, and when father came home that evening and was told about it, he warned ~~told~~ us in no unmistakable terms never again to play on the roof because we would damage the shingles.

One day I saw an advertisement for a small wood turning lathe operated by a treadle similar to the first Singer sewing machines. I was determined to have it, but the price was beyond what my modest allowance could finance, even with most rigid restraint on all other spending, so I persuaded Curtis, who I knew was a soft touch, to go in with me for it. When it arrived I installed it in my room, where Curtis's opportunity to use it was very limited. Eventually his parents found out about the deal and insisted that the lathe be more equitably shared, half time with Curtis. This would obviously be difficult to arrange, and greatly to my disadvantage without being of benefit to him because I knew I had persuaded him to join me in a deal foreign to his ~~liking.~~ inclinations The predicament was ultimately resolved when my shocked parents learned how I had taken advantage of a friend, scolded me for my ~~avarice~~ greed, reimbursed him and reduced my allowance. Curtis Nelson's childhood, overwhelmed by a harsh upbringing that created feelings of guilt and inferiority, was ~~not a~~ an unhappy time for him ~~and~~ which was reflected in his later life. He went to

Harvard and medical school, and while under going psychotherapy ~~apparently suffering from~~ in connection with severe unbearable depression jumped to his death from his hospital window.

Willoughby Walling, who was my brother Edward's age, younger than most of my other friends, often went tagging along with us, and in trying to keep up would make a nuisance of himself, ~~to which~~ we older boys reacted by teasing him, sometimes unmercifully. He was especially eager to participate in our experiments with chemicals, so one day I proposed that we play a trick on him with the reagents in my chemistry set. Hydrogen sulfide gas that smells like rotten eggs is produced when iron sulfide is mixed with hydrochloric acid. On the friendly pretext of inviting Willoughby to play, but as a cover for our conspiratorial mission, we went to see him one afternoon. I had brought with me a small bottle of diluted hydrochloric acid and some lumps of ferric sulfide. As we were leaving his room, I managed undetected to secrete the hydrogen sulfide generator above the door inside Willoughby's closet. Not until the next day did we find out how successful our prank had been. Willoughby eventually caught on because of the ~~stink~~ smell to what we had been up to, but it took him a long time before he located its source, which was revealed by the brown-stained plaster above the door. No parental wrath ensued from this escapade, probably because the amount of gas produced was small and it was taken good-naturedly by the victim. Innocent and gullible though Willoughby was, as a young boy, he grew up to be the most adventurous of us all, and became the inspiration for exploits I undertook years later. Probably disillusioned by the standards of

success in conventional society, he dropped out of Cornell to seek adventure in the west; he became a migratory laborer, rode freights, and worked in lumber camps, but eventually returned to Cornell, where he obtained a degree in forestry.

Two houses north of the Walling's, on the west side of Sheridan Road, lived the Vieders. Melvin, the oldest Vieder boy, I got to know through our common interest in handicraft and because he brought some of the things he made to show off at school. I was tremendously impressed by his cleverness and ingenuity and no less envious of his ~~having better and more expensive~~ superior tools ~~than mine~~. I imitated everything he did and copied his inventions, something which irritated rather than flattered him. Melvin knew I was awed by his skill and took advantage of my subservience by adopting ~~towards me~~ a patronizing and disdainfully haughty ~~superior~~ attitude, which became more than I could take when he told me I had no original ideas and that all I did was to copy him. After that I began to hate him and our friendship ended, much to the relief of my other friends, who unanimously disliked him from the ~~start~~ beginning.

As retribution we decided to punish him for his arrogance. I had become quite skillful with a lasso, which was the instrument we chose for his humiliation. The plan was to invite him out in the evening and then to tie him up. In retrospect, it was a (cowardly, and ~~shamefully~~ lynch-mentality scheme, ~~but~~ and exactly how we proposed to carry it out was never clearly conceived. We all did go to his house after supper - there were four of us in the conspiracy - and entered through the kitchen door, which ~~is~~ was the way I always went when we were on good terms,

and asked for Melvin. The cook, suspecting evil intent, called Mrs. Vieder, who confronted us on the back stairs with Melvin peering down from above and his father behind him. We were ordered to leave by Melvin's mother, who told her husband to call Mr. Porter. On the way ~~home~~ back we were met ~~on Sheridan Road~~ by my very angry father, who seized my lasso, which I never saw again, and ordered us all to go home. We all suffered dire punishment, ~~the least of which was~~ including curtailment of our freedom to be out at night, ~~when~~ once the other parents were told of our disgraceful ~~behavior~~ scheme.

We got into trouble on another occasion when we invaded the DeWint's summer house ~~for~~ in order to have a place to play away from adult supervision. The DeWint's place on the lake shore in Winnetka proper was a large tract of land ~~on which~~, the main house fronted on Sheridan Road and the summer house stood farther back close to the beach ~~almost~~ nearly out of sight from the house. ~~It was~~ We discovered it during our explorations of the shore in winter, and because of its isolated location, essentially immune from invasion by trespassers, it was unlocked. We played there several times and, although we never intentionally caused any damage, we did make quite a mess of the interior. Our activities were ultimately discovered, and we were made to pay for our depredations by ~~giving~~ devoting a Saturday to house cleaning. We were slowly learning that crime does not pay.

For several years after father built ~~his~~ our house, the land to the north on the same side of Sheridan Road remained a wild and wooded area, where we children played, picked wild flowers in the spring, (hepaticas and bloodroot I remember in

particular,) and wild strawberries in summer. ~~Then~~ Subsequently two houses were built there and I remember feeling resentful at the destruction of our secret places. There were two girls in the Metler family that moved into the nearest house; Marcella, my sister's age, and Barbara, the same age as Edward. Their father was a retired doctor. ~~In~~ The Fentress family, who lived in the second house, ~~were~~ had three children, two girls and a younger boy. Mr. James Fentress was an eccentric, delightfully entertaining southerner, whose relationship with his children was exceptionally sympathetic and understanding. The second ~~girl~~ daughter, Louise, was in the age group of my brothers ~~Edward and Fairfield~~, ~~with~~ and whom she and Barbara Metler became their constant companions. Their play, which took place mostly at the Metler's and the Fentress's, ~~and~~ evolved into a continuous game about an imaginary country they called EDFALOBA, a word ~~by~~ derived from combining the first two letters of each of their names.

~~Besides having a~~ Despite the fact that in our closest group of friends ~~with whom~~ serious disputes seldom arose and fights never occured, ~~we~~ our group as a whole shared a few enemies, some more threatening than others by virtue of age and nationality. One lesser skirmish I had with a belligerent tease, who persisted in calling me "Idiot" and dared me to fight him, because he was sure I didn't have the guts to stand up to him. When I finally did, one day during recess, he turned his back after the first blow and his ~~peck order standing~~ position in the pecking sank to zero. A more persistent trouble maker was Paul Owsley, whose house I rode past on my way to school. He would threaten to knock me off my bicycle and wash my face in the snow. He didn't desist from his bullying until he was threatened with a beating by an older boy. The most terrifying ~~danger~~ threat came from TM, who lived across

the tracks ~~in the person of~~ Tony Montenaro, he was older and bigger than any of us, ~~who~~ and must have felt that his self-esteem and social status required that he show those rich boys from the east side who was ~~the~~ better. One day near the railroad tracks on my way to school I was confronted by Tony. It was a frightening situation, but fortunately the MacIllvaine boy, who had protected me once before from being beaten up by Billy Merrill, came along at that moment and was about to fight Tony on my behalf when Tony whipped out a knife. My Aunt Frances, (father's adopted sister, who was on her way to the station saw the drama unfold and with great dignity and authority told Tony to put his knife away, saying that we don't fight with knives in this country. Tony, rebuked and humiliated, ~~sulkily went~~ slunk away.

How I became a friend of Fairbank Carpenter I no longer remember, but we soon became inseparable, and I spent more time with him than with any of my other playmates. He derived as much pleasure as I did from the untamed wild world. We explored the woods and the Skokie swamps and hunted for bird's nests together. It was with him that I discovered that witch-hazel blooms in the fall after the leaves have dropped. The inconspicuous flowers that grow on the bare branches would go unnoticed were it not for the four, narrow yellow petals that give each blossom a spidery appearance.

The east porch of my house was enclosed in winter with plate glass panels replaced by screens in the summer. Plate glass was a death trap for birds to whom the porch appeared to be an open space through which they could fly. As a warning that there was an invisible barrier, pieces of paper were

taped to the middle of each panel, but in spite of this precaution, occasionally a bird would break its neck against the glass. Sometimes we had the most colorful of these birds mounted by a taxidermist in Chicago, and sometimes father prepared skin specimens for me. Guns have a lethal fascination for boys, because the temptation to take a shot at anything that moves is almost irresistible. Fairbank owned a beebe gun ~~and/or~~ almost the first day after it was given to him -(I believe it was a birthday present)- we went hunting to try it out. It proved miraculously and shockingly efficient when Fairbank shot a sapsucker in his front yard. There we were with a dead bird, still warm, proof of callous wantonness that we could not ~~carelessly~~ haphazardly discard, so we decided to ask my father to skin it, telling him we had found it. During the skinning he found the lead pellet and, not suspecting us of being the killers, said that the bird had been shot. I remember my uncomfortable feeling of guilt, not only for killing the bird, but for the deception we had practiced. That experience did not, however, end our hunting exploits ~~which~~ until we were shamed into permanently giving them up some days later. I had found a blue jay's nest in a bush at the foot of our drive on Sheridan Road. The female bird incubating her eggs was so fearless one could almost touch her. For some inexplicable reason, Fairbank and I had the macabre urge to shoot her on her nest at close range. While we were taking aim, a car came by and the driver seeing what we were up to stopped and gave us a terrific bawling out, saying that shooting birds was wrong and to shoot a bird on her nest utterly disgraceful, that we should be reported to our

parents. That episode was the ray of truth that struck home, it shamed us, and, much to our unacknowledged relief, saved the bird's life. From then on ~~our interest in~~ shooting ceased to be an attractive sport except for sporadic target practice.

Before my father bought Great Spruce Head Island on the coast of Maine, our summers were spent in ~~different~~ a variety of places; one summer with cousins of father's in Peterboro, New Hampshire and another camping in the Canadian Rockies. Ever since his college days, father had gone camping and exploring in the Rockies, at first with college friends and later with mother and their married friends before my ~~sister and~~ during the time when brothers and I were not old enough to accompany them. When my father was a young man, the Canadian Rockies were still a wild and unmapped wilderness and the Canadian Pacific Railroad had not long been in operation. Father used to tells of the time he and his companions, on their return to civilization, bearded and carrying rifles, flagged down a Canadian Pacific passenger train. The terrified passengers were convinced that they were being held up by train robbers. The first summer we were taken camping in the Canadian Rockies was at the beginning of my friendship with Fairbank. He was being sent to a boys camp in Wisconsin and wanted me to go with him, and I was torn between spending a month with him or with ~~father and mother and my brother and sister~~ my family in the Rockies. I was permitted to make the choice myself, but was urged to choose the Canadian west, which fortunately I was wise enough to do. Fairbank was very upset and our friendship came close to perishing on that reef of dispute, but when we both returned at summer's end, all differences

were forgotten. Due to Fairbank's diplomatic and nonagressive nature, we never had another serious dispute. In 1913, when we began to spend our summers on our Maine island began, the Carpenters had a summer place at Northeast Harbor on Mt. Desert Island. I was the oldest boy in my family with three younger brothers; ~~Edward, Fairfield and John~~ with whom I ~~shared~~ had less in common ~~interest~~ than with boys my own age, ~~which~~ this resulted in ~~their~~ my brothers developing a rapport in their play that excluded me. In recognition of ~~this relationship~~ situation and my need for a summer companion, my parents encouraged me to invite Fairbank to the Island for a month. After

One ~~of our~~ activities ~~that~~ which we pursued seriously and enthusiastically for several years was collecting butterflies and moths. From an amateurish beginning we became more and more professional in our judgements and methods and with adult advice and support gradually acquired the best equipmnet, including nets, ~~and~~ killing cyanide bottles, drying and preserving paraphenalia ~~and and~~ as well as the standard books on lepidoptera identification and life histories.

mottled gray downey young wedged in crevices for concealment and safety. Gradually we acquired ~~With the acquisition of~~ more sophisticated equipment, first Kodaks ~~having~~ which had faster shutter speeds and ultimately, as we became more proficient, Graflex cameras, the sine qua non for the naturalist. With these we spent hours at a time crowded into a tiny canvas blind that I had designed and mother had sewed together, photographing gulls in their crowded colonies ~~and~~ as well as the most appealing and exciting of all avian subjects, ospreys or fish hawks. In those years of our youth ospreys were very abundant along the coast of Maine. They built ~~their~~

bulky stick nests, some times in trees, but ~~the great~~ mostly majority on the ground on rocky ledges and treeless headlands. On Great Spruce Head Island ~~where we lived~~ only one of seven osprey nests was built in a tree; all the others were located around the periphery of the island on tidal islets or barren points of rock. At these places we would set up our blind ten feet from the nest after the eggs had hatched and crawl in with camera, sandwiches and a thermos of water. We never had to wait long for the birds to accept the blind as an inanimate addition to the environment and to return to brood and feed their young. One adult would keep watch at the nest, staring at the blind with its camera eye, while its mate was off fishing. Its return with a fish was always an exciting moment, both for us in the blind and for the birds outside, ~~accompanied~~ and was always ~~by with~~ enthusiastic piercing whistles by the mate on the nest.

Fairbank and I, during those first years on the Island, were not attracted by the paserines, the song birds of the Maine coast. They were a mysterious and difficult group to identify, unlike the birds of the woodland and prairies of the ~~M~~middle west, which we were more familiar with. We knew a few songs, those of the hermit thrush, the song sparrow and the white-throat's ~~whistle~~, but the wood warblers were a confusing group whose songs and plumages were too difficult for us to distinguish without prolonged observation, ~~which~~ something we did not have ~~the~~ the patience to do. We found a few nests of these species and marveled at the complexity and delicacy of their construction and the beauty of the tiny speckled eggs nestled within them. With our bulky equipment it was impossible to photograph ~~them~~, the eggs, and

least of all their creators. Not until years later, following an abortive period of research in science, ~~with~~ when I had equipment especially adapted to the purpose, did I return to photograph the paserines, and then it was to the wood warblers in particular that I devoted all my time in the spring of the year.

My Public school years up through eighth grade were not a very stimulating time for me; not until I took Mr. Boyle's chemistry course in high school did I enjoy formal education ~~which probably~~ No doubt This had something to do with the quality of teaching in Winnetka schools, before the educational system was made more progressive. It must have been because of an awareness by my parents of this deficiency that I was sent to the private College School in the next suburb, from which I was rescued by an attack of appendicitis. The eighth grade athletic director, Mr. Clark, failed in his attempt to make an athlete of me. I remember him only as a big man who wore a red knit pull-over. I do remember that a conference with my mother ~~in my presence~~ and me about my athletic deficiencies, Although I can't remember the details ~~the details of which I have no recollection, but I do remember that the discussion~~ ended with his comments on Charlie Chaplin, ~~whose early silent movies were being widely talked about~~, and that he couldn't help laughing, ~~but~~ although he kicked himself afterwards. The eighth grade music teacher also despaired at my lack of musical talent and kept me after school because I couldn't sing in tune. I was punished for being what she called tone deaf, unable to sing the notes she struck on the piano. ~~In this case~~ On occasion my mother, who was also tone deaf, intervened on my behalf.

In New Trier High School the only courses I liked were

chemistry and geometry. Latin was my bete noire, and I failed English because I couldn't spell, an inability that threatened my education until I was admitted to Harvard. After two years in high school my friend Fairbank was being sent to an eastern boarding school, Morristown School in New Jersey, for more intensive preparation for the college entrance examinations than was provided at New Trier, and of course I wanted to go there too, and begged my father to send me. I had already passed my college examinations in chemistry and mathematics, but because of my difficulty with English and a foreign language - German was the language I was most familiar with because my youngest brothers had a German governess - my parents finally agreed to enroll me in Morristown. They probably realized that my chances for passing the other examinations would be enhanced by the special training provided by a boarding school, the principal function of which was to prepare its students for college. The English teacher at Morristown, an elderly bearded gentleman dressed always in a dark suit, and was nicknamed "the whistling deacon" in mockery of his sibilant manner of speech, dourly predicted I would never pass the English examination unless I learned to spell. But I did pass. The first year I lived in the upper school dormitory, but the second year as a prerogative of our senior status, I shared a room with Fairbank and another boy, Piran Edgerton, in a faculty house across the road from the school. Chapel was compulsory but bowing our heads during prayer was not, a demonstration of religious independence adopted by a group of the students. Fairbank and I were able to pursue our photographic hobby at athletic events for which

we were granted special privileges during inter-scholastic games.

World War I was drawing to a close in the autumn of 1918, my first year at Morristown, and at the same time a pandemic of influenza took more lives than the war, but had little effect on the school, which was isolated from the outside world by ~~the~~ restriction~~-~~ing ~~of~~ students to the school grounds, cancellation of athletic events, and by sending us to the infirmary at the first signs of indisposition. Nevertheless, early in November on the first announcement of peace in Europe ~~that an armistice had been signed~~, the upper classmen were allowed to go into New York to participate in the celebration. As it turned out, the rumor of peace was premature; the armistice was not signed until a week later on November 11, the true Armistice Day, when a less spontaneous celebration took place which we were not permitted to witness. Times Square, ~~the traditional center of New York City, the only place we visited,~~ was so jammed with ~~people~~ civilians ~~and~~ soldiers and sailors on leave aimlessly milling about that motor traffic was completely immobilized. My wallet was stolen. We had been instructed to be back in school early and returned by ferry to Hoboken ~~and~~ taking the Lakawana Railroad to Morristown.

I was admitted to Harvard ~~Engineering School~~ in the fall of 1920 with a condition in English for bad spelling and the requirement to take Freshman English. Since I was registered in the Engineering School, all my other courses were in sciences and mathematics. Elementary facility in a foreign language was required for graduation, which I fulfilled by passing the

German reading knowledge examination. As elective courses I took history and astronomy, the latter a great disappointment, since I expected to learn about the latest discoveries regarding spiral nebulae and the formation of the moon, subjects on which father had talked at length. Instead, the course was devoted entirely to a description of the planetary orbits of our solar system. From photographs of the moon and from what was known about asteroids, father proposed and wrote about what he called "the boloid theory" of the formation of the moon. The craters on the moon, he maintained, were not of volcanic origin, as generally assumed at that time, but were caused by the impact of meteors and asteroids, which were gradually swept up by the planets and satellites during the formation of the solar system. According to father's theory, all the planets should show evidence of this accretion process if only they could be seen at close range, as has now become possible through unmanned space probes that support his conjecture. He sought confirmation from geography but failed, with the exception of a few recent meteor craters, because the evidence would have been obliterated by dynamic processes of weathering to which the surface of the earth has been subjected for millions of years, and also by the now recognized mobility of the earth's crust.

By the end of my junior year I realized that chemical engineering was not the field of science for which I had originally held such high hopes; that it was the chemistry of living organisms, biochemistry, not sterile industrial processes, that attracted me. In order to continue my education in that broader area of chemical science, I decided I would have to go to

medical school, and for admission to the Harvard Medical School, a one-year course in biology was required, which as an extra subject I added my senior year.

During For my entire undergraduate and medical school years, photography was a very minor interest, but with all that behind me and after I had begun seriously to pursue scientific research, photography again became an important avocation. I had been appointed to a minor teaching position in the Bacteriology Department under Dr. Hans Zinsser. A contemporary in the department, Victor Seastone, who had also recently obtained his M.D., was an amateur musician and practiced photography er on the side. He used the Leica camera, the 35mm German invention that revolutionized photo-journalism and many other fields of photography as well. I was so intrigued by his ingenuity in adapting the camera to innumerable purposes which were impossible with more bulky equipment, that I bought one and immediately began experimenting with it. Because of the Leica's top shutter speed of 1/1000 second, one of the first things I tried was to photograph the splash pattern produced by dripping water. The pictures were remarkably successful in so far as they dramatically recorded the sequence of invisible events visually impossible in a common phenomenon, but otherwise were no more than curiosities. I soon began to photograph more conventional structural subjects, bridges and buildings around Boston and details of trees, flowering plants and barnacled rock on the coast of Maine during my short vacations. One of the subjects I was especially proud of was a close-up of blueberries enlarged to the size of tennis balls.

My return to photography as a hobby became known to friends of the family, one of whom, Curtis Nelson's older sister Lois Wheelwright, who lived in Cohasset, Massachusetts, invited me to dinner and suggested that I bring some of my photographs because another photographer would be there. The other photographer ~~was~~ turned out to be Ansel Adams of whom I had never heard, an acquaintance of her husband's. After dinner I was asked to show my pictures, which I did with a certain amount of self-satisfaction. Ansel Adams looked at them but said nothing, and then showed his. That was a traumatic and embarrassing experience; I saw immediately how vastly superior his photographs were to mine, and how little I knew about photography technically, or ~~more generally~~ what its potentials were for creative expression. ~~The~~ His photograph ~~of Ansel Adam's that~~ which made the greatest impression on me and ~~that~~ which I still remember from that day - I can recall none of the others - was his famous photograph of a frozen lake in the Sierra Nevadas. Sensing my embarrassment, Ansel Adams tried to encourage me, suggesting that my photography could be improved by using a larger format camera and recommended a much publicized ~~recent~~ new Eastman product that used 2¼ x 3¼ film. Soon after that revelation I purchased a 9 x 12 centimeter Linhof.

Shortly after this experience I was introduced to Alfred Stieglitz by my brother Fairfield, who had settled in New York to pursue a career in painting. Stieglitz had introduced ~~to~~ America the works of several ~~of the~~ modern French artists and was first to exhibit in his gallery An American Place painting by Americans now recognized as pre-eminent ~~in~~

~~their time~~. Among those who influenced Fairfield most profoundly were whose paintings he saw for the first time at An American Place. Stieglitz exhibited also his own photographs and those of a select group of photographers; the probable motive behind Fairfield's ~~introducing me to him~~ introduction was his hope that Stieglitz would be willing to look at and contructively criticize my photographs.

~~Shortly~~ Soon after that thereafter Stieglitz agreed to look at a group of my photographs. He treated me kindly, contrary to what I had been led to expect, but his comments were far from encouraging. He said they were all "woolly," but that it was not a matter of sharpness, a description I never understood, ~~because~~ as woollyness implied only one thing to me, and that was lack of sharpness. Photography, he added, requires a lot of hard work. I had the ~~temerity~~ audacity to return ~~in~~ a year later with more photographs, when his remarks were again noncommital and his advice, again was to work harder.

In the meantime, ~~probably in 1934~~, I had ~~acquired~~ bought the small Linhof view camera and with this instrument ~~had~~ photographed in Maine for several summers. In the summer of 1935 I went abroad with an Austrian graduate student, Wolfgang Stolper, whom I had gotton to know at Harvard. He was a refugee from Nazi Germany and ~~went~~ returned to Europe to see his fiance in Zurich ~~while I went to Munich, but we planned to meet again in the Austrian Tyrol. This was before the Anschlus~~, and I planned to photograph in Switzerland and Austria and meet Wolfgang later in the Austrian Tyrol.

In the meantime I bought the small Linhof view camera and with ~~this instrument~~ it photographed in Maine for several summers.

At Harvard, where I had an appointment as a tutor in biochemistry, I met Wolfgang Stolper, a jewish ~~graduat~~ Austrian graduate student in economics. We became friends, and he proposed that ~~in~~ during the summer of 1935 we spend ~~a week or two~~ several weeks in the Austrian Tyrol with members of his ~~from Vienna~~ Viennese family. This was before the Anschlus. Wolfgang went first ~~to Zurich~~ to see his fiance in Zurich, where I stopped briefly ~~on a deviation~~ en route to Munich ~~on~~ as part of a ~~planned~~ photographic journey through Switzerland and Austria. While in Zurich I met a german friend of Wolfgang's, Peter Press, an SA Storm Trooper but a vehement anti-Nazi. We went together to Munich where he lived, and I met his ~~father and mother~~ parents, who pleaded with us not to talk critically about the Nazis in their apartment for fear that ~~we~~ someone would ~~be overheard, so~~ instead we went out in a paddle boat on the lake in order to talk more freely, and he told me how dangerous and despicable the Nazis were.

While in Zurich I met a German friend of Wolfgang's, Peter Press, an S. A. Storm Trooper but a vehement anti-Nazi. We went to Munich together and I met his mother and father who told us not to say anything against the Nazis in their kitchen for fear of being over heard so we went out on the lake in a paddle boat in order to talk more freely and he told how he despised Hitler. Later I learned that Peter Press had escaped from Germany and joined the Foreign Legion.

Also while in Munich

On coming out of the famous Deutsch Museum in sputtery German I was accosted by a seedy S.A. Trooper, who asked me for a light, and when I offered him a match, he asked for a cigarette, which I was also able to provide. Recognizing me as an American, he started questioning me about my visit to Germany and invited me home, where we sat briefly in the kitchen with of an ample, silent and suspicious woman, who offered us nothing in the way of refreshment. After leaving he asked if I would like to meet Der Führer. On noting my surprised, incredulous reply, he assured me that Hitler always liked to meet Americans, and with so some trepidation off we went to Hitler's headquarters, where we were met by a black uniformed guard, who politly informed us that unfortunately Der Fuhrer was away attending the Wagner Festival. My feelings were a mixture of disappointment and relief.

By train I went to Innsbruck and from there to the little village of Berwang, where I rejoined Wolfgang, his fiance and her relatives from Vienna. During two weeks in the Tyrol I photographed Tyrolian houses, churches, grave yards and the gentle landscape. It was some of these pictures, among others, that I showed Stieglitz in the fall of 1938. He looked at all the prints I had brought to An American Place, one by one, slowly replacing them in the box, and then went through them a second time, closing the box. After a pause he said to me, "you have arrived, I want to show these." These few words changed completely the course of my life.

Move to another place

I entered the Harvard Medical School in the fall of 1924. The first year began with a course in anatomy involving the dissection of human cadavers. This introduction to the human body was a traumatic experience for the uninitiated, ~~concealed in~~ disguised by a spirit of levity and ~~expressed by~~ a worldly pretense. In the second year the major courses were physiology and bacteriology. Dr. Hans Zinsser, head of the bacteriology department, was by far the most charismatic teacher in the medical school at this time, and his lectures were always the ~~most fully~~ best attended. ~~By~~ Through his humor and enthusiasm, ~~and~~ his elucidation of the body's defenses against infection, and ~~the history of~~ his dramatization of the search for the cause and cure of disease, he ~~xxxxxx~~ endowed the science of bacteriology with an aura of romance and adventure that captivated his audience. I was not immune to this influence. As the second year in medical school drew to a close, I began to realize that I was not obtaining the ~~degree~~ quality of ~~xxxxxxxx~~ instruction in biochemistry that I had anticipated, and that medical school was, after all, primarily concerned with clinical education. ~~Therefore~~, To help ~~me~~ resolve this predicament and move towards the attainment of my aspiration in science I sought the advice of Dr. Zinsser. With sympathy and understanding he gave me his whole hearted support and suggested that I take a year off to study under the direction of a biochemist friend of his in Cambridge, England. He would give me a letter of indroduction and recommendation. That summer I went to England ~~and~~ to registered for the fall term at Cambridge and then ~~went over~~ to Vienna for a six-week refresher course on German. The Cambridge experience was not a success ; it was too much like ~~repeating school~~ what I had already experienced, not the kind of more advanced instruction I had been looking ~~forward to~~ for, and so in January after the first term I returned to America and reentered ~~the~~ thorough medical School. I ~~realized~~ concluded that ~~if I were going~~ in order to realize my aspiration of becoming a research bacteriologist, ~~which was then my hope,~~ the most logical course would be to complete my medical education.

After graduating from medical school I was ~~given~~ appointed to a minor teaching position in the bacterology department with opportunity ~~and space~~ for research . The

subject interested the
~~phenomenon~~ that ~~attracted~~ me most ~~intensely~~ at ~~that~~ time was the phenomenon of bacteropgage, ~~the virus that destroyed bacteria. The mechanism of the process was not understood~~ factor a process by which a virus-like organism destroys bacteria. The mechanism of the action was ~~then~~ not well understood and has only superficially elucidated since techniques for genetic manipulation became possible.

at that time been then, as have

The Department of Bacteriology consisted of a small congenial group of permanent appointees ~~under~~ led by Dr. Hand Zinsser. ~~Below~~ Under him were Howard Muller, Mike ~~Mick~~ Grinnell, ~~and~~ Hugh Ward, an Australian, and several graduate students holding temporary positions. One of these, a protege of Ward's, whose career became more distinguished than any other member of the department, including Dr. Zinsser himself, was John Enders, who shared a Nobel prize with Salk for discovery of the polio myelitis virus. Enders came to Harvard as a graduate student in English literature, became dissatisfied with his prospects in literature, met Hugh Ward, who persuaded him to change his field to medical sciences, and was admitted to the Bacteriology department, where he began his distinguished research on virology. We would meet for lunch in the ~~library~~ small department library and frequently become engaged in lively discussions on a variety of subjects from science to politics.