

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 take, but exterior events outside the family circle could 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 subjects that especially obsess boys are 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 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 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, the first growing things of spring, and to birds, a fascination which ~~XXXX~~ later in my adult life became for many years a passionate preoccupation. 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 for Sunday walks on Lake Michigan's shore and be told 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 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 splendor of glittering decoration and I was introduced to the present that was to have such a profound and lasting effect in broadening the range of my opportunities for self expression.

Christmas was always a day of intense excitement, as I am sure it was for most middle class children. It started early Christmas morning when we went down stairs in our pajamas before breakfast to empty our stockings, Santa Claus was supposed to have filled while we slept, ~~that~~ ^{then} we had hung ^{them} the night before from the fire-place mantle piece in the living room we called the library because it was lined with book cases. The Christmas tree had been set up in the night and decorated by father and mother 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 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 in through the cracks - because it was here where 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 appeal more to fathers than 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 challenge for improvement and enlargement.

Somewhat Christmas morning 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 until Christmas afternoon was that granny and grandfather, mother's parents, and aunt Peggy her sister came out late in the morning for Christmas dinner on the Northwestern Railroad. We loved them and they helped reduce the tension but nevertheless our excitement and impatience continued to grow throughout the meal from a cream soup, roast turkey with chestnut stuffing, mashed sweet potatoes baked with brown sugar, turnips, cranberry jelly and salad to mince and pumpkin pies with ice cream.

After 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 carpenters bench was installed in my bedroom where it soon became the source of much litter and shavings on account of which seldom were there complaints from higher up. Eventually the hand tools were supplimented 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 receptive period of my early life new experiences and knowledge in retrospect cannot be placed in a strictly chronological order. They flash into my memory in a kaleidoscopic disarray; one thought superseding another in no logical sequence mysteriously recalled from deep recesses in the brain. 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 the first airoplane 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. When one gives in to uncontrolled thinking it is called day dreaming and when one tries to direct his thoughts they often become channelized into recent events and contact with the past is closed.

Another event in my boyhood which had implications for the future was the acquisition of a chemistry set at the same time I was given Everyman's Chemistry by Hendrick and elected Mr. Boyle's highschool chemistry course. To suppliment the chemicals in the set I purchased at a chemical supply store in Chicago more effective reagents: concentrated nitric and sulphuric acids ~~and chemicals.~~

and chemicals that react energetically. Stimulated by Fourth of July fireworks, to which all boys are compulsively attracted, I made from potassium nitrate, carbon and sulphur a variety of gun powder-like explosive but failed fortunately to make nitroglycerine. An explosive device that I made with my friends from simple materials consisted of a hollow stem key^{and} a nail to 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 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 what would happen if two substances were mixed together, to see if what was supposed to happen actually did take place, to satisfy that curiosity became for me a compelling impulse. Reactions of the most vigorous kind were the most challenging and irresistible to try. I experimented with potassium perchlorate and permanganate and with metallic 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.

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 set anything on fire and I am sure my parents knew nothing about these pyrotechnic experiments.

My activities weren't 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, ~~was~~ renamed for Gordon Saltinstall Hubbard an early Chicago settler was the northern part of the village of Winnetka, 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. West of the tracks was the business district with its stores, public buildings, and schools and farther west the great Skokie, the indian name for marsh, where we bicycled out to to hunt for marsh bird's nests. Hubbard Woods east of the tracks was divided into several sections by a branching ravine, the course

of a stream before the area was settled that flowed into Lake Michigan and subsequently diverted into a storm sewer. The ravine became the route for Sheridan Road the principal northern highway out of Chicago until it was superseded by a less winding route west of the tracks. Where Sheridan Road entered the ravine it was the only hill within the entire northern suburban area of Chicago and in winter 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, aloof and superior, we seldom saw and looked upon with awe. Curtis's older sister Lois, 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

him. 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 he happened to be playing - he was required always to keep her informed where he was - most frequently on the pretext that Phoebe was alone and he must come home to play with her. After answering the telephone Curtis ~~would~~ in despair would explain, "Miss Ridgeway says I must come home to play with Phoebe."

Another game we played similar to ~~the game of tag~~ ^{our games} in the ravine behind the Nelson house was a game of tag on the roof of our barn. The barn built at the beginning of the century at the same time as the house was planned for horses and carriages. It was a brick building with second floor living quarters for a coachman and his family. A one story ell for the horse stalls extended at right angles from the main carriage area and opened onto a high brick wall enclosed paddock that could be entered from the outside through a double door gate wide enough for carriages. I do not remember the carriage period because it was superseded within a few years after I was born by the motor age. The barn was converted into a garage and the horse stalls became obsolete and vacant. The cedar shingled pitched roofs of this complex building ended at four inch high ~~gutters~~ raised gutters beyond which from the ^{main} ~~two story~~ building a shed roof of lesser steep pitch extended into the paddock. A large dormer window projected from the main roof above the shed. With our school friends

my brother Edward and I discovered that the roofs of the barn were a wonderful place to play tag. We could chase one another around the dormer window, slide down onto the gutter and run around on the top of the paddock wall without ever having to come to the ground. How long this sport would have gone unnoticed by our parents is a matter of speculation although sooner or later ^{inevitably} ~~it would~~ they would have learned about it. ~~have been brought to their attention as it was by an unfortunate~~ ~~miraculous~~ accident. 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 ^{told} ~~ordered~~ us ^{in no unmistakable terms} ~~angrily~~ never again to play on the roof because we would damage the shingles.

One day I saw an advertizement for a small wood turning lathe operated by a treddle 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 perswaded 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 ^{foreign to his liking} ~~deal that didn't interest him~~. The predicament was ultimately resolved when my shocked parents learned how I had taken advantage of a friend, scolded me for my averice, 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 happy time for him and was reflected in his later life. He went to Harvard

and medical school and while under psychotherapy apparently suffering from ^{unbearable} unsupportable depression jumped to his death from his hospital window.

Willoughby Walling, 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~~ but as a cover for our ~~our nefarious~~ conspiratorial mission ~~but~~ On the friendly pretext of inviting Willoughby to play with us we went to see him one afternoon. I had brought with me a small bottle of dilute 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 to what we had been up to but it took him a long time before he located its source, 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 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; became a migratory laborer, rode freights, and

worked in lumber camps but eventually returned to Cornell where he ~~continued~~ obtained a degree in forestry.

Two houses north of the Walling's on the west side of Sheridan Road lived the ^{je a} Vedars. Melvin, the ^{oldest} ~~only~~ ^{je e} Vedar 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 tools than mine.

I imitated everything he did and copied his inventions which irritated rather than flattered him. Melvin knew I was awed by his skill and took advantage of my subservience by adopting towards me ^{haughty} a patronizing and disdainfully 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 friends who unanimously disliked him from the start.

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, shamefully lynch mentality scheme but exactly how we proposed to carry it out was never clearly conceived. We did all - there were four of us in the conspiracy - go to his house after supper and entered through the kitchen door, which is the way I always went when we were on good terms, and asked for Melvin. The cook suspecting ^{intent} ~~something~~ ^{that} ~~had~~ called Mrs. Vedar 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 we were ~~laughing at how Melvin had met~~