Maps for Here, There and Everywhere
He had bought a large map representing the sea.
Without the least vestige of land:
And the crew were much pleased
when they found it to be
A map they could all understand.
The Hunting of the Snark, Lewis Carroll

Our road map covers vary with the year and the artist (on this page Don Swaton, 1966; Allan Marden, 1998; Bob Reid, 1962 and Glen Arnold, who designed the 1964 cover). But one thing remains constant over the years—they’re always covers for ‘maps you can all understand’.

Cover Photo: Ron Cole

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Editor/Roberta Collins
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The Myth of Foreign Control

In the past few years we Canadians have been deluged in words, written and spoken, sane and hysterical, about foreign control of Canadian industry. Perhaps the key to most of our concern was best expressed by Martin Goodman writing in the Toronto Daily Star earlier this year: ‘There is a big lack of knowledge on the policies and operations of foreign controlled companies and how their behavior differs, if it does, from that of Canadian controlled companies . . .’

Well, how different is their behavior? Imperial could be considered a foreign controlled company, inasmuch as its major shareholder is Standard Oil (N.J.), even though Imperial was founded in London, Ont., and is actually older than its ‘parent’. However, for all practical everyday purposes, this company is Canadian. It operates under a Canadian charter and is subject to federal and provincial laws. It is listed on Canadian stock exchanges, reports to its shareholders with quarterly and annual reports and holds an annual meeting in Canada. Some 36,000 of its 42,000 shareholders are Canadian. Virtually all of Imperial’s 12,000 employees are Canadian. Nine of its 12 directors are Canadian-born and another, of English birth, was raised here; two are Americans. Their decisions are determined by Canadian conditions and requirements.

Of the more than $81 million the company spent on goods and services last year (excluding crude oil purchases and wages, salaries and benefits) more than 90 percent was spent in Canada. Imperial buys Canadian goods where they are of competitive price and quality.

This company that only produces oil products for Canada but exports all manner of petroleum derivatives to every continent (February, 1964 Review) and last year exported 74,000 barrels of crude oil daily.

Imperial has its own research effort, one of the biggest of any industry in Canada. In recruiting for talent among Canadian university graduates it recruits for Imperial Oil only. The U.S. company looks after itself.

Whether or not it is typical, that’s how one ‘affiliate’ of a U.S. company operates. If anything, Imperial has put a reverse twist to the affiliate story. John R. White, a former Imperial president, Canadian-born and raised, is now a vice-president and director of the parent company, where he can and does speak up for Canadian interests whenever they are involved.

A while ago he spoke up to a different audience—the school of Advanced International Studies at Johns Hopkins University—on the matter of affiliates. This extract from his speech might help clarify some of the thinking in this country about foreign control: ‘Anyone who has attempted to manage a business can readily tell that most of the control of a business comes from outside it, from its economic environment. Control is exercised by the customers it serves; by the competition; by the resources it is developing; by the laws, regulations and taxation under which it operates; by the quality of the employees it can hire; by changing technology. ‘All that ownership of a business confer on an owner is the right to manage an economic unit within the allowances and restrictions imposed by its total environment. This is not to say that owners are beyond influencing their milieu; operating a business is a creative process and the fruits of creation—technological advance, new products, policy innovation—can markedly alter a given environment. Nevertheless, it is only in fiction that management is able to steer a business as though it were a task. Much more typically, its role is analogous to that of navigating a sailboat where the problem is one of adjusting canvas and course to forces over which the helmsman has no control.’
'Our water resources are like a bank. Nature deposits and we withdraw—but there are no overdrafts. And our balance is diminishing.'

Near Amherstburg, Ont., distillery recently, a truck carrying 5,000 gallons of whisky tipped over at the river dock, sending 600,000 shots of 100 proof into the Detroit River.

Water pollution authorities couldn't get too overworked. Compared to other ingredients in our waterways, such a quantity of the heady mixture was to them little more than a chaser.

A couple of generations ago, a poet didn't have to look too far to find a pure, foaming brook or glistening cove to praise in poetry. Today many brooks foam with impurities and many coves are iridescent with foul wastes. From Canada's homes, farms and industries, we daily flush more than eight and one-half billion gallons of sewage into our waterways. Acids, metals, viruses, detergents, insecticides, fertilizers and other chemicals are run into our rivers and lakes in hope that dilution and natural processes will render them harmless.

As our population grows, more people will demand more water—and produce more polluting wastes. Aside from the growing threats of industry and households, each human being needs at least five pints a day. According to Prof. G. B. Langford, director of the Great Lakes Institute, which studies pollution on the Great Lakes, within 25 years we'll be using three times the water we use today. This is a world where the water supply is fixed, ever circulating between earth and atmosphere. So in future we'll have to re-use water, even more than today.

'Our water resources are like a bank,' says Prof. Langford, former director of geological studies at the University of Toronto. 'Nature deposits, and we withdraw—but there are no overdrafts. And our balance is diminishing.'

Our very lives therefore depend on how well we keep those bank books balanced, how well we can decontaminate waterways that are filling with more and more effluents. In Canada, say most experts, we've made good strides in the past few years to amend our former cavalier attitude to water pollution. But we've still got a rough struggle ahead to keep our heads above the sewage.

The Great Lakes are an example. Already one-quarter of Canada's population (plus 20 million Americans) depends on the Lakes for water. And as more people shift to this prosperous region, they and the industries which follow will further tax the water supply and municipal water purifying facilities.

Large cities will feel the pinch more than smaller towns and rural regions. But even these areas, which have in the past counted heavily on water's ability to dilute wastes naturally, are taxing their waterworks. Last year Fort William, Ont., which once boasted the purest water supply in Canada, had to hastily dump powdered hypochlorite into its waterworks. The health officer had reported the water supply not even fit for swimming, let alone drinking.

Many such problems face other growing urban and rural areas. In Vancouver, drinking water isn't a problem, but two summers ago the beaches were closed because of the filth in the water. And, says Dr. Gustave Prevost, director of Quebec's Water Purification Board, 'Look at St. Lawrence and the Ottawa rivers, where it is no secret that in some areas dwellers must shut their windows to keep out the nauseating odors originating from those water courses.'

As cities bulge larger, man has picked up along with progress in technology and higher living standards, new ways of polluting his water. Nearer, more subtle synthetic compounds among other things kill bugs, wash dishes and clean carpets. And when their usefulness is ended and they enter sewage systems, they often find their way into our human systems.

According to municipal consulting engineer F. L. Small of Underwood, McLennan and Associates, less than one-quarter of Canadian municipalities possess adequate sewage treatment facilities.

What is and isn't adequate is a matter of some dispute among scientists, engineers and medical authorities. The comparatively minute and uncomplicated wastes of generations ago could be quickly digested and purified by river bacteria, which used the river's supply of oxygen in the process. As long as there wasn't too much waste, there was always enough oxygen to break it up.

As towns and cities grew, they helped along the process with a cheap primary physical treatment of sewage. This was usually sedimentation, settling to remove the solids before running the liquids into a stream. At its best, it cut out about 60 percent of the solid wastes.
Industry will spend if municipalities will show they'll spend.

It's also good business for Imperial to spend as much as 19 percent of the cost of a new project on pollution controls.

Dr. Boyce says the city of Langford has been more than cooperative in trying to solve the pollution problem.

On Langford's beloved Great Lakes, Imperial operates six tankers carrying refined products and residual fuel. All ships hold their ballast till they reach their disposal units in port, where the ballast is treated and oil removed.

Much of the oil pollution on the Great Lakes is caused by foreign ships that are not adhering to regulations, says assistant supervisor J. W. Davidson of Imperial's marine department.

'And it's difficult to prove who's dumped what overboard, especially when it's done at night with no one around to police things.'

Occasionally the company can get on board. Once an angry employee noticed a sample of sludge, sampling Imperial of pollution. The scientist went to work and proved that the sludge came from foreign crude and hence could not have come from an Imperial tankery.

'But we can't expect industry to spend money on problems that aren't entirely its own fault,' says Dr. Boyce. 'Individuals and municipalities cause pollution. Who's more responsible: the factory up river, or the people down the river who use its byproducts but won't spend their share on better treatment facilities? Industry will spend if municipalities will show they'll spend.'

Cooperation is the Best Cure

The effectiveness of a cooperative approach, according to Ontario Research Foundation director Dr. A. D. Miesner, is best illustrated in heavily industrialized Sarnia, Ont., on the St. Clair River. In 1952, 12 major industries, including Imperial, teamed up with the Ontario Research Foundation to form the St. Clair River Research Committee and cut down pollution on the St. Clair. They pooled their scientific resources and set out to meet specific targets for oil, iron and metal content, odor and appearance set by the International Joint Commission on the Great Lakes. Phenol, for example, had to be cut to less than two parts per billion after initial dilution, and water appearance adjudged not offensive or unattractive. Today, although industrial activities are doubled, pollution levels are the same as when the committee was organized.

'Such a committee could substitute soft words for proposed action,' says Imperial's Holland. 'But not this one. Industry, having accepted the responsibility for controlling water pollution, has acted.'

Quebec's Water Purification Board believes much more research must be done to establish good criteria for pollution measurement.'

We need money for research, to decide which wastes are causing which problems. Imperial Oil Review, June 1954
waterworks, chokes streams and shore waters and drifts onto beaches with an odor that Lanvin wouldn’t bottle. Algae has been blamed for lowering land values along scenic areas of Ontario’s Kawartha Lakes and Saskatchewan’s Qu’Appelle Valley holiday district. Its stench washed up on beaches grew so rank along parts of the Lake Ontario shore that local medical officers blamed it for outbreaks of nausea and lack of appetite.

Phosphates in water can come from natural sources and fertilizers as well as from synthetic detergents. ‘How much the phosphate in detergents is responsible for algae growth is debatable,’ says one chemist. ‘Detergents don’t help us solve the problem.’

Algae has been the owner’s pet research project for years. Chemical killing has been effective, but costly—$50 an acre, plus cost of application. Mechanical collection shows promise, but no machine has yet been perfected. Limiting nutrients from industry and municipal sewage involves a top-notch control of plant and municipal drainage.

‘And algae’s only one problem,’ says the Great Lakes Institute’s Prof. Langford. ‘We need much more money for basic research. The Institute spends about $50,000 yearly on basic water research. The U.S. Public Health Service spends $2,000,000. We have to learn more about the effects on health of viruses, chemicals, insecticides transmitted by waterways.’

Aside from the Great Lakes Institute, algae research in Alberta and Ontario, basic research in being conducted at the University of Toronto’s Department of Civil Engineering. A team under Dr. A. P. Bernhardt is aiming to establish the self-purification power of any water body. Rivers and streams have a natural capacity for assimilating wastes, dependent on variables like rate of flow, temperature, size of water body and type and amount of effluent. It’s too late to help already overtaxed waterways, but with the results engineers should be able to calculate the effects of water uses in several municipalities in large basins, like that of the Saskatchewan River.

‘It isn’t necessary to wipe out all pollution,’ says Dr. Berry. ‘Water always was polluted. A little pollution won’t hurt, and besides it wouldn’t be worth the money it’d cost to make all this water absolutely pure. Remember, the consumer must pay for it in the end. What we have to know is how much pollution we can get away with.’

The federal government is active mainly in pollution investigation of boundary waters, like the Great Lakes. It also gives money towards provincial water control projects. Dr. Berry and other experts would like to see it coordinate as well as pay for more basic research. Says Dr. Berry: ‘I’ve known of several times when two bodies in different parts of Canada were doing the same basic research. What a waste of time and money.’

And time and money are what we have lost of. ‘The next ten years,’ says Prof. Langford, ‘will be the critical years. We’ll either pull ahead, or be locked in the next decade.’

How Imperial Keeps the Water Clean

The oil industry,” says Prof. Langford of the Great Lakes Institute, “has done more than any other to control pollution.” Imperial designs pollution control systems in close cooperation with provincial authorities to meet present requirements and try to anticipate future needs. In various localities, depending on local problems, Imperial:

- makes maximum economic use of cooling water,
- has separate refinery sewer systems for oily wastes,
- separates oil and solids from effluents.

- incinerates oily sludges,
- segregates and disposes of unassimilable chemical wastes by evaporation, incineration, neutralization and precipitation.
- drills deep disposal wells for oil field brines and liquid refinery wastes.
- protects farm land from contamination by producing well.
- staffs aerial patrols of pipelines to detect leakage.
- discharges tanker ballast at slop disposal units in port; brings garbage ashore in plastic bags.
- is researching the detergents problem.

The Glory that is Grease

You know all about grease, of course. It prevents squeaking joints, strips of the bearings and other illusory peculiarities. Careless mechanics leave it on steering wheels, seat covers and credit cards, from whence it travels by osmosis to white shirts and ladies’ fingernails. It is floured anduishable—and it looks like left-over gravy.

But maybe you didn’t know that grease is also a wonderful network of threads and ribbons and ropes, when seen in an electron micrograph magnified, as this sample is, 50,000 times.

Photomicroscopy is a basis of research photography—a science that can stop action with exposures of one-millionth of a second and let even watch-drops of oil unroll into a combustion chamber; that reveals the unassimilable wax crystals in the oil of million-year-old fossils in rock; that spies on the pitted treads of nearest metal. Here, with the aid of an electron microscope that can magnify particles 60,000 times, research photography shows the fibrous structure of greases, so that scientists can compare them and predict their performance in cars and other machines.
MIRACLE OF THE CAPLIN

The endless journey of life and death, which each living thing must make along, comes to its dramatic climax for these small fish along Newfoundland's beaches, one tender day each June

by HAROLD NORWOOD

As the last days of June bring a hint of summer to the little settlements along Newfoundland's stormy east coast there is a feeling of suspense as, day after day, men and boys slip down at dawn to survey the beaches and the green waters which wave relentlessly beyond. Then, one morning, the word runs like wildfire through the villages, 'The caplin are in!'

There is an explosion of activity as everyone makes for the sloping ridges of sand and gravel, men with cast nets and horse sleds, boys with bar nets and dip nets, women and children with buckets and washing tubs. They all go to reap the incredible harvest of the caplin, small silver fish which pour ashore in billions for a week, so plentiful that you can often catch them with sheels, or lean a truck in half an hour with the help of a simple coal net.

The oceans off Newfoundland are one of the world's richest feeding grounds for fish. Here, where the Gulf stream meets the Labrador current, there is a terrific growth of the animal and vegetable plankton. Feeding on these rich, thousands of millions of the most prolific food fish reach maturity every year—none more numerous than the seven-inch caplin (pronounced capelin), dark green and silver and iridescent, and shaped like slender torpedoes.

As the water warms, and sunlight filters down to the ocean depths, chemical changes in their bodies set off powerful instincts which drive them relentlessly toward shore—toward fulfillment of their life cycle, toward death and renewal. For many will never reach the spawning beaches, and most of those which do will never return to sea. Only a very few will ever again reach the indigo depths from which they now rise into the shallow, smelt waters of the continental shelf. In vast numbers they stream past the headlands, into the bays, toward the sand and shingle beaches. This is the 'caplin scull,' the annual miracle which renews the Newfoundland fisheries and makes them the most productive in the world.

For as the caplin crowd toward shore, everything else in the sea follows along behind: big sharks and small flounder, mighty whales and foot-long squid in vast shoals—a regular nature parade. The whales come dancing over the water, tossing their heads and shaking their tails as if in play. The squid come pulsing through the shallows, moving backward by jet propulsion. Both feed upon the caplin until they are glutted. Millions of little fish are snapped into the following jaws, some singly, some in baskets. But they chase their ranks, moving in tight formations, and continue without deviation for shore.

Most important of the many creatures following the caplin are the enormous masses of cod. This fish, which has been the basis of the Newfoundland economy for half a millennium, is coaxed in toward shore by the caplin, and is there taken in large, box-shaped nets called cod traps. The landings of cod run into hundreds of millions of pounds annually. They are not plentiful while the caplin run is on, though many remain throughout the summer, feeding on other small fish. A few part-time fishermen, who put briefly to sea when the caplin arrive, and quit after three or four weeks, are spoken of contemptuously by the full-timers as 'fishing only in the caplin scull.'

But when the caplin first arrive even the hardened cod fishermen is likely to neglect his traps in favor of a few hours on the beach, working amid the explosive violence which he finds there. The caplin crowd the beaches in such masses that they slow down power boats which try to plough their way through them. If the surf is at all heavy, great waves of them are rolled up on the shore, stranded and left to die by the retreating tide. These windrows of caplin are sometimes three feet deep and a quarter of a mile long.

An experienced cod netter can land as many caplin as he can carry with each throw of his net. Bar nets will catch even more. Taken out by a boat to enclose a section of the swarming caplin, the bar net is subsequently drawn toward shore, or 'dredged up,' until the fish can be dipped out of it with brailers. Ten tons or so are often taken in a single haul, and a large bar net can take a hundred tons or more.

Though most Newfoundlanders love to eat caplin, either fresh, canned or smoked, only a very small part of the total catch goes directly for food. Some millions of the little fish are used to catch larger, commercial fish, on baited trawl lines, and are frozen by the government bait depots to be sold back to the fishermen in fall and winter when bait fish are scarce. Some are put into pits and covered with soil, where they rot down to compost, and are mixed with rotted peat or straw, for fertilizer. Thousands upon thousands of tons of caplin are spread directly on hayfields, dug into potato gardens, or buried around the roots of rhubarb and cabbage plants, where they quickly turn to raw manure. The Newfoundland soil is not very fertile, but each fertilization as it can boast is largely due to six or seven generations of fishermen spreading caplin upon it.

Small amounts of the catch are packaged and frozen for sale in supermarkets throughout the year. But a frozen caplin can never equal a fresh one in flavor. Fried until they crackle, just as they come from the sea, they are delicious, especially when fried over open driftwood fires at beach parties. In such circumstances, with the odor of sizzling fish mixing with the wood smoke, and salt air to quicken the appetite, some people have been known to eat a hundred at a single sitting.

Many families put away a barrel of canned caplin—lightly salted and sun-dried—for the winter, and some make an extra barrel for their dogs. They need only two or three minutes cooking in a frying pan or a hot oven.
In recent years smoked caplin have become very popular. A mixture of berry bushes, peas, and wood chips makes the best curing smoke. Some people who have no smoke houses string the caplin on wires and hang them in tops of their chimneys, adding green spruce boughs to their fires to produce a good quantity of aromatic smoke.

The sea life of the caplin, which starts this whole chain of activity, is a weird and wonderful thing. To begin with, nature has played a mean trick by keeping the sexes rigidly segregated. Swarms of lonely bachelors, packed in dense masses, arrive at the spawning beaches, and mill about in utter bewilderment, wondering where all the ladies are. At a few beaches the females never show up at all, to the great delight of the caplin catchers, who regard the male fish as the only one fit to grace a plate. Even at beaches where the girls put in a belated appearance, their concerts arrive several days ahead of them, and die by the millions without the solace of a female fin.

**GOLDEN CARPETS OF SPAWN**

But when the sexes do manage to keep an assignation, there is frolic such as few other fishes ever enjoy. The males have special little hooks on their fins, designed for the sole purpose of seizing females. They have ridges along their sides for holding her firmly in place. But one male cannot make it, alone. They hunt in pairs, two male caplin capturing one female, and conducting her, struggling, to the beach. There, between high and low tide, in water about an inch deep, they live her up between them and force her to deposit her golden spawn, emitting clouds of fertilizing milt at the same time. When breeding is at its peak, the water becomes cloudy with milt and the foreshore spongy with spawn. The tiny eggs surround each pebble, so that the whole beach becomes springy, like a carpet, as you walk along the shore.

The caplin scull is not just a curious convulsion of nature, but also a period of the year, and even a kind of weather—"mousy" weather, with high humidity, frequent fog and drizzle, easterly winds, but caplin scull weather has been so long associated with hale cod troops, that thousands of fishermen are willing to swear to the belief that easterly winds and showers bring the fish to the land.

The curious activity of the caplin scull lasts from late June until well past the middle of July, for the caplin strike in at slightly varying times on various beaches. For those few weeks the fish plants work overtime, taking boatloads of fish either round or "gutted-head-out," fresh from the knives of the fisherfolks, then filtering, freezing, packaging, as the vast riches of the sea are dumped into their hoppers. The fisherfolks themselves work an 18-hour day, but even working around the clock the plants are not always able to keep up with them. Every so often they have to turn away whole boatloads of fish, which must then be split and put into salt or, occasionally, dumped back into the ocean, for the caplin scull is a season of great plenty—sometimes, even, of excess. It is not unusual for a small, open trap skip, powered by a single-cylinder gasoline engine, to land 30,000 pounds of fish daily while the caplin are in.

Those who have time for sport can find plenty of it on the caplin beaches or in the waters just off shore. Among the fish which follow the caplin right to the rocks are perch and sole, both of which are very easily taken with baited trout hooks or light spinning rods. Casting from shore between the shoals of caplin, an angler can easily land in an hour more sole than he can carry. The fishing is fast, though sole are not prized for their fighting qualities, but they are one of the great delicacies of the sea.

Those who like to get down where they can meet the fish in their own environment have also learned that the caplin scull is a happy hunting ground. Skin divers and spear fishermen, chasing the fish that chase the caplin, find them so plentiful that they soon become choosy, and will take only the largest specimens. It is reasonably safe sport, too, for no dangerous fish are known to frequent Newfoundland waters. The only big shark is the enormous Greenland banking shark, a plankton species believed never to attack swimmers. The scuba diver's greatest hazards are the chances that he will be beset by the lead balls of a cast net or hooked by some small boy who is fishing for perch.

**A SUDDEN NOisy SILENCE**

And then, one morning, there is silence along the beaches. Three weeks after the miracle of the caplin run begins, it is all over. Without the myriads of tumbling fish that one had come to expect, the surf, breaking on the foreshore, looks strangely empty. The sand and gravel is colored with the golden spawn. But first, too, will vanish within a few days. It will hatch into uncountable numbers of minute larval caplin, enough from one beach to populate the sea. That is why, no matter how many of the adults are killed during the caplin scull, there are always plenty of others to take their place. Any one individual of the tiny caplin that swim seaward from the beaches has only a very slight chance of reaching adulthood, for the larvae float about desperately, being fed upon by all the numerous plankton-eaters. The chances against survival are probably thousands to one. But that slim chance is enough to replenish the species and keep it in balance with its environment. Newfoundlanders have landed caplin by the billions each year for centuries past without seeming to affect their numbers in any way.

Meanwhile, the surviving adults move back toward deep water. Those that have escaped the fish, the whales, the kingfishers, the puffins, the gulls, and, above all, the humans, swim slowly, in beautiful formations, their small snouts in line, their tails flicking in unison, toward the open sea. There they sink slowly through the layers of sunlight toward the waters of midnight blue from which they came, to begin the cycle of another year. In their own secret places of the mighty Atlantic, where the currents bring masses of the minute creatures upon which they feed, they will browse and grow fat, and the spawn within them will ripen toward next year's caplin scull, toward another dramatic episode of death and renewal.

The beaches which they leave behind are littered with the debris of their living and of their dying. But the sea has a wonderful way of cleansing its shores. First come the gulls and terns to great, wheeling flocks, squabbling and calling, inviting others to share the feast, then, when they arrive, trying to drive them off. They quickly devour most of the dead caplin. The tiny rock crabs and sand spiders dispose of the scraps. When the feast is done, the spring tide creeps, following the track of the full moon, creeping higher than any caplin could reach, beyond the limit of the surf, washing the sand, the pebbles, the water-worn boulders, then retreating past the line of the help on the offshore shallows. When dawn breaks once more, the beach lies clean and empty and serene, as though the terrible drama of life and birth and death had never been played out among its rocks.
Which Way to Testertville?

BY THELMA DICKMAN

A map, according to Webster’s dictionary, is “a representation (usually flat) of the surface of the earth, or part of it.” A map, however, can be as the shortest distance between two points for a businessman in a hurry. It can be an educational flying carpet for children. Maps can see around corners, dissolve horizons and start you dreaming about the other side of your world. Whether you’re traveling, a Thunderbird or an armchair, maps are good companions to have along.

Back in 1913, when grandfather bought his first McLaughlin car and grandmother slipped on her driving lessons well before getting into the front seat, the first free road map was offered to motorists by an oil company. It was a crude affair, showing only the towns and locations of roads, with no indication of good or bad roads, main routes or country lanes. Some of the roads shown on the map weren’t there at all.

In highway conscious 1964, mapmakers will produce between 18 million and 200 million road maps, all of them bursting with accurate, informative, easy to read directions.

Mapmakers claim there is more information in one square inch of a modern road map than in any other equal area of printed matter—and add “If one picture is worth a thousand words, one road map is worth a thousand pictures.” Well, maybe. At any rate, a typical two-inch square section of one Imperial road map shows: the names and locations of 21 towns and villages, one major city, approximate populations of all communities, 260 miles of four highways with route numbers, 110 miles of connecting roads, surface classifications of all roads, mileages between principal towns, seven rivers, names and locations of four recreation areas and two provincial parks, names, locations and elevations of 13 peaks, and locations of two free ferries.

Most people don’t pay enough attention to their road maps to get all that information out of them, but it’s there for the reading. Mapmakers rely on carefully designed conventional symbols to tell many of their stories—mountains are illustrated by hashcches (little leafy grass penkbroke lines) and the population of a centre can be quickly figured out by the size of type naming the town or city.

Modern road maps are generally made from existing maps, starting with basic geological surveys and working up through the detailed drawings of provincial and local highway engineers. Field men check base information by driving the actual route (this is necessary because occasionally local surveyors have listed prospective streets or roads, which never materialize).

Although a new map may take 18 months of preparatory work, annual revisions must take less time, even though Imperial Oil annual road map revisions can require as many as a thousand changes. Roads are constantly being upgraded by graveling or paving, and sometimes are in the process of being diverted or repaired; towns constantly appear, disappear and change their names. New tourist attractions such as Oshawa’s antique car museum and Saskatchewan’s new dam are added, and sometimes old historic points are picked into an existing map. (Several years ago in the U.S. an obscure little shire was added as a point of interest on a road map. It was at the end of a deadend road and had never attracted many visitors.

In the first year after it appeared on the map it attracted so many visitors the elderly caretaker couldn’t handle the chaos, and begged the mapmakers to leave the shire off their next issue. They did.)

Mapmakers, who have seen their maps reproduced as menus, placemats and other saleable items, purposely make two or three minor mistakes in every revision (changing the mistakes each year) to prevent plagiarism. However, they sometimes permit menus and placemats to be adopted from road maps.

The drawing and coloring of maps sometimes changes. The fact, for instance, that more people are living longer resulted in lowered vision on the part of older travelers. So, mapmakers recently began using larger type sizes on their maps, and then had to decide whether to crowd all the other information, or leave something out.

Far away places

‘The more you learn about maps, the more fascinating the subject gets,’ says Imperial’s Hal Parker, graphics supervisor responsible for choosing Enso road map covers. ‘Maps are man’s record of where he has been, and an invitation for others to visit. In 1963 Imperial gave away 5,125,000 free road maps, including 500,000 Trans-Canada Highway maps, and every person who got one was on the way to or from some place.’ (Imperial had given out a total of some 40 million road maps by the end of 1963.)

Parker is pleased that Enso road maps have fewer errors per square inch than any others (map company executives take periodic motor trips to check all road maps for accuracy); and he was glad that Enso’s first road map of Newfoundland, which was surveyed by air and ground, was so accurate that the provincial government used it for several years (it now prints its own).

But it gets a little creative kicks from choosing the map covers. ‘We’ve used painters and designers like William Winter, Ed McNally, Walter Yarwood and Jack Reppen,’ says Parker, who is already planning his covers for 1965. He spends days of research time in libraries, digging for legends, facts, and ideas for illustrations. He gets requests from geography teachers for Imperial maps, and from art teachers for the covers. People frame entire sets of covers for playroom wall decorations, and glue maps around wastebaskets, under glass on coffee tables and on bathroom walls.

Enso’s road maps are tied in to a great degree with Imperial’s touring service, operated from the company’s Toronto and Montreal offices. Last year the services answered 163,000 requests for maps, information on road surfaces, accommodation, most scenic roads—and a number of questions that slipped slightly off the motoring beam, such as the route request from four Toronto girls who planned to cross the country in a covered wagon.

All Enso touring services around the world get odd requests. Some of the strangest include a man who wrote to the U.S. service ‘I am trawling some cows from Minnesota to Louisiana. Would you please mark the route with the cows in mind?’ There’s no record of what happened but presumably the cows were routed among clover fields, shady trees and other cows.

And strange sounding names

Several people during the year are routed entirely on secondary roads because they’re ‘afraid of traffic’. One couple in Kitimat, B.C., wanted to drive non-stop from Fairbanks, Alaska, to Acapulco, Mexico. They planned to change seats while driving slowly, and to refuel their four-gallon gasoline tin—then their car—while driving around a block. They also asked how they could get through every town from Kitimat to Acapulco without butting a red light. (Imperial’s touring service supplied route maps, begged off on the stoplight question and pointed out that customs officials might take a dim view of a car trying to cross the International Border without stopping.) The touring service never found out if the couple tried it.

A man in St. Lambert, Quebec, asked for a routing through the U.S. and Canada. ‘I am planning to bicycle for several months,’ he wrote, ‘as I did in France last year, when I managed 7,600 miles in 100 days.’ He added, ‘That’s not so bad considering I’m 78 years old.’

And one man asked a U.S. Enso touring service for routes out of and into Canada, showing particular interest in regulations applying to women crossing the line and what Customs would want to know about his female companion. In a burst of confidence he added at the end of his letter, ‘You see, she isn’t my wife, and I don’t want any trouble.’ (The touring service mailed him a route map but left the marital problem to Customs and him.)

But most requests are straightforward and for the kind of travel North Americans seem to love most: driving. And wherever a car slips out of town early on a sunny morning on its way to, say, Testertville, Ont., you’ll generally find the driver relying on the most ubiquitous piece of paper in the world—a road map.
ROUGHNECK

He is the symbol of oil. He has peered out—hard hat over his eyes, oil rig soaring behind him—from the pages of so many magazines, newspapers, books and booklets that one sometimes wonders if there is a real roughneck anywhere, or if he was simply conjured up by a clever copywriter, like the man in the Hathaway shirt or the Campbell’s Soup kid.

(continued overleaf)
One wonders this often nowadays when so much oil company talk seems to be of gasoline price wars or "shopping centre" service stations.

But drill rigs and the men who run them are still fundamental—more than that, indispensable—to the oil business. At the present rate of consumption and if no more oil were found, Canada would use up her proven reserves in 20 years. So companies continue to search, and the moment of truth in any oil search is in the drilling. Last year Imperial drilled 191 wells. Some were development wells, bringing in oil from known fields. Some were exploratory and many of these were dry. But all of them were managed by the footsoldiers of the industry, the roughnecks.

Technically, an oil rig roughneck is "a driller's helper and general worker". There are three or four such men on each of the three eight-hour shifts that keep a rig running around the clock. They handle pipe and well casing, change drill bits, look after the mud pump and power equipment around the rig. A driller is in charge of each shift. The rig boss or "mud pusher" is in charge of the entire camp.

Not all men on a drilling rig are roughnecks, by strict definition (the man on page 14 is a driller). But we doubt if they'll mind being loosely classified as roughnecks; it's an honorable trade and most of them started out in it.

Once, back in the not-so-good old days of oil, the roughneck was rough in every sense. Often he was a driller, a rowdy and a tough. He's tough, still; a rig is no place for a 98-pound weakling. But he uses his head for more than a rack for his safety helmet. Particularly in large companies he is becoming a career man. By transferring from rig to rig he can stay employed most of the year, if he wishes. Often he's a farmer by summer and a roughneck by winter—with students, the reverse is true.

He earns about $475 a month ($700 if he's a driller). While in camp he gets excellent food and good lodging (insulated trailers, electric lights, washing machines, showers, the occasional movie). He may work 21 days straight, then get a week off or, on remote camps, six weeks and two off. Often he's a family man with a home, car and bank account.

It is a hard and sometimes irritating job. The roughneck, whether he is tall or short, 19 or 35, must be strong and agile. There is always mud—or filth or the special kind used to lubricate the drill bit. There is always noise—the deep-throated rumble of diesel motors, the crash of steel on steel, the tooth-grinding whine of the drill stem. There is often boredom and loneliness.

But for men who don't fancy white collars, timeclocks, car pools or office broadsides, it is one of the good jobs. And fortunately there are such men, because no machine can climb hand over hand into the tower to maneuver a length of 96-foot steel pipe over the drill hole. As yet no computer can slap a pair of 1200 pound tongs around a drill stem or spin two lengths of threaded pipe together and step back, crouched on a slippery rig floor, while the motors growl and the pipe thrusts into the earth. It takes a man like the roughneck to handle the job. The oil industry wouldn't be the same without him.
Les Ponts de Bois

In Quebec and New Brunswick, travelers find that just around the next clump of silvery-stemmed birch trees a covered bridge might stand—reminder of Canada’s early days when young men carved their lady loves’ initials on its walls, and robbers skulked in its shadows.

Winding through lush meadows and bubbling among the roots of clustered elm trees, the Niger River, near Hatley in southern Quebec, is like many rivers—except for the little covered bridge spanning it, a quaint leftover from yesteryears when builders topped their structures with roofs. The roof and side planking are now dotted with gaps that allow rain and snow to drift in. Its rattling, warped flooring no longer bears the weight of vehicles and the structure is battered by heavy storms and crazed with age. But youngsters fish from the gap-toothed openings left by missing clapboards, and the bridge retains a rustic charm and beauty that warms the landscape.

The Niger River covered bridge is one of 265 such structures still existing in Quebec. An appreciable number of them are used daily by light, local traffic. But the highway traveler, unless he keeps a sharp lookout, might think they have disappeared long ago, for those shy relics of the past days of horse and buggy nestle on sideroads or dusted country paths over rivers and streams. They’re not widely advertised by tourist offices (the New Brunswick travel bureau has a list available of their bridges and the provincial travel bureau in Quebec City has printed some desk signs and posters featuring a few spans). Local travel bureaus in places like Trois-Rivières, Magog, Quebec City, Chicoutimi, will provide some help for the tourist. For covered bridge fans (there are many in the U.S. but no official organizations in Canada) the provincial public works department in Quebec City will provide a complete list of bridges.

I learned about these bridges from people like Gerard Dumont, of the Quebec Government travel bureau, and Pierre-Paul Blais, editor of Le Travail in Sherbrooke, who spends many summer days bridge watching. But Louis-Philippe Demers, head of the Sherbrooke city tourist office, really excited my interest in old bridges—particularly the kissing bridges, so-called because of courting habits in the old days, when young couples had no motorcars for flitting. (Covered bridges are often scarred inside with carved initials and promises of eternal love.)

Louis-Philippe Demers devotes much of his time to searching out scenic routes, the few old houses and historic landmarks in his part of Quebec. He particularly likes the old New England flavor of this area, which isn’t defined so much by the speech of the inhabitants, but rather by the general look of the small towns, the architecture of old white or red brick houses, comfortable summer homes and little wooden churches painted black and white, much like those in the small towns and villages of New Hampshire and Vermont. This might puzzle the tourist who doesn’t know that English-speaking people built this large district, since known as the Eastern Townships. In 1792 these Crown lands were carved by the British authorities into townships of about 100 square miles, and were granted first to Loyalist settlers and, later on, to Scottish and Irish immigrants.

Louis-Philippe Demers suggested to me some roads and location sites of bridges he knows, through the Cowieville area east of Minneiqui Bay, near Stanbridge, to the Rock Island-Sherbrooke line, and along roads cutting through the hilly, harsh country of humble farmhouses and rocky fields that stretches east from Sherbrooke, from Cookeville to Scotstown and Nantes (Springhill), and then down to Lake Memphremagog and St. Hubert de Spaulding. Covered bridges were once numerous in this area; they are scarce now, but some interesting ones still survive.

In some ways, wooden bridges are like the sailing ships of years ago—they must give way to modernism, and unless provincial authorities of both Quebec and New Brunswick work out a program of preservation, they will all vanish within the next 20 years or so.

At the turn of this century, there were at least a thousand such bridges in Quebec, but by 1940 only half of them remained. During the last four years, 33 old spans have been torn down, mostly in the Montreal and
southern Quebec area. A few bridges, although still being up on their piers, are used by the community and by individuals to store snow fences or other equipment. Perhaps the oldest bridge in Quebec is the one at St. Armand, near Phillippoujou, which was built in 1888. But a great many of the remaining covered bridges are no more than 40 to 60 years old, and the true relics of carpenters' skill of the 1800s have disappeared.

The public works department says that many old covered bridges have been replaced by modern structures not only because of traffic, but because they represented a real danger for cars, pedestrians, even boaters passing under them. There have been, for example, cases of roofs crumbling after heavy snow storms. A group such as the National Society for the Preservation of Covered Bridges, which flourishes in Boston, would have been instrumental in saving many of Quebec's bridges by providing funds for restoring them.

From the Quebec-U.S. border line up to the back limits of the St. Lawrence River south shore villages, and from the Mississippi Bay to the approach of the Chaudiere River valley, extends a region roughly 140 miles wide which includes the Eastern Townships. North of Sherbrooke lie the Brome-Francois or 'hard woods', called this because of the large quantities of maple trees which supply a variety of small industries. Here the traveler or bridge fan will see 59 of the oldest wooden spans, if not the longest ones.

Two hundred years ago, bridges in French Canada were just roughly cut timbers fastened together and flung across the rivers from shore to shore. Raging spring floods invariably swept them away. Merchants, travelers and military couriers had to travel at the risk of breaking their necks.

As French Canada grew, however, the quality of its bridges improved. Around the end of the 18th century, the St. Lawrence north shore road between Montreal, L'Assomption, Trois Rivières and Quebec was a precious link of trade and communications. Small communities in southern Quebec were struggling to come into being and grow. Sherbrooke was founded in 1791 by Gilbert Hyatt, an enterprising man who had vested interests in Vermont sawmills. In 1796-1798 a string of tiny villages was established—Stanstead, Finch Bay, Compton, Hereford, Waterloo, Sweetsburg, Gowanville, Bolton, Magog. In the following years, colonists from the New England states and other pioneers arrived in increasing numbers and more villages sprung from the cleared lands.

Soon there was thriving activity in many of these places—lumbering, saw and grist mills, sleigh manufacturing, cart and furniture makers, fisheries on the Memphremagog and Massawippi Lakes. From the Bois-Francois, French Canadians sent the quantities of farm products, furs, lumber and potassium lye to Montreal, Sorel, Nicolet and Quebec, while the post office established at the pickup and delivery service along newly opened stage routes, using coaches in summer and sleighs in winter.

With the crude unreliable bridges of old, commerce would have suffered. So the rooved bridge was designed to shelter the travelers from the effects of sun, wind, rain and indiscriminate snow storms—although snow was spread over the floors in winter to facilitate sleigh travel. A wooden uncovered bridge lasted about 10 years but rooved ones had a life expectancy of 80 years or more.

The completely rooved-over bridge seen in northeast America is particular to her alone and the early covered spans of Quebec and New Brunswick were quite similar to those of New England. Most of them were of the 'Ishiel Town' lattice design, supported by timber abutments. Ishiel Town was a Connecticut architect and his designs were largely adopted because they were suitable for bridges of any length. His bridges had a covering of shingles or, occasionally, of thatch. Clapboards on the sides were usually pentagonal. Many of the simple, unadorned bridges in Quebec and New Brunswick had no openings for light. A few had 'fancy windows'—rough cut openings in the clapboards with a swinging leaf, designed so people could close or lift the leaf to allow light to enter.

Later in their development, Burr truss bridges, named after another Connecticut designer, proved to be much stronger and more durable. The boxes, or main timbers, were assembled like an inverted 'v' with hardwood pegs. In more recent years, lattice structures were reinforced with iron or steel tension rods.

In the old days of chateau, bridge builders were skilled craftsmen who knew nothing of the theory of scientific building, but were familiar with their building materials. Lumber was summer stored and took up to five years to complete a bridge. Nobody seemed to mind, and the builders took an immense pride in the product of their labors.

These spans were the property of towns or of families with local business connections and background wealth. They were all well maintained, as were some of the uncovered bridges. Building or owning covered bridges was a fairly profitable way to invest cash. Members of a family attended one or more of these bridges through two or three generations. On some country roads in Quebec and New Brunswick travelers or farmers walking cattle had to cross several bridges, all exacting individual tolls, and such conditions liked the country people for many years.

Wooden bridges of yesterday star an in the legends and local stories of villages and country places. Robbers, it is whispered, sometimes lay in wait in the shadows of the bridge for unwary villagers. One covered bridge (now demolished) near Lac Megan tic, on the Riviere Blanche, was the scene of a man's suicide, and villagers say the man's female voice cried from the bridge for years after. There are haunted bridges where old timers claim to hear weird noises still; some believe phantom horsemen gallop across at night and shake the old floors. (Lighted as the bridges were by a single swinging lantern, the inside of most looked hallowed by grim, dancing shadows.)

And some of the covered bridges were called 'traveling bridges' because of their habit of floating a mile or two downstream during the spring river rising.

A century ago in Newfoundland and Nova Scotia, where inland roads and inland towns were scarce, covered bridges were rarely built. In fact, there is only one in Nova Scotia, built in 1876 at Kennetcook Corner, 40 miles from Dartmouth. Strangely,horrning New Brunswick still has about 180. In the Bathurst region, a beautiful rolling area, we find 48 covered bridges, and 35 on the Tracadie Rivers. Kings County alone, an area roughly only 50 miles square, has 25 spans, probably the finest and most picturesque in New Brunswick.

In this Atlantic province, many covered bridges are much less than 100 years old. About 12 miles from Sackville, spanning the broad Memramcook River near Upper Dorchester Village, is perhaps the prettiest covered bridge in Canada. It was laid in place in 1918 and its total span is around 850 feet. It is said the original bridge was blown into the river in a gale in 1917 taking with it an old man whose body was never recovered. Another impressive span is the Hunter's Ferry Bridge near Princess Park. It was built in 1912 and is 733 feet long.

New Brunswick claims both the shortest and the longest covered spans in the world. The shortest jumps over a three-foot ditch near the village of Petherville. The longest is the seven-span, 1,282-foot-long bridge over the St. John River at Hartland, originally built as a toll bridge in 1896. It was bought by the New Brunswick government in 1900 and had a new covering and concrete piers some 20 years later.

One Halloween night a few years ago, a group of boys set afoul a raft loaded with dynamite just above the Hartland bridge. They had planned that the dynamite would explode a fair distance from the bridge, in the river behind the schoolhouse . . . But the raft got caught in a swirl under the bridge and the blast badly damaged one of the old piers. The explosion was heard for miles and a large number of boys couldn't be found in Hartland the following day.

Happily for Canadian bridge-watchers, Canada's magnificent covered bridge is still standing. And, as a matter of unhappy fact for schoolboys, so is the schoolhouse.
He Makes a Present of Our Past

by DICK SNEILL

Ron Way spends as much time "living" with people from 1864 as those from 1864. Ask him about that party Colonel Dundas held in Fort Henry.

Canada's top restorer of historic sites, Ronald L. Way of Kingston, was picking a path through the rubble of what was once the greatest French fortress in the New World when his wife's cry for help pierced the stillness of the desolate ruin. He rushed to her side, bent to pick her up, then suddenly forgot her.

"Why, it's a traverse! Yes, I believe it's a traverse you fell over," he exclaimed with joy as his understanding wife was left to scramble to her feet alone, while he examined the small earthwork from behind which men fired muskets.

For Ron Way, a traverse, a Tower flatlock, or a rampart in good repair is just as exciting a find as two Grey Cup tickets on the 50-yard line would be for a football fan. The site he and his wife were examining was on a lonely portion of Cape Breton Island where Canada's most ambitious restoration project—part of the nation's 100th birthday celebration in 1967—is now under way. The day Mrs. Way accidentally uncovered the traverse, the Ways were inspecting the site of once mighty Fortress Louisbourg—"the Gibraltar of Canada"—shortly after his appointment in 1961 as general consultant for the project.

The original construction of the fort was as tragic as it was costly. Louis XV of France once said he expected to look out his bedroom window some morning and see its spires rising over the horizon. Now Ottawa expects to spend $12,000,000 to restore part of the ancient garrison as an historic monument and tourist attraction. On such a major undertaking they wanted to get the best man to advise on all facets of the project, and the natural choice was Way, restorer-extraordinary, who has spent his whole life reviving historic sites.

Way's historical restoration credits in Ontario include Old Fort Henry at Kingston, the Upper Canada Village which is still growing near Morrisburg, Forts George and Eric in the Niagara Falls area, the William Lyon Mackenzie home in Queenston and the Joseph Brant House in Burlington. He also pioneered the concept of "living history" in Canada. At Fort Henry it takes the form of the famous guard dressed in scarlet and drilling exactly to the orders of the day posted July 1, 1867, when Canada was born.

In Upper Canada Village, history is brought to life by ladies in pioneer costumes weaving on looms and baking fresh bread, or the clang of a hammer on an anvil which rings from the blacksmith's forge.

In his present job as director of historic sites for the provincial government's Ontario Parks Commission in the Department of Tourism and Information, Ron Way is in charge of the operation of Fort Henry and Village and the expansion of the Village (during winter several small buildings were added to the village and an Upper Canada cheese factory started this spring).

The Louisbourg job occupies his weekends and holidays—in all he takes about eight trips a year to Nova Scotia.

"Louisbourg is a project to fire the imagination," he explains. It is an unparalleled opportunity to investigate through archaeology the record of French culture in the New World. Whereas other important French settlements such as Quebec City and Montreal have been "built over" with subsequent civilizations, Louisbourg's ruins have remained undisturbed for two centuries since its destruction by the British.

Way is a quiet man with a slight scholar's stoop to his massive shoulders, a receding hairline that turns to grey near the temples and a strong face which crinkles around his eyes when he smiles. A tall, 150-pounder who stands six-foot-one, the 56-year-old historian loves the outside work his branch of history offers. When the conversation turns to history all reserve vanishes, he leans forward in his chair with blue eyes twinkling and reddish in the best.

"It is our history only that makes Canadians different from Americans who share the environment of this continent."—Ron Way

Drawing by Walter Scobie

Imperial Oil Review, June 1964
storyteller fashion dozens of apt and humorous historical anecdotes. He also reaches into history to illustrate his points. Once, when dressing down the Fort Henry Guard for a bad performance he asked if they had any excuse.

"One boy suggested this 'was our second major parade in two days and I think we were tired.' "You are representatives of the British Army," snapped Way. "The troops that fought at Waterloo were still tired from Quatre-Bras when they fought at Waterloo." A story he likes to tell, but won't vouch for, occurred during the war of 1812-14 when the British were advancing on Washington, D.C. In those days American troops wore grey-blue uniforms but their bandsmen wore a uniform coat as the British soldier of the line. As a long line of British soldiers loomed through the trees one of the Americans exclaimed "man, that's the band, I'm not waiting for the army."

**Not Just Dusty Facts**

Although he has an encyclopedic knowledge of history, it is for him not a business of facts and figures but of interesting personalities alive because of their own strengths and frailities. When he tells of the rebuff at Gen. Isaac Brock, hero of Queenston Heights, who now rests beneath the battle monument, he recalls the rumor that the remarkable preservation of the body at the time it was disinterred 'might possibly be due to his addiction to alcohol'.

Way's interest in history well beyond books and old manuscripts. In the winter of 1937-38, when a diver in full regalia was working on the site of Kingston's old waterfront examining the wrecks of scuttled warships, Way became disinterested with the information the professional was giving him. He insisted upon getting into diving gear and slipping into the 30 feet of water to see for himself. Despite the fact the diver had no other equipment with which to come to his rescue in case of mischance. This over-enthusiasm earned him a stern lecture from the deputy minister of his department. One escapade he did get away with was to personally explore several hundred feet of the original Fort Henry sewage tunnels which were just wide enough for a man to crawl through.

His wife recalls with a shudder the day the halyard broke on the flag pole just before an important parade at the fort. It was too late to call in the steeplejacks so Way shinnied, hand over hand, up the 87 foot pole, slipped the new halyard through the pulley and slid down "I was too frightened to scream when I caught him at it," she said.

**No Cheesecake**

Way's historical specialty, one that helped get him the Louisbourg appointment, is early military fortifications and activities. Because he is an expert, he insists upon being represented for cannons fired at the fort. He won't let anyone else test the old muzzle loaders, which were cast between 1797 and 1813, fire 24 and 32 pound balls, and haven't been fired for the best part of a century. So far he has tested five cannons, and none has blown up.

He seems to know everything about the old fort. 'This is the officers quarters where Col. Henry Dundas of the 83rd Foot celebrated the receipt of his baronetcy,' he will say. "What a party they had in this room, it lasted till dawn.'" While he likes to people history with true anecdotes, he will not allow the guardsmen who act as guides at the fort to embellish the facts. One of them, who invented a ghost to tickle the tourists, was thoroughly "told off" by Way. Photographers who want to work a little cheesecake into their pictures of the guardsmen are stopped. A visiting band which tried to bring along its majorettes was told this is not Coney Island.

Way uses animation at historic sites to carry out his mission of 'selling Canada to the Canadians'. Just as he is in the formation of human personality there are two dominant factors, environment and heredity, so in the development of a nation the prime factors are environment and history, he maintains. 'It is our history only which makes Canadians different from Americans who share the environment of this continent.' Should he be accused of flag-waving, he will say in defence he agrees with Mazzini, the Italian patriot, that we build greater loyalties upon the lesser ones. We must be good members of our family group before we can be good citizens of our municipality or our province and we must be good Canadians . . . or good Germans . . . or good Japanese before we can be good citizens of the world.

The Ways work as a well qualified team: he is the idea man who supplies historical knowledge and showmanship and his wife the administrator who fills in details and gets things done. She is officially listed as his executive assistant and comes by her aide-de-camp ability from her father who was a manager for a former British Prime Minister David Lloyd George. As the Kingston Whig-

**Furnished by History**

They own two homes and in each are surrounded by history. In winter, they live in a comfortable five-room apartment inside the walls of Fort Henry (the Fort is where Way keeps his main library of military fortifications and tactics ranging back to medieval castles); they spend their summers at a government-owned guest house in Upper Canada Village; and weekends at their own 260-acre farm in historic Prince Edward County, where they do their own repairs the buildings and melts into the local community. A member of Parliament was once looking for Way's farm and asked at a small crossroads store where he could find 'Ros Way the historian'. 'Well, there is storekeeper, 'there's a Ros Way who breeds purebred Holsteins up the road - a piece but he ain't got anything to do with history.'

But even their poohole has an historic link: he is called Vauban after the famous French military engineer whose construction ideas formed the basis of Forts Louisbourg.

Much of their time is spent in the comfortable apartment at the Fort where the furnishings and decor reflect their interests (although even in winter they spend part of every week at Upper Canada Village). The furniture is antique of the early United Empire Loyalist period in Upper Canada. On the wall is an 1890 musket, military and naval prints, and several swords including a large Highland broad sword and targe (leather shield).

Way was born in Kingston in 1908 and began his love affair with 460 forts by reading history and playing in the ruins of Fort Henry. When other teenagers were spending their money courting girls, he was haunting secondhand stores in search of swords and found enough to form the backbone of his present collection.

With a grandfather who was a contractor and a father who held masters degrees in electrical, mechanical and civil engineering, it was natural to expect Ron Way to follow in their footsteps. He enrolled at Queen's University in a pre-science course and won a scholarship in mathematics before history lured him away.

This latent interest was rekindled by history professor Duncan McFar-

**Upper Canada Village is example of 'living history' restoration**

...thor who later became provincial minister of education. Way switched to history, graduated with an honors M.A. in 1936, and was preparing to proceed to a doctorate and teach when a decision was made to restore Fort Henry as a joint federal-provincial unemployment relief measure. Way had just completed his master's thesis on Kingston fortifications and had concentrated on military history so he was chosen to oversee the job. No sooner did he join the provincial government than the restoration of Fort George and Erie were under taken and he was made responsible for their historical accuracy. Between 1956 and 1939 he lived a frantic life.
hurting between Niagara and Kingston as work on all three forts went on concurrently. His inherited and acquired fortune paid off many times during this restoration work. When the architect on Fort Henry said they could never match the original work, he built a small model and announced ‘that’s the way it used to be and that’s the way it is now’. It’s been operating fire ever since.

The idea of animating historic sites came to him in the winter of 1937 on a cold day when he saw the stones of partly restored Fort Henry. He was daydreaming about how the fort must have been when the parries had been in place. His vision of the illusion that the restoration would be as cold as the weather that day unless he somehow restored it to its former clump. Sympathetic superiors approved the idea of the Fort Henry Guard, a volunteer group of university students, and Way had the first one trained in time for the official opening August 1, 1938.

A Miniature Waterloo

Since then thousands of visitors have been transported back to the mid-Victorian era as they watch the guard and band perform the old British parade square drills, fire cannon and torches. The illusion of a miniature Waterloo once a day. They march past, form squares and illustrate the ‘thin red line’ of the British Army so well they have twice stolen the show at the Royal Tournament in London where the top regiments of the British Commonwealth send their best drill teams.

In 1950 a little boy in Chicago who had just returned from visiting Fort Henry wrote a postcard: ‘I am nine years old. I like Fort Henry because it is a living museum. Thank you very much.’ Ron and Boyd Way have adopted the child’s definition—‘living museum’—as an apt description of what they are doing at the fort and Upper Canada Village. Way, the retired historian with the hands of a stone mason, comes alive when the conversation turns to his ideas of the function of history. ‘To study history in an ivory tower just for the sake of mental exercise makes it into the aether of recreation and I, for one, could never afford to treat history merely as exercise for my brain cells,’ he says. ‘My entire career was based on the belief that if history is good for scholars, it is, in proper dosage, good for everyone.’

The rejection of the stuffed-animal type of museum and his insistence on dignified and intelligent showmanship at historic sites has raised the hackles of some academics. One young university graduate hired to do some summer research told him bluntly: ‘History is for scholars—it is an art which should not be prostituted or commercialized by being brought to the level of the mass-man.’ Way reacts violently to this ivory tower elitism. While he insists on the highest possible standards of restoration work—‘we have the scars to prove it’—his former superior has said—he is equally adamant on history being good for the public. Unlike the history professor, the director of any historic site does not have a captive audience of students working for university degree credits. Therefore he must ‘through every technique of showmanship intrigue the traveling public to come voluntarily to his base of operations—and in sufficient numbers—to make the whole concern a self-supporting proposition. The blunt truth is that the man in the street will interrupt his holiday to be entertained, or diverted but not to be educated,’ he believes.

By showmanship he does not mean prop machines in castles. He deplores the tendency in certain quarters to ‘cash in’ on history through whatever distortion of facts seems necessary to make the proposition lucrative. No restoration can be deemed truly successful that does not put educational values first. When we are successful on this higher level, all the economic benefits associated with a major tourist attraction will inevitably follow.’

The Ways hope Louisbourg will be a restored but a government decision has not yet been made. The restoration may take 12 years to complete. In the meantime the King’s Bastion at Louisbourg was moved no less than three times. So thorough are the cross-reference research files on the Village that Way can tell what pigments were available to the Lachute mini- ter’s wife in 1843 with which to paint her bedroom, the type of tea she drank and how much it cost her. Ron Way fuses the Fort and the Village as though they were two children. The time he was troubled with appendix in the summer of 1959, he would not go into hospital until his wife promised to take his place at a meeting held to review the estimates for the 1960-61 season at the Village. Way’s first words when he regained consciousness following the operation were: ‘I didn’t get estimates approved!’

A Love for the Chateau

Today, 1964

The Chateau of Canada

Louisbourg in 1743—from engraving after drawing by Varier, Chief Engineer

Imperial Oil Review, June 1964

Imperial Oil Review, June 1964

Take a gay French garrison town with perfumed courtyards and patios, bloodthirsty pirates, then add two bloody sieges, a great plague and the utter destruction of its powerful fortifications. Sound like a plot for an historical novel? Actually, it is a page from Canadian history.

On a rocky, misty finger of land on the southeast corner of Cape Breton Island, the federal government is recon structing the fortress which almost 200 years ago, was as important as New York and New Orleans are to the United States today. The fort was in Canada, and the only walled fortified city of its kind on the North American continent. As a project for our centennial year, 1967, the Department of Northern Affairs and Natural Resources plans to partially rebuild Louisbourg, a once glittering town girdled by two and a half miles of walls until British army demolition engineers reduced it to a forlorn pile of broken stone and charred wood in 1760.

For nearly two centuries after its destruction this mile long point of Nova Scotia was a lawless, fog-shrouded C.K. Wilson from The Illustrated History of Canada
sleeper pasture. All there was to remind one of its dusty past was a single building housing relics and local legends of roving ghosts. And well there might be ghosts for it was a tragic place where the tribulations already listed, in a single generation it also underwent several mutinies and was indiscriminately responsible for one of the world's worst naval disasters when a huge French fleet, sent to relieve it during an attack, sank in heavy seas.

What makes Louisbourg an excellent choice as a restoration project is that its story is an important link in the histories of France, Britain, the United States and Canada—besides it is a restoration with international appeal. Louisbourg was not just a fortress but a great naval and military base, France's main port in the New World, centre of the largest fishing industry in North America and a self-contained 18th Century community.

Almost two centuries ago Louisbourg was a mighty fortress with an aura of invincibility. It was the key to the conquest of North America with its 30-foot high walls 12 feet thick embracing a large hospital, theatre, churches, taverns and a great state citadel in which the governor lived. Started in 1717, it took 25 years to complete the first phase of construction. During the war between England and France a force of New Englanders, fortified by rum, prayer, luck and courage managed to overrun it in 1745. Many of their company died within the fort in the plague which followed the surrender. In 1748, it was handed back to France in the Treaty of Aix-la-Chapelle causing much bitterness in New England—one of the contributing factors to the American Revolution.

France poured several millions more into the fortifications. It was completed by the start of the Seven Years' War which began in 1756 and settled once and for all which of these two great powers would own North America. A large fleet and 12,000 troops led by Gen. Jeffrey Amherst, assisted by then Brigadier James Wolfe, attacks in June, 1758. The French gallantly held out for 49 days—long enough to give Quebec City and Montreal a needed winter respite. By the time the fortress surrendered, General Amherst decided it was too late in the season to mount an offensive against Quebec. In the spring of 1760, the British decided to finish the oversea once and for all. Miners tunnelled beneath the walls to place explosives under the foundations of 'Point Wester Jack' Byron, godfather of the peat.

The desolate pile they left behind became an historic site in 1928 and a source of legends and ghost stories for the nearby fishing village of Louisbourg. One legend is that just before the fortress fell, a bridge over a large pond collapsed while soldiers were carrying large bags of gold across. One soldier was murdered, his body weighted and tossed into the pond to protect the treasure. About 40 years ago two Louisbouren men decided to pump the pond dry—but after a few days found it was fed by the Atlantic. The last reported ghost on was some years ago on Galloy's Hill, an old execution grounds. It is supposed to have stopped after a man who discovered exposed human bones was rebuked.

The Learning Page

The Automatic Oil Business

Time may come, some oilmen say, when drilling will be partially automated. Data may be broadcast to a computer which would send drilling orders to a semi-automated rig.

One such experiment is now underway in the U.S. Also on the drawing boards is a plan for computer processing of well completion information over the entire United States and Canada. It will mean getting basic data on 140,000 wells on one master tape (100 million items) at a cost of about $650,000.

Who's Who in Oil?

Ever wonder which country uses the most petroleum? The United States—10.5 million barrels of liquid hydrocarbons a day out of the world's total of 25.8 million. Canada comes fourth with close to one million barrels daily.

The U.S. is also the world's top producer with 7.5 million barrels of crude a day. The U.S.S.R. comes second with four million barrels a day. Then come Venezuela, Kuwait, Saudi Arabia, Iraq, Iran, Canada, Indonesia, Algeria and Libya in that order. The surprising feature of this lineup is that Africa, once a 'have-not' continent is moving up rapidly. By the end of 1963 it was producing a million barrels a day, which represented a 50 percent increase over the previous year.

Another have-not, China, is becoming a 'have', too. It has predicted oil output needs self-sufficiency by 1967. It now appears China will reach its goal soon. To help do so, it is seeking aid from West Germany in exploration and refinery construction know-how.

Fill 'er up, swallow a couple of years ago we reported with pride (and a certain amount of male consternation) on Imperial's all-woman service station in Vancouver. Turns out New Jersey has had women service station attendants on its turnpike for years (they're called 'spikers'), Japan has many women manning the pumps (they're called 'swallow') and about 15 percent of service station attendants in Britain are women. Estevan boasts Saskatchewan's only service station with girl attendants, but Yorkton and Regina are close on its (high) heels.

The Biggest and the Deepest

Where was the deepest oil well in the world? In Texas (naturally)—a 25,340 foot (nearly five miles) dry hole drilled six years ago at a cost of more than $3 million.

And the biggest service station? Well, Oklahoma City claims that (57 pumps, plus servicing facilities, restaurant and dormitories for truckers).

How Much Tax Do You Pay?

Even wonder how much gasoline tax your provincial neighbors pay? Gasoline taxes have risen as much as 100 percent in some provinces over the past 25 years. Here's a breakdown of the provincial gasoline tax by provinces: Newfoundland—19¢; Nova Scotia—19¢; New Brunswick—18¢; Prince Edward Island—18¢; Quebec—15¢; Ontario—15¢; Manitoba—14¢; Saskatchewan—14¢; Alberta—12¢; British Columbia—13¢.

Plumber, anyone?

If you're traveling in England it helps to know the language—of road signs. Here are a few, with Canadian translations: Way Out (Exit), Loose Clipping (Watch for Fallen Rock), Dead End (Divided Highway), Deal's Slow (Danger) and Road Up (Under Repair).

Petroleum Really Runs Your Car

Everybody knows how cars depend on oil and gasoline. What you may not know is that more than 150 automobile parts are commonly made of plastic, ranging from tail light lenses to gears and bearings. Many plastics are, of course, derived from crude oil.

Comment

'In the minds of some people profits are synonymous with wealth—a means for the rich to get richer. Large segments of the public completely fail to understand that profits today are largely reinvited to provide greater productivity from which every person benefits—and that they are also a means of attracting the needed capital investment which industry must have to fulfill its role as a supplier of human needs and as an employer . . .'

'For far too long there has been a tendency to make a sacred cow of low profits. Low profits do not attract capital, do not create industry and employment, do nothing to enhance living standards. One of the most important economic objectives for the government is to make this country a place where the return on risk capital is at least as attractive if not more so than in any other civilized community.'

—Vernon Taylor, vice-president, Imperial Oil, speaking in Winnipeg.