Let's really look before we leap

Imperial Oil, by its discovery of the Leduc field in 1947, initiated the development which has made western Canada one of the world's important oil regions.

Imperial sponsored the Interprovincial pipe line, the longest trunk crude oil line ever built anywhere, to extend the market for Canadian crude into Ontario and the U.S. midwest.

The same company was one of the initiators of Trans Mountain pipeline, first crude oil line to cross the Rockies. It carried Canadian oil to the Strait of Georgia and Puget Sound.

Imperial has actively looked for oil in all but one of Canada's 10 provinces. In eastern Canada, it now has exploration programs under way in Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island.

In view of Imperial's record of developing markets for Canadian oil, many people may not understand why this company, in its appearances before the Borden Commission, did not support proposals to pipe crude oil across the continent from Alberta to Montreal.

The answer is simple. The proposition isn't commercially sound.

It isn't commercial because western Canadian oil piped to Montreal would cost more than present supplies. This means that such a pipeline could only operate behind a protective screen of import controls or subsidies that would cost the eastern consumer and the Canadian taxpayer money.

It isn't sound because it is based on the assumption that the Montreal refineries would guarantee to take oil through the line for 20 years regardless of prices of oil from alternative sources. Only in this way could investors be induced to supply the money to build the line. In effect, the Montreal refineries would be pledging their credit for up to $400 million, which is actually more than the total assets of all their plants in Montreal.

Imperial made commitments amounting to $100 million to make possible the Interprovincial and Trans Mountain pipe lines. That's because both lines were reasonable commercial propositions, filling a definite need, and delivering oil to their markets at prices attractive to both producer and refiner.

This is not true of a Montreal pipe line, as repeated studies have shown. It just doesn't make business sense to commit credit for some 20 years to a project that can't stand on its own feet and offers no long-term advantages to a company or its customers.

Thus Montreal is an unattractive market for Canadian crude. It requires artificial assistance to supply it and should be considered only when nearer and more logical markets for western crude have been fully explored.

Imperial told the Borden Commission: if Canadian crude oil could be made available at Montreal at competitive prices, this company would use it and displace imported crude oil from any source whatever. But until every effort has been made to widen the more attractive markets for Canadian oil, a Montreal pipe line would be poor business judgment for everyone concerned—the producers, refiners, consumers and taxpayers.
Sarnia's industrial past dates back almost to the time of the world's first commercial oil well. Its present $300 million industrial complex never fails to impress outsiders. And its future seems virtually unlimited.

Yet all three are pretty well taken for granted in

The boom town that can't get excited

by GORDON WESLEY

At the outset Sarnia leaves the puzzled newcomer scratching his head. Sixty miles west of London, Ont., Highway 7 leads you into a clean green city of trim bungalows, well-groomed lawns and 50,000 orderly citizens. You think: "So this is the town that oil built. Or is it..."

The Chamber of Commerce signs at the limits does not identify Sarnia as "the oil capital of Canada", or even meretricious petroleum. No imaginative restaurateur calls his place the Refinery Row Lunch or Chemical Valley Inn. No smog or harsh odors blanket the residential section.

You turn south onto Front or Vidal, the main streets. The store fronts are the usual patchwork of tilled brick and sleek new tile; the pedestrians look like any small-city businessmen, clerks or district farmers.

Then, abruptly, at the south edge of town, you are enveloped in crude oil smells, flickering orange flames and the weird geometries of refinery equipment.

This is Sarnia's Chemical Valley: a hissing, humming science-fiction world of fat green butane spheres, slender towers in blue or crimson, chubbily silver storage tanks and long chains of tank cars like link-storeage.

For five winding miles a $300 million investment sprawls on either hand: three refineries, a synthetic rubber plant, a new petrochemical plant, a glass fiber plant, a carbon company, a chemical company and a manufacturer of anti-knock gasoline compounds. Wherever you live and whatever you do in Canada you surely have used something that had its beginnings here—plastic toys, household detergents, tires, anti-freeze, foam rubber cushions, insulation, latex paint and hundreds of refined oil products.

Yet none of this appears to impress Sarnia, the boom town that can't get excited. June 25, 1957, 28 U.S. editors from 28 states visited Sarnia. They stood at the valley's awesome array of color, pipes, tanks and products. Then they stared at their resonant hosts.

"The trouble with you folks," draws a Texas editor, "is that you are all tranquilized Texans!"

Sarnians are tranquil, but with reason. For one thing, petroleum is old hat to them. They have lived with it 101 years. The Sarnia region is the original home of oil in North America.

Secondly, oil and its associated companies came gradually with a minimum of fuss and muss. Industry has learned over backwards to live happily with the town.

Finally, Sarnia is forever a town of the future, engrossed with futuristic ideas and products. Its chemists,scientists and engineers waste little time reflecting on yesterday's or even today's achievements. They're too busy planning for tomorrow.

The newest pattern along Chemical Valley’s skyline is a $30 million petrochemical plant just completed by Imperial. The plant is now just beginning to turn out the first of a range of petrochemical raw materials that will end up as ingredients of hundreds of synthetic products, some of which have never before been made in Canada. But Sarnians already accept all this as an accomplished fact. Now they’re talking about the new industries they expect will spring up around the petrochemical plant over the next decade or two: industries that will feed the Imperial plant or be fed by it, thus adding to the ever-increasing complexity of Chemical Valley operations.

"Mind you, we live in the present and live it," says Al Gilmore, the articulate young director of Sarnia's YM-YWCA. "But the future looks even better. It permeates the city, partly because our petrochemical people carry a forward-thinking attitude from their jobs into fields outside industry."

The YM-YWCA is an example. Its board of directors includes members of "industry" (meaning oil and related companies). Its site, several blocks east of the business section, seemed illogical when chosen a decade ago. But the board reasoned (correctly) that Sarnia—hemmed in on north, south and west by water and industry—must grow east. Already the "Y" is near the geographical center.

Construction was likewise planned for a growing city—in three easy stages, rather than one. Two units are complete; the third will go up on schedule. Finally, the board is seeking sites for "neighborhood Y’s". These aren't needed immediately but Sarnia is looking ahead to a population of 100,000 by 1963.

Growth came so steadily and naturally that Sarnia still finds it slightly unbelievable. Back in 1857 when North America's first commercial oil well was brought in 18 miles southeast of town no one dreamed this lumber-and-shipbuilding community of 800 people would ever have to plan for 100,000.

But the oil from Petrolia and Oil Springs turned naturally to Sarnia for an outlet. And Imperial Oil—founded in 1888 just 75 miles from Sarnia, at London—established a 900-barrel-a-day refinery in Sarnia in 1897. As part of this new venture, Imperial bought an old refinery built in Sarnia in 1871 and combined it with Imperial equipment moved from Petrolia.

In 1989, Imperial also moved its head office from Petrolia to Sarnia, where it is still located (although the company's executive offices are in Toronto). Indeed, over those early years, "Imperial" and "Sarnia" became synonymous. With World War I the increasing demand for oil prompted Imperial to build a 151-mile pipeline from Cypret, Ohio, insuring crude oil from the U.S. midwest. Sarnia was mainly a "company
the river) and flagged down the yacht on the Michigan side.

The industrialists were trying to choose between St. Catharines and Sarnia. The Sarnians briskly "sold" their city and Electric Auto-Lite Ltd. has been there since.

Gradually Sarnia became known as a good place for industry, with its port, unlimited water supply, two railways (CNR and Canadian & Ohio) and vast underground salt beds, which have been mined since 1904 by Sifas (formerly Dominion) Salt Ltd., Canada's second largest commercial salt producer. The salt beds now contain safe, inexpensive caverns for storing liquid petroleum gases 2,000 feet below the surface.

Sarnia's natural advantages, plus the availability of feedstock from the Imperial refinery, prompted the Canadian government to establish the Polymer Corporation in Sarnia in 1943. Assured of technical and managerial help from Imperial, the government set up Polymer as an emergency wartime industry to replace the Japanese-held rubber plantations of southeast Asia. Polymer became the world's largest synthetic rubber producer. Its $80 million plant makes 270 million pounds of rubber annually, supplying Canada's needs and exporting to 50 countries. Now supplies of butadiene, its chief feedstock, will come from Imperial's new petrochemical plant.

After Polymer, the industries came in chain reaction. In 1946 Dow Chemical of Canada built a plant, attracted partly by the salt beds and surplus steam from Polymer's plant which produces two million pounds of steam an hour. Dow markets 600 chemicals for industry, agriculture and the home.

Next came Fiberglas Ltd., using local salt, steam from Polymer and fuel from the refineries to help make insulating products. That was 1947 and, 1,800 miles west, other events were shaping Sarnia's future. Imperial brought in Leduc No. 1 in Alberta. Redwater and other fields followed. By 1951 the west was shipping crude by pipe line to the Great Lakes and by tanker on to Sarnia. Today the Interprovincial pipe line trenches under the St. Clair River pouring crude directly into Chemical Valley.

With more crude available Sarnia sprouted more industries and service companies. Catalytic Construction of Canada Ltd. and Chemical Valley Fabricating Company established head offices in town. Sun Oil and Canadian Oil Companies built refineries south of the city, and Cabot Carbon of Canada built a plant to make carbon black—the "scientific soap" that adds strength to tires and tubes. Until then, all carbon black was imported. Until 1956, Canada also imported antisknock compounds for gasoline. This ended with the completion of the Ethyl Corporation's Sarnia plant.

By then the St. Clair River was busier in eight months than the Panama, Soez and Kiel canals were in 12. In a peak year a freighter from any of a dozen countries passes under the international bridge every half hour, day and night. Likewise, Imperial's refinery—largest of the three in the area—has grown beyond the wildest dreams of its founders. It now turns out some 600 prod-
ucts, from gasolines to waxes and asphalt.

From the average Sarnian's standpoint, all this came about painlessly. There are still problems. The city is striving to improve its sewage disposal system, for example. But problems—whether they belong to the town itself or to the industries in it—have a way of getting solved in Sarnia. Pollution was a notable example. How could industry, working with sludge, chemicals and tar, keep Sarnia's air and water clean? The answers so far have cost industry some 59 million, plus the sustained efforts of experts like Imperial's Alex McRae.

McRae, a senior engineer who is now an authority on pollution control for Imperial's entire manufacturing department, was a pioneer in this specialty. Soon after World War II he spent hours chugging along the St. Clair in a converted lifeboat fitted with a jeep motor, dubbed The Juicy Scoopy. He luffed up samples of river water, analyzed them, even brewed tea with them and finally tracked down chemicals that gave Sarnia's household water supply an unpleasant taste.

Often Imperial solved pollution problems before they caused complaints. The company pioneered smokeless flare tips, all-weather vents on storage tanks and biological destruction of refinery phenol (containing carboxylic acid) before it is discharged as waste into the river. Micro-balloons (tiny plastic bubbles) are injected by millions into storage tanks to stop evaporation of volatile liquids and seal off odors. Sludge from storage tanks is processed in special burners, removing most oil and leaving clean ash and near-invisible smoke.

Industry helped pioneer the St. Clair River water research committee to prevent and reduce pollution. Sarnians rarely think about pollution nowadays but industry isn't resting on its laurels. 'You can't keep a refinery town too clean,' insists Imperial's refinery manager, George McMillan. 'We keep trying to improve on it.'

Industry has won the town's admiration in other fields. Chamber of Commerce secretary-manager A. W. S. Bennett says, 'I've lived in several other cities and I know of none where industry does more for community life.'

Nine members of oil, chemical and associated companies sit on the Chamber board. Others are on library, 'Y' and hospital boards. Six Imperial men are on the Joyce executive. Others include a city alderman and the revolver Point Edward, north of town.

Industry is contributing up to $150,000 for Sarnia's airport, now under construction. It helped Sarnia public library acquire one of the best small art collections and hi-fi sets in Canada. The art collection was begun 40 years ago when a local women's group began buying original works of "unknown" Cana-
dians. They have paintings by the now-famous Tom Thomson, A. Y. Jackson and Lawren Harris. One—Chill November—is regarded by some critics as Thomson's masterpiece. Nowadays such works don't sell as cheaply as they used to, so industry donates $1,000 yearly to further the collection.

Recently, too, Dr. O. S. Pokorny of Imperial, an authority on lubricating oils and a space-time expert on hi-fi, designed for the library a superb record player with a battery of controls and three speakers set in a massive cabinet. 'I know of only one or two comparable sets anywhere,' says librarian R. T. Bradley. 'One is used in New York's Carnegie Hall to demonstrate second reproduction.'

After hearing the hi-fi's debut in the library one night, 175 Sarnians rose on impulsion and applause.

In less obvious ways, members of industry contribute to Sarnia's pursuit of the arts. There's a drama league and film society, well-attended by industry personnel. The Polymer staff glee club, specializing in Gilbert and Sullivan, holds occasional concerts for the entire town. Polymer's chief engineer, Emerson Sloan, is president of the Sarnia-Port Huron International Symphony and also plays clarinet.

'There's keen interest in recreation and informal education,' says Al Gilmore of the "Y." 'It credits it partly to the numbers of young university-trained families that industry brings here. For example, at least one child-study group is attended by as many fathers as mothers. Mostly young chemists and engineers.'

This constant undercurrent of activity, in and around Chemical Valley, lures many non-industry people to Sarnia.

'There's a sort of golden aura about this place,' says Marcel Sady, editor of the weekly Gazette. 'It appeals to the adventurer.'

It appealed to adventurers Sady and John T. Fullerton in 1953. Sarnia then had a daily newspaper, the Observer, but no weekly. Only two years out of the University of Western Ontario journalism school, Sady and Fullerton drove into town with a table, bed, filling cabinet and one typewriter loaded in and on top of their 1932 car. They published the Gazette from a rented house, farming out the printing to a Toronto firm. Today they have an office, print shop, staff of nine and circulation of 15,000.

From the Maritimes came another "pioneer"... tall, grey-bearded John Colter, who became Sarnia's first city manager. One of his first concerns was a major annexation plan, carried out with federal and provincial aid. In one stroke it added 9,000 acres, making Sarnia five times larger. It was Colter's job also to coordinate civic government to a smooth team effort and to meet periodically with industry's top management. One measure of his success is that delegates from five other Ontario cities have studied Sarnia's system. He has recently been hired to a similar job in a larger city. 'Sarnia has grown up gracefully and much credit is due the city manager,' says managing editor H. G. "Scoop" MacLean of the Observer, which, in turn, grew up with Sarnia and oil. Amalgamated in 1917 from two newspapers established in 1835 and 1860, the Observer now records the daily Sarnia story for 15,431 readers.

MacLean, a slight, prying, mild-looking man, gave Sarnia one of its biggest non-industry stories in 1936. When police shot and killed a gunman in a Sarnia liquor store, MacLean saw through his dried-hair disguise to identify Red Ryan, then Canada's most notorious criminal.

Crime stories are rare in Sarnia but a different excitement—that of a city in evolution—has held newcomer MacLean there since the mid-20s. This same excitement fueled John Legate, the pleasant, pipe-smoking town planner, from Westmount, a residential suburb of Montreal. With planning virtually complete in Westmount, Legate wanted "to take my feet off the desk and find a challenge." He found it in Sarnia.
With the friendly familiarity of a small-town bus, TCA's 'milk run' carries housewives out shopping, fans to football games, students home for weekends—and an array of freight as ever bewildered an airline agent.

On Saturday mornings about 00 o'clock Dr. A. Danylyshyn, a Canora, Sask., veterinarian, packs his 13-year-old son, Zenovey, and the boy's violin into the family car and drives 100 miles south to Yorkton.

There, to attend his weekly violin lesson in Regina, Zenovey boards Trans-Canada Air Lines Flight 151—the two-hour leg of the Winnipeg-Calgary aerial "milk run," which passes at six prairie cities the way rural trains call at whistle-stops for milk cans.

Zenovey has made the trip regularly since his former music teacher left Yorkton in 1957, so he knows many of the milk run pilots, co-pilots and stewardesses. Sometimes he wheedles a visit to the flight deck, for Zenovey has flown so much in the past year he can't decide whether he'll be a concert violinist or a pilot.

He reaches Regina in time for lunch (it's a 50-minute flight), then takes a lesson from Howard Lepton-Houston, director of Regina's Conservatory of Music. Young Danylyshyn has won high marks in Saskatchewan music festivals each year since 1953.
About 7 p.m. Zenovoy boards his eastbound aerial bus, meets his father at Yorkton and drives home. Like hundreds of other prairie people Zenovoy depends on the friendly, sometimes-frastrating but always-handy milk run.

Since 1947 this curious little flight has grounded the southern prairie provinces. From Winnipeg, six mornings a week, Flight 151 leaves a checkerboard of grain farms to Brandon, the agricultural-fair city; west over the oil fields of Virden, northwest to the farm and milling town of Yorkton, Sask., and over the windswept Qu'Appelle Valley to Regina.

Then the milk run hurns west, its shadow skating over the windswatched ranching country to Swift Current. Its next stop is near Medicine Hat's twinkling greenhouses; then it passes over sugar beet fields and blue irrigation ditches to land at Lethbridge. Finally, with sunwob Rockies at its left elbow the milk run makes the final hop to Calgary and Edmonton. Simultaneously, Flight 150 is covering the same route in reverse.

To sophisticated air travellers it is something less than first class. It is sometimes late, often rough and (compared to a turbo-jet service) noisy. It takes 5½ hours to reach Calgary or Winnipeg, while direct-line flights make the journey in three and a half minutes. But in that long haul the milk run handles almost every conceivable type of passenger and cargo. It fills machinery parts, fresh flowers, seedlings, live turkeys, canaries and TV film. Sometimes the flight deck is stuffed from nose to tail with chisping chicks or turkey youths.

Yorkton housewives take the milk run for half-day shopping sprees in Regina; during the winter an excursion fare costs them $9 return. Football fans take the milk run to Regina or Winnipeg to watch the Roughriders or Blue Bombers. Students at Lethbridge Junior College fly home to Medicine Hat or Swift Current for holidays. A host of Winnipeg salesmen pushing tea, cereal, soup, machinery and other goods fly to work every Monday, returning on Friday.

Four Medicine Hat ranchers make a yearly aerial pilgrimage to Lethbridge, just for fun. They take 151 westbound and return home on 150, all within three hours. At 57 return (in excursion season), with coffee and biscuits served enroute, it's a better bargain than a jaunt at a flying club.

Medicine, education, romance—the milk run handles it all. Each Thursday for 20 weeks in 1957-58, Professor Gislar Eliassen, instructor at the University of Montana School of Art, flew the round trip to Brandon to teach classes in painting and art education.

Once a month for two years, Dr. F. R. Tucker, a Winnipeg orthopaedic specialist, has taken a one-day trip to Brandon Sanatorium, where he participates in surgical operations.

For Garry Fletcher, Yorkton druggist and Marion Stowe, TCA stewardess, the milk run played cupid. They were only casual acquaintances as children in their home town of Humboldt, Sask. One night two years ago, at the urging of Yorkton TCA manager Gord Sanders, Garry met the milk run and re-met Marion. After that he met most of her flights (about four a month) and persuaded her to marry him.

"We owe it all to the milk run," admits Fletcher.

Even if you don't marry the stewardess, you find a friendly community-on-the-go atmosphere on the prairie service. Sometimes your fellow passenger or stewardess is an acquaintance from previous trip.

Stewardess Terry Huch, a brown-eyed brunette from Bathurst, N.B., prefers the milk run to main line flights. "It's friendlier," she says. She's had fun mail from male passengers and, once, a gift of eight beer glasses.

Not all TCA personal share her enthusiasm for the milk run. The frequent stops—roughly an hour between each station—keep pilots busy landing and taking off and stewardesses busy with planning and de-planning passengers and with coffee and cookies.

"Whenever I finish a DCS run I have bad dreams all night," says blonde Betty Hunter. "I dream I'm serving coffee, over and over again."

Because it's a short-hops service operating at low altitudes, the run becomes rough in the summer. It's bumpiest ever strip-farming country. The alternate strips of summer sodden and stubble (designed to prevent soil drifting) send up alternate waves of warm and cooler air. Veteran captain Gil Adams admits, "A pilot is fairly well played out by the time he reaches Calgary."

"One really rough day we received a shipment of canaries for a local pet shop," recalls Jack Newton, an operation agent at Brandon. "The way they were cackling around the cages, you'd have sworn they were drunk."

Runways are yet another problem. At the smaller stations they are wartime airstrips, short and weeding frequent repairs. Last spring in Swift Current a new $6,000 taxiway was being built. A third and older strip was temporarily closed and when strong cross-winds blow from the south the milk run couldn't land on the single east-west runway. Only one of 52 possible flights into Swift Current in March, eight were cancelled because of cross-winds. Inbound passengers were de-planed at Regina or Medicine Hat and re-cued by train or bus. Outbound passengers left by road or rail, too.
On top of everything else the milk run loses money.

"There's no profit at short-haul serv-
ice," says an airline passenger. "Take
one example: suppose a Winnipeg man
wants to fly to Lethbridge. But the last
seat is taken by a Brandon-Virden pas-
senger. So instead of a $49 fare we sell a
$53 fare.

But in those who fly or ship it, ship goods
or ship it on the local terminal is a
Sunday to watch it land, there's nothing
wrong with the milk run. Small boys
pack inside the DC-1, during stops, and
beg to strap themselves into the seats for
"just a minute." School children
letter to the air line asking for "pictures
of your big airplanes"—the DC-1 and the
like . . . . "If I don't tell the truth, I'm
smarter than the flaps of the plane." Last
spring when the sudden threat of a change
in service from seven to six a day a week,
the Brandon Chamber of Commerce
spoke a protest to the president of TCA.

Indeed, many small-town chambers of
commerce, by applying to the air
transport board, brought the milk run to
time in 1947. By 1948 it was serving all of
its present stops.

Today, in Winnipeg, Regina or Cal-
gary, the milk run goes unnoticed among
main line flights. But in other cities it ac-
curately minifies the local economy.
In Lethbridge the proportion of over-
seas passengers who all begin their trips
via the milk run is unusually high. That's
partly because many local ulcer
baria and cattlemilk farmers are oper-
ated by Europeans and Asians, who like
to fly back to their homesteads. It's also
because many New Canadians have
formed a bond with Richard P. Hélier,
B.D. of the Lethbridge reservations
desk. Hélier, an affable white-haired
Swiss was educated at Hepburn-
field University of Geneva and the Sorbonne.
He speaks German, French, Italian,
Spanish, Portuguese, Swiss dialects and
German.

Getting into and coming out of Medi-
cine Hat, the milk run stops like a cone.
About 1,000 boxes of perishable flowers
fly out of the Hat by air express every single
year. More, twice of driedam-
nummum cuttings fly in from Ohio to
Medicine Hat greenhouses.

"Once," says stewardess Saphie Kat-
arywneh, a brunette from Brandon.

"The last 15 years were full of weddings,
between Calgary and The Hat.

Around Swift Current the milk run
helps ranchers. John Miller, who has a
$5,000 acre spread, 70 miles south of
Swift Current, last year sold Canada-
a's first large-scale experiment in artifi-
cial insemination of cattle. Refrigerated
semen was flown in on the milk run.

No town appreciates the run more
than Virden, 80 miles northeast of Regina. It has no main-line team. The
milk run, leaving for Regina in the fore-
noon and returning that evening, per-
mit a full afternoon of business or shop-
ping. Virden is the linchpin point of pas-
sengers from many other centers, in-
cluding the new potato development at
Esterhazy, 65 miles south; Wadena, 130
miles northwest; Swan River, Man., 130
miles east, and Hudson's Bay Junction,
15 miles north.

Due small-town proximity every-
where, Virden manager Gordon Soter-
ders and his associates do quadruple
duty: book reservations, operate tele-
phones, scribble out bills of lading, check
baggage, wheel out the loading ramps,
open the aircraft door and greet friends
as they depart.

With every man doing the work of
three, they generally get the flights out on
time—except when hemmed by women
passengers with too much baggage and too little money. Once the flight waited while a woman borrowed $50 from her
taxi driver to pay her excess baggage
costs.

Another day operations agent Jack
Dunwoody checked out a woman with
no cash, two children, 130 pounds of lug-
gage (90 pounds more than their tickets
allowed) and "the biggest baby car-
riage I've ever seen." Dunwoody finally
\got the flight away by persuading her to
call out 40 pounds of non-essentials and
borrow money from friends to pay the
remaining change.

This attention to a tight schedule makes the milk run popular with cus-
tomers like Lolu Hertzhnik of Virden's
Parkland Hardware, who last year
ordered 16 cases at Toronto's "Royal
Winter Fair." The turkeys took the milk
run to Winnipeg one night, reached the
fire to good reviews the next day and won
a grand championship.

Norton McGeehan, on a Saskatchewan
farm, says he can "phone the Hat, at 3
p.m., say, and have flowers in Virden
the same night." Don and Kent Marhe-
nan, construction engineers, like to tell
how the milk run saved them time and
money on a Virden sewer-building job two
years ago. When equipment broke down
they phoned Vancouver and took
replacement parts off the DC-1 within 24
hours.

Now TCA says it will replace the
DC-1s with the Speedliner, more comfort-
able Vickerss as soon as the runways can
take them. This will provide a touch of
luxury which many regular passengers
have never experienced. But many ap-
parently enjoy the prospect of Vickers
service with something less than awe. As
one return passenger puts it: "We don't
even care what the milk run flies—as long
as it flies."

—ROBERT COLLINS

Contrary to what you might first suppose, the two goldsmiths' shop signs pictured herewith were designed as air line tickets and
not to go around the world in 80 days to publicize any Super-Skys (Rainier movies. They are "headline" and "headline" graphics, as
typefaces, by graphic artist Glenn Winter. (Left)"
If you're a typical motorist the odds are that your thoughts on gasoline are 28 years out of date.

Here's the test: how do you measure the efficiency of your car and its fuel? Do you still ask only, "How many miles will I get to the gallon?"

Most of us do use the "miles per gallon" yardstick but it's as antiquated as the model A Ford or a Rudolph Valentino movie. Many also couple this old-style measurement with complaints about the higher costs of gasoline.

For all such 1930 thinkers, gasoline researchers have a new, more accurate method of judging a gasoline's performance. They call it the "ton-miles per gallon" measurement. It takes into account the scores of changes in cars since the 1930s and it shows that a gallon of 1958 gasoline is doing 50 per cent more work than a gallon of 1930 gasoline—at virtually no increased cost to the motorist.

"Ton-miles per gallon" means simply the number of miles that a gallon of gasoline will move a ton of automobile. It allows for the increased weight of cars—something motorists usually overlook in their calculations, despite their demand for bigger, heavier car bodies, more luxury gadgets and power features.

The average 1930 car rolled off the production line weighing 2,500 pounds. This year manufacturers have boosted the average weight of their models to 3,500 pounds—adding a half ton to the work load of 1958 engines.

Several other "highway robbers" are feeding indirectly from your gas tank. Automatic transmission, power brakes, power steering, super-generators, air conditioning—accessories that weren't available a dozen years ago—are tapping the energy of high-octane motor fuel that goes into a 1958 luxury model.

To find out exactly how much power accessories affect your gasoline economy, engineers tested two models—one without power features and the other equipped with air conditioning, power brakes and steering, window and seat actuators and other luxury accessories.

The standard model gave 22 miles to the gallon; the other, only 15 miles. One-third of the power in the luxury model was diverted from the wheels into effort-saving accessories.

To compensate for the power that these conveniences steal from your gasoline tank, manufacturers have added power. The compression ratio of engines has doubled since 1930. The average engine that year operated on a compression ratio of 4.5 to 1; the latest models average 9 to 1.

The demands of higher compression have proven expensive to gasoline manufacturers. As the compression ratio crept up, so did the octane rating of motor gasoline. Today's regular grade motor fuel is about 30 points higher in octane rating than its 1930 counterpart, and is the same as premium gasoline five years ago. As just one indication of the price the oil industry has paid to stay in the octane race, Imperial Oil last year alone spent about $20 million improving gasoline quality.

But the effort has paid off in terms of increased ton-mile ratio of your 1958 model. In 1930 a gallon of gasoline moved a ton of automobile 35 miles, when travelling at 40 miles an hour on level pavement. Under the same ideal conditions a gallon will move a ton of today's automobile 53 miles. This is a work increase of more than 50 per cent.

The cost of octane improvement has contributed slightly to the higher price at the pumps. But the major factor in higher gasoline prices is the provincial highway tax. The national average tax per gallon paid by 1930 motorists was 4.8 cents. In June of 1958 the national average was 13 cents per gallon, ranging from 10 cents in B.C. and Alberta to 17 cents in two of the Maritime provinces. This is an increase of about 250 percent and obviously a major portion of the over-all price increase.

Yet even with higher provincial gasoline taxes motorists are getting a better deal than in 1930—if the ton-mile measurement is kept in mind. The 50 percent more work done by modern gasoline today's engines costs practically nothing. Here's how engine technicians reach that conclusion:

Motorists in a dozen major Canadian cities in 1930 paid an average of 31.3 cents a gallon for gasoline. This means that a driver operating his 1930 car under ideal test conditions would have paid 1.1 cents a mile for gasoline. The driver of this year's model, paying an average of 43.3 cents a gallon in the same cities last June, would get a test result of 1.4 cents a mile—an increase of three tenths of a cent per mile.

If premium grade gasoline is used the cost is still only 1.6 cents a mile—or half a cent more than drivers paid for regular grade gasoline in 1930.

In short, today's motorist is getting more automotive power than ever before at a negligible increase in cost. Which is no small achievement when even the price of haircutts is up 400 percent. 

a new look at an old question: your car's mileage per gallon

Here are some reasons why mileage per gallon (a useful test in 1930) is no longer a fair measure of the price or efficiency of gasoline...
Nobody has ever called asphalt a glamorous oil product. But it covers 90 percent of Canada’s surfaced roads. And most of us would be pretty indignant if we had to do without some of its 4,000 other applications.

Asphalt now covers 90 percent of all surfaced roads in Canada. Some 1.6 billion pounds of it will go onto highways in 1958.

Petroleum’s Ugly Duckling

by MICHAEL JACOT

One cloudless day in August, 1924, Dr. Perry Doolittle, a Toronto physician driving a Ford automobile, arrived at the end of what was then an incredible journey of 3,400 miles from Halifax to Vancouver. It included several major breakdowns, numerous tire failures and six weeks of bone-shaking travel across mountains, rivers, muskeg, rock and sand and along railway tracks (on flanged wheels).

In fact, the trip covered practically every sort of surface except good roads.

Last August, rain and shine, hundreds of Canadians made the same trip. On an average it took them about 10 days — without the aid of flanged wheel or railway track.

Asphalt surfaced roads, more than any other development, have been responsible for turning this 3,400-mile, six-week adventure into a safe, smooth, 10-day ride that is no longer considered a remarkable topic of conversation.

And it has been the lot of asphalt — seemingly one of the least glamorous products of the oil industry — to receive very little credit for its achievement. It remains semi-anonymous, too, in thousands of other products (such as roofing materials and rubber heels), in which it is holding its own against the plastics of the petrochemical age.

Asphalt covers more than 90 percent of Canada’s 220,000 miles of surfaced roads and it has more than 4,000 other uses, many of them developed because it is a waterproof cement. Because of its versatility and wide use, its consumption can be one measure of a country’s prosperity and living standards.

“Countries with highly developed highway systems usually have high standards of living,” says Dr. Norman McLeod, a member of Imperial’s marketing department and an asphalt technologist of international reputation. He recently completed the second of two round-the-world trips to study the asphalt requirements of eastern countries. “Underdeveloped countries have few all-weather roads. This, of course, compounds their transportation problems and hinders progress,” he says.

Good roads, in addition to being necessary for national development and defense, says Col. C. W. Gilchrist, managing director of Canadian Good Roads Association, are a major unifying factor in any country. “Paved roads have linked previously isolated communities with one another and the major centers in Canada. And in many places they have helped develop our education system. Until the rural parts of Canada surfaced their roads, one-room schools had to be built every few miles along the country roads. There were never enough teachers to fill them.”
and equipment was often poor. Today, school buses travel along surfaced roads, picking up the children and transporting them to well-equipped and well-staffed central schools.13"

"This year's road building... is now in the greatest road-building era of its history. Within a couple of years we will be writing an annual estimate of more than a billion dollars for roads," he says. Actually, the 10 provinces are already forecasting a billion-dollar network, with an estimated road budget this year of $900 million—or $54 for each Canadian.14"

"This year's road building will consume some 1.6 billion pounds of the 2.28 billion pounds of asphalt used in Canada this year. If the trend continues it will double our asphalt needs in 10 years, and with the present rate of growth, Canada will be using triple the present amount." Nearly all this asphalt will go into roads, for the quantity (690 million pounds) that goes into some 4,000 other asphalt applications is expected to increase less rapidly.

Its uses have covered some historic and important areas. One of the earliest times Noah caulked the Ark with natural asphalt and workmen began paving the roads of ancient Egypt. Asphalt has been used in Moses' baby basket, in the embalming of Egyptian mummies, in mortar for the tower of Babel, as a component of Greek fire, as a lining for swimming pools, for various medical remedies, in the decks of ocean liners, in the insulation of electric cables and the ink on Christmas cards.

Partly because asphalt will not catch fire except under extremely high temperatures, small electric transformers can be used for as long as 50 years without repair. Asphalt is used to coat the wires inside the transformers.

Asphalt is also the best friend of the street cleaning. Back in the 1920s when crystal salt was first put on the market in place of the old salt block, the idea seemed doomed to failure. The salt sucked up all the moisture from the cardboard wrapper and solidified into a block. Then a thin layer of asphalt was put under two layers of the cardboard container; the moisture was kept out and the salt ran free.

Butchers meanwhile have found that asphalted burlap keeps the flavor in meat when it is being transported. Brewers use asphalt-lined barrels because an enterprising technician discovered that beer from an asphalt-lined toasting takes better and, at the same time, the asphalt stops seeping.

The impermeability of asphalts—whether the liquid be beer or water—has taken it to some odd places and has made it a hard-working, but unnamed, major component of many items we daily use.

It has dried underwater as lining inside ship's hulls and as a sealing agent for the foundations of breakwaters and bridges. Few people realize that the "rubber" heels they walk on may be at least 30 percent asphalt, or that many parts of garages, house, stairs and doorsteps also contain asphalt.

The same qualities, and the additional qualities of remaining for years as a smooth, regular surface, are the reasons why 90 percent of Canada's airport runways are paved with asphalt, as are many handball, tennis and badminton courts.

While tennis players and air line pilots might appreciate and be grateful for these qualities, it is unlikely that pigs—which asphalt rescued from a potential of semi-starvation—feel any such gratitude. But they should. Pigs, for example, were missing a big part of their daily rations because in their gullies they were nuzzling their food into the asphalt and losing it. Feeding platforms of asphalt, which allow the pigs to chafe and catch their fodder like a fork after the last pea on a plate, solved their nutritional problems.

While people's eating utensils have not yet been made from asphalt, some of its most striking uses are to be found in and around the home. Here asphalt insulates walls, seals chimneys, coats pipes, casings window frames and covers eavestroughs—in addition to its more traditional uses in floor, tile, base ment walls and roofing.

But then asphalt has been a home- builder; since very early times. As man began to develop buildings from his early mud huts and wooden lean-to's he used asphalt as a cement. In the ancient eastern Mediterranean nations the art of masonry construction developed around this type of mortar. But it was not until hundreds of years later that asphalt began to come into its own. In the early 1800s, an enterprising Scots named John Loudon McAdam, who was disgusted with the appalling state of English roads, developed a system of road construction based upon crushed stone that was adopted by British authorities and became the forerunner of the modern highway. Near the end of McAdam's lifetime coal tar was first applied to the surface of crushed stone to provide the waterproof highway pavement we know today. Thus began the era of the blacktop road.

Within 40 years North America's first asphalt road was laid in Philadelphia. By the turn of the century most Cana- dian cities had some asphalt streets, but it was not until 1914, nearly a century after British construction, that the first Canadian highway was paved from Toronto to Hamilton.

Since that day asphalt has been poured across the face of Canada in the familiar long black ribbon which leads the home, to adventure or to a favorite vacation spot.

Notwithstanding the amount that has been laid on roads throughout the world and the number of products that are made from asphalt, our scientists know little about its exact chemical composition. However, they know it is a compound of complex hydrocarbons (which can be either liquid or solid) and they have learned to modify its properties to suit the use of the product.

Asphalt occurs naturally in the residues of crude oils which have seeped through rock fissures and from which the lighter parts (such as gasoline) have evaporated over millions of years. It can also be made from crude oil—in a few seconds—by distilling off these so-called lighter fractions in a modern refinery.

Little as they know about asphalt's chemical composition, scientists know a lot about its applications—especially those for road building.

When Dr. Hotchkiss made his historic cross-country drive, road surfacing was an art practiced by the road gang fore- man, who mixed his asphalt with the rule-of-thumb skill of an alchemist—and with about as much accuracy. Patches of sticky asphalt, grating cracks and washboard effects were often the result.

"As a result of asphalt research during the last 30 years," says Dr. McLeod, "we know that asphalt pavement will perform well only if it is designed ac- cording to scientific principles."

Guy Bennett, recently retired head of one of Canada's largest road-building firms and dean of asphalt users, agrees. Road building has become one of the major factors in our community life," he says. "The taxpayer must be assured of proper research, the best materials and careful construction."

Some of the old school, rule-of-thumb road building persisted up to the end of World War II, and as a result of this situation, Imperial's asphalt laboratories at Sarnia, Ontario, undertook a special program of asphalt pavement research.

This research takes two forms—fundamental, which is concerned with the properties and qualities of asphalt; and applied, which deals with the prac- tical uses of the material.

The man responsible for the investi- gation of the fundamentals of asphalt is Dr. Charles Mack, a world-renowned authority who works in Einsteinian equations. A specialist in theology—the behaviour of liquids and solids under stress—he has the biggest fan mail in Imperial's research department.

Few chemists are able to understand his equations, and for practical use they are translated by a wiry, mustached chemical engineer, Jean Lefebvre. Most of the continuing asphalt research into the use of asphalt is carried out under Lefebvre's direction. From it have evolved certain basic principles needed for the preparation of asphalt paving mixtures.

"If the asphalt mix on a road is only slightly out of proportion," says Le- febvre, "it can cost thousands of dollars to put right. Too much asphalt in the paving mixture and the road cracks and sinks into sticky patches; too little and it will wear away rapidly under traffic."

Lefebvre calculates that a paving mixture with the same minute care a pharmacist uses to fill a prescription. He is even con- cerned with the size and shape of the crushed stone pieces and the sand that will go into it. "The stones should be no more than three-quarters of an inch and not less than one-quarter of an inch. The sand should have sharp edges. It should not be sea sand, which has been worn smooth. The sharp edges give strength to the paving mixture."

The type of asphalt surface required depends very largely on the amount and nature of the traffic. Thus, Trans-Canapa- da Highway needs a heavy duty mix; a road in a subdivision, on the other hand, can be of lighter construction.

"Asphalt pavements for some air- ports," says Dr. McLeod, "have to be able to carry aircraft weighing more than 400,000 pounds. A nice job exerts a pressure of about 1,000 pounds per wheel. Even a man on a bike presses on the ground at the rate of about 100 pounds per wheel."

Strangely enough, the strongest asphalts are needed not on the main highways and streets but at bus stops, traffic lights, and parking lots. The reason is that asphalt bears moving loads better than standing loads. On the highways, curves get the most wear.

Even when faced with high loads and continuous traffic, asphalt is able to shoulder the burden. Guy Bennett re- calls that Jarvis Street, one of Toronto's main thoroughfares, was first surfaced with asphalt nearly 50 years ago. Parts of it had never been reconstructed, and when new sewers were being laid re- cently, engineers measured the thickness of the old asphalt and found that the greatest amount of wear was only one-quarter of an inch.

Many asphalt streets in Canada have been in service more than 30 years. This durability is one of the substance's greatest virtues, and it has never been exceeded. In the last 30 years in road engineering, the Canadian motorist places the weight of his family confidently—and without a second thought—on the magic carpet of asphalt which wins under his wheels. This alone is quite a compliment to the sticky liquid which has been man's servant since the dawn of civilization."
One of the last of the vanishing breed of tough western outdoorsmen, Ed Burton uses the most modern vehicles to hunt the notoriously cunning cougar.

Early one morning last March the wall phone rung in Ed Burton’s sprawling story-and-a-half ranch house, deep in the Rocky Mountain foothills west of Clarenholm, Alta. Burton, a droll deceptively mild-looking man of 59 with a hand-twisted cigarette dangling perpetually from his lower lip, answered it.

It was Wally Waldon, forest ranger in The Gap, west of Burton’s spread.

“We’ve found cougar tracks, Ed,” said Waldon. “How soon can you come?”

Burton, who hunts cougars under contract for Alberta’s lands and forests department, and also for fun, said laconically, “Right now.”

Then, as on countless other occasions, he strolled to his gun rack, through a trophy room lined with cougar, grizzly, timber wolf, mountain goat, moose and bighorn sheep heads and pelts. From a dozen well-groomed rifles he selected a Savage .250.

He shouldered his movie camera, sauntered to the garage and selected a four-wheel-drive station wagon from a “stable” that also houses a second station wagon, a four-wheel-drive jeep and an army-type “weasel”—a 10-foot snow tractor with 12-inch track.

As always the station wagon was loaded with a bedroll, spare fuel, a week’s grub, and a steel-mesh cougar cage. (Sometimes Burton brings “on back alive.) Next he whisked up three dogs: Lassie, an eight-year-old Blue Tick hound with a long white cougar-scar circling her belly; Mr. Bo, a powerful four-year-old parti-hound parti-Husky; and a fierce cold-eyed little Airedale. They strained at their leashes, half-wild with excitement. Burton chained them into the station wagon and waved goodbye to his wife, Babe, who sometimes hunts with him but was ill with flu.

HE TRACKS

ALBERTA’S

MOUNTAIN

CATS

by Robert Collins
For many years he headed cattle in the summer and ran a winter troupe. From the early '20s until three years ago (when he broke a leg and reluctantly concluded he was too old for such antics) he rode braves, roped calves and milked wild cows in western rodeos. He has entered 20 Calgary Stampedes. His brother-in-law, Bert Biggall, was one of southwestern Alberta's greatest mountain guides. His brother-in-law, Andy Watson of Waterton Lakes, is a noted guide and wildlife photographer. Burton himself has 800 feet of wildlife knowledge, including some outstanding close-ups of goits, moose and cougars, takes without a telephoto lens. Burton is equally adept with a gun. He has killed a grizzly and a three and a half ton bear, and a few decades ago he took a 150-pound bear on a trail near the snow and find out a trail 24 hours old, he marvels, "They can figure out where a cat has been back-tracked and, going up the way he went, follow the trail. A man is dumb compared to those dogs." His dog, "Alfred," showed his fighting qualities and Blue Tick and Black-and-Tan hound. But Burton says, "A dog can have all the breeding in the world and be just a krooked. And some ordinary little ole pockit'll be a real cougar hunter."

Mr. Bo, the port-Husky part-breed, proved this theory three years ago. Burton's sister, Alice, says her son, Mr. Bo, hot on the trail of a cougar up a canyon in the Kanasuk country. It was the old grizzly that had been raised on nothing fiercer than squirrels. As Burton paddled in their wake, the three dogs, instead of being in their usual state of dishevelment, were full of life. Alfred, Bo, was suddenly in full voice at the foot of the tree. "I figured he goes "hoo-dee,"" says Burton. "I figured he goes "squirred."

Burton recalls, "I said to myself, 'I'm going up and beat some sense into that pan. I'm going up and beat some sense into that pan.'"

Mrs. Burton, now holding a cougar up the tree. The bound has been a top-notch cougar hunter since. Burton does not fully mechanized when four-wheel drive vehicles become available to the general public after World War II. Without his "weasel" and "snowshoes." Other times he takes the jeep or station wagon. Burton boxes his animals off the ground while his partner ropes the hind legs. Then they lower it into the cage, release the ropes and buckle it off to the zoo. Burton's live cougars have gone as far west as Victoria and as far east as England. To Burton, taking a cougar alive is just work; the true thrill is still in matching with will. His heaviest cat was in the early '50s when, over the course of two years, he tracked one lion 1,000 miles.

"We'd run him a few days and lose him. Then we'd come across that big five-relent track and know it was our lion," Burton told recently. "We'd get to know him pretty well?"

"Sort of," agreed Burton. "But not what you'd call a close acquaintance. We never once saw him."

Finally one winter day, hot on the trail, Burton, rancher Bob Arlt and ranges Wally Weldon and Bud Harris pushed off in pre-dawn moonlight. That day the big men his first and last mistake. He killed a cow elk, fed, and laid down beside the kill. The dogs treed him. Arlt leveled his rifle. Burton aimed a 227 Roberts "that'll put a bullet through an elk." They fired simultaneously. Both bullets struck under the shoulder. The fall took ed to the ground, seemingly unharmed, dragged four dogs 100 yards and left dead. It weighed 200 pounds and measured nine inches from nose to tail—the biggest cougar Burton's ever seen.

Without motor vehicles Burton probably would never have caught up with that big cat. After the end of World War II, he was the driver of a 1939 model of our own, Fords and domestic utilities, he found that he was the most reliable vehicle on the road. In addition, the Ford was a lot better equipped with the necessary tools and other items. Burton, who has 25 years of experience in the hunting field, found that the Ford was a lot better equipped with the necessary tools and other items. Burton, who has 25 years of experience in the hunting field, found that the Ford was a lot better equipped with the necessary tools and other items.
Executive Changes

Vernon Taylor, formerly manager of Imperial's western producing region, has been appointed to the board of directors, following the resignation as a director of W. D. C. Mackenzie, Mr. Mackenzie, whose resignation was based entirely on personal considerations, has transferred to Calgary and Mr. Taylor's former post. Both are veterans of more than 20 years with the company, in strikingly parallel careers.

Vernon Taylor was born in Winnipeg and graduated with a B.A. and B.Sc. in geology from the University of Manitoba. He joined Imperial in 1937 as a petroleum engineer in Turner Valley. From 1945 to 1947 he was operations manager of the western producing region with headquarters in Calgary. At such he was on hand in February, 1947, when the historic Leduc No. 1 well came in.

He spent the next three years in Imperial's Toronto office, then returned to Calgary as a management assistant. In 1955 he became manager of the western producing region, succeeding Mr. Mackenzie, who that year was elected to the board of directors. Mr. Taylor was elected chairman of the board of governors of the Canadian Petroleum Association early this year.

For Don Mackenzie the move is actually a homecoming. He was born in Fort Macleod, Alta., graduated in mining engineering from the University of Alberta and, in 1936, joined Imperial's geological department at Calgary. He worked on surface geological surveys, took post-graduate work in geology at the University of Chicago and in 1937 headed up the subsurface geological work at Turner Valley. Later he transferred to the petroleum engineering department there. During the war Mr. Mackenzie helped develop the Norman Wells field as part of the Canol project to supply defense forces in Alaska. Then he went to Toronto as chief engineer of producing. In 1948 he returned to Calgary as assistant manager of western producing, becoming manager in 1954.

Mr. Mackenzie was chairman of the board of governors of the Canadian Petroleum Association in 1954.**

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**My Adventures With the Iron Elephant**

by W. A. Roedde

When he volunteered to start a bookmobile service throughout 212,000 square miles of northern Ontario, Bill Roedde didn't even know how to drive a car. Here—in his own words—is how he made out.

Library work, says the legend, is about the dullest in the world. Maybe it is for some librarians, but if you think it's dull driving a mobile library around 212,000 square miles of northern Ontario, you ought to come along with me.

Probably we wouldn't roar down Suicide Hill in high gear, wondering if the brakes will hold—as I did on my first trip out—because I've since learned how to use the low gear on steep grades. And if I could possibly help it we wouldn't skid on icy roads and sail over a steep bank with half a ton of books lurching around behind us.

I hadn't foreseen such experiences myself, of course, when I first heard about the job. Half a dozen of us concerned with library work around Fort William area were talking about it one day late in 1953, and those who knew something about bookmobiles agreed it would be a tough job. This wouldn't be a case of driving in a well-settled suburban area or even serving a relatively small rural area as many bookmobiles do. Whoever took this assignment would have to cover the 52,000 square miles of the Thunder Bay district (which, as it turned out, was my first area of operations); then there were another 50,000 square miles in the Kenora-Rainy River district (later added...
to my original territory); plus another 100,000 square miles in the west of northwestern Ontario, wherever that could be included, too.

When they get down to talking about who might take the job, Bob Porter, the chief librarian from Port Arthur, turned to me. "How about you, Bob?" he asked.

"Everybody was looking at me, and I tried to muster some determination. "I'd sure like to try it," I said.

I wasn't really sure at all, but I was tired of my routine job as librarian in West Fort William's very small library. I had the right academic qualifications—a bachelor of arts degree from the University of B.C. and a bachelor of library science degree from a one-year course at the McGill Library School. Furthermore, I was a man—and in a profession that is largely female, that would count for a lot on this job. But there was much on the debt side, too. Myopic and recalcitrant. I lacked the aggressiveness which some considered essential for the job; I'd never driven a car, let alone truck, and I'd spent all my life in cities. What would it be like, driving through farm and bush country, talking to school boards, teachers and the ladies in women's institutes? I was still wondering when I was ushered in to meet the newly elected library board. The chief librarian, who had just accepted my application as librarian for the Thunder Bay District Library Co-operative, asked the board and me if we had anything to discuss, and we got on with the business of getting books, talking with teachers, and discussing titles. I was invited to speak. I found the pleasure with which they were received. At the farm community of South Gillies, young and old, school teachers, who had a habit of meeting with us, invited me for a tea at the home of the head teacher. At the John Street Community, farm wives were interested about the Encyclopedia, and they ordered several personal copies.

"I know that such a project would be necessary for success. I am cataloguing and circulation routines to a minimum. For two years, I had high school students helping me, instead of having a full-time typist. I bought second-hand furniture. I economized while travelling by taking cheap room and meals in second-rate hotels.

The money saved went into books, and into a fund for the purchase of "real" bookmobiles, a walk-in truck with headroom and 12 feet of shelves, electric light and portable heat. Finally in 1955 I got one. At this time we served nearly 100 member groups, including public libraries, schools and community associations. As the book exchange took

seven weeks of steady driving to complete. Then I had a few weeks in the office before starting all over again.

During a typical trip I drove to Beardmore, and from 10 a.m. until 3 p.m., 200 students troop through the truck, choosing a book or two each. I sit in the driver's seat, checking over the growing piles of books returned and watching the youngsters as they crowd and joke along the shelves. I never hear anyone say, "This book should help me in my grade eight social studies," but plenty ask, "Where the heck are the dog stories?" From Beardmore I drive 50 miles to Geraldton, a mining and distribution centre. In this scattered town of 3,000, there is a bright big library that starts visitors. Nearly half the townpeople are registered borrowers.

Next is Longlac, a pulp-pushing town that was a center for the pulp trade in the early 19th century. A small group of people here are organizing a public association library.

I start back down Highway 11 to Nipigon and Red Rock, and around by the lakehead route to Schreiber. Schreiber's library has a longer history than most in this "new" region. It dates back to 1914.

Next is Terrace Bay, a planned and attractive mill town only a dozen years old and I find that the ladies of the Terrace Bay Library have brought a picnic lunch to eat in the library—a large room in a new recreation center. Mrs. Garven, the librarian, wonders why

her teen-age patrons love dog books but not shark stories, want "college" stories but not historical novels.

Marathon is 60 miles away on a road that didn't exist when we started in 1953. From Marathon I drive to an attractive village called Heron Bay, then on to the nearby Indiana reservation. Mr. Rudecki meets me at the schoolhouse door and shoves my hand warmly. His voice and clothes and large moustache suggest the Europe that was his original home. He waves his hand at the brown-eyed quiet youngsters and says, "These are my children." This new Canadian came to teach the eldest of Canadians. And he knows more of their past and their problems than most of us do.

I stay two hours. I have hot soup, bread and cheese with the teacher and his wife. Then, I drive on to Manitouwadge, the fabulous base metals mine discovered by three Geraldton men, now millionaires. There I meet some of the rapidly-growing group of professional people—geologists, managers, engineers—who isolation makes them more than usually interested in reading.

Rural teachers vary a good deal. Some cautiously examine every book, some let their students take anything. Some have faces alive with enthusiasm, others are apathetic. One teacher tells me all the case histories of her students; another is almost silent through the entire book exchange.

Once, at one isolated school a teen-age deaf mute boy came out with the teacher and the half dozen youngsters. They crowded into the bookmobile, and I saw the deaf boy examine book after book. The illustrations fascinated him, but the words were too difficult. There were picture books that were easy to read, but these only irritated him. I searched in vain for books that combined easy vocabulary with teen-age interest. Several times the boy left the truck and wandered about in the summer sunshine. Then he returned to the shelves. Finally he left for the last time—empty-handed. When I called in the fall, I brought books I knew would suit the boy, but he was no longer there.

At another school there is a boy who reads a book of ours every day or two. He is turning from an unhappy home to the adventure of travel stories. His teacher writes, "I am heaping for more reading material already. Last time he was out of reading material for so long, he ended up in court in mischievous chief he was involved in. These real journeys he takes in books each night give him somewhere to escape from the things he finds so "raw at home."

On the way to the mining town of Atikokan, another with such names as Upsala, Shebandowan, Lappe, Kashabowie, Pinnerock. What a story! Was he used to this? Everyone is so polite.

Before the school, I asked the driver if he could help her choose books, occupies them to the school, another puts cards back to his name, another counts the new ones. Mrs. Huglund's way of organizing things is understandable. Beside tea School she drives the school bus, looks after a family of five, runs a tourist resort in summer, teaches her pupils to knit and square dance, and conducts a harmonica band.

The Aikokan is the coldest. One winter evening, with the temperature at 30 below, my truck broke down in the middle of nowhere. Somewhere (I found out later) had frozen in the carburetor. After trying the starter until it is a long and well-remembered thing, I left the truck and hurried hopefully up a hill to a sign I had found faintly beyond the bearing of my memory, and saw NO PASSING. I returned to the truck that the propylene bottle was out. I tried

to imply that they were poor. But there was another story to the picture books that were easy to read, but these only irritated him. I searched in vain for books that combined easy vocabulary with teen-age interest. Several times the boy left the truck and wandered about in the summer sunshine. Finally he left for the last time—empty-handed. When I called in the fall, I brought books I knew would suit the boy, but he was no longer there.

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At Fort William he took a look at the big green hulk of the bookmobile and named it "The Iron Elephant". The November weather was clear and brisk as we set out. We drove south from Fort William, crossed the border into Minnesota and turned west and north to Fort Frances. By six o'clock we were warming ourselves in a hotel room and hearing a brief but precise description of the library situation from Carl Schur-
bring, assistant editor of the Fort Frances Times. In four days, we covered 1,000 miles and held five meetings. Everyone welcomed the idea of a regional library and one was formed soon after our trip, although its formation was not official until 1957, with a change in the Public Libraries Act.

In December, 1956, as I prepared to leave on another trip to Fort Frances, my wife Helen said, "I'll be glad when you don't have to be away so much. Sometimes I wish I'd married someone who was home oner—say, an obstetrician or a merchant seaman?" And the children—Gretchen, four, and Stephen, three—were also sad at my going. "Well, look," I said, "I'm going to leave the bookmobile in Fort Frances at the end of the week and come back by train. Why don't you all go with me on the train next week? We'll stay in a motel while I do the book exchanges, and come back in the bookmobile."

They were enthusiastic at the prospect. And all went as planned until the return trip. The mild weather turned cold, and the roads were icy as we crossed the border at International Falls and drove south into Minnesota. By afternoon the next day we were on the last lap, less than 100 miles from the Canadian border. The glass ice on the road had been sanded, and I drove confidently at a steady 35.

Then, a hundred yards ahead, a bus topped a hill and came down toward us. I took my foot off the gas pedal. But there was no more traction, and I felt the truck skid slowly out into the other lane. As I tried to correct the skid, I realized the bus wouldn't be able to stop in time.

"Oh, no!" I said, half aloud. "It's happening!" It was happening!

I swung the wheel hard. My truck lurched off the road, bounced down an incline and crashed over on its side. Seconds later I was wiping blood out of my eyes and trying to open the door that was now above me. The children were crying, but they weren't hurt, and neither was Helen. The smell of burning rubber filled the air as the propane fiaster began burning the floor matting. In the only clear-headed action I was to take for several hours, I turned off the propane tank.

I heard somebody—it was the bus driver—rattling the locked rear door. He got it open somehow, and Helen and the children scrambled over a half ton of spilled books and jumped out into the sunlight.

I followed, my mind paralyz'd by the enormity of the mishap. We climbed the bank and crossed the road—and I slipped on its glassy surface. I dabbed snow at my bleeding head. I realized that my glasses and gloves were gone. Dimly, I heard the bus driver talking to me.

"Can't do much here," he said. "I'll drive you to Grand Marais. You can get a wrecker there."

In Grand Marais, a doctor cleaned my slight cuts. I left my family in a hotel, and went to look for a wrecker. It was nearly dark when I climbed out of the wrecker and saw my bookmobile overturned in a clump of saplings. What had done to the old friend that had carried me faithfully for 20,000 miles? She didn't deserve the indignity of this damage, lying on her side like a stricken beast.

Have you ever seen a thousand books spilled over a deck 12 feet by four? It is quite a discouraging sight, when you realize that each one must be picked up and placed on its proper shelf. I noticed too that the book cards (our laborious record of circulation) were scattered in a blood- and oil-splattered heap around the driver's seat.

At the hotel I found the children asleep and Helen waiting anxiously. "How are you, Bill?" she asked.

"Okay," I said. "Truck's battered up a little, but we'll be able to drive back tomorrow." Then, for some reason, I added: "You know, I didn't lose a single book card."

In 1956, we bought a second bookmobile to help cover our huge territory and we hired an assistant, Con Wazab, a former teacher, to share the driving. In 1957 we began to plan, and eventually to build, our own small but modern and attractive library, which we moved into early this year.

I do less driving now. One reason is that there are many letters and telephone requests to answer. Once a woman phoned to ask if I could get Read's Childbirth Without Fear to her married daughter in a district mill town. I was eager to oblige. "I'll bring it when I call next month." There was an awkward pause, so I asked, "Do you think I should get it there sooner?"

"Well, the baby's due in eight weeks!"

I mailed the book that day. There's plenty to do in the office, but soon I get restless for the road again. I check the shelves, start the engine and head out for a country school or company town. My job may not have the prestige of city library work. But it's a lot of fun.