Editorial

Harold Town, a promising young Canadian artist, has taken a picturesque "abstract" look at a refinery in this issue. We would like to take an "objective" look.

One of the triumphs of the Canadian oil industry has been its success in finding crude oil and its role in supplying the unparalleled post-war expansion and growth in Canada. It is a story of great vision, bold risk, disappointments, achievement and high investment. It is a story which has merited and received wide attention and world acclaim.

However, an equally vital achievement has taken place in the industry's laboratories and pilot plants—the improvement of refining methods. In recent years huge catalytic cracking units have increased the yield of gasoline from a barrel of crude and also improved the quality. In fact, but for the development of cracking and other modern processes, it would not have been possible to provide the type of gasoline needed to keep our 1 ½ million motor vehicles rolling, or our air line fleets and defence planes flying.

These great advances in petroleum processing also have had an influence on our economy just as great as the large western crude oil developments. By devising more efficient and more economic refining processes, including those which change the molecular structure of some of the components of crude oil, the industry has been able to extract more and better products from a barrel of crude at prices which have risen far—less in the post-war era of soaring prices—than almost any other essential commodity you can name.

For this achievement the quiet, white-smoked scientists of the "back-room" and the coverall-clad engineers in the refinery deserve a salute as great as that we have rendered the oil seekers of the west.

Uranium City... page 2
Fortunes have been made overnight in this veritable treasure house of the atomic age. Hidden in the Athabaskan wilderness, it is surrounded by some of the richest uranium deposits in the free world. 
by Michael Jace

Tin Pan Troupe From Trinidad... page 9
Out of this West Indian has come a new kind of music. Haunting, gay and vibrant, it is folk music played on oil drums. 
by Hal Tennant

Ask Miss Miller!... page 12
If it's a job it's a fair bet that Miss Miller will know. If the answer isn't in her library, she'll know where to get it. 
by Eric McVety

An Abstract Look At A Refinery... page 16
A refinery may look like a plumber's nightmare to some people, but to abstract artist Harold Town, it has a secret beauty all its own.

Personalities In The News... page 21
Management changes in Imperial and a salute to some 40-year service employees.

Can We Beat The Parking Problem?... page 24
As tough as it may seem to the daily downtown driver fighting for a parking spot, the parking crisis can and is being solved, say the experts. 
by Errol Beattie

Canadian Scientists Abroad... page 30
Four more young Canadians have been awarded Imperial Oil fellowships. They are now studying in universities in Great Britain and U.S.

They Always Get There... page 32
Some of Canada's most rugged regions are the hunting grounds of Imperial geologists in their search for oil. To get there they use horses, canoes, planes and helicopters.

Picture Credits:
Geiger counters are as common as frying pans and fortunes have been made overnight in

URANIUM CITY
Athabaska’s Wilderness Capital

by MICHAEL JACOT

The howl given by the tug Radium Queen, as she rounds the high promontory, echoes among the spruce and poplars which cling to the sand and rocks on either side of Black Bay.

Aboard, towering above the scurrying water like some medieval castle, is a cluster of glistening oil tanks, and below it, washed by the quiet waters of the bay, is a dock. This is the port of Bushell on Lake Athabaska’s north shore. It’s the end of a lifetime for the 1,000 miners, prospectors, engineers, geologists, storekeepers, pilots, transport men, supply men and Indians who live in this uranium-rich wilderness of northern Saskatchewan.

Here is stored more than a million gallons of petroleum products to heat their homes in the 60–below winter, to drive the machinery in their mines, to create their power and light their homes; to cook their meals and to drive their trucks and automobiles. Without this supply, some of the richest uranium deposits in the world would still lie useless in the rock.

Less than a decade ago geologists were gloomily predicting that sufficient uranium to satisfy the world’s needs would never be found. But in the past five years the northern reaches of Saskatchewan have become the “major accessible source” of this vital element, “with a development that has almost doubled the free world’s reserves.”

Uranium, for all its apparent scarcity, is not a rare element—its content in the earth’s crust is four parts per million, making it more abundant than silver, antimony and mercury combined. Its scarcity lies in the fact that unlike many elements, it is not often found in rich, concentrated bodies. The richest known deposits are those being recovered from pitch-blowde bodies in the Belgian Congo, Czechoslovakia, South Africa and the Canadian northwest. More than 80 percent of Canada’s known uranium deposits lie within the Precambrian Shield, with the greatest concentration in the Athabaska area.

It was in 1950 that Eldorado Mining and Refining Ltd. located what it thought was the richest uranium deposit in Athabaska. The search had taken seven years and millions of dollars. The crown corporation sank shafts, dug miles of tunnels, began a townsite

Photos by Harry ROWE
At their bush camp, Matt Gilroy toasts the first produce for hungry Jim McPherland. Prospecting gives them big appetites for its 500 workers and construction of a processing plant to convert the uranium ore to concentrate.

Two years later, in the summer of 1952, a geologist working for Toronto mining millionaire Gilbert Laloue and the Clement Gold company found a uranium deposit—some 17 miles from the Eldorado property—of such size that its impact was felt throughout the world. It was Laloue, then a prospector trained in the Cobalt area of Ontario, who in 1936 made the pitchblende discovery on the shores of the Great Bear Lake that established Canada in the pre-war years as one of the two most important radium producers in the world.

The news of the Laloue uranium strike brought an avalanche of prospectors to Athabaska. To meet the surging demand of the prospectors and the huge potential of the area, the Saskatchewan government laid out a model townsite—Uranium City. It is 10 miles west of the Eldorado camp; east of the Rix-Athabaska mine; about 16 miles northwest from Laloue’s fabulous Cobumar properties and six and one-half miles from Bushell.

This central settlement serves the surrounding mines—though some of them have plans for their own townsites modeled after Eldorado—wth a residential area, school, churches, business sites, a park area, sewage, water and electrical services from a $50,000 diesel generating plant.

It was in 1952 also that Imperial built storage tanks and a special dock at Bushell to handle the oil products needed by this isolated pioneer community. Some 2,500 cubic yards of solid rock were blasted in the $300,000 installation. Previously nearly all gasoline and oils were flown in from Fort McMurray, the end of the railway line from Edmonton—gasoline costing as much as $1.50 a gallon.

**Uranium Production Secret**

Oil, of course, isn’t the only product brought across the storm-swept, rock-slit waters of Lake Athabaska from Fort McMurray. In a warehouse beside the Imperial Bushell plant are crates of soup, clothing, bedding, refrigerators, machinery for the mines, furniture, steel girders, and even luxury goods. Beside them waiting to go “out” (as northerners call the road to civilization) are stacks of small sacks, no bigger than 40 pounds of potatoes—they contain uranium concentrate being sent to Ottawa for evaluation. Production figures are top secret and the precise little sacks are simply addressed: attn. of J. K. Brown, Department of Mines, Ottawa.

From Ottawa the concentrate is sent to Fort Hope, Ont., to be refined into uranium oxide. The oxide is sent to the U.S. Atomic Energy Commission which converts it into uranium metal for use in Canada’s atomic pile at Chalk River, Ont., and American atomic plants.

Bushell has a summer population of 24 and consists of three outlets, Imperial Oil, Northern Transportation, the company which owns and operates the barges, and a warehouse of Atomic Energy of Canada. As soon as freeze-up arrives in October, the creeks freeze. The permanent winter population at Bushell is one, a lonely watchman. He is visited about once a day by the Imperial Oil agent, Paul Vincent, who comes to get oil and to see that tankage pipes are not freezing. Otherwise the ice-over bay is deserted from October to June.

The big problem is to get everything needed to carry the mining output through the winter into the Bushell warehouses in about 100 days. Men and barges work day and night. One hour lost from a faulty pump or engine can be a serious impediment to the operation of the whole area.

By about June, the ice has left the Athabaska River which flows out of Alberta, passes the old trading post of Fort McMurray, and into Lake Athabaska. The N.T., as the federally-owned North- ern Transportation is known, loads a couple of barges. A 300-ton barge (N.T. has 17 tugs ranging from 80 to 300 tons), pulls a load of 250 miles to the mouth of the river, through the narrow and out across the lake, 126 miles to Bushell. Here the tug drops the loaded tanker barges and picks up two others which winterted at Bushell. The full barges are unloaded and pumped off. Meanwhile, another tug, encouraged by the lack of ice, sorts out. And another, and then another.

They come in at the rate of about one a day all through the navigational season. In 1954, N.T. expected to haul about 46,000 tons of goods and oils. Paul Vincent, and his brother Manuel, are often up 24 hours a day filling their tanks. They, as the gray mists of ice start to cling to the rocks, and the water takes on a chilly gray color, the barge and oil tanks begin to fudge with ice. The tug and their hard-working crews disappear for another eight months.

This fantastic operation is in keeping with the fantastic little settlement of Uranium which it supplies. Pretty well everything about the town is unusual, starting with its name. Fortunio came and go as quickly as the months. The air is charged with an electric dryness (there’s only a half-inch of rain a year) which adds an exciting tension to the place. Prospectors whisper in small groups in cafes. They dance all Saturday night under the midnight sun, and swim in the beautiful lakes around. There’s a river and a waterfall to make your heart leap and a mosey-in-the-dusk swamp at the other end of town. There’s one of the most beautiful churches in the northernland, and a collection of tent-topped huts.

**WATER SOILS ON STREETS**

Climbing into town from Bushell, the first big building is the Uranium City Hotel—a 24-room white construction with hot and cold water in every room. It was built in 1951 at a cost of $250,000, complete with modern fixtures and cooking equipment brought in by the barges. It has a sparkling new restaurant, with pretty young waitresses who come up for the summer from Edmonton.

Due north is the $135,000 school and the four-teacher staff house. Southwest of this are the government buildings. These has the headquarters of Greg Dzzielchak, the town’s provincial administrator, who advises and directs a local committee on town planning. Next door to his office are the RCMP.

Other big buildings include the Hudson’s Bay store and a movie theater that was dropped 30 miles across the ice from the abandoned town of Goldfield. There is also a small hospital, fire station, two service stations, a pool room, two bars, a stock-breeding, a liquor store and an Imperial Oil warehouse.

The town is out on a lake (the nearest is a mile away); it’s on a sandy spit in the bay that helps drainage and ebb and flow, but does not help water supply. Even new water is sold on the streets for $1 a barrel. The population of 714 is served by

**October 1954**
18 taxis and 35 private automobiles that plow their way over the rocky back and forth to the mines.

In the middle of the main street there's an old ship. It was hauled from the lake last winter for repairs which have never been completed. Across the street it is a pond which last winter was used as a skating rink. On it floats a disused cabin blown from shore to shore by the wind.

On the eastern edge of the pond is a large store, belonging to slender, grey-haired, English-born Gus Hawker, who claims 48 years. At one time Gus had the store in Uranium City and supplied the whole area. He made a fortune from the staking rush that followed the Labrador discovery. He accepted some 600 claims in lieu of payment and sold 250 of them for almost a quarter of a million dollars. But the rush died down, competition arrived and Gus had stock on his hands. This year he says he still has $85,000 worth of goods in his store. When there are no customers he sits at the piano (backed up against crates of clothing) and hums out a tune, or plays his favorite instrument, the saw.

Gus took his family to England to see the Coronation - by a chartered DC-3. He has six children. Four of them are called after the months of the year. The eldest, a pretty 17-year-old, is June. There are April and May, and a boy, August. The other two have old family names. Gus says "We couldn't very well call 'em September and October."

When Father Brown, a Catholic priest at the Mission, came to Uranium he naturally wanted to build a permanent church but he had no money. Through the bishop was dubious, he went out and staked claims; proved them and sold them for $65,000. He now has one of the priciest churches in the north. The parish priest is Father L'Helgouache, an expert in Rakiino, who has translated the Mass into that language.

The biggest store in the town is owned by Alex McIver. McIver is a member of the committee headed by Ben Maguire, which meets most of the town's activities. There is a dance every Saturday in the open air at nearby Martin Lake, where 100 couples brave the mosquitoes and black flies. Sundays are spent swimming, boating and gospeuming. Most people go to church in the morning. There is an Evangelical and a United, as well as a Catholic church. Other evenings are spent in the hotel, pool room, or at the movies. Most people hold a party at least once a week.

The most popular party discussion is—naturally—uranium. The area is alive with uranium and nearly every man (and his wife, too) has claims. All lands within 2 miles is staked. Geiger counters are as common as frying pans. Bush pilots of Saskatchewan Government Airways and McMurray Air Service fly prospectors into the bush in float planes at a cost of about $30 for 50 miles. If a man is lost they'll look for him for nothing. A man can't exist for long in this wilderness without food and shelter.

ANYONE CAN PROSPECT

Anyone can—and does—go prospecting around Uranium provided he has a $5 miner's license and a map showing unclaimed territory. He can stake up to 12 claims at $10 each—nine in his own name and 12 by proxy—and as long as he does $100 work on each claim in a year, he can keep them until they are sold. A season's prospecting costs about $5,000.

However, the man who buys the claim has an expensive job. He has to do a diamond drill, which costs $6 a foot, and may go as deep as 4,000 feet. Only then can he see if the mine is worth developing. More than $20 million were sunk into Eldorado mine, and nearly as much invested in Gunnar, before a single pound of ore was prospected. An estimated $6 million was spent in diamond drilling in the summer of 1953 and the work has been going on through last summer. Since the area opened up about $65 million has been spent in developing mining claims.

While prospecting is comparatively cheap, other things in this northern outpost are not. Three-room shacks, originally hauled across the ice from Goldfields, rent for $100 a month. Taxis cost anywhere from $1.50 to $3 a mile. Firewood fetches $24 a cord (a bundle as big as an office desk.) Fresh milk costs 60 cents a quart and lettuce 60 cents a head. Other commodities compare more favorably in price with the large cities "outside"—a 15-cent magazine costs 20 cents; cigarettes are 40 cents a packet compared to an average of 33 cents; a 10-cent bar of chocolate fetches 17 cents and a gallon of gasoline, 42 cents outside, costs 50 cents at Uranium. The major factor of course, in Uranium prices is the cost of transportation to the isolated settlement. Uranians realize this, but nevertheless welcome every boat and plane load with open arms, for without the oil and supplies they bring, mining, prospecting and staking would come to a halt.

The big staking rush this year came in an area 20 miles to the north on Laird Island in Itzin Lake. Leaders in the staking were four Irishmen: Pat Hughes, Mat Gilroy, James and Jo McParland. Laird is in the centre of a ring of islands. Outside these rings is Itzin Lake. The Irishmen have a camp on the edge of the second ring, snug on the lake. You approach from the south, and as the plane hits the water, the two tents and the smoke stack of Mat's cookhouse pass you to the right. The first question you are asked is about mail. The next, about what's in the boot (outboard engine).

Mrs. R. Martens teaches both Indian and white children.
The Irishmen came from County Down to work as bricklayers at Eldorado but soon succumbed to the prospecting bug. They have already sold one of their claims for $100,000 and 300,000 shares. Geologists say it is one of the richest in the area. It has over 600 feet of black pitchblende in a seam two inches wide at the surface. They are now working on other claims which they say are better. Usually there are a couple of independent geologists on their property. These fellows walk around bent double with an instrument that looks like a fat gun. It is a highly-sensitive machine called a scintillation meter—familiarly known as a "sniffer"—which records radio-activity like a Geiger counter.

Evenings in the bush are spent swimming, playing cribbage, reading—and telling prospecting stories.

One of the latest happens to be true. A prospector who had searched for three weeks without success, felt thirsty as he walked back along the shore. He put his Geiger counter on the rocks and lay over the water for a drink. Suddenly he heard a familiar rapid ticking sound. Jumping up, he found he had placed his counter right on a deposit.

Some prospectors work for themselves, others work for large mining companies, others are grubstaked by local merchants who take a share of their claims.

A man who has little time for it now is Paul Vincent. A big man with dark hair and glasses, he is helped by his brother Marcel and one other permanent man in running his Imperial agency. Besides being a member of the town committee, Paul is also chief of the local fire department. He is married and has two children.

His tanks hold 1,900,000 gallons, most of it heating oil and diesel fuel. He supplies 275,000 gallons to the mines around, although Gunnar and Eldorado have their own tanks and buy about 950,000 gallons of products direct from Imperial every year. Not until about April can Paul tell if the gasoline and oil he has is going to last until June. Last winter he ran out and had to borrow from Eldorado. This year Imperial has put in an extra 25,000-gallon tank. Paul has three engines to pump products from the barges, each with a capacity of 10,000 gallons an hour. The barges hold anything from 10,000 to 120,000 gallons, and they make the 300-mile trip from Fort McMurrary to Bushill in about 35 hours. Nearly all his products come from Imperial's Edmonton refinery, but some gasoline is now arriving up the Mackenzie river from Imperial's Norman Wells refinery just outside the Arctic circle.

About now the ice is forming on the lake again. The last boat has called. The oil tanks and warehouses are full. Everything that the south could send has been sent. The watchmen will have taken over at Bushill. The bitter winds will be sweeping the Bay, and the people will be banking themselves against the cold months of cold and waiting for the first tiny ship to come thrusting through the melting ice flows next June with the first oil and provisions.

Radium Queen positions barges for pumping oil at Imperial Oil dock. The area uses 4 1/2 million gallons of oil products yearly.

A new kind of music is sweeping the West Indies—the rhythm of the oil drums. Canadians sampled it at the CNE.

TIN PAN TROUPE from Trinidad

by HAL TENNANT

THE WHOLE STAGE seemed to rock to the rhythm of the band as the chocolate-skinned girl with the flashing white teeth sank to her knees, and the grinning young man with the tousled hair, the gaily-colored vest and the sloppy white pantaloons, flung his bare feet wide apart to execute an elaborate leap-frog over her.

Behind them, seven pairs of hands used rubber-tipped bamboo sticks to beat a frantic rhythm out of the orchestra's only instrument: a collection of Eso oil drums.

Never before had Canadians seen or heard anything like it. The Eso Steel Band, performing daily in Toronto at Imperial's Canadian National Exhibition booth, was taking the CNE by musical storm.

As "pan players", the seven brown-skinned instrumentalists were giving Canadians their first real taste of the music of the steel band, or "timpany", which is currently threatening to replace calypso singing as Trinidad's major folk art.

The crowds who applauded the band's CNE performances were showing the same reaction as others outside the British West Indies who have heard the strange new music. One steel band that performed at the Festival of Britain three years ago is credited with helping the timpany gain world-wide recognition.

Other bands have made stage and television appearances in the United States, winning wide acclaim not only from the general public, but also from serious
musicians, some of whom believe the steel drum will one day perform in the symphony orchestra. Some might have done so by now except for the fact that so far none have been tried to conform in pitch with orthodox musical instruments.

Like most of the estimated 200 steel hand bands which are now beating out the hemisphere's newest form of music, the Venezuelan-carried nine pans, ranging in size and pitch from the shallow "ping pong" or "ping pongo" (suspended by slings from the players' shoulders), to the full-size oil drum or "boom", which, standing waist-high from the floor, resonates with the basic rhythm pattern.

Where an individual pan can produce what one writer has called a "frangible, misted, bell-like tone . . . melodious and haunting", nine drums as played by the Essen Steel Band give out a combined sound that is anything but fragile or muted.

It is a music that is as unhushed as a jazz session on Lower Basin Street, as compelling as a gypsy dance and as primitive as the voodoo drum that was the steel pan's musical ancestor.

Many races and cultures have used music to hark back to the most primitive days of their forefathers. But it took the delightfully ingenious people of Trinidad to recall the early days of their African ancestors by means of one of civilized man's most modern artifacts - the steel drum.

They tell many a tale around Port of Spain, Trinidad, about the "true" origin of the pan, but the stories agree on only one basic point: the oil drum began its new role as a musical instrument some time since the end of World War II.

HOW IT ALL BEGAN

One story, held by many to be the real account of how it all began, saga a young man was listening to a rhythm on a cracker tin when its face was accidentally struck by a large rock. He tried to straighten out the surface by tapping it with a hammer, and in doing so he noticed how its tone was becoming more mellow. Then he made his most important discovery of all: when he tapped the tin in different places he got distinctly different notes. In all he found the smashed cracker tin had five notes—enough to play "Mary Had a Little Lamb.

Others caught onto the idea and began raiding junk piles, looking for cracker tins but settling for anything metallic that gave off a pleasing ring. Following a tradition established during the 1930's, when ashcan and bottle bands used to deend a neighborhood with impromptu concerts-on-the-march, the cracker-tin makers fashioned some of the first pans out of clamskins, discarded auto parts, junk iron and all drums. It didn't take them long to discover that all drums could be made to produce the best and widest variety of musical notes. Soon all other types of junk were discarded in favor of the second-hand oil drums.

The first pan makers were easily satisfied. If they could hammer one end of an oil drum into a pan that would produce two or three distinct notes, that was good enough. But today a pan, which may have as many as 32 notes over three octaves (including quarter tones not found in the conventional scale), can't be made without a skill as exacting as that of a violin-maker.

To make his own instrument the pan player has to be a combined blacksmith and piano-tuner. To make a "ping pong" or "molylo" pan, he cuts an oil barrel with a hacksaw about four inches from the bottom. The bottom of the drum forms the face of the pan. Next he heats the pan over a fire and carefully pounds the face with a dudger hammer until it has a smooth, concave area about two inches deep in the centre.

With white paint he marks off as many loops on the face as he wants notes in the instrument. He cuts shallow grooves along the painted lines, to separate each note from its neighbor. Then he begins the most exacting task of all: tapping up each note from the underside of the pan until each little budge produces the exact pitch he desires. The notes must be in harmony not only with one another but also with the other pans in the band.

The tuning finished, the bandsman needs only to fasten on a shoulder sling roughly similar to that worn by a military drummer. Drum sticks are made by adding rubber tips to two short pieces of bamboo. "Booms" or base pans are made in much the same way, but with fewer notes (sometimes as few as two per pan).

Despite all the craftsmanship that goes into a good set of pans, they are still without official standing in the eyes of some people. A New York customs officer who impounded one band's pans when it was entering the U.S. to do a television broadcast, refused to allow the pans to be listed as musical instruments. He held up the band until the players were in serious danger of missing their slotcast. Finally he relented. The pans were allowed to go through—but only after they went down in his records as "junk."

It is only very recently that pan players themselves have been regarded with anything better than the contempt that the custom officers had for the inorthodox instruments.

Today's players, though fast gaining respectability and international renown, are actually the spiritual descendants of the street-beating gang that resided the poorer districts of Port of Spain in the 1930's.

In those days, deprived by law of anything resembling their traditional voodoo drums because they had been used to relay anti-government messages, Trinidadians made percussion hand instruments from pieces of bamboo cut to various lengths to provide a variety of tones. But the authorities soon discovered that these bamboo sticks were being used not only for music-making but also as lethal weapons in street fights. Late in the Roaring Twenties—which varied as much in Trinidad as anywhere else—the authorities banned all Bamboo-Tambou bands.

This move prompted the West Indians to look for a new substitute instrument that they could easily afford. They discovered during the 1930's that garbage cans make a good loud din. It wasn't until after the war that they accepted the principle that the best band is not necessarily the loudest, and that oil drums are more melodious than garbage cans.

Parents often try to keep their offspring from becoming pan players, as at least two members of the Essen Steel Band will testify. One of them, Steve Davidson, did play the steel band when he was only 10 years old, but gave it up, owing to "pressure from parents and friends." Two years ago, finding that pan playing was one of the "respectable people of the island," he joined the Essen band, then billed in Trinidad as the "Dixie Stars."

Pan players from Trinidad get their "jumpy" sound from the bottom of the oil drum. Hitting the drum off center on the "hump" produces the jumpy sound.
THE MAN who said he was going to build a library because he didn’t have a head big enough to hold everything he had been joking but he could have better defined the purpose of Imperial’s public relations library. It is a “special library” and as such is a reservoir of information about the oil industry that over the years has grown from the comparatively simple to the complex.

Thus was when ownership of a surface showing of crude was all a man needed to start an oil company. Singlehanded he skimmed the crude, separated its only useful product, kerosene, bottled and sold it to the lump-lighting trade. He kept his “know-how” under his hat and stayed in business as long as the supply lasted. That was simplification in the extreme.

But today’s oilman is likely to belong to an integrated company operating across the nation exploring, producing, manufacturing, transporting and selling both crude oil and its products. He may be a geologist, a geophysicist, an engineer—civil, mechanical or petroleum—a doctor of philosophy or medicine, an economist, a surveyor, an accountant, a driller or a sailor, a pipeliner or a salesman, or any one of a host of other professions and skilled occupations.

While the very complexity of the oil business today makes for large-scale operations and efficiency it also means that a company such as Imperial is really a community of experts, each dealing with a particular phase of company operations. No one man possesses, or could hope to possess, all this specialized knowledge. At best he may appreciate where it fits into the company’s operations. When specific information is needed there are two reliable sources—the expert and the company’s special librarians.

The company has several highly specialized libraries in Toronto which collect books and material about, and affecting the activities of, the particular groups they serve. There are such libraries in the technical services division, marketing research group, co-ordination and economics, medical, law, producing and employee relations departments. At Sarnia, Imperial’s research department maintains its own large reference library. The public relations library ranges across all the company’s activities and the public’s interest in oil.

It is to this library that those interested in the company’s over-all activities turn for information. This applies particularly to those concerned with explaining or writing about Imperial’s activities.

For instance, if an article is to be written on the development of the Leduc field, or the growth of mechanized farming in Canada, the writer will make known his wants to Miss Clara Miller, the slight, Newfoundland-born librarian in charge. This is the equivalent of setting an automatic machine in operation. In no time at all there emerges a pyramid of material—newspaper clippings, speeches, manuscripts, magazine articles, reports and countless books containing references to the subject.

Often though, the request comes from outside the company like the schoolboy who wanted “to learn all about oil in the world because our class is having a project in oil and teacher says we should tell all about it.”
This prompted Clare to write explaining that while Imperial operates in all phases of the industry, it does so only in Canada and so is a small segment of the world oil industry. However, accompanying the letter were two illustrated booklets, *The Oil Seeks and Oil From the Earth*, specially prepared by the company for students. There was no complaint, only another letter requesting additional copies of the booklets.

Then there are the high school students working on social studies, and sometimes teachers who want detailed information such as "(a) the make-up of a drilling crew, (b) the price of a drilling rig, (c) what it cost to drill an oil well? Or it may be, the total invest-

ment in the Canadian oil industry since the Leduc discovery in February, 1947? A quick flip through a couple of files of material and Clare’s reply to the first query was (a) usually about five or six; a driller, driller’s helper, two roughnecks or floormen, a derrickman and a roughstool, or semi-skilled laborer, (b) modern rigs for drilling a mile of hole cost about $200,000, (c) anywhere from $50,000 to $250,000 (though some have gone as high as $1 million) depending upon depth of hole, conditions of the country and the underground formations encountered. As for the answer to the last question, it increases from month to month and at the time of writing the figure was approximately $2 billion.

Queries prompted by newspaper publicity often run in cycles. In 1950 when the Interprovincial Pipe Line Company was constructing its original 1,129-mile line from Edmonton to the head of the Great Lakes there was a rush of requests for information about oil pipe lines. After it was completed and western Canadian crude was moving eastward interest slowed down. Last year it was revived when Trans Mountain crossed the Rockies and Interprovincial pushed another 463 mile extension, crossing the Straits of Mackinac to reach Sarnia.

STUDENTS USE LIBRARY

Occasionally Clare receives an invitation from a university student to write his thesis. But she is wise in the ways of university students. She holds a B.Sc. degree in chemistry from Acadia University and a Bachelor of Library Science degree from the University of Toronto where she was an assistant lecturer on special libraries. She usually matches such invitations with a counter invitation to come up and make use of the library’s research facilities. If the student accepts, it’s an odd-on chance he will encounter other students there poring over industry papers. This year 12 university students were assisted with their theses.

If his studious neighbor is not a fellow university student he’s probably an English, American, German or French newspaperman or magazine writer swatting up on oil before visiting the Alberta oil fields. There was one memorable year when a "tall, dark and handsome" product of the Argentine spent most of one summer bringing Clare up-to-date on the pamphlets, gazetteers and Buenos Aires while she in turn briefed him on the Canadian oil industry.

Canadian writers take a fair share of Clare’s time too. One asked for the history of automobiles, another for the history of Lambton county, and yet another wanted to know how aviation aid in the development of the west.

FOUR CALLS AN HOUR

In addition to written and personal requests for information the ever-primeval telephone claims a good share of Clare’s day. The library averages about four calls an hour, and the questions do not always have to do with oil. Recently Clare was asked "Who painted ‘The Last Supper’... and how big is the painting?" and "How long is Beethoven’s Fifth Symphony?" While these seem to be off the beaten track the answers were supplied after consulting special libraries outside the company.

In case you are curious, the famous painting by Leonardo da Vinci covers 20 by 16 feet and the equally-famous Fifth lasts some 31 minutes. But the query really wasn’t off the beaten track. The information was incorporated in a talk about the company’s history. The answer was "Vinci." But in the cloth edition of the book you’ll find the following: Beethoven’s Fifth Symphony is 21 minutes long.

Aquaviva, Montoro, Spain

ASSISTING CLARE IS MRS. JOAN LANDY, also a B.L.S., who worked in the Gwen Sound, Ont., Public Library during school holidays and joined Imperial two years ago after graduating from the University of Toronto. Together they manage to cope with the daily flood of queries and demands. When the pressure eases then are indices to prepare, abstracts to be written and always there is the ever-lengthening stream of publisher’s notices about new books that have to be read.

If they contain new facts and information of special interest they will now be available in the library, for an informed employee, whether it is a meter reader or a man on a drilling rig, is the best employee, and an informed public is the best public.
An Abstract Look at a Refinery

HAROLD TOWN, who drew the illustration of a refinery on the cover of this issue of the Review was, early in his career, fired by a comic book publisher for insisting that his characters' faces have individual expressions.

That, in essence, is the story of the 30 year old Toronto artist's life: a running battle with what he describes as "automatic thinkers" such as his publisher-boss, who demanded that Town use faces from mass-produced cutout sheets and paste them on the figures drawn in each panel.

It is such people, says Town, who also say that abstract drawings are "boring" because they don't depict a subject the way a camera would. Town, a graduate of the Ontario College of Art who now works full time as a freelance artist, would never argue that abstraction is the only worthwhile form of art (indeed, he is an accomplished realist), but he does believe that abstractionism deserves a place in the world of art, just as much as realism.

Unlike the realist who says, "How does such-and-such an object look to my eye?" an artist such as Town asks himself, "What do I feel when I look at this object? What are my impressions of it?" Then he attempts to show on paper how these emotions alter his view of the object.

Town saw nothing unusual in applying this technique to an oil refinery. He says that hardly any laymen looks at a refinery without trying to imagine the oil flowing through the pipes. Already he has begun to create an abstract idea of the refinery. Next, he might be inclined to think of the refinery as a giant heart, pumping oil instead of blood, but performing as vital a function to the community as a heart does to a body.

The abstract artist merely goes one step further by trying to show this resemblance on paper.

By taking this approach, and "seeing" the refinery in 10 different ways, Town produced 10 pictures, the most abstract of which is on the cover. Four of the other nine appear on the next four pages.

The thought that led to the drawing on the opposite page was fairly simple. Town explains he has retained some of the actual appearance of the refinery but has used strong delineation to emphasize the plant's complicated structural details.

His second drawing, he says, suggests the thought that a refinery at night resembles a darkened city. He used bluish, somber shadows to show the units as "buildings" and, at the same time, employed "mechanical" shapes to symbolize the inner workings of the plant.

In sharp contrast is the third drawing in which he has subordinated the shape of the refinery to show the oil surging through it as if its life's blood. He explains it is an attempt to show two forms of power: the refinery, which produces the liquid, and the liquid itself (the eye-catching network of red lines) which eventually becomes an even greater source of energy.

The fourth drawing is the result of a romantic thought Town had about the plant as a symbol of "the conquest of space by power." He used mechanical shapes as a reminder that petroleum powers the major forms of earthly transportation, and the predominant "Martian" and planetary shapes to suggest future conquest via travel between the planets.

The cover drawing, which bears the least similarity of all to a refinery's real appearance, was intended to be the most striking of all and to show the refinery not only as a very complex thing but also as a structure with its own type of beauty.

Town felt that while a refinery is not "pretty" it is beautiful in a more subtle way because it is devoted to doing something and doing it well.

His attitude could be likened to that of a tennis fan who admires the "beauty" of an expert player's movements, although these movements are not the slightest bit "pretty" in the sense that a ballerina's movements are. The co-ordinated motion of arm and racquet is beautiful because it is the perfection of a certain definite function. This is the beauty that Town attempts to reveal in his cover drawing.
... at night resembles a darkened city...

... oil surging through it as its life's blood...
Personalities in the news

J. F. Barrett Appointed General Counsel

J. Flavelle Barrett, counsel and manager of the law department for the past two years, has been appointed general counsel for the company. Toronto-born, Mr. Barrett is a graduate of the University of Toronto and Osgoode Hall. He was called to the Ontario Bar as war broke out in 1939. During the war he served with the RCAP for five years as a pilot in Canada and England. He was awarded the Air Force Cross and discharged as a squadron leader. After a year in private practice, Mr. Barrett joined Imperial's law department in Toronto. In June, 1951, he was transferred to Calgary as division solicitor for western producing, where he served for a year and a half before returning to Toronto.

New Positions Created in Research Department

Dr. Cameron H. Causer has been appointed assistant manager of the research department. He joined the company in 1933 when he graduated from the University of Toronto. His first job was in the technical and research department at Sarnia but he left the following year to take postgraduate work at University of London, England. He returned to Sarnia in 1936 and returned to Sarnia. He was appointed chief research chemist in 1951. Dr. Causer held this position until his recent appointment. He is a Fellow of the Chemical Institute of Canada.

In other research department changes, Bernard Goulston was made assistant manager in charge of the service laboratories of the research department. This section of the department includes analytical and engine test labs to service the manufacturing and marketing departments. A new section of the department has been formed to deal with special projects. This section will be comprised of a number of top-ranking petroleum scientists, the senior of whom is Dr. O. S. Pel darm who has been named research specialist. The department appointed three co-ordinators: L. W. Sproule as co-ordinator of gases, L. F. Whitfield as co-ordinator of the service laboratories and Dr. W. H. White as acting co-ordinator of fuels and specialty products.

Changes in C. & E. Group

John F. Fairlie, after experience in manufacturing and co-ordination and economics, has joined the marketing department as assistant manager of the Quebec division. He joined the company in 1933 at Montreal refinery. A year later he transferred to Sarnia for engineering development work. During World War II he served overseas with the RCA, and on discharge spent two years with the co-ordination and economics department of Standard Oil Co. (N.J.). In 1947 he returned to Imperial as assistant manager of the co-ordination and economics department. He was appointed manager in 1949. Mr. Fairlie is a graduate of Royal Military College and of the University of Toronto.

James G. Livingstone succeeds John Fairlie as manager of the co-ordination and economics department. Mr. Livingstone has been with the company since 1942 when he joined the inspection laboratory of Sarnia refinery. Two years later he moved to the engineering division. In 1951 he became its chief process engineer and held that position until his transfer to Winnipeg in January, 1953, as assistant refinery superintendent. At the end of the year he became assistant manager of the co-ordination and economics department in Toronto.

... the conquest of space by power...
Pipe Line, Producing Promotions

Bruce H. Mackenzie has been appointed to the new position of assistant manager of the pipe line division, transportation and supply department. A native of Toronto, Mr. Mackenzie is a graduate of the University of Toronto in chemical engineering. He joined Imperial at its Sarnia refinery in 1949. Three years later he was loaned to the St. Clair Processing Corp. (a subsidiary of the government-owned Polymer Corp.). He returned to Sarnia refinery in 1951 as a process engineer. Early in 1951 he was made co-ordinator for the Sarnia refinery expansion program and held this position until he was transferred to Toronto in 1953 as chief engineer of the pipe line department. For the past few months Mr. Mackenzie has been acting manager of the Sarnia products pipe line.

Luis Garcia has succeeded Bruce Mackenzie as chief engineer of the pipe line division. K. R. Shipley, formerly of Winnipeg refinery, is now assistant chief engineer. Born in San Juan, Puerto Rico, Mr. Garcia graduated from the University of Michigan in 1941 as a mechanical and aeronautical engineer. During the war he worked on aircraft production and maintenance and for four years served with the U.S. Army Air Force. Mr. Garcia joined Imperial at its Sarnia refinery in 1946 and a year later became chief engineer of the company. He transferred to Imperial in 1953 as assistant chief engineer of the pipe line division and by the end of the year was chief engineer.

H. B. Trots is the new manager of the Sarnia products pipe line, a position taken over temporarily by Bruce Mackenzie when Joseph T. Stuart joined the Interprovincial Pipe Line Co. Mr. Trots was born and educated in Marshall, Ill. He has had experience on pipe line systems in Wyoming, Montana, Texas, Ohio and Michigan. In 1936 he joined the Trans-Canada Storage Co., an Imperial subsidiary supplying crude to Sarnia refinery. This company was sold last year when the Interprovincial line reached Sarnia with crude from western Canada. At that time Mr. Trots was vice-president and general manager of Trans-Canada and Storage Co. He joined Imperial early this year.

E. Donald Wilson, assistant manager of the Regina exploration division since 1932, is new management assistant in the western producing division and a member of the division management committee. Born in England, Mr. Wilson is a mining engineer and a graduate of the University of Alberta. After graduation in 1929 he joined the Royal Standard Oil Co. (then an Imperial subsidiary) at Turner Valley. In 1941 he enlisted with the RCAF, and in the next five years served in Canada, India and Ceylon. On discharge he rejoined Imperial’s producing department, and in 1948 became division petroleum engineer at Calgary. He transferred to Toronto in 1959 as operations advisor in the producing department. Two years later he returned to the west.

Veterans of Forty Years’ Service

Geoffrey G. Gorvey, head paymaster of Sarnia refinery, started work there in 1912. Most of his service has been with the accounting department. In 1913 he enlisted in the 70th battalion from Montreal. In 1915 he transferred to International Petroleum Co. and spent four years in Peru. He returned to the boilermakers department at Sarnia refinery. During the last war he was loaned to the government to assist in the Polymer Corp. operations. When he returned in 1946 he rejoined the accounting group.

George W. E. Hammond joined Imperial in 1914 as a billing clerk in the marketing department at Toronto. He transferred to the traffic department in 1919 and is now traffic assistant (instead), a position he has held since 1932. Mr. Hammond is a native of Cardiff, Wales, and a veteran of World War I. He served overseas for two and one-half years with the 56th battalion.

Harry Manchester recently completed 40 years of service at Sarnia refinery and retired under the company’s annuity plan. Born in Plymouth, England, Mr. Manchester attended school there and then sailed for three years on coastal boats. He came to Canada in 1913 and started to work at the refinery as a painter. Within two months he transferred to the blacksmith shop and remained there until 1947 when he was assigned to the tool crib. He worked there until his retirement. During World War I, Mr. Manchester served with the Canadian Black Watch.

W. Stanley Ritchie has been with Quebec marketing division since 1913. He holds various positions in the division and is now office supervisor. Mr. Ritchie is a veteran of two world wars. For three years in World War I he was with the Royal Canadian Artillery. In World War II he rejoined the same unit and served for five years in Canada, the United Kingdom and the Mediterranean area. He is an enthusiastic supporter of amateur theatricals.

Andrew T. Thomson started work as a driver at the Toronto Princess St. plant when horses were still used to draw the tank wagons. The next year, 1913, when motor power replaced horsepower at Princess St., he became a tank truck driver. In 1919 he became tank wagon superintendent, in 1938 assistant plant superintendent, and in 1943 warehouse foreman. He left the Princess St. plant in 1951 to become West Toronto plant agent.

Robert H. Thorpe, a 40-year veteran at Sarnia refinery, has been trainer for the Sarnia Imperial football team for the past 30 years. He has also been trainer for various local hockey, lacrosse and baseball teams and helped organize the sea cadets in Sarnia. Most of his services at the refinery have been in the boiler house. At the present time he is in charge of painting and branding new barrels. Two of his sons, John and Robert, work in the refinery.
can we beat the

Yes, say the experts, who foresee traffic flowing smoothly through wide downtown streets; no parking meters—not even a policeman with a parking ticket.

NOT LONG AGO a New York night club comedian drew gales of laughter when he wise-cracked: "You don't need to worry about the Romans ever coming here. There's no place for them to park!"

The joke caught on across the continent because it lampooned a confused, frustrating and often ludicrous situation faced by millions of U.S. and Canadian car drivers every day: where to park?

But the laughter is comic relief for one of North America's most irritating social and economic problems. Besides the countless motorists who worry individually about it, thousands of town and city councillors, businessmen, provincial officials and police are plagued with it daily. It came to its present impasse in the great post-war industrial boom with its urban population growth, skyrocketing of property values and tremendous enthusiasm for car-driving following wartime restrictions.

Canadian communities, realizing that an ever-increasing number of people prefer the comfort, convenience and privacy of their own cars to almost any other transportation, are now coming to grips with the parking and traffic congestion in the same way they solved motoring problems in earlier days when good roads, service stations and motels were unknown.

Remarkable progress has been made in many localities, but until present plans are brought to completion, the ordinarily peaceful car driver will still face a jungle-like maze of parking taboo and infuriate him. Trying to park his vehicle within a reasonable distance of where he wants to work, shop or do business, he finds himself driving around in circles because he can't park less than 10 feet from a hydrant, near an intersection, in a snow-removal area, more than six inches from a curb, on a bridge, near a level crossing, in a public lane, at a taxi stand or bus stop, alongside a hotel, hospital, garage, theatre or auditorium. In fear of getting a ticket, he can't park overnight in front of his own house (even if he lives on a dead-end street in the suburb), adjacent to a school.
anywhere on a road that is less than 17 feet wide, or near a firehall. If he doesn’t mind expense, he may pay from $3.50 to 50 cents for an hour’s parking—provided the lot isn’t packed.

On certain streets, he can snuggle up to a curb, if he can find an open space, but he must make sure it isn’t in rash hours or on some highways between 12 noon and 2 p.m.

In desperation, the weary, but determined, motorist drives down the laneway, sneaks his car into a lane of double-parks, edges up on a boulevard or resorts to some similar stratagem. Usually he returns to find a familiar ticket slipped behind the windshield wiper.

In Ottawa, some office workers got around the law for a while by such parking the boy 15 cents to move their cars before the double-park made it impossible. The police nipped that in the bud last February. Robbing chalk marks off tires used to be a favorite trick too, but that is one that is fast disappearing with the advent of parking meters.

Parking tickets are handed out so liberally that Toronto’s city hall has several tickets to receive fines and Montreal makes use of chartered banks. Out of 12,000 motorists tagged last May when the plan went into operation, 6,000 sued the banks.

Even the men of law themselves are not safe. A Quebec court official who had been parking his car in a no-parking zone near the courthouse picked up 17 tickets last year and was finally ordered to pay $394. Your lawyers were also caught in the crack down.

In Hamilton, Police Chief Leonard Laurence announced last April that he wasn’t going to drive his car to work anymore because if he left it on a downtown street it likely would be tagged. He had plenty of evidence to back up his story. One week one man issue was given 780 tickets. The city had adopted the practice of giving tags every hour instead of one tag per violation.

Many other Canadian cities have had to take drastic measures, too. Last summer, police of London, Ont., launched a drive against “motorfeeders” in downtowm area who parked for two and three hours at a time. They placed $1 tickets on cars that over-stayed the one-hour limit, then returned later and substituted 33 tickets if the cars were still there.

In Chatham, Ont., one man found the parking problem so vexing he swore out load on the main street. Charged with creating a disturbance, he explained that police refused to let him double-park. A sympathetic magistrate let him off with a suspended sentence because, he said, he knew just how great the man’s difficulty was.

Police themselves have to be out not tagging parked cars where they have to face such withering remarks as “Why aren’t you out catching robbers?” Most of them would far rather be running down desperadoes, but they have no choice. One Montreal suburban chief actually resigned because he had to tag cars.

In Edmonton, which claims to be the third—and maybe the second—most densely automobile-populated city on the continent, civic officials decided two years ago that issuing parking tickets was not a policeman’s “lot.” They swore in as special constables members of the Canadian Corps of Commissionaires, whose sole task is to tag offending motorists. They average about 15,000 tickets a month. As in Calgary—where the parking situation is even worse because of narrow streets—the problem is to find space for all the parking spaces. Businessmen rent parking space from private operators by the month or year. Others try to cram into two metered civic lots, several blocks from the centre of the city.

HAIR CUT $4

The all-day park is also Vancouver’s most pressing problem. The majority of the city’s parking lots cater to the transient motorist and discourage—by high rates—the all-day parker. Businessmen either use small, inconveniently-located private parking lots or spend all day feeding a meter—and hoping they get there on the hour every hour, before the cop.

Many motorists prefer the long search for a place to put their cars, might secretly admire (while not approving) the cool aplomb of a 19-year-old Ottawa youth. He parked his truck across the street, the park made it easy to get on and off for a haircut. He was fined $4 for holding up traffic 45 minutes.

Or they might envy a Toronto football fan who simply parked his car on the lawn of a nearby home. The home owner notified the police but they found they had no legal right to remove the vehicle from private land. Toronto’s traffic committee pondered the problem, only to find that it came under the Petty Trespass Amendment Act. The property owner was told he must give the car owner notice not to park. The car owner had long since emerged from the football game and driven off.

The only citizens consistently beating the parking ticket trend are members of Her Majesty’s armed services. In February, last year, legal advisors ruled that drivers of service vehicles need not put money into parking meters. When an RCAF truck in Port Credit, Ont., was tagged for ignoring a notice, the magistrate had to order the charge withdrawn. Commenting on the situation, Toronto City Solicitor J. P. Kent pointed out that if police tagged military vehicles the case might end up in court as “The Queen versus The Queen.”

However, the worries of individual motorists are minor compared to those of businessmen, traffic officials and town planners. They have to deal with the total confusion.

For instance, this year some 375,000 vehicles are circulating in the Toronto area of which 110,000 drive downtown daily. As in other major cities, the result is clogged streets, traffic jams and a war of nerves as drivers cruise around for 20 minutes looking for a berth and fight it out for the available space. Parking on a standard 66-foot streetcar thoroughfare reduces auto-carrying capacity by 30 percent. In many cities demand far exceeds supply, and annually because patrons find it increasingly difficult to park.

PARKING HITS SMALL TOWNS TOO

Not all centres, of course, have chronic parking problems. With some it’s a question of occasional congestion traffic tie-ups on market days when men, women and children from the rural routes come into town. Small town “Saturday nights” with cars lining the streets, through milling up and down the sidewalks and stoos transacting business are a familiar sight in every province. On week-ends many of these centres seem to have no parking problems, but comes the week-end—and a city like small becomes.

Hundreds of solutions have been advanced, some of them by politicians, for unravelling the general stale. Some take a purely negative and emotional turn, such as banning all passenger cars in downtown areas or imposing stiff fines on illegal parkers. But many take the view of Fred Gardner, chairman of the Toronto Metropolitan Council, who says: “Traffic problems can’t be solved by yelling people out of cars and putting them into buses and subway trains.” He believes a ban on cars entering the heart of any city would dent “a calamitous blow” to its economy.

The first step taken by most civic officials to solve the parking crisis was to put in parking meters. But invariably this brought a storm of protest. F. J. Curtius, a Toronto lawyer, and a prime mover in putting the meters on the streets while head of the city’s works committee three years ago, says: “Older people get used to parking on the streets free and thought it was a crime to pay 10 cents an hour.”

An Ottawa citizen expressed the feelings of many when he said in a letter to the Ottawa newspaper: "In towns and cities where the iron rods are sunk... nothing could look more unughtly or primitive than
The motorist pulls into one of 11 stalls on the ground floor. An attendant drives the car its own length into one of the elevators, presses a button and it is whisked up in one minute to the top floor. With the capaci- mance of the crane elevator, three operators replace 13 car jockeys of the ramp-styled garages. The Bower garage can be built over a bus or railway terminal with tunnel access to the street.

In some cities, "pigeon hole" garages, many privi- 
edly-owned, are coming into favor. These open air garages, built as high as eight decks, look like unim- ished skyscrapers in their steel or concrete frameworks.

Large commercial firms with big office staffs, are also helping to relieve the parking problem in many cit- ies. They are leaving the congested downtown areas and building either on the outskirts or further up- town. Many are constructing their own employee parking lots. This has the double benefit of freeing downtown parking space without creating similar problems in the new area.

Department stores, chain grocery firms, big com- panies with large staffs and small merchants banding together into associations are also helping to unravel the downtown parking tangle, or making plans for future development. One Toronto department store has a system where the shopper turns his car over to an attendant at the curb and it is driven off to a park- ing lot several blocks away. When he wants it, he phones from a special store telephone to the lot and it is driven back.

Another large Toronto department store has its own four-story customer parking garage for 500 cars across from its main store and a parking lot to take the over- flow. In Vancouver, a department store also is build- ing a multi-story parking building with an over- street bridge connecting it with the store.

Neighborhood shopping and business areas have also grown into big and busy centres as increased use of the automobile has changed family buying habits.

A few years ago big chain stores, realizing the trend, began building free parking lots with rows of access to the self-service store. New housing subdivisions and older settled suburban districts have set up huge central shopping blocks with stores set well back from the street and free parking facilities for as many as 1,000 cars. The result is that shoppers will drive a mile or two with assurance of free parking space where they can do their buying all in one area. But many other suburban shopping districts are still as cluttered as the downtown area. Toronto's Parking Authority pro- 

"PLAN USE OF LAND"

But the new day for our traffic-choked towns and cities depends on long-range community planning, a job being undertaken by numerous urban planning authorities. A. L. Nash, chief planner for the Ontario government's Community Planning branch says, "We must plan the use of land in a patterned way so that we know that certain land will be put to a certain use." That means careful zoning of residential, shop- ping, factory and office districts, the construction of super-highways with "setback" or parallel side-roads for parking, allocation of city lanes for truck deliveries and other centers.

With the immediate parking problem now being tackled by civic authorities and community planning proceeding quietly, the harassed Canadian car owner can feel that relief is at hand. The day is approaching when the parking nightmare will take its place with the nightmares of "bourseless buggy" days, when motorists had to buy gasoline at drugstores, when highways were mostly gravel, garages non-existent, motels unknown and map services and motor- 

"OPEN!"

PRADIE PLAZA
SHOPPING CENTRE
FREE PARKING
(bicycles supplied)
Canadian Scientists Abroad

Four young Canadians have been awarded Imperial Oil fellowships for post-graduate studies. They are using them at universities in Great Britain and U.S.

TWO YOUNG Ontario scientists left for Great Britain this fall to begin special investigations in the field of nuclear physics. About the same time, a young Englishman, now a Canadian resident, sailed for England to continue studies in international trade, while from London, Ont., a geologist started his journey across the border to Madison, Wis.

The four men are this year's winners of Imperial Oil graduate research fellowships. They bring to 12 the number of post-graduate students now studying under the fellowship plan. Since the plan was inaugurated in 1946, 30 fellowships have been awarded.

Last year, fellowship studies were conducted at 10 different universities in Canada, Great Britain and the United States.

This year, Terence E. Pennie, formerly of Doncaster, England, and now of Montreal, will study international trade, with special reference to Anglo-Canadian trade, at Balliol College, Oxford; Norman E. Booth of Toronto, and Robert S. Storey of Pakenham, Ont., will start their research in nuclear physics at University of Birmingham, England; and University of Glasgow, Scotland; and Frank J. Moretti of London, Ont., will undertake special geophysical investigation related to the oil industry at University of Wisconsin.

Each fellowship provides an award of $1,250 a year and may be held for a period of up to three years. The fellowship plan was initiated in 1946. Its purpose is to encourage academic research in the technical and administrative aspects of industry, and to promote interest in the further advancement of industrial science, by assisting graduates of Canadian universities to carry out research in their chosen fields at universities of their choice.

All fellowship holders are working for their doctor of philosophy degree. While the subjects they cover may have a bearing on the company's operations and may lead to important discoveries, Imperial waives all rights to any patents that may result.

Candidates for fellowships are nominated by their universities. They are selected by a committee of five. Three members of this committee are appointed by the National Committee of Canadian Universities and two by Imperial Oil.

Four graduates are chosen each year on the basis of scholastic standing and aptitude in their selected fields. Two awards are made in chemistry, physics or engineering; one in geology; and one in economics, industrial relations or business administration.

As a navigator with the R.A.F. from 1943 to 1945, Mr. Pennie was stationed in Canada under the British Commonwealth Air Training Plan. He went back to the United Kingdom but in 1950 returned to Canada with his wife. He took an honors course at McGill University in economics and political science, while his wife taught school. He holds his B.A. and M.A. During the summer months he worked in Imperial's Montreal marketing office.

Mr. Booth received a B.A. from the University of Toronto in 1952 and this year obtained his M.A. from Queen's University. He will work in the high-energy field of nuclear and elementary particle physics.

Mr. Storey has an undergraduate and graduate student at Queen's since 1948. He received his B.A. with honors in 1952 and his M.A. this year. At the University of Glasgow he will undertake a study of nuclear reaction induced by high-energy x-rays.

Mr. Moretti graduated this year from the University of Western Ontario with the degree of Bachelor of Science in geology. During the summer last year he worked in the geophysical section of Imperial's western producing department.

Fellowship winners were selected this year by a committee headed by Dr. Leon Lortie, director, department of extension, University of Montreal. Other members were Dean D. S. Ellis of the faculty of applied science, Queen's University; Professor J. C. Cameron, head of the department of industrial relations, Queen's University; Dr. R. P. Graham, professor of chemistry, McMaster University; and Dr. E. W. R. Steacie, president of the National Research Council.

Terence Pennie, and his wife, bound for study at Oxford...
Assigned to some of Canada’s most rugged regions, imperial geologists use nearly every type of transportation.

The search for oil in western Canada ranges from the U.S. border into the Northwest Territories and from northeastern British Columbia to southwestern Manitoba. Much of the northern territory is uncharted. It is traversed only by the feet of trappers or the advance guard of the oil seekers—the geologists.

Virgin bush gives way to swift-flowing rivers with awe-inspiring rapids and waterfalls. Mountains peaks and plateaus look down on wide valleys; bare rock is overrun by impenetrable muskeg, and predatory insects make life miserable for man and beast.

To many of these remote areas the geologists are flown by bush plane and then shuttled to temporary camps by helicopters. Usually these operations go like clockwork, but sometimes they miss. Three geologists were dropped on a mountain ridge by helicopter, and, deceived by distance, they tried to walk back to the main road when the helicopter failed to return on time. They almost starved to death in a trek through the bush they thought would be three hours, but turned out to be a grueling three days.

Photos by Staff Photographer Al Schoenborn

On the brink of the Hay river’s roaring Alexandra Falls

Helicopter-borne geologists over the Scottar river canyon

October 1954
In The Foothills They Use Horses

In the Alberta range country and foothills, the geological parties often travel by horse-train, setting up temporary camps in the shadow of the Rockies. The horse-trains are usually skippered by professional horse-wranglers, and many of the horses are specially-bred range ponies.

Sure-footed creatures, they carry the oil seekers through rivers and streams, up and down the rocky foothills, and along the bush trails. Their backs are the geologists’ mobile vans; they carry the camp equipment and the geological instruments.

Canoeing geologists study their maps on the banks of the Hay river, where the stones resemble a cobblestone walk.

Chipping samples of rock in the Rockies. This geologist came part way up the mountains by horse, the rest by foot.

The horse-wrangler, who acts as train boss, puts a lead rope on one of the mules as the party readiness to move on.

Billinging white smoke from the cook tent announces that supper is near in this camp overshadowed by the Rockies.
The aircraft lands at the main field camp and immediately food, oil and mail from home, is unloaded by willing hands.

**They Get Supplies By Air**

Supplying the geological parties is comparable to supplying army detachments on the march. The geologists stay in the field during the summer. Parties working in the unsettled upper reaches of the Liard river in northeastern B.C. are supplied by an intricate truck-plane operation. Helicopter fuel, food and mail are trucked from Fort St. John to Mile 486 on the Alaska Highway. There the supplies are picked up by aircraft and flown to the main field camp on the banks of the swift-flowing Liard.

Floating low over the Liard river, in northeastern B.C., the Beaver aircraft begins its return from the geological base camp.

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No, this is not a picture of a starfish. It is an electron photomicrograph of coprene, an unwanted by-product which oil researchers are eliminating in certain refining processes.