CO-OPERATION COULD SOLVE THE PROBLEM

O

Ver the next five years, one million automobiles will join the nearly three million already on Canada’s streets and highways.

It will be the oil industry’s job to provide the quantity and quality of fuel and the number and kind of fueling points—better known as service stations—which these cars must have.

The problem of providing suitable gasoline for the high compression engines of the future is a tough one, but it can and will be solved through continued scientific effort and large expenditures.

The problem of providing the necessary service facilities, however, is quite a different matter. As things stand now, it is a rare community indeed that has a positive policy regarding service station sites. (See page 16, Tomorrow’s Service Stations: Where Should They Be Built?)

As the article cited above shows, older communities are characterized by a hodgepodge of regulations which make it almost impossible to apply sound planning principles to the selection of service station sites; and many new communities—even those which are supposedly models of progressive planning—have failed to provide for the retail outlets which motorists need most.

What should be done about this situation before it becomes acute—as it surely will in the immediate years ahead? Imperial does not pretend to know all the answers, but it does have a team of research people who have found a lot of the answers in the course of their years of investigations. They have studied motorists’ buying habits and can predict with accuracy how much business a station will do in a given site. They also know how to pick a site which is both convenient to motorists and compatible with the development of the area. They are constantly studying problems of design to improve appearance and efficiency.

They have found it necessary to know these and many other things in order to advise the company how to invest its money wisely in service stations. The Review believes this information could be of considerable interest to town planners and other community officials. To any such authorities, Imperial would be happy to make available the findings of its experts.

Indeed, Imperial would be pleased to work with municipal authorities in any way that will help solve this problem—which, as the article on page 16 points out, is how service stations can best serve the needs of their communities.
TEEN-AGE DRIVING... A MATTER OF LIFE AND DEATH

The front page of a recent edition of a Toronto newspaper carried major stories about two serious automobile accidents. In both instances, the responsible drivers were teen-agers. In both instances, they were guilty of smart-alecky driving, going at high speeds and taking ridiculous risks. A steady diet of such reports in recent years is making the public aware that a "youthful driving problem" exists. A traffic safety expert told me, "Each year it gets worse. Unless we act - and quickly - the whole thing is going to blow up in our face."

Anyone who takes the trouble to glance through accident statistics compiled by highway departments and insurance companies will find a similar sense of urgency about the teen-age driver situation. Insurance figures show that drivers in the 16-21 age group have an accident rate twice as high as the rest of the population; they also kill 30 percent more people in those accidents. E. K. MacKay, an official of the Ontario Safety League, says: "Teenagers have 1.5 times the number of fatal accidents as the safest group of drivers - the 45-55 year olds."

A broad look at North American statistics shows that, as far as highway killing and maiming is concerned, as a group, teen-agers and drivers in their early twenties are becoming steadily worse while other age groups are becoming better. Their antics are sometimes as stupid as they are dangerous. They roar down heavily travelled highways at 80 or 90 miles per hour. They pack too many people in their cars. They show off by weaving in and out of lines of traffic. The lunatic fringe plays hair-raising games such as driving in the wrong lane against on-coming traffic. The first one off is "chicken!"

The most frightening aspect of the situation is that things seem likely to get far worse before they get better. Right now about 1,600,000 Canadians are between the ages of 15 to 21 inclusive. Birth records show that over the next eight years, as the record numbers of babies of World War II and the immediate postwar years grow up, more than 300,000 young Canadians will reach driving age each year. By 1966 they will number nearly 2,700,000 persons, and all of them will still be in the age bracket of drivers causing the most accidents. "If things go on as they have," says W. Arch Bryce of the Canadian Highway Safety Conference, "the annual toll of dead and injured will be staggering compared to present figures." In 1956, 3,161 persons were killed and 73,594 were injured in traffic accidents in Canada.

Because of the current epidemic of crazy jocks driving, safety experts, government officials, parents and others are increasingly asking a number of pertinent questions: Exactly why is the teen-age so often a poor driver? Is it a lack of information about operating a motor vehicle or is it due to an absence of a sense of judgment and responsibility? Is there a master blueprint that will cut down on the number of accidents? If so, who should put it into operation, parents, schools, courts, private organizations or government? Do we need a "get tough" policy for youthful drivers in our courts? Would it help to make safe driving courses compulsory in our high schools? Are our systems of licensing good enough to meet the present crisis?

Traffic safety experts offer a wide range of answers. But on one point there is general agreement: any program designed to improve the driving performance of the young driver must be based on a firm knowledge of the physical and psychological make-up of youth.

It's a scientifically accepted fact, for example, that young men and women have superior physical equipment to handle a car. Their vision, strength, muscular co-ordination and reflexes are highly efficient. One has to seek elsewhere for the cause of failure. That "elsewhere" lies in his (or her) personality.

"A driver does not shirk off part of himself or become another person when he gets behind the wheel of a car," says Dr. Leon Brody and Dr. Herbert J. Stack, who teach traffic safety at New York University. "His personality affects everything he does." The aspects of personality singled out by the New York teachers are attitude and adjustment. With regard to attitude, Brody and Stack explain that "the driver who resents authority and restrictions upon his behaviour tends to view traffic regulations as unnecessary, or feels that they are meant for poor drivers and not for himself. As a consequence, he will overlook them or even flaunt them while driving."

As for a person's adjustment, this simply means the degree to which he gets along with those about him. The well-adjusted person respects the rights of others. He drives safely because he doesn't want to endanger anybody's life. He's aware that if rules and regulations were not obeyed, chaos would reign on our highways. The poorly adjusted person, on the other hand, often looks upon other motorists as a personal threat or as somebody preventing him from reaching his destination.

These sidelights on personality apply to many youthful drivers, who are well developed physically, but are still emotionally immature. The adolescent is in the painful position of being half-child, half-adult. He's in a hurry to grow up and be completely free. Restrictions of any kind irk him. He wants to prove to the world that he's grown up, an individual in his own right. Unfortunately, his judgment isn't always sound. So one of the ways he proves himself is to get behind the wheel of a powerful car and go roaring down the highway. If he can take a bad curve at 70 or punch a car on a difficult stretch, then all the better.

Our youngest drivers already have the most traffic accidents. Over the next eight years nearly 2,700,000 more youngsters will reach driving age. Unless they are trained to drive safely our traffic toll will reach staggering proportions.
people who “make up their minds quickly and definitely but without figuring out the consequences...” They’re fond of machinery, gambling and going places in a hurry... They’ve had trouble with authority all their lives... They explain everything by luck, blame their mishaps on fate. Subconsciously they want to hurt people as a protest against an unkind fate.”

Now the New York University Center for Safety Education and the State of New Jersey are attempting to design a psychological test that will spot the accident prone person when he applies for a permit to drive. Another approach, used by Detroit’s traffic court, is to hand over chronic offenders to the psychopathic clinic which works closely with the court. After a social, physical and psychiatric examination the clinic makes a recommendation to the judge. This may include suggestions for jail sentences, probationary terms, psychiatric treatment or permanent cancellation of the driver’s license.

But only a small proportion of youthful drivers will ever fall into the accident prone class. Most of them have the potential of becoming good drivers if they are properly taught. But here we encounter one of the strangest current myths about motorizing. Most adults believe that they’re qualified driving instructors. They give their children a few driving lessons, then turn them loose on crowded highways in complete charge of a multi-horsepower vehicle capable of speeds of 100 miles an hour or more. E. K. MacKay of the Ontario Safety League is echoing the opinion of most safety experts when he says, “Most parents have no business teaching their children to drive. They don’t know how. The large number of accidents which home-taught teen-agers are involved in is proof of that.”

MacKay speaks with such assurance because scores of studies have shown that young drivers who have undergone competent driving instruction are twice as safe as others of their age who have had no such training.

In Manitoba, for instance, safe driving instruction was offered in three high schools. Authorities found the accident rate of the graduates was one-eighth the rate of the average student in the province.

Because of these and many other similarly dramatic results in Canada and in the United States (where 18,000 specially trained teachers give complete driving courses in 6,000 high schools), H. R. Chaumont, president of the Canadian Automobile Association, urges the immediate adoption of such courses in Canadian high schools. He points out that many schools teach techniques in metal work, printing and dressmaking and other crafts which many students will never use, while on the other hand, nine out of 10 students will ultimately be driving cars. The kind of course Chaumont envisages would include at least 32 classroom periods and six hours of behind-the-wheel instruction. The instructors would be teachers who have taken special courses which will have equipped them for the difficult job of developing in their students the attitudes which result in safe and courteous driving.

In Canada, the suggestion of including safe driving in the regular high school curriculum has met with stiff resistance. Typical is the comment of an Ontario education department official: “Driving instruction is a fit. We’re already overloaded with essential subjects.” In his province, some 20 high schools offer driving instruction as an extra-curricular subject, with the provincial government paying half the cost of classroom instruction but no part of the behind-the-wheel training. In Alberta, where somewhat the same situation exists, an Alberta educator explains why: “We just can’t afford the cost of vehicles. We’d really have to ask the taxpayer.” U.S. school authorities, however, report a complete course of instruction, including use of the vehicle, costs only $31.15 per student. The cost is this low because car manufacturers and dealers co-operate to make cars available, without charge, as a public service.

By the fall of 1955, Ontario may lead Canada in safe driving instruction in the schools. A comprehensive program of extracurricular driver education will be presented to the legislature this winter. If it is adopted, the Ontario government will underwrite practically all the cost of instruction in Ontario high schools. The plan also provides for training regular classroom teachers to become qualified part-time driving instructors.

Drs. Brody and Stock of New York University argue against driving instruction being classed as an extra-curricular activity like the dramatic society, basketball or the stamp club. “That’s just not good enough,” they say in effect, “it must be made compulsory.” They point out that it is not a matter of life and death if a boy never plays basketball or collects stamps, but missing driving instruction could mean the difference between life and death to himself and others. Also, the course in safe driving gains status and prestige if it’s part of the regular curriculum and carries a credit with it. If it doesn’t, say the New York experts, the student reasons, “It can’t be much of a course if they won’t even give you a credit for it.”

Even without including driving instruction in their curricula, schools can do many things to help develop students into safe drivers instead of highway smart-alecks. They can conduct discussions on safe driving and supplement them by visits to auto graveyards and traffic courts. Recently, a junior high school teacher in Edmonton took his entire class to a session of the Supreme Court of Alberta. The case they heard concerned a teen-ager who had been convicted of killing a 14-year-old girl. He was drunk at the time and was traveling at 70 miles per hour when he hit the girl. These youngsters learned, in an impressive way, about the tragic consequences of drunken driving and speeding.

Another safety promotion device, which involves the high schools, is the teen-age traffic court. In Flint, Michigan, when a teen-age is given a ticket for a traffic offense he is told to phone the teen-age traffic court within 48 hours and find out when his case is going to be heard. At the appointed time, he shows up at the court, accompanied by an adult. The judge is an adult but the “jury” is composed of 20 high school students in the area. A different jury is selected for every sitting of the court. The jury can cancel the offender’s driving license for 29 days, order him to prepare a paper on a “safe driving” theme or require him to attend a course of study at the Teen-Age Correction Driver Clinic. If the charge is serious enough to recommend license suspension for more than 30 days, the case is referred to a regular traffic court. One safety authority says Flint’s teen-age court has “worked miracles” in improving young drivers’ habits.

School loyalty can sometimes be used as the basis for a drive-with-caution campaign. The high schools at Hamilton and Middletown, Ohio, are both located within 25 miles of Cincinnati, where the schools stage their basketball contests. To support their teams, hundreds of students make the round trip of 50 miles by car. In the past, the festive spirit of several of the games was marred by bad highway accidents. Then both high schools established safety councils and began a steady barrage of speeches, meetings, radio broadcasts about the urgent need
to take it easy while going to and from the games. Trophies were awarded to the school with the best safety record. Previously, on every game night, many parents had expected a sickening phone call which would start with the words, "There's been an accident...". Now they are breathing more easily. Accidents on game nights have become a rarity.

Sometimes, the best way to keep teenagers out of accidents is to keep them off the highway. This lesson has been learned by the parents of Gary, Indiana, a city of 130,000, 30 miles east of Chicago. Parents were worried because "prom" nights, their children would leave the dance at midnight and drive to Chicago's restaurants and night clubs. Later they would drive home, exhausted, on highways crowded with trailer trucks hauling cargoes of steel. To change this pattern, the parents banded together and organized a complete evening of "stay-at-home" parties. Before the dance a "cocktail" party is held at the home of one of the students. The party-goers greet their friends, listen to music and munch nuts, cocktails and sandwiches. After the dance, they go to another house party to listen to music and dance. At 4 a.m., they go home to change into informal clothes and go on to rest at still another private home.

One safe driving campaign that has fired the imagination of youth all over Canada and the United States has been the annual Teen-age Safe-Drive Road-runners. In Canada, each year some 30,000 teen-agers compete in a series of local, district and finally national driving contests sponsored by the Junior Chambers of Commerce, Imperial Oil, and the All-Canada Insurance Federation. The youngsters qualify through a series of written and performance tests to prove their ability to drive safely and to improve their driving habits and attitudes. Winners are eligible for cash prizes. After several exercises, under expert supervision, at driving, parking and running along a narrow course, many of the youngsters discover for the first time how they rate as drivers.

Sometimes youthful drivers take the initiative in establishing their own safety clubs. A case in point is a Calgary group officially named the Honkers Rod and Custom Club. Mostly they're known simply as "the Honkers." Most of the members build their own cars and stage races on special strips far from the normal stream of traffic. "Our members aren't allowed to let off steam on city streets or highways," says the club's secretary, G. G. Puckett. The club is tough on its members. To join a youth must have a driver's license and have an accident-free driving record. Both the member and his vehicle have to be neat and clean at all times. On the highway, he's required to stop and help any motorist in distress. The Honkers won't tolerate traffic law infractions among their members. If a member is guilty of a minor infraction and is fined by the court, the club also extracts a fine. If it's a serious offense which endangers the Honkers reputation, he is asked to resign. Speeders are consistently referred to the police and mechanically unsafe vehicles are stigmatized as "gook wagons." Robert H. Hume, assistant safety director of the Alberta Safety Council, has nothing but praise for the Honkers. "They've done a bang-up job in Calgary," he says. "They've got the moral support of our police department."

All of the measures I've mentioned will save some lives. But if we're serious about traffic safety, we'll have to go much farther. Our safety programs have to be bolstered and strengthened by every known measure of enforcement and education. Traffic police at the enforcement field, a good place to begin would be in the granting of driving licenses. The idea should be promoted that holding a license is a privilege to be merited—not a right to be abused. The conference on the Medical Aspects of Traffic Accidents, held in Montreal in 1955, spoke up strongly in favor of a tough screening process for would-be drivers to weed out the potential killers before they even step inside an automobile.

It urged clinics attached to the courts for the chronic traffic violator. It said in effect, "If we can't cure them, let them go home from the highways."

The suggestion has been made that teenage drivers should be granted only provisional licenses. At 17, if they had proved they could keep out of accidents, they would be given a permanent license. Perhaps the "point system" would be effective in managing teenage drivers—as well as the rest of us. Under this system, the driver is given a black mark for each traffic offense. When he has gathered a certain number of black marks his license is automatically lifted.

Many authorities blame the leniency of our courts for the present carnage on our highways. They urge harsher fines and sentences; the cancellation of more licenses. They point, for example, to the young motorist who was caught doing 105 miles per hour on a busy stretch of highway in southern Ontario. In court he explained, "I wanted to catch up with someone who passed me." He got away with a $40 fine, perhaps to kill somebody at some future date. The Association of Casualty and Insurance Companies insists that two or three times the present number of police officers are needed on our highways to nab the reckless drivers. "This could cut the number of accidents in half," it claims.

But safety must be promoted by education as well as by law enforcement. As discouraging as it sometimes gets, from past experience we know that it's possible to teach at least some drivers not to kill themselves and others. The time to plan and organize is now. We owe it to ourselves and to our children. With an unprecedented number of teen-agers about to crowd our highways, we have the task of making traffic safety a top priority in the battle for traffic safety.

Mr. Katz, an associate editor of Maclean's Magazine, is widely known for his writings in the fields of health, welfare and social problems.
Evelyn Richardson is probably Canada's most remarkable author. Her main job is being a lighthouse keeper. But on her lonely Nova Scotia island she has written three successful books and is working on two more.

She turned a lighthouse into a best-seller

by David MacDonald

A FIRST GLANCE the island of Bon Portage would seem to be a natural refuge for anyone in search of obscurity. It lies three miles off the ragged southwest coast of Nova Scotia where the Atlantic sweeps into the Bay of Fundy, a 600-acre plot of lonely land that has been described, not too unfairly, as "that God-forsaken strip of swamp and rock."

Bon Portage is accessible only to small dories, and only to small craft in the best of weather. In the worst, icy gales whip through its matted trees and send huge waves charging against its shores. When mist shrouds the island, a foghorn moans from its seaward tip. The only people who live there are lighthouse keepers. Sometimes for weeks at a stretch they know total isolation—except for radio contact with the mainland—and even the lump in their window is unsightly. It means "Keep off!"

Yet nearly 300 people go out of their way to visit Bon Portage in an average year. They come there, in boats hired at little places like Shag Harbor and Barrington Passage, from bigger places like Toronto and Terre Haute. What attracts them to the island is the fact—prominently noted in the official Nova Scotia Tour Book—that it is the home of E. M. Richardson, one of the more remarkable authors of our time.

Bon Portage and Evelyn Richardson emerged from anonymity in 1945 when she wrote a simple and sensitive book about the life she shared there with her husband, Morrill, and their three children. We Keep a Light sold 10,000 copies in Canada and is still doing well here, in the U.S. and Britain. It won a Governor-General's Award, the nation's highest literary accolade.

When she went to Toronto to accept the prize from Gov.-Gen. Alexander, at a convention of the Canadian Authors' Association in 1946, Mrs. Richardson had been living on Bon Portage for 17 years. She had never been in any province but her own, had never attended a convention, had never stopped at a big hotel and had never before met another author. Indeed, she confessed to a tweedy poetess, she'd never even read a writer's magazine.

"I was like that hick-sewed figure you find in some books," she says now, "—the backwoods wife who suddenly finds herself in the Big City, getting lots of attention."

Now it's one thing for an unlettered mechanic, a koochie dancer or a housewife to turn out a single best-seller—the literary shelves are crowded with one-shot efforts—but it's quite something else to repeat the feat. Evelyn Richardson was heard from again in 1953 when her first novel, "Deserted Haven," took the Ryerson Prize for fiction, sold 10,000 copies in Canada and—most rewarding of all—125,000 more in the U.S. as a selection of the People's Book Club, an organization operated by a world-famous mail order house.

Last fall, moreover, Mrs. Richardson's second novel, No Small trespass, began to show definite signs of becoming her third straight Canadian best-seller (i.e., 5,000 copies or more). She is now at work on a sequel to We Keep a Light, in which she plans to relate how life has changed for the Richardsons, and for Bon Portage, since she first told the outside world about them 13 years ago.

Today, at 55, Evelyn Richardson is a pleasant, stoutish grandmother with a soft voice and long dark hair streaked with gray. Her husband, Morrill, is small, wiry and balding, with twinkling eyes and an easy grin. Their children have all gone now from the island. Two are living on the mainland and the other is dead. But though the Richardsons can well afford an...
winter days she went about in outsize shoes, coarse hand-knit socks, a sweater, shapeless britches, and—for the proper fem-
tine touch—a ruffled apron.

The family was often isolated by storms which sometimes cut supply lines from the mainland for weeks at a time. Every
times a year Evelyn crossed the water to Shag Harbor and,
more rarely, to her parents' home in Bedford.

After six years on Bor Portage the Richarsons acquired a
radio. Two years later, her old piano was landed there. She	
taught the children their school lessons from the same books
that were used by kids on "the main."

But some of their con-
cepts differed sharply; when Laurie drew pictures of houses.
they were always topped by light towers. The two girls began
writing poetry. At the age of eight Betty June described a
"full on the dress of the sea."

Like most isolated families, the Richarsons drew close to-
gether. They swam, skated, worked and prayed together. 
The center of island life—if there were no other place to go—was the shabby old lighthouse.

As Mrs. Richardson has put it, "Perhaps the home in iso-
lated exposed spots such as this is more beloved in spite of incon-
sistencies and lack of facilities, because it is so patently a refuge,
a shelter from the forces of the elements, so cozy in comparison
with what lies outside."

By the early Forties, things were finally looking up on
Bor Portage. The island was paid for and Merrill had acquired all
the cattle and cultivated all the land he wanted. For the first
a time coming to Bor Portage in 1929, Evelyn occasionally
found time on her hands. She spent part of it, during the war
years, sitting up at night waiting to get coded radio instructions
about light and fog signals. It was then, in 1944, that she hit on
the idea of writing a book about why she lived in a lighthouse and
liked it. "I wrote that first book," she has said, "to recup-
terate and hold everything possible of the early island years."

She wrote—in longhand—between daily household chores
and late at night while listening for the coded orders at her
radio. She would not have enough time until she had finished
next several days' paragraphs fixed in her mind. Within a year
the book was finished. When one publishing house turned it
down Mrs. Richardson mailed it to another. She became ill, spent
several weeks in hospital and had almost forgotten about her
book when a supply boat brought her a letter of acceptance
from Ryerson Press in Toronto.

We Keep a Light was an appealing account of the Richardson's
family's existence on Bor Portage, their times of hardship and happiness as well as the love and devotion of the islanders.

Besides touching the light, he painted the house to the top of
its towering lantern, built a landing slip on the lee side of the
island, and joined the council of the island's farmers. "I cared
for her children, worked in the fields with Merrill and helped
him with his lighthouse-keeping—a considerably different task
from fishing and farming. I enjoyed the challenge, but the mechan-
ica broke down—often—she spent hours turning the light by
hand while Merrill repaired its works. In bad weather she took
her turn at the wheel.

She made clothes for her children out of cotton feed-bags,
and friends occasionally sent them cast-off garments. On cold

She gets much of her news of the coast by word of mouth
college, then on to Toronto to accept her literary award from the
Governor-General.

Light had far-reaching effects for Bor Portage and the
Richarsons. Shortly after it was published Evelyn got a con-
gratulatory letter from the deputy minister of transport in
Ontario—Morril's boss—who promised to improve their work-
ing conditions. Before the year was out their troublesome
light had been replaced by a powerful electric lamp and a mod-
ern lens, along with an automatic fog alarm. With these new
pieces of new equipment came a generator that provided the Richar-
sons with the electricity they had ever had on the island.

In place of their old distress signals—a flag on the lantern
or a fire on the inner point of the island—they got a radio-
telephone. So did other stations in the area, but the very first
one was installed on Bor Portage.

The Richarsons, too, made some improvements. Merrill
granted a tractor to do the work of the oxen, and a mowing machine
to replace scythes and hand rakes. For her part, Evelyn built
her first electrical appliances, and her first typewriter.

With the new machine she set to work on an idea she'd long
had for a novel. But the book was barely underway when trag-
edy struck at home. In 1947 her 18-year-old son Laurie caught
pneumonia. In the hospital he was found to have a swift and
raving cancer.

His death shocked the family, Evelyn's grief was especially
deep and she talked of leaving Bor Portage, which was so full of
memories of the boy. Merrill did his best to console her.

"Some of Laurie will live on," he told her, "in what you wrote about him."

So the Richarsons stayed on. Before long, their eldest
daughter Anne became engaged to a fisherman from the main-

College.

Married in an outdoor ceremony on Bor Portage, she then
received a bouquet of seaweed and a sheaf of seaweed as a
bride's basket. After the ceremony, Evelyn described them
in the final chapter of We Keep a Light: "Our life here has grad-
ually assumed a quiet rhythm, following the changes of the
seasons, the rise and fall of the moon, the ocean's tides, and
essentially more affected by them than the regular rise
and fall of the tide is affected by the changing weather".
Even though customers' claims amount to much less than one percent of the total volume of garments and fabrics handled by Canadian launderers and dry cleaners, there is plenty for the Institute to do. Miss Daechsel, who studied trade association work at Yale's Northeastern Institute and worked for the federal government before joining the Institute, says each launderer or cleaner faces two main possibilities of trouble. The material he has to clean may be inferior, or he may lack essential information about how it should be cleaned. When he lacks information it is often because a label, warning of the need for special treatment, was never attached or was lost by the owner.

The results of insufficient information have often been demonstrated by accidents with "no-iron" shirts. Launderers are always on the lookout for a "Do Not Bleach" warning in the neckband of any shirt, but the print is often hard to make out after several washings, and a laundry worker in a hurry may fail to see it. If such a shirt is bleached, the fabric's synthetic resin finish will usually react, causing a wide stain of yellow or brown.

A summer frock that came into the Institute was one example of the trouble caused by inferior manufacturing. The dress had been patterned with yellow, red and blue flowers. After dry cleaning, the yellow flowers had vanished. The cleaner was sure he had followed his usual cleaning procedure. Miss Johansen and the two other technicians tested the fabric, checked their records of similar cases and came up with the answer. The yellow dye alone had been soluble in dry cleaning solvent. It was an accident no cleaner could reasonably be expected to anticipate.

As important as such investigations are, the Institute has a great many other things to do for its subscribers. It helps laundries test their own washing efficiency by sending them test bundles of fabrics artificially grimed with graphite. When the bundles come back after 20 washings, efficiency is measured scientifically according to the amount of dirt remaining and the degree of color fading. The Institute provides similar service for dry cleaners through the use of flannel soiled with lanolin, carbon black and mineral oil. Member-firms often seek the Institute's advice as well on public and employee relations, advertising, accounting, administration and even plant layout.

But it is in the treatment of their customers' garments that the laundries and cleaning plants, located all over Canada from the southern part of the Niagara Peninsula to the Northwest Territories, are most often in need of expert opinion. Sometimes the same problem crops up almost simultaneously in several widely separated cities. Over a three-month period last year Miss Johansen was asked to investigate the fading of four identical black and white dresses sent in by cleaners in Vancouver, Winnipeg, Toronto and Halifax. The Institute wrote a warning to the manufacturers that poor-quality dye was spoiling their product—and their reputation.

To prepare the technical bulletins it sends out, chiefly for the information of the cleaning industry, the Institute calls on Colin Bayley, head of the NRC textile lab, and his assistant, Audrey Tweddle, for assistance. The great variety of materials in use, including many synthetics, provides subjects for a steady stream of warnings and cautionary tales.

For fabric coats have been the subject of several recent bulletins. Dynel, a synthetic frequently used in the fabric, will...
shrink on contact with heat. The result is a horrifying effect. The sticky taffeta. Imitation Persian lamb can be another trouble-maker. The curls consist of chenille yarn stuck to a cotton backing, often with rubber cement that will dissolve during cleaning. In her chamber of horrors, Miss Johnson has a coat of imitation Persian lamb which just fell apart.

New methods of fabric printing also cause trouble. The currently popular pigment-printed designs, for example, do not penetrate the fabric like a regular dye. The color—often gold—is mixed with adhesive, then stamped onto the material. If there is any weakness in the adhesive the pattern will easily rub off. There are also a host of headaches caused by what Miss Daedel calls "hidden hazards." A fabric will clean perfectly, but some other part of the garment, such as a shoulder pad, trim or belt, will not survive. Often the result is the ruin of the entire dress or suit. Color from buttons or trim may run onto the cloth. Many belts come apart because their adhesive dissolves. Miss Daedel says buyers must check a garment belt before buying, to make sure it has a stamp or label certifying that it can be cleaned as well as the rest of the garment.

“You can’t clean the parts that you can’t see,” she says. If a garment has a label and the cleaner fails to follow its instructions, he can be held responsible. But he can hardly be blamed for following normal procedure if there is no label. And it’s wise, she adds, not only to look for a label but to read it carefully. She is fond of telling about an Ottawa woman who didn’t read the label on her new swim suit until after her first distressing dip. It read, "To be dry cleaned only."

The prevention of damage during cleaning is regarded around the shop as more important than finding your clothes in a sea of trouble after it has happened. However, a post mortem is often useful in the search for a remedy or in learning how to prevent damage in the future. A taffeta gown may go limp because the sizing used to stiffen it was soluble in cleaning solvent.

J. A. Cogan Becomes a Vice-President

J. A. Cogan, a director of Imperial since 1956, has been named a vice-president of the company. Born and educated in the United States, he holds a master of science degree in chemical engineering from Massachusetts Institute of Technology and a bachelor of arts degree in chemistry from Colorado College.

He began his oil career in 1932 as a process engineer in the Baton Rouge, La., refinery of the Standard Oil Co. of Louisville. Two years later he joined the Standard Oil Co. (N.J.) in New York. During the war he served in the U.S. government’s Petroleum Administration for War, then returned to Standard Oil, eventually rising to the position of furnance manager responsible for economic planning on a worldwide scale.

He joined Imperial in 1954 as an assistant general manager of the manufacturing department and has been with the company until his election to the board of directors two years later.
Some of the most popular topics of conversation today are those revolving around automobiles. There is scarcely a Canadian who hasn't his own definite views on car-styling, horsepower, superhighways, traffic safety, and parking.

Meanwhile, more and more businesses and industries are gearing their efforts to the motorist's needs. Car-hops bring him refreshments, drive-in banks cash his cheques, drive-in laundries take care of his shirts, drive-in movie theatres entertain him, and some supermarkets (which would never have existed without him) transform themselves, each summer Sunday, into drive-in churches.

Thanks to the makers of car accessories, he can wash his windshield, vacuum the upholstery, open an ice-cold bottle of pop, shave off his "five-o'clock shadow" or hear a specially compiled radio report on weather and road conditions, without even budging from behind the wheel.

In short, whole segments of the nation are devoting their time and attention to what is basically a single question: how can the motorist be served with greater comfort, safety and efficiency? Yet outside the oil industry, such a positive approach as this is seldom applied in deciding the location of the one retail outlet that is absolutely vital to the automobile—the service station.

Hundreds of other businesses have been allowed to grow and change with the needs of the motorist. But the people who would provide him with the gasoline he needs at the time he needs it, in the quantity he needs it and at the place that would best suit him—and his community—are often hemmed in and frustrated by an appalling complexity of restrictions.

Ontario provides one example of how varied such complexities can be; the province has some 350 municipalities and each has its own regulations governing service stations. A similar situation exists in most other provinces. Some towns will allow

TOMORROW'S SERVICE STATIONS:
Where should they be built?

by Michael Jacot
No Service Stations

Shifts from information with immigration officials, cities and townships, and with research material garnered from studies. For example, for people's buying habits, people's age groups (older people don't buy as much gasoline) and statistics on the numbers of births and marriages, he places together a picture of the towns and suburbs of the future. How for a particular area for development, a service station planner must find a good specific site. His choice will be guided partly by his basic research, backed up by field work. The next step is usually a car count at a potential site. By counting the number of cars passing during certain hours, Walter can approximate the amount of gasoline the future station operator can expect to sell to passing vehicles.

Walter has arrived at a formula that says people living or working in the neighborhood must make up at least 40 percent of the station's customers if it is to have economically. To assess the business probabilities, Walter obtains from many sources all information available about future developments in the area, new industries and new road patterns.

(Ken Walter's work is, of course, only one phase of the research carried out during the building and establishment of a service station. Other phases, by other researchers, include experimental work on promotion and merchandising; the gathering of information about people's buying habits and the development of better ways of operating stations.)

An average of two months' research, Imperial's team usually is ready with a site recommendation for the men responsible for marketing products in that area.

A "natural" for a service station is a corner site. Not only do a corner site's converging traffic streams provide easy access for the motorist, but in most cases a corner location is an aid to safety. Merging accidents often are worse, because at the curves and hinges, providing a clear view of cross traffic for motorists and pedestrians approaching the intersection.

In Ontario, once the site has been picked out, local municipal authorities are asked for confirmation that zoning regulations permit its use as a service station site. If they do, the path may be smoother for development. But generally they do not. This is when the trouble usually begins. Not all areas have proper land-use plans; and even with plans fail to specify which uses can be used for commercial. Then again the parcel in question may be zoned for another commercial use, but not for service stations.

If this is the case, the marketers usually take an option on the land and apply to the local municipality for rezoning of the land. Then begins a procedure which one lawyer describes as a "Mad Hatter's tea party." The marketers supply full blueprints of the site it proposes to build and the local council turns them over to the planning board.
quent and often more strident. In 1956 the Dartmouth, N.S., council was asked to limit the number of service stations. The proposition was thrown out mostly because of the efforts of one councillor, a grocer, who said he wished other grocers were prevented from building, but it was not fair, and therefore he saw no reason why service stations should be penalized in that way.

Calgary, Vancouver and Winnipeg have seen similar battles in their councils. In many cases service station limiting laws have had to be rescinded, for increasing city populations have created a demand for more stations. Other municipalities have regulations which seem to go out of their way to complicate service station development.

One municipality refused Imperial permission to build, even though the permit had been granted. The township council said it had enough stations. Imperial pointed out that proposed land development in the area would soon double the population, but the council stuck to its guns and the company, which had enforced its permit in the courts, let the matter drop. Today, with more people in the area, the council has changed its mind. But the advantage of Imperial's advance research has been lost, and—more important—all the logical sites for service stations are occupied by other businesses and industries with a consequent inconvenience to motorists.

Sometimes the end result of a sticky situation is happier for both the company and the municipality. One council, refusing Imperial a permit to put up a service station, complained, "Look at the older stations we have in this community. They haven't proper rest rooms, and they look run down. Service stations are a disgrace to our town." Imperial officials agreed, but said they would be only too pleased to rebuild an old station if they could get a permit. However, the by-law which prohibited new stations also applied to the rebuilding of older outlets. The councillors looked through the books, found they was so, and set about amending the by-law.

Sometimes stations, which appear to be standing idle or doing little business, have been built because of the uncertainty of municipal regulations and to protect a company's position in the light of future industrial or residential expansion in that area.

What can be done to ensure that service stations are properly located at sites which are both economic for the owners and advantageous to the community? With conditions varying tremendously from one community to another across Canada, no one general solution is possible.

Imperial would like to see much closer co-operation between local planters and oil companies, before by-laws are made. Ken Walter says, "Through our research we know more about our customers' habits and dislikes than anyone, and we would like to offer this information to officials who do not have the nationwide facilities for such research."

Imperial's executive vice-president, W. O. Twaits, says, "We welcome the co-operation of anyone who is sincerely interested in the problem, and we would be glad to discuss the subject at any time. The oil companies and the municipalities are not working against each other, but together, with a common interest in the service of residents."

He suggests some municipalities might find it useful, before they pass by-laws restricting service station building, to contact Imperial or another oil company to learn something of the company's marketing problems in the area.

To promote greater co-operation among service station plan-

ers, Imperial has begun inviting planners to visit offices and service stations during construction and to learn first-hand why oil companies build their stations as they do.

Meanwhile the company is working constantly to improve service station design. One "research" station exists in a Toronto suburb, and another is planned and will soon be in use. Here, new pump layouts, landscaping, selling methods, vehicle approaches, and other engineering, architectural, and scientific advances in service station planning will be tried out.

The cost of service station building today is such that most oil companies look twice before putting a new station in. At Imperial it has meant that unless the area is without an outlet, the company prefers to enlarge an existing station, rather than build a new one.

"But the need for new service stations becomes more urgent each year," says Ken Walter. "The character of today's cities is shaped by the automobile, and as long as things remain that way, we will need proper places to fuel this form of transportation. The strange thing is that the very officials who stress the importance of the automobile as it affects city growth, traffic routes, safety and a dozen other things are often the very people who seem to be against service stations—no matter how urgently they may be needed."

Illustrations by William F. McCroon
HAVING TO MAKE gasoline that will efficiently fuel today's high-compression car engines has given gasoline makers a serious headache. Now they're using these small white tablets as a remedy.

The tablets are made of platinum and an aluminum compound and are used as a catalyst in specially designed process units called Powerformers, which convert low-quality gasoline into high-quality fuel. Four of Imperial's nine refineries use Powerformers, and two others are having them built, at a total cost of $25.5 million. The largest, at Sarnia, uses 60 tons of catalyst worth more than $1 million. One big drawback to any Powerformer is that it produces a smaller amount of high-octane, high-quality gasoline than the lower-quality gasoline it takes in. But refiners have to sacrifice quantity to get the quality they need.

Such a reduction in the amount of gasoline finally produced adds to the manufacturing cost, and this cost rises each time motor compression rises. An increase of half a point in motor compression at present levels requires an increase of one and one-half in the gasoline octave number.
Your olfactory sense is not one-tenth as efficient as it could be but it is still pretty important to you — in more ways than you may think

By Pierre de Boinod

Man’s nose is probably his oldest ally. In the early days it protected him from such hazards as fire, marsh gas and the approach of the enemy tribe, which smelled different from his own. It even helped him find his way through forests, caves, valleys and passages. In those days man could identify thousands of smells.

Today man’s sense of smell is not what it was a thousand years ago, but it is still playing an important part in helping him to enjoy life—and stay alive.

Newspaper stories of people being awakened by the smell of smoke during house fires are commonplace. Even more commonplace is the smell of the burning roast in the oven. And when safety devices have failed in mines, many a miner has saved his own life and others by using his sense of smell. During Nova Scotia’s Springhill mine disaster, a group of men trapped a mile below the surface detected the smell of deadly gas in time to barricade themselves off from it. All the men in this group got out alive.

Exhausted motorists who have made the mistake of taking a nap with the motor idling have been awakened in time by the smell of exhaust fumes, even though the deadly carbon monoxide is odorless.

In the Sahara desert, where whole tribes are sometimes afflicted with trachoma, a blindness caused by flies, children identify their mothers by smell. Nearer home, some Eskimos and Indians still rely on their olfactory senses to warn them of dangers of the wilds.

What is a smell? Physical scientists explain that everything on earth is continually giving off tiny particles of itself into the air. This is part of the process of evaporation of all matter. Gases, liquids and volatile materials give off smells most easily. Thus, food which is cooking or in juice form has a more noticeable smell than the wood in your dining room table or the bricks in a house. Nobody minds the smell of an onion when its skin is still on. But the smell grows strong when the skin is off. And much stronger still when the onion is cut and thousands of minute particles of onion are released into the air.

Medical men have long known that we detect these tiny particles as smells, but the exact workings of our olfactory nerves are still a mystery. Vapors enter the nostrils and pass to the back of the nose, where each nostril has a finger-like lobe containing 1,000 bundles of nerve cells. The smell particles activate the nerve cells, causing them to flash messages to the brain.

But why, when the electrical impulses register on the brain, does the odor of a good dinner smell the way it does? Nobody knows. Nobody knows, either, why a rose smells like a rose or a cabbage like a cabbage; but science has found that the intensity of a smell will vary for the individual, just as color intensities vary for different people.

Brain surgeons have found they can simulate the experience of smell, during surgery, by touching the part of the brain connected with the sense of smell. In many cases the result is a fantasy of smells which seem quite real to the patient. But scientists have not yet discovered why certain smells are unpleasant to man, and others pleasant. Some suggest that a bad smell originally meant harm to man, and he has remembered the danger. Certainly some poisons smell bad. Others believe that we smell some things as unpleasant because we associate them with things we know are bad.

Much of what we smell causes us to act automatically without thinking about what we are smelling. Drs. Charles Best and Norman Taylor, writing in the standard medical textbook, The Living Body, say the message of smell is direct, and our whole person becomes alerted to whatever comes in. It may be steak and onions to whet our appetite, exotic perfume to make our blood tingle, smoke to warn us of fire, or an unpleasant odor to make us retreat—whatever smell we receive, we react to it automatically.

Other doctors report that this automatic reaction is especially important to nursing mothers, who are temporally endowed with special gifts of smell that help them protect their babies. A mother can sometimes sense through her nose that her baby is ill. Some change in the baby’s odor warns her of the danger, and she acts instinctively at a time when no doctor could detect the sickness without a thorough examination.

To the rest of us, the most important thing about our sense of smell is its relation to our sense of taste. Ninety-nine percent of the pleasure we get from food is through our sense of smell. Our taste buds can distinguish only between sweet, sour, salt and bitter. The rest of the savor comes from the food’s smell. Try eating your favorite dish when you have a bad cold and you’ll realize how true this is.

An English doctor once experimented to find out how accurate man’s taste sense is without sight or smell. He blindfolded 35 patients and stopped up their noses. Then he handed each one a number of bowls containing mustard, parsley, spinach, water, ground eggs, watered flour and other foodstuffs. Out of the 35, only seven could identify even two samples. Several were right about one—the mustard—but one person thought it was tomato ketchup.
Our noses help us in many other ways in our everyday lives, often adapting themselves to our individual needs. Miners become sensitive to the smell of coal gas because it means danger. Some workers become insensitive to unpleasant smells associated with their jobs but will still notice any new smell caused by even a slight change in operations. This insensitivity is what is called odor fatigue, which is like fatigue in other human senses.

Have women a better sense of smell than men? Scientists once suspected so. Now they say it just seems so because certain aspects of the woman's sense are often more developed, and neither sex is actually superior in this way.

Medical men are sure, however, that children have a better sense of taste and smell than adults. Tasting ability is measured by the number of active taste buds on the tongue. A baby has about 9,000 of these. As the child grows up, the food he eats and the atmosphere he lives in usually widen many of his taste buds. That is why spagy foods, released by adults, are rejected by children, who find them too strong. Many adults damage their sense of taste and smell further by taking in tobacco smoke, stale air, and a diet of highly-seasoned foods. In this way, an adult has lost most of his sense of taste and smell by the time he is 30. Elderly people are often in a worse state, with up to 90 percent of their taste and smell gone.

By the time we reach adulthood, most of us are too insensitive to notice that each community has its own characteristic smell. But a journey to a foreign country will often emphasize the difference, since the smells there will be quite different from those of communities more familiar to us. This works both ways: people from the Far East, for instance, say they notice the white people and their communities have a strange smell.

Every household, too, has its own scent—as most deliverymen and door-to-door salesmen will tell you. Some odors are seldom offensive—but they are distinctive. Offensive odors can be removed by sponging, ventilating fans and deodorizers.

The widespread use of deodorizers is a sign of the times, for medicinal and door-to-door salesmen will tell you. Some odors are seldom offensive—but they are distinctive. Offensive odors can be removed by sponging, ventilating fans and deodorizers.

Six Ways to Improve Your Sense of Smell

If you want to improve your sense of smell, here are six things expert sniffers say you should do:

2. Using only your nose, practice distinguishing between similar scents. You might start with two varieties of cheese, then progress to things which smell even more alike.
3. Always sniff before drinking and eating. As well as sharpening your sense of smell and your appetite, sniffing food makes it tastier.
4. If you work in surroundings with a definite smell, try to get away from them at least once during the day. Clearing your nasal passages of accumulated smells will keep you from being immune to all smells of that kind.
5. Take several deep breaths of fresh air every day. They’ll make your olfactory nerves sing and, incidentally, improve the condition of your lungs and blood.
6. If you are worried about a seemingly permanent loss of your sense of smell, see a doctor. The trouble may be a mucous coating over the olfactory nerves—a condition which can be cleared up by simple medical treatment.

Meanwhile, they are conditioning their noses each day to the

Ode library (left) helps panelists at Saroad refresh memories before testing new samples (center). Group usually uses twice a week.

food stores with the scent of cooked bacon or other enticing odors, and department stores have been known to hire custom ers with smells appropriate to each department. Car dealers have even made old quilts given newer by spraying them with a "new car" smell.

Certain industries, of course, have been concerned for a much longer time about the smell of their products. The men of the Michelin girls who protected kings from poisoning by sniffing and tasting food have their counterparts in present-day professionals who sniff tea, coffee, wine, perfume, and other commodities, to prevent the customer from getting a product that doesn’t smell exactly right.

Some of these professionals have developed extraordinary abilities. At the Arthur D. Little labs, laboratories in Cambridge, Mass., a center for specialists in industrial sniffing, there is one man who can differentiate between 5,000 smells.

One of the latest industries to take up scientific sniffing is oil refining. For it is a strange circumstance that although there are machines which can measure the density of oil, there is no machine which can tell how the smell will affect the human nose. So it is with oil products; only a nose can tell how the smell of any product is going to affect other noses. At Imperial’s research laboratories in Saroad, Ont., chemist Curv Stein directs a group of technicians who meet regularly to sniff samples of products.

“ar main problem,” Stein explains, “is to make sure things smell as they should. People like gasoline to smell like gasoline, and oil to smell like oil, and not like lye, or—worse—like rotten eggs.” Stein, who has studied sniffing at the Arthur D. Little laboratories and has spent years analyzing oil products, says all people are born with about the same ability to smell, but only one person is who will concentrate hard and practice often can train his nose for professional sniffing. Usually it takes years. Imperial’s sniffers haven’t been in at that long, but they have done everything possible to speed up the process. On medical days (Monday and Friday) they abstain from smoking and from eating spicy foods. They don’t use shaving lotions, pimples toothpastes or hair creams, and they try to avoid heavily-scented soaps.

Arthur E. Gammon Named Marine Division Manager

New manager of the marine division of Imperial’s transpor tation and supply department is A. E. Gammon, who has been with the company for 40 years.

Moving up from the post of assistant manager of the division, he has succeeded Capt. W. R. Smirnutt, who retired January 1 after 40 years with Imperial. Mr. Gammon began with Imperial as a lad just out of high school. His first job was to count orders when they arrived at the Saroad barrel plant. Later he took up accounting and moved to Toronto in 1923, when the marine department was formed.

He serves the new managerial position of the marine division to become assistant manager in 1947.
SNOWBALL EXPRESS TO MOAK LAKE

CONSTRUCTION was at the outset of Thompson, Man.,
looked up from their work one day recently when some-
obody shouted, "Hello the canal!"

To a mule, the crews swung their gaze southward, down the
rail that cuts through the northern Manitoba spruce and musk-
oges. They watched with satisfaction as a CNR diesel, its cars
laden with freight, drew up out of the distance and stopped
beside them.

The engineer leaned out of his cab, grinned and bellowed to a
cowboy of workmen: "You guys would sure be dead ducks
without the good old CNR!"

But somebody was ready with a comeback: "We got along
all last winter, Mac. Where were you?"

The reply was made in good humor, but the main spoke with
unmitigated pride. For he had been there through the winter
of 1957-58, when Patricia Transportation Co. Ltd. completed
one of the most remarkable hauling jobs ever accomplished in
Canada's remarkable northland. Tractor-trains operating out of
Thicket Portage on the Hudson Bay Railway hauled enough
materials—more than 20,000 tons of them—to get Interna-
tional Nickel Co. of Canada Ltd. started on the development
of vast resources of nickel in the Thompson and Moak Lake
areas, some 400 air miles west of Winnipeg.

The mineral deposits are contained in an area estimated at
80 miles long and 16 miles wide. To mine and process the ore,
Inco is excavating two mines and building a mill and smelter,
along with all the necessary offices and service buildings. Elec-
trical power will come from a 340 million generating station
the Manitoba Hydro-Electric Board is building at Grand
Rapids, on the Nelson River 50 miles northeast of Thompson.

With the 50-mile railroad from Sintwest to Thompson already
built, Inco is pushing the line southwest another 30 miles
to Moak Lake.

Inco expects to produce 75 million pounds of nickel annu-
ally from the Thompson and Moak Lake mines, making the area
second only to Sudbury among the world's nickel producers.
The $175 million being spent in the area will make it the biggest
single investment of any kind in Manitoba.

Aided as they are by these numbers, Manitobans are even
more excited about their province getting a whole new city in
the north. Thompson, named after Dr. John F. Thomson,
chairman of Inco's board, will have 250 permanent houses by
the end of this year, and will be a city of 6,000 in mid-1968,
shortly after Inco swings into production.

When these ambitious plans were announced on December
5, 1956, it seemed a safe bet that they would remain little more
than ambitious plans for perhaps a year. The beginning of
the freight-taking season was less than a month away. If Inco
didn't get started on time, not enough of the materials would
be moved before the spring snow made the muskeg impassable.

Thus the whole development would be delayed almost a year—
either until the Hudson Bay rail link was built, or until the next
overland hauling season began.

But Inco was determined to get started, even with less than
a month to estimate and order all the equipment and materials
to keep its huge development going ahead at full speed for the
better part of a year. Suppliers had less than a month to get the
goods assembled. And Patricia Transportation had less than
a month to marshal the men and machines that would haul the
goods to Thompson and Moak. But, somehow, all this was
done on time.

Prominent among the items on the Inco order sheet were
petroleum products—enough to keep the development heated
dead and powered until more could be brought in by rail, presum-
ably about a year hence. The job of supplying these prod-
ucts fell to Imperial, and A. J. McMillan, district manager for
Winnipeg, still shaker his head when he thinks about it. "It was
the biggest hauling operation we ever undertook by rail and
tractor-train in Manitoba division. When we first looked at
the size of the job and the time we had to do it, we just about threw
up our hands.

"It took a lot of co-ordinating between the railways, the
tractor-train people, Inco and our refineries. And we had to
organize it so our normal requirements wouldn't go short.""}

Before the end of December, Bombardier snowmobiles were
shuffling between Thicket Portage and Thompson and Moak,
packing down a snow trail over the muskeg and lakes, to pre-
pare for the big tractor-drawn sleigh-trains that would follow.
Freight cars with the first loads of supplies rolled into Thicket
during the first few days of January. On January 5—exactly one
month after the official announcement that Inco would mine

Northern Manitoba
is getting mines
that will make it the
world's second largest
nickel producer.
To get them started
on time, men on
tractors hauled 28,000
tons of goods through
a frozen wilderness.

by Bill MacPherson
time the mercury stood at 50 below zero and refused to budge. Under the prolonged cold, the tractors suffered from metal fatigue and often broke down. After the cold turned the snow to crystals, the tractors might just as well have been trying to haul the sleighs over sugar or sand.

There was a touch of comic-opera to the trick the cold played on the Imperial men in charge of oil supplies. The greater bulk of petroleum products had a trouble-free trip in 1,000- and 3,000-gallon tanks. The trouble came with the 300 drums of lubricating oil which were sent up with the exact grade of oil carefully stenciled on each drum. When they saw the drums at Thompson, the Imperial men were dismayed.

The severe cold had "frozen away" the stencil ink.

"It was like having 300 tons of canned fruit without any labels," one of them recalls ruefully, "except that you couldn't tell the contents just by opening up the tin."

The oil men did the only thing they could. They gathered a sample out of each of the 300 drums, carefully coded the drums and samples, then shipped the 300 samples to the Imperial laboratory at Edmonton. Lab workers could detect the grade of oil fairly simply, but analyzing the additives was a lot tougher.

However, the "fruit tin" were finally sorted out, and a group of Edmonton lab workers fervently hoped their coworkers in northern Manitoba had learned a valuable lesson on the effect of cold on stencils.

Freight arrivals at Thickett, sporadic during January, began to pick up during February. Still, at the end of the month, only 14,000 tons had been laid down at Thompson and Moak. That meant only about half the job had been done, and only one-third of the heating season was left.

All parties involved in the haul were worried, especially since the weather was growing alarmingly warm. Then, as March began, freight started pouring into Thickett, and Patricia's "perpetual motion" trains rose to the task. Hauling as much as 700 tons a day, they finished the job by the end of the month—just as a light snow cover, warming weather and the weight of the trains were turning the trail into sopping muck.

Up at Thompson, where the greatest bulk of the goods had been delivered, two men realized they had a big job to do. James C. Parlee, general manager of Inco's Manitoba division, and George Firth, superintendent of the Foundation Company, general contractor, knew they must use up their big stockpile of construction materials before the rail line, with its cheaper freight cost, was finished. Otherwise the extra cost of the tractor-train move would prove a waste of money. And they knew the railroad construction gangs, determined to deliver their November 15 target date, would make a real race of it.

Parlee and Firth went at the job with a work force that soon grew to nearly 1,000. Top priority went to temporary but commodious H-trucks which replaced the walled tents occupied the previous winter by a small Inco crew. The carpenters also built a laundry, a hospital, a carpentry shop, a warehouse, a garage, offices, and a Hudson's Bay store.

Meanwhile the men for whom these temporary buildings were erected went ahead on the basic job of building a mine surface plant, a mill and a smelter on Thompson's 200-acre site. The task-force of men and the flotilla of construction machinery worked on the job 24 hours a day.

Nature, which provided the fortune in nickel that started it all, also provided a long, high hill of excellent gravel right near the industrial site. This deposit made it possible to lay a somewhat rough but passable network of roads throughout the construction area, at a small fraction of what it would have cost to bring the gravel in from the "outside."

The construction camp was finished during the summer, and by last fall the work on the plant site was going ahead at a feverish pace. A visiting newspaperman watched the activity and turned to Parlee.

"What was here a year ago?" he asked.

"Not a few poplar."

The rest was spruce."

On October 20, the first train rolled into Thompson—26 days early. Manitoba's Premier Douglas Campbell climbed down from one of its 15 cars, stood by the track in his shortsleeves and drove in the nickel spike that signified the completion of Thompson's rail link with the outside world.

By December, on the first anniversary of the announcement of the project, the transformation of the landscape was fantastic. Where the spruce and poplar had stood so recently, construction men were erecting three permanent service buildings: a shop and machinery-repair depot, a large warehouse and a "dry," where the miners will change their clothes. The mill which will handle all the output of the Thompson and Moak mines had its excavation completed, and concrete was pouring into the foundations. Foundation work was almost as far along on the smelter.

Meanwhile hundreds of rock-blasters were touched off and tons of earth were shifted as construction men prepared the beds for the 20-mile railway between Thompson and Moak and the three-mile company railway encircling Thompson's industrial site. Where these two lines are to converge with the H.R.R. spur, a terminal area had been cleared, and a station will be built. Such installations as bulk fuel oil depots are expected to follow.

Below ground, Thompson's two mine shafts sank deeper each day as the miners blasted the rock out of the bowels of the northerland and fed the shattered pieces to the surface. Twenty miles across the bush and tundra another crew was busy digging the 1,300-foot Moak Lake shaft. The area's permanent power station was meanwhile taking shape at Grand Rapid.

As a community, the workers of Thompson, numbering about 1,000 by last month, live comfortably despite their remote locale. Out of the sparkling kitchen and into the spacious mess hall come a procession of steaks, roasts, cold cuts, salads and pastries. A hundred or so yards beyond is the Hudson's Bay store which offers such diverse items as Thompson penny-movies, movie cameras, bush jackets and sun glasses. Next door is a laundry such as a Winnipegger would expect to see on Portage Ave. "Come are the days," says Inco's assistant manager, S. A. "Bac" Condall, "of everybody scrubbing out their own—or worse still, not doing any laundry."

This spring the forces which have prepared the industrial site will begin building permanent homes and business places designed to lure and hold the labor force which Inco must have.

An impressive stack of correspondence on file with Inco testifies to the interest all kinds of business entrepreneurs have in the business community. Many are anxious to set up shop in the unbroken community. Many are anxious to set up shop in the unbroken community. Many are anxious to set up shop in the unbroken community.
These applications will be turned over to a local government district administrator as soon as he is appointed. He will take charge under provincial government laws designed, as one mining man put it, "to make sure you don't have any shack towns growing up around mining camps."

To keep shack towns out of the Thompson-Moak area, the government has set up a local government district of Mystery Lake, a 975-square mile tract in the heart of Inco's exploration area. Inside it is the townsite of Thompson—four square miles bisected by the winding Burstwood River.

The administrator will inspect the plans of every building in the townsite to make sure they conform with a master plan prepared for Inco by the metropolitan town planning commission. The wisdom of town planning is already evident from the appearance of Snow Lake and Lynn Lake, two neat mining towns built in northern Manitoba since the regulations were enacted.

While government people are intrigued by the vision of a model city plucked down in the middle of the wilderness, they hope Thompson won't be lonely for long. They are hopeful Inco's activities will attract other big companies to the north, especially since the Grand Rapids generating plant will have power to spare. Inco president Henry S. Wingate voiced the same thought when he announced the project, pointing out that the Thompson-Moak area is surrounded by 150,000 square miles of territory which yet has almost no industrial production.

Wingate's comment was hardly news to Hon. F. L. "Bud" John, Manitoba's minister of industry and commerce, who represents The Pas in the legislature. John had never tired of harping on the great potential of northern Manitoba, and once Inco decided to go ahead he was jubilant.

Recently he observed that the north has already felt the impact—in the form of extended railway service and increased demand for construction materials, and in the emergence of The Pas as the distribution center for all northern Manitoba.

And, though the first permanent house is yet to be built at Thompson, and the new mines will not be producing for at least two years, John saw no reason to hold back a boast calculated to make all nine other provinces sit up and take notice.

"The Inco project," he said, "has supplied the stimulus that places Manitoba today in the position of having the best-balanced economy in Canada."

And for anyone who might not know a well-balanced economy from a salt-free diet, John offered a clincher.

"This development," he said, "does for Manitoba what oil did for Alberta."