School's Never Out

If any of you high school or university graduates are bidding a fond farewell to books and classrooms this month—well, don't rush it. Formal study doesn't end the day you take a full-time job.

We're not referring here to the normal, continuous learning process that any inquisitive person experiences in his lifetime; the process characterized by the old 'it's never too late to learn' truism. We're thinking rather of the new breed of 'students' appearing in many companies nowadays. They may be 26, 30, even 50. They may be studying anything from political science to mathematics to anthropology. This wave of post-schooling (with the aid and approval of employers) is a two-way exchange: the company gets a better employee; the employee should be better prepared to get ahead in his job or at least to gain a new dimension.

At Imperial, such education falls into two categories: company training on company time and outside educational courses on the employee's time with company assistance. Last year some 500 employees took specialized company training courses, upgrading their skills in everything from management to computer operation. Approximately the same number of Imperial people took courses under the company's eight-year-old educational refund plan.

The refund-plan courses must be related to the employee's work and/or be in the company's interest, and must be given by a recognized school, university or equivalent institution. They can mean polishing up one's particular field of knowledge, such as geology, business and economics, corporation finance or mercantile law. The courses can lead to a recognized degree or certificate. Imperial people have studied everything from French to Film: The Medium and Its Techniques; anthropology to psychology; political science to English literature. When an approved course is successfully completed, Imperial refunds two thirds of the cost.

Continual learning is essential. 'A person's skill can become obsolete within his own lifetime,' Trevor F. Moore, a vice-president and director of Imperial Oil told a Montreal audience this year. 'There is a continuing need for everyone in business—for everyone who works for a living—to broaden his knowledge and upgrade his qualifications for work.'

Which is a 20th Century twist on what Cicero meant 2,000 years ago when he referred to 'A zeal for learning which, in the case of wise and well trained men, advances in even pace with age.'
THE BIGGEST BALANCING ACT IN BUSINESS

Few terms in business are so misunderstood as 'corporation'. What does it mean? Is it, as some suspect, a shadowy band of tycoons making immense profits at the expense of the working man? Is it, as popular fiction portrays it, the haven of all the grey flannel suits and minds?

In fact, the corporation is simply a form of business organization that is especially well suited to accumulate and use large sums of capital. As such, it is the backbone of modern free enterprise society. Without it, we might still ride a pony for transportation, read books by candlelight, buy ice to chill our food, and communicate only by letter or in person. The automobile, telephone, electric light bulb, refrigerator, television set and other 'necessary luxuries' of today might still be owned only by the wealthy or regarded as the useless product of some inventor's imagination. Without the corporation, much of the complicated research and development that has given us plastics, computers, atomic power, supersonic aircraft, new methods and materials for building, refining, manufacturing, and processing, might never have been undertaken.

The corporation has played this big role in building modern society because it can bring together the amounts of money and numbers of skilled people needed to build and operate the steel mills, oil refineries, automobile factories and countless other producers of the goods we now take for granted. 'Corporation', like many other commonly used business terms, is not a precise word. How can a corporation—which exists only on paper—own property, employ people, be liable under the law, and, in short, possess many of the rights and responsibilities accorded to humans?

One of the best descriptions of the corporation, given in 1819 by Chief Justice John Marshall of the U.S. Supreme Court, is 'an artificial being, invisible, intangible, and existing only in the contemplation of the law'. Almost everywhere, the law today regards the corporation as a legal person able to make contracts, hold title to property, bring suits at law, be defendant in law suits, and exist continuously but separately from its shareholders, directors, or officers. Occasionally, in law, the corporation and its stockholders must be considered as one and the same. This happens when stockholders try to hide behind a false corporation to protect fraud, defend crime, or defeat public convenience.

A more general definition, but one that gives a better clue to the importance of this form of business organization is 'a group of persons with authority to act as a single person'.

The earliest corporations probably date back to the city-states of ancient Greece. They were set up in the same general way as today's municipal corporations. They borrowed money for civic development and assumed debt which later generations had to pay. The Romans took the corporation a step further, using it to organize religious societies and commercial enterprises. Roman corporations held title to real estate and other assets and acted as separate entities in various ways. After the fall of the Roman empire, the corporation for centuries played no part in business and commerce, although it was still used occasionally to organize municipalities, schools and religious orders.

The forerunners of the modern business corporation appeared in England around 1600 when the first joint stock companies were formed. These companies—notably the East India Company (1600) and the Hudson's Bay Company (1670)—brought together a group of merchant traders who bought shares in the company, were liable for all company debts and wrongdoings, and were dedicated to the continuous existence of the company. They also, of course, shared all the profits and all the risks.

These men joined forces because together they could amass enough money, skill and experience to undertake vast trading and exploration activities beyond the means of any one or two of them. Today's major corporations are more complicated than those early forms, but the basic motive is unchanged.

The corporation approach to business became well established some years after the beginning of the Industrial Revolution around 1750. The dramatic change in business and industry over the next 100 years created the need for a broader, better organized approach than could be provided by the lone businessman or small partnership system.

As industry and commerce grew, so did the problems of accumulating enough money to finance it, of hiring and training employees, of distributing and selling more goods to larger, more distant markets. The early joint stock company evolved, with some important changes, into what is now the public corporation.

One of the key changes concerned the liability of the shareholders. Under the joint stockholder system—and still in certain types of corporations today—the shareholders were liable, without limit, for the debts and losses of the company. If the assets of the company were not large enough to cover its losses, the personal property of each shareholder could be seized as payment. As the principle of corporate entity became recognized, the principle of limited liability became accepted. Under this concept, each shareholder's liability is limited to the amount of his money invested in the company's shares. If the company goes bankrupt, the personal property of the shareholder cannot be taken to settle corporate debts.

In the early stages of the Industrial Revolution, most people considered the corporation an impractical way to do business. Governments saw the corporate approach as a threat to their traditional control of business. It took a lifetime of effort by a Scottish political economist, Adam Smith, to convince government leaders of that day that their intervention actually hindered natural economic development. In 1776 his historic book, 'The Wealth of Nations', argued and proved to the satisfaction of government and businessmen that the consumer, not government, was the true force and determinant of economic action.

But even Smith, who is credited by some historians as having played as great a role in the Industrial Revolution as the best known inventors and industrialists, was not persuaded that the corporation was a practical form of business organization. He...
believed that 'the only trades which it seems possible for a joint stock company to carry on successfully without an exclusive privilege are those of which all the operations are capable of being reduced to what is called a routine, or to such a uniformity of method that its public can be observed.' But, in fact, as business grew bigger the corporation became accepted as the only efficient way to make this bigness an asset, instead of a hindrance. Rather than excelling at the simple, routine tasks, as Smith predicted, the corporate structure is uniquely suited to handle the complicated tasks of a growing industrial society.

One reason is the 'built-in' continuity of a corporation. A sole-owner or partnership business can be forced out of existence by the illness or death of the owner or partner. A successful full-year guaranteed continuity of management, and thus continuity of the line of business, to which the company has evolved to meet its individual managers. It can therefore make and carry out long-range plans for growth, expansion and profit.

The big corporation also is able to bring together many skilled specialists that contribute to efficiency, growth and new ideas. In a partnership or small company, the owners, to be successful, must have a broad knowledge of all aspects of their business. They cannot afford the staff of experts to design and develop the more specialized areas of their business. The big corporation, on the other hand, can hire or train specialized experts to research new products and methods, explore new markets and develop new markets and advertising. This helps it to produce and distribute large volumes of goods more efficiently at prices that most people can afford.

The three basic types of corporations in modern business are the crown corporation, the private or 'closed' corporation and the public corporation.

Crown corporations are owned and operated by governments, federal or provincial, although they may be a superfluous resemblance to public corporations, with officers, annual reports and issues (but not traded) stock. Whereas the directors of a public corporation are the employees of the stockholders, the director of a crown corporation answers to his cabinet minister who in turn reports to Parliament.

Some are basically regulatory bodies, such as the St. Lawrence Seaway and the arts and sciences such as the National Gallery of Canada and the National Research Council. Many are solid industrial enterprises, such as Canadian National Railway, the Canadian Broadcasting Corporation, Air Canada, and Atomic Energy of Canada Ltd. Not all of them make a profit and hence depend on government grants to survive. Nevertheless crown corporations - which are generally born in times of need or the early struggles of a nation's life - will probably exist as long as there are areas of enterprise that are beyond the capacity of private enterprise to serve.

The private corporation is distinguished by these factors: the right to transfer shares must be restricted in some manner; the number of shareholders is limited to 50; any invitation to the public to buy shares is prohibited. It can have as few as three shareholders.

Historically, the regulations of the Companies Act have been largely for the protection of the shareholders. If the company has only a single shareholder the need for their protection is presumably less, hence the private corporations' freedom from certain regulations and public scrutiny.

The public corporation is by far the most common of the three. Public companies operate in every field of business. While it is usual to think of corporations as large, they in fact range in size from firms with a half dozen or so shareholders, to the vast millions of shareholders of Canada, small corporations far outnumber large ones. In 1961, just under 30,000 of the 69,000 active, taxable corporations in Canada had assets of less than $50,000; 57 per cent of the assets of between $50,000 to $1 million and only 87 had assets over $100 million.

A corporation comes into being under the provisions of a statute or joint application, by the group of persons that complies with its requirements can form a corporation. There are two types in Canada. The first, known as the registration system and adopted by five provinces, requires the applicants to submit a document that sets out the fundamental terms of their agreements. When this is done, the company comes into existence.

Under the limited liability system, used by the other five provinces and the federal government, the incorporating document is called the letters patent and is a direct offspring of the royal charter of long ago.

The business method of incorporation called incorporation by special act. Banks, railway companies, inter-provincial pipe lines are examples of companies which cannot use the registration or letters patent system, but must obtain their charter through a special act passed by Parliament or a provincial legislature.

Very early in its formative stages, or later when fresh money is needed, the directors of a corporation determine how much money will have to be raised through the sale of shares. Most corporations, when first formed, sell only a portion of their total authorized shares. This permits them to raise more capital later for finance future expansion or other needs, by issuing more shares.

The shares are then offered for sale through investment dealers to the public. Money from the share sale is collected and deposited in the bank. Only in the first sale of shares does the corporation receive the money. If an initial purchaser later sells his shares, usually through a stock exchange, the profit or loss goes to him. No matter how often or at what price the shares change hands through the stock exchange, the money changes only between buyer and seller. Fluctuating market prices for a particular stock benefit the corporation as an indication of the strength of public confidence in the corporation's potential. If the company, after its initial share offering, finds it necessary to raise more capital, it can issue more shares or profit from the public perception of the company's future. There is also what the experts call the 'equity' of a company, this is the promise of a return to the shareholder. An equity is an asset on the balance sheet which is an earning power of a company, this is the promise of a return to the shareholder. An equity is an asset on the balance sheet which is an earning power of a company, the one that is buying the shares.

A successful, expanding corporation, or a soundly planned new one, can quickly raise large amounts of new capital through the public sale of stock. This is especially essential in the case of basic industries such as oil, mining, manufacturing, utilities, and others that normally require hundreds of millions of dollars to finance their growing operations. Corporation profits paid out as dividends are usually paid to shareholders as dividends, often cannot alone provide the huge sums needed to finance major expansions.

The successful corporation is thus the centre of a circular flow of funds. The public, by buying a share of the ownership, puts its savings to work by buying the corporation enough funds to expand its facilities to produce more goods to earn more profits. More profits mean more corporate growth and more dividends. This cycle of thousands of the shares also tends to increase as the corporation grows, and the shareholder might sell part or all of his shares at a handsome profit. These factors, plus the protection of limited liability, are the main incentives for public investment in corporations.

The total corporate contribution to a country is much broader, though perhaps less obvious, than company profits and share dividends. An expanding corporation provides more jobs, more sales for service and supply companies - most of which are themselves corporations - and more general strength to the whole economy.

Corporations are a major source of tax revenue for governments. In 1963, for example, approximately 69,000 corporations paid almost $1.4 billion in income tax alone to the Canadian government. That represents some 41 percent of the total income tax collected by the federal government. Corporation property taxes, sales and excise taxes and other tax charges each year contribute many hundreds of millions of dollars more in government revenues.

Corporations, through contributions of cash and personnel, a variety of community projects, welfare programs, educational efforts, and cultural and recreational pursuits. The National Industrial Conference Board, in a study of the 1962

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APPOINTMENTS IN THE NEWS

JAMES WARRIN FLANAGAN has been appointed to the newly created position of assistant general manager of the chemical products department.

Mr. Flanagan graduated from the University of Texas in 1941 with a master's degree in chemistry. He spent three years in the navy and joined Imperial in 1946. In 1950 he became assistant coordinator in the manufacturing department, in 1954 he was transferred to Calgary as assistant manager of crude oil processing and later became manager of that operation. He became manager of the coordination and economics department in 1960, a position he held until his present appointment.

RICHARD G. ROY has been appointed to the position of manager of the centralization and economics department, replacing Mr. Flanagan.

Mr. Roy graduated in chemical engineering from the University of Alberta in 1949, joining Imperial the same year. He moved to Saskatoon in 1956 as a senior engineer in the manufacturing division, became engineer supervisor there and moved to Toronto as a supervising analyst with the coordination and economics department in 1960. In 1964 he was appointed assistant manager of the department.

WILLIAM E. BARRATT has become assistant manager of communications, research and supply department, effective March 1. Mr. Barratt graduated from the University of Toronto in 1950 as a mining engr and later earned a master's degree in business administration from the same university. He joined Imperial in 1951 as an economics analyst in the coordination and economics department. In 1955 he was transferred to the producing department in Calgary and was appointed staff economist of that department in Calgary in 1961. He was named a manager of the newly formed economics division of transport and supply department in 1963.
It's a nuisance

By TOM ALDERMAN

No country, not even Russia, with more than double our size, has more muskeg than Canada. We've got 500,000 square miles of the stuff. It sweeps right across our northland, trickling long, muddy fingers into every province. It poisons the land as far south as southern Ontario—there's 20,000 acres of it just northwest of Toronto. Only sections of Quebec's South Shore, southern B.C., southern Alberta and Saskatchewan, and the southwest corner of Manitoba, have escaped. Stand anywhere else in Canada and you'll be standing within at least 100 miles of some kind of muskeg—for muskeg differs in size, shape, thickness and qualities from place to place.

Until recently, men who worked in the stuff couldn't imagine muskeg as a blessing. It's an expensive and, until a few years ago, almost impenetrable barrier to the north. If you're in oil, mining, lumber, agriculture or transportation, it ranks as the worst clergy for muskeg, a material that has cost the oil business alone more than $150 million in muskeg charges. And it'll cost a lot more, according to Alex Hemstock, a muskeg expert in Imperial's producing department in Calgary. As oil exploration crews probe farther north, they go deeper in the Western Canada sedimentary basin, an area about one-quarter covered with some of the deepest, most unstable muskeg imaginable. 'Eventually,' says Hemstock, 'we'll be doing most of our exploration across country that is 25 percent muskeg.'

Ask a dozen people who worked in muskeg 15 years ago to describe the stuff, and you'd have gotten a dozen different descriptions. Then Dr. Radforth diagnosed it officially as an organic soil with a high moisture content. It's made of plant remains decaying in areas of high water tables and poor drainage and evaporation, usually under low temperatures in a depression in the earth's surface. These areas occur mainly in northern countries like Canada, Russia, Sweden, Finland, northern Ireland and Scotland, where it's called bogland or peatland. Only in Canada is it called muskeg, an Indian word derived from the Chippewan, meaning 'grassy bog.'

It is not to be confused with swamps. There's no pest in swamps, or marshes (which are thick swamps). In swamps, the water level is often high. Winds create wave action on the water, and enough oxygen streams through the water to decompose the rotting plant material almost completely. Or occasionally, because of evaporation, the swamp's water level will dip drastically, exposing the dead plants to erosion in

Muskeg can be anywhere. The frozen lump at right was chipped from a bog in the industrial heart of Ontario, not ten miles from the City of Hamilton...
the atmosphere. The plant matter isn’t left alone to be transformed into peat. But in muskog, the water level remains almost constant year-round. It is a feeling of the face of the newly fallen deluvia. Wind and waves can’t ruffle it. Oxygen can’t get through it. Over the years dead trees, plants are digested and turned into peat, the thick black spouky musk of which most muskog is made. And atop this musk fall more dead plants, awaiting another time before being incorporated. Many kinds of muskog are merely precumulums of coal.

Blame it on the ice
Some muskog, like that discovered in 1953 during the subway construction in Toronto, is composed of coal, more than 100,000 years old. But most of the muskog in Canada started accumulating about 10,000 years ago, when the last glacier retreated. The glacier left depressions on our land surface, and within a few generations most of the muskog was covered with the first debris of muskog. ‘But what confused everyone about muskog until about 17 years ago,’ says Dr. Ronald, ‘is how it moves from mile to mile, even yard to yard. A man could drive a tractor through muskog and not notice it anything. The muskog looked like the same stuff, and get bogged down. Muskog didn’t all start to form at the same time. Some of it is originating right now. It can develop slowly or quickly, and in all dimensions. It can be just a few inches deep or 100 feet deep, as it is around Prince Rupert, B.C., where some bones must be built on piles. It can be killed by injured, deteriorate and then regenerate. Trees, shrubs, stripey (grass-like plants), mosses can grow along it. It can exist on any kind of mineral soil, even rock. It can even travel up hills and mountain. Little wonder two men talking muskog could often be talking about material with almost totally different qualities.’

Rafordth set about organizing the council in 1948. He began by relating each type of muskog to how it looked from an aerial view. They were analyzed and roughly labelled each type. Now anyone equipped with Rafordth’s system and an aerial map knows within limits what he’s up against. The land, and the type of coverage—whether tree, bush or sedges—can indicate the depth and constitution of the

The answer lies, according to Radforth, in learning more about muskog’s physical properties: its density, its compression characteristics, its drainage possibilities, its traffic resistance—so we can estimate more accurately what reaction the road will have. If we find no muskog, we can move on. Little wonder industry is mainly concerned with problems of muskog. For instance, thirty years ago stuck in an entire section of highway near Smooth Rock Falls, Ont., and swallowed a derelict locomotive in northern Manitoba.

Muskog is like a sponge, holding water many times its weight. Build a road over it and it has an unsettling habit of settling. Until it has settled, it may be a road builder just got away with making three feet deep and settling 12 inches. A road builder just got away with making three feet deep and settling 12 inches. A road builder just got away with making three feet deep and settling 12 inches. A road builder just got away with making three feet deep and settling 12 inches.

So some think the breakthrough may lie with a design drawn up by Prof. J. N. Siddall, one of Dr. Rafordth’s associates at McMaster. Prof. Siddall has come up with a first of its kind, a 36-legged walking vehicle that will supposedly skitter over muskog like a centipede. Prof. Siddall isn’t holding his breath waiting for an angel with $30,000 to help develop it.

Dr. Radforth feels the ultimate answer may be the Hovercraft, a bizzare, British-designed vehicle costing as much as $1,500,000. It’s a flat-bottomed quasi-helicopter that travels on a cushion of air a little above the ground, and in tests has carried up to 40-ton payloads as swiftly as 45 miles an hour. According to its English manufacturers, field tests have shown it can move freight as cheaply and more quickly than any other transport. But it has yet to be tested fully in Canadian muskog. ‘I know a lot don’t agree with me about the Hovercraft,’ says Dr. Radforth, ‘because they think it’s too expensive. Sure it’s expensive. Sure it’s expensive. Sure it’s expensive. Sure it’s expensive. Sure it’s expensive.

Though there’s still much to learn about muskog, Dr. Radforth feels access to the north is essential. ‘Our population is growing. Wherever we put these people we have to build the roads to get to them. We can’t just start out with three feet deep and settle 12 inches. We have to do better. We have to do better. We have to do better. We have to do better. We have to do better. We have to do better. We have to do better. We have to do better. We have to do better. We have to do better. We have to do better.'
Now the land, called the Holland Marsh but really a form of muskeg, produces celery, carrots and other vegetables for the nearby metropolis. And in 7,520 acres bring as much as $1,000 an acre. Similarly, though smaller, areas have since developed near Ottawa and Montreal.

‘About 80 percent of the muskeg in Canada could be made arable,’ says J. A. Roberts, director of agricultural engineering at the New Brunswick Department of Agriculture, who is working on a pilot muskeg reclamation project near Richibucto. ‘Still Canada has plenty of naturally productive land in mineral soil. And because it costs something up to $200 an acre to prepare muskeg for agriculture, it really doesn’t pay just yet to develop it unless it’s close to a big market, like Toronto. But it’s nice to know we’ve got it for when we need it.’

Yet in more and more instances, the result is worth the expense. Newfoundland is keenly interested in muskeg because of a severe shortage of winter feed for livestock. So about seven years ago, under a bogland development program, the province started reclaiming the deep muskeg in its heartland to grow hay and grass for meat animals. The cost: $160 an acre. Total: 140,000 acres. To date: 2,200 acres. ‘It’s worth it,’ says Healy. ‘The more we reclaim, the less we’ll have to import. It’s healthy for Newfoundland’s economy to import less.’

**Muskeg is expensive**

Gradually, we’re being pushed into doing more about muskeg. Black spruce, which seems to grow best in muskeg, makes high quality pulp and paper because of the high cellulose content it inherits from the organic mate-

But it’s also valuable

‘Not all these experiments have been economically successful,’ says Dr. Radforth. ‘But think of the possibilities for Canada—if we can get access to our muskeg lands, if we start building our own pulp and paper mills there.’

Muskeg is gradually attracting a growing number of disciplines to its study. Companies like Imperial have devoted time and money to new ultra-

Advised from lumber and agriculture, Canadian industry is making a few surface scratches at muskeg’s buried treasure. Muskeg is overgrown with moss and liverworts, a moss with a high moisture content. In its best quality, it makes an excellent soil conditioner. In 1962, the peat moss industry in Canada produced 231,000 tons worth more than $9 million—double the 1955 total. Canada has become the world’s eighth largest peat moss producer. The industry, which centres in Quebec and B.C., exports about 80 percent of its product. Presently, it could be even bigger, according to the Ontario Research Foundation, which is conducting experiments using muskeg moss as a binder in oil well drillings. Pelletizers now use benton-

**Straight Flush**

-- or, how Imperial aims to get an unheard-of 95 percent of the oil out of Golden Spike

DEEP IN THE HIDDEN RECESS of an oil field below central Alberta, the warmed-over, forlorn-looking Golden Spike field is now, with a slick of red dyes in the mud and pipes of oil running by, the stuff of dreams. The government has given Imperial the right to it, a 25-year lease. Gas in solution with the crude oil, acting much like the first in a madcap. Gas in solution provided Golden Spike’s main pressure—but this pressure dropped substan-

This will be increased to more than 60,000 barrels a day. And all natural gas in this crude oil will be separ-

As production from the field continues, the miscible liquid will be fed into the field over a pipe line.
No. 1 is Jim Clark. He is the top, the fastest, the boss—he is motor racing champion of the world. Many fans consider Clark better than Moss or Fangio; they say he is the greatest driver of all time, and the class he showed in winning his title in 1963 gives his most ardent fans support to their claims. At Mosport Park, near Peterborough, Ont., the fourth Canadian Grand Prix was run last September 26 and the champion was here to race against other top international drivers. The Mexican, Pedro Rodriguez, who won the event the year before; New Zealand’s Bruce McLaren; Jim Hall, the Texas millionaire who drives and designs cars with equal elan; Ludovico Scarfiotti, one of Italy’s brightest hopes; and Canadian champion Ludwig Heimrath were just a few of the racers that Clark, a Scot, would have to outdrive when the starter’s flag dropped.

The new Lotus 38, which was Clark’s car for the Grand Prix, was being seen for the first time in Canada. Colin Chapman of England, the car’s designer and a director of the Lotus organization, accompanied the car. He brought mechanics with him to care for the sophisticated machinery. Fuel and lubricants were supplied at the track by Esso—Chapman has always used them in his cars.

Before the race, Clark sits in the cockpit eating a hamburger and cleaning the racer’s low windshield with his free hand. He suggests minor adjustments to the seat position, gear lever, clutch, brake and accelerator, then drives from the paddock area out to the starting grid to do his qualifying laps. The Lotus crew moves into the pits, and prepares to time Clark and as many of his competitors as possible.

But the car goes badly, spilling cooling fluid during the practice; the engine’s water pump is inadequate and the car overheats rapidly. Chapman curses quietly, Clark looks on stoically, and the mechanics work over the ailing Lotus. Temporary repairs are made to the cooling system and Clark laps the track fast enough to qualify. But no one smiles; they know that a hard night’s work is ahead to calibrating the pump if they hope to see No. 1 with the checkered flag after 250 grueling miles tomorrow afternoon.
On Saturday morning, 20,000 people are at the Moseport race course. Some have been here since yesterday, camping overnight on the rolling hills that make the track one of the prettiest in North America. Teenagers, car buffs, thrill-seekers, the curious, the studious, and those who just plain love a contest cross the fences, often setting up their own home-made grandstands, or parking atop cars to get a better view. After midday the excitement mounts as the competitors for the big race pull on to the starting grid. The mob of officials, photographers, and mechanics soon disperses leaving only the competitors. One of them is Jim Clark, still unwrapping.
Frustration and disappointment show on Clark's face as he rounds Moss' corner. The Lotus had stalled on the starting grid and now was overheating badly again. The repairs to the pump had failed. Coolant poured out of the overflooded jets onto the track and Clark is forced to retire after only four laps of the 250 mile race. For a man who's used to being No. 1, it was a bad, bad day.

RODRIGUEZ
SCARFIOTTI
McLAREN

1st
2nd
3rd
by ROBERT COLLINS

One evening last year an Edmonton man was hurrying to catch the bus home after a day's work in Calgary. As he drew near the terminal, in a friend's car, he saw the bus closing its doors and preparing to move off.

It was no time for formalities. He sprang from the car and ran, wildly flagging the bus driver. The doors opened. The man got in and paid his fare. Then the bus went 8,000 feet up in the air (well, you see, it was a DC6).

Strictly speaking, the Pacific Western Airlines DC6 isn't supposed to daily once its doors have closed. That's one reason why in two years of operation between Calgary and Edmonton it has a 98 percent departure-and-arrival-on-time record, one of the highest in North America. But PWA does almost everything else that makes for easy travel on Canada's only airbus.

The aviation industry has been making it more and more difficult and inconvenient for people to travel by air, says PWA divisional manager David Jacob. "We're trying to reverse the trend."

YOU JUST SAY 'CALGARY' Flying airbus is the nearest thing yet to instant travel. Let's say you are in Edmonton and want to take one of the four flights south to Calgary. You drive to the Industrial Airport, which is practically in the centre of the city. (PWA is the only commercial airline using this downtown field.) At the ticket counter you say 'Calgary.' The agent stamps a boarding pass which admits you to the plane and helps him count heads. You are now ready to board. No advance reservation, confirmation or ticket. No arrival 20 minutes before flight time; you can check in any time up to one minute before departure. No baggage weigh-in or check-in; you bring what you can carry, take hand baggage aboard and leave the rest on a cart at the tarmac for traditional loading. Most airbus travelers carry only briefcases anyway, although one salesman regularly trundles up a sample truck on wheels.

When the flight is called you enter a four-engine DC6 called the Chiefain, manned by pilot and two co-pilots. It holds 80—but no one is left behind, providing his he's there on time. If 81 or more passengers check in before departure, PWA brings out a second plane. It has, on occasion, flown a DC6 for two or three overflow passengers.

Inside, the Chiefain is fitted out with a pretty stewardess, black and orange drapes, red and black blankets, ornamental shades on the ceiling lights, Indian head motif on the doors and first class seats—two abreast with plenty of leg room. In flight, an agent moves down the aisle with a portable table and cash drawer. The ticket is $12 one way. The stewardess serves coffee and cookies (no meal). After that there is just time for a spectacular view of the Rockies before you're in Calgary.

It's all so simple, convenient and sure (in two years only five trips have been cancelled, all due to bad weather) that 100,000 passengers have flown airbus since it began in May 1963. Premier Ernest Manning, his cabinet ministers and many other government people use it. So have The Brothers Four, folk singers. So has Rocky Mariano. So, one night last fall, did Arthur Laing, federal minister of northern affairs and natural resources, and Oskirk, the 60-pound stuffed mascot of the Edmonton Eskimos, both bound for a football game in Calgary.

BIG USER IS BUSINESS

The biggest users, though, are commuting businessmen, particularly from oil companies. Calgary is the house of oil company head offices; Edmonton is the city of operational offices. The intercity traffic is heavy. So PWA, which also operates conventional flights into the Northwest Territories, decides to capitalize on the airbus idea already being used between such cities as Washington and New York.

The Calgary-Edmonton schedule is tailor made for one-day, half-day or even half-hour business conferences in either place. Some businessmen have been known to take a flight and meet their business associates at the opposite airport. Then, their attached cases on their laps, they do their work at the terminal and catch the same flight back home.

IT'S CHEAP, FAST AND EASY

One way or another it beats most competitive forms of travel, and has made money for PWA from the first month of service. It covers the 190 miles faster than automobiles, motorbuses or the crack railway Dayliners that scoot over the ground in 3½ hours. It is $1 less expensive than Air Canada's economy fare service and, at the Edmonton end, is more convenient: Air Canada passengers have to drive 20 miles south to catch their plane. Of 894 passengers who answered a PWA questionnaire last year, more than 600 were business commuters, most had previously driven the trip, and 653 gave convenience as their main reason for using the airbus.

Maybe the oddest example of convenience is that of the Calgary police matron who two or three times a week escorts female passengers north by air. Once this was a tedious chore by road or rail. Now the prisoners are convicted in Calgary in the morning, ushered on to the two p.m. airbus to Edmonton and—while the matron turns back in time to have supper at home—are tucked into Fort Saskatchewan prison by late afternoon. Which leaves it up to some enterprising copywriter to devise a new slogan for PWA: "If you have to go to jail, why not go airbus?"
The Time of Your Life

Growing leisure time offers us heaven on earth. It also threatens a hell of boredom

by June Callwood

June Callwood, Toronto freelance writer, has written many articles for Canadian and U.S. magazines, TV scripts, and two non-fiction books, the latest titled ‘Love, Hate, Fear and Anger’

Among the prevalent paradoxes of this complicated age is the one of leisure, an idealized goal to mankind for two work-weary centuries which finally has arrived in plenty, only to be labeled ‘social dynamic’. Leisure has been esteemed so highly that Christians conceive of heaven, the reward for a good life, as being toll-free. Yet for many it is turning out to be a hell that can unhinge the mind and desolate the lives of those who have it now—housewives, the early retired, teenagers, working men—and poses a genuine threat to human happiness as leisure time continues to increase.

Psychologists are noting that very few North Americans constitutionally are suited to leisure. Most people have been trained from infancy to follow rules, meet standards, conform to routine. In the process, they have abandoned, as frivolous or downright sinful, their capacity to be spontaneous, individual and independent. Parents stress the virtue of hard work and show dis- gust at idleness, a concept of human usefulness that the present school system supports emphatically.

It is perfect conditioning for adults who spend their lives working until they drop, but it is prescription for insanity in an era when—if we are to believe some authorities—automation is cannibalizing thousands of jobs a week on this continent, when the work-week is shrinking, paid vacation time stretching, compulsory retirement edging increasingly into hearty and healthy years. Even if one does not accept this dire view of automation as a destroyer of jobs (and many do not) there is no denying that all of man’s efforts are bent toward the faster, easier way, the labor saving way, the time saving way. At last, the coveted time is on his hands. Suddenly it is a liability. A human being whose chief talent is an ability to follow instructions is doomed when the instructions stop. He will flounder in anxious loneliness and frettfulness; his free time is purposeless and bitter.

Leisure is usually defined as unobligated time, but the University of Toronto’s communications pundit, Marshall McLuhan, has an interpretation that is more useful. He says, ‘Leisure is when you are totally engaged, when all your faculties are in use’. By McLuhan’s terms, a surgeon performing an open-heart operation is enjoying leisure as much as a boy on a surfboard or an old man whistling contentedly in the sun. It comes closest to psychoanalyst Karen Horney’s definition of maturity—the ability to be whole-hearted. Unhappily, it is exceedingly rare. The renowned psychologist Abraham Maslow estimates that only one or two percent of adults really grow up, emotionally speaking.

Most people need to be crippled and confined in order to feel safe. Leisure, whether you call it whole-heartedness or spare time, is open ground, exposed to strangeness and too scary to bear. For this reason the continent’s favorite leisure pastimes are different techniques for hiding, for being less conscious. They include drinking, sleep, sex, television, eating, trivial conversation and watching athletics.

Interestingly, the people who are best able to enjoy leisure are people who derive deep satisfaction from work as well. The housewife who delights in some new trick, like putting honey on carrots, and finds her children entertaining, usually has little trouble adjusting to an empty house when they are grown; she starts a rock garden and discovers Jane Austen. A carpenter with a genuine affection for wood and pride in himself rarely is staggered by retirement; he putster, cherries and absorbs.

A great many people, however, hate their jobs or are indifferent to them. They look for leisure to supply sparkle and meaning in their lives but, because they are semi-dead so much of the time, it is almost impossible for them ever to summon the zest and enterprise that successful leisure requires.

The Broadway drama critic Walter Kerr, in his book The Decline of Pleasure, commented, ‘We are vaguely wretched because we are leading half-lives, half-heartedly and with only one half of our minds actively engaged in..."
I first saw old Levi Dawe as I leaned over the rail of a cargo boat tied up at Burnt Point at the northernmost end of Newfoundland. Even before we spoke on that crisp September morning in 1961, I sensed that he had some kind of story to tell. And before the day was over I learned that Dawe was a man who helped shape Newfoundland's history, yet a man whom history forgot.

A small crowd of outsiders stood on the quayside to watch the boat moor, for the supply ship's arrival was still something of a novelty in the outpost. Dawe stood a little apart, looking old-fashioned in his peaked tweed cap, sailor's navy blue jersey, baggy trousers and black boots. His big hands hung at his sides as he squinted up into the morning light, watching the winches haul off the hatch covers and swing the first bales of cargo down to the quay. The vessel carried a load of fresh hay for the horses hauling timber in Newfound-land's forests and the air was sweet with the scent. 'She smells real good,' Dawe called, as I came down the gangway. He was 78 years old, he told me, and he lived just along the shore. He invited me to visit his house while the bay was unloaded.

As we walked along the grit road by the edge of Hare Bay, where the waters glittered beneath a strong sun, Levi began the story of how he helped rescue Dr. Wilfred Grenfell, the famous medical missionary, when the latter was adrift on an ice pan in Hare Bay more than half a century before. It was a part of the story that the history books have missed.
social workers, hospitals, schools, orphanages, public health
services and handicrafts. At one time he even established co-
operatives to help free the fisherfolk from their bondage of
debt to traders. Had he died on that bitter weekend in 1908,
one of these services might even have come to the once
neglected coast.

As we reached the white picket fence surrounding Levi Dawe's
house and gardens, he mentioned a telescope, the gift
to him from Dr. Grenfell for his part in the rescue.

'It doesn't work as well as it used to, although it could be
my eyesight,' Dawe said. Mrs. Dawe offered me a chair in
her neat kitchen, at an eddeshu covered table, and Levi
brought the telescope from the front parlor. It was in its
original leather case. The eyepiece was cracked but you
could still see through it. On the barrel was the inscription:

IN MEMORIAM

April 21, 1938

It was Levi Dawe's keen eyesight and curiosity that sparked
the rescue operations on that weekend long ago. As he
told me about it, the years fell away...

Grenfell was conducting morning service in the chapel at
St. Anthony on the northern tip of the peninsula, that
Sunday morning in 1908, when a messenger arrived by
dog team from 60 miles south. One of the doctor's pa-
tients was dangerously ill with an infected leg and needed
immediate attention.

Grenfell, who was then 43, harnessed his seven Huskies,
took his pet spaniel, Jack, for company and covered 20 miles
before night fell. The next morning he took a short cut out
10 miles of frozen sea. It was a gauntlet. Balmy weather was
heralding the annual ice breakup. Coastal bays were choked
with ice pans (floes) and freezing slob (congealing snow
created as ice pans grind together). Beyond the bays, open
water gaped ominously. But a strong wind from the sea was
holding the broken ice pack tight against shore, and the way
seemed safe. And Grenfell was used to taking risks.

Halfway across the bay the wind dropped, then shifted,
to blow the icepack seaward. Suddenly Grenfell was running
on fragments of ice no larger than 10 feet square. He dragged
off his heavy overalls, shouted at the dogs and made a desper-
ate dash for shore.

It was too late. The sled runners broke through the ice.
Grenfell slashed at the harness to free the dogs, keeping the
leader's thong about his wrist. The Huskies floundered in the
water, treading Grenfell under. After many futile strug-
gles he drove and coaxed them on to an ice raft about 10 feet by 12.

They were soaked and freezing. The rising gus of wind
pierced Grenfell's drenched clothing and thrust the ice pan
further out to sea, where the waves and tossing ice threatened
to shatter it. Grenfell stayed calm; he knew his life depended
on it. He cut his high boots at the ankles and fashioned a
leather windbreak to protect his back. He unpicked a length
of rope and stuffed his footgear with the fibres. Then came
the decision that he would have to make for the rest of his life:
he knew he must kill some of his dogs. Moody, Watch, Spy,
Doc, Ben, Jerry, Sue—there were all his friends. Three times
he plunged his knife with a surgeon's precision. Twice he
was bitten. Then, saddened and sore, he set about skinning
the shaggy warm coats from Moody, Watch and Spy.

Nightfall found him 10 miles from shore and drifting furth-
er out to sea. With three dog carcasses for a windbreak and
wrapped in the skins, he huddled for warmth against Doc,
his lead dog. Fortunately, the wind subsided and the tem-
perature stayed at a mild 27 degrees above zero.

In the distance he could glimpse pale light on shore as his
floating shelter rose on the swell. Although he didn't know it,
the lights were in the homes of men waiting to rescue him,
among them, Levi Dawe.

Dawe had spent the day with three other companions
from Ireland's right, eating up frozen fish and meat by the shore.
When day began to fade they turned homeward. Near the
crest of a hill Dawe turned out of habit to scan the sea and
sky for nature's weather forecast. Was there a black dot on
the ice?

'It's only a log,' the others said. At the hilltop Dawe looked
again. The spook moved.

'There's something alive out there,' Dawe insisted. But it
was too late to send out a boat. Back in the village the talk
was all of Grenfell who should by then have passed through.
Someone checked Levi Dawe's sighting with a telescope;
there was, indeed, a moving figure on the ice. Could it be
the doctor?

At dawn there was no shortage of volunteers to man a
boat. Five men formed the crew, among them Levi Dawe.
The mere act of launching in a sea of restless breathing ice
floes required skill and courage. But they got under way,
heaven by winds and chilled by flying spray, hoping against
reason that Grenfell had not perished. When ice blocked
their way they hauled the boat onto the floes, dragged it to
open water and launched it again, always working seaward.

Finally (they lost count of time) they sighted Grenfell.
He had fashioned a crooked pole from the frozen leg of dead
Huskies and was waving his shirt on the end of it. He was a
grotesque figure—snowblind, frostbitten, in a shaggy coat of
bloodstained dog skins. They gave him tea from a bottle and
helped him into the boat.

'Will you have room for the dogs too?' Grenfell asked.

'If there's anything still living on this ice, we'll take it
with us,' said Levi Dawe. So the four remaining Huskies and the
spaniel piled in. The rescuers wept with sheer relief as they
pulled their oars for home.

'Where will we put into?' Dr. Grenfell asked, thinking
about the life he had come to save.

'We don't know where we'll be to doctor, it all depends
where the good God blows us.'

They reached shore and then the doctor cried too. And the
boy he had set out to save now saved, with an albatross.
Later Grenfell erected a tablet to the three dead Huskies...

The rescue tale has often been told but never with Levi
Dawe's name. A recent biographer of Grenfell listed a
George Davis among the crew members. But no such man
was there. The International Grenfell Association corrobor-
ates Dawe's story though and, although history has neglected
him, Dr. Grenfell never forgot his friend.

He offered the five men either a gold watch or a telescope.
Appropriately, Levi Dawe chose a telescope. And before I
left Dawe that day's friends. Three times he unplugged his
knife with a surgeon's precision. Twice he was bitten. Then,
sadened and sore, he set about skinning the glorious warm coats from Moody, Watch and Spy. Nightfall found him 10 miles from shore and drifting further out to sea. With three dog carcasses for a windbreak and wrapped in the skins, he huddled for warmth against Doc, his lead dog. Fortunately, the wind subsided and the temperature stayed at a mild 27 degrees above zero. In the distance he could glimpse pale light on shore as his floating shelter rose on the swell. Although he didn't know it, the lights were in the homes of men waiting to rescue him, among them, Levi Dawe. Dawe had spent the day with three other companions from Ireland's right, eating up frozen fish and meat by the shore. When day began to fade they turned homeward. Near the crest of a hill Dawe turned out of habit to scan the sea and sky for nature's weather forecast. Was there a black dot on the ice? 'It's only a log,' the others said. At the hilltop Dawe looked again. The spook moved. 'There's something alive out there,' Dawe insisted. But it was too late to send out a boat. Back in the village the talk was all of Grenfell who should by then have passed through. Someone checked Levi Dawe's sighting with a telescope; there was, indeed, a moving figure on the ice. Could it be the doctor? At dawn there was no shortage of volunteers to man a boat. Five men formed the crew, among them Levi Dawe. The mere act of launching in a sea of restless breathing ice floes required skill and courage. But they got under way, beaten by winds and chilled by flying spray, hoping against reason that Grenfell had not perished. When ice blocked their way they hauled the boat onto the floes, dragged it to open water and launched it again, always working seaward. Finally (they lost count of time) they sighted Grenfell. He had fashioned a crooked pole from the frozen leg of dead Huskies and was waving his shirt on the end of it. He was a grotesque figure—snowblind, frostbitten, in a shaggy coat of bloodstained dog skins. They gave him tea from a bottle and helped him into the boat. 'Will you have room for the dogs too?' Grenfell asked. 'If there's anything still living on this ice, we'll take it with us,' said Levi Dawe. So the four remaining Huskies and the spaniel piled in. The rescuers wept with sheer relief as they pulled their oars for home. 'Where will we put into?' Dr. Grenfell asked, thinking about the life he had come to save. 'We don't know where we'll be to doctor, it all depends where the good God blows us.' They reached shore and then the doctor cried too. And the boy he had set out to save now saved, with an albatross. Later Grenfell erected a tablet to the three dead Huskies...
Nobody wins, nobody loses, nobody gets killed and everybody learns something

THE WAR GAME

by MERRIY BARND
most invisible from above. The logistics
control center was in a marvellous glass
dome 500 feet in diameter and spire
arched around it a huge oak tree, with the
hanging of canvas net, the circle of opera
center vans a medical
 irreducible.

It was Sunday afternoon. Only the
scent of tobacco and the singing of
insects disturbed the cool laconic air.
Near a clearing, yellow with bleached
grass and wildflowers, men of 2 Med
Company tested radar circuits in a
mobile laboratory van, repaired
an armoured reconnaissance car
and changed the engine of one of the trans
platoon's 2-ton trucks. Lt.
Andrew Gray, the officer commanding
transport platoon, would own
Private Jodoin and the other driver
car over their vehicles. The lieutenant
was scrupulous about such things.
Meanwhile, Col. Walton called a
meeting of his commanders in front of his tent. They tested
the battalion's state of readiness and their expectations of enemy action.

Piper's will test our ability to
rely upon the

The names of 3 Canadian Infantry
Group's many units and those of
its "enemy" units - 2 Canadian In
fantry Brigade group under Lt. Col.
James Quinn, some of its "enemy" units and those of the "enemy" units of the 2 Canadian
Infantry Brigade group under Lt. Col.
James Quinn - were not the names used in the imaginative 80-page script of
Exercice Popoki. To make its war
realistic, the Army places each
action in a military and political con

gagement to make trouble for them.
"Enemy" infantrymen with the blood
pouring in their brains, like snowy
storms in the forest until a signal scut
them off. The Canadians would have to
fight a service battalion bivouac and
capture prisoners. While blinding
pmuffs were being thrown in the early
dawn, T-33 jets of the Fantasia
air force made a low-level strike and
brought back excellent reconnaissance
films. As the days wore on, however, the
Canadians began to pin down the Fantas
t service bases and pounded them
erantically with the field guns of 4
across and the Casson. 20-pounders.
Neither foreign diplomats nor war
commanders kept score of the errors
and achievements of armies in this war.
In a group of temporary buildings at
Petersville, Lt. Col. John Clarkson,
senior controller, and Lt. Col. Donald
Holmes, of the Army Research
Research Establishment, directed a
staff of controllers who measured
the progress of the opposing forces and
controlled the plays. Officers ranked
among the controllers opposing
forces' activities and their controllers' integ
This knowledge of the ca
ability of the men and equipment,
and the nature of the local, enabled the
controllers to calculate probable results
of every move made by either
force. In the control room large-scale maps
indicated the positions of opposing
forces. As radio information came in from the
 umpires, the precise number of
casualties in any engagement were
totalled. In order to expose units to the
wide variety of tactical situations of a
real battle, the plans of both command
ners were frequently modified by the
control room. Every day the commanders
were called in turn to the general's
headquarters to explain and defend their
in
terpretations. As a result, officers

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toon the question of the

The Canadians were pushing hard
against the enemy base camps when
Col. Clarkson gave the cease fire order.
The war was over. All units fell back and
reorganized in pre-arranged areas.

"We've come to see you" were fighting
patrols. You don't need
that many. You can scrub this one off the
Lawfield road because it's not going
to be any use to you—or us. Other

This makes sense, Jimmy," said Col.
Clarkson, "but let's see: you're using
four fighting patrols. You don't need
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