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Autobiographical Notes

Martin W. Johnson

Biographical Notes - Contents

	Page
Preface	1
PART I	
Who Are We?	3
Bornholm, Denmark	3
Parental Descent	4
Life in America	11
Some Old Letters	11
South Dakota - Pioneering	15
Wisconsin	17
South Dakota - Again	17
Saskatchewan, Canada	23
Initial Problems in Prairie Homesteading	24
Winter, Snow and Blizzards	32
Summer and the Prairie	37
This and That	40
Horses, Dogs and Cats	42
Farewell to the Homestead	46
North Dakota	48
Ambrose, School, etc.	48
Washington	60
Taylor, Logging, Mining, etc.	60
Everett	63
Tacoma, Employment Agency, Jobs, etc.	65
Oregon	67
Madras	68
Washington - Again	68
Silvana, Clearing Land, Community Interests	68

PART II

	Page
Back to School	73
Parkland, P.L.A.	74
Revisits - P.L.A. to P.L.U.	79
Salmon Fishing	80
The U.S. Army (WW I)	83
The University of Washington	88
Teaching in High School	91
Friday Harbor - U. of W.	91
International Fisheries Commission, East Coast	95
Return to Friday Harbor	97
California	98
Scripps Institution of Oceanography (U. of C.)	98
Univ. of Calif. Division of War Research (WW II)	100
The Tropics	106
The Arctic	107
International Committees, etc.	108
National Societies, Awards, etc.	110
Retirement	111
Homes	112
Some Retrospect	116

FAMILY NAMES MENTIONED
IN THE
TEXT OF BIOGRAPHICAL NOTES

Alfred - brother

Clara - sister

(Clara - sister-in-law)

Dagmar - sister

Esther - sister (Little Esther)

Eva - niece

George - brother

George P. - nephew

Harry J - brother

(Harry L. - brother-in-law)

Louie - brother

Susie (Susy) - sister

Lelia - wife

Byron - son

Phyllis - daughter

Preface

At first my thought was to write what might ambitiously be called a family history, but it soon became evident that this would be a monumental task in search of data that might hopefully fill the many gaps in such an inclusive undertaking.

The easiest and most logical alternative is, then, to frankly write mainly about my own experiences, even from childhood, as a member of the family. Except for the earlier references regarding the family, I must obviously base the record mostly upon my own memory as the chain of events happened to involve me. Many of these events were shared with other members of the family but still this memorandum is essentially a disconnected autobiography and grows progressively more so chronologically. However, it does, of necessity and intent, include a good deal of family history as related to me by others. Much information has come from spontaneous reminiscence by family members -- but at these sessions it has also become acutely obvious that memory is not only fragmentary and selective, but all too often fails to register many events of general importance in favor of details that may have significance or deep interest only to the person relating them. My memory is no exception to this shortcoming.

There are perhaps two main reasons for writing these excerpts.

Firstly, I have often been asked: "How did you and other people live in your area of experience; what was the nature of your work or play, schooling; and, what were the vicissitudes that led to change?" Not all of these can be answered fully but something of general historical, as well as family interest, can be given.

Secondly, I personally find it enlightening and stimulating to keep a store of life's adventures and to recall through a series of associations

the numerous experiences that, in all too many instances, are fading and receding into the ever-deepening twilight of the past. There are gaps of months, and even years, that now seem impossible to bridge.

On the other hand, there are many recollections not included here that may have served as well as some of those given in answering the questions posed above.

It is often said, "forget the past," and this may have its virtue in some instances. However, we doubtless have a better understanding of ourselves and a more sympathetic feeling for others because of past personal experiences that are remembered.

An attempt will be made here to tell a brief story of sorts dealing with more or less disconnected episodes in chronological order. It is most convenient to present the material in two major parts.

The first deals largely with matters of historical interest and early experiences dependent upon, and shared more or less closely with, other members of the family.

The second will be concerned with later years when, as an adult, the activities and experiences were determined more by individual vicissitudes and choice. The text becomes more of a memorandum listing personal data in a synoptic fashion with little or no descriptive comment.

The first rough outline and draft was prepared while I was aboard ship on the "Capricorn Expedition" across the Pacific Ocean crossing back and forth mostly along the Tropics in 1952.

Part I

Who Are We?

Every adult must, at times, ponder over his identity. From what country did his parents or early ancestors migrate? The great American "melting pot" makes the question complex and of diminishing interest. But still the question is not negligible to some who, for psychological reasons, seek an anchor to the past. In this connection, it is relevant to mention briefly a bit of history of the Danish Baltic Sea island, Bornholm, from whence our parents migrated.

In the distant past the island was variously called Borgundarholmr; Borgholm; Borglanted (Fortress Land) and other variations in spelling. Historically it was a sovereign state with its own king, according to writings of King Alfred the Great of England near the end of the 9th Century who quotes a diary of a trader named Wulfstan regarding trading routes within the Baltic. The island has an area of 227 sq. miles and in 1962 a population of about 48,000. In the Standard Encyclopedia of the World's Oceans and Islands edited by A. Huxley (1962) it is stated: "The peaceful, chiefly agricultural life of Bornholm, --- today gives scarcely any hint of its importance in the earlier years of western and northern European history." From legend and recorded history it is obvious that the island has experienced many vicissitudes.

According to legend, an overpopulation about the year 1 A.D. led to an emigration of a large number of people from Borgundarholmr (Bornholm) to North Eastern Germany. Here these emigrants, who had increased to a tribe of many thousands by the beginning of the 5th Century, were forced by the Hun invaders to migrate westward to the borders of the Roman Empire in eastern France where they established the Kingdom of Burgundy, preserving the name of their ancestral home in the Baltic.

In the meantime, further population pressure in Bornholm resulted in driving the inhabitants to join other Scandinavian peoples in the many Viking expeditions. During that period, Bornholm was doubtless a way station for Viking activity but history and archaeological studies are not clear on these matters. Apparently, it was not a large trading post for Viking loot.

By the 12th Century, Danish influence had extended to the island under control of the Archbishop of Lund, Sweden, then a part of Danish territory. There followed a short period in the hands of the Hanseatic League and the city of Lübeck, in the 16th Century, and Sweden a few years in the 17th Century as will be mentioned later.

From literature and from what I have seen in the "Outdoor Museums" in Denmark, Norway and Sweden, it is obvious that the lives of our Scandinavian ancestors must have left much to be desired when viewed from our present standards. Nevertheless, some of the old houses and fixtures shown in these museums do suggest an atmosphere of coziness and family fellowship. But life apparently was not easy and was, at times, subject to enemy attack. The various fortresses on Bornholm, Denmark, such as the "round churches" and the large "Hammershus" fortress dating from about the Viking Period and destroyed and rebuilt a number of times, are relics attesting to the uneasiness through the centuries.

Our parents migrated from Bornholm to America in 1880 when my oldest brother, Alfred, was still an infant. No systematic research has, to my knowledge, ever been made on the genealogy of their ancestors. It will suffice to conclude that our forefathers were quite ordinary folk who achieved no special distinction in history except for one man to be mentioned later.

This much we know, Father and Mother were both born in Rønne, Bornholm,

July 27, 1855, and July 18, 1857, respectively. And, so far as known, their ancestors were also Bornholmers. Apparently we children were tongue-tied when it came to asking questions about kin folk, and such information as was volunteered failed to register. We know but little about Father's folk. His father, whose name was Jorgensen, was a part-time teacher and farmer who had a reputation of sitting up late at night reading by candle light. He died when Father and his younger brother, Peter Andreas (Andrew), were young boys who then had to shift for themselves. There was also another child who died in infancy.

Father was christened Hans Christian in the Lutheran Church in Aakirkeby, Bornholm. This is an old, picturesque stone church known as Aakirke (River Church). On coming to America, the name Jorgensen somehow became changed to Johnson -- perhaps through error in records at the immigration office or at the place of his first employment as a blacksmith in La Salle, Illinois. His middle name became the one commonly used.

Mother was christened Julie Marie, also in Aakirke. Her father's name was Hans Andersen. He was a farmer and died at the age of 70. Her mother's maiden name was Margreta Hansen. She died at the age of 89. The children born to them were: Anders, Lena, Lauritz, Peter, Julie (Mother), Nelsine, Mathias, and Elmine. All of the children took their mother's name Hansen.

Other than Mother, only one of the sisters, Lena, married (so far as I know) and had the following children: Markus, Johannes, Hansine and Alfreda. Alfreda's married name is Freda Espersen. I met her in an attractive rest home in Aakirkeby in 1958. She was a cheerful little old lady with a ready smile and quiet manners which appeared to endear her to others in the home.

Lauritz married Margretha Marie Koefoed. They had a son, Johannes, and two daughters, Laura and Hansine, one stepson, and two adopted daughters, according to notes provided by my sister, Clara, who visited Bornholm in 1931.

Uncle Lauritz died in 1937 at the age of 90. He apparently had a diversity of gifts in art and practical aspects of architectural and sanitary engineering. As a result of Mother's admiration for Lauritz, he became a favorite, although legendary, uncle for only sister Clara ever met him.

Although incomplete as the information is regarding Mother's family history, one item of interest stands out as having been of sufficient insular pride and family importance to be handed down through several (about 7, 8?) generations. She was a descendent, on her mother's side, of a man named Jens Koefoed, who was renowned in the island as "Bornholm's Liberator."

In 1645, hostilities between Denmark and Sweden resulted in the island falling into the hands of the Swedes, who ruled it for 13 years. The people of the island were subject to exorbitant taxes in the form of money and goods. The Swedes maintained a governor, named Princenkjold, and a small military outfit stationed in a fortress known as Hammershus at the steep northern end of the island. From here the despotic governor administered the affairs pertaining to the inhabitants. But the people insisted that they were Danes and the island a part of Denmark.

The upshot of all this was that in 1658, Jens Koefoed, a young, spirited activist with uncompromising ideas of loyalty and justice, organized a rebellious resistance. The governor was assassinated while on an official trip to Rønne. This provided the final stimulus and plan to seize Hammershus fortress by the Bornholmers. Led by Koefoed, who had previous military training, they were able to capture the fortress and its defenders through stealth and secrecy and to hold it similarly until the Danish king was notified of the change of events and subsequently provided military aid. An historical narrative describing Koefoed's involvement has been published in Danish.

This family relationship to Jens Koefoed can be only very remotely of

genetic importance. But the existence of this man is still of some interest to us for an entirely different reason. Except for the influence and daring of Koefoed, the people of Bornholm may well have become permanent citizens of Sweden and, after two or three generations, come to think of themselves as Swedes. This would not necessarily have been irreparably traumatic. Such a shift would not have required much phenotypic or genotypic change for, after all, the Scandinavians do belong pretty much to the same northern gene pool. It will be recalled also that the southern part of Sweden was once a part of Denmark.

The name Koefoed was brought to my attention, unexpectedly, by way of Uncle Lauritz's grave. When I visited Bornholm, I sought out the cemetery where he is buried in order to see the gravestone over his grave. I had learned that he, himself, had designed and inscribed this stone which turned out to be a large slab of granite. A unique feature of the stone was a long ribbon-like scroll reminiscent of some of the ancient inscriptions found on runestones commemorating some person or deed. On this scroll, cut into the granite, was not only the name and vital dates of Lauritz, but also Margrethe Marie Koefoed, his wife, who died in 1907. Separate small slabs on the grave carried the names of Laura and Hansine Hansen, their daughters.

Among Lauritz's skills was the art of stone cutting. In this he won some recognition in having sculptured some vases for the king's garden and also some statuary said to stand at the entrance to some national building in Copenhagen.

Our oldest sister, Clara, who visited Bornholm in 1931 while Lauritz was still living, was informed that he and his son, Johannes, were charged with renovating the paintings, etc., in one of the historic round churches.

During Clara's visit she was given a silver ornament converted into a brooch. This was an heirloom reputed to have been a buckle or leg ornament

used by Jens Koefoed. I now have this ornament. It was said to be one piece of a two-piece set. It would be hard to trace who inherited the second piece because there must be so many possible hereditary lines. Koefoed is said to have become wealthy and had a family of 12 boys and 12 girls. If true, no wonder the name, sometimes in modified spelling, has spread to different parts of the world. For example, a recently available biographical record shows that the father of the late Dr. Charles A. Kofoid, former head of the Zoology Department of the University of California at Berkeley, and early associate director of the Biological laboratory that developed into Scripps Institution of Oceanography, emigrated from Bornholm.

I do not know of any ancestral family skeletons locked away in some antique closet, nor do I recognize anything that looks like a closet into which I might, out of curiosity, pry to learn what, if anything, has been smothered in silence. But what range of behavior constitutes an outlaw or "black-sheep" no doubt differs with times and circumstances. And one can sense that passage of time may add glamour, romance and excitement to historical mavericks. I need only mention the forays of the Vikings in both pillage and conquest. That a strong romance and admiration lingers and is associated with these pirates is witnessed by the use of "Viking" as a name to signify some intangible desirable attribute despite the evils they perpetrated historically. Perhaps this type of admiration is expressed in a guarded fashion in a story told by Clara regarding a session she attended for her benefit with some of our relatives in Denmark. In the course of the discussion about who was who in the family history and their virtues, etc., a little girl in the family volunteered: "Daddy, tell her about the pirate." The reply was a touch of the lips and a s-s-sh. So I don't know if this pirate was a Viking or one of more recent design.

Knowledge of our family lineage into the remote past has long since

been obliterated; and not to cry about. But how interesting, personally, it would be had our parents left memoirs giving a glimpse into their own times, places and experiences during their more youthful years.

So much for the Old World connections.

It is not out of place here to mention some of Father's early life in Denmark. As a boy he had to fend for himself. The earlier references mention him having worked in a flour mill on Bornholm and of cutting grain with a scythe. Then the scene somehow shifts to Copenhagen where he had an uncle who was an innkeeper and probably also a seafarer. I recall Father mentioning an uncle (?) who had sailed Arctic waters and who, to youthful admiration, had acquired a pair of seal skin trousers. At any rate, an uncle urged him to study navigation to become a sea captain. Nothing came of this, but Father must have had some love for the sea and the adventure it might offer. He joined a German ship as mess boy but the adventure was not the kind he had dreamed of. He was subjected to cruelty and constant servitude. This was quite a common practice in dealing with seamen in those days. How long he was aboard this ship, which was probably a coastal freighter, I do not know. But while in port somewhere in the area of Kiel, he decided to desert the ship. This was a serious undertaking. The ship was anchored offshore in the harbor and a guard was stationed near the only rowboat available in the water. Somehow he managed to slip by the guard unseen and climbed down a rope to the boat. Then, standing up with his back to the ship, he rowed towards shore, resolved to continue rowing even if shot at by the guard. All went well and upon reaching shore, he gave the boat a shove to send it adrift and hurried away out of sight. After a few minutes he heard blasts from the ship indicating that his and the boat's absence had been discovered. He was never apprehended and thus ended his seafaring adventure.

This act of desertion was, no doubt, only a fortuitous happening in his life and served as a turning point that determined, in no small way, his future life. But this is not unique. Everyone's life hinges largely upon fortuitous circumstances.

After leaving the ship, he made his way to some Danish-speaking people (distant relatives?) in Schleswig-Holstein, the southern Danish province that had recently been annexed by Germany following war with Denmark. I don't know how long he remained there but he managed to get a position as an apprentice in blacksmithing and here learned the trade at which he became skilled. The pay must not have been adequate to provide a living but, to augment his income, he was allowed to work on his own time during evenings or other off times, in making hand-wrought nails. He eventually returned to Bornholm where he married Mother in the church known as Persker (Peter's Church) in a community by that name. Alfred may have been born in, or near, this area for he was christened in this church.

What Mother did before her marriage, I do not know, but as a small girl she had a job herding geese on the farm of her uncle, Captain Nielsen, but no doubt her work was concerned mainly with housekeeping -- a routine which provides rather little adventure to write about. Neither she nor Father had schooling beyond the usual three R's needed for the time. On coming to America, they had to learn English by themselves for there was no opportunity for formal instruction.

Life in America

In light of the ease and speed of present day travel and communication, it is difficult to fully comprehend the hardship and anguish experienced by our parents over a century ago in leaving their relatives and friends with only a wistful hope of ever seeing them again. But economic conditions in the homeland held very little promise toward acquiring a home of their own. The alternative was to go to America and this was, no doubt, an exciting choice, especially for Father.

The communication by mail between Mother and her folks was maintained during the rest of her life. As far back as I can remember, there was always great excitement when a letter arrived from Denmark. A number of letters written by Mother to her folks had been kept and were given to Clara when she visited Bornholm. From these letters, a few excerpts of which I shall translate from Danish, give some insight regarding their experiences the first few years in America.

They came directly to La Salle, Illinois, where they had some friends who had emigrated from Bornholm earlier. Excerpts from the letters written in 1880 and 1881 indicate that they established a home but had the usual immigrant's problems and a feeling of lonesome isolation.

La Salle, Illinois
June 20, 1880

Dear Parents:

We received your letter June 17 and it cheered us greatly to hear from you for we have waited a long time to hear how things are and how it is with you. You write that there have been several inquiries about our things and we would much like to know who in particular - - - - - also we would like to know who bought our old odds and ends and how much is left and if father gets anything for the savings bank. - - - - -

And now I shall tell a little about little Alfred. He is well and is a little "rascal" (?) and runs out on the street to play with other children. There are several rich people here who want to adopt him as their son. - - - - - We have bought new shoes and hat for him but he has only three teeth so far.

We have moved to La Salle and live in a small house there and pay 5 dollars per month rent, and food is rather cheap. The wage is 1-½ dollars per day - - - - - But Christian has gotten another job as blacksmith at a coal mine and there he will have steady work -- and will be paid 2 dollars per day, and we are fortunate in America. - - - - - But here it is not so healthful for it is so terribly warm and as soon as one has a little butter in the room, it melts and becomes thin as water. Here in America it is better for poor folks so long as they have work and most people do if they want it. And here in America no one can so easily take things away from people if they have "no more than one cow" for it is considered a daily necessity that one must have. - - - - - It is the fault of K---. that we had to move so far away from you. If he had not begun (foreclosure?) we would have continued to live in our house so we would have all remained together and free to make payments towards our house.

Dear Mother, you must have so many thanks for the flower seeds you sent, and good mother, when I can speak for myself in English and know what they are called, I shall send seeds to you. - - - - -. Greet poor Sine for me and wish her luck and blessings for her son and also to Peter with his wife and daughter. Also, when you write tell us what kind of weather you have had and if anyone has died that we know. Write to me soon again for it is so delightful for me, and if you have time for it, Father and Mother, send me your picture. It would be a great pleasure for me you can believe. We will send you one of Alfred.

Greet all good friends for us. Good luck, dear parents, sisters, and brothers.

Farewell,

Christian, Julie, and little Alfred.

Another letter:

La Salle, Sept. 25, 1881

Dear Parents:

We received your letter in August and it pleased us to hear that you are well. - - - - -

On August 10 we got a little son - - - - -. We have thought to have him christened next month and name him Ludvig (later called Louie) Christian. - - - -. You write that you expect a poor harvest. We have the same here for it has been so dry, no rain has come for a long time and nearly all wells are dry. - - - -. We are planning to send you 100 Kroner --- and now you must send me your picture. If you should need more we can send you a little more another time but just now we have paid much money for the doctor and medicine. I had a woman help me for 4 weeks at 1- $\frac{1}{2}$ dollars per week because I could not do any work, but am now rather well. Christian and Alfred are also well. Little Alfred is beginning to talk. Christian worked this summer at the coal mine - - - and gets 2 dollars per day. We have moved out to the coal mine and rent a house for 3- $\frac{1}{2}$ dollars per month - - - - - .

If Anders (her brother) wishes to come here he would likely earn more and Christian would help him get work. But we would not advise one way or the other against anyones wish to come.

If you want to know how we lost money this summer, Christian thought the money was being withheld by the company (apparently under pretext as stock in the company) because that is the custom here, but they had no

right to withhold. He should have objected earlier if he wanted the money for that is a rule or willful trick of the management. So one must watch out. But everyone must pay a price to learn here so long as one does not know the language.

So now I will close for this time with hearty greetings to all good friends - - - - - and best wishes to all for a Merry Christmas and New Year in hope that we all meet again. Write as soon as possible so that we can know if the letter has come through. Do not wait too long.

Christian and Julie

Uncle Andrew immigrated to America about the same time and several years later he and Father sent for their mother whose name was Anetta Jørgensen. Upon arrival she lived with Andrew. She died about 1891. Andrew died a bachelor in Saskatchewan, Canada, in 1927 at the age of 67. His interest was in farming and horse raising.

At the time of my parents' immigration, much of America was still very "new." This appealed to many immigrants and must also have had an adventurous appeal to Father who seemed to feel that there must be greener pastures beyond the horizon. This resulted in all too many moves from state to state. Some resulted in improvement, while others only in broken dishes and shattered hopes.

The family lived for some time in Illinois then apparently moved to Iowa for a short time according to a letter addressed from Gilmore City, Sept. 30, 1883. Than back to Illinois according to a letter written May 4, 1884, at Granville, Ill., mentioning that Clara was born March 22.

From what follows it is clear that Father, although skilled in his trade, had a great attraction for the good earth and could never quite give up the idea of farming. This oscillating between the two activities probably contributed towards his failure to become permanently established in either.

South Dakota

On Dec. 26, 1888, they were apparently on the homestead near Chandler, So. Dak., where a letter written on that date says that it takes one day to drive to town and one day back. Chandler, a nearer "town," must have been little more than a store, shop, and post office. It no longer exists. The following children were born in this area: Hattie Susanna (Susie), Oct. 8, 1886; Harry Julius, June 4, 1889; Dagmar Elisabeth, June 8, 1891; Martin Wiggo, Sept. 30, 1893. This was wide open country and Father was engaged in both blacksmithing and farming or small scale cattle raising.

There are a few incidents worth mentioning by way of indicating the primitive frontier conditions that still prevailed. The Sioux Indians had not too long before abandoned the war path, giving the settlers a lingering apprehension lest there be new outbreaks.

On one occasion while home alone with the children on the homestead, Mother was preparing a meal of boiled beef. Suddenly a window became darkened and when she turned to look, here was an Indian with his face pressed hard against the window pane, looking in. He came to the door, entered, and going to the stove, lifted the cover off the kettle, sniffed deeply at the contents and said, "meat scarce, me Smokywoman got no meat." Then, with Mother trembling in her fright, he left as silently as he had come.

Alfred has related that on another occasion, while he was a mere boy walking with his dog through high prairie grass, he came upon a blanket lying humped up in the grass. The dog grabbed the blanket and shook it violently while, to Alfred's fearful surprise, up sat an Indian buck who had been sleeping under the blanket. But despite this rude awakening, the Indian only sat and tried to coax the dog to him, while Alfred stood torn with fear that his dog, if not also he himself, would end up in broth

and stew at some Indian pow-wow.

Some years later when he himself was the sleeper in his blankets while herding sheep or cattle, he awoke naturally and there, sitting beside him, was an Indian. The Indian had waited patiently for Alfred to awaken so that he might request a loan of some coffee.

Less pleasant was his experience with a local Indian chief (Bad Elk?) who persisted in wanting to wrestle with him. In order not to offend the chief, Alfred was obliged to wrestle despite the fact that the husky chief always won the match. This Indian was one of bad repute and was finally killed by a volley of shots from a posse.

During a part of this period, there was a succession of very dry years resulting in crop failures. I have heard my parents remark that it was too bad that they had sufficient money to make a move at that time. People who were too poor to move were well rewarded later when normal rains returned.

Discouraged by these years of crop failure, the next move was apparently intended to end at the sea coast (Gulf of Mexico?). Traveling by team and covered (?) wagons, they passed through Oklahoma (then known as Indian Territory) to near Dora, Arkansas, where Ole Waldemar (later changed to George W.) was born Feb. 29, 1896. Enroute through Oklahoma, they were engulfed in a very severe flash flood from which they barely escaped. I was, of course, too young to remember anything about this.

Apparently the idea of going to the sea coast was mainly Father's because, in later years, Mother teased him about going to the "Arkansas sea coast." There no doubt was a longing for the sea based on their lives on the island of Bornholm in the Baltic. But, at any rate, they soon left Arkansas and returned to Roe and Cornell, Illinois.

After some time in Illinois, they moved to Camp Douglas, Wisconsin.

Wisconsin

It was in Wisconsin that the earliest dawn of my memory of events began vaguely to be manifest as life-long impressions.

We lived near a military camp called Camp Douglas. Father was blacksmith there for some time.

Although there are some childhood recollections from this time, what I shall relate pertaining to my earliest exposure to school are not my own recollections. They are excerpts from memories kept alive through repeated rehearsals by older members of the family. It was here that I was hustled off to school (kindergarten?) at the age of four. But, for some reason, I did not take kindly to the idea of formal education or the sacrifices that my parents were making to educate me. Really I suspect that Mother was glad to have me out from under foot for a part of the day.

At any rate, one day I said to heck with all this nonsense and promptly therewith deserted the school for more interesting and practical learning. With this, or a similar momentous decision, I showed up, unannounced, at Father's blacksmith shop to his overwhelming surprise. How I knew the way I don't know.

Thus ended my chance of getting a head start in book learning.

South Dakota (again)

Our next move finds us in Mina, South Dakota. Here we children attended school but I remember rather little other than walking to school on a cold winter day and stopping to listen to the humming sound emitted by telephone poles along the road. Here too, I recall having our picture taken with a school group. The precise location of this and the following place remains uncertain.

From here we moved to a nearby place called Rondell. This apparently was a small community with a store, dance hall (?), and Father's blacksmith shop. We entered another school near here. The unique feature that can be recalled about this school is that all of the children were local Germans except those from the Johnson family and a small brother of the teacher, whose name was Miss Olson. Discipline was apparently good. Teaching was in English but on the school grounds, during recess, only German was spoken. This was sometimes quite a handicap to the Johnson kids but we soon learned the meaning of such as "schmeissen," "laufen," "dumm kopf," etc.

Rondell was near James River where there were trees and shrubs inhabited by rabbits and birds. This area had a number of "firsts" in experience for me. Here is where I had the first thrill of hunting. The local storekeeper invited me to go along with him to carry cottontail rabbits he shot. I also accompanied Harry on a trip to the river to hunt doves. Father had an old muzzle-loading gun into which he put a load. Although this was only good for one shot, it still provided the thrill of going hunting. Apparently the small amount of powder used in loading was calculated to minimize a "kick" when fired rather than to down any game. At any rate, when Harry took careful aim and fired at a nesting dove, it promptly flew away.

Another first was viewing the projection of pictures (not movies) on a screen at a local gathering. Another first consisted of seeing a "horseless buggy" pass by on a dusty road. Dagmar and I tried to run along with it, but, believe it or not, it ran too fast for us.

The next series of recollections finds us on a farm near St. Herbert, So. Dak., where we must have lived for about a year. It was here that sister Esther was born. She was named for "Little Esther," a sister born at Camp Douglas and who died of pneumonia when only two days old.

The events recalled here, as at previous places, have to do mostly with experiences in school but I do recall, especially, the big red barn with cupolas where the many domestic pigeons nested or roosted. It was great sport chasing them at the watering trough and looking for hair worms, which, I had been told, were horse hairs that had fallen into the water and turned to worms.

At school, however, it was not so much fun. Here Harry, Dagmar, and I attended another one-room country school. Alfred and Clara were not at home, and Susie was needed at home for Mother was sick much of the time, and George was still too young to enter. In this school there must have been about 30 or more pupils under the guidance of a male teacher, probably little, if any, older than the older pupils. From the instances that I recall, or was told about, this must have been a very exceptional institution. Here conditions were so chaotic that it would have delighted especially the most far-out college and high school protestors or hippies of the later 1960's. Here they would have found the most progressive model of student participation in determining what is relevant in education and freedom to "do your own thing." The reader may think I was too young at about six to remember any of this, but this is not so. Some I do remember and some is as told by others. The story is essentially correct. The following few excerpts of the customary activities will suffice.

It was the custom of the older boys to carve a hole in the board floor beside their desks into which was then inserted a sheet of paper rolled to form a funnel. This served as a cuspidor -- a much needed adjunct to the copious chewing of plug tobacco. Necessity is the mother of invention and these, no doubt, served a purpose in maintaining a less dangerous walkway between the rows of seats.

Another favorite activity had more to do with natural history. Some of the older boys attending school trapped various furbearing animals, especially foxes. It was their habit to attend to their traps in the morning

on the way to school. Occasionally they were rewarded with a catch which was killed and carried along to school to be taken home after school let out. I don't recall to what extent these animals, lying in the cloak vestibule or under a desk, added to the odor of the school room; probably but little, percentage-wise. But one thing that does stand out was accepted as being in the nature of a good practical joke. This consisted of picking fleas or other external parasites off the animals, carefully wrapping them in a little paper packet and distributing them around the room. Sometimes, they were deposited down the back of someone's shirt.

I recall another bit of freedom that demonstrated something pertaining to the physics of light. It was performed by a boy who sat near my desk. He had a small magnifying glass with which to focus the sun's rays upon the painted windowsill beside his desk. With prolonged persistence and enough sunshine, it really worked, and produced a wisp of smoke.

Now, all these doings might conceivably have some educational value, and I don't recall any objections from anyone, including myself. But the thing that drove me to run away from this school was something else again.

It was seemingly the accepted custom that all of the boys should, in some way, participate in the manly art of boxing and wrestling, especially the latter. The teacher participated freely in this sport. The procedure was to select a couple of boys that were more or less evenly matched and pit them one against the other while they were surrounded by a compact ring of observers, each rooting for his favorite candidate. The participants, willing or not, were expected to do their best until the loser felt it hopeless to continue and yelled, "I give up." This, of course, was not an honorable thing to do. On one occasion, a window was broken when one of the older boys poked the feet of his opponent through the glass. I suspect that we all suffered winter cold the rest of the day, until a wad of rag was brought to plug the hole.

Usually it was the older boys who furnished this entertainment but there was another boy about my size that made us potential fun to watch as a pair of bantam roosters. His name was Walter and fundamentally he and I were friends. Apparently he was the better man for I recall trying to think of the surrender signal, "I give up" but instead would yell out "Valter, Valter," probably thus providing the only amusement of the match. On several occasions when let out for recess and suspecting that it was about my turn to entertain, I'd start off towards home, but the larger boys always caught up and brought me back. But finally I made it by running and dodging back and forth under a one-wire fence around a nearby horse pasture.

Upon reaching home, Susie met me. I recall, as if yesterday, she had just finished scrubbing the floor and, after hearing my reason for being home, she gave me a cookie. I don't recall what my parents' attitude was, but also I don't recall ever going back to that school.

What the girls did at this school while all this horseplay was going on, I don't know -- probably picking off fleas.

For years after this, I was often reminded of my failure in this school by Harry calling out, "Valter, Valter" when he wanted to tease me -- which was plenty often.

The next impulse to move the family, brought us to a farm near Warner, So. Dak. It was rented from the owner, named Getman, and must have been well supplied with buildings, etc., but the most impressive facility to us children was the artesian well with a large flow of water that filled a pond of considerable size. Here we often played and fished for bullheads during the summer.

Among other things that left impressions on my memory was riding piggy back. This was really as the term implies. There was a good-sized sow that

ran loose much of the time in a pasture. Harry and I discovered that she made a pretty good riding animal and we didn't have far to fall when we were thrown. This sometimes happened even though this was not a greased pig.

A more sobering incident happened one time when Father and Harry had gone some distance from the farm with a team of horses to cut and haul back some hay. They spent the night there, sleeping under a load of hay while the horses were tied to the hay rack where they could feed. A thunderstorm developed during the night and one of the horses was struck by a bolt of lightning and fell dead instantly at their feet.

With the coming of winter, it was time to enter, once again, another one-room school. This time, George started school and Clara was also with us, for she had now returned from Pontiac, Illinois, where she had been staying with a family named Riggs while taking treatment for a polio-crippled back and leg. I do not recall that Louie, Susie, Dagmar, or Harry attended school here. Alfred was still a cowboy somewhere near the Badlands, South Dakota.

This was a pleasant school with a charming teacher named Margaret Coulter with whom I promptly fell in love, as most everyone else must have also. It was some distance away from our farm and there were no school buses in those days, so we used a horse and buggy. Feed was carried along for the horse that was kept in a nearby shed during school hours.

Among the highlights remembered, is that there was a nearby hill that provided exciting fun coasting down its snow-covered slope during recess and noon-time.

In this school there was a small boy, about 7 or 8 years old, named Otto. He was in my grade for reading but was an undisputed champion in arithmetic. In this one-room school, the teacher wrote arithmetic problems on the blackboard for the upper grades. She soon learned that this would not do if the problems were left on the board during recess or noon hour because Otto

would slip in from play and put down the answers before the older students had a chance to work them out. It was useless to have mental arithmetic bees if Otto was present for he was always the first to give the right answer. In other matters he was not noticeably gifted and was antisocial on the playground. I have often wondered what became of Otto.

I don't know what grade I was in -- probably the second or third -- but it was the last school I attended until the brief two years in Ambrose, North Dakota, several years later.

The period at Warner was apparently a successful one and this farm would have been a good place to settle down and grow some roots. But, I gather that the rental was for only a limited time, and the opportunity to homestead in Saskatchewan, Canada, was being promoted, so off we were again to join the adventurous homesteaders.

Saskatchewan, Canada

Beginning with this period, it is possible to rely more upon my own memory, which has, of course, often been jogged or verified by recollections retold by others. Actually there is a flood of personal recollections that come to mind. I shall try to select a few that will illustrate, in part, how we lived and some of the problems and sacrifices associated with homesteading on the wide-open, original primitive prairie during the first few years of this century.

It is evident that my parents figured that the move to Saskatchewan would provide an opportunity to establish a home and to get the whole family together in the same neighborhood. Three adjoining quarters (160 acres) were filed upon; one each for Father (N.E. Section 6, Township 110), Alfred and Louie.

In addition, Father bought a half-section of land from the Hudson's Bay

Company. The southwest corner of this land joined the northeast corner of Father's quarter section. It was covered, in part, by a large shallow depression known as a slough, with water and with tall grass suitable for hay. Its position formed a part in the tragic event of 1907 to be mentioned later.

Gypsies. We moved to Saskatchewan (then known as Assiniboia) in the spring of 1903. We traveled from Warner, S.D., in two covered wagons drawn by horse teams, and took along such household belongings, etc., and stock as possible by this method of travel. Most farm equipment, household goods, and animals (chickens and cows) were shipped by rail to Estevan, Canada, the nearest Canadian town, about 25 miles from the homesteads. Alfred was still working in cattle country to the south and came later with his stock.

These covered wagons, especially one, resembled the prairie schooners shown in present-day historical movies of the West. But the riders were not so picturesque as the gun-toting actors and stunning actresses of today's "westerns." We called ourselves gypsies and it is probable that people encountered enroute did likewise. Of course, gypsies are not characteristically blond, but on the other hand, who can tell blond from dark skin and hair if camouflaged with sweat and Dakota road dust. I can't vouch for it, but it would not be surprising if we youngsters, especially Harry, who was inclined to be up to pranks, may have engaged at times in frightening small children along the way.

Needless to say, our early mobile homes were not very spacious and all cooking and washing had to be done outside. The journey, although not exceedingly long, was a tiresome (to the old folks and horses) 350 or more miles. Most of the details of the trip seem to have escaped me, but the following sport stands out clearly as if it had some importance. Perhaps it did. George and I experienced an activity not enjoyed by boys of today. This was "riding the reach." The reach is a long wooden beam about 4x4 inches that extends from front to back beneath the wagon box and connects

the front and back wheel assemblies. Depending upon its positioning, the reach may extend some distance freely back of the wagon box. To the imaginative mind this extension could serve as a wooden horse upon which to ride straddle over a bumpy road. Only one wagon was so conveniently constructed and there must have been some heated arguments between us as to whose turn it was to ride this balky steed. Dagmar probably offered us some competition even though this would make her a "tom boy." The importance of this horsemanship was that it kept at least one youngster out of the way inside the wagon for some time. It was also good conditioning for those of us who might later ride bare-back on some bony horse.

No doubt this journey had the substance necessary for an interesting narrative in itself, but no one thought of it in that light. It was only an event that had to be lived through to get to our new home. The irony of it all was that we were not going to find a ready-made home upon our arrival. The home had to be built out of the bleak, uninhabited, windswept prairie. It was only so many acres of flat, lonely land covered by prairie grass, pitted here and there by gopher and badger burrows and mounds and furrowed by old buffalo trails. Not a neighborly house or a tree was in sight although a few willows grew along the creek below the line of sight and a few cottonwood trees at sloughs too far away to be clearly seen.

Sodbusting and Buildings. The most urgent, high priority task was "breaking" or "sodbusting" the prairie to provide building material and to establish vegetable gardens and fields. It went on concurrently with the construction of a house and barn. It was a man's job, but I do recall following in the newly plowed furrows to pick out the occasional rocks (probably remnants of the glacial period) that might be broken loose. The plow used in breaking, required a sharp, well-shaped shear and moldboard in

order to turn over a clean ribbon of sod that, in well grassed areas, was remarkably tough due to the binding web of grass roots.

During this operation, some natural history entertainment was provided by gophers (ground squirrels) scurrying about a few yards behind the plowman taking advantage of newly broken soil that exposed tidbits of food, especially sliced through "roots" of what we called "Indian tobacco," probably a sage. Birds also sought food in these fresh furrows, and surprisingly, sea gulls, at times, joined the parade. These were probably the California gull which, according to Traverner's book on Birds of Western Canada, nests in the plains area. Little did I realize that one day I would again see the species more abundantly in the more traditionally expected habitat along the Pacific coast.

Upon arriving at the homestead site, the covered wagons and possibly also a tent, served as homes temporarily. A typical homestead shack, about 12x14 feet, was built with lumber most likely hauled from Crosby, N. Dak., a small village about six miles south of the border, where the Great Northern Railway terminated from the east. Soon, adjoining the shack, a larger addition was built of sod plowed from the prairie. The floor and roof were constructed of lumber and the roof had sod shingles over tarpaper. The shack was also tarpapered and sodded part way up the outside walls. Eventually the inside walls of the sod addition were plastered with calsomine, a task I seem to recall as having been done mainly by Clara and Susie. All this resulted in a rather comfortable house that was relatively cool in summer and warm in winter, much like houses of adobe clay bricks used in the Southwest. It was not spacious, and such luxuries as plumbing, gas, or electricity were, of course, unheard of for homesteaders, or even for the prairie villages of the region. There was also a cellar beneath the house. This was an indispensable area in which vegetables were stored in winter and milk, butter, etc., for coolness during the summer.

In keeping with common problems of all homesteaders, our living space in the house was minimal. During winter or other times when adverse weather drove us indoors for extended periods of time, certain personal adjustments that now may seem mildly amusing, had to be made. A pattern of behavior towards others evolved naturally under routine circumstances. Certain unwritten, more or less spontaneous rules sort of jelled into mutual understanding. For example, one "rule" arising from inequality of space at a table or near the stove, or with shortage of chairs versus benches or stools, gave rise to a sort of squatter's rights with an accompanying "king's ex." The latter provided a lien for a short period of absence from a favorite spot and seat. It was invoked by saying "chair again, place again." All competitors, of course, had a sort of built-in endogenous biological clock that dictated roughly how long one could be absent and still retain the squatter's right. This did not always insure fair play, and, at times, a mild "peck order" emerged, but it reflects to our credit that no serious side effects developed. Our parents, either wisely or through resignation, seldom, that I recall, had to settle minor personal squabbles.

A sod barn with thatched roof was built. The thatching consisted of long slough grass laid on poles hauled for this and other purposes from the river at Estevan. Later a sod blacksmith shop and a coal shed were built. This is all the buildings I recall for the first year or two. But later a frame building was provided in which to store grain. During the summer this building served to some extent as a boys' bunk house and in early winter after permanent freezing set in, it provided cold storage for beef that was slaughtered this time of the year. Pork was usually put up in brine. During the summer, poultry and eggs were probably the main source of protein, and the newly broken soil yielded a good vegetable garden.

We did not go hungry but there was not much variety in food. Fruit

(usually dried) was a relatively rare item and, during winter, butter was replaced by lard and we liked it during that season.

Roads. When we first arrived, there were no buildings in sight except possibly across the border in North Dakota near Crosby. Roads were established simply by driving across the prairie in as straight a line as possible while avoiding sloughs and gumbo patches. Some of these trails became rather well established routes. But finally, with the "breaking" of strips of prairie into narrow fields, more permanent, but still ungraded, roads were established along section lines. During the first year or two our place became a sort of way station for the occasional travelers headed farther west. There were very few travelers in winter but I recall one occasion when a bobsled with three men stopped on their way from Estevan. One of the men had frozen his hands and feet. His companions proceeded on westward and he was left with us to be picked up some days later. After a day or two his hands and fingers looked like inflated rubber gloves.

On another occasion we had a young boy for some days, having been left with us because of some now-forgotten emergency. We children enjoyed the company but to Mother it must have been just another sacrifice to make for humanitarian reasons.

Work to do. Summer or winter, we all had chores to do. These involved the usual farm work that needs no description. But there were special tasks associated with circumstances, location, and other environmental factors.

Although we had a well near the house, the water was so alkaline that it could be used mainly for stock or for washing after having been treated to remove some of the hardness. It was necessary, therefore, to haul water from Long Creek about two (?) miles away across the border. This involved filling and hauling a barrel or two of water on a stone boat, a very low

sled-like vehicle, drawn by a horse or horses. Often it was a pleasant task because it afforded an opportunity to get down to the creek. During the winter, drinking water was obtained by melting snow in kettles or tubs on the kitchen stove. This was also sometimes the practice in getting water for the stock, although horses, and to some extent cattle, if given an opportunity, would eat snow for water.

A summer-long task was to herd cattle, our own and such others as may have been "taken in herd" for a fee. This made a total of probably about 20-30 or more head. I recall this as being largely my responsibility although others participated, especially by having a watchful eye as to which direction the herd was moving. The task was not so much being with the cattle at all times as knowing where they had wandered and in bringing them to the corral for milking or to safe-keeping near the farm. Mostly the rounding up was done on foot (barefoot) for the cattle usually strayed only a few miles, but at times a horse was available to ride. Although primarily a small herd of docile farm cattle, it was customary to carry some sort of weapon, a stout stick or whip, to drive off aggressors and to assert authority in general. There were some "in herd" steers and sometimes stray stock to deal with. Our own herd included a young bull that was becoming aggressive to a dangerous degree. This made it advisable to dehorn him. I recall helping to tie him so his horns could be sawed off. It is remarkable how quickly subdued an aggressive bull becomes when his horns are newly lost. But the belligerence gradually returns in diminished degree after a few days, as I learned in this case when he repeatedly turned to threaten me. So, as a supplementary weapon, I carried a fist-sized stone and when he again started threatening me, I threw it and more by chance than aim, hit his head square on a sawed-off stub. To my amazement and fright, he fell to the ground as if shot. After some snorting, he got up and slowly walked away acknowledging

temporary defeat. I never told anyone about this incident, thinking what reprimand I might face had I killed the animal with the stone, as I then thought might well have happened. Both these suppositions were highly unlikely.

Our herd must have been the only one at the time to regularly graze in our immediate vicinity, for seldom was it necessary to "cut out" more than one or a few strays. The real cattle ranches were farther to the west, probably largely in Montana. Other than occasional contact in Ambrose or Crosby, I do not recall seeing any real, dyed-in-the-wool cowboys. But, on one occasion when I was laboriously driving home a cow and her newly born calf, that was still barely able to wobble along, there appeared, as if out of nowhere to the west, a couple of real cowboys. Seeing my predicament, they rode over and asked where I was headed, to which I pointed out our home buildings some distance away. One of the men dismounted and, without another word, lifted the calf to the front of the other rider's saddle. The frenzied cow and I followed along home. It was never explained why the men were in the area, but whatever the reason they were, at the time, much admired heroes to me.

We soon learned that if the herd had wandered out of sight, the most likely direction to look for it was upwind because facing the wind was the grazing habit when the mosquitoes were abundant. To say "when" is an understatement for they were nearly always abundant, especially in the evening and at night.

It is probably not possible for the inexperienced person to imagine the extreme torture that swarms of these winged devils regularly inflicted on man and beast. There was no adequate defense against their menacing buzzing and bloodsucking, needle-like mouth parts. The only insect repellent available to us was smoke. In the evening a common task was to build smudges using slowly burning straw or hay covered by damp fuel that slowly dried and burned from beneath giving a plume of smoke. There were two

procedures. One was to set up a large smudge on the ground in, or near, the corral for the cattle. The other was to make a small portable smudge in an iron kettle. This was used at the house doors or inside the house to drive the mosquitoes out and hopefully to keep them out during the night by screen doors.

I recall many times when a smudge had been set up in the corral in the evening, the cattle seeing the plume of smoke would come home running from two or more miles away to stand in the relatively soothing comfort the smoke provided. Many were the anecdotes told about the size and fury of Saskatchewan and North Dakota mosquitoes. Probably the only exaggerations in the stories were with reference to the size of mosquitoes. I believe in conservation of species but am unable to discover what saving graces are to be found in mosquitoes.

I can sympathize with my old friend the late Dr. W. Coe of Yale University, who related to me that once, while in Alaska with the Harriman Expedition, he was left ashore to collect marine life and be picked up later. He was so tormented by mosquitoes that he not only failed to accomplish any collecting, but sat down and wept like a baby.

Since poultry and eggs were such important items in our summer diet, special attention was given to provide the necessary calcium for shell production. When we first arrive on the prairie, one of the tasks for us children was to crush old buffalo bones into bits suitable for chicken feed.

Fuel for heat and cooking was always a problem. Coal had to be hauled from Estevan, a two-day trip. Buffalo chips, which we correctly called cow chips, were gathered from the prairie to supplement summer fuel -- a common practice by homesteaders and campers on the treeless prairie. The fire produced is clean, quick and odorless.

One winter we used flax straw for supplemental fuel during a period

when adverse weather prevented hauling coal. To increase the efficiency of the pot-bellied heater, Father constructed a metal drum to fit the top of the stove and thus increase the size of the fire box into which tightly tied bundles of the straw were fed.

Trapping gophers near gardens and fields was a conspicuous activity, more of a sport than task for the boys. For this we used largely steel traps and snares. For the latter, we used a long piece of binder twine with a noose at the end to fit over the burrow entrance. Patience was required to wait and jerk the twine when the gopher's head came into view. Part of the time there was a one or two cent bounty paid on tails.

Potentially more profitable was winter trapping for mink, muskrats and weasels along the creek. Alfred managed to make it pay to some extent because he had a knack for understanding and catching the wary mink whose pelt demanded a high price. All I managed to catch was a few muskrats and two, three weasels.

Winter, Snow and Blizzards. The snowfall varied during the years we were in Saskatchewan but every year there was an abundance of snow. For months the prairie was completely covered with a foot or more of hard crusty snow with more or less loose dry snow lying on top. It was mainly this loose snow that was whipped into blizzards by high winds, usually from a northerly direction.

These blizzards often had their visible beginning in thin whiffs of fine snow swept along as jets of silver threads or ribbons skating over the surface in parallel lines down wind. In the distance, they appeared to merge into a broad moving sheet all the way to the horizon. Gradually the nearer lines broadened to form a sheet and to become denser and elevated so that a sea of snow could be seen for a while below eye level. But soon with further elevation

the whole scene was completely obliterated by a confusing cloud of whirling frozen snow drifting before the wind.

I would be remiss not to say that these storms do have something of awesome grandeur. The emotional effect of this violent display of one of nature's many moods is akin to that experienced in electric or wind storms on land or on the open sea. But it differs in that one has a greater feeling of being lost in the surrounding space and of being further threatened by intense cold. A blizzard is something to experience only in moderation and in safety.

There were also periods of calm crisp days. Never do I recall seeing such dazzling frozen brilliance stretching in all directions on a cold sunny day when the whole world seemed static. During such periods the snow under foot emitted a squeaky musical tone. Bobsleds drawn by a team of horses would set up a symphony of high-pitched music that could be heard from a great distance over the minus 30 to 40 degree F. air.

During the historically severe winter of 1906-1907 the firm snowdrifts around the buildings reached to the height of the eaves so that mostly only the roof and chimneys of the house were visible. The stable was so engulfed that only the icy windswept thatching was visible as a bristling mound above the snow bank. Farm machinery, buggies, etc., near buildings were completely covered. Their position had to be kept in mind so that when spring thaw set in it would be possible to shovel away the overlying water-laden snow lest damage be done by the sagging weight.

Ascending tunnels were dug from the house and stable doors. Similar tunnels were also dug to the windows to provide a minimum of light. Following a blizzard it was usually necessary to shovel away the accumulated snow choking the tunnels.

Perhaps the only comforting statement that can be made about such

Saskatchewan winters is that no mosquitoes were at that season buzzing about in search of victims.

The most tragic year for us was 1906-1907 when brother Louie lost his life in a raging blizzard, Jan. 23, 1907.

The day began crisp and clear when Louie, who kept a few horses in his stable on his homestead, set out to haul hay from the slough on our Hudson's Bay land where hay had been stacked. On the way back with a hay load, one of the horses used in hauling became sick. He left the team and walked to the stable to get another horse and brought the hay in, leaving the sick horse to be hauled in as soon as a bobsled with a box could be readied.

Meanwhile, I had driven some cattle from our stable to Long Creek to give them water bailed from a hole cut in the ice and dumped into a long trough fashioned by frozen water-soaked snow. This watering hole was shared by the Rice family who lived some distance south of the creek. On the way back with the cattle, a cold, stinging northerly wind freshened so that I walked alternately forward with my face turned to the side or at times backwards for a few steps to get relief from the stabbing cold on my face. The fine snow was beginning to lift in long streaks above the ground as described earlier.

Upon reaching home, I joined Father and my younger brother George, and set out to help load the sick horse onto the bobsled. This was no small task for two men and a couple of boys but we managed, somehow. In the meantime, darkness had set in and the storm had developed into real blizzard proportions. We set out with the loaded sled but in the dark and the drifting snow it was impossible to keep on the "road" that had been gradually built up by packing down snow on previous trips. When off the road the sled runners cut deep into the less packed snow where, wallowing too deep for the runners, the box with the horse began to shift sidewise. It was then that Louie volunteered to walk

to the house about a half to three-quarters mile away to fetch a rope and lantern in hopes of helping to keep the load in place and to stay on the snow-packed road. It stands out vividly in my mind that he started out what seemed to me to be a little too far to the left, but I dismissed the thought, thinking I may well be the one whose sense of direction was confused by the excitement and by working with lowered head in near darkness and in whirling, blinding snow. The direction of the wind can be of great help in maintaining a proper bearing, but it can also be a fickle guide. However, I am sure it was a sort of subconscious response to the direction of the prevailing wind as a general compass that enabled those of us who survived the storm to find our way that night. The direction in which the horses were headed was also a general guide for they had been earlier headed towards the buildings but here again, if the wind had changed they would respond by keeping their backs to the wind.

We waited for what seemed to be a long time for Louie's return. Finally we sensed that something had gone amiss. So, reluctantly, we started forward again but soon lost the road and the sled box with the horse became hopelessly angled across the sled as the runners cut beyond their depth in the snow. This left no choice but to unhitch the team and abandon the sick horse and try as best we could to save ourselves.

To proceed in the wrong direction, even by a small degree, would most likely end in tragedy. Knowing that we were not very far from the house, Father devised a procedure that eventually started us in the right direction which was diagonally across the wind.

We had with us a couple of shovels to use in piling up snow to aid in getting the horse onto the sled box. Now, leaving George to stand with the team, Father and I moved out in a trial direction to where we could barely see the team between the heaviest gusts of drifting snow and there planted one of the shovels blade up. We then moved out to where the shovel could be seen

similarly. Here I served as a marker and Father proceeded beyond this to plant the second shovel and finally he moved out to a greater distance where he could still keep track of the second shovel. The idea was also to space the individuals at intervals such that, if necessary, we could, hopefully, signal our position by calling to one another and be heard above the wind.

I do not recall how many surveys we made, probably not more than two or three. As I rehearse our movements, it appears that we tended to move too far to the left, namely, to follow the direction of the wind, just as Louie had done. Between trials we had some brief periods standing by the team. It would be hard to describe adequately how comforting it was to stand there in the lee of the horses feeling the warmth radiated from their warm bodies while I picked the accumulated ice from my eye lashes. Father grew a long beard and I am sure it was a mass of icicles and snow from condensed breath but I don't recall this making any impression because seeing ice in his beard was nothing unusual.

Finally we strung out in a direction still a little more to the right. This time we were successful for, after some time at the farthest outpost of our line, Father was able to detect, between blasts, what he interpreted as a glow of diffused light as if reflected from a snow bank. It turned out to be real and not a matter of wishful thinking playing tricks with his vision.

It was customary procedure to put a lighted lantern on the house roof whenever someone was out on the prairie after dark, be it summer or winter. But no lantern of the common barnyard type could be kept burning in the open on the roof in such wind, so Mother did the next best, namely, to place a light high in the east window. It was the glow of this light reflected above the snow tunnel and bank that could be seen to wax and wane through the shifting screen of flying snow.

I don't know if it ever entered Father's mind, but as a last resort we

might have started the horses out letting them take their course in hope that they would find the way instinctively.

It is worth noting also that we had two dogs (Foundie and Joe) with us to begin with but they followed Louie when he left. Had he been able to follow them as they moved out they would have led him home. Both dogs arrived home long before we did so they must have been separated from Louie rather early. They did not return to us. Our failure to arrive home shortly after the dogs must have created a dreadful fear at home that we were in deep trouble.

Once home and warmed, George and I slept the rest of the night but it must have been a sleepless vigil for our parents. Anxiety must have been further augmented by the fact that on another occasion that winter, Louie was a member of a search party looking for a homesteader named Mr. Donovan who lost his life in a previous blizzard. Others in the area were lost in winter storms and the body of at least one was not found until the following spring.

There was at least some consolation in that Louie's body was found a short time after the storm subsided. Strangely he was found near the previously mentioned watering hole cut in the ice of Long Creek, where I watered the cattle the day the blizzard began. He was found, fortuitously, by Mr. Rice when he brought some of his stock to water after the storm.

After some delay due to more bad weather, the funeral was held in Crosby, North Dakota, and burial in a nearby cemetery.

I have no doubt that the shock experienced in 1907 was the major reason for the family move to Ambrose, North Dakota, and eventually to the State of Washington. More about that later.

Summer and the Prairie. Finally welcome spring would come to the prairie. But not without its own slushy discomfort with puddles of icy water underneath

the crust of snow now turned to a sheet of fragile ice and snow. But all this could be endured for soon the beautiful prairie would throb with wild life. Even the destructive gophers (ground squirrels) coaxed out of their hibernation by the warming sun, added a note of cheerfulness as they scampered about or sat by their burrows flicking their tails and whistling shrilly for all to hear. Meadowlarks returned to sing and nest in the prairie grass. With passing time there was a host of other birds among which my boyhood memory lists especially the redwing blackbirds that set up their liquid calls while nesting in the tall grass in the sloughs now nearly filled with snow-melt water; the wild ducks flying low with whistling wings and congregating in every sizeable slough and along the creek; the snipes, plovers and kill-deers along the shores; the many sparrows; and soaring lazily above all were the ever-present predatory hawks. Nighthawks added variety to the evenings by their erratic flight, zooming dives and "spirit" calls. Common in spring and fall were the V-shaped noisy flocks of migrating geese. Coyotes were present but were seen near our place mainly in winter when they came nearer the buildings apparently seeking prey and attracted by the dogs. I recall occasions when a lone coyote would approach and tease Foundie into chasing it out on the prairie where the chase ended when, as if out of the snow, several other coyotes would suddenly appear.

Long Creek was a magnet to us youngsters as it snaked its way through the prairie. Here we watched the families of ducks and muskrats swimming the quieter, wider stretches of the stream. Occasionally we walked the bank trolling for pickerel. Patches of scrubby willows and wild roses grew here and there along the banks. Farm duties at home didn't allow much time to go swimming which we boys did in the raw or in our overalls. A favorite spot was the "stone crossing" where the stream was forded on a trail-like road to the south and from where we hauled water for the house. There were no

bridges and the stream was sometimes a barrier in early spring.

As mentioned earlier, the prairie gave abundant evidence of herds of buffalo that left their trails streaking across the grassy turf and usually leading towards areas with water. Here, near our slough, was a deep bowl-shaped depression in the center of which was a large granite (?) stone which we called a "rubbing stone." This stone, which I have come to realize later, was a glacial erratic transported from farther north during the ice age. Its highly polished surface and its depth below the prairie level is witness to long periods of rubbing and pawing up dirt by buffaloes in response to the torment of mosquitoes. How many generations of buffaloes passed in polishing this stone is anyone's guess, but they doubtless extended back long before white man came with his firearms to slaughter the users of these rubbing stations. The trails and the bleached and weathered bones and horns still found here and there on the prairie told dramatically of a wildlife period abruptly ended not too many years ago when this land was the home of thundering herds. I recall that shortly after our arrival on the land, I found an arrow or spear head among the bones of a skeleton not far from our house. It was slender and about three inches long and was made of iron, indicating the influence of white man's technology in Indian weapons. It is evident that the projectile had found its mark, either to kill or to be carried away embedded. This artifact which I treasured was finally stolen from a cigar display case where it was put on display in our hotel in Ambrose, No. Dak. So its journey from the Indian bowstring is not further known to me.

With the growth and ripening of grass in the long hot summer days, the prairie became a gray and pale yellow field scintillating in endless waves under the characteristically persistent winds. But this brought also a potential menace -- prairie fires. We had several occasions to fight these incredibly fast-moving long snakes of fire. On such occasions everyone available joined

in beating the laterally moving lines of fire with wet gunny sacks. I recall only one serious fire on our own land, i.e., the Hudson's Bay section. Following a fire the unsightly black areas soon became brilliant green with the first good rains.

This and That. After two, three years homestead shacks and some houses sprung up within sight and strips of broken prairie became fields of sufficient size to meet the requirements of homesteading laws.

One family, the Lestoies, filed on the quarter section adjoining us to the west. There were three boys near the age of George and I. These were the only children we had occasion to play with in the neighborhood during our entire life in Saskatchewan. We did however, on special occasions, contact other children during visits to Crosby for shopping and where we always joined in the Fourth of July celebrations.

The international border was not a barrier to free movements to the extent it became later. Towards the end of our stay in the area, we became more and more conscious of the border. No doubt the transport of certain goods in either direction might well have been considered contraband. Gradually the Canadian Mounted Police were seen more often but I don't recall hearing of any U. S. partrollers or of anything other than mutual respect and understanding of pioneering needs.

There was no school in our neighborhood and, of course, no school buses. At home we were urged to practice reading and received some aid but there was no formal effort at teaching. We did have some reading material into which we could browse. I seem to recollect the following: a book called "Chatter Box" owned by Clara; "Pilgrims Progress;" "Literary Digest" and "Hunter, Trapper and Trader" subscribed to by Alfred; "Bible History" and "Catechism;" and, I believe, at times a newspaper for I seem to recall seeing some comics such as Happy Hooligan, Lula and Lender, Buster Brown. There must also have

been some paperback novels for I recall some of us calling Dagmar "noveller" because of her fascination with some of them. Writing paper for practice use was practically nonexistent. Steamed or frosted windows served as sketch paper for cartoons, etc., as did also slates, but the ephemeral nature of such works of art was not encouraging.

One summer, 1907, two of the Listoe boys and I walked once a week for several weeks to Crosby to join a class in "reading for the minister" in preparation for the Lutheran confirmation. The long walk made this an all-day journey. During the first week or so the creek was still flooded. Mr. Listoe rowed us across in the morning and met us again upon our return late in the day. Once upon returning, no one was there to meet us. We waited until well after dark and then set out to a nearby homestead shack where a Mrs. Jones (?) lived alone. She had retired but we knocked on the door and after identifying ourselves she let us in and bedded us down on the floor.

The next morning the empty boat was still on the other side of the stream. Finally we picked a more shallow crossing, where we removed our clothes and holding them over our heads, forded across. No one seemed especially upset about all this. It was apparently a summer event to take in stride. After all, people did sometimes find themselves unable to get home for the night. A couple more instances will illustrate this further. Late one night a knock came at our door and when asked who it might be, the answer was "me, John." He was one of two local young men (cousins) named John Listoe. After that they were distinguished in the neighborhood as "John" and "Me John."

The second instance refers to myself. I had been out trying to find one of our cows that had wandered away. The search took me several miles to the east where, when it was turning dark, I stopped at the first house encountered and asked if they had seen the cow. They had not, but would not let me go on home until morning. I believe the name of these people was

Kolkey (?) and they could speak but little English. They had a boy about my age who, after supper, they set to playing his flute for me. I was entranced by the wonder of such sweet music. The old folks went to bed but the boy and I sat up for at least two hours more and every time he let up playing for a few moments his mother would call out "spiel."

With reference to the many problems of pioneers, the following will illustrate a special type that calls for practical neighborly assistance. One day a Listoe boy came to our house all excited and informed Mother that his stepmother was going to have a baby, and would she please come over to help. She could, and thus the population of the prairie was increased by one.

Horses. It would be a conspicuous omission not to mention our dependence upon horses during this period -- a dependence that must be difficult to comprehend by the generation that has known only automobiles and related automotive equipment. So deeply impressed was my experience with horses that I can still recall vividly by name and personality most of the horses that we had from the time we left South Dakota. There was, first of all, the old reliable team Frank and Jim, large, heavy work horses. For reasons of interest, I need mention only a couple more, namely, Tom and Bill, useful mainly in hauling water and other small tasks. Our use of Tom was rather short.

One day Tom was loose in the barn and in order to make room for a team that had just been brought in at noon from breaking prairie sod, Tom was turned out of the barn. This was apparently a greater insult than a horse of his sensitivity and age could stand. He immediately headed straight across the prairie in the direction of Warner, South Dakota. We thought that he would soon stop to graze and finally return, but he continued right on out of sight and we never saw him again. Months later we heard rumors that a horse of his description was seen still headed south. If old Tom could foresee the kind of winters we were to experience he showed good horse sense in

leaving when he did.

Bill deserves mention only for the fact that he was the first and only horse I ever owned. He first belong to Louie but his advanced age made him of little use after the first year or two. So Louie gave him to me if I would take care of him. This was not a very good bargain for me for he was so boney that riding bareback as I nearly always did was worse than riding the wagon reach. But Bill's days were numbered (he was estimated as being 30 years old). Late one early winter day, I took Bill to water at a small nearby pond. He slipped and fell on an icy spot and could not get up again. I went home to get help but by the time we came back to where he had fallen, he was gone. The next day we found him dead at a haystack near the barn.

Frank and Jim were gentle horses but when it suited them they made play of my horsemanship and more than once when they were unhitched, I was dragged on the ground hanging on to the reins. When harnessing them in the stall, Jim would raise his head so high that it was difficult for me to put the bridle on him. This habit was so frustrating that I crawled up on the manger and took his ear in my teeth and hung on while putting the bit in his mouth. This helped but he never really got over the habit. Perhaps these early tooth exercises are the reason why I still have my own teeth. We had no ox teams but they were sometimes used by others in the area.

Dogs. Although dogs did not hold much importance relative to that of horses, they still had a place on the farm. However, only two are worthy of mention for special reasons, i.e., Joe and Foundie, especially the latter. Neither dog received proper training as cattle dogs although they had potentialities and were helpful in driving herd and rounding up mavericks. Joe (probably a farm shepard) was a full grown dog when he was given to us by Charlie Bergstrom, a homesteader in the area. Foundie was something special in dogs and

as the name suggests, he was found. Clara found him as a mere puppy wandering bewildered all alone looking like a ball of wool struggling through the prairie grass about a mile from our home. He was much too young to avoid capture so he was promptly carried home as a very special prize. Where he came from is a mystery but it was recalled that some days earlier a strange team and wagon with a couple of men had passed by headed west. It is possible that he may have fallen unnoticed from the wagon and had escaped injury and later detection by coyotes or badgers.

He grew up under the stern discipline of Joe who was very fond of him but tolerated no nonsense. In this connection it is interesting to note that although he was quick to respond to a challenge by any stray dog, he would not show an angry tooth to Joe. Even long after he grew to size and strength capable of annihilating Joe, he would cringe and fawn in submission whenever Joe showed serious displeasure. He had the general appearance of a collie with an unusually heavy dark saddle, and a less elongated slender snout than present-day collies.

Foundie was a very sensitive dog and resented any kind of corporal punishment or threat such as kicking at him or brandishing a stick in his direction. He had a passionate hatred for guns. I don't know if Harry or someone else had at some time fired a gun too close in his direction, but if Harry left the house with his rifle he carried it parallel with his body so that Foundie could not see it until he was some distance away. This was a strange reaction in view of the fact that Harry was very fond of dogs. But despite this dog's volatile temper towards threats, he was essentially very gentle and playful and, to my knowledge, never bit a member of the family -- probably because we had learned to appreciate his good will and to respect his anger.

Living several miles north of us was a homesteader who owned an English bulldog and encouraged his dog to fight with Foundie on several occasions

The fights seemed always to be a stand-off. One day this man and two others came by without the bull. For some reason they were invited into the house, but Foundie singled out the owner of the bull and would not let him pass freely into the house.

Aside from the usual dog-play, Foundie had two sports he thoroughly enjoyed. We had a cart constructed of two buggy wheels and a single long shaft to pull or push the vehicle when used to haul a detachable wooden water keg suspended on hooks between the wheels. Foundie took a great liking to this cart as a plaything when the keg was removed. We could never hitch him to it but he would take the shaft in his teeth and pull the cart around the yard and far afield all alone, up and down the road for a distance of one-half mile or more. This was a source of amusement to passing wagons to which he yielded the right of way.

Despite his sensitivity at being threatened he enjoyed having us throw large chunks of snow at him while he caught them on his chest.

When we moved to Ambrose, he was given to some good neighbors, the Rice's living in North Dakota. It was here that his reactions to what he thought were threats became his undoing. One morning when old Mr. Rice was putting on his trousers he stretched out his foot in the direction of Foundie who therewith took offense. With this reaction he was considered dangerous and promptly shot by the man's son.

Cats. Of the three cats most clearly recalled, two had a useful purpose on the farm, and the third included here makes up a trio that in total illustrates how some cats, like many other animals, remind me of the behaviors of certain types of humans. Perhaps other people are similarly reminded, which results in the current expressions sometimes used in describing people, i.e., "cool cat," " 'fraidy cat," "tabby," etc.

Maltese was a lanky, lazy blue-grey cat, the most domesticated and petted of the lot. He had no interest in leaving the house or wandering away from the buildings. If not overfed with sweet milk he was a good mouser but was afraid of gophers and always willing to accept a handout.

Tiger was a beautiful independent female with narrow, black tiger stripes. I think she must have adopted the farm as headquarters out of which to do her hunting, for no one seemed to know where she came from. She was notably alert and although responding to petting and enjoying a dish of milk, she had a passion for going far afield to hunt gophers, and I don't recall her ever being in the house.

Mabel, too, was beautiful but this was mainly fur deep. She had a silky dark back with subdued irregular darker stripes and a dark head and ears, and dazzlingly white feet and nose. She had some winning ways and was a cuddly pussy, but she was an inveterate thief and had to be watched at all times if any food had been set out on the table.

All of the cats spent some time in the barn for I recall that in the winter time they quickly learned to jump up onto the backs of the horses and nap there enjoying the warmth of the horses' bodies.

During the later part of our stay in Canada, the children older than I were not at home part of the time. Each of the girls, Clara, Susie and Dagmar, spent some time working in Estevan or nearer-by employment. It was in Estevan that Susie met Harry Laverick whom she married. Brother Harry found work in Crosby and Ambrose, I believe. Alfred and Louie were, of course, busy on their own farms, although Louie boarded at home much of the time.

My first job away from home for any length of time was in North Dakota for a homesteader who was laid up with rheumatism. This job was nothing to leave home for. It was late fall and urgent that a stubble field be plowed

before snowfall and freezing. This was my main task for which I had two horses and two mules strung out as two teams with the horses in the lead. Before daylight I was awakened to feed and harness the animals, eat my breakfast and get into the field at daybreak to start plowing. Quitting time was sundown. It seems that this was not enough to earn my wages (\$1.00/day). I was asked to do the milking. This I did the first day but got up courage to refuse from then on, so Mrs. L. became the milkmaid. The house consisted of two rooms; a bedroom and a kitchen. A bed was made for me in the corner of the kitchen floor. This was okay, but it was never made up until well after supper (they served good food) because the only stove was in the kitchen where they liked to sit up to read. It was always Mrs. L. who made the first move to make up my bed. Apparently Mr. L. got his sleep during the day. I must have worked there for about three weeks when I tendered my resignation. Mr. L. was quite surprised but accepted.

Finally, in retrospect and in saying farewell to Saskatchewan, I have no regrets to express in our leaving the rugged existence. But to me personally, the time spent there was not entirely wasted and I have since been attracted there to visit after a lapse of nearly half a century. Some of the old patterns of living still persist but the world and Saskatchewan have come a long, long way since our pioneering days, and few old-timers are left to recall the early days -- days now dimmed and plowed under by newer problems and visions. Also literally plowed under and forgotten are the old buffalo trails, perishable symbols of an earlier past, now leveled to give way to the golden fields of grain for which Saskatchewan is so famous.

North Dakota

In late 1907, Father sold the Canadian property and bought a blacksmith shop and also a hotel in Ambrose, North Dakota. This was a small town at the western railroad terminus of the Soo Line, about 12(?) miles from the homestead home. Establishing a blacksmith business was an appropriate move for he was an expert blacksmith and in those days this trade, now all but extinct, was of outstanding importance. But why he should venture into hotel keeping, for which he had neither knack or training, is a profound mystery. Furthermore, this hotel (The National) was the leading hotel in town.

The time we spent in Canada was, in many ways, an exciting time for me. Often in recalling the experiences, I realize that it was a time of personal discoveries into the more common attributes and ways of nature, the first flush of discovery that all too soon tends to lose its novelty and become commonplace and trite.

Our move into town started a period that was oriented more towards a discovery of people, their personalities and ways.

George and I started school again after a lapse of over five years, and Esther began her first year. During the years in Canada we had no opportunity to attend public schools. Hence, it is needless to say that George and I could not have fit very well into any conventional grade, but we were not alone in this, though I don't recall how the teacher managed to fit us into more than one grade in keeping with our background. I shall always have a feeling of gratitude to Miss Winifred Dougherty, who was so patient and understanding -- she had to be to survive a one-room school with such a conglomeration of pupils, several of whom should, by present standards, have been in the last year of high school.

It is not out of place to relate here that over 50 years later I received a letter from this teacher, now Mrs. Pierce, who, at that time, was still

teaching in Laton, California, and in charge of several other teachers. She remarked that she was afraid that all she had done in the Ambrose school was to "baby sit." Maybe, but she knew how to baby sit and give the bigger babies at least a minimum of booklearning at the same time.

In Ambrose we learned something about a behavioral pattern of some town boys towards newcomers. In boy-gang fashion, a few of the boys in town challenged and picked fights with similar aged invaders. George and I were fair play for the loosely knit gang. This went on for some time but gradually simmered down to where only two or three of the pesterers were troublesome. George responded more quickly to the challenges than I and was soon deemed worthy of town membership. He even went so far as to take on a newcomer on his own.

One day a Soo Line locomotive became derailed in switching at the "y". This was an event for gathering of a small crowd of onlookers. In this crowd was a boy George's size. I was a little late in joining the excitement so don't know how it all started but George and this boy were already in some sort of combat and had stolen the show from the derailed locomotive. After some rather unprofessional type wrestling they were both on the ground and the newcomer just lay there (probably resting) while George sat astride him and ate peanuts from a sack the boy had in his coat pocket.

The school house in Ambrose had two rooms but only one was used the first year we were there. The second room was sometimes used as a sort of rumpus room during bad weather. The few boys that pecked at me in the beginning had now diminished to two. One of these was Bill, the school bully, the other was Willie, who was too small to worry me much. One day in the rumpus room, Bill threatened to hit me with a slab from a broken desk. To my surprise and also Bill's, I didn't back away this time and the fight didn't go too badly for me, and before I realized it he was on the floor and

I had ripped one leg of his overalls from bottom to the side pocket. At about this state of affairs Olive hurried to the other room to call the teacher. Olive was the school's champion tattletale but was a very pretty girl for all that. Well, Bill was promptly sent home to get some more presentable trousers and we were both instructed to stay after school, at which time Miss Dougherty gave us a much needed lecture. She got a promise from Bill never to fight me again. I didn't think he would, anyway. After a half-hearted attempt to get a promise from me, she gave up, sent us home and told me I was stubborn.

I never had to fight anyone after that and even Bill became friendly but he never won my complete confidence.

The instruction in school was concerned mainly with reading, writing and snatches of American history. We learned a number of poems, especially those by Longfellow. The teacher also read to us (installments once a week I believe) from some interesting story.

Discipline was good although a few spit balls may have been thrown and notes were passed. I must confess that I was guilty of some of the latter but it was carried on in such a manner that it did not attract the attention of anyone, even Olive, and therefore did not disrupt study by others. During part of the year I sat directly back of a boy named Albert. The back of his seat formed my work desk. Albert happened to have a torn seam in the back and armpit of his coat where the sleeve is attached. This formed a convenient route by which we could exchange a note or a sketch now and then.

I seem to have gained some renown in the school for drawing cartoons, etc. Olive was filled with admiration and flattered me by wanting me to sketch for her. This finally became sort of monotonous though because she always wanted me to draw pictures of brides with long flowing veils and gowns.

It happened that once at my desk I was doing some doodle-drawing when

I should have been studying. Well, Olive happened to see a developing sketch and couldn't resist the temptation to tattle, or maybe it was an uncontrolled outburst of admiration, but at any rate, she raised her hand and exclaimed to the teacher: "Martin is drawing!" To my surprise, the teacher replied: "Martin may draw at his desk or at the board any time he wishes." This encouragement and trust added greatly to my already high esteem for my teacher and I never intentionally abused the privilege. On the other hand, I also failed to make much use of it as I should have and as Miss Dougherty probably intended I should.

It just wasn't very manly to play with girls, except in group games, but I did on occasions. The two favorites were Ruth and Lucille, near my age. Only one incident of this play stands out. It happened during spring when the snow had thawed and left icy water in low muddy depressions on the school grounds. A sport enjoyed by everyone was to run and jump across these puddles. The girls were never very expert at this so Harry Hugas (George's and my best friend in Ambrose) and I volunteered to take one each of Ruth's hands and help her make a flying broad jump. This went fine for a time or two but then something happened. I don't know how she managed but somehow she stuck both feet forward as we hit the edge of the pool. She sat flat down and we drug her all the way across. Boy, were Ruth's shoes, stockings, dress, and panties (I presume) covered with mud. She went home. We all liked Ruth but she really endeared herself to us even more by not complaining and by refusing to tell the teacher who did the dragging.

Ruth and Lucille sometimes got themselves into innocent difficulties. One time they decided that it was not chic to have hair on their arms so they tried to remove it with sand paper, a novel method that no doubt has possibilities. The trouble was that they didn't go deep enough and ended up coming to school with the same old hair under long strips of medicated

bandages from elbow to wrist. Truly, there is a lot to learn at school other than the three R's.

During the second year the rumpus room became a school room for the lower grades of which Miss Hennesy was the teacher. This was an improvement in that more attention was given to the older pupils and to some outside activities. I believe it was this year that our junior baseball team played the Crosby team at Crosby. I played first base. Another time, six of us pupils joined a similar Crosby group as speakers at a W.C.T.U. meeting in Crosby. This was my first experience at public speaking. The meeting and the banquet which followed for the speakers enabled me to make some new friends that served later to make more pleasant my brief period of working in Crosby in the blacksmith shop run by Dobriner and Engibretsen.

My total attendance at the Ambrose school must have been about 1-1/2 school sessions, having started late in 1907 and leaving before school was out in 1909. I really don't know what grade I was in at the time of leaving. It developed that Mr. Brewis, the husband of our good friend Luella Rice, was called away for jury duty at a time when spring work was urgently needed, so I worked on their farm until the crop was in and then must have returned to Ambrose to work in Father's shop. All this, I presume, might give me the dubious reputation of being a grade school "drop out" but a new term has now developed, i.e., "stop out," which is less disparaging.

There were some exciting and disreputable times in Ambrose those years. Its position at the end of the Soo Line railroad may have contributed towards it getting more than its share of unscrupulous enterprisers. At that time North Dakota was a "dry" state. But the town had several pool halls where beer could be bought over the bar, and hard liquor bought from the drugstore and from boot-leggers. A favorite place for drinking of hard liquor appeared to us boys to be the offices in livery stables of which there were at least three.

Finally some pressure was brought to bear on enforcing the prohibition laws. But the apparent upshot of this was that one of the suspected crooks was made town marshall. Several changes in tactics probably occurred. Beer was still shipped in by rail to be picked up by a delivery dray driven down the main street (about 2 blocks long) while the driver announced that the beer shipment was aboard, -- "come and get it!" The loud-speaker device he used was a short rubber hose into which the neck of a beer bottle from which the bottom had been chipped was inserted. This made an effective trumpet.

The hard liquor bootleggers were apparently not harrassed too much by the marshall so long as they kept some semblance of secrecy. In one instance, a fellow built a long narrow "secret" extension to this barn just in front of the mangers, making a sort of double wall with a narrow space not readily seen from inside or outside the barn. But the fact that the town kids, including myself, knew about this indicates the amount of effort at law enforcement. As a matter of fact, it seems that not much went on in town that we kids did not know something about. One time a couple of highly painted ladies rolled into town. This put the marhsall on the spot to chase them out as unwanted characters. The story goes that the ladies were forewarned and the marshall couldn't find them. Some of the kids knew that the ladies took temporary refuge in one of the outdoor school privies. But how could a busy marshall not going to school know this? Never underestimate the combined knowledge that a pack of youngsters can have regarding adult affairs.

Perhaps the highlight of excitement came the day the cowboy was shot. One spring day in 1908 a stranger rode horseback into town and stirred up some rumpus and rode into one of the pool halls where (according to an account in "Stories and History of Divide County") he was said to have become too bellicose and aggressive and shot holes in the ceiling. Finally

he and his horse left by the back door as pool balls were thrown at him. Outside he lost his gun when hit by a 2x4. He then rode up the back alley and turned towards the main street through a vacant lot. Just as his horse jumped the narrow sidewalk and turned left, a shot rang out. I happened to be a little farther down the street in the direction the horse was headed but did not at first realize what had happened as the galloping horse with the rider came down the street by me. The horse, sensing the wounded man was slumping towards the left, turned sharply in that direction as cattle horses were trained to do, and leaped back over the walk (?) through a space between a bank and an adjoining building into a clear area at the back where the rider fell off. I joined the quickly gathering crowd. A doctor from across the street was called (Dr. McGowan, I believe) and a large fellow named Swingle kept the gathering crowd a few feet away. The shot had evidently entered beside the nose and came out at the side of the neck giving the appearance of having been fired from an upstairs window across the street as the rider entered it.

While the wounded man lay on the ground being attended by the doctor, someone took the man's riding boots off so that he would not "die with his boots on." I never understood whether or not this was a good or bad gesture under the circumstances, but it seemed to have some traditional western significance. He did die without his boots and lay for several days in an improvised morgue pending identification. I don't know if the body was ever claimed, or if it was ever determined legally who shot him or why. But according to the above-mentioned "Stories and History--" his name was found to be George Zeigler from a Montana ranch where he was known as "Bloody Knife."

While at Ambrose I worked at a variety of short-time jobs, i.e., shoveling grain at the grain elevator; delivering ice; setting up pins in the local bowling alley; odd jobs around the hotel, such as hand-turning the

washing machine and wringer for Martha Hyrdal who did the hotel laundry. But my main work was as helper at Father's shop. Apparently the idea in part was to make a blacksmith out of me. Aside from helping with work on buggies, wagons and plows, I reached a stage of efficiency where, after Father had fitted the horse-shoe and put in the first two nails, I could finish the nailing and the rasping of the hooves. This was really a back-breaking job with some heavy farm horses or uncooperating broncos. Some of the Canadian Mounted Police operating in Saskatchewan brought their horses to the shop to be shod. It was a relief to work with these light, well-trained horses. I recall being impressed in finding that each horse had an identification number carved into the side of a hoof. The mounties were welcome customers also because they always paid their bills promptly.

Paying promptly for work done at the shop, was not a habit of some of the local customers. Father was unduly liberal in giving credit to farmers who promised to pay after harvesting, etc., but many bills were never paid.

The hotel business was also plagued by reluctance or inability of some customers to pay their bills. In one instance in mid-winter, this led to starting legal action to collect from a delinquent boarder. It also led me into my second experience of being lost in a blizzard.

For a while during this boarder's stay at the hotel, Harry Laverick had acted as hotel bookkeeper-clerk so he was needed as a witness. But he and his family had now returned to their homestead farm in Canada some 10-12 miles away. I was given the task of notifying him of the pending proceedings.

I set out on skis and with what should be ample time to cover the distance before dark. However, after some time the northwest wind increased and delayed my progress. By the time I had reached to within about three or four miles of my destination it was getting dark and visibility was further cut by drifting snow. I went on in what seemed to be the right course and shortly

ran into an area where the snow was deep and with a crust that broke more and more under my skis making it impossible to progress in this way, so I removed the skis and tried walking. I realized that I must have gotten off course and was quite lost. I began to think about all the things one should do to survive a blizzard. One suggestion was to bury oneself deep in the snow. The area that I had run into was a slough with very tall grass and gave some promise should it become necessary to take such drastic action. Another tactic was to keep moving slowly with the wind hoping to sight some buildings or a fence leading to them. I was to learn later that the northwest wind and reduced visibility had already put me off some 2-3 miles to the right of where I intended to cross Long Creek. I struggled on a little farther in this deep snow then turned to go with the wind. I soon hit higher ground where the skis could again be used and luckily, after an hour or more, I hit areas where horses had recently pawed away snow to get to the grass. The drifting snow was not so thick but that I could easily see the newly filled patches that stood out white in contrast to the older undisturbed snow. After following a series of these patches for some time, I got a fleeting glimpse of what appeared in the drifting snow to be a snow-free area, but on approaching closer it transformed into low buildings. I didn't know at first who, if anyone, was living there. Strangely, it turned out to be Alfred's place on his North Dakota homestead. Alfred and his wife, Clara, were as surprised to see me as I was happy and surprised to see them.

I don't know if the boarder ever paid his bill, but the hotel was a losing proposition and Father finally sold it and also the blacksmith shop. He no doubt could have made a go of the blacksmith shop but with all the trying experiences with the hostile winters of the area the next move was to Everett, Washington, and the milder climate of the west coast.

George and Esther made the move with our parents. The rest of us stayed

behind. I continued to work to make money enough to pay my fare to the West. My first job was in Crosby with Dobriner and Engebretesen as mentioned earlier. They were fine people to work for but it was soon harvest and threshing time and I could make more money harvesting than in the shop, so I got a job shocking grain for a North Dakota farmer whose name I have forgotten. While working there, I developed an infection in my right hand and had to lay off for a time. The most natural place to consider a temporary home was at Susie's on the Laverick homestead in Canada. Harry L. was away during the busy harvesting season.

Through some arrangement with Alfred, Susie (Clara was with her at the time) had a short loan of a milk cow. My week there happened to coincide with the time the cow should be returned to Alfred's across the international border. I volunteered for the task but there was some uncertainty whether or not this might be considered smuggling contraband. As already mentioned, everyone was becoming more conscious of the border, or "line" as it was commonly called. But in justification, it seemed logically legal, for after all, the cow belonged on the other side of the border and I would only be returning it. However, there was some lingering doubt as to how a Canadian Mountie might view the condition to the embarrassment of all concerned. It was decided, again logically, to make the trip in late evening since this would be the most comfortable time for both me and the cow to walk the several miles following an unusually hot and sultry day. As evening approached the sky developed a heavy canopy of black clouds and in the distance sheet lightning played ominously along the western horizon. But this didn't always portend a major storm, only deeper darkness. So the cow and I set out at a pace agreeable to the cow. It was forbodingly calm till after we crossed Long Creek. Then the sky seemed to break wide open with jagged streaks and incessant crashes of thunder. Electric storms were not uncommon to the prairie but I don't remember having witnessed before any such pulsating flashes.

But perhaps my special mission had something to do with this thrilling, hair-raising impression. Upon reaching Alfred's, I tied the cow in the barn and found, near the house, a tent with a cot and was soon sleeping with a clear conscience of having done a good deed.

This whole episode would likely have been all but forgotten but for the electric display, but it is useful in depicting changing pioneering reactions and experiences along the border. No doubt a Mountie would have looked upon the cow and me with amused sympathy.

Following this interval, I joined a threshing outfit that moved from farm to farm to thresh grain in the area on both sides of the border. This outfit had its own "cook car" or chuck wagon and at night all but the cooks slept in barns if available, under wagons, or in such hay or straw stacks as were convenient. As I recall, the cook car provided an abundance of food. But of course no refrigeration or ice was available to the cooks so beef was hung out on the most shady side of the car. This probably helped -- a little. I recall that one day one of the more squeamish (olfactory and taste-wise) men tore down what was left of a quarter of beef and drove a long stake through it, fastening it to the ground to "keep it from crawling away." This mode of life was accepted as routine when one "went threshing." Another matter to be accepted was that most workers could expect to become literally lousy and upon coming home after a month or more of threshing, were not allowed in the house before a thorough cleanup which, in some cases, was said to consist of putting all clothing in an ant hill where the ants soon disposed of the parasites.

It was rather common for the farmer whose grain was being threshed to treat the crew to a round or more of alcoholic drinks as a token of thanks for completing the job in creditable fashion. One farmer in a Russian community where we threshed, let it be known that beer would be served when the last bundle of

grain went into the grain separator. But when the job was all finished, it turned out that under conditions beyond his control, he had to report that the night before there had been a christening of a Russian baby and the event was duly celebrated by consuming all of the beer.

The last farm at which this outfit threshed so far as I know was at Alfred's Canadian homestead which was being share-farmed by a neighbor. Alfred was not there at the time but the farmer promised the crew a round of drinks when finished. For some reason which escapes me now, he gave me for safekeeping two or three flasks of whiskey - perhaps because he didn't trust himself. The weather had turned real cold when the threshing was almost finished and as the last bundle load was emptied for the day the crew gathered around the steam engine to enjoy the radiated warmth and to wonder whether or not the rest of the threshing would be snowed out. Well, under the circumstances I concluded that this would be a proper time to break out the drinks. Needless to say, it was accepted graciously and added both warmth and spirits to the depressed crew. The volume of whiskey at hand, when rather evenly distributed by taking turns at the flasks, did not interfere with the few hours of work still needed the next day to finish the threshing.

Thus ended my career as an early teen-age thresher in the Midwest.

Ended also were two rather well-defined periods in my life filled with boyhood memories of both hardships and joys (1) on the homestead and (2) in North Dakota. Many of these memories (a few of which have been related here) were burned deep and have often come to mind.

At Crosby I got my ticket on the Great Northern for Seattle, Wash. The folks had moved from Everett to Taylor, Wash., a mining town in the Cascade Mountains southeast of Seattle. Alfred saw me off on the train and I was on my way to a new wonderland. Left behind were Alfred, Clara, the Lavericks, Dagmar and Harry, all of whom finally came to the west coast.

The journey to Seattle was a long one but I, of course, had no pullman ticket. It perhaps would not have done me any good anyway because, as it was, I sat at the window thrilled throughout day or night at the passing scenery, even if only nighttime shadowy forms of trees and mountains could be seen. Even cat naps seemed a waste of opportunity to see something new.

When we reached Seattle a dray man with his horse and wagon asked if I had baggage that he might haul. What I had was no more than I could carry in my hand and had already done so for about 3 or 4 miles at the beginning of my trip when I walked from the Laverick's homestead home in Canada to Alfred's place in North Dakota where he took me on the second leg of the way to the train at Crosby.

Now, although I could find my way on the prairie and in the two-block long Ambrose or Crosby, Seattle, with the long streets and a skyline obscured by tall buildings was something else again. So I told the drayman that my baggage had to be transferred to the Puget Sound (Transportation?) R.R. Station and might I ride along. He agreed and I recall that as the horse plodded along through the wagon traffic on the paved streets there was a clatter of noise that made me wonder if this might not be awfully hard on the horses' feet and how often they had to be shod. Well anyway, I made good connections and got on the right train for Taylor.

Washington

At Taylor I found myself in a new unbelievable wonderland surrounded by high mountains covered by thick stands of giant trees. There were lakes and streams within walking distance and blackberries along the road, and Mt. Rainier looming high above the hazy scene. All this change in a matter of a few days from the prairies was something to marvel at.

This small town was run by the Denny-Renton Clay and Coal Company who

operated here a coal mine and a brick factory. George and Esther attended grade school here but I for some reason upon arriving took a job as wood cutter and later as signal man (called "whistle punk") for a local logging operation carried on by the company on the mountain into which their mine penetrated. It immediately became evident to me that not only did the surrounding scenery contrast dramatically with that of the plains, but so also did the nature of work, skills, and tools that were common to this wonderland.

A look at the back of my right hand, where there are two side-by-side white V-shaped scars, frequently reminds me of this. My very first task at this logging operation was to carry over my shoulder a long 7-foot crosscut saw to use in cutting blocks of wood from a large ancient fallen tree to provide wood to fire the donkey engine. The cutting of blocks from so large a log only a few days after having left the treeless prairie was, in itself, an awesome experience, but it would probably have been forgotten but for the lesson etched in my hand as a reminder of how not to handle a long, limber logging saw.

The signaling assignment was easy work but required further learning that logging and making hay are quite different operations. My job was to watch for hand signals given to me by the "hook tender" or "rigging slinger" (men who attach logs to the heavy cable) and to relay these signals in special code by jerking a long taut wire, the other end of which was fastened to the whistle of the donkey engine which might be out of sight a long distance away.

Harry J. and Dagmar, who came later, also worked for some time at Taylor and Alfred and his wife Clara visited there, I believe. Father was blacksmith for the company and this included shoeing the mules used to haul coal cars out of the mine. Just as he had finished shoeing a mule, it gave one of the lightning-quick kicks for which mules are noted, and struck his hand as he reached to pick up a tool. The resulting injury contributed to his

finally quitting the job and returning to Everett. But Dagmar (who was waitress at the hotel) and I stayed on for some time.

My job as signal man ended when so much snow fell that it was too dangerous to log on the mountainside and I was assigned to a succession of tasks. One of these jobs was working at night with acetylene lights while sluicing away a side hill with fire hoses in preparation for a building. There were three of us and I was put in charge because the other two understood too little English to follow instructions. One was a Swede so I had no difficulty translating to him. The other fellow just followed hand signals. We ate our midnight snack in the basement of a nearby building where there hung an electric light with a carbon filament. The Swede would spend half of our lunch time looking closely in amazement at this light and exclaiming: "I can nit un-dre-stand." In this he also expressed my wonderment for I had never seen electric lights before moving to Washington. Other jobs went from good to bad. So I quit. But I was then offered what they said was a better job. It was better but after a couple of weeks it also came to a sudden end. On this job I operated an air pump in one of the main mines deep under the mountain. The air was pumped into a small side tunnel where a miner worked deepening the side tunnel either for exploratory reasons or to provide an air passage to a branch off the main tunnel. This was not hard work and the man would come out occasionally for a rest and talk to me. On one of these occasions he came out sooner than usual apparently sensing that the air he was getting pumped in was suspect. I had not more than gotten off my pump seat when my knees buckled. I felt them hit the ground as everything went black. When I came to again I was lying on the mine floor on the exit side of a large canvas curtain that was hung across the main tunnel of the mine(?). Two men, including the miner I worked for, were standing over me with their dim, oil burning miners lamps. They had carried me some distance

out to where the curtain apparently helped cut off the bad air from the inner end of the mine. They were very upset for it turned out that a couple of miners working at the inner end of the mine had set off a blast at noontime when they left the mine. Blasting was not supposed to be done before the end of the day so as to allow time for the air to clear before entering again. I was helped into a coal cart and hauled out by a mule skinner.

Thus ended my career as a miner.

In a way it was an interesting experience. Never before had I experienced such profound silence with only an occasional drip of water and the sound of breathing to indicate that my ears were still functioning.

The next day I went to the office and drew my pay and decided to leave for Everett, despite offers of other work.

There is, however, one more observation to make regarding my experience at Taylor. The normal payday for workers came at the end of the month. Checks were issued at the office but the company paymaster who cashed the checks did so only in the (company operated?) local saloon. This helped to keep the money in a cyclic semi-closed system.

Everett, Wn. I don't remember the order of events during the period of living in Everett following the family's return from Taylor in 1910.

Apparently there was no serious thought of me going back to school for I was too old to enter public grade school and not prepared to enter high school. Although the desirability of high school education was recognized, the traditional concept of the population in general was to be satisfied with little more than the essential three R's.

Probably my first job was with the Great Northern Railway that was engaged in lining the tunnel under Everett with concrete. My job was to use a spade-like tool to tamp the wet concrete so that a visibly smooth surface would be exposed to the inside of the tunnel once the cement was set and the wooden

frame removed. There was a bunk house and mess hall just east of the viaduct near the tunnel. I slept at home across town on Riverside but was required to board at the mess hall for a fee.

After the tunnel was finished another job was with the Hartley Shingle Co. Here, using a hand hook I upended blocks cut off cedar logs that came up a ramp into the mill, and also operated the saw that cut the blocks into sections that were then put on a conveyor carrying them to the men cutting them into shingles. This job didn't last long -- I got fired. This was probably a good thing for otherwise I might have developed into a shingle weaver. In those days it was possible to identify some shingle mill workers by the absence of one or more fingers. I recall sitting on the streetcar in Everett, a mill town, and often noting men with lost fingers.

I later worked at the Clark-Nickerson saw mill removing and piling lumber that came directly from the saws on a broad conveyor. This new, green lumber was heavy and my wrists became so sore I had to quit the job.

In hopefully looking for another job with some promise and more to my liking, I don't know how many times I walked by the door of the Everett Herald with some pencil sketches in hand but couldn't get up courage to go in and inquire about employment. I didn't like the feeling of a greater than 99% chance of being turned away. But who knows, perhaps I might have been offered something that in the long run may have changed my career. Well, anyway, it seemed too much to hope for.

Next I went snooping around to see what they were doing at the Bayside Iron Works. This looked interesting to see how molds for ornamental as well as plain iron products were made. I accepted the only opening they had which was general labor around the plant. It was interesting to see how molten iron was produced and poured into the molds, but it held no promise of getting into making iron molds, the only aspect that attracted me.

About this time the folks moved to Madras, Oregon. Dagmar was waitress at the Bay View Hotel which was not too far away from the iron works so I boarded and roomed there until I left the job to go with Harry to Tacoma -- Why Tacoma I do not recall.

When we landed in Tacoma our first experience was to have our baggage stolen. This was not too bad for me because I had but little of importance, but Harry lost his engineering tools. It was common practice for donkey and derrick engineers, at which Harry had been working, to furnish their own simple tools.

At that time there were a number of privately operated "employment agencies" where men gathered to watch the board for listing of jobs available for a fee. These agencies were really something to behold with a variety of patrons ranging from earnest jobseekers to bums and whiskey soaks.

Harry got a job and I bummed around Tacoma for a while and finally got a job as construction helper with the Tacoma Eastern(?) building a water system for the resort at Longmire Springs in Mt. Rainier National Park. We slept in tents and ate at the Longmire residence. The food we got was really outstanding in contrast with what I was able to pay for while in Tacoma.

Among the highlights of this job was the grandeur of the towering, heavily timbered mountains and peaks surrounding us. I was filled with an urge to climb all of them, and although a climb of Mt. Rainier was out of the question, still it seemed possible to make a day's climb on one of the peaks (Eagle Peak?). But, unfortunately, during every weekend day that we had off from our work, the peaks were shrouded by clouds and frustrating fog. So mountain climbing was not to be. However, I did experience the thrill of seeing a cougar in the wild as it walked unconcerned across our path near our work. To me this made the whole job worthwhile and compensated in part for any mountain climbing.

The work was pleasant and in a fascinating area but when the water system

on which we worked was finished, the whole crew was laid off. So back to the employment agencies.

The next job was as carpenter helper repairing a railroad bridge in the mountains. We lived in special railroad cars on a side track. What I remember most about this was a carpenter getting a most gruesome cut on his ankle with an adz.

After completion of the repairs we went back to Tacoma and I was assigned by the same company(?) to another railroad job as carpenter's helper. This project was concerned with putting a tunnel through a mountainside, also southeast of Tacoma. En route to the job I got acquainted with a chap my age named Betts who was also assigned to this project.

The morning following our arrival, a lunch was made up for each of us and to our surprise we were taken into a rather long tunnel where rock had been blasted loose at the end. There we were given shovels to use in loading rock into small cars to be transported out. Betts and I stepped aside to talk over this turn of events. The boss soon came over to see what was causing the delay. He said we had been hired as muckers, not as carpenter's helpers. So we promptly turned about and walked out, ate our lunches, and walked the R. R. track to the nearest station to get the next train to Tacoma.

Of course this meant going back to the employment agencies. This time I paid for a job as signal man for the Johnson Creek Lumber Co. out of Tacoma. There were several other men signed up at the same time for employment there.

The next morning four or five of us were taken out on a flat car to a logging operation. After a few days we were laid off without any explanation that I recall, but told that they would provide transportation back to Tacoma. To us the natural conclusion seemed to be that the company and the

employment agency had a racket of splitting the job fee (I don't remember how much) with the agency.

Well, in one summer's time, I had learned a few things among which was that bumming around doesn't pay and incidentally also that the employment agencies for some strange reason, did list jobs in distant areas where one would think it more logical to recruit workers locally. So I went back once more to an agency to see if any jobs were listed near Madras, Oregon, to where the folks had moved. I asked the agent if he had anything along that line. He asked: "Do you want to work or travel?" I frankly answered the latter but at the same time would prefer a job also. He could get me as far as Portland, Oregon, so I paid for the job as laborer.

Now there was a small and no doubt justifiable hitch to this job assignment, namely that baggage had to be checked and presumably it would be picked up by the employer upon arrival. I did have some practically worthless baggage to check.

On the train I had time to think the matter over and in light of past experience decided that the job was not for me, fearing that possibly the reason for recruiting workers from so great a distance was to get cheap labor for some nasty job. The result was that I got a ride as far as Portland for the job fee, and the employer was in position to get some old clothing that needed patching and laundering. Probably the only one who was financially ahead was the employment agent, but I did gain momentum away from Tacoma and towards Madras.

Oregon

Madras, in eastern Oregon, was a nondescript little village in 1912 in a semidesert area covered by volcanic ash supporting sagebrush, junipers and thinly scattered bunch grass. Rock outcrops were conspicuous features at the edge of mesas overlooking dry lowlands. It was opened to homesteading

but was very sparsely settled. The more conspicuous wildlife consisted of large numbers of jack rabbits and cotton tails. Rarely was the sky empty of buzzards and hawks. It was an interesting and picturesque environment in many ways and George and I enjoyed many hikes around the area with a .22 rifle, and also some riding on a buckskin horse that Father owned and that finally strayed away or was stolen.

I got a job in the blacksmith shop where Father was employed. After seeing the area first hand, he had given up the idea of moving out to a homestead on which he had filed. So, after being in Madras for only a few months, we all moved back to Washington to a small town (Silvana) north of Everett.

Many years after leaving the Madras area, irrigation was finally introduced transforming it to an attractive, productive community.

Washington

Silvana. The move from Oregon took us to Washington for the purpose of establishing a home on a 25-acre plot that Father bought earlier on the "highland" just south of Silvana. The original stand of large firs and cedars had been logged off leaving large stumps and only a few large firs standing. There was a profuse "second growth" (a little of which Father and I slashed before going to Oregon) between the old stumps. Clearing the land for buildings, fields, and the pasture was a formidable undertaking. During the initial clearing and house-building by Father, George, and I, the family lived temporarily in a cottage owned by John Ness (from whom the land was bought) in the Stillaguamish Valley.

This 25-acre plot was our final family home although at no time were all of us at "home" at the same time. Clara, George, Esther and I were the ones staying most steadily at home while working there or in the immediate area. But in retrospect it is pleasant to recall how many and how often other members

of the family came "home" for visits or for longer or shorter periods of time even though it was out in the "sticks" and not convenient to get to without walking uphill from Silvana. Susie and her children, Gladys, Hazel and Freddie, spent some time there while Harry L. was getting established in Canada, where they settled in Calgary. Susie died in Calgary on June 24, 1923.

The move to Silvana was fortunate, I believe, in that it brought us into the life of the community where we could make friends and participate in local group organizations. This gave us that necessary self-confidence and feeling of "belonging." Like many others in the area who did not live in the village where local meetings were held, the distance from home seems not to have been an unsurmountable deterrent although under the circumstances it would appear to be so viewed after the advent of the automobile. We walked the necessary 2-1/2 miles as a routine. During the dark in winter it was sometimes necessary to carry a lantern to avoid the mud puddles along the road. But George and I usually depended upon the feel under foot and a little mud didn't matter too much.

My greatest pleasure was being a member of the Silvana band which at one time was the champion band of Snohomish County. My instrument the first year was the bass drum until a clarinet became available.

While I was a member of the band we played during the two to three day Fourth of July celebrations -- once held in Everett and at least once in Arlington. We also carried out some "booster" playing tours to small towns in the area just before the Fourth. Our main function, however, was to provide music locally.

At an Arlington Fourth of July celebration I had the bass drum. There was one "stage" (a large touring car) that for the occasion operated between Silvana and Arlington - a distance of ? miles. During the evening of the last day of the celebration the stage was much in demand. George, Norman Sneve, the

Knutsen twins and I found ourselves stranded when the stage was already filled for the last trip. So we bravely set out walking with me carrying the large drum. We were about a mile from Silvana when the stage overtook us. Art Swanson (?) the driver and his passengers agreed to manage the drum and one of the twins the rest of the way. The other twin managed to get onto a spare tire or some other contraption on the back of the car. The rest of us proceeded on home and it was nearly daybreak when George and I negotiated the hill and crawled into bed. Oh, for a bit of that youthful energy which was matched only by the diversity of ways in which it was spent.

Clearing Land. Slashing second growth and clearing stumpland was a never-ending project. Gradually enough was cleared to provide for a minimum of gardening, fruit-raising and dairying. But it was not without a price that I am still keenly aware of, as mentioned below.

There were also a few standing large fir trees suitable for lumber. These were sold in 1913 to a man named R. C. Church who had a small logging outfit. He hired me to work along felling and snakeing out the trees to be dumped as logs into South Slough where we floated them downstream to near Stanwood where they were rafted for a sawmill.

In payment for the trees Mr. Church cleared some land with his logging equipment. The dynamite-blasted stumps, old snags, etc., were snaked into a large pile to be burned later. When the pile at which I worked as "pile monkey" was nearly completed a stump, high in the pile, was jerked loose by the logging cable and displaced a long snag which was lying vertically on the pile. The snag, in turn, caught and broke a guy-line that pulled the falling snag arcwise into position to strike my back and right leg as I ran away. The result was a compound fracture of my leg and a fractured vertebra.

I recall lying on the ground and seeing my foot angled off in a crazy position and naively thinking "six months on crutches." However, it turned

out to be a total of about three years when I finally discarded the crutches and cane. Infection and resulting failure of the bones to knit, necessitated surgery and resetting after several months, and the many months in a cast later resulted in further surgery on the achilles tendon. When not in the hospital at Everett, I made rather regular trips in for a while to see the doctor. This meant walking from home to and from Silvana on crutches, but cumbersome as it was, it became a rather pleasant diversion to walk through the lanes of evergreens, alder and maples when the weather was good.

One would hardly call this painful experience a "lucky break." But on the other hand, it did initiate for good or bad a break of sorts with the past and bring to a head thoughts and actions that had hitherto been only thoughts on my part. I had not yet given up the idea of going back to school and trying to learn something that would not only enable me to work at something more to my liking and at the same time tend to satisfy my curiosity about nature and the world in general. But, in addition to the financial barrier, there was the apprehension that for lack of prerequisite formal learning, I would not be able to handle the studies. Thus the effort would be both embarrassing and a waste of time. These, of course, were in part good excuses but not strictly valid arguments, if there be a willingness to assume some necessary sacrifices. Now hobbling around on crutches there was plenty of time to contemplate that I had better start using my head and try at least to learn if I could measure up to the challenge of what goes on in school. It was also to some degree encouraging to know that among my acquaintances there were some who had finished high school even though they appeared to me to have only average natural abilities. So maybe after all it took breaking a leg to break the ice and get going -- which I finally did, haltingly, about 20 months later.

I was still sitting on the sunny side of the wood shed much of the time, carving totempoles and figurines. This proved to be an enjoyable way to

create something as time went on. But finally I did arrange to enter school despite crutches and lack of formal schooling as will be mentioned later.

Despite the minimum return for the labor spent in clearing land, and other problems, I believe our parents were more content here than elsewhere that I remember. This contentment probably resulted in part from their becoming resigned to conditions and to stop struggling for the elusive promise of betterment somewhere else -- the will- 'o'-the wisp that seems to have plagued Father for years. But the combined weight of years, past hardships and illness was taking its inevitable toll during the years they spent here. Mother died on Jan. 13, 1925, and Father on Mar. 4, 1927. They are buried in the cemetery by the Lutheran church that overlooks the Stillaguamish Valley. Here, also, are buried Clara and Harry in the cemetery extension that Father, George and I cleared of shrubs and an old orchard years ago.

George and Mary with their three sons, Earl, Lane and Richard, acquired the little farm and made it their home for several years. Here they also provided Father a home during his last years. Although the farm could not provide for all their needs, it continued as a good environment for three active boys.

Harry and his wife Louise bought a plot of land adjoining George's and Mary's and lived there for about three or four years with their children, Roy and Esther. Harry died there in 1941.

George and Mary eventually sold the farm and moved to Everett. Several years later after another change of owners the farm was abandoned as a home site and the buildings were all burned to the ground; a good alternative to leaving them to wanton destruction piece by piece. But the memory remains of a modest home where we lived so long ago.

Part II

To shorten what could be a long dissertation and yet to provide a record of some events and experiences remembered, this part will have even less of general interest to alleviate a good deal of matter-of-fact dullness. All this despite the many exciting (to me) times that were interspersed with the routine over the many years involved.

Because much of what follows concerns experiences associated with schools, either as student or teacher, I would be remiss not to mention further a bit of family influence that had a bearing on my initial schooling beyond the grades.

Our parents had a great respect for formal learning but despite this, they no doubt felt obliged to conclude that at least higher education was out of reach for their children for financial if not other reasons. They believed that the best that could be expected under the circumstances was to learn some manual skill. I cannot criticize them for this view in light of their background and the burden of rearing so large a family. In retrospect, I believe they did well in keeping the family from becoming widely dispersed. We were always welcome at home even beyond the extent that room and finances could be expected to bear. But usually it required a good deal of tolerance and understanding with Father's over zealous religious convictions. His inept, lengthy method of Bible teaching, although well meant, had a tendency to negate the good that he taught. However, in support of the family, he worked long and hard physically but he was not a good manager of his efforts and finances and was inclined to equate poverty as akin to virtue.

Mother had a very different approach based more on understanding and love. This was reflected in her quiet way of teaching right from wrong by way of example rather than heated lectures. It would be hard to adequately give

her the praise she deserves for her many labors and devotion. She probably had favorites among her children, but if so, she never let it influence her in her attitude, care and concern for any member of the family. Her abiding patience in all matters is an outstanding memory and lasting inspiration.

Back to School

Going back to school after so long a lapse of time and so little formal preparation was filled with some mixed feelings. But on the whole there was a feeling of exciting anticipation. Although I had to pay my own way, I had enjoyed the advantage of living at home with little expense for some time before entering school. Thus some money was saved from the small amount paid me by the workmen's compensation I had for a while associated with my injury. To this was added some wages earned on the job earlier. But most important I had the encouragement of the whole family. My hospital and doctor's bills were paid off little by little and some had to wait until I worked during the summers for the Alaska Packers Association at Point Roberts, Wash., to be mentioned later.

Parkland. In anticipating going to school, a major consideration was concerned with what school would accept me as a student. Several young people at Silvana had spent some time as students at the Pacific Lutheran Academy (P.L.A.) at Parkland, Wash., a suburb of Tacoma, and recommended it as a possibility.

Fortunately this school had a policy of accepting students with a wide range of differences in preparation. The policy was apparently oriented partly towards admitting older students and foreigners who came with little knowledge of English and for others who wanted business training. There were two curricula to follow, i.e., the classical course and the commercial course. The former was essentially a four-year accredited high school course

accepted by the University and other higher educational institutions. This is the course I chose upon entering the school in the fall of 1915.

P.L.A. was a boarding school together with day students (high school) who lived in the area. But most of the boarding students were older than the average high school student and came mostly from Washington, Oregon, Alaska and Canada. Some had only recently come from Scandinavia, especially Norway.

Being a boarding school with everything but sports, etc., housed in one large building, there was no great disadvantage being on crutches or a cane as I was for part of the time there. For a while this won me the name "Hop-a-long." By the third year I had progressed to where I could have danced if school dances had been permitted -- which they were not.

Although I could not participate directly in sports, my time was well taken up in other extracurricular activities including the band, chorus, choir, debating, and during the last year, managing the boarding club; a task that I must acknowledge was much eased by Mrs. N. J. Hong, wife of the principal, for her suggestions and acting without pay as our buyer. The cook, a widow with three children, got little pay beyond room and board for her family. We paid one student as dish washer. Otherwise students took turns at waiting table and other tasks.

There were a number of disciplinary regulations suitable for average high school students but hardly applicable to us older members. But in general they were observed to the extent that no persistent or serious breaches occurred that disrupted normal routine.

There were separate dormitory sections for boys and girls and at 10 P.M. the lights blinked as a signal throughout the building and at 10:15 they went off for the night in all of the dormitory rooms. This was a little irksome to the dead serious students who wanted more time. So it was not uncommon

for some older students to get together in a room, hang blankets over the windows, and study by candle light. I suspect that there was no attempt by the disciplinarian to stop this practice.

But we all had our lighter, more relaxed, moments also. There were no regular school dances. As a substitute it somehow got started that when the lights blinked the boys (not all) would gather in the corridor on third floor where my room was located to dance together and thus keep in practice for future eventualities. I played the mandolin and Einer Hansen accompanied me on the guitar to provide music for a 15-minute dance. This went on every night for some time, when one night as we were playing I felt a hand gently lying on my shoulder and thought it was one of the boys. But when the guitarist quit and a silence fell I looked up into the face of the disciplinarian. He said, "It is getting about bedtime, don't you think?" We all agreed that maybe he was right.

As occurs in all schools where young people gather there are certain nonsensical traditions that persist from year to year. One of these at P.L.A. was kicking the "kicking post." This post was part of a gate through a fence at the border of the campus. A pleasant quarter mile path led from the main building to the post and it was common for students in groups or singly, at noontime or other occasions, to stroll down this path to the post and upon reaching it each student would in turn give it a light kick and return thereupon back to the building. This was all done as if it were a serious ritual. It must have seemed a very strange, if not insane, behavior to any stranger who might witness it.

Less acceptable to students and faculty alike was the dubious "tradition" of dumping beds of fellow students living in the boy's dormitory. This consisted of stealthily entering and upturning the light bed on which the unsuspecting victim was sleeping. Despite this rude practice, doors were seldom locked at night because the sadistic perpetrators were mostly rivals engaged in

retaliations among themselves. But one could, of course, never be sure when the unexpected might happen.

Two of the most dedicated and competitive dumpers were Ward and Sam. Ward had a room to himself and no one had been able to get into his room at night. This uneven state of affairs led Sam to tell my roommate Ed Sampson and me about his frustration.

Now, Ed and I were not bed dumpers but it didn't seem too sinful to give Sam a hand seeing as how Ward really had it coming and it might also help to confine the evil practice to these two adversaries. This might take off the excess steam and thus leave the rest of us more secure. So we finally suggested to Sam that his strategy should consist of entering Ward's room during the 15 minutes between light blinks and lights off when Ward would most likely visit the bathroom. This would give time for Sam to hide under Ward's bed to wait his return and eventual deep sleep. It would then be a simple matter to dump the bed, unbolt the door, and escape.

This plan was too good for Sam to turn down and everything went off like well oiled clockwork. Ward left the room; Sam entered and hid; Ward returned and promptly went to sleep; Sam dumped the bed and unbolted the door -- But here the clockwork stopped! The door would not open! -- and for good reasons. Ed and I had some spur of the moment afterthoughts and using Ed's trunk rope had tied the outer knob of Ward's room to the door knob of the adjacent room. In due time we heard a thunderous racket emanating from Ward's room and knew that the two bed-dumping culprits were, as we had impetuously planned, trapped together in a dark room. No serious damage resulted but with all the racket the disciplinarian appeared on the scene, let the culprits out and confiscated the rope.

The next day Ed had to go to the principal's office to explain and claim his property. All participants were forgiven and there followed a decided

lull in bed dumping. I must add in praise of Ward and Sam, their sense of humor and sportsmanship overcame their urge to join in retaliation against Ed and me even though we probably deserved it.

No one should conclude from these lighter moments that our purpose at school was to engage in play and foolery. We had much serious work to do, most of which was the usual routine of hard study, class sessions, and examinations, etc. I was not surprised to learn that schooling is not an insuperable mysterious process, neither is it something handed out in some magical way by teachers. For me there was also some "unlearning" to do especially with respect to habits of speech, etc. But this is not unique, and for me, still requires rehearsals to counteract relapses into the vernacular of youth and occupational variances. However, in this defect one can always take consolation in that "usage gives law to speech."

I graduated in the spring of 1918 having finished the four year course in three years. I was valedictorian, but this could be only a modest distinction because the graduating class during this World War I year was a small one. My standing entitled me to a scholarship at St. Olaf's College in Minnesota which I did not use and instead went to the University of Washington as will be mentioned later.

Upon leaving school in 1918 I went directly home to Silvana in preparation to resume my summer's work at Point Roberts. I had barely enough money to reach home dead broke I thought, but Mother informed me that she was still keeping for me a \$20 gold piece which I had forgotten about.

P.L.A. being a small school, it was possible for everyone to become acquainted in class or at social affairs. It was here that I made my most congenial and lasting friends. But time, distance, and life work has now left but few to share with me the memories of those happy yet sometimes trying days.

P.L.A. grew rapidly sometime after the war and was elevated to the status of college (P.L.C.) and in 1960 to full University status (P.L.U.). During the institution's growth, the campus has been enlarged and many new beautiful buildings added and the curriculum much extended to accommodate over 3,000 students. The old original brick building still stands like an historic monument commemorating the past. It has been transformed into a student residence called "Harstad Hall" in honor of the principal founder of P.L.A. in 1890.

After graduation I had only two occasions to visit the campus; once when I was still in the Army and once in 1970 while driving through on my way to Friday Harbor to teach a summer course at the Univ. of Wash. Biological Station. In 1960 it was difficult to think of it as the same school. Therefore, great was my surprise when in 1966 I was notified that I had been honored by being chosen for the second "Distinguished Alumnus" award.

At the next homecoming festivities I visited the campus together with Lelia to receive the award. A small group of fellow P.L.A. students of nearly half a century earlier were there to greet me and to reminisce (all too briefly) about the experiences of so long ago. Our paths in life have deviated since then, but they all seem, in memory, to lead back to the now gone, well-trodden path where we walked in good companionship to the kicking post and to the grassy area beyond, where the scrubby oaks grew by the sunny slope where it was so pleasant to lie and study the light romantic assignments such as David Copperfield, Lorna Doone, The Vicar of Wakefield, etc., for book reports. Gone is the attractive gymnasium that served the basketball games and other sports, and doubled for our social events. Gone is our never-realized-hope of completion of the swimming pool for which we collected dimes in little plastic banks. Gone are all these physical things, and more, to make way for the inevitable changes necessary to the growth of a more comprehensive institution. Gone

but for selective memory, are the many cherished experiences that were, in the final analysis, based on the potentialities of youth to accept the simpler joys of life.

Salmon Fishing

During the summers while attending P.L.A. and also during my undergraduate days at the University of Washington, I was employed by the Alaska Packers Association (A.P.A.) mostly at Point Roberts, Wash., but also at Birch Bay and at the San Juan Island's Salmon Banks.

The A.P.A. installations at Point Roberts included a salmon cannery and facilities for preparation and storage of all types of gear and materials for construction and operation of fish traps locally and at outlying fishing areas. This was the situation during my initial employment there in the summer of 1915(?) 1916(?). Later the cannery operations were moved to Semiahmoo, Wash.

The personnel working at or out of Point Roberts were a more diversified assemblage with respect to background, interests and skills than I've met with in other industries. Included were career fishermen, students, teachers, and even a past Icelandic congressman. This assemblage doubtless resulted from the seasonal aspect of fisheries. There were several who operated small farms and worked in the industry mainly to earn enough to keep the farms going, including our Silvana neighbors, the Stenviks and the Storviks. Among those less committed to a fisherman's career, were at least six students from P.L.A. including L. Osa, G. and B. Bardon, R. Hong, A. Harstad and myself; indicative of our mutual aid or influence in finding summer employment.

This employment proved to be ideally suitable for me because of its seasonal aspect. Each year the operation involved driving the piling and preparing and hanging the web. This usually began before school let out in spring. The actual fishing began about the first of July and ended sometime

prior to the opening of school. After having become known to the A.P.A. superintendent and regular foremen, I was always offered a job for the summer.

During my first summer at Point Roberts, I was much handicapped by my injured leg but able to get around and much of the work could be done while sitting in a dory. Mr. A. Stenvik, a close neighbor of ours at Silvana, and a regular worker for A.P.A. assisted me in getting my first summer's work there, mainly as a watchman (alternately either day or night) on a fish trap located well off shore from Birch Bay. The work consisted of keeping the webbing in repair and clear of flotsam, etc., and watching that the trap was not robbed by "fish pirates" who commonly operated in the area. For this trap site there were three or four men including a cook. We lived in a wanagan (housebarge) tied to a mooring pile near the trap. We were fortunate in having a good cook -- a marked contrast with what was experienced at another A.P.A. wanagan crew where the cook carried a pistol and talked incessantly to his pots and pans, each of which had a personal name.

Watchmen were provided with a 30-30 rifle, apparently for use mainly to shoot harbor seals that often entered the traps and sometimes went from fish to fish biting out a juicy morsel from the belly of each. I never heard of any watchmen having used the gun to drive away pirates or "fish buyers." The latter being the most common approach in which the watchman was offered an opportunity to share in the profit. One year a watchman at Birch Bay was approached by a couple of buyers but he refused to sell. So the buyers helped themselves and upon leaving threw a \$20 bill into the watchman's shack on the trap. The watchman reported the theft and turned over the money to the superintendent, Joe Elliot, who, according to rumor, used the money to buy drinks for the crew.

The company also patrolled the traps with a good-sized gas boat. There were a number of accounts of pirates or buyers being chased off but one

function of patrolling was to discourage the night watchman from putting in his time sleeping. One year I assisted for a while in the patrolling but most of my work was concerned with various aspects of trap building; watching trap, and removing the fish from the various traps to the cannery scows. Certain years I was kept on the job to take inventory after fishing season closed.

Some of the work provided a good opportunity to learn first hand something about marine biology and was, in fact, my first abiding inspiration into that field of study. One summer I had with me a microscope borrowed from the university to study the microscopic life. A diverse lot of larger forms were caught in the fish traps, and a marine diver who was employed to examine the more underwater parts of the trap, learned of my interest and brought up bottom-living animals for me to identify and on subsequent visits requested that I be assigned to work with him during his examinations.

It is of some interest to recall here my first aerial ride in a small open-pit hydroplane that made an emergency landing at the Point Roberts camp in 1917 or '18 for gasoline. For a fee of \$5.00, I took a flight over the nearby fish traps. It seemed a good opportunity to learn how effective aerial patrol might be in assessing the degree to which salmon could enter the trap during the two-day weekly closure period. Nothing much was learned but it was an exciting experience. Now, in review, the interest is only in contrasting that ride and primitive plane with those of my varied and long flights over land and sea since 1942. But in 1917 it was still quite something to fly in an aeroplane.

Large numbers of fish were caught in the traps, and ostensibly as a fisheries conservation measure, the use of fish traps in the area was outlawed shortly after I quit fishing. Whether or not the traps were more destructive than purse seiners in their take of large quantities of fish

I do not know, but it seems likely, and their removal should favor the small operator against the large corporations, although they, too, operated purse seiners.

The large A.P.A. fishing facilities at Point Roberts and the one-trap camp at Salmon Banks on San Juan Island, where I spent two summers, have long since been abandoned as such because of the changes in fishing laws.

The U. S. Army

My first experience in the Army and as a student at the University of Washington in Seattle was in the fall of 1918 when I joined the Students Army Training Corps. The Corps was supposed to provide some university education together with basic military training for officers. But my required schedule of study was almost entirely militarily oriented with subjects such as "Physics of Explosives" substituting for "First Year Physics." There were also some more generally practical courses, but although I spent about a month on the campus I never attended any class whatever. However, I did learn the first elements of military discipline, simple drills, terminology, etc., that stood me by to some extent later.

I don't know how many freshmen were involved in the S.A.T.C. but we formed a rather large group. A number of temporary barracks were built in the center of the campus. The one that I occupied stood where the southwest wing of the present imposing main library now stands.

We ate in the commons, where for a couple of weeks I served as traffic director to keep the patrons, military and academic, in their proper lines.

My S.A.T.C. days came to a rather abrupt end when my "local draft board" informed me that I was next to be inducted into the Army and no further deferment was allowed for university students in order that the board could fill its quota. I had been deferred several times because of my leg injury.

So with Uncle Sam's greetings and orders in my hand, I bid farewell to the University, hopefully anticipating a return to study after the war. About 80 inductees assembled at a pier in Seattle and were transported by boat to Port Townsend from whence we went by truck to Fort Worden to be inducted into the coast artillery. We arrived there about midnight and were billeted in a two story barrack, each floor housing 40 men. I was assigned the top floor. Each of us was given a large burlap bag to fill with straw from several bails lying at one end of the squad room. These were our mattresses for our folding cots. One man in the group tried to fill his bag but collapsed. A stretcher was brought and he was carried away to the camp hospital where he died a few days later of influenza that was exceedingly widespread and virulent at the time. That was our first casualty. I do not know how many more there were but several other men who left our barracks did not return while I was there. Our company was not the hardest hit. There was a rumor that another company that arrived before us lost 40% to the epidemic. This was probably an exaggeration but what I witnessed while marched up in a company to receive the usual Army inoculations, leads one to believe that the number was considerable. We formed a single line outside the medical building while waiting for our (medical?) "shots." In doing so we stood beside an adjacent building with a basement room having windows at the ground level. Several men up front fainted away. Maybe they were sick or lacked courage and would not have made good soldiers, but at any rate it was somewhat enervating to look into these low windows while waiting and see the floor bare except for a number of stretched-out corpses that, in all probability, were victims of the flu. There were other evidences of the widespread illness. While lined up in squads in front of our quarters one day, the man immediately in front of me collapsed. The officer ordered me and another soldier to carry the man up to his bunk. He was transferred to the hospital and we never saw him again. Everyone that

became ill dreaded being sent to the hospital for medical attention because of these ominous forebodings. As a result everyone tried to carry on as long as possible to avoid being sent there as if it were a sort of death warrant. Some idea of the ravishes of the flu during that epidemic is told in the following record of deaths: 548,000 in the U.S. alone, and 20 million worldwide.

The second day after our arrival at the fort, the officer in charge of our barrack came into the squad room and asked "which of you fellows have had any military training?" One fellow held up his hand. I hesitated a bit thinking of what the consequences might be and decided "well, he didn't ask how much training and it won't hurt to find out." So I held up my hand, but not very high. He looked us over and must have thought that the other fellow looked even more stupid than I, so he said to me "I appoint you Chief of Squad Room." Well, this seemed like something beyond my training but I thought maybe I could learn. So I promptly said "yes, Sir." After a few questions and orders I learned that what was expected of me was quite simple and consisted mainly of telling the other fellows what to do: namely, to keep the squad room clean and orderly; how to make up their beds and to alternate feet and heads for adjacent cots; not to become unduly rowdy, etc. And finally what turned out to be the hardest of all for me was the order to report anyone that was sick. As already mentioned, no one wanted to go to the hospital and begged me to give them another day in which to hopefully recover.

I had my mandolin with me and from time to time plucked out a few tunes as the men gathered around sitting on nearby cots. There were no phonographs in the barracks and the radio as we now know it had not yet been invented. With this captive audience it was amazing to note the degree of craving there was for music and how appreciative many of the men were of amateur music

under the circumstances. This emotional craving and satisfaction was also evidenced by many on occasions at the Point Roberts fishing camp where several of us had musical instruments. Also, while in the Everett Hospital with a broken leg, my mandolin was a pleasure to me, my two ward mates, the lady in the ward across from us (whose favorite piece was "Sweet Bunch of Daisies"), and also apparently for some nurses who were attracted to our ward. With the introduction of the radio and television, the amateur must now compete with the professional even in isolated habitats and is accordingly less a need unless it be for the present-day pop music.

In my squad room in which there were normally 40 men, there was a man named Paladaux. I didn't know who he was for some time. It turned out that he was an orchestra leader from Seattle and had been assigned by military headquarters to organize and conduct a new military band. Noting that I had some interest in music, he put in a request that I be assigned to the new band. This pleased me greatly and I had already indicated on my military registration papers that I wished to join a band.

After our period of quarantine was over, Mr. Paladaux and I were moved to piece-time quarters that had been vacated by the previous band recently sent overseas. I was there until discharged some time after the war ended.

There were some good musicians in the band and others who had never before played an instrument. So at the beginning about all we could play was "The Old Gray Mare" but we soon learned to handle quite a variety including some of Sousa's marches. As in the Silvana and P.L.A. bands, my instrument was the clarinet.

We soon learned that the band is sometimes pampered a bit to keep the players in good spirits. It seemed generally accepted that musicians are inclined to be temperamental and will produce awful music when ill-humored. This may be so, at any rate the average rookie was quite convinced that we

had special privileges. Four of us put this to good use one night when returning on foot from nearby Port Townsend. We miscalculated the time required to walk the distance back to the fort. This meant we would arrive at the gate after challenging hours and would as a matter of routine be taken to the guard house where we might be detained all night. So we thought it might be worthwhile to try using the "band privileges" reputation. It was decided that when the challenge "Who's there?" rang out, we would stop promptly in good military "one, two" fashion, and I was to be the spokesman. So we proceeded, hoping the guard would not be a seasoned soldier. Then came the inevitable "Halt! Who's there?" Without hesitation, I replied "We're members of the 30th band, and should be privileged to pass." Luck was with us. He was a rookie and stammered something to the effect "Well, I don't know about the band. They didn't tell me" We then walked on and he made no further challenges. But we learned later that rookies cannot always be relied upon to act even according to military usage. One night while a rookie (presumably) was standing guard around one of the gun pits, the officer of the day attempted to test the guard's alertness and managed to get into the gun pit before being observed. This so startled the guard, according to the story, that he forgot the challenge order and leaped into the pit ready to take aggressive action before he recognized the officer.

When Christmas holidays came, a certain number of band members were given a short leave. I drew a lucky number but the time allowed was too short to get farther than Seattle so I gave it up to a newlywed friend whose home was in Seattle.

On Christmas Day I took a walk near the beach just below the cliff back of which the disappearing cannons and mortars were situated. At the top of the cliff a lone soldier was pacing his beat guarding the guns. Upon seeing me and no doubt envying me my freedom he called out "Merry Christmas." Looking

up I replied "The same to you." at which he answered, "Aw, go to hell!"

My personal experiences in the Army were not pleasant. But I escaped any illness and I am often reminded that but for my injured leg I might have had a much worse experience for I was just at the right age and physical condition to have been with the first contingent of troops sent overseas. George, too, was in the vulnerable age bracket and enlisted rather early. He spent considerable time with the troops in France and no doubt experienced and witnessed conditions that would, by comparison, make mine relatively very mild.

Finally the members of the 30th band were ushered out of service. We each received the current severance pay of \$60.00 and our military clothing.

My Army experience had some practical value but I lost a full school year of study at the University.

The University of Washington

After spending the summer fishing at the A.P.A. San Juan Island camp, I registered at the U. of W. in Seattle at the beginning of the fall quarter of 1919. (Under the quarter system, 3 quarters constitute the normal school year.) The curriculum I selected was in Fine Arts with hopes of graduating in the visual arts.

The whole university was in a disorganized state because of the war and was poorly prepared to handle the influx of students returning from the military services. Some required courses got underway but the only ones I remember on my study schedule were concerned with English and art appreciation. I also joined the University band which served to satisfy the R.O.T.C. requirement.

Adjacent to where the present stadium was eventually built there were a couple of buildings that had served as officers' quarters. These were converted into men's residences providing lodging and food. I stayed in the one

known as Lander Hall.

The matter of paying my way was, as usual, an acute problem. There were no scholarships of any kind that were known to me. Some of the returning servicemen, especially those with service-connected disabilities were given special aid and all Washington State veterans were exempt from paying the \$15.00 per quarter tuition. This \$15.00 exemption was helpful to me but all other fees, books, etc., had to be paid for personally.

All seemed to be going very well when, nearing the end of the first quarter, it all ended with dramatic abruptness. I came down with pneumonia just after Thanksgiving.

I spent some time at the University "Infirmary" (a makeshift affair in a small war-time building later made into a fisheries laboratory). It was staffed by one old nurse who gave me castor oil to drink out of a bottle because she had no spoon available. But worse yet, the doctor in charge diagnosed my illness as a "classical case of gallstones." Eventually another doctor was called in and promptly said, "Why, this boy has pneumonia." I was then moved to a hospital in downtown Seattle. Here I spent Christmas and well over a month as each of the lobes of my right lung became involved successively. Antibiotics were, at that time, unknown so it was a matter of riding out the storm.

It was touch and go, but I do have some pleasant memories of several of my University friends calling on me and, at one time, eight or ten coming as a group after they had had an evening party. Maybe all this is why I survived to write about it now.

Upon leaving the hospital, I went directly to Lakewood, Washington, to spend the initial period of convalescence at Alfred's home. To him and sister Clara, who kept house and served as mother to the children Jay, Perry, and Eva, I am most grateful for their comforting and cheerful attentive help. The

rest of the winter was spent at my Silvana home before again returning to work for A.P.A.

In September, 1920, I returned once more to the University but this time I registered for the newly established curriculum in Fisheries. Having had the bout with pneumonia I figured that the best for the sake of my health would be to prepare for something that would keep me in field work out in the open. But after the first two quarters, it became obvious that much of the class work offered was along practical lines that I had already experienced, such as building traps, canning operations, etc., much of which seemed a waste of time for me. The more fundamental courses involved were given in the Zoology Department so I shifted my major work to that department. My minor studies were finally in Botany, Chemistry and Education.

My extra-curricular activities consisted mainly of the University band and of participating in departmental clubs, especially the Zoology Club and the Scandinavian Club in each of which I served as president.

In order to pay my way at the University I was fortunate in having employment, beginning in my Sophomore year, as laboratory and teaching assistant in the Zoology Department and, during my last (?) year, also doubling as chief custodian at Lander Hall.

Finally, at the end of the first quarter in 1923, I completed the undergraduate work for the Bachelor of Science degree in Zoology and for a Five Year Normal Diploma. The graduation exercises were scheduled for June, 1924. I graduated Cum Laude but could not attend graduation exercises because of the commitment to work for U. of W. at Friday Harbor.

In summarizing, including a 6-week summer session at Friday Harbor in 1923, I completed the four-year curriculum in a little over one quarter less than four years. But paradoxically it took me about six years to do it because of lost time already mentioned.

Teaching in High School

Upon completing the undergraduate studies in December, 1923, I put in three or four weeks in downtown Seattle testing and demonstrating the use of the automatic dial telephone, the system that was beginning to replace the manual telephone system in Seattle.

This work quickly gave way to an offer I received and accepted to teach General Science in the West Seattle High School. I had four classes segregated into three categories, low, medium and high on the basis of intelligence tests. Two of the classes, about 30 each, were made up of the medium lot. These two were the most unruly and difficult to teach and obviously contained some members as "low" as the "lowest" in the "low" class and some approaching the "highest" in the "high" class. But, as groups, the separation seemed to have some validity.

Before the school year was over, the University of Washington offered me a position as curator at the Puget Sound Biological Station. I accepted the position and, when school let out, moved to Friday Harbor, ending my high school teaching career.

Friday Harbor - University of Washington

The years 1923 and 1924 were highly determinative and important in my life. In the summer of 1923 while attending the University of Washington's Puget Sound Biological Station summer session at Friday Harbor, I met Lelia Truth Clutter, an appealingly sedate and intelligent girl, enthusiastically interested in nature and the outdoors. We were classmates in the course in Ecology and had many happy times together and with our mutual P.S.B.S. friends enjoying the scenic and marine-life wonders of the San Juan Islands.

The all-too-short session ended and Lelia returned to Oregon where she spent the school year teaching at the St. Paul, Oregon, High School. After a final summer period of fishing for A.P.A. at Salmon Banks, San Juan Island,

I returned to the University to finish the final quarter of my undergraduate requirements and then to teaching at West Seattle High School as already mentioned.

We were married in Salem, Oregon, during Easter vacation, April 16, 1924, but each continued on to finish our respective teaching commitments until June when Lelia came to Seattle. We then left for Friday Harbor where, as curator, I began my first post-graduate position as a marine biologist.

Some earlier plans, if carried out for this trip to Friday Harbor, might have proved more exciting than anticipated. I had agreed to take Professor Trevor Kincaid's small cabin cruiser from Seattle to Friday Harbor at this time, but because of high school teaching involvement, I had to renege on this plan. So, the boat was taken up a little earlier by Dr. Roy D. McLellan who was engaged in working out the geological history of the San Juan Islands on which he published later. On his way, crossing the Rosario Strait, the boat sprung a leak and sank. Fortunately, the skiff carried aboard was in seaworthy condition or science may have lost a good geologist and Lelia and I a good friend who could talk enthusiastically for hours on the geological structure and beauty of the San Juan Islands.

The work involved as curator was highly variable and ranged all the way from hard labor to exacting technique in research and biological preparations. To mention a few: building road and trails; servicing tents and boats; plumbing; collecting, identifying, preparing and shipping biological material for the University and for other schools; checking and maintaining certain unfinished experiments for investigators after their departure; serving as skipper on the station's boat "Clutha;" taking charge of weekend excursions for students and staff; serving as deputy game warden, and fire warden; and overall custodian of the station and the 484-acre biological preserve during most of the year.

Demanding as the work was, still it was an exceedingly interesting and useful educational experience in practical application. And I also had the privilege of registering for a certain amount of graduate class work during the summer, but it required a good deal of tolerance on the part of the professors in charge because I was very often called from the lecture or laboratory to attend to some station matter. Some course work was completed by special examination.

My close association with professors from several institutions and observing them at their work served to convince me that getting a higher degree need not be beyond my reach. I received my M.S. degree in 1930 by examination and thesis work done in 1929. The committee members giving this examination were Prof. Trevor Kincaid, Dr. John Guberlet and Dr. Victor Shelford and was held sitting on a grassy slope overlooking Friday Harbor.

Aside from my regular work, I carried on some research of my own. This included a life history study used for the M.S. thesis, I also made regular observations on the seasonal aspects of marine plankton and environmental conditions. This was eventually used for part of my PhD. dissertation. Research on fluctuations in chemistry and temperature of the water was carried out in collaboration with Dr. Thomas G. Thompson, and the initial work on the settling season of molluscan marine wood borers with Dr. Robert C. Miller, who later became director of the California Academy of Sciences. Dr. Thompson later became director of the Friday Harbor Laboratories during a period when more work was oriented more towards Oceanography.

This collaboration with me was initiated by Dr. Thompson and Dr. Miller in order to carry on research projects requiring longer periods of time than were possible during the short summer sessions. Their acquaintance with me and my undergraduate work at the University may have served as suitable recommendation. But the following earlier encounter I had with Dr. Thompson during my sophomore year in chemistry could leave room for doubt. I was

making some chemical analysis in the laboratory when Dr. Thompson, who gave the lectures in the course, entered and after talking with various students came to me and asked "Which one are you?" Puzzled, I inquired "Which what?" He replied "Which Johnson?" After being told, he volunteered, "I always have four Johnsons in this course. Two are good and two are rotten," and therewith turned and walked away leaving me wondering just what category I fell into.

The year 1924 saw the first session to be held at the new station site which consisted of a 484-acre military reservation that was donated to the University of Washington for marine research. Two new laboratories and a large dining hall had been built during the winter, but as had been customary at the old station, just across the bay, tents were used for sleeping quarters.

By fall a cottage was completed for Lelia and me and we moved in and lived there the remainder of the time that I was curator at the station. On May 31, 1925, our son Byron was born in this cottage. Clara, to whom we all owe so much, was an expert at taking care of babies. She aided in the delivery and stayed with us as practical nurse. Clara is now gone. She died Oct. 31, 1957, and is buried at Silvana.

In 1926 Lelia and Byron spent the summer with Lelia's folks at Salem, Oregon, where our daughter Phyllis was born at the hospital in Salem, August 8, 1926. In late August Lelia and children came by train to Seattle where I met them and we proceeded home to Friday Harbor.

In 1929 I resigned from the position at the station and returned to the University in Seattle in the fall to finish my study for the Ph.D. degree which I received in the spring of 1931, although most requirements had been met much earlier. I was teaching associate in the Zoology Department and returned to Friday Harbor for the summer sessions of 1930 and 1931. During my absence on this Seattle campus Lelia taught at the Friday Harbor High

School and Clara, or Eva, kept house.

Quitting my job in 1929 instead of taking leave for a year was not a wise decision, but it was not possible to anticipate the sudden collapse in the national economy and the resulting great depression that followed for several years. Just before the crash, I was offered a job with the International Halibut Fisheries Commission but turned it down in favor of continuing my studies. I got my degree but ended up without a job, and none in sight. However, it did provide extra time for research that I carried on at Friday Harbor and which led to the discovery of the pronounced seasonal migrations of the destructive wood gribble Limnoria lignorum. This small crustacean is very destructive to marine installations especially untreated piling or hulls of ships not kept in good protective care below the water line.

The International Fisheries Commission on the East Coast

Although the economic depression was in full swing in December, 1931, I had an offer of a job on the scientific staff of the Passamaquoddy International Fisheries Commission appointed to investigate the probable effect on the herring fisheries if certain proposed (by President Roosevelt) dams were constructed across the entrance to Passamaquoddy Bay. The research members of the Commission consisted of: Dr. H. H. Gran and Trugre Braarud of Norway; M. Graham of England; Dr. W.(?) Watson of Canada; and Dr. Charles J. Fish and I of the U.S.A. The purpose envisioned for the dams was to utilize the extremely high tidal range to provide power to generate electricity.

I accepted the job and left for Woods Hole, Massachusetts, where the American winter headquarters were established at the Oceanographic Institute in January, 1932. But before leaving for the east coast a number of U. of W. faculty members had a luncheon for me at the Edmond S. Meany Hotel near the campus. At this luncheon I recall especially the following professors: T. G. Thompson, T. Kincaid, G. Riggs, J. Guberlet, and probably a few others. There

were a few short impromptu speeches on this and that but what I remember best is the following bit of advice:

Dr. Thompson said, in his cultivated New York vernacular, "Now, Ma^htin, when you get to woiking among those benighted easterners and do something good, tell them that you are from the Univoisity of Washington."

Well, this seemed to me like good advice but to provide a loyal alternative if I should do something stupid, Professor Kincaid added, "And if you do something that is not so good, tell them that you are from California."

So with all this good advice I left for the East taking passage on the "Harpoon" a freighter carrying 12 passengers that sailed from San Francisco by way of the Panama Canal, and en route I managed to collect plankton samples at 150 mile intervals from the water pumped into the ship's cooling system. This material later contributed to clarifying some taxonomic problems and to a published paper. The journey to the east coast was a thrilling experience, especially so because it was my first time on the open sea and in tropical latitudes. Stormy weather was encountered in the Atlantic but apparently having gotten my "sea legs" during the Pacific leg of the journey, I was not seasick. This gave me a false feeling that I was a pretty good sailor, only to find out later in the Gulf of Maine, how mistaken I'd been. Several of the 12 passengers on the Harpoon were seasick, especially a lady who expressed a fear of being buried at sea. One of the officers, however, assured her, and it seemed to console her, that nowadays this is not done because on big ships like the "Harpoon," there are adequate freezing facilities.

At Woods Hole we prepared for the first of several oceanographic cruises to cover the Gulf of Maine and the Bay of Fundy. This cruise in March-April was made aboard the small 60± foot U. S. Fisheries boat "Pelican" and I was the only scientist aboard. Net hauls, water sampling, etc., were made with a hand winch at which a couple of deck hands helped. The weather was stormy

and I was seasick for ten days straight but managed to get the needed samples. On subsequent long cruises, Dr. Trygve Braarud of the University of Oslo, Norway, and I worked together.

Summer headquarters were at the Atlantic Biological Station at St. Andrews, New Brunswick, Canada.

The commission was disbanded in June, 1933. Its report was not favorable toward building the dams as planned. Upon its termination I bought a new Chevrolet sedan at Falmouth, Mass., and drove it home to Friday Harbor by way of Chicago, Rapid City, and through Montana. In the meantime, Lelia had been teaching at Friday Harbor High School and keeping the home fires burning. During my absence she took a correspondence course from the University of Chicago and spent a summer session at the University of Washington, where she got her M.S. degree.

The economic depression was still in full swing. Fortunately, Lelia was able to continue teaching at Friday Harbor High School while either Clara or Eva helped with the housework. The University of Washington put me on the staff as Honorary Research Associate. Although this was without pay, it was useful in that it gave me use of laboratory and other facilities at Friday Harbor where I continued to carry on research until the spring of 1934 when I received an offer from Scripps Institution of Oceanography of the University of California, at La Jolla, California.

The academic position offered at Scripps was Research Associate at \$100.00 per month. Although this was admittedly not commensurate with my experience, still this modest salary was a hardly tolerable drain on the Institution's austerity budget. In the following excerpt, Dr. T. W. Vaughn, Director, stated his position. "I am in hopes that some of our five young Ph.D's may find positions outside the Institution. I wish to develop at the Institution work on zooplankton and you have been highly

recommended to me by Professor Thompson (Director, U. of W. Ocean. Labs.), Prof. Gran (University of Oslo, Norway), Dr. Bigelow (Director, Woods Hole Ocean. Inst.), and others. Therefore, we would like to have you with us if it can be arranged." Dr. Vaughn later managed to offer an extra \$20.00 per month inducement towards house rent on the campus.

So with this turn of events, I accepted the position and was happy to know that I had a job with future promise -- although it was at the time vulnerable to lay-off should the University need to resort to further entrenchment, as seemed likely.

California
Scripps Institution of Oceanography

I arrived in La Jolla, Calif., July 1, 1934, and Lelia, Byron and Phyllis came down later in the Chevrolet packed with goods and the pet cat Connie.

Thus began our life in California. It was a moderately auspicious beginning but all in all proved to be a good move and resulted in many years of work in a good scientific environment and with appreciative and cooperative colleagues of which there were about ten on the staff at the time.

My work through the years has involved mainly research and teaching in biology. But administrative work on University committees has occupied much time. Membership on National and International committees has been an extended activity as has also serving as reviewer of many project proposals for the National Science Foundation and the U. S. Atomic Energy Commission.

Teaching. At first rather little formal teaching other than directing research for graduate students was carried on at S.I.O. In the fall semester of 1936 (?), I began commuting once a week from La Jolla to U. C. Los Angeles campus (130 mi. distant) to take over a course in Zoology and to conduct a special seminar. This teaching continued until 1942 when it was dropped because of gas rationing and other wartime restrictions, and to engage in

special research mentioned later.

In 1936 some of us at S.I.O. initiated a course in general oceanography but the lack of an integrated text in the field was a serious handicap. This finally prompted Dr. H. U. Sverdrup, our new Director at S.I.O., Dr. R. H. Fleming and me to undertake the task of writing such a book. It was a long task with much literature research and burning of midnight oil. More specialized courses were added to the curriculum covering Physical, Chemical, Biological and Geological aspects of the oceans. All students working towards a Ph.D. degree were required to become familiar with the fundamentals of each of these. I continued to teach the biological implications in Oceanography and to guide a number of Ph.D. students along this line until my official retirement in June, 1962. During this time I have been a member of 115 Ph.D. and M.S. committees. The degrees given were not always in Oceanography. S.I.O. admitted only graduate students studying towards the higher degrees in either Oceanography or towards degrees given by departments on other U.C. campuses to which S.I.O. could contribute. The third student to be granted a Ph.D. in Zoology at U.C.L.A. had his work under my guidance.

It is pertinent to list here also the summer sessions of teaching at the University of Washington Laboratories at Friday Harbor in 1941, 1947, 1960 and 1962, and at the Marine Biological Laboratory at Woods Hole, Mass., in 1956.

Research. At the time of my arrival at S.I.O. our work at sea depended mainly upon a converted 64-foot purse seiner, the "Scripps," that was later destroyed in 19-- by a dockside explosion.

After some lapse of time we obtained a 105-foot sailing vessel, renamed the "E. W. Scripps," a converted yacht capable of taking us to sea in most all types of weather. Aside from the captain, engineer, cook and deckhand, there usually were three or four scientists who handled the scientific gear,

etc., and stood watch six hours on and six hours off.

This is perhaps an appropriate place to mention in a very cursory fashion some of the types of research I have carried on.

Most of the research has been concerned with projects that require routine cruises and observations extending over many months or years, hence immediate results have not been spectacular in nature but important in adding bit by bit to the understanding of organic production and utilization in the sea and its intricate web of life. Much of the work has been concerned with identification of planktonic organisms and the effect of ocean currents, etc., on the distribution and survival of these and other marine organisms. Included are studies of the life histories of a good number of marine invertebrates. Although largely of interest only to the specialist, some aspects of this research are of general application in the economy of the sea and in contributing towards defining zoogeographic zones particularly within the North Pacific, in Arctic waters off Alaska, and, more recently, in the eastern tropical Pacific.

The following research is of more popular and general interest and was in keeping with the current research that attracted the attention of other than biologists. During 1928-30 while at Friday Harbor, I was able to show for the first time that Limnoria lingnorum, the destructive marine wood gribble, undergoes a definite migratory period of juvenile animals that in the area results in an early spring period of intensive attack on newly submerged untreated timbers such as piling, boats, etc.

During World War II the U. S. Navy was greatly plagued (as were other Navies and mariners) by a disabling high frequency underwater crackling noise that interfered with underwater listening, echo ranging and other acoustical operations. The source of this noise was one of the sea's mysteries. In 1942, I was asked to join in the search for the cause of the noise and was

given leave by S.I.O. to work with the Univ. of Calif. Division of War Research. This provided an opportunity to investigate, in a practical way, a couple of biological phenomena that might otherwise not have occurred to me.

By using portable acoustic gear and by making sound surveys aboard naval ships in various areas along the west and east coasts of the U.S., and by collecting and testing various marine animals in captivity, and by noting their habits, life histories, and distribution in relation to the occurrence of the crackling, I finally determined the source of the noise. The sound, which resembles radio static, came from populations of certain small bottom-living shrimp known as snapping shrimp. The occasional snapping of individuals when irritated had long been known to biologists, but their combined overall continuous racket was not suspected as a source of major underwater sound.

With this information it was possible to put Navy sound operators at ease regarding the source of the noise and to predict with a high degree of accuracy where it would be found within the oceans and how persistent it would be. Early in the war, sound operators in some areas postulated that the noise might come from some "newfangled gadget" used by the enemy.

After the war, I received a certificate of commendation with a letter from Vice Admiral E. W. Mills, Chief of Bureau of Ships, stating that the information "greatly aided in the formulation of successful evasion tactics for U.S. submarines." The acoustical characteristics of the crackling were determined by physicists in order to design equipment to minimize its interference and to evaluate its use as an acoustical screen during reconnaissance, etc., operations.

Physicists working on naval acoustical problems discovered yet another oceanic mystery. This consisted of a deep layer within the sea that reflected outgoing sound signals of fathometers and other acoustical instruments.

These reflections were serious in that they gave "false bottoms" and interfered with echo ranging. The nature of the "deep scattering layer," as it became known, was not understood.

After having finished the fundamental biological observations on the underwater crackling, to a point of predictability, I was recalled to join in the study of the "deep scattering layer" in the event that it might also be a biological phenomenon.

Noting that the layer had not been observed to fluctuate notably in depth, I suggested that if biological in nature it should in all probability undergo diurnal migrations in keeping with movements of certain pelagic organisms. To test this hypothesis in 1945, I asked for a couple of physical technicians to operate the fathometer and carried out a 24-hour continuous acoustical and biological study in deep water off San Diego. In this study it was shown that the layer does, as I had predicted if biological, migrate up towards the surface at night and down again in the morning. This discovery of the biological nature of the layer has formed the basis of much biological and oceanographic work in various parts of the world.

During these wartime studies, I did a good deal of traveling along the west and east coasts of America and, on separate occasions, had the pleasure of chance meetings with my nephews Jay and Earl (Bill) Johnson, both of whom were at the time serving in the Coast Guard. In Seattle, Jay helped me in contacting certain Navy personnel and in arranging transportation to Port Townsend and Bill, aboard the USCG "Shawnee," helped me during my sound survey aboard the ship off Eureka, California.

Another nephew, George Pearson and my son, Byron, were both in the Navy but there was little likelihood of meeting either. Byron, when not at Navy training schools or on the east coast, was machinist's mate in the Indo-Pacific area and George P., who was a career noncommissioned officer (Chief) might be anywhere in the Pacific area.

All of this was highly interesting work but because of commitments in other types of marine biology and having a preference to work on peacetime problems, I did not continue long with acoustical work after the war.

Crossroads. There was, however, some additional work with the Navy from March 10 to Aug. 8, 1946, at the Marshall Islands during the "Operation Crossroads," when the atomic bomb tests were made at Bikini Lagoon. My work was concerned mainly with the exchange of water in and out of the Lagoon and with noting the immediate effect of the blasts on the plankton community and on the bottom-living snapping shrimp in the Lagoon. Briefly, it can be stated that no appreciable effect could be noted on the plankton but the shrimp were apparently silenced in the immediate vicinity beneath the underwater explosion.

The following is a description I wrote shortly after the aerial test over the Lagoon:

"We left Rongelap Atoll Sunday afternoon June 30 and on July 1st arrived at a point about 18 miles northeast of Bikini Atoll where we witnessed the blast together with a goodly number of other ships attached to the project and carrying personnel of the Crossroads Project and other observers.

The time of dropping the bomb had been changed from 0830 to 0900. The sun shone brightly and there were scattered clouds along the horizon. The scientists of our party were grouped at a vantage point on the main deck of the U.S.S. "Bowditch." We were provided with heavy, dark goggles to protect our eyes from the initial intense light of the blast, and were anxiously waiting the signal to put them on at 2 min. before 9. None of the officers or men on this deck were observed to have goggles, hence they were ordered to turn their backs to Bikini, close their eyes, face the deck, and cover their eyes with their arms. Presently, the signal "Bomb Away" came in over the radio and the bomb was dropped about one min. after 9. Since the atoll

could not be seen at this distance, some of us were looking a little too much to the south, but still the blast was well within the field of vision. The actual blast was so short that it was hardly noticed, and it changed almost instantly into a most beautiful orange-red (through our goggles) ball of fire that glowed brightly for what seemed to be about 2 or 3 seconds. It appeared to be about 1-1/2 to 2 times the size of the sun, but this was very hard to judge at the instant. Then it quickly changed so that by the time I had removed my goggles there was a billowing white cloud of hot vapor partly concealed by the natural clouds at the horizon. Fortunately, the clouds were quite open and none covered the initial blast and ball of fire.

The billowing cloud of incandescent vapor rose rapidly in great tumbling wreathing masses that formed a top-heavy mushroom-like form that grew constantly larger from within as if it were boiling over in ever-increasing quantity and flowing out from the top. The curling overflowing masses appeared to be persistently tumbling downwards like new snow down a mountainside but again entering the bottom and sides of the mushroom cap, and suggesting that they would presently emerge once more at the top much as the rolling of a smoke ring filled to the core. Suddenly, there appeared a thin wisp of white vapor immediately over the top of the cap. This vapor, like a narrow cloud over a snow-capped mountain, rapidly increased in size and cascaded downward over the sides of the turbulent cap so that it covered about two-thirds of it with a smooth, white silken veil. A similar wisp of vapor appeared only to vanish or merge with the first. The whole veil soon disappeared or was consumed by the rolling billows that came out more beautiful and impressive than ever. It has been suggested that this veil was a localized snow storm. Though fleecy and cloudlike, the whole column gave the impression of something more substantial than ordinary clouds.

From our distance, the color was a beautiful pastel duotone with amber

and faint rose passing imperceptibly from pure white highlights on the outer edges of the billows to faint amber and finally darkening to amber-rose in the deeper cavernous recesses where the billows rushed inward to the hot core of the column.

The sound that accompanied the explosion was, of course, delayed in reaching us. It was quite loud and much like any other heavy distant explosion, but, perhaps, with more rumbling than one would expect in an area where there is little obstruction to cause reverberation.

We could see smoke rising from the target area and this served to indicate that the lower part of the column was drifting westward with the trade winds. The cap, however, seemed to be practically stationary at about 30,000 feet. Before we saw the target smoke to orient us, the cap seemed to be drifting eastward. This caused some momentary concern because if true we might be in danger of rain carrying down radioactive material in our otherwise safe area.

It was not possible to see for sure if there was a mushroom cap below the top one. There appeared to be a thickening of the column, but at no time, from our point of view, was the whole structure completely free from intervening clouds. But at any rate the top-most cap became separated and gradually dispersed into non-billowing stratus clouds of amber-like color that streaked for a considerable distance across the western sky. A similar streak represented the lower part of the column. I watched it dissipate for an hour and then when finally returning again after a time away listening to radio reports from observation planes, I could not be sure of distinguishing the bomb cloud from the natural clouds. ---- So ended this unique show of man's uncertain steps into the atomic age.

To say the least, it was an interesting and impressive show. But this was not so much because of its magnitude from this distance as because of

the awe-inspiring potentialities that it suggests in one's mind.

Immediately after the blast, we started (in a long convoy of ships) slowly back to Bikini and entered the Lagoon just before sundown and proceeded to our anchorage which we reached at the edge of the target area just at dusk. It was a great day for several reasons."

In witnessing these tests, I was left with a deep and abiding feeling that now humanity must assume a heavy responsibility. A modern "Pandora's Box" has been opened and we cannot ignore the potentialities for good or evil that have been unlocked.

Following my return to S.I.O. my research continued mainly with plankton studies and involved especially the coastal areas of U.S. and Central America, but included also the Arctic and further work in the tropics.

The Tropics. From Sept. 1952 to Feb. 1953, I accompanied the "Capricorn Expedition." It was concerned with the water, type of bottom, geophysical studies, and marine life along the regions of the various tropical archipelagos from the North Marshall Islands to Fiji, Tonga, Samoa, Tahiti, Tuamotu and Marquesas Islands. Some time was also spent at Majuro and again at Bikini and Eniwetok Atolls where we carried on some work in preparation for the first hydrogen bomb explosion which we witnessed before leaving for Ocean Island and the other survey areas mentioned.

It is interesting to note here that, in 1954, Byron witnessed the second hydrogen bomb test at Bikini.

Mention should also be made here of tropical research in the Hawaiian Islands area in Feb., 1967, at the U. S. Fish and Wildlife Commercial Fisheries Laboratory in Honolulu. This work dealt with the larval life histories of lobsters in the Hawaiian archipelago. Lelia joined me for part of the time and we toured much of the island and its many points of special interest

while living just below Diamond Head near Waikiki Beach.

The Arctic. During July 16 to Aug. 16, 1957, I carried on research in Arctic Ocean waters in the Point Barrow area while at the Naval Arctic Research Laboratory at Barrow, Alaska. The laboratory boat "Ivik" was used to collect plankton offshore to the Arctic ice pack. Observations were also made at the coastal lagoons on the east and west sides of Point Barrow where the old abandoned Eskimo village Nuwuk, situated at the very tip of the point, is being slowly eroded away by the sea and grinding ice.

Additional Arctic work was done in Aug., 1959, when I accompanied the University of Washington Oceanographic vessel "Brown Bear" from Nome, Alaska, to Cape Thompson in the Chuckchi Sea. Here observations were made offshore and especially on the plankton fauna and ecology of a series of coastal lagoons to the south and to the north to Point Hope, Alaska. This work was in connection with the U. S. Atomic Energy Commission's studies during "Project Chariot," concerned with a proposal to blast a coastal area to form a harbor. I also made some observations on a small inland lake east of Cape Thompson.

Mention should be made here of an early, rather nebulous fascination I had for the Arctic. I had, of course, learned of the historic journey of exploration and science carried out by Dr. Fridtjof Nansen during 1893-1896 when he drifted across the polar sea aboard the "Fram" purposely locked in the slowly drifting ice. This was kindling to my imagination when it became known that a second effort to explore the Arctic in a similar manner was being made by Roald Amundsen and with Dr. Harald U. Sverdrup in charge of scientific work, with the "Maud" locked in drifting ice periodically during 1918-1925. I was at the University of Washington at the time the "Maud" was finally freed from the ice for the third time in 1922 and headed south through the Bering Strait to berth temporarily in Lake Union for repairs in Seattle. To me this seemed a notable opportunity to see the ship and, if possible, to

talk with Dr. Sverdrup or members of his staff. I went to the dock in Lake Union where she was berthed, hoping to get aboard but was frustrated by a dog aboard ship as it walked from stem to stern pacing me as I walked along the dock trying to arouse someone aboard. I did not get aboard, but did see the ship so I didn't feel entirely foiled. But little did I imagine that some day I would be given a photograph of this dog together with Dr. Sverdrup and some of his crew (?) aboard the "Maud," or above all, that it would be my privilege to work aboard ship with Dr. Sverdrup and to co-author with him and Dr. Fleming the oceanographic text "The Oceans." While in Norway, years later, I also saw the famous ship "Fram."

International Committee Memberships, Foreign Lectures, etc.

1. Advisory Committee, Pacific Science Board, 1946-1957.
2. Sixth Pacific Science Congress, Berkeley, 1939. General Committee member and co-chairman (with Dr. R. C. Miller) for Organizing Committee on Marine Biology.
3. Seventh Pacific Science Congress, New Zealand, Feb., 1949. Delegate for U. S. National Research Council and also University of California. As a U. S. delegate I flew to New Zealand with 20 other U. S. delegates in a special plane that en route flew over the then erupting volcano Mauna Loa on Hawaii Island and later viewed also the New Zealand South Island active volcanoes and also the dormant or extinct Mt. Ruapehu, taking pictures of its crater lake that some years later broke away with disastrous loss of 161 lives when a passenger train plunged into a washed out bridge at the foot of the mountain.

In addition to the scientific meetings in New Zealand, one week each at Auckland and Christchurch, we toured both North and South Islands. Aside from the beautiful, spectacular scenery with tree ferns, cycads and other strange trees the most impressive sights were the Tasman Glacier and Hochstetter Ice

Fall and the graveyard of the giant flightless Moa birds in Pyramid Valley. These giant birds, some up to 12 feet tall, are now extinct and for our inspection several complete skeletons were exposed in situ where they had been mired in the soft clay in the distant past when they were hunted to extinction by the native Maoris.

4. Eighth Pacific Science Congress, The Philippines, Nov., 1953.

Delegate for S.I.O. and the University of California.

5. From June 9 to Sept. 15, 1958, special research relating to the taxonomic status of certain copepod crustaceans was carried out at the following European institutions: Zoological Station, Naples, Italy; British Museum of Natural History, London; Zoological Museum, Copenhagen, Denmark; Charlottenlund Slot in Copenhagen; Zoological Museum, Oslo, Norway; Marine Biological Laboratory of the University of Bergen, Norway.

During this trip, lectures were given at the University of Oslo and at Geilo, Norway at the Scandinavian Oceanographic Society meeting.

While in Norway, I had occasion to see much of the southern part of this picturesque country, including some of the famous fjords and historic sites. A field trip was arranged to the west coast with the biology class then in session at the Biological Station at Espegrend near Bergen. For these opportunities I am much indebted to Professor Dr. Trygve Braarud of the University of Oslo who was a colleague of mine on the International Fisheries Commission in 1933 and also while at Naples, Italy. His enthusiastic guidance was a major contribution to the enjoyment of the visits. Although English is rather widely spoken or understood in the Scandinavian Countries, still my fair command of the Scandinavian languages proved of great value to me and made me feel much at home in most circumstances.

6. In Oct., 1961, I was invited to serve as chairman of a session on "Speciation in the Sea" at meetings of the British Systematics Association

at Plymouth, England. I visited the dock where the "Mayflower" left for America.

7. Following these meetings I went to Copenhagen as S.I.O. observer at a symposium of the International Council for Exploration of the Sea on "Zooplankton Production."

8. UNESCO (United Nations Educational, Scientific and Cultural Organization) Advisory Committee for the Biological Center, India, 1962-1964. I attended the first meeting as a U. S. member during two weeks in March, 1963. It was held alternately at Cochin and New Delhi, India. Enroute a day was spent in Tokyo, Japan. Although the time spent in these two countries was too brief and restricted to leave more than a superficial comparison, it is safe to say that the contrast in living standards and energetic purpose in Japan is well above that of India where much poverty and idleness was in evidence.

National Scientific Societies. Aside from the foreign meetings and national committee meetings, a routine activity has been to present papers or to preside at meetings of American societies within the U. S. and Canada. I have held office in the following of these:

Fellows of San Diego Society of Natural History, Vice President 1948,
President 1949.

Ecological Society of America, Editorial Board 1950-1952.

American Microscopical Society, Vice President 1952.

American Society of Limnology and Oceanography, President, Western
Section 1952.

Western Society of Naturalists, President 1953.

Honorary Societies and Awards.

Sigma Xi. National Science Honorary, U. of W., 1923; 1929.

Phi Sigma. National Biological Honorary, U. of W., 1929

Phi Delta Kappa. National Education Honorary, U. of W., 1923.

Phi Beta Kappa. National Scholastic Honorary, elected to U. of W. chapter, 1932.

Fellow, American Association for the Advancement of Science, 1925.

Fellow, California Academy of Sciences, 1952.

U. S. Navy Certificate for Outstanding Research during World War II.

Recipient, Agasszi Gold Medal for contributions in the field of Oceanography -- National Academy of Sciences, 1959.

Elected Distinguished Alumnus, Pacific Lutheran University, 1966.

Some Biographical Listings.

American Men of Science, Who's Who in the West, Who's Who in America, Worlds Who's Who in Science, McGraw-Hill Modern Men of Science, Dictionary of International Biography.

Publications. The greater part of the results of my research has been published in various scientific journals. The list is too long, over 100, to include here. About ten or twelve wartime reports have not been published although these have now, no doubt, all been declassified.

One large book (1087 pp.) "The Oceans, their Physics, Chemistry and General Biology" coauthored with H. U. Sverdrup and Richard H. Fleming was published in 1942. It is still a standard oceanographic text after 35 years, and has become known as the "Oceanographer's Bible." Its long useful life without a major revision, but with several printings, probably results from its successful integration of the sciences used in oceanography. I am responsible for the biological sections that form about a third of the book.

Retirement. Retirement at age 67 was normally mandatory for faculty members at the University of California. However, upon reaching that age I

was "recalled to service" full time for one year in my regular capacity in teaching and research for 1961-1962. Following that I was given status as Professor of Marine Biology Emeritus, and Research Marine Biologist, at 1/2 time for four successive years, then followed by the same status at 1/4 time for an additional four years. After June 30, 1970, only the Professor Emeritus status, and Research Associate, stands, but the University still provides me with an office and laboratory and some secretarial help. This has enabled me to continue in research which has resulted in several published papers.

With all this I must say that the University has shown ample appreciation for such contributions as I have been able to make in teaching, research, and other University and Public Service, and I am grateful for this recognition.

Homes

In this journey "down memory lane" there are many stations and among the more outstanding are the homes in which I have lived other than the rather many interim places serving only as homes to "hang my hat." Although homes are commonly associated with buildings, still a home is a set of associated intangibles, something more than just a house used as a residence.

Something has already been said about the earlier homes. In continuation it is logical to begin with the home at Friday Harbor, Wash., where Lelia and I set up housekeeping together. This home was a pleasant although at first poorly insulated cottage overlooking Friday Harbor across the bay. It was situated on the campus of the Puget Sound Biological Station of the University of Washington and was near the laboratories and other buildings on the "new station" site established in 1924 on a 484-acre biological preserve. The cottage was built that year especially for our use as a year-around residence.

Many and frequent are the nostalgic feelings attached to this home

where we lived for five years. Here was the exciting observation and study of the abundant marine life at our doorstep and also the relatively undisturbed wildlife so near to us in the adjacent forest and grassy glades of the reservation. Conspicuous within the entertaining parade of animal life were the many rabbits; the evening noisy rendezvous of crows returning from their day's forage on beaches and fields and landing in a large isolated fir tree in view of our windows while scouts surveyed the nearby nighttime roosts for safety; the melodious nocturnal hooting of the little screech owls that lived at the edge of a long-abandoned grassy field just within the reservation boundary; the appreciative creepers and nuthatches for which we tacked up suet on trees at our back door; the scolding Stellar jays that visited the feeding platform and worried and stole food from our stupid cat Tawny; the winter time visits of the varied thrush and other northern or inland birds; the perpetually busy Oregon tohee seeking food among the fallen leaves and needles; the many marine birds on our quiet waterfront after the Station had closed for the winter. Fascinating was the old wood road leading deep into the woods of somber evergreens brightened along the shore by occasional colorful madronas and intermittantly fringed by Holodiscus (the graceful oceanspray), Sala and Oregon grape and finally narrowing at the northern boundary to a path past fallen trees and rocky outcrops covered by a deep carpet of feathery mosses and liverworts, and scented with a distinctive woody fragrance. Here the pileated woodpeckers glided from tree to tree and tapped out telegraphic messages on old resounding trees.

Returning homeward was the steep connecting trail that Dr. T. C. Frye, the station's director, and I made over the high rocky grass-covered cliff known to early students and staff as "Heaven." Homeward through isolated sunny glades and through swales with tall brake ferns, the meandering trail led past ancient firs struggling to survive in shallow soil covering the bedrock.

It was not easy to give up this home but the position as curator, although challenging in many ways, did not, at the time, hold much promise of using to the fullest my training and interest because of the disproportionate amount of routine labor as mentioned earlier.

Upon resigning from the position, we moved into the village where we lived for a while in what Byron and Phyllis called the "little brown house." Later we moved to the Beagen house, a few blocks away, which was home until we moved to La Jolla in 1934. Moving to California meant leaving what had become the "home area." This feeling still lingers.

In La Jolla we lived for a little over 20 years in Cottage No. 29 on the Scripps campus, one of the several cottages that were occupied by staff members. This was a very convenient location perched on the edge of La Jolla Cliffs and providing a spectacular view overlooking the Pacific and La Jolla. It was a modest home but with much personal effort and some expense in gardening and remodeling, together with some renovation by the University, it was a pleasant place to live.

It was here that Byron and Phyllis added much cheer to the home, spiced as it was with the prevailing traditional teen-age complications that go to complete the home atmosphere during the process of growing up. Finally, as must eventually be, only two of us were left to keep the home when the fledglings took to flight.

Byron enlisted in the U. S. Navy during World War II, after which he returned to finish high school and eventually to attend the University of California at Berkeley where he graduated with a degree in Electronic Engineering.

Phyllis left on a scholarship to attend Mills College for a year and then transferred to the University of California at Berkeley where she earned the Ph.D. degree in Parasitology.

With the growth of Scripps Institution, the cottages were gradually converted into offices and laboratories. We then joined a group known as Scripps Estates Associates, made up mostly of S.I.O. staff members, who together bought a tract of land adjoining the campus. This we subdivided into 38 building lots, leaving jointly-owned a deep canyon stretching down to the sea. The building sites were bought individually. Our lot is No. 14 (2524 Ellentown Road) where we built our first owned home and moved into it on Dec. 2, 1955. Our location on the south rim of the canyon gives an unobstructed view up and down the canyon with a striking vista out to the ocean. With the more recent establishment of a major University of California campus on adjoining property, we are now nearly surrounded by the University.

Mention must be made here of a vacation home we owned for 11 years on the Kern River near Miracle Hot Springs in the Sequoia National Forest. This was a rock cabin built by Alfred and in which he and Marguerite lived for a number of years. It was situated at the upper edge of a gentle slope stretching to the rushing river only a stone's-throw away. Here willows, sycamore and poplar grew at the water's edge where the steep-walled rocky shores gave way to the tree-lined stretches. In all directions towered the surrounding picturesque mountains, with grassy, rocky slopes supporting a scattered growth of digger pines, oaks, buckeye and low-growing native shrubs. Truly a charming area for hiking in semiopen country.

Dagmar and Melvin also had a nearby cabin for a few years in this location known as Sandy Flats because of the white sand and disintegrating granite covering much of the flat area.

In 1957 Alfred and Marguerite sold the cabin to Lelia and me and finally settled in Morro Bay where they lived until Alfred's death Nov. 29, 1970, in his 92nd year. He is buried in the nearby Cayucos-Morro Bay cemetery.

Reluctantly in 1968 we abandoned the cabin to the Forest Service who demolished it shortly thereafter. Population pressure leading to an influx

of irresponsible campers and others littering the area, burglarizing the cabin, and damaging the access road, rendered it impractical to continue holding our lease any longer.

Some Overall Retrospect

As gleaned from the last half of what has been written, much of my life has been concerned with matters of educational experiences and research associated with institutions of higher learning. From this statement the first thought evoked is that "educational experiences" refer only to those encountered in formal education. The importance of these experiences toward learning is great, indeed, but the education gained outside the class room and in the "school of hard knocks," where grade point averages are not given, is of equal importance although sometimes hard to evaluate in formal terms. But having experienced some of each route to education, I have the greatest respect for either as complementary means to human knowledge that is essential for a successful complex democratic society. However, all too often the school of hard knocks becomes the only one available because of circumstances and it may leave scars. It can also be said that attendance at, and graduation from the formal school holds no magic and does not eliminate all hard knocks of life and may create new ones and special dilemmas.

Now in further gleaning, some impression may have been gotten that life has been only a continuous round of wearisome labor and knotty problems. This is not so even though there have been rugged times. There were, and still remain, contrasting circumstances and situations that are difficult or seemingly impossible of real solution. A good deal of my work has been fascinating and inspiring and the solutions of some problems have been in the nature of special rewards for perserverance. Much tedious labor, mal de mer, and loss of sleep have been rewarded by seeing much of the world and some of its many people.

Happy have been the summer interludes with tenting and hiking in the mountains and the deserts with Lelia, Byron and Phyllis, and the auto trips to distant places. These, too, had their problems and inconveniences -- cold, rain, snow, bears, mosquitoes -- that now have become "conversation items."

Fortunately memory has a filter, so the human mind has a strong tendency to recall more often, and therefore more vividly, the pleasurable moments and experiences of life rather than the opposite. Thus the keen edge of sorrow and pain is dulled in memory's process.

This whole story is longer than I at first visualized it should be. However, on reading it over, I am keenly aware that, even so, there are omissions that would have enhanced the general interest. More might have been said about others, including friends and colleagues who in their time were in positive ways important in my life but who are little or not at all mentioned here. Personal mistakes and failures in the past have not been stressed in this rambling memoir. They are better forgotten providing the lessons they conveyed have not been forgotten. My memory has not always served me in this respect. In writing, I have endeavored to distinguish reality from fiction and dreams. There have, indeed, been many dreams for dreams are a part of everyone's life and they may either enhance reality or by contrast make it more stark. Either effect has doubtless served me as a factor of survival value.