

**EXPERIENCES OF A MISSOURI
FARM BOY**

by

Merris M. McCool

EXPERIENCES OF A MISSOURI FARM BOY

by

MERRIS MICKEY MCCOOL, B.S., M.S., Ph.D.

ΔΔΔ

Agronomist, Boyce Thompson Institute
(Retired)

ΔΔΔ

In charge first Soil Survey Party at the University of
Missouri Agricultural Experiment Station.

ΔΔΔ

Instructor in Department of Plant Physiology,
Cornell University.

ΔΔΔ

Assistant Professor, Soils, Oregon State College.

ΔΔΔ

Professor and Head of the Soils Department, Soils Surveys
and Land Classification, Michigan State College, 16 years.

ΔΔΔ

Fifteen years at the Boyce Thompson Institute.

ΔΔΔ

Processing lumber from fibrous tropical plant materials in
Honolulu, Hawaii, T. H.

PREFACE

This book comprises a lifetime of experiences of a northwest Missouri farm boy. It includes farm life, academic preparation for entrance to the University of Missouri College of Agriculture; undergraduate college life; Instructor and graduate student in Plant Physiology New York State College of Agriculture, Cornell University; Assistant Professor Agronomy at Oregon State College; Professor and head of the Soils Department, soil surveys and land classification at Michigan State College; sixteen years Agronomist at the Boyce Thompson Institute, retired; processing tropical fibrous plant materials into lumber Honolulu T.H.; and his travels in the U.S., Europe, South America, Brazil and Mexico.

It was written to inspire farm lads and to inform city people of the rôle the farming class has played in the development of America and her traditions, and the support by agriculture of various American industries.

Acknowledgement is made by the writer to Mrs. Sara Grace Bockerish McCool for her inspiration and suggestions in the selection and organization of the material that goes to make up this book.

M. M. McCool

Copyright 1953
by
Dr. M. M. McCool

FOREWORD

The writer won national and international recognition for his contributions to Soil Science, resulting from his leadership and researches while Professor and Head of the Soils Department for a period of fifteen years at the Michigan State College of Agriculture and Experiment Station. He was engaged in researches of Soil conditions and Plant growth for the Boyce Thompson Institute for Plant Research for sixteen years.

During the shortage of food in the U.S. after the second world war, while testing chemicals for killing insects and microorganisms in the soil, he came in contact with a poisonous gas—hydrogen cyanide—in a greenhouse, collapsed and was dazed, due to shock. While convalescing in the famous St. Johns Hospital, Yonkers, New York, he recalled and related only incidents which took place from his early childhood until fifteen years prior to the accident. Owing to his professional standing and acquaintances, numerous people, notably doctors, nurses and visitors at the hospital, became interested in them. It was suggested that these be placed on record.

While at the Boyce Thompson Institute, he developed methods for composting kitchen waste and garbage into excellent organic fertilizers and soil conditioners, thus demonstrating that huge amounts of such materials which are wasted may be used on the soil.

Outstanding also were his contributions on processing into lumber, fibrous plant materials, notably sawdusts from different kinds of lumber, leaves from mixed deciduous forest trees, various pine needles, cattail plants, beech, reedplants, yucca and other cactus plants, black mesquite and other desert brushes, weeds and grasses.

Notable outstanding work done on Michigan soils was the grouping of State soils into podsoils and others. The line of separation was found to extend East and West across the State through the town of Midland, Michigan in the southern peninsula.

His was the first organization to finish the classification and mapping of the soils of the entire state, make maps of each county showing lime needs for the production of alfalfa, needs for phosphorus and also the content of agronomic matter in the soils. There were of great value to the agriculturalists in forming

their plans of procedure for the state-wide agricultural programs.

He went to S.E. Arizona in order to be in a warm climate. While at Tombstone, Arizona the scarcity and high cost of lumber in the S.W. United States and the huge amounts of desert plants stimulated him to grind these, mix latex with them and to place the mixtures in molds and press them into lumber substitutes.

While at Tombstone, Arizona he met and fell in love with Mrs. Grace Backerish—a very attractive and brainy widow. They were married and lived on her very large cattle and horse ranch 20 miles south of Tombstone, Arizona.

Later on he went to Honolulu T.H. to determine whether tropical vegetation could be processed by grinding, adding latex, and pressing in molds to form lumber substitutes.

Also used successfully were corn stalks, hays, oat, wheat and rye straws, sphagnum moss, various peats, spent hops from a brewery, sage and other forest brushes, plants from the tropics and coral. Owing to the use of binding agents or latices which do not require heat for molding the products were made inexpensively.

He traveled widely after he retired from institutional activities, notably in each of the United States, Canada, Mexico, Brazil and Honolulu.

He was asked to go to Brazil by a United States industrialist to search for sources of aluminum. Owing to the huge amounts of aluminum silicates there and the low cost of labor, and hydro electric power, the production of a plant for the removal of the aluminum from the silicate was advised.

He went by plane from New York to "Rio", thence inland to a tributary of the Amazon River, down this river by boat to and across the Gulf of Mexico to Miami, Florida.

Before he left he took up Spanish and Portuguese and soon became proficient in the use of these languages after he landed.

He observed, later, the huge piles (millions of tons) of iron oxide dust adjacent to the smelters in Gary Indiana, and Chicago, Illinois areas. He developed the McCool process or method for forming this into bricks or blocks which could be dumped into the smelters and processed into iron and steel. Since this iron oxide dust contains 50 per cent iron oxide a relatively inexpensive source of material was made available. He was requested to apply for a patent for the McCool process.

Later on he went to Honolulu T.H. and obtained various parts of tropical plants in Honolulu, Hawaii, ground them, added latex and bound them into excellent lumber.

Huge quantities of bagasse or the pulp which remains after sugar is removed from sugar cane plants, leaves from various palm trees, cocoanut hulls and fiber inside their nuts and other tropical plants are available on these Islands.

The imported lumber is excessively costly, and since these plants may be processed inexpensively and the products are not attacked by bacteria, fungi and insects, including termites, there are great possibilities there for such.

This was told to me by one of the writer's friends.

C. D. Beckwith



The John and Martha McCool Family

EARLY LIFE

Many city folks, politicians and others do not realize what took place in the Middle West during its early development and how such influences the voters' reactions to various political and economical movements. Neither do they know about the struggles and hardships which the farm boys experienced.

The farm on which we lived was productive, but the farm life was exacting and at times dangerous. I went to the fields one morning when I was twelve years of age. While following a harrow which was being used to prepare the soil for planting corn, a poisonous snake, which was called a "blowing viper" was uncovered. It struck at me, but fortunately I moved away from it. I killed the snake by throwing clods at it. I was barefoot, but that was the last time I worked in the field without shoes.

The children on the farms feared "mad dogs." They were taught how to determine at a distance whether a dog was affected by rabies. One day I saw one approaching where I was working a team of Missouri mules. They became frightened and ran away. The Missouri mule is noted for its ability to "take care of itself."

I slipped through a weedy fence row and entered the highway which led to our home. I reached home, saddled our riding pony, took our shotgun, and returned to look for the dog. In the meantime it had gone into our pasture and followed a ditch to the timbered portion of the pasture. I dismounted from the pony and concealed myself behind a tree stump. The dog came along and I fired a heavy load of coarse shot which killed it. I rolled him into a ditch which was filled with dry hazel brush and burned the lot.

We lived about seven miles from Grindstone Creek, which flowed rapidly several miles through dense timber to join the Grand River. The farmers fished in these streams for cat and other fish.

One day a neighbor boy, my brother and I drove over the Grindstone Creek. On the way I dropped shelled corn in the road as we passed farm homes. Chickens in the frying stage of growth followed us. A grain of corn was placed on a fish hook, attached to a fishing line and tossed out. A beautiful Plymouth Rock chicken swallowed it. The chicken was pulled into our wagon.

We dressed the fowl, built a fire on the bank of the stream and cooked it for our meal.

We started down the stream. I could swim a short distance. Soon the water became too deep for me to wade. I rolled a dry log or pole into the water and floated downstream with it. After a time the log absorbed too much water for it to float. I made it to the bank of the creek. Then arose the problem of finding our vehicle in order to return to our farm home.

We sold our farm which consisted of 80 acres of rolling land near Amity, and bought a two hundred and sixty-five acre farm three miles northeast of Fairport, Missouri. This meant the transportation of the livestock, farming equipment and household goods twelve miles over dirt roads.

My brother, Stanton, and I took the cattle and young horses across. We had only one riding horse and saddle, and one would ride a given distance, dismount, and the other would ride. We left in the morning and arrived at the farm home in mid-afternoon, very hungry and tired.

On the way we had trouble in getting the stock across streams over which were bridges. Until the livestock become accustomed to crossing such they are afraid to do so. One would ride the horse on the bridge and livestock would follow it across.

The farm was a good one. It was located in a rolling country, but a strip of prairie extended across the eastern part of the holding. The home stood at the northwest corner of the farm at the junction of two roads.

The rural school house was one mile to the south. In order to reach it we walked about one-half mile down a gentle slope to a creek which originated in the eastern part of our farm. Large patches of hazel nut producing bushes grew adjacent to it, as did oak and other trees. After a heavy downpour of rain this became a raging torrent and provided sport for us. This portion of the farm was devoted to the grazing of cattle.

Since we did not work on Saturday afternoons, we boys went to the village of Fairport where we entered into various sports. I looked forward to my twelfth birthday, as at that age the boys were sent into the field with a team to work, often alone and without supervision once the task was begun. This meant a long day, from about sunrise until noon. One hour was allowed for rest, thence to the field until six P.M.

I desired to enter the Missouri University College of Agriculture in the autumn, but I lacked some Latin to be eligible for

entrance. Accordingly I studied Latin that summer. I took my Latin text book with me to the field when I cultivated corn. I studied when I stopped to rest the team. I recited my lessons to my brother George at night right after supper. He was an excellent Latin student and who was teaching in an adjacent rural school. He lived at home.

While studying Latin in the field I read or translated Julius Caesar and Virgil, and also read Roman History. We had a good team of horses which was fast running when hitched to a buggy or wagon. When suddenly frightened, they broke into a run.

One day I was hauling cord wood from a timber a few miles distant. As we came to a creek, the bottom of which was two miles wide, and of course flat, the road did not have any curves in it, the team was frightened by a buck which suddenly emerged from the brush along the roadside, and ran away at a terrific pace. A neighbor, who was riding a good horse, saw them start and attempted to overtake them. He could not do so. I could not get them quieted until we reached the bridge which was over the creek. Henceforth the team was looked upon by the people in that region as being very fast runners.

My father did not hear of this incident from the neighbors for several weeks, and I did not tell him!

In my mind's eye this team was hitched to a Roman chariot in which I rode in races on the Apian Way! Such took me away from the isolation and solitude of farm life. Several years later, while we were touring Europe, I saw this world famous highway and many other historical places in Italy about which I had read.

While resting the team, which I was working in the corn field, I lay stretched out on the grass in the fence row and watched, what to me were large snow white clouds which I imagined were huge piles of snow to which I could fly and slide or coast down their long slopes.

Several years later it was my privilege to ride in an airplane from the North Sea over Europe through and around such clouds. While doing so I recalled my childhood days in the cornfields of Missouri. Thus, many of my dreams came true.

My brother, Stanton, and I decided to join the army, when the Spanish American War began. Our father heard us talking and advised us not to do so, but praised our loyalty to our country. He informed the local examiners that we were too young to enter the army. We did not do so.

The farmers enjoy hearing and telling stories. A farmer went to a dentist in the county seat. He was in the dentist's chair. After several minutes drilling on a tooth, the dentist said, "That is peculiar. You said your tooth had never been filed, but I keep striking metal." The patient said, "You have reached my belt buckle."

A cattle feeder went to the cattle market in the city. The commission man took him to a hotel, engaged a room for him and went on his way. The farmer left his traveling bag in his room and a short time later he went out to eat. When he decided to return to his room, he could not recall the name of his hotel. He began to look for it, but without success. He finally came to a hotel, asked the clerk for a room, and registered. The clerk, when he saw the name, said, "A man with that name registered here awhile ago, left his baggage and has not returned. The farmer asked to see the bags and when he saw them, realized this was his hotel.

Many Missourians are superstitious, even the well to do ones. They think that if they eat corn meal and pimentoes on New Year's Eve they will have an abundance of food all year!

One afternoon in May a tornado, called a cyclone there, crossed our farm from Southwest to Northeast. My brother, Stanton, and I saw it start about ten miles from where we were cultivating corn. We unhitched our horses and went to the house which was two and one half miles distant. We watched it approach from the entrance to the cyclone cellar or the outdoor cave. It crossed the farm one half mile south of where we were.

Following a tornado of such destructive nature as the one which hit the StateFair Grounds in Missouri recently "tall" stories of freakish incidents caused by the storm spread rapidly. People recall having heard that a rooster was blown into a gallon jug, by the tremendous force of the wind, and others tell how they found leaves inside a car the windows of which were tightly closed and the doors locked.

We saw where straws were driven into pine boards by the force of the wind. A neighbor's house was struck. They found their piano a mile or so distance standing upright in a pasture. Aside from the soaking by rain it was not damaged.

Such storms were feared at night as they could not be seen in time for the people to get into the cellars, which usually stand a short distance from the house, such as twenty to fifty feet distance.

There was very little money in circulation in Northwest Missouri. A man met another one on the street in Maysville, Missouri and asked him to change a ten dollar bill. He replied, "I cannot, but I thank you for the honor."

When the famous Maysville Missouri Chautauqua was in session one of the speakers was eating dinner at the local hotel. A farmer, who was sitting at the same dinner table observed that the speaker ate freely of roasting ear corn. He asked the speaker what he paid a day for meals. He said, "I pay five dollars." The farmer said, "I believe it would be cheaper to eat at the livery stable."

When I was eleven years of age I arose each morning before daylight, carried wood from the woodhouse for a fire in the kitchen or cook stove. Then I went to the barn, fed three teams of draft or working horses and a driving team of Kentucky thoroughbreds, fed six head of milk cows hay and a small amount of grain. About two hours later I returned to the house and we ate breakfast which consisted of crisply fried corn meal mush, hot biscuits, sausage, milk and a piece of home made mincemeat pie. The light was furnished by a kerosene burning lamp. Father always asked the blessing. He asked that the food be blessed to each of our needs; that each of the boys grow into an honorable and upright gentleman, and the girls be refined ladies.

When I was eleven years of age I arose each morning before daylight, carried wood from the woodhouse for a fire in the kitchen or cook stove. Then I went to the barn, fed three teams of draft or working horses and a driving team of Kentucky thoroughbreds, fed six head of milk cows hay and a small amount of grain. I returned to the house and ate a breakfast consisting of crisply fried corn meal mush, hot biscuits, sausage, milk and a piece of home made mincemeat pie. The light was furnished by a kerosene burning lamp.

Father asked a blessing. He asked that the food be blessed to each of our needs; that each of the boys grow into an honorable and upright gentleman, and the girls be refined ladies.

We had about three hundred head of hogs—Black Poland China breed. These were fed and watered and their sleeping sheds taken care of.

The cows were milked by lamplight during the winter months. The milk was run through separator, the cream saved for sale, and the milk fed to the pigs.

After having eaten breakfast we sat around the stove in the adjacent living room for about ten minutes and planned what was to be done during the day.

I saddled my riding pony and drove the horses and cattle to the various pastures.

In mid afternoon I went hunting rabbits in the wood lot. I had a good hunting dog. He chased the rabbits and they ran under piles of brush for concealment. When I arrived he ran them out for me to shoot. It was considered to be unsportsmanlike to shoot a rabbit other than when he was running.

During the summer seasons we were supposed to be in the fields at work by sunrise. We returned to the house at noon, rested ourselves and the teams until one P.M. We rested by lying on the turf in the shade of maple trees.

We grew large acreages of corn, soy beans and other row crops. A satisfactory day's work was to cultivate six and one half acres of corn with a horse drawn one row cultivator. This meant walking about fifteen miles with constant attention on the team and cultivator—A rugged day!

My father was a successful hog raiser. He knew and appreciated the importance of sanitation and cleanliness in raising pigs. Each sow which was to deliver a litter of pigs was isolated from the others, having her individual pen and shed in which to give birth to her pigs. The offspring remained isolated until they were old enough to eat grain and other feed which were provided them. Although serious diseases of hogs were widely distributed on the farms, ours was not attacked by them.

We had about three hundred head of hogs—Black Poland China breed. These were fed and watered and their sleeping sheds were taken care of. They were moved frequently for sanitary reasons.

The cows were milked by lamplight in the morning during the winter months. The milk was run through the separator, the cream saved for sale, and the milk fed to the pigs.

After having eaten breakfast we sat around the stove in the adjacent living room for about ten minutes, planning the program of procedure for the day.

I saddled my riding pony and drove the horses and cattle to the various pastures.

In mid afternoon I sometimes went hunting rabbits in the wood

lot. I had a good hunting dog. He chased the rabbits and they ran under piles of brush for concealment. When I arrived he ran them out for me to shoot. It was considered to be unsportsmanlike to shoot a rabbit other than when he was running.

We grew large acreages of corn, soy beans and other row crops. A satisfactory day's work was to cultivate six and one half acres of corn with a horse drawn one row cultivator. This meant walking about fifteen miles with constant attention on the team and cultivator—A rugged day!

The McCools, my father's ancestors, were MacCool in Scotland. After they went to Ireland the Mac was changed to Mc as the latter was more popular there. They came from Ireland to North Carolina in Queen Anne's time early in the eighteenth century.

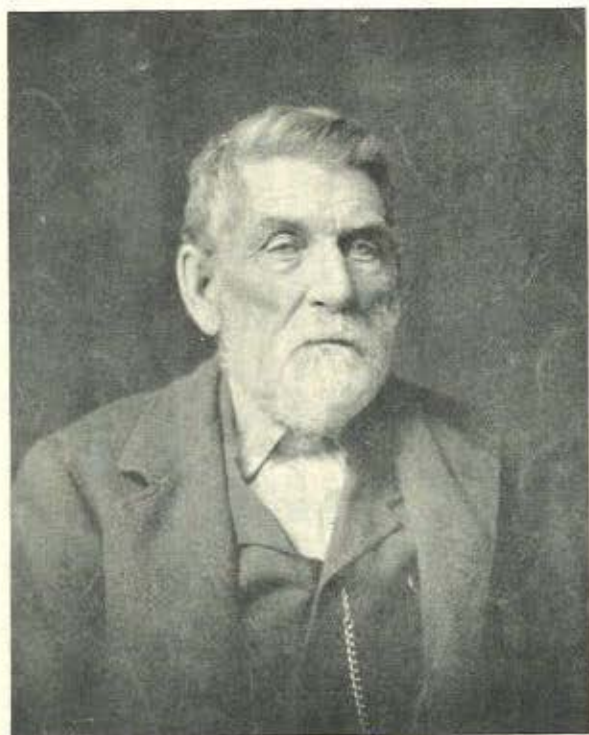
After the Revolutionary war the McCools went to Canada in wagons drawn by oxen. My father John, was born in 1848 at Bedford Canada. His father, George, and family moved west to St. Thomas in the Province of Ontario. They, hearing of great agricultural opportunities moved to a farm in Macon County Illinois. Here two sons and three daughters grew to maturity. George died and at sixteen years of age my father, John, became responsible for the welfare of the family.

The Elery Mickey Merris family lived on a nearby farm in Macon County Illinois. They were of Scotch Irish descent. This family was highly esteemed, being prosperous and upright farmers. My grandfather, Elery Mickey, was a striking man who took great pride in his family and enjoyed the ownership of good horses.

The home life of these farmers, with their clean living was commendable. They did not indulge in alcoholic drinks. Such were not permitted in their homes. The children were taught to obey and respect their parents, to be considerate of and courteous to guests of the family. A gentleman was addressed as Mr. and a lady as Mrs. The right of ownership was known and respected from early childhood on.

The young people provided their own amusements. A popular one was dancing the quadrille, or "square dance" as it was called. These were held in the homes and under the surveillance of the parents.

Men, women and children skated on ponds and creeks. Many were to be seen skating during the day and of course at night. A



E. M. Merris



Mrs. E. M. Merris

log fire was built near the shore at night. They did not indulge in this sport on the Sabbath.

The young men wore fancy, high topped, thin soled leather boots to the dances. They liked them to be tight fitting because of their lightness. My father, according to my mother, selected very tight fitting ones. In order to stretch the leather he poured water on them while they were on his feet.

They made much of Christmas holidays. On Christmas morning the children arose very early in order to ascertain what had been placed in their stockings during the night. On this day the only work done was that of caring for the livestock. Groups of neighbors met for dinner. We alternated each year with nearby neighbors. A Christmas tree was placed in the village church. On this presents were hung. These were distributed in the evening, then followed a social period.

Sleigh rides were taken. Four good horses drew a sled on which was a hay frame covered with hay. Quilts and lap robes were spread over the hay. The couples went several miles to another farm or village to dance and to eat.

Shooting matches were held during this week. Anyone who paid a small fee could enter the contests. Turkeys, geese and ducks were offered as prizes. Shot guns, loaded with certain kinds of shot, only, were used. The targets were stationery.

Easter Sunday was looked upon as a day of worship. It began with the collection of eggs which the children had gathered secretly and hidden. These were brought from where they were hidden before breakfast. The one who brought in the largest number received a prize. Thus breakfast was an enjoyable meal.

My father and mother Martha Anne Merris were married in 1872. She was a slender, striking brunette. A "tin type", or picture was taken of her and two sisters when they had their hair down and combed. It reached the floor upon which they stood for the picture!

They and their three children moved to Labette county, Kansas, near the old Oklahoma border, in 1878. This trip was made in what was called a "prairie schooner", or a wagon covered with canvas. This was drawn by a team of horses. A cow was led behind the wagon to provide milk for the family. They had home cured bacon and hams and relied on wild game for fresh meat. This was abundant and there were not any restrictions on the

ownership or the use of firearms for such purposes. The roads were mere trails.

They bought a farm in Kansas and paid for it by raising cattle and sheep. My father and a friend went into Nebraska as land surveyors. They made this trip in a covered wagon which was drawn by oxen. There were not any roads, only trails across the vast expanse of prairie. Roving bands of Indians were rather troublesome in that entire region.

My brother recalled that a branch or creek on this farm carried oil and he, wading in the water, came into contact with the oil. The oil was of no value in those times. Many years later after they had disposed of the farm, this area produced much oil.

After my father returned from Nebraska, the McCool home, which was constructed of logs, burned to the ground. This, together with the lack of rain for their crops and troublesome Indians, caused them to sell their farm and cross the Missouri river at St. Joseph, into northwestern Missouri. Here former Macon county Illinois school mates—the Warrick brothers lived and farmed.

The McCools lived there two years in a log house, in which the writer was born. My father learned well the art of making molasses from the juice which was pressed out of the cane stalks. The knowledge so gained, served to be useful later on.

The farmers wives made their own dyes. Yellow dye was made by boiling the bark from wild crab apple trees. In order to make green dye, bluing was added to the yellow. Brown was made from walnut trees.

Lye for making soap and for other purposes, was prepared by bleaching hardwood ashes with water.

Leather goods, as shoes, work gloves, harness, riding bridles and whips, were made water proof and their durability greatly increased by treating them with lard which was heated until brown, with which carbon, which was scraped from partly burned or charred pine. These were carefully mixed.

These were the type of people who laid the foundation for the middle west or what is known as the breadbasket of the United States. Their ideals, independent spirit and analytical type of minds have been handed down from generation to generation. They were, as are their decedents, alert and well informed as to what goes on in this and other countries. They, as many people do not realize, are great readers and students of current events.

There were not any high schools in the county. We attended a rural school until we were old enough to go to a Normal school. The rural school consisted of one room which had seats for forty pupils. The ages of these students ranged from five and one-half to twenty three years. The school stood on a hill at the edge of a large tract of black oak, hickory and walnut timber. The pupils pulled grapevines from the trees and employed them as swings and for jumping the rope. They also bent over small trees and saplings, sat on their branches while others swung them up and down. The girls made beautiful wreaths from wild flowers. Hickory, walnut and hazelnuts were gathered from the timber and some were cracked with stones. A beautiful green moss formed a carpet under some of the trees. This was removed, brought to the play ground and what were considered to be buildings, laid out with it.

Large piles of leaves were made, in which the younger children played.

The main session ran five months, beginning the first week in September. The school was closed during January and February. Another term was held during April, May and June. Owing to many duties at home the boys who were old enough to do farm work did not attend this one. Which meant only five months of school a year for them.

Our home was one mile east and one quarter mile north of this school. In order to reach it we walked across the intervening farms. We made note of anything unusual in farming which we saw. These were discussed with our parents upon our return. The mothers did not permit their daughters to display bright colored garments, especially red, as such enraged the farmers cattle and they would chase them to the fences. If they were not alone or were in a group such did not take place. Thus early we learned self reliance and the value of cooperation.

Few subjects were taught in the rural schools, namely Civil Government, American History, Spelling, Writing and Reading. The older pupils did not quit school because they had been through the books, but when they were mature. This meant several repetitions of the same books!

Unusual or difficult problems in arithmetic were taken to the various homes for solution. These were discussed by the family groups. American History with its ramifications in various parts of the world was really studied and discussed by the pupils and parents. Spelling was emphasized in like manner. Community "spelling bees", or matches were held. These were open to the

residents in our and neighboring school districts. These contests were held during the winter evenings.

The home in which four children were born, stood on the west side of the 80 acre tract, just off the highway which extended northward and southward. The land sloped gently in all directions from the home. A small creek passed through the farm west to east, near the northern boundry and one south to north near the eastern boundry and joined the former. Adjoining this tract to the south were 320 acres of virgin grass pasture. It was rather hilly, or rolling. This provided an interesting outlook from the home and was the scene of numerous exciting experiences.

This pasture was rented by father at a low price. It provided pasture for our cattle and horses and for those of the neighbors. The charges for the latter more than paid for the rental of the property.

A man placed several head of cattle in the pasture. After they had been grazing a few months he came, opened the gate and rode his horse into the pasture and drove them toward it. My father observed this and went out to the gate and closed it. He had learned that he was a tough individual and was known to use a knife in encounters. Father selected a hickory stick or limb, which was two inches in diameter and about seven feet in length. He leaned it on the fence. When the rider came up he was angry and asked why the gate was closed. Father told him calmly that the cattle were not to be removed until the rental was paid. He casually placed his hand on the limb. The man did not dismount from his horse and rode away. I was standing near and observed the procedure. Father told me that if one were angry under such circumstances, he should not display it by voice or actions. "If you know you have to strike a man do not announce what you are going to do. Strike him." He would have employed the limb if the man had rushed him as Father knew he carried a long bladed knife. This was a lesson I never forgot.

This pasture was the scene of many wild experiences. He had several of what were termed Texas Long Horns in the pasture. They were accustomed to being driven by men on horseback. If one walked into the pasture for our cows or horses they gave chase.

A farmer who owned a large tract of pasture south of our farm constructed an earthen dam twenty feet in height across a stream. He stocked the reservoir or pond with fish and permitted us to fish and swim in it. Also to skate on the ice as well as

to remove the ice with which to fill our ice house. All of which furnished us much pleasure and information on wild life.

At times Father took one or more of us to the county seat which was twelve miles distant across hilly terrain. The roads were rough when not muddy or worn smooth by traffic. It required from early morning until late afternoon to make this trip in a lumber wagon drawn by a good team. It was considered a great opportunity to go to town, see the various stores and the court house with its jail.

We became very hungry, the result of riding over the rough roads. Usually we took a basket of food for lunch or dinner as it was called. I was greatly thrilled one day when my father took me to the hotel to eat. The experience of being served and watching others was of great interest to me. After shopping (called trading) was completed Father took me to see the court house. We went into the court room where he pointed out the witness chair, Judges seat and the jury box, to me. Then followed the trip home which was long and for the most part tiresome. We saw a team, which was being driven by a man who was intoxicated, run away, turn a sharp corner at full speed. The wagon turned over. The driver was thrown clear of the wagon and in a few minutes time he arose, bruised but not seriously injured. The moral of it all was brought out by Father.

Upon arriving home the children gathered around the various packages to ascertain what had been purchased. My parents usually brought presents home to each of the children.

We entered into the production of broom corn. This proved to be a profitable but difficult undertaking. It was a new crop, but since it belongs to the sorghum family their cultural operations, or requirements, are similar. The height of the stalks range from seven to fifteen feet. The seeds are formed on tassels or brushes. These brushes are harvested. The plants from two parallelling rows are broken over diagonally to form a table about three feet high. The tassels are removed from the plant by means of a pocket knife and laid on the table to dry. When dry they are hauled to the farmyard. The seeds are removed by holding the brushes against a rapidly revolving cylinder which has steel teeth attached. The heads are then bailed and taken to market. Ten or more men are hired to harvest this crop.

It was my duty at the age of eight years to carry water on horseback to the laborers. Before breakfast and again at the close of the day I did chores at the farmyard for one and a half hours each.

The firearm we had was a single barreled muzzle loading shotgun, or musket. It was loaded by pouring a given amount of black gun powder into the barrel. This was held in place by tamping the paper with a steel ram rod. Then leaden shot was poured in and in turn was held in place by tamping paper on it. The size of the charge was governed by the use to be made of it. Small birds as quail, require smaller charges than do rabbits or duck or prairie chickens.

One spring I saw a flock of ducks settle on the pond. I crossed the large pasture and approached the dam from the rear, crawled up to the top aimed and let fly. The gun was heavily loaded and the recoil (or 'kick back' as it was termed) rolled me backwards down the slope. I returned and was amazed and happy to see that three ducks had been killed, a record for that region. Rugged sport for a nine year old!

The neighboring families came from widely separated areas of the United States. Several were from the New England states and Kentucky. One of them remarked to me, "A boy or a man is like a tack, he can go as far as his head will let him."

A few came from the Ozark mountains in southern Missouri. They were spoken of as "Hill Billies." For the most part they were splendid neighbors, trustworthy, cooperative and industrious.

As our parents were well educated, the "Hill Billy" dialects were amusing to us. We enjoyed hearing them use whut for what, figger for to think or to consider, hit for it, kin for can, hain't for there is not, fur for far away, none for anything, war for was, antigoddlin for crooked stream or road, dreen for drain, crick for creek, cain't for cannot, tuck for took, twicst for two times, It aint fittin to do that, git for got, whup for whip. Beholden meant to be under obligation for a favor, as, I ain't beholden to them for nuttin. Kilt for killed, as, I liked to kilt myself laffin at that.

One of them was on his hands and knees crawling along a fence. A neighbor asked him why he was doing so. He replied, "I wanna see how it pears to the hawgs."

We figgered on going to town. I reckon I kin do hit fur you. I got to go for I am abliged to go. Thatun for that one.

When we had hay that was ready to load and haul from the field I was the loader, or the one who forked it into position when it was pitched onto the hay frame by my older brothers. There was a strip of native prairie grass on the slopes of the north

creek. This grass was permitted to grow unmolested as the slopes were too steep for farming. In it were rattle snakes which at times crawled into an adjacent field. While loading hay one of the snakes was tossed up with the hay. I saw it and slid off the load to the ground. When I told my brothers why I did so they agreed it was quick thinking and fast moving on my part.

A neighbor Mr. J. Craig, who lived in a large square house about two miles distant was an outstanding man. He was greatly interested in the McCool boys as he did not have any sons. He gave a small pig to me when I was eight years of age. I requested a 'she' pig as I wished to raise hogs in order to obtain cash for making purchases of different articles. My father agreed, with the understanding that I was to have the entire responsibility for their care and development. My pigs were to have their tails clipped off as a mark of identification. This resulted in my favor, as a grown up hog bit the tails off of others which belonged to my father.

He discovered this and remarked, "Sam Hill! this will not work as you will soon have more hogs than I." When the hogs were sold I received my share of the proceeds. Later this enabled me to go the University of Missouri. In those days there weren't any telephones nor was there R.F.D. service.

We were taught to be fearless and rugged. If one of us were injured however, Father would be sympathetic saying, "You will be alright shortly. You are not a cry baby." To have been called one would have been embarrassing and regrettable. As a result we were looked upon as being a rugged lot.

As the family increased financial pressure also grew. In order to meet this my father went into the manufacture of molasses or sorghum from cane. This was a difficult crop to manage. Before cutting the cane plants the leaves were removed. This was done by the use of strips of wood light in weight and shaped like swords. This was considered to be light work and was done by my sister and I. She preferred such to household duties. The harvest period was short and was done just before frost appeared. Owing to this several men were employed during this period. Many people came to purchase molasses and to see the plant in operation. In addition several neighbors brought their cane to the mill to have it pressed and processed for their use at home.

During the summer and early autumn equipment required to process the juice was installed. A large mill, a six horse power stationary steam engine for running it, and a furnace for

evaporating the water from the juice of the cane and cooking the molasses was assembled. This proved to be a profitable business.

AMITY

We bought an eighty acre farm in a beautiful country six miles northwest of what is now the village of Amity Missouri.

Our home life was splendid and admired by many of our neighbors. My father worshipped Mother. His pet name for her was Mat. He relied on her judgement to help him solve many problems which arose. When tired at times he became annoyed by the childrens capers. If he became too strict my mother would sweetly say, "Now, John." That, owing to his great love for her and respect for her judgement calmed him at once.

Different types of men were invited to have meals with us. Each would be discussed after his departure. As a result each of us discreetly noticed every move the guest made. Father had methods which he employed to indicate their character. These were brought out in our discussions and either approved or disapproved of the reactions. As a result we quickly estimated the character of people when we met them.

Mr. G. Lutz, a farmer, was spending his first night in a hotel room. His son returned from college and when he learned that his father was in the hotel asked the night clerk to ring his father's room number. The farmer did not answer the call, whereupon the son asked the clerk to ring one long and two short rings (that was the phone call at the farm). His father answered that call!

Many town and city folks believe that the farmers are over paid for the produce which goes to market. A lady in Kansas City Missouri had been buying milk, butter, eggs, etc. from an up-to-date and well managed farm and drove out to see it. She admired it all but told the farmer that she had one complaint to make; namely, that the price of milk was too high and considered that it should be sold at cost of production. The farmer replied if she so desired he would charge her the cost of producing the milk when the next bill was presented to her. It was listed at 75 cents per quart!

Many such farms were organized and run for display and advertising the name of the owner and other products which they offered for sale.

We had an English Terrier dog which we called Mike. He killed many rats about the farmstead. When one got away and went into a hole Mike watched nearby until he appeared. The use of the expression "he was as persistent as Mike at a rat hole," was common.

A Missouri farmwife had just delivered her son. The midwife asked her if she wanted help for the next one. She replied—no, my husband and me has found out what causes em.

A farmer had an accident and was taken to the hospital. He became impatient because of the food served him and said to the nurse, "I do not like nourishment—give me something to eat!"

There is no great rivalry between small villages in north-western Missouri. Two teams from river towns were playing baseball. A small man was selected to act as umpire. A huge player was at bat and another large man was catching. The umpire was standing behind the catcher calling the balls. He had called two balls and two strikes—very close decisions to make. He then called two and the catcher as did the batter yelled two what. The umpire replied, "Too close to see."

Our mother too was a splendid leader and was able to estimate people remarkably well. Thus they were able to guide the children in the selection of friends and associates. She was respected and loved by her children. A neighbor lady once ate dinner with the entire family. She observed that the boys (six of us) took places on one side of the dining table. They remained standing until their mother was seated. This incident was related throughout the countryside and was utilized as an example by parents in training their children.

We watched the various birds build their nests, when the eggs were laid and hatched. We knew where quail nests were located and scattered grain about them in order to provide feed for them. We disliked the blue jays because they ate the eggs and killed the young of other birds including chickens. They also confiscated the nests of other birds.

Owing to the number of children in our family and their popularity, numerous guests entered our home. Father because of happy disposition, fairness and reputation for honesty was a popular man. A banker in the county seat said, "I would loan money to any of John McCool's sons with which to enter college as I trust them."

The life on this farm was very rugged as well as for the most part interesting. As a rule those of us who worked arose early.

A typical day for me when I was twelve years old was as follows: I arose at 4:30 A.M. helped to do the chores as milking the cows, feeding the livestock, grooming and harnessing the work horses, before breakfast was eaten. The time required to do these chores was one and one-half hours in the morning and again at the close of the days work in the fields.

After having eaten breakfast I went into the fields at sunrise with a team and a one row "walking cultivator". This two wheeled implement straddled the corn row and I walked behind holding the shovels in place by their handles. One hour was set aside for rest at noon, thence to the fields again.

The average number of acres of corn cultivated per day was six and one half acres. This meant sixty-five rows of corn one fourth of a mile in length, or a total of sixteen miles!

We heard of farmers having cultivated ten acres in one day. One morning I went into the field at sunrise with a good fast walking team. The weather was ideal for both man and beasts. I decided to attempt to accomplish this. At sunset when I left the field ten acres of corn had been cultivated! Twenty-five miles had been walked with constant attention to the work in hand. This required stamina and an abundance of what was termed intestinal fortitude.

In my junior year at the University of Missouri College of Agriculture a grain judging team was sent to the livestock pavilion in Chicago Illinois. A given number of ears of corn, the corn being yellow dent, were to be placed in what was considered to be their rank and the reasons for such given orally to the judge. I was a member of the team from Missouri. I won the contest, I considered, because I knew what Mr. Funk considered to be an ideal ear of corn. He placed strong emphasis on the amount of corn on the cob.

I was assigned to pick or gather green ears of corn for the beef cattle which we were feeding and the four hundred head of hogs which were being prepared for market.

The water for the livestock was taken from wells which were made by a well auger, which was owned and operated by a man in the neighborhood. The question as to where to drill for water arose. He considered that this could be determined by the use of what was termed a water witch. This consisted of a green twig taken from a maple tree. It was trimmed so that the twigs formed a V. The user held a prong in each hand with the main portion in front of him when he walked over the area to be tested.

If water was below the surface the twig bent downward! My father did not believe this to be of any use, but permitted the man to proceed with his tests, where he desired to have a well and where he considered that a well of water was likely to result.

The operation was begun. The power was furnished by a horse which was attached to the auger. The horse traveled in a circle of small diameter while drilling. The owner was a tobacco chewing addict. One day he did not have any to chew and turned into a cursing, tempestuous crab. He badly mistreated his horse. My father sent me to town to purchase a plug of tobacco, as the water was urgently needed for the cattle. I was about eight years of age at the time. I purchased the plug (one pound) of tobacco and began the return trip. I had seen men chew tobacco and often was curious as to why they seemed to enjoy it so much. I finally decided to appropriate a bit of it to try when I came home. I pried the piece apart and removed what amounted to what I considered a chew! I carefully pressed the block of tobacco together, and returned it. As soon as the user had begun to chew he was a transformed individual and we soon had a well finished which proved to be a good one.

Later the next day I went out into the field and took my first chew of tobacco! In a few minutes I was dizzy and terribly nauseated. When I came to the house my mother, who had seen such results, asked if I had taken a chew of tobacco and proceeded to assist me. I never formed the tobacco chewing habit.

Two groups of young men from different sections could not agree and often had fist fights. In one group was a small, very strong, fast moving lad and a great fighter. At one meeting his opponent was large and rough. The smaller lad wore his coat in the pocket of which was a quantity of dry finely powdered tobacco. He threw some of this into the eyes of his large opponent and then proceeded to thrash him.

The ears were jerked off the corn stalks. The husks were not removed. When a wagon load was obtained it was hauled to the feed lots for the cattle and hogs to eat. I could not accumulate any reserve. This was a difficult task and the loneliness was terrific. On Sunday morning my brothers took over, as they sympathized with me.

Our corn crop was soon fed and my father bought many loads of corn from the neighbors. As the men were busy at more strenuous work, it was my responsibility to weigh the loads of corn and the empty wagons and make out checks in payment for the amounts due the farmers, who delivered the corn. Then too,

I weighed the cattle weekly to ascertain how much they were gaining in weight. A gain in weight of two and five-tenths pounds daily per head was considered to be very good. This was responsible work for a lad thirteen years of age.

One day a farmer brought a load of corn to sell. I weighed it and found it to be much heavier than the usual run of loads. I climbed up on the load and discovered that water had been poured over it to increase the weight. When I took off the estimated over weight and told the farmer the reason, he was chagrined to think a boy had discovered what he had done.

It was also observed that when corn which had been grown on what was originally white oak timber land, was fed to the cattle they did not gain in weight, but lost weight. I refused to accept more of this corn. I did not learn until several years later that it was due to lack of sulphur in the soil. Corn when grown under such conditions will not produce protein in the grain—hence the cattle were not fed properly when this corn was given to them.

We fed corn to cattle which had been shipped from the western states or Arizona, Colorado and others when ready for market they were driven about seven miles across country to the shipping of freight station where they were loaded into livestock cars.

It was planned to have the cattle in the city of Chicago Illinois, four hundred miles distant in time for the market of Tuesday, as that was the best day of the week for selling them. In order to do so we left the farm with them on Saturday. Those who went with the stock rode in the caboose and were given a return ticket on a passenger train.

My father sent my brother and me with one lot, as he was training us in business transactions. The freight train which carried our cattle was a long one. It went into a siding in order that the cattle could be watered and inspected. We walked to our car which was near the engine. The signal for departure was given and we climbed on top of a car as we knew we would not be able to swing onto the caboose when it reached us. We crawled back to the caboose. Since it was quite cold it was a very dangerous undertaking. We went to the yards in Chicago and saw that our cattle were watered and fed. We were kindly directed to the 'Drovers' hotel in the livestock yards for a room. The following morning a livestock commission man assisted us in finding transportation into the Chicago "Loop" district. We saw much of the city and were at the La Salle street station in time for a passenger train to our home in Missouri. We were the envy of several of the neighboring farm boys.

We did not go into the fields on Saturday afternoons and did not do any work on Sundays.

After the cropping season was ended we had more time for reading and singing of folk songs and hymns. One of the girls played the organ while the members of the family and guests stood around her and sang. My father led the singing as he had an excellent voice and he knew music. He loved to sing with his children.

During the winter evenings we had family worship. Our mother and father alternated at reading a chapter in the Bible and praying. It was always asked that the family be blessed with good health, the sons be gentlemen of honor and the daughters be refined ladies.

In the absence of public libraries we provided our books. We had a small but carefully selected library. Works of Emerson, Shakespeare, Scott, Poe, Tennyson, Longfellow, Cooper and Victor Hugo (*Les Miserables*)

There was a volume on Phrenology which we all studied and discussed. From this book and our discussions which took place we early formed the habit of studying people, estimating their character etc.

There were not any high schools or R.F.D. service in the country. We attended a rural school, similar in every respect to the one previously described, until we were old enough to go to a Normal School.

A salesman who traveled from town to town on trains, had three stops to make one day. He stopped at the first, transacted his business, returned to the depot to learn that his train was several hours late. A farmer drove in to meet some guests and was persuaded to take the salesman to the next town, a few miles distant. He had a horse hitched to his buggy. The horse would hesitate frequently turn his head. The salesman asked the farmer to explain the actions of the horse. He replied, "He is quite old and does not hear and turns his head to see if I want him to stop." The owner would get out of his buggy, walk around and talk to his horse, pet him and feed him raw carrots. The horse would repay him by neighing and traveling faster!

We derived much pleasure in coasting down the long steep slopes in the pasture, on our sleds.

When snow covered the surface crowds of people came there to enjoy this sport. A good sled carrying two young people would

descend at a breath taking speed. Several couples would take their positions with their sleds and at a given signal they would start and a race was on. The slopes were several hundred yards in length. At the foot of them was a long wide flat area on which to slow down. Prizes were given to the couples who placed for the final race. A girl and I entered the race. I looked over the condition of the surface and placed steel rods on the bottom of each runner of my sled. Under the conditions these were advantageous and our sled moved much faster than it would have otherwise. This was legitimate as there were not any restrictions on the sleds used. My partner was a very sweet daring girl and did not hesitate to take this ride which promised to be a very speedy one. As the result she obtained a blue ribbon for winning! That made us very good pals.

Later on coyotes or wolves which came from Kansas prairies, raided chicken, pig and sheep yards. These are difficult animals to approach. Twenty neighbors organized a hunt for them but did not find any. My brother and I knew the location of their den, or hiding place, but did not announce it. We then had a very good modern breechloading shot gun. We purchased shells which were loaded with large shot, concealed ourselves and lay in wait for them to come out of their den. We killed three, removed their pelts and hung them on the side of the barn as exhibits!

The skunk makes its home underground. The mother gives birth to six to eight kittens per litter. An Osage hedge is a favorite place for their dens.

STANBERRY

Owing to the absence of High Schools in our county, in order to obtain instruction in the subjects which were required for enrolling in the University of Missouri, we attended a Normal School at Stonberry which was about twenty-five miles distant from our home. This school had one of the strongest faculties in the state of Missouri.

When I entered it was with the understanding that I was to make my way by working for the school. I did so for a few weeks. The President while watching football practice on the campus concluded that something was lacking. He asked me if I had ever played quarterback. I replied in the negative, where upon he said, "Get in there and try it." I knew the signals and how they should be called. In a few days I was quarterback and captain of the team. This meant my financial problems with respect to

board, tuition and other fees were over because they were waived!

When we had hard games to play outstanding players were brought in. The requirements for being in the contest was a registration card from the Normal. Since our center was Registrar he was supplied with the required blanks to be filled and signed!

We had a star half-back, a very fast ball carrier and excellent punter, Ben Jones, who had played four years on a university team. He later became famous as Ben Jones the race horse breeder and trainer of Tarkio Missouri.

Another one was "Hub" Lindley our coach. He had been a star back field man for the University of Missouri. Another one played full-back for us, because he loved the game. He was a rugged and alert telephone linesman.

The business men of Stanberry Missouri supported the team as a drawing attraction for the customers. The local sports writer featured me in an article as the fastest and most accurate quarterback in northwestern Missouri.

We were to play a game with a famous Haskell Indian team from Kansas. The coach suggested that I go over and scout their team. When I stated I did not have funds which would be required, he replied that funds had been donated by the business men! When I interviewed the President of the Normal he advised me to go, as I should learn other than football on the trip. When I returned one week later I had a card file of what I had seen and learned about the Indian team. They had a man who was rated as the greatest full-back in America. I discovered that when his signal was called for him to carry the ball he twitched his body!

I recalled what my father told me when he learned we were to have a game with the Indians from Kansas. He said, "You will beat them, you white boys have two hands and two feet the same as they, but you will beat them with brain power." I told this to the reporter when I returned. It went into the press about as I told it. The heading he used was "McCool learns about the Indians." It boosted the teams moral greatly. The result of the game—the greatest upset in northwestern Missouri football!

I desired to enter the University of Missouri College of Agriculture in the Autumn, but lacked some Latin. After making this up in the summer as previously related, I went to the registrar of the Normal and asked for my credentials to present to the University for entrance. He said that I did not have enough Latin.

I stated that I had made it up and wanted credit for it from the Normal, as I had taken it from one of their best Latin students. After due deliberation and an examination, he gave me full credit and thus was I admitted to the University of Missouri.

MISSOURI UNIVERSITY COLUMBIA

Each of the eleven children went from this farm to college. A remarkable record for any family to make.

My father learned that my brother and I planned to enter the University and said to me, "I hear that you are going to the University this fall." We replied in the affirmative, and he asked, "What are you going to use for cash? I haven't any as there are others who have to go." He was told that he need not provide any as we were going to pay expenses by working there. We went to Columbia, the seat of the University, one week before the University opened in order to seek employment. I had thirty dollars to be gone a year! I worked one day on the Horticultural Experiment Station and received ten cents an hour for very hard work. I did not return and sought work elsewhere.

Mrs. Forbes, a lovely lady who was the wife of one of my professors, asked me to work for her in her home. She paid me more than three times as much as the Horticultural outfit. That provided me with cash with which to pay my board and incidentals.

After a few weeks I worked in the Laboratory of Professor Marbut who was to begin a soil survey of the State of Missouri. I received thirty-five cents an hour and my financial troubles were over. I made good scholastic records and was permitted to carry extra subjects, which permitted me to graduate one-half year ahead of my class. I then devoted full time to the soil survey.

After having worked in the Laboratory during my Freshman year, a classmate and I were sent with the chief to what proved to be the roughest part of the Ozark Mountains in Missouri, to assist him in the completion of his studies on the geology of those mountains. Each of us received thirty-five dollars a month and expenses.

We of course observed the natives, their dialects, customs and mannerisms. We crossed the Missouri river at Jefferson City and traveled in a two seated carriage, drawn by a team of horses.

The summit of the mountains, or the Ozark plateau, is two thousand feet high. Innumerable rocky gorges fall away from this, resulting in extremely rugged terrain. These gorges continue until a stream or river is reached. The roads or trails followed these. It required great care and skill to drive a team over these. Many were too rough and had to be traversed on foot in order to obtain facts for mapping the formations. Then too, it was difficult to obtain food and sleeping quarters. It is beautiful there, especially in the autumn. Mark Twain after having traveled over much of the world returned to Missouri. He was asked, "What is the most beautiful place you have ever seen?" He replied, "Missouri in the fall." The Ozark mountains are beautiful owing to the various shades of the coloring of its trees and shrubs.

The homes for the most part were small unpainted shacks, many without screens. The floors were clean but a lack of knowledge of sanitation in the kitchens was general. Corn husks where available were made into sleeping mattresses. There were numerous attractive homes which were located in the good farming areas.

The people were deliberate and soft spoken in their speech. Our leader, Professor Marbut, encouraged by his mother, left there for the University of Missouri and made an enviable record as a student and gentleman. He became a noted Geologist. He made a Geological survey of the State of Missouri including the Ozark mountains. He inaugurated the soil survey of the state and later became the outstanding Soil Scientist of America. He owned a farm in the Ozarks where he produced apples and hogs for the market. He loved the Ozark mountains. Wherever he went he was recognized as a native. The people there would answer his questions concerning distances, directions, conditions of the roads, streams and others.

His students held him in high esteem. His influence due to his tireless energy, gentlemanly conduct, understanding, breadth of view, great sense of humor, were great and never forgotten by them. Some of Missouri's greatest men came from the Ozarks.

Dr. Marbut, our chief, returned to the University and was gone several days. We carried on the work, but soon found it difficult to obtain information from the natives. They looked upon us as "furners" when we asked one of them how to reach a certain place he replied, "Take the main traveled straight farard road". That was difficult to do as the roads appeared identical. We asked another one how far it was to the next home. He

replied, "Two whoops and a holler from here." Upon completion of this survey, we all went to Barton County Missouri to make a soils map of it. Our headquarters were at Lamar Missouri. We resumed our studies at the University in the autumn.

The experiences at the University with the Professors not only were trying but also were interesting and humorous. I soon concluded that many of them were great egotists. One of them who was of great prominence in the field of Animal Industry, gave a course which was required of all Freshmen students in the Agricultural Division. He gave us, of all things, the gestation period of animals and the period of incubation of bird eggs. These were facts which we had known on the farm. This was easy for the farm boys, but difficult for those from the cities!

Professor Whitten, Horticulturist; Dr. Conway, Veterinarian; Dr. Eckles, Dairyman; Professor C. F. Marbut, Geologist; Professor Curtis, Zoologist and Professor Miller, Agronomist, were men of outstanding personalities, and grand gentlemen.

Fortunately, I received an Instructorship at Cornell University in the fall of the year I graduated at Missouri University. One of the Professors had accepted a Professorship at Cornell University. He offered me an appointment as a member of his staff there, as I had studied under him at Missouri. I accepted his offer, which fulfilled one of my early ambitions, namely to attend a graduate school of a large Eastern University. My monetary difficulties again became minor. There I found the attitude of the Professors quite different. As an advanced student one was largely on his own resources. There was very little "window dressing" involved yet numerous Professors broke down their dignity and exhibited a real sense of humor. I played baseball on the Graduate School team. I was selected to pitch for it. After having trained and practiced a short time, what prowess I formerly had in Missouri returned to me. A Professor and Head of the Horticultural Department, while watching a game came to me and said, "Mickey you have developed into an excellent pitcher." He had forgotten, for the time being at least, academic matters.

I returned home to the farm each summer for a vacation. I had fallen in love with an attractive refined and grand young lady who lived in a village twelve miles distant from my home. While there we were together a great deal. I had another year to devote to graduate studies. She announced to me that she was returning with me. We were married at her lovely home and went immediately to Cornell. My salary was seventy-five dollars a month. She was a remarkable business lady and owing to this we saved

enough to tour the East, seeing New York City, Boston, Atlantic City, Pittsburg, and Washington D.C. Another very happy and satisfactory year for the Missouri farm boy!

We returned to Missouri. After a few weeks I received notice from a Cornell Professor that there was a position open at Oregon State and advised me to apply for the position. In a short time I became a member of the faculty of that institution.

OREGON

We boarded the train at Kansas City Missouri for Denver Colorado. From there we stopped at Ogden Utah to see my cousin Harry McCool. Thence we went to Salt Lake City where we dismounted from the train. Inquiry was made as to the distance to the great Mormon Cathedral and other points of interest. Upon being told they were two or three blocks distant, we walked in that direction. We were surprised to find that one block meant a distance of one mile!

The trip to Denver across the great plains in Kansas and Colorado was of great interest to us. The sun from the cloudless sky was very intense. Owing to the light intensity, all livestock sought shade from mid morning until mid afternoon. We did not know that this was due to the intensity of the ultra-violet rays which the sun in this cloudless, dustless, and humidityless atmosphere carried. We saw a steer standing with his head lowered and facing a telegraph pole so that the shadow or shade cast by it covered his back bone!

We delayed our journey at Denver to view the Royal Gorge. This was seen from a topless railway car on which were placed chairs. These mountains and gorges with their variations in color are indescribable. We heard various exclamations by the tourists as they attempted to describe them. An attractive young lady was heard to exclaim, as she saw the Royal Gorge, "Isn't it pretty."

The accoustics of the great tabernacle are remarkable. When a pin was dropped on the stage, its fall could be heard at the furthest point from where it fell. Such, and the pipe organ and beautiful windows were fascinating.

We went swimming in the Great Salt Lake and to be sure were delighted to find that owing to the salt content of the water one would not sink.

The City, Tabernacle, the Rockies, irrigation farming and the people were of great interest to us. It was observed that the borders of each ranch were outlined by tall poplar trees which grew along the irrigation canals. We were greatly impressed by the tall men and the friendliness in Salt Lake City Utah.

After we had spent a few days with my cousin in Ogden we boarded a train to Baker City Oregon. This was an attractive, alert, modern western small city.

The next stop was at the Pendleton where the famous Pendleton "Round up" which was in progress. We were there two nights. Owing to the number of guests the only places available for sleeping were on cots placed on the porches of private homes.

The Rodeo was so surprising and attractive to us, that we saw it in each day we were there. One of the features was the bringing into the huge ring, or arena, Oregon wild horses. Prizes were given to the cow boys who roped, saddled and rode a wild horse around the track! As there were thirty or more of these horses the commotion was great. The most difficult horse to ride was a gelding that was used as one of a team which pulled a cab in and around the town.

We met several splendid people, with whom we kept in contact while we lived in Corvallis.

The railway route along the Columbia river down to Portland Oregon too, with the mountains, bridal veil falls, salmon and fishing was scenic and most fascinating to us from the Missouri prairie country.

Portland lies above the Columbia river, from which may be seen the snow capped mountain peaks of Mt. Hood, Jefferson, Three Sisters, Mt. Adams, Bachelor, and Diamond in the Cascade mountains which extend southward from Columbia through central Oregon.

The Willamette river extends about one hundred miles south and somewhat west from Portland east of the coast range of the Cascade mountains. This valley is thickly populated and is a famous agricultural valley. It is noted for logan, duesenberries, hops, prunes, pears, and apples. The soils of this thirty mile wide valley are fertile, dark colored, for the most part silt and clay loams. All land holdings regardless of size are called ranches. When one speaks of his ranch, he may be referring to about one acre or several thousand!

Owing to the soil and climatic conditions, large yields of

berries are obtained. We arrived at Corvallis the year the first crop was harvested. A few days after ripening, the market was over supplied and the berries were of little value. Owing however to our alert and far seeing horticultural department at Oregon State the industry was saved by processing the fruit into juice, canning and shipping them to the east.

The soils and climate in the upper part of the Willamette valley are excellent for the production of hops. These were raised for the beer industry in the larger cities in the United States. The flowers (which are utilized), grow on vines which are upheld by wires attached to rows of poles or posts. The laborers for the most part are transient. The families live in tents or large buildings during the harvest. This valley was also famous for its Soy beans, clover and alfalfa seed. It was of great interest to the writer to find that the yields of leguminous crops of seed were slight unless sulfur in some form was added to the soil.

The Rouge river valley, which joins the Willamette is outstanding for the huge quantities of its excellent pears. These trees grow on very heavy clay soils.

Western Oregon is an excellent dairy region. The use of silos for ensilage are not necessary inasmuch as succulent crops such as kale and pasture grasses grow the year round.

The "red hill" soils in the coast range are famous for the prunes, apples and others, which grew in them.

Large numbers of pure bred dairy cows and horses are produced in the Willamette valley.

Lumbering was the leading industry in Oregon, due to the vast forests of huge fir trees, which extend from the Canadian border southward into California. The Douglas firs, except for the Sequoias in California, are our tallest trees. They become several feet in diameter and are devoid of limbs to heights of one hundred feet or more. One is thrilled when he walks through one of these forests. Indeed a great industry, with its seven billion feet of lumber annually.

It was thrilling to see one of these huge trees fall when cut. Many were rolled into the Willamette river and floated down stream to the lumber mills. At times huge log jams were formed in the river. These were broken up by men who walked over them to the best points of attack, for breaking the jam. Long poles small in diameter were employed by the lumber jacks to accomplish this—a hazardous undertaking!

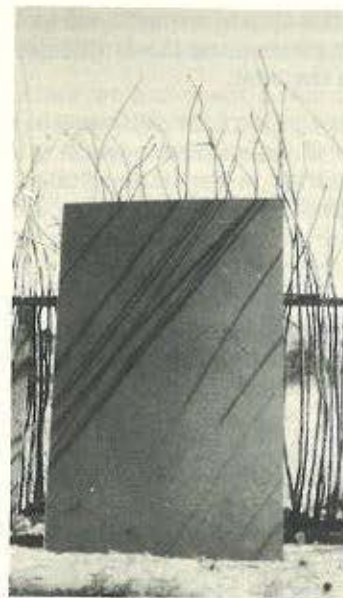


Fig. 1. Made of Desert Brush.



Fig. 2. Processed Johnson
Grass. Birmingham, Alabama.

The laborers who felled and brought the trees to the mills were for the most part of English decent. They belonged to what was the I.W.W. organization. Since they at times went on strikes, they were called the "I wont workers". When on a strike, several hundred would form a group, walk from town to town, demanding food and shelter on the march.

Upon arriving at Corvallis we found a friendly and sociably inclined group at the State College and Agricultural Experiment Station. The writer went to interview Dean Cordley as to the duties which my position entailed. He stated that the holder of the position taught one course in soils, and another on Irrigation Farm Management, and had charge of research and correspondence from Oregon farmers. I called to his attention the fact that I had not been on an irrigation farm, much less taught such a course, and since the classes started in a few weeks, I considered it advisable from the standpoints of the students, farmers, the state, and myself, for the state of Oregon to send me on a tour to see the various irrigation projects in the western states. He took me over to see President Kerr, who too, was a grand character. The President agreed that I was to be financed for such an undertaking.

Soon after my return the Director of the Agricultural Experiment Station asked me to make a survey of the Des Chutes land company's irrigation project which lay at the junction of the Des Chutes river and Paulina creek near Crater Lake and Fort Klamoth east of the Cascade mountains. In order to reach this area I traveled by train to the town of Dalles, thence south to the town of Bend Oregon—the railway terminus.

Arrangements had been made for me to hire a riding horse for use in making the survey. I was informed that the hotel in the village of Cresent was sixty-five miles distant and I was surprised, when it was stated that I would reach it in time for dinner that evening, but lunch could be obtained at about half the distance there. Since I had not ridden a horse for a number of years that distance proved to be too great for me the first day, and I stopped for the night where I obtained lunch.

Several nights while making the studies I hobbled the horse, removed the saddle from the pony and slept on the blanket placed in a depression in the sand. This was done without hazard as there were not any poisonous reptiles there.

By the use of sugar the pony soon became attached to me and when I dropped the ends of the bridle reins on the ground he would not leave until I returned. The work he had to do was not

arduous and he gained weight and became quite playful. Usually in the morning he demonstrated this by bucking a few times when I mounted him! As a result of that sort of life I became rugged, in excellent health and respected by the natives.

While examining the sources of water for irrigation, I had what later proved to be an interesting and profitable experience. A livery team of western ponies and a buggy were rented for this task. One Sunday while following an irrigation canal I came upon a lake which had formed by a break in the canal. At that time the water had evaporated from one end of the lake leaving a smooth dry surface. The trail led around this portion and thence across the desert. I decided to drive across this rather than to take the much longer trail around it. The team did not want to do so, but finally I encouraged them to start across the flat. Immediately, upon reaching the surface, it broke and the horses settled into the mud. That left the buggy on higher ground. I walked out on the tongue of the buggy and unhitched the horses. One horse made his way to firm ground, but the other could not get out. There was the Professor with one horse stuck in the mud! He climbed upon the other horse and followed the road about six miles distant where he reached a ranch home, where several ranchers were assembled for Sunday gathering. The writer told the men assembled that he was in trouble and needed assistance. A splendid young man offered his team and wagon and took several men to the scene of my difficulties. I suggested that an irrigation shovel should be taken.

I led the way and upon arrival the leader looked the situation over and remarked to me, "You are a stranger hereabouts aren't you?" I replied, "Yes I am, more than that I am a green-horn, otherwise I would not be in this jam." He undressed and took the shovel, dug out the alkali mud which was packed around the horse's legs and the horse walked out. I offered to pay them for the assistance but they refused to accept it. Later on while at the State College we became well acquainted.

I kept notes of the experiences I had which might be of use later. At the first meeting of the class on Irrigation Farm Management, I related the above experiences described them as a joke on myself, their Professor. College students, being alert human beings with a sense of humor, enjoy such. That class afforded me the best attention and consideration of any of the many I have taught! The eastern Professor, as I was termed by the student body, soon was known as a good sport and accordingly was highly rated.

The Dean came into my class laboratory while the class was in session, which meant all available space was in use. He called me aside and said, "I have a job for you." I turned and pointed toward the laboratory and replied, "It would appear that I need one. What do you desire of me?" He replied, "We need someone to go to a certain influential community to obtain Legislative support of the Institution and I know you can do so. I should state however, that others have tried to do so and have failed."

Several days later I went to this agricultural community by train and horse drawn vehicles. The meeting was held in a large and beautiful church. Upon entering I noted the heating unit was a large stove surrounded by a large sheet iron drum. The audience was seated on benches nearby. I observed that this was a German community and, having lived adjacent to one in Missouri, I recalled that usually each has a leader whom they respect. A bearded gentleman was sitting on one of the benches. I considered him to be their leader and straightway sat down beside him. Omitting professorial airs, I talked with him. When called upon to deliver my message I went to the pulpit, carefully looked at the windows and ornaments before I said anything. After a long pause I remarked that this was the first time I was ever in a pulpit! I gave a short applied talk on soils and management. After having answered numerous questions I returned to the bench to ascertain, if possible the reaction of their leader. He turned to me and said, "Vell Dot is deeferent." He invited me to spend the night at his farm home, which I did.

We sat in their living room for a while. He said, "I take a little whiskey in hot water to which I add some sugar, before I retire." He asked me if I would join him. I agreed. Each time that I did the right thing I could tell that I rose in his estimation.

A few weeks later the Dean again appeared at my laboratory, motioned me to come to the entrance. He said, "What did you tell those people up there? This Institution has received numerous letters telling me what a good job you did there!" I attributed it to the contact I made with the leader.

Owing to unusual conditions which had arisen, I was called upon to take the place of a Professor who was scheduled to speak to a group in the foot hills of western Oregon. The U.S.D.A. did not have Agricultural Extension services at that time. This meant that the State College Professors were called upon to do such in addition to their other duties!

He had planned to give a lecture illustrated by means of lantern slides. About fifteen minutes before the train was to

leave for the Pacific coast he came to my laboratory and asked me to substitute for him. He said, "Get your traveling bag and be at the station and I shall have the slides there for you." Since there was not any electric service in the hills, he had a new fully charged Ford car battery to furnish light to display the slides. The railway terminal was at Eastport, a village on the Pacific coast. In order to reach the settlement where I was to speak it was necessary to travel by stage coach twenty miles south along the shore and then across a bay. Here was a salmon canning center. As we crossed the bay the fishermen were raising the nets for catching salmon. Arrangements had been made for me to be transported from there by horse and buggy.

We arrived at the community just before sunset. About one hundred fifty people were assembled and I was requested to give my lecture at once. I did so as soon as the sun went down. I had not seen the slides which meant I had to "adlib" for each one!

Dancing was begun as soon as I was finished with the lecture. It continued until sunrise as the roads were such that they could not be traveled after sunset.

At midnight an oyster supper was prepared. During the meal a young man entered the dining room and walked around the dining table behind a couple and bumped their heads together a few times. I was informed that the lady involved was at 'outs' with her husband because he drank too much liquor. She ate supper with another man, hence the disturbance.

At sunrise the meeting was adjourned. One of the prominent farmers invited me to stop at his home, a few miles from the meeting place. I accepted his invitation. The host asked me if I liked venison steak. I previously had an opportunity to eat such and replied that I would enjoy doing so. The season on deer was closed. He said he had some canned venison! I surmised he had just killed a buck but did question him as to that! Of course it was delicious.

Three of us were asked to act as judges at a big agricultural fair. Here my part of the judgement was limited, and I was asked by the livestock judge to assist in placing the ribbons for poultry and swine. The placing of Pedigreed livestock meant much to the owners. They were interested in unbiased placings. This I was qualified to do. The boars were held in a small pen. In one was an enormous Poland China boar. He had huge tusks. I was about to go into the pen to examine him, but the owner said in a low voice, "Boy, I do not think you should go in there." I knew I was about to make a mistake! He knew that I was not a

professional judge! I placed a blue ribbon on his animal as it was the best one in the contest.

I received notice from my friend the Cornell Professor that a better place was open at Michigan State and that Cornell University would support me if I were interested in it. I was made Professor and Head of the Soils work in Michigan, where we lived for fifteen years. I was the youngest man in the country to be head of a State Soils Department.

My duties were manifold and arduous. I was fortunate indeed in selecting associates. As a result it was an organization of great production. For a decade it lead the country in soil surveys and land classification and in fundamental researches in the fields of Soil Physics and soil conditions and plant growth. Owing to the work of my various associates I was chosen president of the International Soil Science group. The first meeting was held in Rome Italy. Mrs. McCool and I attended this while I was on my Sabbatical leave from Michigan State.

We were in Rome two weeks and from there we went northward across western Europe to the North Sea. Thence we returned to the Mediterranean Sea area, crossed it into Egypt, went up the Nile river valley and to Jerusalem. It was my opportunity and gratification to study the soils of Palestine. We traveled the camel caravan route from the Holy City to Jerico. I swam across the Jordon river, took samples of water from the Dead Sea, as well as samples of soil from the Holy places and others in that country.