

REFERENCE IN THIS Column the other day to Decoration Day, 1892, has brought responses from several friends who remember that, particular day. It has also recalled to Dr. J. E. Engstad his first Decoration day in North Dakota, which, as I judge from his letter, was in 1885. Dr. Engstad writes: "It seems strange to me that the incidents of my first year in Grand! Forks are more vividly registered on my memory than from any other year. Therefore, I can recall some of the incidents of the first Decoration Day spent in North Dakota. The images from this celebration stand out as sharply in my memory as if the ceremonies had taken place early this morning.

AT THAT TIME MOST OF THE official activities in our town centered around the government post, G. A. R. Therefore, the military parade of the real veterans occupied, as we say, the whole stage. In my memory I can distinctly see Colonel Brown leading the band, and Mr. Ackerman whose distinction I believe was that he was a private. It was a clear day but with a piercing cold wind from the north which chilled most of the spectators to the marrow of their bones before the celebration at the cemetery had been concluded. However, the most vivid impression is the heartache I felt due to a belated season, as I recalled the last words of my dear friend, Tom Livingston, ticket agent in a little rail road station in western Wisconsin said when checking my trunks, "John, make it the North Pole." I can still visualize the barren, naked trees bordered the river, showing nary the slightest evidence of approaching spring and summer. The few shrubs planted on the bleak cemetery ground were as dormant as if it had been around Christmas time. There wasn't even a green blade of grass to observe anywhere. Tom's words "make it the pole" rang in my memory. I can still see on the field immediately north of the cemetery, a seeder was being pulled by three horses. Seeding of wheat was not completed that year before the tenth of June.

"I CAN ALSO RECALL, THAT on the last day of May, 1888, the season was as belated as it was in 1885. We had made an appointment to spend a couple days with friends at Detroit Lakes, and we were looking forward to a pleasant time, in which, after all, we were not disappointed. However, after the N. P. reached the vicinity of Thief River Falls we had quite a, flurry of snow. The trees did not show any sign of approaching spring. However, when the train reached as far as Hitterdahl my wife exclaimed with an ecstasy of joy, 'see the buds on the shrubbery/ The following day, the first day of June, the sun came out from the east like a ball of fire. The day was warm verging into oppressive heat. What in the morning had been buds on the trees had by night as if by miracle sprouted out in full bloom of leaves. This transformation was a miracle. The yield of crops that fall was bountiful, average thirty bushels to the acre, with the price hovering around a dollar a bushel. The harvest season began near Larimore one of the first days of September. In some districts harvesting of wheat wasn't completed before the first of October. The later years wheat has matured around the first days of August."

WILLIAM ACKERMAN IS mentioned both in Dr. Engstad's letter and in my summary of the exercises of 1892. All the old-timers remember him, but many of our present residents never knew him. He was short, stocky man, bald, bearded and grizzled, who had brought with him from his native land a strong German accent. He had the fine qualities which characterized any thousands of those who migrated from Germany toward the middle of the last century. His friends called him "Bismark," and with them it was an expression of affection.

FOR MANY YEARS HE served the county in various capacities, being deputy auditor under J. W. Scott, and later auditor for several years. He was rugged, argumentative, with strong likes and dis-likes, which he expressed with vigor, but usually with good humor. The bicycle was one of his per abominations. He did not ride one of the things himself and he could see no reason why any other self-respecting person should ride one I rode a wheel myself, and I could always get a rise out of "Bismarck" by hinting that cyclists should have the right of way over pedestrians on the streets.

DR. ENGSTAD REFERS TO the lateness of two seasons which he recalls. In those years spring itself was late. I recall one other year, although I do not recall the date, when there was an unusually early spring with considerable seeding done in March. Trees were in full leaf early in May, lilacs were in bloom, and the country had all the appearance of summer. Then there was a freeze which stripped everything down to the bare bark. On June 1 the trees along the streets and along the river were as bare as in mid-winter. Nature had to start and do all over again, which she did in short order.

IN STILL ANOTHER YEAR, not so very far back, most of the trees were stripped of all foliage by the little green worm which Superintendent Kannowski, of the park system, is now keeping pretty well under control by spraying. Decoration Day exercises were held that year in what is now Central park, and people took their umbrellas along and held them over their heads during the exercises to protect themselves from the worms which dropped from the branches overhead. When the worms had finished their work the trees appeared to be ruined, but they put out a new crop of foliage and appeared to be as thrifty as ever.

EVERYBOOY HOPES THAT the cold rain of last week killed off a lot of grasshoppers and quite probably it did. It didn't kill them all, however, for I saw tiny hoppers hopping the day after the rain. They can doubtless be found in considerable numbers on any lawn during the warm part of the day, Those that I have seen are active little fellows about one-eighth of an inch long.

THERE IS AN OLD STORY OF a small voting precinct whose citizens from time immemorial had voted the Democratic ticket, receiving therefore the two dollars per vote which it had been customary to pay in that locality and at that time. In one election campaign the Republican committee was putting forth an unusual effort and negotiated with the leader of this little Democratic stronghold on the basis of four dollars per vote. The Democratic committee had already made its usual contribution, but the offer of four dollars was not to be turned down. It was paid in cash. On Election Day the precinct cast a 100 per cent Democratic vote.

THE REPUBLICAN Committee remonstrated with the local leader for accepting pay and then not delivering the goods. The local leader replied thus:

"You see it was this way: We had always been used to getting two dollars apiece, and when the Democratic boss come round we took that. Then you come and offered four dollars and we took that. Then we talked it over and concluded that the Republicans was more corrupter than the Democrats, so we thought we'd better stick to the old party."

IT WAS ON SOME SUCH Basis as this that much of the old-time inter-community competition for industries was conducted. That competition got well under way with the era of railroad building. Every town wanted a railroad, and railroads were practically put up at auction. Most of the early construction was on a small scale, and while some of the projects were launched in good faith, many were mere paper projects, based on no real intent to build. Promoters of railroad schemes, illegitimate and legitimate, approached counties, cities and villages with requests for cash bonuses. One route was played against another and each community raised the bid of its rival until the limit was reached. Sometimes the location of a road was actually influenced by the bonuses offered. Sometimes the railway people had their route definitely and finally mapped out in advance, but used the competition as a means of extracting the greatest amount of cash from its territory. Sometimes the projects were mere stock-jobbing enterprises whose promoters sold out and left stockholders and local communities to fight it out in the courts.

SOUTHERN MINNESOTA counties were involved in long litigation in this way along in the seventies. They had bonded themselves for railroads that never materialized, the bonds had been sold and the holders demanded their money. Usually through compromise most of the bonds were redeemed and the credit of the communities was maintained.

COMMUNITY COMPETITION extended from railroads to industries. It was expected that an industry would receive a cash bonus from a community before establishing itself. If it was already established it was open for offers to move. And, as in the case of the voting precinct, when competition had run to its limit, the industry often accepted a fat bonus to remain where it was, which was just what it had intended all along.

PAYMENT OF BONUSES OUT of public funds is now usually prohibited by law, as it is in this state, and bonus hunters found it necessary to adopt other methods. Sometimes a cash bonus raised by private subscription was the plan. At other times the community was asked to subscribe for a liberal amount of stock. The stock method was the one usually preferred, and I have no doubt that there still repose in the deposit boxes of many Grand Forks men handsomely engraved stock certificates representing investments in prospective local industries that never materialized.

ONE SUCH SCHEME WHICH was promoted some 25 years ago was the building of a third-rail electric road from Minneapolis to Seattle. The main line was to be brought through Grand Forks if a sufficient amount of stock was bought here and a good many shares were sold in small lots. The scheme fell through, and some of the promoters got into jail.

IN 1892 THE LOCAL Chamber of Commerce, with George B. Clifford as president and D. R. McGinnis as secretary, was negotiating with an eastern concern for the establishment here of a glove factory to cost \$75,000, and a street railway project was also under consideration. A substantial cash bonus was an important consideration in each case.

ANOTHER PROSPECT WHICH aroused interest at that time was the building of a 1000-barrel flour mill here. It does not appear that there was any bonus condition attached to this project or that it was other than a perfectly legitimate idea. J. M. Turner, who was at that time secretary of the North Dakota Millers' association, promised to build at Grand Forks "within a year or a reasonable time," a 1000-barrel flour mill if a rate of \$1.00 per ton on lignite from Minot could be obtained. The condition was not met and that particular mill was never built.

MY FRIENDS ASKS why I don't write something about fishing. Thanks for the suggestion. This is the time of the year for fishing, and while I have done mighty little fishing for these many years, I find at least vicarious pleasure in the subject. I enjoy fishermen's yarns, when they are well told, and I find it possible to believe some of them. Every year many Grand Forks men go fishing. Some of them return with fish, and all with stories of mighty pleasant experiences. One member of a local fishing party this spring was asked on his return how he had enjoyed himself. "Fine," he replied, "only every little while some fellow would spoil it by wanting to fish." Obviously that fisherman was concerned more with the sentimental than the practical values of fishing.

AT ONE TIME THE RED River must have been an ideal place for those regarding fishing merely as a means of catching fish. The Indians depended on its waters for much of their food, and I think it is Alexander Henry who tells of the amazing number of sturgeon which were taken from the river at Pembina by the handful of people who had settled there in connection with the fur trade. There may still be sturgeon in the river, but I have not heard of any being caught for several years. Several years ago a large one was caught near the Point Bridge and it was exhibited in a store window.

THE CATFISH WAS THE regular standby of the early settlers. It was with some surprise that I learned on coming west that catfish were actually eaten by respectable people. As a boy I had caught many of them, but had always discarded them. In our part of the country they were eaten only by persons exceedingly low in the social scale. I have learned since that catfish, properly cooked, is good eating, and I regret the wasted opportunities of my youth.

FISHING IN MY BOYHOOD was adventure of a sort that had infinite variety. We fished for shiners in a pool in the mill stream. There were lots of them and they could be yanked out with a piece of thread and a bent pin. Cleaned in a haphazard manner and fried crisp they were eaten, bones and all. We fished in the river with set lines, of which I often had several thrown in at the foot of the pasture. Mullet and suckers were the principal yield from this style of fishing. They were quite large, sometimes measuring three feet. They were bony and the flesh was course. Nevertheless, we were always proud of a good catch.

THEN THERE WAS trolling on the river, with good chances for a pike and the possibility of a muskellunge. And in the broken water up stream, where white rapids and deep pools alternated, there were black bass, big, ferocious fellows that sometimes had to be followed into the water if one did not wish to lose fish, hook or line, or possibly all three. That was fishing that had a real thrill in it.

IN THE HILLY COUNTRY there were trout streams, where brook trout weighing up to a pound put a fellow on his mettle. There are various ways of cooking a brook trout, but according to my recollection the best way is to impale them on a sharp stick and broil them. The fish, properly cleaned, is spread flat by means of slender twigs inserted crosswise. Then a long stick, sharpened at both ends, is planted in the ground so that the fish at the other end will be quite near, but not over, a small, hot fire of hardwood sticks. Cooked brown on one side the fish is turned, and at the proper moment a dab of butter is applied to the top so that it will melt and lubricate the entire surface. On a quiet day when there is no wind a dozen fish can be cooked in this manner around one small fire. A meal so prepared, after a long tramp and a few hours fishing, beats anything that Delmonico ever served.

I RECALL ONE REAL Adventure in which fishing played a part. Contrary to all the rules and regulations six of us sneaked off one Sunday and went fishing instead of going to church. It was an awful thing to do, but the weather was fine, the fish had been biting well, and spring was just merging into summer. It seemed a crime not to go fishing, and we went. We had packed along some provender, and with the fish that good meal. After resting awhile, the day being hot, we went swimming. We left our clothes under the trees where we had eaten, across a small open meadow back from the river. Thunder clouds gathered and it began to rain. We rushed for the trees to hide our clothing in hollow trees and under logs, and while we were crossing the meadow it began to hail. The sensation of being pelted with hail' on one's bare back is anything but pleasant. Then all the elements let loose at once. The wind roared, the lightning flashed and the thunder crashed, branches were torn from the trees and the river was whipped into spray.

ALL OF US HAD BEEN Piously reared and not one of us doubted that that storm had been sent as punishment for our wickedness in skipping church and going fishing on Sunday, and although the storm ceased and the sun shone again, we were a sober and chastened lot as we trudged home.

HORSE RACING WAS ONE of the favorite sports of the nineties, dividing honors with baseball. At a race meeting in Grand Forks in July, 1892, it was discovered, just before the opening, that the flag which was displayed in honor of the event, was upside down. Attention to this fact was directed by "Lord" E. H. Thursby, who was a stickler for the conventions. The people in charge directed that the error be corrected, and an attempt was made to do this, and then it was discovered that the flag was at half mast. The flag was at last placed in its proper position and the races proceeded, regardless of the fact that the meet had been ushered in with the signal of distress followed by that of mourning.

ACCORDING TO THE Newspaper account of that meet the star event was a race in which three pacers participated, Hungry, owned by Jerry Bacon, Duggan owned by Detweiler (initials not given) and Billy B. owned by C. H. Bronson. Each horse was driven by his owner, which added to the interest in the event. Hungry was a favorite, largely, it is said, because of the confidence that the crowd had in Jerry's horsemanship. The result of the race proved that the confidence had not been misplaced, for Hungry won all three heats, Duggan second and Billy B. third. Time: 2:54, 2:54; 2:41 1/2. Compared with what later horses have done that does not look like very fast work, but the steeds in that race were not advertised as world-beaters. And at that time a "two-forty" horse was considered a mighty good horse.

I HAVE SEEN IT STATED BY some experienced horseman that while there has been some actual improvement in the actual speed of horses, the difference in time is due as much to mechanical improvements as to the difference in horses. This writer pointed out that the difference in sulkies is good for several seconds in the mile. The old sulky had high wheels and was of wood with iron tires. It was mounted on ordinary spindles. It was relatively heavy and had no resiliency. The modern sulky, with its steel spokes, ball bearings and pneumatic tires, is quite a different machine. Tracks, also are better built and kept, and modern horsemen have learned things about harness and other gadgets which their predecessors did not know. The cumulative influence of these changes must be appreciable in the speed of harness horses. As to running horses, the sulky is eliminated, of course, yet horses run faster than they did. I leave the explanation of that to the horsemen.

JUST FORTY YEARS AGO the people of Grand Forks were becoming convinced that their streets ought to be lighted by electricity instead of gas. A firemen's tournament was held, and in honor of the event an arc light was installed at the corner of Third and DeMers and two or three others in the down town district. The effect is described as "immense." There was periodical agitation on the subject for several years, but W. J. Murphy, principal owner of the Grand Forks Gas & Electric company, had his own ideas on the subject, and he was a difficult man to persuade. It was not until after a good many years that our streets were actually electric lighted.

CHICAGO IS PLANNING A World's Fair for 1933. Forty years ago she was planning the great Columbian exposition, which was to celebrate the 400th anniversary of the discovery of America. The fact that it was a year later did not prevent the show from being a most impressive affair. World's Fair commissioners traveled all over the country for the purpose of arousing interest in the exposition, and on June 14, 1892, Hon. T. W. Palmer, president of the commission, headed a large group of newspaper people, mostly from the east, on a tour of the Northwest. The party left the main line of the Great Northern at Grand Forks and went north to Gretna, just for the purpose of crossing the border into Canada and spent the night at Grand Forks on their return. The story of the visit of that crowd to Gretna reads like the story of an expedition to Patagonia or mid-Africa. The people of Gretna, it appeared, were different in dress, speech and manner from their neighbors at Neche, a mile or two across the line, and I suppose those tourists, if any of them are left, regale their grand children with stories of their adventure into the unknown and of the strange and amusing people whom they found at Gretna, Manitoba.

I JUST NOTICED THAT ONE of our most eminent crooners rehearses four hours a day in preparation for his 60-minute radio program. Is it possible they rehearse those things and do them deliberately? I had an idea it was spontaneous, like a cat on the back fence. It would suit me to have this gentleman spend the other hour also in rehearsing and omit the radio part of it.

TO THOSE NORTH Dakotans who are interested in nature study, in wild life, animal or vegetable, I recommend heartily the Thursday evening lectures delivered over Radio Station CKY, Winnipeg, by Professor V. W. Jackson of Manitoba Agricultural college. These short talks are interesting because they are delivered in easy conversational style by a man who is evidently thoroughly informed, and they are of special interest to North Dakotans because they deal with animal and vegetable life of Manitoba. That means that they deal with matters in our own territory, for Manitoba is an extension of North Dakota, or North Dakota of Manitoba, whichever form is preferred. The two areas have the same geologic history, are drained by the same river systems, and have seen their development within the same time period, with only such slight differences as are due to almost negligible differences in latitude.

LAST THURSDAY EVENING Professor Jackson spoke on the trees of Manitoba. I regret that I missed the early part of the lecture, but the latter part was exceedingly interesting, as it dealt with the probable age of our northwestern forest growth. Professor Jackson thinks that most of our forest growth is the product of only a little more than a century. He bases this belief on two facts, first that what is believed to be the oldest tree in Manitoba is an oak estimated to be 160 years old, and second, that there are not known to be in existence stumps indicating the existence of trees at a still earlier period.

HE REFERS ALSO TO THE accounts of the settlement around Pembina in which it is said that the women of the settlement watched their men ride off on the hunt and disappear on the level plain. Now, he says, riders could be watched for only a short distance before they disappeared behind groves of trees.

NOTE IS TAKEN ALSO OF the belief that the Hudson's Bay company cut the older timber from the river for lumber, and that the present forest grew up after this slaughter of timber had been completed. It is known that before the advent of railroads all the lumber used in the construction of buildings in the Red river valley was obtained from trees growing along the Red river. The fact is cited that old buildings at Emerson which have recently been wrecked or repaired have been found built of native lumber. At one time the Hudson's Bay company bought 500 acres of timber land near Grand Forks and cut it over for a lumber supply. These facts being granted it is still true that in the entire valley only a few buildings were built before the railroads came, and again Professor Jackson calls attention to the absence of large stumps which should be found if the process of denudation had been I conducted on a large scale.

WITH PROPER DEFERENCE to Professor Jackson it may be suggested that the present absence of stumps does not imply that there have been no stumps. The trees of the Red river valley are deciduous, and their stumps are not as durable as those of the pine, which seem to be preserved indefinitely by the pitch which they contain. Another fact is that in some areas stumps have been removed to make room for field crops. Just over in Minnesota in the pointed area between the Red and Red Lake rivers, there was a forest 50 years ago which extended without a break from river to river and for several miles south. Today that entire area consists of farms and market gardens with only a narrow fringe of trees along the rivers themselves. Many square miles of land have been stripped clean and there is no evidence that trees ever grew here.

ON THE AMERICAN SIDE OF the line, and this is probably true also of Manitoba, there is much less timber along the river than there was half a century ago. This is due not so much to lumbering operations as to the cutting of the trees for fuel. In the aggregate considerable logging was done in isolated localities, but all along the river immense quantities of timber were cut every winter for fuel. Each winter thousands of cords of native wood were hauled to Grand Forks, and settlers on both sides came to the river for fuel for 20 to 25 miles.

AS TO THE YOUTHFULNESS of our prairie forest growth, however, Professor Jackson is apparently right, as also is his belief that the growth was being extended by natural means before the arrival of settlers. Seeds of many of the varieties, he says floated down the river and took root. Other seeds were carried by the wind or by birds. Seedlings on the open plain ran the hazard of fire, and most of them were destroyed. Those near the streams had some protection as well as an abundant supply of water for their roots. Narrow belts became established, and these in turn gave protection to later arrivals. So the process went on. We can see evidences of how it worked wherever a drainage ditch had been dug. Within a few years the ditch is lined with young trees of volunteer growth, usually cottonwoods at first, and then with other varieties intermingled.

TUNE ON PROFESSOR Jackson some Thursday evening at 8:15 or 8:30.

THAT REMINDS ME

TODAY AND YESTERDAY BY W. P. DAVIES

NEIL McDougall, OF Omemee, writes: "I was interested in your story of fishing in your younger days in Ontario as it was a good deal like my own, only I never went fishing on Sunday and never knew anyone who did. The catfish were very plentiful in Lake Huron and in the mouths of the streams where we fished, and as I remember they were a greedy lot, as they seemed to get the hook ahead of the other varieties. I never knew of anyone eating them as they were considered not fit for food. In the spring time it was great sport to go spearing suckers as they came up the stream to spawn. A lantern was held over the water and the fish could be plainly seen along the bottom. In relating these experiences to an old neighbor of whom I have written before he would tell of a man whom his father had employed in Ireland to mow with a scythe along a stream. One day he saw a big fish in the stream, and in making a swing with a scythe to get it he allowed the scythe to swing around until it cut off his own head. In telling the story the old man said: 'And what do you think?' The fool stood there on the edge of the stream and watched his own head float away.'

IT WILL BE NOTED THAT Mr. McDougall does not vouch for the truthfulness of this story. He merely tells it as it was told to him. There are those who will object on the ground that a man's head would not float. As to this it may be observed that some heads seem lighter than others, and then there are people who will object to anything.

A FRIEND SENDS IN WITH A request for publication one 'of those "classics of childhood:

THE OLD ARM CHAIR.

I love it, I love it, and who shall dare
To chide me for loving that old arm chair?
I've treasured it long as a sainted prize,
Bedewed it with tear and embalmed it with sighs.
'Tis bound by a thousand chains to my heart;
Not a tie will break, not a link will

start.

Would you learn the spell? A
mother sat there, And a sacred thing is that old arm
chair.

In childhood's hour I lingered near The hallowed spot with listening
ear
To gentle words that mother would
give
To fit me to die and teach me to
live.
She told me that shame would
never betide
With truth for my creed and God,
for my guide. She taught me to list my earliest,
prayer
As I knelt beside that old arm
chair.

I sat and watched her many a day When her eyes grew dim and her
locks were gray And I almost worshipped her when
she smiled And turned from her Bible to bless
her child. Years rolled on, but the last one
sped. My idol was shattered, my earth
star fled, And I learned how much the heart
can bear When I saw her die in that old arm
chair.

'Tis past, 'tis past, but I gaze on it
now

With quivering breath and throbbing brow. 'Twas here she nursed me, 'twas
here she died,

And memory flows with lava tide. Say it is folly and deem me weak, While the scalding drops start
down my cheek; But I love it, I love it, and cannot
tear

My soul from a mother's old arm chair.

NOT LONG SINCE WE HAD A "Be Kind to Animals" week during which lessons of kindness were taught children in the schools, Sunday schools and homes. Fresh from such instruction a young miss watched the struggles of a bee which had fallen into the bird bath and was in imminent danger of drowning. "Poor bee," she said, "Til help you out." And very gently she lifted the little creature out. The bedraggled bee promptly stung her on the finger. "If you don't appreciate being helped any more than that," she exclaimed, "I'm through with you" and she threw the insect on the ground and stamped on it.

THAT REMINDS ME

TODAY AND YESTERDAY BY W. P. DAVIES

JUST WHAT IS THERE ABOUT an automobile that endows it with malignant influence on human character? Perhaps there is no such influence, but at any rate automobile sentiments and manners seem to be quite different from other sentiments and manners.

A New York paper told one day of a street incident. An old man, excited and frightened, was making his uncertain way across the street and he was still in the intersection when the lights turned loose a stream of traffic against him. The driver nearest him, noticing his predicament, stopped to enable him to cross in safety. Of course that halted traffic for the entire block. Immediately there was a chorus of horns pitched to every note of the scale. The more distant drivers could not see the cause of the delay and protested on general principles. Those nearer could see quite plainly that the stop was merely an act of kindness to a timid and confused old fellow who was not sure of himself. Yet from these the tooting was loud and insistent, mingled with derisive shouts and cat calls. Nobody would have thought of running the old man down. Nobody would have wished, seriously to add to his fright and confusion. Yet horns blew and blared and hoarse cried added to the din. Character seemed to have been changed by momentary position back of the wheel.

TWO PEDESTRIANS COLLIDE accidentally on a crowded sidewalk. There are mutual apologies and protestations of regret. The same two people in their cars incommode each other. Are there apologies? Not a bit of it. Instead there is anything from abusive profanity and suggestions that the other fellow learn to drive, and the mildest that can be expected is a dirty look and a muttered grumble.

ON FOOT WE ARE USUALLY tolerant of other people on foot. But in a car it is quite different. Ours then becomes the critical attitude with a liberal admixture of sarcasm and cynicism. The fellow ahead is too slow and the one who passes us is a reckless scorcher. The driver who permits his car to wobble a bit, as all cars do on occasion, must be drunk, and the one who has to make two passes at a parking space, is an incompetent who ought not to be allowed at large. When are we out true selves, afoot or a-driving?

A FRIEND SENDS A Clipping from an unknown source giving the description by "Old Man Wells" of the Litchville Bulletin, of a portion of an editorial trip in which he participated. This is the story as told by Brother Wells:

"THIS REMINDS ME. IT WAS at Bismarck 'way back in 1903.' President Mike De La Bere sat at the head of the pie counter, together with Governor White, the state officials and a hundred hungry and thirsty editors, not to say anything of the ladies, God bless 'em! Beef broth masquerading under a French nom de plume was served in teacups. Everybody watched Mike for rules of the game. When he added cream and sugar to his soup every mother's son of us followed suit. If the plans and specifications called for sugar and cream, why we stood pat. Some of ladies remarked upon the utility of the two-handled cup for nervous husbands. It may be remarked, not necessarily for publication, but as evidence of good faith, that Governor White creamed and sugared his bullion to save his editorial guests embarrassment. They didn't fool the pencil pushers with left-handed teacups again. We take our soup like Thompson takes his Scotch."

THOSE WHO REMEMBER Mike De La Bere can imagine the perfect gravity with which he would play a trick like that. He was the incarnation of mischief and in appearance a model of unsophisticated innocence. He was the life of the party at press associations meetings, and those meetings were always well attended because in those days the railroads exchanged transportation for advertising. There were little county papers whose owners spent most of their time traveling, and others whose advertisers and mortgages did the traveling while the titular owners set type and ground away at the hand press.

THAT REMINDS ME

TODAY AND YESTERDAY BY **W. P. DAVIES**

A CORRESPONDENT ASKS for the names and terms of service of all of North Dakota's United States senators. I think I published that list once, but, anyway, here it is again: Gilbert A. Pierce and Lyman R. Casey were elected senators in November, 1889, immediately upon the entrance of North Dakota into the union as a state. Pierce was elected for the short term ending in 1891 and Casey for the long term ending in 1893. Disregarding the time of election, which was changed when the amendment providing for the popular election of senators was adopted, and considering only the regular term of service beginning in each case March 4, H. C. Hansbrough succeeded Pierce in 1891 and succeeded himself in 1897 and 1903.

HANSBROUGH WAS Succeeded in 1909 by M. N. Johnson, and at his death F. L. Thompson was appointed by Governor Burke. Thompson resigned and Purcell of Wahpeton was appointed and served out the term. A. J. Gronna served from 1915 to 1921, when he was succeeded by E. F. Ladd, who died in office. Gerald P. Nye was appointed for the remainder of the term by Governor Sorlie, was elected in 1927, and is now a candidate for renomination as his term will expire next March.

IN THE OTHER SERIES, Casey was succeeded in 1893 by W. N. Roach, the only avowed Democrat to be elected to this position, Roach served one term and was followed in 1899 by P. J. McCumber, who served until 1923. Lynn J. Frazier was elected in 1923 and his second term will end in 1935.

THE SERIES THAT BEGAN with Pierce was interrupted twice by death and once by resignation. In the Casey series there were no interruptions. McCumber served 24 years, Hansbrough 18, Nye is in his first elective term, having served part of a term by appointment. Each of the others has served one full term or less.

MARK TWAIN HAD A Theory that it was a good thing for a dog to have fleas because it took his mind off being a dog. On that theory we should welcome petty annoyances just now. Or perhaps some of the things that worry us are really not so important, after all. For instance, look back at 1893.

IN THAT YEAR A WRITER on the existing situation called attention to the fact that France was in the middle of the greatest financial scandal in her history and the republic seemed tottering to its fall; Great Britain and Ireland had such poor crops that famine was imminent; Germany was struggling under an intolerable military burden and revolution was in the air; famine and cholera were devastating sections of Russia and there also revolution was threatened; Italy, Spain and Turkey were bankrupt with no prospect of improvement; revolution was threatened in Mexico.

THIS MADE A PRETTY Hopeless outlook, and those who can recall those days remember that things were actually pretty tough. In this territory wheat was down to 50 cents or less, and the status of labor is indicated by the fact that in that summer the wages of railway surfacing crews were reduced from \$1.50 to \$1.25 a day.

THE APRIL NUMBER OF THE North Dakota Historical quarterly is just out. It contains a lot of material of unusual interest, some of which I shall borrow as I go along. An article entitled "The Custer Myth" by P. E. Byrne, of Bismarck, summarizes some of the statements made by Mr. Byrne in a book, "Soldiers of the Plains," published several years ago. Mr. Byrne maintains that there is no justification for the adulation which has been heaped on Custer. He holds that Custer made a poor job of handling his men in the movements leading up to the battle of the Little Big Horn, and that while he was a brave man and a good fighter, his love for the spectacular caused him to commit many indiscretions.

MR. BYRNE SETS FORTH with considerable force the Indian's side of the case in connection with the long series of conflicts that characterized that period. His indictment of the treatment of Indians by whites is a severe one, but it has many facts to support it. It is undeniable that however just and humane may have been the purposes of the government, the Indians were cheated, deceived and oppressed by rascals who came into immediate contact with them, and they were justified in feeling that they were fighting for their homes, their hunting grounds and their very existence.

WHEN JOHN D. Rockefeller Jr., announced his belief a few days ago that the 18th amendment ought to be repealed he referred to the record of total abstinence in his family, saying that he is a total abstainer from principle, as his father is, and as his grandfather was. As it is customary for each of us to have two grandfathers, mere mention of a grandfather does not always identify the individual. However, the form of words used by Mr. Rockefeller suggested his paternal grandfather, concerning whom there was considerable mystery a quarter of a century ago. It was early in 1908 that the following news dispatch from New York appeared.

The body of Dr. William Avery Rockefeller, father of the oil king, lies in an unmarked "grave in Oakland cemetery, Freeport, Ill. He died in that city May 11, 1906, aged 96 years, 5 months and 28 days. For fifty years he had led a double life. Under the assumed name of Dr. William Livingston he farmed and sold medicine of his own decoction in Illinois and North Dakota. During these same years he occasionally appeared at the home of his sons and among acquaintances in the East as Dr. William A. Rockefeller.

ATTENTION SEEMS TO HAVES been directed to the history of the elder Rockefeller by a visit made to Park River by a representative of the Standard Oil company to ascertain the facts relating to the estate of Dr. William A. Rockefeller, a former resident of that vicinity. No one had been known there under that name of William A. Rockefeller. As John D. Rockefeller was at that time a national figure because of his great wealth and his position in the oil industry and was known as the son of William A. Rockefeller, the identity and career of the former Park River man became at once a subject of interest.

THE NEW YORK WORLD Undertook to unravel the mystery. According to the story published: lit that paper William A. Rockefeller, who had married Eliza Davison in 1837, left his family and in 1855 under the name William Levingston married Margaret Alien at some place in Canada not named. In 1867 he appeared in Illinois as an itinerant doctor.

IN 1881, AS WILLIAM Levingston, he filed a homestead claim on the northwest quarter of Section 27, Township 157, near Park River. Later he bought other land, but at least some of this was carried on the records under the name of Rockefeller. One quarter was deeded by him to his son-in-law, Pierson W. Briggs, purchasing agent for the Standard Oil company, who appears to be the person who later investigated the status of the Park River estate.

WHEN SOME OF THESE facts were published several Grand Forks residents recalled that a good many years earlier Levingston had lived for some months at the Viets house, which later became known as the Hall hotel. James Twamley was one of those who remembered him well. Mr. Twamley recalled that Levingston had appeared to have plenty of money, and had spoken sometimes of the ease with which he could obtain funds. It was from Grand Forks, according to Mr. Twamley, that he went to Park River. There he acquired considerable land and erected some buildings. While he was described in several of the accounts as an itinerant doctor, the records of his having followed that occupation are only fragmentary.

W. W. FEGAN, OR MANY years in the employ of the Great Northern, recalled that while he was stationed at Larimore, Levingston appeared in his office, saying that he lived at Park River, but had come down to Larimore to send a telegram to Cleveland, as he did not wish anyone at Park River to know about it. He dictated to Fegan a message concerning purchases which he wished to make, and these, according to Fegan, included everything from a farm to pigs. The estimated cost was \$18,000. The message was a very long one, and Fegan did not suppose that his unknown visitor would pay for it when he learned the price but would ask that it be sent collect, which Fegan would not do. To his surprise Levingston paid the charge, \$27.00, without a murmur. Fegan did not remember to whom the message was addressed, but he was quite certain that it was not to a Rockefeller.

CLARENCE A ALLEN, A Local solicitor for the St. Paul Fire & Marine Insurance company, said he had known Levingston at Princeton, Ill., and also at Park River. He said that at Princeton the Levingston's had a fine home, land while a sign bore the name "Dr. Levingston," the doctor did I not seem to have or need a regular practice. He was described as a fine-looking man who carried a cane said to have cost \$300. Mrs. Levingston, said Alien, was a beautiful and cultured lady.

AFTER COMING TO GRAND Forks Alien had occasion to visit Park River, and there he heard Dr. Levingston mentioned. Because of the peculiarity of the spelling of the name he recalled his former Illinois acquaintance. He called, was recognized, and had a pleasant visit. He had known Levingston in Illinois Between 1874 and 1876, and saw him at Park River in 1891 or 1892.

MRS. ROCKEFELLER, THE lawful wife, died shortly before a parcel of Park River land was made in the name, of William A. Rockefeller, a widower. Mrs. Levingston survived the man with whom she had lived happily for half a century, presumably supposing herself to be regularly married j to him. During Levingston's activities in North Dakota she had lived at Freeport, Ill., and he had kept in contact with her and returned to Freeport occasionally.

"I HAVE LIVED IN THIS country for fifty years," said a local man the other day, and I never knew grasshoppers to come two years in succession. I don't take any stock in this grasshopper talk. Most of it is bunk." That represents an attitude which is not at all uncommon. To anyone who does not believe that grasshoppers will be numerous in the same section two years in succession I recommend a visit of inspection to some locality that was badly infested last year. Northern Pembina will do, perhaps, as well as any. In that county material damage to crops was general last year, and some of the crops there were totally destroyed.

THIS YEAR THE SAME AREAS are literally alive with hoppers, and the people there are in no doubt on the subject. A traveling man told me of one locality in western Pembina where the soil is light and warm and grasshoppers began to hatch early where the young insects were so numerous as he drove through on a recent trip that the road, naturally light in color, appeared to be black. On a call at the Pembina airport on Saturday I found hoppers almost as numerous, on the road, in the tall grass on the roadside, and in the meadows nearby.

IN WALSH AND PEMBINA counties and in Manitoba farmers were spreading poison. None of those who were seen reported that serious damage had yet been done, as the insects are still quite small. In some cases, however, it was reported that barley had already suffered, its tender blades seeming to be specially relished by the hoppers.

THERE IS DOUBTLESS SOME basis for the idea that grasshoppers are not seen in great numbers in the same locality two years in succession. The idea seems to date back to the infestations of the sixties and seventies when southern Minnesota, sections of Iowa and Kansas and Nebraska were severe sufferers. The insects which wrought such damage in those years were of the variety known as the migratory, or Rocky Mountain locust. Those insects were not natives of the districts which suffered from them, but were invaders. Hatched in hilly districts remote from settlements, they assembled in vast multitudes and on attaining maturity they took flight and moved in dense clouds which obscured the sun for hours at a time. In such clouds they settled on whole townships and devoured every green thing. When their food became exhausted, when the weather changed, or in response to some undiscovered cause, they took flight again, continued their journey, or perhaps reversed their flight. They bred in the mountains and descended on the plains, and there was no reason why they should appear twice in the same place.

THE GRASSHOPPERS WHICH are with us now are native to the localities in which they feed. In greater or lesser numbers they are always with us. In 1930 the conditions over a large share of the Northwest were favorable for a large hatch and for vigorous growth during the summer. More eggs than usual were thus deposited in our own soil that fall. Last year similar conditions prevailed and the usual egg deposit was increased many fold. This spring there are thousands of the insects where formerly there were dozens, and the insects now hatched are active and growing rapidly.

THESE HOPPERS ARE QUITE distinct from those which many of the early settlers remember well. They are not migratory. They do not collect in great swarms. While food is abundant they remain near their hatching ground. When food becomes scarce they make short flights and stop when better pasturage is found. Their eggs are laid where their adult lives are passed. Among them are several distinct varieties which have been classified by entomologists. The chief differences noted by the ordinary observer are that some are almost black while others are greenish, and some have more and differently arranged stripes than others.

MOST OF THOSE WHOM I have seen spreading poison scatter it by hand from a pail, covering strips around the fields and throwing the moisture broadcast, much as men formerly sowed grain by hand. One other method, which I have seen used with variations, is to use a team and light wagon. One person drives the team and another, seated in the rear of the wagon, scatters the mixture from containers carried on the wagon. I am told that the old "shot-gun" seeder is also used for this purpose with good effect, although I did not suppose that there was one of those machines now in existence. With one of those machines and a quick team forty acres can be covered in a day.

THE TREE REMINDS ME

TODAY AND YESTERDAY BY W. P. DAVIES

QUOTING A MINNESOTA dairyman to the effect that the cottonwood is a useless tree, the Minneapolis Journal is inclined to agree in the main with the criticism from the utilitarian standpoint, although it is pointed out that cottonwood lumber, as "whitewood," has a certain value in cabinet work because it stains so easily to resemble walnut or mahogany. The cottonwood, however, in the opinion has value for its beauty and for certain sentimental considerations. Its graceful form and glistening foliage please the eye, and its persistence is another attractive quality. The cottonwood is generally regarded with disfavor as a city tree because of the very quality that gives it persistence. Its habit of shedding cotton is familiar to all who have had their screens filled with its fleecy output, a habit which can be controlled, however, by removing all cotton bearing trees.

THE PRACTICE WHICH makes the tree a disagreeable neighbor is the one which insures the spreading of the species. Tiny seeds, buoyed up by their fleecy appendages, and carried hither and thither by the wind, to take root in any hospitable soil, and where there is one seed-bearing cottonwood there will presently be a distribution of cottonwoods over a wide area within a short time if the conditions for growth are suitable.

BILLIONS OF TINY Cottonwood seedlings start up every season, most of them to be destroyed by drouth or fire, but where moisture is present and no accidents occur many will survive. Hence it is that the cottonwood is the natural pioneer among our northern trees. Every river is fringed with these trees. Every drainage ditch soon becomes lined with them. Thus there is provided shelter for other species which could not maintain themselves alone. It is probably not too much to say that all our prairie forest growth is due to the protective influence of the cottonwood. Surely the tree has a practical value from this standpoint.

FIFTY YEARS AGO THERE was not a single grove, and only an occasional tree in the Red river valley except in the immediate vicinity of the streams. Today the valley contains hundreds of splendid groves, with trees of magnificent size, forming excellent shelter belts for farm steads. These groves are almost exclusively of cottonwoods. The cottonwood was wisely chosen for this purpose because of its rapid and reasonably sure growth. No other tree would have answered the purpose so well. Farmers whose dwellings are thus sheltered from the wind, whose gardens and fruit trees are given protection, and who in the meantime have not a good start with trees generally considered more desirable are deriving real benefit from the cottonwood.

COTTONWOOD LUMBER IS not of very high grade. Exposed to the weather it will check and twist in most undesirable ways, and it lacks the strength of much other lumber. Nevertheless it has its uses. The Journal refers to its use in cabinet work. It is also used in building. In the Northwood district, which contains some of the oldest artificial groves in the valley, there are farm buildings whose dimension stuff and rough lumber are from cottonwoods which the owner planted with his own hands. As the trees increased in size and began to crowd each other they were thinned out and the surplus was worked up in portable sawmills imported for the purpose. For rough interior work, cottonwood lumber is all right.

I HAVE BEEN TOLD THAT A barn on the J. W. Scott farm near Gilby, built a few years ago to replace one destroyed by fire, contains cottonwood lumber from trees planted on the farm by Mr. Scott when he first came to the Red river valley.

AS A FUEL TREE COTTON-wood trees are much to be desired. Green, it is next to incombustible. Dry, it will generate heat if enough of it is used. I have burned a good many cords of it when there were great quantities of the trees lying in tangled masses along the Red river when that sort of stuff was to be had for hauling.

WHILE THE COTTONWOOD is not a desirable tree for city planting, it has served a useful purpose in preparing the way for later forest growth, and it is still one of our most desirable farm trees. On the farm it is easy to grow and it provides early shade and shelter. If followed with other plantings it can be made to serve as a foundation for a bit of real and varied farm land.

HAVE YOU ANY BLISTER beetle in your garden? That's what Max Kannowski, park superintendent, calls them, and he says they are recent arrivals. Thus far I have seen them only on caragana, but I can see no reason why they should not attack anything that is green and tender. This beetle is close to an inch long, rather slender, and in color dark gray, black, and occasionally brilliantly variegated with metallic sheen. I am not sure that these colored bugs are of the same race, but I have seen an occasional one associating with the others. Their wings, closed, form a hard shell, commonly found on beetles, and they are good fliers.

A SWARM OF THESE BUGS made their appearance on a canagana hedge one day last week, having come from no one knows where. Within a few hours they had the leaves stripped from the new shoots for the entire length of the hedge. The darker leaves which had grown from the old wood were not touched, presumably because the other leaves were more tender and tasty. A liberal application of arsenate of lead disposed of the whole tribe within about 24 hours. In that particular swarm they averaged probably a dozen to every square foot of hedge, and as they are fully as voracious as potato bugs, their capacity for damage is immense,

MR. KANOWSKI SAYS THAT there are more varieties of insect pests in the vicinity than he has seen in any other year. Grasshoppers we always have with us, but usually only in small numbers, but this year there are few districts where they are not numerous enough to constitute a serious menace. The blister beetle seems to be a newcomer, and there are others concerning whose name and nature I am not informed.

NOTWITHSTANDING THE quantity of information concerning insect pests which is published, there is still considerable confusion in the minds of amateurs concerning the habits of insects and how to treat them. While bugs are of infinite variety they may be divided into two great classes as to their feeding habits. These are the eating and the sucking insects. Potato beetles, as well as many others, and the green worms that strip foliage from the trees, eat the entire substance of the leaves which they attack. If their food is coated with poison they will consume both together and die. Therefore for such; insects there are used sprays which will distribute small quantities of poison, over a large surface, the ideal result being to get a minute quantity of poison over every part of the surface. For this purpose one or two arsenical poisons are commonly used, Paris green and arsenate of lead.

PARIS GREEN CAME INTO vogue some sixty years ago when the Colorado beetle, commonly known as the potato bug, became a nuisance in the east. When the potato bug first appeared it was first combated by the simple but toilsome process of hand picking. It was the daily chore of every boy and girl whose family had a potato patch to travel up and down the rows with a stick in one hand and an old tin pan in the other and brush the bugs into the pan and then burn them. Leaves under which were clusters of eggs were also gathered and destroyed. Then somebody discovered that sprinkling the plants with a weak mixture of Paris green and water was much easier and more effective. The proper mixture was a table-spoonful of Paris green to a pail of water, and it was applied with an old broom or brush. The sprayer has been substituted for these crude appliances, but the principle is the same.

ARSENATE OF LEAD HAS generally taken the place of Paris green for this purpose. I believe it is cheaper and it mixes somewhat better and it is not so readily washed off by rain. Both poisons are effective and both are safe if used as intended. Once there was a belief that when one of these poisons, was applied to the leaves of potato plants it would be absorbed and conveyed to the tubers, making these unsafe for use, That belief, of course, is nonsense, although it has not entirely disappeared,

THERE ARE MANY KINDS of sucking insects, a familiar type being the green lice that are often found on sweet peas. These do not eat foliage but pierce the plant covering and suck the juices from inside. Poisons have no effect on these insects, but most of them can be destroyed by spraying with solutions that kill by contact. One of the oldest of these is kerosene emulsion, which is made by mixing water, soap and kerosene in proper proportions and churning the mixture together until the oil, finely divided, is held in complete suspension. This mixture serves the double purpose of an irritant poison and of closing the pores of the insect's body.

THE MAKING OF EMULSIONS is a messy job and it is better for the amateur to use the commercial preparations, which are accurately mixed and thoroughly dependable. There are still other mixtures containing sulphur, copper and other; chemicals which are used in treatment for various fungus diseases. One of these is the familiar Bordeaux mixture, which is handled generally by seedsmen and chemists.

A MAN FROM WESTERN Saskatchewan told me the other day that in his part of the country they were having the first real rain that they had in three years. Our people in western North Dakota shared in general the weather experiences of Saskatchewan, and they are able to appreciate both prolonged drouth and the rain that brings it to an end. My Saskatchewan friend told of the deluges of water which had fallen, how roads were made impassable, how culverts had been washed out, his basements in Moosejaw were flooded, and the pavement of that city had been set afloat. "And," he said, "We are all happy. Low prices, frozen credits, stagnated industry, unemployment, —we have them all. And we don't like them. But let me tell you, Mister, that it is when the earth refuses to produce that the people know real hardship. With food for our families and feed for our stock we can worry along some way. But when nothing will grow the case is hopeless. And so we are so pleased over the prospect of a real crop that all the rest of it seems of little consequence."

IT WAS IN SOME SUCH Spirit as this that B. M. T. columnist of the Regina Leader, presented these observations on the recent state of the weather:

"It is past three years since we have had the chance to observe Regina weather through being in the midst of it. We had come here under the impression that it rained enough at least to dampen the under sides of the frogs. Of course, we were told there were occasional dry spells when the soil became so hard that the gophers had to give up drilling for a week or so at a time and when an occasional mite of dust would detach itself from its fellows and go charging across the landscape in a bit of flurry that newcomers might refer to as a dust storm. But these spells never lasted long. We were referred to the Biblical information about a land of wheat and barley and running brooks, milk and honey and olive oil.

"So, we sat down and waited for the rain, not being in any position to go after it. Well, we have been waiting ever since. Three years stretched their lazy lengths on the sunny banks of time—and got scorched. The rain did not come. There may have been a dribble, enough to give a modest drink to an active, intelligent and thirsty snake, but nothing like a decent rain that beat upon the roof, knocked the fur off the cat's tail, and gurgled in the gutters. Great banks of clouds rolled up in the sky in the summers of 1929, 1930 and 1931 but it turned out that they were mere shadowy phantasies, as dry as an elder at a camp meeting. They rolled and banked and swerved and counter-marched, but nothing fell out of them. They raised hopes that sunk as low as a serpent's shadow in a prairie I wheel rut when they finally turned about and headed dryly away from Regina to Saskatchewan and Goose Gulch and Cabri and Elm Crick, Man. This went on for three years in the summers. In the winter snow fell occasionally like a half-hearted plucking of goose feathers and not much more—entirely unlike the snows we had known in Ontario and Manitoba where it is customary to wear snowshoes when going out to feed the sheep ahint the barn.

"OCCASIONALLY AN OLD-timer or two came to our desk and told us strange stories of bygone years in which it had been known to rain. Through the reminiscent haze of tobacco smoke they told us of seeing it rain for two weeks at a time, of being mired in the mud up to the differentials, of seeing water running across the roads, of motor-cars being hauled by ox I teams, of water streaming flood-like on the streets of Regina. They talked of cloudbursts and down-pourings and soft water by the barrellful, but the more we listened while looking out on a parched landscape and hearing the dust-laden winds singing harshly through the whiskers of the alkalied pioneers, we learned to regard these tales as bits of legends from an old and mellowed world that lingered in the memories of men who told our marvelling ears of things their fancies had desired rather than what actually had happened in the long years of prairie life. So we let them toy with their sprig of rosemary of old memories and did not dispute them.

"IN THE MEANTIME WE came square-faced up to the month of June, 1932. April and May, while revealing a softness and a hope we had not known in previous years, had thrown gumbo dust in our ears and eyes, while out on the long stretches of the prairie the frogs still sat goggle-eyed waiting for a drink.

"THEN ONE NIGHT—IT WAS Sunday, June 5, 1932, to be exact—the clouds rolled up after a sultry day in which preachers had sweltered and almost got the openings of their collars around to the front; they billowed and pillowed and winnowed, and growled, and spit flashes of fire that grew more livid as darkness came creeping down. Then it started to rain. It dropped rain in blankets and in sheets. Drops fell on a tin roof and bounded 14 inches into the air. Rain swirled on the pavements and gurgled into the sewers. It ran in rivers across the back lot; it bounded into the cistern with the sweep of Niagara. It fell off the roofs in chunks. It swept the snakes and frogs off their feet.

"SASKATCHEWAN COULD rain. We hadn't believed it, but the evidence was running down the back of our neck, that had been dry for three years.

"DURING THE NIGHT THE lettuce grew six inches."

I HAVE ALREADY QUOTED liberally from George L. Barrett's pamphlet, *The End of the Track*, dealing with the period 1882-83, when the rails of Mr. Hill's road had reached Bartlett and enthusiasts expected that place to become a metropolis. Again quoting from a pamphlet we have a picture of a squatter setting out to seek his fortune: "The steady stream of immigrants moving out every morning, some with horses, others with oxen, loaded to the guards, was an interesting sight to see. I recall one instance in particular that illustrates quite clearly what a squatter had to do to get on the land and establish a right.

"IT WAS IN THE LATTER part of April—the snow had finally disappeared; and sloughs were lakes; frost was coming out and travel was very difficult. There was no such thing as a road—no real trails had been worn out from the End of the Track, but a multitude of them were started, each one picking the highest ground he could find, with the prospect of doubling up with someone ahead to pull him through the mud holes.

"AT THIS TIME AN OLD friend from Illinois appeared. He was a man a little over fifty, but hale and hearty. He had seen many ups and downs in life; was now down, and had decided to answer the call of the west and stake his all on the outcome. His was a typical case of thousands who went out from the 'End of the Track' that spring. I helped him to outfit.

"FIRST OF ALL HE WENT TO Bob Beatty and bought a pair of young oxen. I think he paid \$200. Then he purchased from Smith & Wisner a Rushford wagon and a Monitor walking plow, yoke and log chains. He planned to carry about 2,000 pounds and no more, so everything had to be figured by weight. About 500 feet of lumber was the big item of about 1,000 pounds, together with a roll of tar paper and a bundle of lath, bought from Twiford; a sheet iron stove, roof jack and pipe bought from George Barrett, a few cooking utensils, two lariat ropes and picket pins for the oxen, a few nails, hammer, saw and a pair of blankets. Groceries consisted first of all of a large piece of spice roll bacon, and none but the old timers knew what this was and they will never forget. It was the real thing in meats for those days. A pound of Arbuckle's coffee, a small bag of beans and prunes, a little flour and oatmeal, and a liberal supply of crackers; this with salt and pepper made up the eats. Two hundred pounds of feed for the oxen and about 50 pounds of wood completed the outfit.

"WE LOADED HIM UP IN THE evening and at daylight he was ready for the start. He opened his pocketbook just before leaving and it contained only a little change, possibly five dollars. He had staked his all. I assured him if he struck hard luck to let me know and I would help him out, and a quiver was in his voice as he took my hand and thanked me.

"'Where are you bound for?' I asked.

"'West' was his answer.

"I CAN NEVER FORGET HOW he then stepped up to the nigh ox in line with the yoke. The big whip whirled over their heads. 'Up, Buck, Up, Nright,' and they were slowly moving. I watched them out of sight on their way to an unknown destination on the then un-surveyed domain, which the Indian and the buffalo had so recently left, to spy out a place somewhere 'West' on which to make a squatter's home.

"THREE DAYS AND TWO nights' travel brought him to a point now three miles north of the village of Penn in Ramsey county. The country looked good to him, and there he unloaded, set up the frame to his shack, eight by ten feet, and laid out his land as best he could and plowed a few furrows to get sod for banking the house. His nearest neighbors were James McCormick, John Johnson and Al Mitchell, all of whom are still there. After establishing himself he wrote on a bright board 'This is the squatter's claim of William W. Barrett. Will be back soon,' and he started for more supplies.

"IN AFTER YEARS THIS MAN demonstrated that trees could be grown on the open prairie. He became a state officer, holding the position of state forestry commissioner for eleven years; and millions of trees throughout our state are silent witnesses to the efforts of this squatter who had done his bit in the building of the empire. He owned and lived upon this land for thirty-one years. The experience of this man was typical of thousands who started out that spring of 1883 from the 'End of the Track' for the Lake country, Turtle Mountains and the Mouse river."

IT IS ADAM SMITH, I THINK, who in a discussion of the nature and uses of money refers to the curious practice followed by human beings generally, of digging a yellow metal out of holes in the ground and then storing it away in other holes in the ground where it remains permanently. Immense labor, it is pointed out, is involved in this transportation from one place to another of gold which is as idle in the treasury vaults to which it is committed as it was in the rocks from which it was extracted. Yet for some reason there is a feeling that great benefit is derived from the process.

EDWARD BALLAMY, in "Looking Backward," conceived a society without money, labor and commodities being the bases on which all exchanges were made. It is easy to pick flaws in Bellamy's argument, but it was interesting and commanded wide reading.

THROUGH THE COURTESY of a friend I have received a clipping from the Liverpool Post containing a little fantasy called "The End of a Golden Delusion; A Dream of the Future," by the Honorable L. H. Cripps, who gives an amusing touch to the metallic money theory as follows:

"IT WAS IN 1940 THAT THE international bankers met under the aegis of the Bank of International Settlement to find ways and means of eliminating the transport and consequent insurance of gold. The decision was made to lodge all their gold stocks in the B. I. S., and, in order to avoid the vagaries of democracy, a common storehouse was made. They purchased the Island of Ascension and internationalized it. Then, with drill and dynamite, they tunneled deep into the rock, creating safe-deposits, where each nation's stock of gold was stored. Payments between nations through the B. I. S. were simple by trolleying the gold: from the vault of one country to, that of another. The arrangements worked satisfactorily and developed a method of banking system, with each country as an individual depositor in the B. I. S.

"IN 2000 A PARTY OF International bankers decided to visit the island and inspect the world treasure, the foundation of world trade. They chartered a giant liner and set sail. In the dawn, as they sighted the island, vague, apprehension stirred in their breasts. The island was unrecognizable. They hurried ashore and listened in horror to the tale told by the guard. Some forty years before a landslide had occurred; the rocks, the safe deposits and the gold they contained had disappeared in to the sea. The guards were so terrified that they had been afraid to report the occurrence by wireless. All subsequent arrivals of gold had been built into the seawall to prevent further erosion.

"BY NOW THOROUGHLY alarmed, the bankers returned to their ship and gathered in conference. Forecasts of a world debacle were freely made, and it was argued that without gold there could be no trade. A young member pointed out that world trade had continued uninterrupted for forty years after the gold stocks had been swept away. Gradually his argument won the day. A solemn promise of secrecy was made and a decision was taken to do nothing. The party returned to civilization to find that, so far from having stopped, trade was flourishing.

"THE B. I. S., AS THE International bank, was developing a system much on the lines of a national banking system in the early part of the twentieth century. Countries, as individual depositors, were not allowed to extend their overdrafts to unreasonable dimensions or without adequate security. In consequence, each country's currency was worked on the old law of supply and demand.

"IN 2060, WHEN THE ISLAND was revisited, the use of gold was permanently discontinued by common consent.

"I WOKE'UP' AT THAT Moment. As I drank my morning tea I wondered why the value of currencies was based on gold and not on the law of supply and demand. Perhaps, I argued, this was responsible for the collapse of international trade. In my bath, I asked myself why we had the ludicrous idea that a piece of paper was equivalent to so much gold. As I towed myself vigorously I came to the conclusion that somehow energy and value must surely be related. And there I left it."

MILLIONS OF HUMAN BEINGS have got along quite comfortably without metallic money and without metallic base for the money that they used. Shells have served for money in India and on the North American continent. Some tribes have used carved sticks for the same purpose. In fur trading days in the Northwest transactions were made in terms of beaver hides, and in many other parts of the world in terms of cows. Mark Twain introduced a note of absurdity into monetary theorizing when he told of a district in the Black Forest where manure was the symbol of wealth and he who had the biggest manure pile was the richest man, although no more use was made of the manure than we make of the gold which we think it necessary to have stored away. I think the little romance which Mark wove around that subject occurs in "A Tramp Abroad." I haven't seen it for many years.

IN A QUOTATION FROM GEO. L. Barrett's pamphlet "The End of the Track," a few days ago reference was made to spiced roll as a part of the equipment of the homesteader in the early days. Mr. Barrett's comment was that "none but the old-timers know what, this was, and they will never forget. Mr. Barrett is right. The younger generation knows nothing about spiced roll, but at one time it was one of our most familiar foods. Spiced roll was made from the thin lower portion of side pork, salted, sugar-cured, heavily spiced, rolled, corded and smoked. We thought it mighty good eating, and I still think it was. Like smoked meats generally it could be kept without the use of ice, of which there was none in the summer, and the ease with which it could be cooked made it convenient for bachelor use. I haven't seen it for years, and a short time ago the manager of the Hudson's Bay meat department in Winnipeg told me that so far as he knew it was no longer made.

ARBUCKLE'S COFFEE WAS also mentioned by Mr. Barrett. In the early days there were two popular brands of coffee in general use in the Northwest, Arbuckle's and McLaughlin's XXXX. In each case the roasted berry, glazed with a preparation of egg and sugar, was packed in pound packages which sold, as a rule for about 20 cents. Prices varied, of course, but I can remember spiced roll selling at 12 ½ cents a pound.

COFFEE BOUGHT IN THE berry had to be ground, and the coffee mill was a part of the equipment of every kitchen. One type fastened to the wall and the other was held in the lap. I always despised the lap mills, because they were hard to hold and quite apt to spill.

NOT MUCH GROUND COFFEE was sold in this territory in the early days, and the hermetically sealed tins in which it comes now were then unknown. Hence ground coffee deteriorated rapidly. Large quantities of green coffee were also sold, and it was preferred by many families. Unroasted it would keep indefinitely, and it was usually roasted in the kitchen oven a pound or so as required. The practice was to roast it to the proper brown, and then, while it was still hot, to pour over it a little white of egg and sugar which sealed up the pores and helped to settle and flavor the coffee when it was used.

IN THE RECORDS OF EARLY explorations in the Northwest, of Arctic explorations, and of the life of the fur traders coffee is rarely mentioned. Almost always the beverage is tea. Where there is an English background this is easy to understand, as tea is the national beverage of England. But tea seems to have been preferred by explorers and campers, regardless of nationality. Probably one reason is that tea enough to last a given time can be transported more easily than coffee for the same period. Tea is more quickly prepared, also, and it may be more refreshing after a hard day.

IN A VILLAGE STORE WHERE I worked we carried ground coffee and sold it in three grades. We bought one grade of pure ground coffee and for the best grade this was sold as it was. For the second grade there was added one pound of ground chicory to three of coffee, making a 75-25 mixture. For the third grade coffee and chicory were mixed half and half. Coffee made from these mixtures resembled mud.

THIS IS CALLED THE Mechanical age, and I suppose it is, but the application of machinery to farming is no new thing. Plowing by steam was practiced in Europe about 100 years ago, and illustrations of the method are to be found in some of the old cyclopedias. The plan that appears to have been most generally adopted was that of hauling big gang plows by means of stationary engines and cables. The engine was stationed at one end of the field and an endless cable pulled the plow first one way and then the other. Such outfits were in actual use across the water for some years.

IN 1883 SOME EXPERIMENTS were made with steam plowing in North Dakota. The descriptions given are not clear, but the equipment used seems to have been somewhat similar to that which had been used in Europe. Apparently the plan was not successful, and mechanical plowing on a large scale had to wait the development of the gasoline tractor.

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IN WRITING ABOUT GOLD eyes and the peculiar notion that while they are found in the Red river in Manitoba, but not in the same river south of the international line, I was reminded of things that I have read about other fish, and which seem to have a scientific basis. There is the salmon, for instance, which is hatched from spawn at the headwaters of rivers, lives there until it attains a certain size, swims down to ocean and disappears, in some cases for several years, and then returns to the very stream in which it was spawned, to deposit fresh spawn and thus complete the cycle.

STORIES OF SALMON returning to the very stream in which they were hatched after years spent in the uncharted ocean appear incredible, but they are vouched for in official publications. Young fish have been caught and tagged on their way down stream, and after long absences those fish, now full grown, have been caught, carrying the same tags, in the very stream in which they were first caught. Many thousands of records have been made, and from these it has been possible to make important classifications.

ACCORDING TO THE Records, salmon of different varieties have different habits as to length of time that they remain in ocean waters. One variety is said to remain in the ocean seven years. Others return after briefer periods, but the habit of each variety is constant. Just where the fish go during those years is not known positively, but fish from Alaskan rivers have been caught some thousands of miles from home. Wherever they go, and however long they remain away, they return unfailingly to their native waters and to no other.

GOVERNMENT BULLETINS on the subject say that when a stream is once fished out it does not become restocked with salmon except by artificial means. Other streams nearby may be alive with salmon returning home, but none of them will invade the fish-out stream. This condition has been observed on both Atlantic and Pacific coasts.

ANOTHER QUEER FISH IS the eel, which is hatched in the ocean, spends most of its life in fresh water, and returns to the ocean to spawn. The eel was for a long time a mystery to science, and I am not sure that its habits are well understood yet.

THERE IS ONE Description of the habits of eels for which I do not vouch, but which I have read in some pseudo-scientific article, and which I pass on for what it is worth. According to this account eels are hatched in vast numbers in the Sargasso sea, that area in the south Atlantic concerning which so many remarkable stories have been told. Mature eels from both North American and European waters are said to resort to that great area to spawn. The two species, while not differing greatly, are said to be quite distinct and the young fry are mixed in one general conglomeration.

WHEN THEY HAVE reached the stage at which they seek fresh water the young eels start off in opposite directions, those of American origin to America and the others to Europe. While they were hatched in the open ocean, some instinct guides them, one group in one direction and the other in the other, and it is said that no American eel is ever found in European waters and no European eel in American waters.

WHILE THESE STATEMENTS concerning the habits of fish seem impossible they are scarcely more remarkable than the flights of where they may have some guidance, color and form of the landscape. But there are other birds which make direct flights of some thousands of miles entirely over water, guided by their own instinctive sense of direction. Still more remarkable is the fact that there are some migratory birds whose younger members, hatched in the north during the season, find their way without the guidance of adults to the places in the far south where, year after year, their kind congregate for the winter months.

MANY OF THE MIGRATORY birds make short flights and frequent stops, keeping to the land as much as possible in order that they may feed en rout. The peculiar shape of the two American continents makes each serve as sort of funnel, causing greater and greater concentration of birds of this class in their biennial movements, so that at certain seasons the isthmus of Panama is literally alive with such birds which have gathered from the wider areas of continents north or south.

THA T REMINDS ME

TODAY AND YESTERDAY BY W. P. DAVIES

VISITING IN FARGO FOR AN hour or two the other day I inquired about blister beetles. No one to whom I spoke recognized them by name or recalled having seen, such insects as I described. J. Shotwell, the florist, was one of those with whom I talked, and he had neither seen nor heard of such insects in Fargo. So far as I have been able to learn this is a local visitation, apparently confined to the southern section of Grand Forks. It has attacked several caragana hedges in the southern part of the city and has played havoc with a few delphiniums. Two delphiniums which, before the insects appeared, were large and flourishing, were stripped of every leaf. They were fifty feet south of a caragana hedge in which they appeared in thousands. On another lot a clump of caragana on the south side of a lot were attacked while delphiniums fifty feet north were not touched. In the first instance did the insects coming from the south strip the delphiniums on their way to the luscious pasturage of the caragana hedge, and in the second instance were the delphiniums untouched because the bugs had found the caragana first? I don't know. Ask me another.

ONE MAY GAIN SOME interesting information on the ways of insects by the use of a squirt gun and a glass sealer. Long ago I demonstrated to my own satisfaction the efficacy of certain of the commercial sprays for sucking insects by collecting a few green aphids in a jar and treating them to a shot of the liquid from a sprayer. Death followed the application very quickly. Applied in the open the same solution had no perceptible effect on blister beetles, they being eating and not sucking insects, I found, however, that if several of the insects were confined in a jar and liberally sprayed, so that they remained thoroughly soaked for some time, they died. From this I conclude that while the blister beetle does not like this particular spray, it will do him no special harm unless you throw him down and practically drown him in it.

I HAVE FOUND, ALSO, THAT size and age are no indication of the resistance of insects to poisons. I wondered if tiny grasshoppers, just hatched, might be so tender as to be sensitive to a spray for sucking insects. Accordingly, I captured a few, placed them in a jar and sprayed them. The bugs seemed to enjoy it. For a time they swarmed around in the few drops of liquid at the bottom of the jar. Then they crawled up the sides, kicked their heels, shook themselves, and seemed ready for another bath. The spray seemed to have no effect on them whatever. On the other hand, young hoppers confined in a jar with a pinch of poisoned bran died in about 24 hours.

ON A BIT OF LAWN I HAVE found literally thousands of the newly hatched grasshoppers, and many fairly well grown. I sowed poisoned bran and awaited results. Within a few days almost all of the larger hoppers had disappeared. I still find a few little fellows which I suppose have been hatched since the poison was applied. One more application should clean them all out.

WHILE I WAS IN FARGO Lorne Wilde brought in a handful of oats which he had gathered in a field near by. The oats were partly headed out, being very early, and the heads had been partly stripped by hoppers. As a rule the insects appear to prefer the tender shoots of flax and barley, but they had found these oats to their liking.

ONE THEORY THAT I HAVE heard advanced concerning¹ the hopper plague is that because of the vigorous growth this year there will be plenty to keep the hoppers busy around the edges of the grain fields until most of the small grain is mature, as the prospect is for an early harvest. By that time the insects will all have wings and voracious appetites. Corn will be in the silk and potato tops luxuriant and swarms of the insects may be expected to attack such crops, as was the case last year in localities where hoppers were abundant.

AFTER THE INSECTS BEGIN to fly it will be impossible to control them, but if vigorous treatment is given while they are in the wingless stage much damage can be prevented.

THA T REMINDS ME

TODAY AND YESTERDAY BY W. P. DAVIES

DR. H. H. HEALY AGREES With me that gold eyes pay no attention to international lines, and that they have been numerous in the Red River south as well as north of the boundary. Dr. Healy writes:

"As a boy I caught hundreds of gold eyes at Dray-ton. One evening in July, 1879, I caught so many I could not carry them home but had to go for help. Father returned with two milk pails which he filled and there still were a dozen or more which I strung on a willow to carry. So you see there were plenty of gold eyes on the Dakota side. All of the early settlers caught them and some even netted them, as also other fish.

"FIFTY YEARS AGO FISH from the river formed a considerable portion of the food of those who lived along or near its banks. When we simply wanted meat we put out a few set lines over night for catfish or pike. The former were plentiful and ran in size from about 15 to 40 pounds. When properly cooked they made excellent eating."

I SUPPOSE THE PREJUDICE against catfish which many persons entertain is due to its unattractive appearance and the fact that it inhabits sluggish waters. It is certainly not a beautiful fish, its scaleless skin having a slippery, slimy appearance, and its refusal to die within a reasonable time suggests something reptilian. There is a tradition that slices of catfish will jump out of the frying pan as soon as they feel the heat. I have never witnessed this phenomenon, but it would be an interesting thing to see, like Franklin's whale jumping up Niagara Falls. Franklin said he understood that to be one of the finest sights in nature.

THE PIKE IS COMMON IN almost all northern waters, but what one person calls a pike another person is quite likely to call something else. The Hudson's Bay man in Winnipeg showed me some very attractive looking slices of what he called pickerel. I asked more about those pickerel. "Oh," he said, "perhaps you would call them pike. A great many do. But they are not. They are pickerel. The pike is a larger, coarser fish with a long snout."

"That," I said, "sounds to me a good deal like what I have heard called a jack-fish."

"THAT'S IT," HE SAID. "THE jack-fish and the northern pike are the same thing. They are edible in the spring, when the water is cold, but their flesh is coarse and in warm weather it becomes loose and flabby. But the pickerel is a fine fish."

I FIND THAT SIMILAR CONFUSION between pike and pickerel exists all over the country. The books are not in agreement on the subject, probably because the names used are local and popular and not scientific. I find that one authority places both pike and pickerel, by whatever names they are known in different localities, in the same family, and says that the muskellunge belongs to another branch of the same family.

CATFISH PREPARED FOR the table has nothing in common with catfish in the river or freshly caught, at least in the matter of appearance. The flesh is perfectly white, flaky and boneless, and the latter feature goes a long way with me. I am no expert in flavors, but I have eaten catfish that seemed to me delicious.

THE APPEARANCE OF A creature is an untrustworthy indication of its finness for the table, anyway. Take the eel, for instance. I never tasted eel but once, and that was 60 years ago. I didn't think much of it, but I have doubt it was badly cooked people who had it were notorious poor cooks. But eel pie was to standard English dish as far back as the time of Shakespeare, and it seems to have been highly regarded. And there is nothing particularly fetching about the appearance of an eel.

GREEN TURTLE IS considered a great delicacy, but I never saw a turtle that I considered handsome. Neither would I consider a lobster a model of pulchritude. Also, I consider a catfish fully as beautiful as an oyster, anyway, and lobster stew is one of my favorite dissipations. Down in the Caribbean the darkeys eat shark meat when they can get it and the whites turn up their noses at it. Perhaps if we should give shark an unpronounceable French name, and charge two dollars a portion for it we should consider it a gastronomic marvel.

In the summer of 1878 Peter Bye and his wife made the long and toilsome journey from southern Minnesota to the Red River valley Following the faint trails which others had made and sometimes making a new trail of their own, fording coulees, being ferried across rivers, and experiencing the varied fortunes of overland travelers in those days, they found themselves in Dakota territory, about where the line between Grand Forks and Trail counties crosses the Red river.

Like thousands of others who made a like journey, they had come to establish themselves in a new home where land was plentiful and settlers were few. Practically all the land adjoining the river in that vicinity had been home-steaded four or five years earlier, the early comers having stuck close to the timber. Away from the river stretched the prairie, on which not a furrow had been turned or a cabin built and where there was not a tree to break the evenness of the skyline.

Peter was advised by the settlers whom he met to seek further until he could find a vacant timber claim, as the land away from the river was worthless and one could never make a living on it. Peter listened to this counsel but did not follow it. The prairie land was bare, but it bore a tremendous crop of grass which in many places stood four or five feet tall. He thought that land which would produce such grass must be capable of producing other things. Water stood in spots, but Peter knew that shallow ditches would carry off excess surface water. He struck boldly out into the open and filed on a quarter section a few miles west of the river and eight miles east of the present city of Reynolds, just on the Grand Forks side of the county line. He was the first prairie homesteader in that locality, but the wave of immigration followed him closely and before that fall every claim for many miles around had been taken.

Peter's estimate of the land was correct. No section of the valley has produced more bountiful crops, and in none have better homes been built, Peter lived on his land and tended it. He spent there the years of his strong manhood and there he and his good wife died in the quiet; old age. The old homestead has been owned and occupied for many years by Theodore Bye, one of Peter's two sons, who, like his father, regards a farm, first and foremost, as a home rather than a mere place of business. Something that I wrote some days ago about cottonwoods comes to mind as I write about the Bye homestead.

Like other settlers in that vicinity Peter Bye began planting trees shortly after his arrival. The cotton wood was easy to obtain, was of almost certain growth with reasonable care, and grew rapidly. Therefore, the cottonwood formed the basis of the Bye grove, as it did of most others. Cottonwoods gave shelter to other species which were planted or were brought by the birds or kinds. Today the Bye residence stands in an opening in a real forest, with a lawn as closely clipped and well tended as any city lawn, its concrete walks leading to outbuildings, and its abundant evidences of thrift and modest comfort.

On the inner side of the forest of great trees which now form the grove is a border of closely grown shrubbery whose masses of dark green foliage make a charming setting for the homely picture. The shrubbery is of nature's own planting, consisting of hundreds of chokecherry trees which are now loaded with well developed green fruit. Around the outer border and wild plums, also bearing fruit. Within the grove itself are trees and shrubs of numerous varieties practically all of which Mr. Bye says are of volunteer growth, and many of which have attained great size. While the grove is only a few acres in extent, it is more than a grove. It is a real forest, with winding paths which lead into mysterious distances, a little opening a few yards across where grandchildren go camping and fry bacon over a fire of twigs, and where one may be as secluded as if he were miles from civilization.

It is the lusty cottonwood that made such a grove possible. Some of the original trees have attained immense size, and there is a note of pathos in the fact that many of them are yielding to a blight that has attacked many cottonwoods up and down the valley. For this reason Mr. Bye is removing the older trees one by one, and the prospect is that before long those cotton-woods will all have disappeared. They have served their purpose well. They have given shelter to more aristocratic growth. Their branches, wrested from them the wind, have provided fuel for cold wintry days. The trunks of their younger members have served for building purposes about the farm. And now the older members of the family, one by one, are ending their useful and honorable career on the woodpile, where they will perform their last service.

Theodore Bye and his wife enjoy their grove and their farm. They have worked hard and won their share of success. They have felt the stress of difficult conditions. They have met difficulties with courage and have gone on with faith Unshaken. They are satisfied that nowhere is there a better place in which to make a home than that part of the Red river valley in which their lot has been cast

THAT REMINDS ME

TODAY AND YESTERDAY BY W. P. DAVIES

I HAVE BEEN LEARNING more about the blister beetle. Professor McCall of the Crookston School of Agriculture is the source of the information. Mr. McCall is familiar with the history of this bug, its antecedents, its relatives, and he has its Latin name in a book, not that anybody can pronounce the name or knows what it means.

ACCORDING to Mr. McCall we have several distinct species of blister beetles, which have certain characteristics in common and are related, but which differ in appearance. Those which have invaded some of our territory in considerable numbers this season are of three kinds, the gray, the black, and the metallic. Somewhere I got the idea that these represented different stages in the life of the same species, that is, that the young bugs started out gray, later became black, and finished up as adults with brilliant markings and metallic sheen. Mr. McCall says not.

ALTHOUGH THESE THREE sorts of bugs appear in the same swarms, eat the same food, and act in the same pernicious way, it appears that they belong to three distinct breeds and one is not the adult stage of the other. I also received an explanation of why this beetle has a preference for caragana. This is because the caragana belongs to the great legume family, which includes all the clovers and all the peas, and which has ways of handling nitrogen which most other plants do not have. The caragana is a legume. Its relationship to the legume family is indicated by its manner of bearing seed, which is contained in pods not unlike the pods of the wild pea. Sometimes the caragana is called the Siberian pea.

WHILE THE BEETLE HAS been noticed in the city on caragana plants, its destructiveness is not confined to these. In the fields it will attack clover and alfalfa, and if the bugs are ever as thick on a clover field as I have seen them on a hedge I wouldn't give much for the crop.

IN THIS GRASSHOPPER Period it is interesting to know that the larvae of the blister beetle devour grasshopper eggs. It seems that the beetle eggs, deposited in the ground, hatch out before the hopper eggs, and if the latter are found in the soil near by the little beetle grubs feast on them. Therefore, if we had enough beetles our grasshopper problems would be solved. The trouble about that is that the plague of beetles would be worse than the plague of hoppers and our last state would be worse than our first.

I LEARNED A LITTLE, ALSO, about the joint worm which is responsible for the premature whitening of wheat heads which is observed on some fields. Last year several fields in the vicinity of Bygland were badly damaged by this worm. Affected plants indicate the presence of the worm by the whitening of the heads while the untouched crop remains green.

THE CREATURE THAT DOES the business is a little worm, perhaps half an inch long, which is found inside the stalk at the upper joint. The worm is the product of a small fly which deposits its egg in the unfolding leaf of a wheat stalk while the plant is small. When the grub is hatched it works its way down the stalk and within the sheath until it reaches the joint. There it finds the stalk sweet and tender and begins to feed. The stalk is cut off inside the sheath and its life is ended. Last year the yield in some valley fields was reduced by 10 per cent or more by the work of this worm. I should imagine that if an entire field were as badly infested as certain patches in it seemed to be the damage would be much greater than that.

HAVING DEALT WITH BUGS and worms, let us now consider lice. Everyone has noticed the gummy liquid which has dropped from box elder trees all around town. I find that a similar deposit is dropping in some localities from elms. This is not sap from the trees, as some have supposed, but honey which is collected and deposited by green plant lice, or aphids, which may be found clinging to the under side of the leaves. The lice pierce the thin membrane which covers the leaf, suck the sap from it and through some mysterious process separate from it the honey which it contains. The honey is exuded from little tubes and portions of it drop to the ground. Just why the little beasts go to all that trouble to gather honey and then spill it all over the sidewalks is one of the mysteries of nature whose ways are always wonderful.