A Town Called Redwater

When oil was discovered in a small Alberta community, many feared their town would lose its character. In fact, it was the beginning of a long period of social and cultural development.

BY WYNNE THOMAS

As one travels north from the Alberta capital of Edmonton, the character of the prairie gradually begins to change, taking on a softer and more human dimension. This is the upper fringe of what geographers have named the aspen parkland, and the grooves of quivering aspen thicken as they prepare to merge imperceptibly with the northern bush. In contrast to the short-grass prairie to the south, with its wide skies and limitless horizons, this is a land of pleasant contours and unexpected vistas.

The region, once the summer calving grounds of the bison, is one of the best farming areas in Canada. The aspen parkland receives more moisture than anywhere else on the prairie and has a higher proportion of humus-rich black soil. It is ideal wheat-growing country — the great wheat-growing areas of Saskatchewan and Manitoba all lie in the aspen prairie belt — but here, around Edmonton, mixed farming is favoured, and many farmers claim that they have never suffered a crop failure. Climate and soil conditions, it seems, have conspired to endow this part of Alberta with an enviable wealth of agricultural resources.

As the Edmonton skyline recedes to the south, one begins to detect indications of a different kind of resource wealth. Here and there the fields become dotted with horsehead pumps (surely among the more pleasing artifacts of an industrial age), rhythmically harvesting a subterranean heritage as valuable as any of the crops that grow on the surface: crude oil.

The oil is older, much older, than the land itself. It had its genesis in the succession of shallow tropical inland seas that periodically inundated the western plains — indeed, much of the continent — in the Devonian period, between 400 and 420 million years ago. Within these warm waters countless trillions of invertebrates and plants lived and died, sinking to the bottom and being covered by sand and silt carried by the rivers that fed the seas. Over time, by chemical processes that are but dimly understood even today, the hydrocarbons in the plankton were converted to crude oil and natural gas, which accumulated in the porous coral reefs that were a feature of the tropical seas. From such exotic beginnings was much of Alberta’s oil industry to develop.

At first glance, agriculture and oil production would seem to make for uneasy bedfellows. In fact, in Alberta it has turned out to be a serendipitous alliance that has sustained a large part of the province’s economy for the past half-century. The reasons are not hard to fathom: farming and producing oil and gas are largely complementary activities, each offering minimum interference to the other. Once drilled, an oil or gas well takes up very little room and the land can still be worked; when brought to the surface, the oil and gas are generally transported by buried pipelines, unseen arteries that do not constrain surface cultivation.

The Town of Redwater, which lies about 60 kilometres northeast of Edmonton, is a fair example of a community where, over the years, agriculture and the oil industry have, not without some initial difficulties and growing pains, learned to coexist to their mutual advantage.

Redwater — named for the distinctive tinge that iron oxide gives to the local groundwater — was settled shortly before the turn of the century; one of dozens of similar communities spawned by the advance of the railroad and the ambitions of land-hungry homesteaders. It was, of course, the fertile farmland that attracted these pioneers, a cultural mosaic of Ukrainians, Poles, English, Scottish and Japanese. Their choice of settlement proved to be a wise one, and by the end of the Second World War agriculture was providing a good living for around 100 inhabitants.

Imperial Oil discovered oil in Redwater in 1948. The company had explored there before without success, but this time it was armed with a vital piece of new information: the existence in western Canada of large oil-bearing subterranean reefs had been established the previous year, when Imperial made its great discovery at Leduc, Alta. This time the explorers scored a bull’s-eye at Redwater; on the evening of August 30, on the farm of Hilton Cook, whose parents had arrived from New Brunswick as homesteaders 53 years earlier, oil flowed for the first time from Imperial’s well No. 1, which had been drilled to a depth of 1000 metres.

Vic Pasemco, who turned up at Redwater at the time, can still recall the occasion. "I remember that day very well — in fact, they were threshing wheat on a neighbouring farm at the time the discovery was made. The oilmen gathered the oil in a collecting pit when it came out of the ground. Then they set fire to it, and there was the biggest cloud of smoke you ever saw. There was an awful lot of excitement, and we thought we’d all be mighty rich."

Not everybody got mighty rich, it turned out, but nearly everyone’s fortunes took a turn for the better. Vic Pasemco, for example, initially kicked himself for having given up his franchise to an Imperial bulk fuel dealership a month before the discovery because business was slow ("It was like losing a winning lottery ticket") but soon got himself a job working
on Imperial's new pipeline gathering system and spent the rest of his career with the company, retiring in 1981. Today his son Randy carries on the family tradition, maintaining oilfield equipment for Imperial at Redwater, and father and son still live at the old family homestead.

Despite initial warnings by Imperial that one well did not make a bonanza, subsequent drilling was quickly to prove that the Redwater discovery was huge. The oil-bearing portion of the reef was one of the largest in Canada (extending some 30 kilometres south of Redwater, with a width varying from three to seven kilometres) and would eventually be found to contain 1.3 billion barrels of oil - three and a half times more than Leduc, and Imperial owned about 60 percent of it. Over time, it was to establish itself as Canada’s most prolific oilfield, producing more than those at Leduc and July Creek (another major Devonian limestone reef located northeast of Edmonton and discovered in 1959) combined.

But prosperity can bring problems, and Redwater was to find the sudden transition from a tranquil agricultural community to an oil boom town a difficult one. Suddenly, a new breed of pioneer descended on Redwater – hundreds of geologists, engineers, roughnecks and toolpushers, who, laden by the smell of oil, flocked to the area from all over the continent.

"It was just like something you see on television," recalls Bernice Prodanuk, a longtime resident. "Redwater changed overnight from being a sleepy horse-and-buggy hamlet to a bustling community of 4,000. There was nowhere for all the new people to live, of course, and farmers were renting out their granaries, barns and sheds and even their chicken coops. I remember there were lots of tents and trailers and even old streetcars shipped in from Edmonton – anything that could provide a roof over people's heads. The speed at which things changed was incredible."

Incredible indeed. When Imperial struck oil, Redwater had a handful of retail stores and no entertainment facilities of any kind. A year later a new hotel was in full swing, restaurants were opening every week (a porterhouse steak cost $1.75), two movie theatres were in operation (1 Shot Jesse James was playing opposite Life With Father), plans were afoot for a new drive-in-dine-in spa, the post office had added 264 new mailboxes, and the business establishments had expanded to include a drugstore, a laundry, a variety store, a specialty shop, a beauty parlour, a dairy, a bakery, a taxi service and a community newspaper.

The hamlet's newfound prosperity attracted many residents of other local communities, to the latter's own economic detriment. In the neighbouring village of Opal, the Catholic church lost a majority of its membership and by dismantling the church and moving it – lock, stock and steeple – to Redwater, much to the displeasure of the stay-at-home faithful.

One difficulty was that there was, at that time, little or no precedent for coping with the problems of a growing boom town. No one, even in government, had any experience in dealing with such situations or any strategies to offer. Local community leaders, however, with the active support of the oil industry, acted swiftly and effectively. Their first move was to seek a greater degree of autonomy. Then a part of the Smoky Lake municipal district, the hamlet of Redwater in 1949 successfully petitioned the government of Alberta to grant it independent village status, and shortly afterwards it officially became the Town of Redwater.

As the initial boom subsided, conditions improved rapidly. With the completion of most of the exploration wells, many of the transient workers moved on. Others who had come liked what they saw and stayed. Within a year or so, Redwater's peak population of 4,400 declined to around 1,200, with most of the oil workers being housed in new accommodations built by Imperial. In the 1950s, Redwater was able to prune and catch its breath.

Many Redwater residents secured permanent employment in the new oilfield, while others worked for the businesses that sprang up to support the growing oil production. One of Hilton Cook's sons, Judd, became the first field operator of the discovery well, and two of his other sons also worked as field operators. Today, one of Judd's sons, George, maintains the family's association with Imperial, working as a field operator, and another of Hilton Cook's grandsons, Dilke, also works for the company as a field operator. Bernice Prodanuk's husband, Nick, who had started out as a farmer, launched his own trucking business and was to spend most of the next 45 years hauling Imperial products between Redwater and Edmonton. Others found permanent work in the burgeoning pipeline industry or in the plant that Imperial built in the town in 1956 to extract sulphur and natural gas from the newly produced crude oil.

Some people fared better than others. Luckiest of all, in financial terms, were the very few farmers who owned the mineral rights to the land on which oil was found and who, therefore, entitled to a share of the oil produced. But since 1905, the mineral rights of the land sold in Alberta have been held by the Crown, and most landowners had to be content with leasing their surface rights to the oil companies or selling them on an outright basis. However, at an average price of around $200 an acre – considerably in excess of the going rate for agricultural land in the area – there were very few complaints and lots of new Deekes on Redwater's 115th streets.

Indeed, a rising tide lifts all boats, and there were very few segments of the local economy that did not benefit in one way or another from the community's newfound prosperity, whether in the form of increased business opportunities, better social services, which were made possible by increased tax revenues, or the growing range of cultural and recreational amenities. Soon Redwater would come to have its own arena, swimming pool and golf course (donated by Imperial).

Slowly, over the years, the first settlers of Redwater and their descendants came to establish a closer rapport with the more recent arrivals. The original alliance of oil and agriculture may have been a marriage of convenience, but, like many such marriages, it developed into a deeper partnership. A few years ago, a group of Redwater residents gave tangible expression to this relationship when they took the rig that had been used by Imperial to drill the Redwater discovery well and erected it in a place of honour at the entrance to the town.

And, for their part, more and more oil people began to regard Redwater as their permanent home. "It's quite surprising the number of
Lucky strike (above) members of the crew that drilled Imperial's successful discovery well at Redwater in 1948.

Double harvest (top right): shortly after oil began flowing from the discovery well in 1948 it was time to start harvesting.

Imperial people who have decided to retire here," says John Lang, himself a longtime Imperial employee who worked throughout the Alberta oil patch before making his retirement home in Redwater. "We could go anywhere we wanted, but, somehow, it seems that a lot of us developed roots here. We have all the facilities we need, and it's a nice place to live."

Today, although the original discovery well is still in operation, Redwater's oil is running out. From a peak daily production of 182,000 barrels in 1975, output from the field has fallen to less than 15,000 barrels a day and continues to decline. Not for that all. Whereas in the early years of production the oil pumped to the surface was virtually free of water, today more than 100 barrels of water are produced for every barrel of oil.

The explanation for this lies in the nature of crude oil and in the unusual geology of the Redwater field. Although oil deposits are often referred to as "pools," the term is misleading one. Oil exists not in pools but as individual drops held in the pores of the reservoir rock. To recover this oil requires energy and much of it is supplied by nature itself. In many oilfields roads, for example, this energy is supplied by an overlying layer of gas, the pressure of which causes the oil to flow to the well bore. But the Redwater field does not have an overlying gas cap.

Instead, pressure is supplied by vast deposit of salt water — known as the Cooking Lake aquifer, it has three or four times the salinity of sea water — that lies under the oil-bearing limestone rock. It is this water that is currently causing a headache for petroleum engineers. As the quantity of the oil in the reservoir decreases, the water moves in to permeate the porous rock and gets pumped in ever increasing amounts to the surface, where it has to be separated from the oil and cleaned before being reinjected into the reservoir. It is a time-consuming and costly procedure.

It is estimated that 64 percent of the original oil in place in the Redwater field will be recovered by conventional production methods (to date more than 60 percent has already been recovered). Judged by normal standards, this is a very high percentage of recoverable oil around double the average figure — but it would still leave about 473 million barrels of oil in the ground. Imperial's engineers have spent about five years experimenting with techniques to squeeze some of this remaining oil out of the Redwater field, but, with current international oil prices, it remains a formidable challenge.

Basically, it boils down to a question of simple economics. Jim Hawkins, who as area manager of Imperial's decentralized production operations lives in Redwater, explains it this way. "Simply put, our task is to ensure, in the interests of our shareholders, our employees and the local community, that we maintain as big a margin as possible between what it costs to produce the oil and what it can be sold for.

"There is nothing we can do about the price of oil, so we have been concentrating our efforts on reducing our production costs. It's difficult but we have had good success. I'm particularly proud of the work we've done to reduce our electricity costs, which amount to nearly half of our operating budget. Every week our people come up with some innovative idea or other that pays off costs."

Few people take a closer interest in the oil business in Redwater than Brian Brigiden, a local school principal who is serving his second term as the town's mayor. At the same time he brings a wider perspective to his job. "Oil remains important to Redwater," says Brigiden, "but we're still an agricultural community. More important, we've developed a good community mix."

"And we've all learned to live together. Frankly, I've seen a change in Imperial's philosophy since I came here 12 years ago. The company has always been a very generous benefactor to the community, but today — and this goes for other companies as well — I sense a deeper commitment. We work very closely, together on a whole range of local projects. For example, our council and Imperial recently set up three joint workshops to examine community issues, and many Imperial people have served on the town council."

While Brigiden is entering in his quest to bring new industry to the town (the previous day he had presided at a sod-turning ceremony for a new waste management plant), he is equally concerned with controlling growth. "Redwater's population today is 2,200, and, personally, I wouldn't like to see it go beyond 5,000. Something happens to a community when it gets much bigger than that. And we benefit from diversity. Oil put Redwater on the map, but we're not going to be another one-industry town and that's good for everybody."

Today, Redwater, as Brigiden points out, is not solely dependent on "big oil." And yet it will be a sad day when, perhaps within the next decade, it ceases to be economical to continue to produce oil from the Redwater field, when the last barrel of salt water yields its minuscule amount of oil and when the Redwater No. 1 well, which alone has produced 1.5 million barrels of crude since 1948, is turned off for the last time.

For the truth is that Redwater's involvement with the petroleum business has long transcended pure economics. Oil has become part of the town's history and culture and is the source of much of its civic pride. "When they first discovered oil here," remarked a long-time resident, "I thought it was the end of Redwater. In fact, it turned out to be the beginning." That wasn't true, of course, but it was a graceful and unexpected compliment to a sometimes malign industry.

Alberta is a long way from running out of hydrocarbon energy. Its substantial reserves of natural gas hold the promise of a bright future, and in the northeast corner of the province, the Athabasca oil sands contain more crude oil than the whole of the Middle East.

But we, undoubtedly, witnessed the end of an era when a new oil discovery was signalled by a good of burning oil in a farmer's field, when the whole neighbourhood took a day off to come and watch; and when, as Vic Powenro recalls, "you were never hot at night because you could find your way home by the light of the burning oil flames."

Today, we are much more environmentally conscious. Imperial, in fact, devotes a considerable amount of time and effort to ensuring that its operations are environmentally sound — earlier this year it was awarded the Alberta Chamber of Resources Ammonite Award for its site rehabilitation work in the Redwater area.

But many residents recall with nostalgia those exciting days when oil threat an unknown Alberta lump into national prominence.
Oliver Jones
and All That Jazz
A quiet Canadian has become one of
the world's most respected jazz pianists
BY KEN WAXMAN

Shortly before his 46th birthday, in 1980, during the last engagement he played with Kenny Hamilton, the Puerto Rican-based pop singer he had toured with for the previous 19 years, pianist Oliver Jones awoke from a preshow nap to find he couldn't see with his right eye. He had a detached retina. A few weeks later, following three operations at Montreal's Royal Victoria Hospital, he had to come to terms with the fact that he would be permanently blind in one eye.

An affable, open but very cautious man, Jones had stayed so long with Hamilton largely because of the financial security the steady work provided, something that Jones felt was important for his family. By 1980, however, motivated partly by the fact that his wife, Monique, and son, Richard, had left Puerto Rico to live permanently in the family's Montreal home and partly by a dislike of the loud, repetitious pop music he was increasingly forced to play, Jones gave his notice and returned home.

Modest about his abilities, he thought he'd make his living in Montreal doing commercial work and as an accompanist. Little did Jones know that a combination of lucky breaks, hard work and sheer talent would launch him on a second, more spectacular musical career. Today, with the possible towing exception of Oscar Peterson, there's probably no other Canadian jazz musician who is as universally recognized - and praised - in Canada and abroad.

At about the time Jones was recuperating from his operations, bassist Charlie Biddle suddenly needed someone to fill the piano bench in his group. A friend recommended Jones, who thought he might as well enjoy himself playing jazz until something more lucrative came along. Growing up in the working-class district of St. Henri under the influence of his neighbour Oscar Peterson, Jones had developed a local reputation as a jazz pianist in the 1950s. But, despite urgings from friends, he had never played jazz professionally. Compared with an improviser like Peterson, Jones asked himself, how good could he be? And besides, how could he support his family as a jazzman? Very good and quite well were the answers to those questions.

Within a year Jones had decided to dedicate himself entirely to jazz. Almost immediately he garnered rave reviews as a featured performer with Biddle and, equally important, was making a respectable living. Four years later he left Biddle's group to strike out on his own, sometimes playing solo and sometimes with groups he would put together.

In recent years, Jones's annual schedule has included approximately 130 concerts and a few selected week-long nightclub engagements worldwide. He has been featured at most major international jazz festivals and frequently makes guest appearances with symphony orchestras as part of their "pops" series. His recordings have won Jones and Felix awards (given by the Canadian and Quebec music industries respectively), and he has been the subject of a clutch of television documentaries. Recently the 59-year-old Jones was awarded an honorary doctorate of music from Laurentian University in Sudbury, Ont., where he conducts piano master classes about four times a year, and this year was appointed an officer of the Order of Canada.

Jones's ascendency has paralleled the explosive growth in jazz appreciation during the last decade. People are increasingly turning to jazz, and today there is no major Canadian city that doesn't have a jazz festival (Jones has played every one of them). Partial sight loss hasn't slowed him down either: Jones drives his car during daylight hours, and he has no trouble reading elaborate scores.

Sitting in the bright, comfortable kitchen of his modestly furnished bungalow in a middle-class area of Montreal, Jones says reflectively, "I've been very, very fortunate." His home contains few signs that a master musician inhabits this picture of suburban normality.

One is the grand piano that dominates the basement family room, dwarfing an ironing board-sized electric keyboard that he uses to compose music. On a shelf is a collection of portable stereo Jones takes on the road, while compact discs, cassette tapes and records are filed neatly nearby. A small fax machine wedged into one corner of his basement office keeps him in touch with his manager in Kingston, Ont.

Jones is, as he says, very fortunate, but his success is by no means solely a matter of luck. He is a phenomenally talented musician. As Geoff Chapman wrote in The Toronto Star last year, "The seemingly impossible challenges he sets himself are met with robust grace, clean lines, great technique, inventiveness and, above all, warm execution."

John Norris, publisher of Oda, the authoritative Canadian jazz magazine, says Jones's success is largely derived from his "being a very exciting, dynamic performer who knows how to communicate with a large audience. After all those years in show business he presents his music in such a way that draws people into it. That's important because jazz has traditionally been most successful when musicians care about their audience."

Born with perfect pitch, Jones attached himself to the household piano as a toddler, picked out his first song at three and at five gave his first public performance (at Montreal's Union United Church).

Work was plentiful during the war years, and by the time he was a teenager Jones was a professional, playing to enthusiastic crowds on engagements that took him throughout Quebec and the northeastern United States. Blindfolded, he would play tunes like "The Sabre Dance" from underneath the piano or...
I never considered a jazz career. It was just something you played before you went off to your jobs to play pop.

In the 1940s and 1950s St. Henri was a poltroon clergyman. As a career modestly yet relentlessly plugging themselves on television talk shows, Jones's genuine humility may appear to be a pose. It isn't. In his unpretentious vocation, which he regards as a part of him as is the small moustache he sported since he was a teenager.

He's always polite and unassuming, and he still has the same basic values. He's never changed an iota.

In a way, Jones's very Canadianess has contributed to his success. He has been able to do so much in jazz, precisely because he's not part of the American mainstream. Listening to any of his performances is like taking a tutorial in the history of jazz - he mixes themes from different styles and eras to carefully construct his solos.

I feed off how the audience reacts, and when I don't play clubs I miss that close relationship," he comments, shifting his bulk on the kitchen chair. "It's a challenge to create an atmosphere in a concert hall. It's pretty cold up there, and you feel a sense of accomplishment when you can get thousands of people listening to you. There has to be something in your playing that reaches out to them."

He recalls one time at a French jazz festival when at 2:30 a.m. he went out to play solo immediately after Fats Domino and his band had rocked the stage for a solid hour.

"Instead of trying to overpower or reach that volume, I just started to softly play all of my eyes were shut when I started and soon it was so loud I figured most of the audience had left. But when I opened my eyes and looked around there were 1,020 people sitting as quiet as could be."
The Magic of Science

A Canadian Nobel Prize winner offers some challenging views on how scientists make discoveries

By JOHN POLANYI

If we could see the world as scientists see it, it would be a profoundly different place. The way that scientists perceive the world is profoundly different from the way that we, as laypeople, perceive it. Scientists are able to see the world in a much more detailed and nuanced way than we are. They are able to see the world in a way that allows them to make sense of it in a way that we are not able to.

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Before I set aside this important question of the geography of the continent of science, let me say that I am not arguing for a wholesale diversion of science down byways. That, too, would be folly, since most byways lead nowhere. In science there are no such simple guidelines. I do suggest that we should recognize the vital role that the freedom to roam plays in maintaining the vitality of science.

When I say "to roam," I do not mean to roam at will, but with purpose. The difference is evident to the trained observer as it may be to the layperson in what I am about to describe.

While counting our blessings, we Canadians should rejoice in the fact that we share this continent with the boldest and best scientists alive. If we want to encourage these people to venture north of the border and we surely should then we must take note of the conditions that make possible scientific achievement. I shall not dwell on the obvious, which has to do with the physical resources at one's command. A less obvious one is equally important. It is necessary to belong to a community that encourages daring and does not begrudge the individual the freedom to dare.

In considering the birth of this new field we encounter a heterodox group of mathematicians, physicists, chemists and biologists. For it is the unorthodox who, by definition, will be the ones to surprise us. And discoveries of note, also by definition, are surprising. The fact that these people think as their subject matter the incompletely stammerings of nature, which others had rejected as meaningless, should occasion no surprise. Until they are deciphered, the jottings of the Creator are invariably gibberish, and the spectacle of grown individuals poring over them has through the ages been a subject for ridicule; in our own century it has become additionally a focus of indignation. "Why, with so many vital problems crying out for solution, should we tolerate these meanderings down the byways of science?" is asked.

Charles II of England, who more than three centuries ago was among the first rulers to sponsor science, was also prominent among those who mocked it. When he heard that the Royal Society of London was studying vacuous, he asked caustically why these gentlemen should be encouraged to waste their time, quite literally, on nothing. It seemed axiomatic to him that so long as one did not understand vessels that were full, one should not devote time to studying those that were empty.

But he was wrong. The answer to those who attempt to block the progress of science down what appears to their untutored eyes to be byways is that no explorer in history has ever discovered a new land that was already served by a highway.

I have arbitrarily chosen to begin this story, taken from the history of contemporary science, in 1962, when Benoît Mandelbrot, a mathematician at IBM's fundamental research laboratory in New York State, chanced upon some interesting data concerning fluctuations in the price of cotton over time. (A highly readable account of these events is to be found in James Gleick's book Chaos, published in 1978.) Stories in science have, in truth, no clear starting point, since a need of new ideas are everywhere. They frequently
The growth of science must be organic. Those who suppose otherwise end by despoiling the intellectual environment.

Shapes that exhibit this feature of self-replication Mandelbrot called "fractals"; break them up and you are left with smaller replicas of the original. This is quite by design in the way in which they are generated. The analogy with the propagation of plant life is appropriate. The growth of science must be organic. Those who suppose otherwise end by despoiling the intellectual environment.

Benoit Mandelbrot first glimpsed the pattern of fluctuating cotton prices by chance on his blackboard in the office of Henri Mandel, a professor of economics at Harvard University. But not entirely by chance. Houthakker had, after all, invited Mandelbrot, a mathematician, to give a seminar. And, again, it was not by chance that Mandelbrot paid more attention to the intricate curve of cotton prices than to other items in Houthakker's office. Mandelbrot's mind had been prepared by his studies of recurrent complex patterns; he also held the conviction that the time was ripe for a broad new synthesis and an equal consensus among the economists. So Benoit Mandelbrot was the man for the job.

The field in which he was destined to play a major role is by no means so broad as this might imply. But Mandelbrot happened to lock on to other items in Houthakker's office—an early map of Cambridge, perhaps, a coat rack or a potted plant—he could also have considered applying his theories to any one of them. Wisely, however, he chose the fluctuation of cotton prices noted on the blackboard. Though random to the majority of observers, they conveyed hints of a message to Mandelbrot.

In the conventional analysis of random fluctuations, small changes are unconnected with large ones. Chaos reigns. But Mandelbrot and a group of pioneers, some of whom I have just referred to, had developed the ability to recognize a new type of order in which large, complicated fluctuations precisely mimicked the shape of small, equally complex ones.

The "operation" of complex patterns on ever smaller scales is now thought to be a property of a multitude of nature's most irregular, such as the shape of a fern. The doublure of a new goes in the reverse direction, starting with the elemental shape and then elaborating it through endless repetition. But the shape of the fern is the same whether you read it from large to small or small to large.

The beautiful fern like shape that accompanies this article was generated by a computer following a simple prescription for doodling. The prescription was obtained from the fact that it was traced by endless repetition of a simple form, a fractal— if you break off a piece it will, on a small scale, resemble the whole. The resemblance to a fern is further increased when one is left wondering whether the seed of a fern encodes the generic instructions for forming its fronds in the same manner as does this fractal. We do not know. Surely nature must put a premium on compact codes, and it is unlikely that one will find a more compact rendition of the shape of a leaf than that to be found in this simple set of instructions.

This new field of mathematics is tantalizing, not merely because fractals constitute an entrancing mathematical toy but because they may address profound questions concerning the structure of our world. The most sweeping name for the new field is "chaos theory," an apt name since the field hinges on the discovery that simple mathematical procedures can have vastly intricate and at times chaotic outcomes, or, conversely, that seemingly chaotic behavior can have an underlying order. Joseph Ford of Georgia Institute of Technology, a 15-year veteran of this young field of research, has claimed (in a 1989 issue of the scientific magazine Science) that this new math constitutes "the beginning of a major revolution. The whole way we see nature will be changed." His belief (and he is one of a number who share this view) is that the vast range of natural phenomena that we have virtually ignored in the past, phenomena that neither are smooth and evolve smoothly with the passage of time, will become amenable to systematic study. It is interesting to notice how this shift in attention on the part of a substantial segment of the scientific community has occurred concurrently with a major change in aesthetics and architecture in society at large. It is our ability to picture and therefore to think.

Our much vaunted intuition, which seems at times to guide our thinking in an almost unconscious manner, is also recognizing from among the confused jumble of sensations those data that fall into patterns that we have come to recognize as patterns. The doublure of a new goes in the reverse direction, starting with the elemental shape and then elaborating it through endless repetition. But the shape of the fern is the same whether you read it from large to small or small to large.

Order in chaos: this fern shape, produced by Dr. Michael Barnsley, was generated from a random signal by a computer, following a set of simple mathematical rules.
Return of the Bison

A major Alberta land reclamation scheme sees the return of the wood bison to one of its former haunts

BY TED BOWER

IT WAS SPLENDID EVOCATIVE theatre. A group of people — representatives of the Cree and Chipewyan peoples, governments, business and media — were gathered on the porch of a massive log house on a northern Alberta hillside for a unique ceremony.

The proceedings were led by Peter Wakahbah, a Cree spiritual elder. In a prayer of thanksgiving, he lit a bundle of sweet grass and delicately wrapped the smoke around his shoulders, as though arranging a scarf. Against the distant horizon a herd of wood bison stood motionless and watchful. As the wind suddenly shifted, catching the smoke, the herd stirred and slowly advanced across the intervening grassland. Closer and closer the bison came until, at some imperceptible signal, they halted and stared at the gathered people. The people stared back, transfixed by the sight and caught by the spirituality of the moment.

It was an extraordinary climax to a ceremony held to celebrate the reintroduction of the wood bison — an endangered species and the largest land mammal native to North America — to this region of Alberta (at Mildred Lake near Fort McMurray), on land now leased by Syncrude Canada Ltd., a company that produces crude oil from the province’s oil sands.

For the native people who attended the ceremony the occasion was of both symbolic and economic significance. In aboriginal legends the bison is equated with spiritual strength, and its return to the region was a cause for rejoicing.

“The power of spirituality was in our presence,” said Phillip Mercereau, a Dene Métis and a Syncrude employee.

In economic terms it is as yet too early to predict what forms the future will take. Some speakers at the ceremony saw the new arrivals as the precursors of a free-ranging herd that would give new expression to an ancient heritage.

Others saw the project in terms of a replacement programme for dwindling wood bison herds elsewhere. And still others saw it as offering new opportunities for tourism in the Fort McMurray region. But everyone at the ceremony was in agreement that whatever the herd’s ultimate future, it will have to be consonant with the preferences of the local community. Indeed, members of the Fort McMurray First Nation at nearby Fort McMurray (the name of the town is in fact spelled differently from that of the First Nation) will be responsible for managing the new herd. As Syncrude president Eric Newell remarked at the ceremony, “It seems particularly fitting that in 1990, the year the United Nations has designated the Year of Indigenous People, we should be embarking on a project to preserve an animal species so closely linked with the native people.”
The outdoor ceremony was followed by the official inauguration of the log structure known as the lodge. The honey-coloured lodge resembles a ranch house from the pages of Syncrude from Fort MacKay. In addition to working in the oil industry, many First Nation members hunt, trap, fish and help to manage their lands. As a result, the lodge also forms an integral part of the wildlife story.

Jim Carter, vice-president of operations for Syncrude, sees the entire ranch as a powerful symbol of sustainable land reclaimed: “No one who sees this—the grasslands, the buildings, the grazing bison—can ever look at this industrial site quite in the same way again,” he says. Indeed, the view offers an extraordinary expression of sustainable development in the foreground, since the focus of the ranch’s largest open-pit mining operation, spreads a sea of green pastures and stretches as far as the eye can see. The vast expanse of bison grassland and pasture is indeed reminiscent of the vast grasslands of Syncrude’s surface mining operations. The raising of bison did not figure in Syncrude’s original plans for reclaiming land that had been mined to an acceptable environmental standard, although, understandably, reclamation has always been high on their agenda.

The company, which is 25 per cent owned by Imperial Oil, produces almost 200,000 barrels of crude oil a day from the oil sands, representing 12 per cent of Canada’s total oil production. It is a process that lives in the rearview mirror of most Albertans, a process that has long been considered a symbol of the heritage of the province.

Bison are the subject of dispute and worse. Explorers confused them with the buffalo of the Old World.

Yet more than robust genes were carried north. The Waterton bison herd was known to be infected with bovine tuberculosis and possibly with brucellosis, a debilitating disease of the reproductive system. The new-comes probably spread both infections, although no one can be certain the diseases weren’t already endemic in the park.

Bison in wilderness areas are notoriously difficult to count, but there is no doubt the hybrid population grew at a remarkable rate, reaching perhaps 1,200 animals in 1996. Then a profound decline set in, the reason for which is not entirely understood but attributed to a host of problems, including determination of winter grazing meadows, disease and drought. Perhaps 2,500 to 3,000 hybrid animals are now surviving at Watford Buffalo National Park.

At times, “pure” bison have been thought to become extinct.

At times wood bison have been thought to have become extinct. But in 1957 federal wildlife officers discovered a pocket of 200 of them in a remote corner of the park. Eighteen were successfully relocated to run wild in what became the Mackenzie Bison Sanctuary on the west side of Great Slave Lake. There, they have grown to 2,000 head, the largest wood bison herd in the world. It represents the first time a bison population comes from their hybrid cousins in and around Wood Buffalo National Park, 80 kilometres to the southeast. Since bison like to wander and their official sanctuaries have no fences, the history of interbreeding and disease transmission could be repeated. A further 21 salvaged animals were transplanted to a fenced sanctuary at Elk Island National Park on the plains east of Edmonton. Safeguarded and pampered in a semi-wild setting, the Elk Island herd currently counts about 250 animals. Their offspring have founded several herds in public and private holdings in Alberta, Manitoba and the Yukon and in several zoos abroad. Like any animal that can trace its ancestry back to a pool of just a few dozen individuals, the bison at the Elk Island and Wood Buffalo national parks are extraordinarily interbred. Their genetic
pool, says Theresa Anisowicz, director for biodiversity conservation with the Canadian Nature Federation in Ottawa, is exceptional- ly narrow, which has serious long-term impli-
cations, including susceptibility to other widespread disease.

Meanwhile, the beef industry has been keep-
ing a watchful eye on the reservoirs of disease in the Northwest Territories. If bovine tubercu-
losis and brucellosis should spread to southern
ern cattle herds, multimillion-dollar beef mar-
kets could be imperiled. "When?" asked the head of a hardy pasture of grass.

When a blue-ribbon grass study commit-
tee weighed the issue in the eighties, it reached the draconian conclusion that the
hybrids in Wood Buffalo National Park
should be exterminated at an estimated cost of
around $20 million.

As Ron Paul says, the "ad-
vice was not well re-
ceived." Some critics
questioned whether total mass slaughter in a wilderness area was physically possible.

Some opponents, led by the largest, most diverse
wood bison gene pool in the world, op-
claimed the gravity of the diseases and the risk of their spreading were exaggerated. Aborigi-
nal people said the hybrids were important food for them; reciting past disasters in bison
management, they warned against further med-
dling. Eventually, the recommendation for "depopulation" was set aside and a search
was made for a course of action described by Paul as "more acceptable to more people."

Out of that search has emerged the conclu-
sion that since bison numbers in Wood Buffa-
lo National Park are indeed declining, it is
prudent to build replacement herds else-
where. Replacement herds, according to this
school of thought, should be disease-free, pure wood bison, managed by nearby aborigi-
nal communities.

All this fitted nicely with the Fort McKay
First Nation's interest in the project. "The western red
gold rearing wood bison on some of Syncrude's
reclaimed lands!" its leaders asked. This idea appealed to important allies, notably the influ-
cential Wood Bison Research Foundation, a broadly representative, intergovernmental effort including both federal and provincial
wildlife and environmental groups. Wood
bison, said authorities, could be supplied free
of charge from Elk Island National Park - they'd just like an equivalent number re-
turned someday. (Alberta law says that, as an ex-
er mining reserve, wood bison cannot be bought or sold but they can be given away.)

And Elk Island National Park authorities, with an
excellent global reputation in game man-
agement, were willing to share their expertise.

Syncrude's environmental research arm had
already verified that grasses would flourish on
reclaimed land. Last summer, a mixture of
17 species of grasses at the site was almost waist-high. In a seeded composed of
reclaimed soil mixed with peat plus a dash of
fertilizer. Just as most things at Syncrude are giant-sized, so are the grasslands. They
occupy a vast "toe-beam," a dyke reinforce-
ment built of tailings sand. The effect is of
flat land stretching away from a towering
dyke for nearly as far as the eye can see. (The
dyke encloses a huge tailings settling basin.)

Bison habitat also needs game fencing - tall,
sturdy and made of woven wire. The contract
went to Fort McKay Environmental Services Ltd., a community-owned company.

It was an excellent opportunity to learn about game ranching. Fencing was
purchased by Dennis Mason, who, as general manager of Fort
McKay Group of Companies, foresees a mar-
ket for fencing specially designed for bison. Thus for 35 hectares have been fenced and divided into five
pastures, which are connected with a fenced
fenceline. Corrals, where the bison are received and given veterinary care, have been
assembled. Another 45 hectares have been
seeded, and a further 100 hectares are nearly
ready for seeding; more land is planned to be
seeded this year and in the future. In the future, allotting for fencing, corrals, road construction and miscellaneous equipment and $40,000 for
operating costs - items such as salaries, main-
tenance and veterinary services.

There's a bison arriving at their new home in
a 10-wheel cattle truck in early
January 1993. They'd left Elk Island, about 500
paved kilometres to the south, five and a half
hours earlier. They were in no hurry to leave
damage behind. The western red
cold and darkness descended before the last of the
newcomers warily set foot in their new quarters.
Half were female, half male. Fourteen
months later, by the time the fences were opened
for the first time, the rest were running calories. Jack "Toothy"
Peden, supervisor of the wood bison facility, says they gingerly sampled the fare laid out
for them - baled hay and tanks of water warmed
by propane heaters - and soon settled down.

Peden runs a cattle operation of his own and
scans the bison herd with an expert affection-
est. "I just can't see why they wouldn't like this
project," he confesses. "How many companies
could bring back an endangered species to its
natural habitat? Even when they could, how many would do it?"

His enthusiasm is shared by a large number of
Syncrude employees (there are about 4,100
of them), many of whom regard the bison as a corporate icon. "We are a member of Frank Sprague Centre on the Syncrude lease,
hold are you a receptionist, Holly
Caven, a wonderfully helpful person who insists on showing her "baby picture." They are of the calves born to the bison herd last
spring. Eventually, there were five of them. "Aren't they lovely?" she asks.

Officially, the herd is domiciled at the
"bison project facility," but a sign on the road
leading to the facility, not far from the lodge on the hill, reads "Bison Ranch." Torchy
Peden grins; he likes those words. But he's
quick to acknowledge that not everyone shares
his enthusiasm; there's a school of thought in the Northwest Territories aboriginal community that sided by some at Fort MacKay, that bison ought to be free-ranger, not captive.

Some-thing new, for which catches his attention. Some
were seen on every fence post stretching away from
the ranch gate is a newly erected birdhouse.
He shrugs. "I guess this is a research project for reintro-
ducing all kinds of wildlife."

"Just a minute," quips Raymond Ratraft, the
ranch hand whose duties include counting the
bison every day. "Don't expect me to count the
birds here," he says. "The average is 5,212.
Ratraft is one of the Fort McKay Group of Companies, which holds the five-year
contract for daily care of the herd. He was hired as "herdsman," but around the Syncrude
operation he's known as "the buffalo man."
He dreams of a herd of 400 within five years.

Every morning Ratraft comes in from Fort McKay in a 12-wheel dump truck, picks up a
truck and heads out to the ranch. His job is to see that the bison are healthy, content and safe. He checks fences for
bison, makes sure all is well and accounted for, keeps water tanks filled, replaces salt blocks and is respon-
sible for general maintenance. In winter, baled
hay must be delivered. He says bison in dislike
are rather hard to control - and that's why they
love to be with the horses and will attack or run when they see one. "But," he says, "they come up to the
truck and smile around." At the same time, captions Ratraft, bison are
not domestic pets. "You never get out and walk among them. If you turn your back, they'll be
after you." If something new is installed, per-
haps a recording device, "they have to check it
and, if possible, chew on it or knock it over."

That is what happened to saplings planted in
expectation of shade-dappled pastures. To the
bison palate, whole trees are delicious. Newly
planted saplings are now shielded by electric
fences. Ratraft recalls the day when the herd
was coaxed into a new pasture where the grass
was waist-high. "They were so excited they
grew wild. They went around and around. We
were afraid they'd stampede through the fen-
ces." Knowledgeable in the ways of livestock, Peden drove into the pasture with the familiar
red truck. In moments, the ministrapende evapor-
ated; pastoral calm prevailed.

A watchful eye is maintained for marauding
predators. Wolves, especially prey on bison calves. However, disease-free bison from the
north probably constitute the biggest risk.

They've been seen only up to 40 kilometres from Fort MacKay, and it's conceiv-
able they could be attracted to the captive
herd. Since tuberculosis can be spread through coughing, infection could be trans-
muted through a wire-mesh fence.

The contingency plan, says herdsmen Rat-
raft, is to further isolate the ranch by encir-
cling it with a four-foot fence. He is no stranger to wandering bison. His family roots are in
the forested Fort Chipewyan area, north of
Mcmurray. Free-ranger bison, wandering in
from Wood Buffalo National Park, were a
common sight there. His grandparents hunted
them for food, and he still remembers the
taste of dried bison meat.

Ratraft tells of going to school at Fort Chipewyan to grade 9 and of working at a
variety of jobs in the oil sands. "I especially enjoyed herding bison," he says. "I like the job so much. I have to understand
animals, as my grandparents did in the bush. And I must understand the science that's all around me here and which is bringing this bison pack. We're working the past for the future, and I'm sure that instead of a mine, there will be a bison herd here for my grand-
children."

A watchful eye is maintained for marauding
predators. Wolves, especially prey on bison calves.
The Write Stuff

Thanks to electronic tutoring from some of Canada’s best-known professional writers, many students are discovering a talent for poetry, prose and drama

By Shona McKay

As a Grade 10 student in Vernon, B.C., about the last thing that Delacey Tedesco contemplated was a career in creative writing. She was, as her mother put it, “into ballet and the other things that girls do” but had never tried her hand at writing.

Then, at the urging of her teachers, 16-year-old Delacey signed up for a unique and innovative programme known as Writers in Electronic Residence (WIER) and discovered a latent talent and an all-consuming enthusiasm for poetry.

Now 19 years old and a first-year English student at the University of Victoria, Tedesco is planning a career in creative writing and credits WIER with helping her find her creative niche: “If it hadn’t been for WIER it’s unlikely I would have chosen this kind of career. I got hooked immediately, and I’ve been writing ever since.”

An initiative that owes its existence to the marvels of modern telecommunications, WIER involves electronically linking students at participating elementary and secondary schools with some of Canada’s foremost authors and poets.

Each year between January and June, students across the nation submit their work – poetry, drama and fiction – to the WIER network. They read and comment on one another’s work and receive comments from the professional writers involved in the programme. Sometimes participation in WIER is an extracurricular exercise; sometimes it is part of the formal curriculum. For their part, the professional writers involved normally sign on to the network for about six hours a week from their home or office computers.

The inspiration of Trevor Owen, a Toronto high school teacher who sought a way to “bring the world of the English classroom and computer technology together for the benefit of kids across the country,” WIER has achieved remarkable success in its six-year history.

Initially involving only one school (Riverdale Collegiate in Toronto) and one writer (B.C. poet Lionel Kearns), WIER linked more than 70 schools last year with 11 writers.

The programme’s growth is a testament to the dedication and persistence of its organizers. Owen, who is currently secondment to York University’s faculty of education, which operates the network, devotes a considerable amount of time to ensuring the smooth operation of his creation. Meanwhile, Katherine Govier, whose novel Hurri of Flame won the 1992 City of Toronto Book Award, has worked tirelessly over the past five years to ensure that WIER would become a financially stable national programme. Former chair of the Writers’ Development Trust, an organization with a mandate to support and promote Canadian literature, Govier brought WIER under the trust’s arm in 1990.

Thanks largely to Govier’s efforts, WIER now has a measure of financial stability. Last year, TransCanada PipeLines became a major corporate sponsor of the programme, with a commitment to provide $250,000 over the next five years. This support, along with additional funds from other corporate and government donors as well as fees received from member schools (ranging from $750 to $1,200 annually), is primarily used to pay participating writers.

So successful has WIER become that its major problem today is coping with its own growth. “Until recently there were twice as many schools on the waiting list as there were participating in the programme,” says Owen. “As well, we’re finding that there are so many prolific young writers that we are having to devise ways to cut down on the amount of work students submit. If we don’t, our writers won’t have time for their own work.”

Throughout its evolution, WIER has aspired to a number of goals. It aims to heighten awareness of Canadian books and authors and to provide financial support to Canadian writers. Most important, it strives to develop the abilities of young Canadians.

Without question, WIER has proven itself to be a winner on all these fronts. The Canadian authors who participate in the programme are unanimous in their praise for it. “I get tremendous satisfaction from my involvement,” says Emily Hearn, a Toronto-based author of children’s books and magazine writer who works with students from kindergarten to
grade 6. "A wonderful sense of trust develops between the children who write and the professional writers, and that's very fulfilling." Their success, in the words of the WIER mentor, offers another reason for the program's popularity among authors. "WIER cuts through the loneliness of being a writer. It allows you to communicate with other people who are also interested in writing." Writers also appreciate WIER's ability to speak the metaphor that Canadian literature is alive and well. "The program puts all these young writers in touch with real writers living in Canada," says the poet, playwright and WIER contributor Daniel David Moses. "It allows them to see that literature is immediate and part of our culture. Kids begin to understand that a writer doesn't have to be a person who lived in England 150 years ago.

Definitely, WIER's ability to give Canadian literature a higher profile in the country's schools one of the major reasons that Grotier is so enthusiastic about it. "You don't have to be a writer for long in this country to know that there are real systemic barriers to getting your work to a visibly large audience," she says. In spite of intense lobbying by Canadian authors, she claims, the vast majority of the country's schools continue to give more prominence to books by authors like Dickens, Dickens and Jane Austen than to those by Stephen Leacock or Margaret Atwood. "Because WIER allows authors to communicate directly with students and teachers," she says, "it helps us, to some extent, overcome the barriers.

Teachers, too, applaud WIER's role in spreading the word of Canada's rich literary culture. "The program has made Canadian literature real for our students," says John McIlwain, an English teacher at Owen Sound Collegiate and Vocational Institute in Owen Sound, Ont. "Because of the program, many of our kids are choosing to complete an independent student study on a specific author or author. More students are taking books by Canadian writers out of the library. It's great to see."

Carole Morton, a 6th teacher at Gordon Creek Elementary School in Fredericton, N.B., says that WIER has inspired students to find out more about books written by Canadians. "Students are very interested about communicating with authors like Emily Hearn or Kevin Major," she says. "The experience leads them to start reading the writers' works." As well, says Grotier, it teaches them the creative aspects of writing. "Too often writers concentrate on the grammar or spelling," says Goodliffe. "The WIER writers, on the other hand, are more apt to focus on the spirit of a child's own work. What kind of a picture do kids draw of writing isn't just about commas and periods, it's about imagination and excitement.

Nine-year-olds and their parents who apply for WIER for helping students to evaluate work and express their views clearly and thoughtfully, says Katherine Givier: "WIER is a more civilised format than a creative writing class. WIER, students have to write down and transmit their responses. The extra effort and time required to do that causes people to be more reflective - their responses are more thoughtful." According to participating teachers, one of the more unexpected attributions of WIER is its ability to promote self-esteem among participants. That's an outcome that Barbara Stevenson, a teacher at Calgary's Viscount Bennett Centre, a school for adult education, can attest to. "The average age of our students is 27, and it's no secret that many of them have had a rough time in life," she says. "Too often, they have been told that they do not have the skills to be successful. But WIER gives them a new message. It tells them that there are people who really are interested in their ideas and thoughts. The programme can be tremendously empowering.

Last spring, for example, Vincent Stevens, a 21-year-old Viscount Bennett student, transmitted an excerpt from a play he had written about the anguish and the lives of some gay people in responding to the work, Daniel David Moses praised the young man's writing, calling it powerful, passionate and intelligent. Moses, a Delaware Indian who grew up on a farm in the Six Nations lands near Brantford, Ont., also took the time to reinforce that traditionally native Canadians have responded to homosexuality with fear and revulsion rather than recognition: "The traditions say that two-spirited people of the First Nations are treated very negatively and with lots of abuse. Both men and women and so are able to be intermediaries, not just between men and women but between many of the other divided parts of the world. Spiritual and material, good and bad, earth and sky. That's a powerful position to be in - a shaman who helps to balance the world.

"I grew up in a generation that wrote just made me feel better about my sexuality and about life," recalls Stevens. "It was wonderful to learn that some cultures actually respect individuals who are gay."

Across the country WIER has clearly benefit- ed Canadian students and writers. Along the way, it has occasionally changed a life. In Calgary, for instance, Rosemary Warman credits WIER with her decision to pursue a career in teaching rather than medicine. A graduate of Viscount Bennett who con- tributed to WIER as a student and now serves as the programme's student coordinator, War- man says WIER awakened her to an enchant- ment with words. "When I returned to school after 25 years, it was my intention to become a doctor," says the 42-year-old Warman, who is now a third-year English and education major at the University of Calgary. "But through WIER I discovered that what I most enjoyed was writing and talking about writing with others.

In Toronto, Ritt Chow's encounter with WIER five years ago sowed a seed that continues to grow. Now a pharmacist, Chow, a former student at Riverside Collegiate, has returned to the University of Toronto, where she is studying arts on a full-time basis. "My involvement with WIER led me to begin writing poetry," says the Hong Kong native, who has submitted her work to small poetry magazines. Beyond literature and writing, WIER has a profound benefit: it brings Canadians closer together. "When kids begin to communicate with their peers elsewhere in the country," says Trevor Owen, a professor at the University of Toronto. "It makes me feel I'm not alone."

Delays Tocedos also speaks of a new and enlightened understanding of the times Elementary School in St. Thomas, Que., feels that for her pupils WIER is a conduit to the rest of the country. "It's easy to feel a sense of isolation in living in a small town," she says. "It's my job as a teacher to make my students feel they are part of a bigger world. The WIER programme enables teachers like me to bring the rest of Canada into the classroom. The programme lets us move beyond our walls. It opens doors."

Certainly, a sense of connection and excite- ment is almost tangible inside the white wooden building with the red door. Through- out the day, one child after another takes turns using one of three computers to submit their work to the WIER network.

"Nine-year-olds and writers have just made me feel better about my sexuality and about life," recalls Stevens. "It was wonderful to learn that some cultures actually respect individuals who are gay."

Meanwhile, Amanda Willett, an 11-year- old student, is engrossed in keeping a story of a baby horse named Pip who learns, with his mother's help, to jump a brook. By her side another 11-year-old, Melanie Norman- deau, her face flushed with pleasure, is read- ing a response she has received from Emily Hearn in Toronto to a story she had written about getting a new kitten.

Matthew Tikivik also knows about WIER's power to expand horizons. "It's been one of the most exciting things to happen in my life," says Tikivik, a student at Inukjuak High School in Kuujjuaq, N.W.T., Tikivik recently treated WIER readers to a semaino-biographical saga about growing up in the Far North. "I can see myself being accidentally shot at the age of seven, drug abuse and the suicide of family members."

"When I read the work of other WIER stu- dents," he could see that "our destinies are con- fherent from the lives of kids in cities in the south," says Tikivik, whose goal is to become an SCM officer stationed in his own community of Lake Harbour. "In the North, we write about aboriginal issues and about the land and nature. That's what kids write about here.

Be it that I see there is something in common with other young Canadians -- wherever they live. We all worry about fami- lies and school and having friends and getting jobs. It makes me feel I'm not alone."

Pepepte Tesedo also speaks of a new and enlightened understanding of the times Elementary School in St. Thomas, Que., feels that for her pupils WIER is a conduit to the rest of the country. "Through WIER," she says, "I gained a new per- spective of Canada. I believe the programme gave me a better understanding of how vast, complex and diverse this country really is. It has expanded my horizons."

Feeling it is all of my life better."

Waiting
I sat and wait in exaltation
There is no one around to the grey sand
seal he marins of my many.
I sit and listen
there is something calling- a gentle harking
from beyond. Behind closed eyes you arrive as if always do-
soft and slow. all grains and

Subito.

Nathan Bell
OPEN SPACE COLLEGE and
Wycinkin NAKODI, ONT.
After years of controversy, quiet steps are being taken to make Canada's seven official residences more reflective of the country's heritage

BY JEAN MARTIN

It was a most unusual auction. It was being held in the soaring glass-walled Great Hall of Ottawa's National Gallery of Canada. The bidders had wined and dined. at $30 a head, on the food and drink of more than 30 different countries, whose missions had donated the offerings, the dinner for six with the Mexican ambassador to a piece of the Aztec Shield. The booth's exuberant auctioneer was David Smith, a well-known Ottawa restaurateur and a board member of 21 charities. The recipients of his charitable efforts tonight were the nation's seven official residences.

Smith is an ardent new convert to an obscure cause, the Canadians Fund, an organization that has become a major indoor-outdoor organization, the Official Residences Council. The latter organization was set up by an order in council in late 1984, when stories once again appeared in the media criticizing the new occupants of the prime ministerial residence for spending an excessive amount on refurbishing the building.

The mandate of the Official Residences Council is to advise the prime minister on the management of the seven official residences, helping to ensure that the Canadian public receives value for money and, not least from a political point of view, revalidating the occupants of having to answer media enquiries about such matters.

The council's first chairman was Hamilton Southam of Ottawa, a man of culture and a member of the Southam newspaper family. A wealthy former diplomat with a lifelong attachment to the arts, Southam felt that despite the money that has been spent on the decor of the official residences over the years, the furnishings were "rather mediocre" and not reflective of Canada's culture, history or economic status. He suggested to Prime Minister Brian Mulroney that a foundation be established for the purpose of acquiring fine furniture and art works for the residences. "The F.M.C." says Southam, "was reluctant to authorize something that might appear, or be made to appear, as a scheme to get him better furniture." Southam persevered, however, and eventually Mulroney gave in.

The Canadians Fund, which became a reality in 1989, is the custodian of a grand vision: to make the nation's official residences "shrines of Canadian history and achievement by building a national collection of fine furniture, art and artefacts." Currently heading a full-time staff of the third and responsible to both the Official Residences Council and a board of directors (made up of 22 influential Canadians from across the country) is Rosamaria Durand, a petite, animated woman who is fluent in five languages. "We've got to get our residences up to scratch," says the former international development officer. "They don't belong to the governor general or the prime minister. They belong to you and me, the people of Canada, and we've got to furnish them in a way that reflects our history and who we are." Such innovative events as Smith's auction, which raised public awareness as well as cash, with Durand hopes, enable the Canadians Fund to fulfill its vision.

While the Official Residences Council and the Canadians Fund focus on the interior of the residences, the National Capital Commission is responsible for the actual buildings and grounds. There is a great deal of work involved in keeping these residences in a condition that befits their role, says Rick Sabourin, a non-nonsense former urban planner and property manager who is the commission's director of official residences. His priorities for the past few years have been "health, safety and basic structural things."

At Rideau Hall, the governor general's residence in Ottawa, floors were unsound, walls had no insulation and one of the main reception areas was so far from the kitchen that often the food wasn't very hot when it reached the table. "Over the past few years," says Sabourin, "we have levelled the basement, upgraded all the mechanical services, reorganized space and added a service wing and auxiliary kitchen."

Rideau Hall was built in 1888 by Thomas MacKay, a Scottish stonemason and industrialist who was involved in the construction of the Rideau Canal. Situated on a wooded headland near the junction of the Ottawa and Rideau rivers and purchased by the government of Sir John A. Macdonald in 1868, the 11-room mansion was known locally as MacKay's Castle but was described by the Earl of Dufferin, governor general from 1872 to 1878, as "nothing but a small villa such as would suit the needs of a country banker."

In an effort to transform the "small villa" into a residence suitable for the governor general, who is called upon to host many more state functions than the prime minister, the government of Macdonald authorized substantial additions to Rideau Hall. By 1900, a wing of matching limestone had been added, as well as staff houses, greenhouses, a conservatory, a ballroom, a carriage house and a stable (which now serves as a garage). During Lord Dufferin's tenure, an indoor servants' court was added. The room that housed it doubled as a reception hall and at such times was draped in striped cotton and hence was nicknamed the tent room. While the Earl of Dufferin govern general from 1893 to 1898, resided at Rideau Hall, a chapel was added.

In the mid-sixties the interior of Rideau Hall received a much-needed overhaul in preparation for the scores of foreign leaders who would visit Canada during Centennial Year. Evidence of the need for an overhaul is found in a remark said to have been made by the Queen to her personal secretary on hearing that a carpet had been replaced: "Do pass on to Mrs. Michener I am very glad she got rid of that wormy carpet."

In 1986, Rideau Hall was at the centre of controversy. Until that time the grounds - 36 hectares of forested bush, parkland, formal gardens and lawns - had been open to the public, but Governor General Jeanne Sauvé had them closed. As she had told a member of the National Capital Commission, "I can't even go out in my garden and be alone. Here it is, a beautiful day, and I'm a prisoner in here."

Access to the grounds is no longer restricted. They're open to the public during the summer and on all public holidays, and they're guided tours. The grounds are also the site of the governor general's annual garden party, which is a public ritual. A compromise, it seems, has been reached, but doubtless people will never feel as free to enjoy the grounds as they once did.

Rick Sabourin is anxious to see the decor of Rideau Hall improved. It is, after all, the place where heads of state stay, where ambassadors present their credentials and where a constant round of state luncheons, teas, dinners, receptions, informal presentations takes place. "About 100,000 people visit Rideau Hall every year," says Sabourin. "To make sure they leave with the best impression of Canada, we should let the decor be up to viceregal standards." In a number of the
residence’s nearly 200 rooms, he says, “the drapes and linens have practically fallen right off and the carpets have long been outlawed.”

With the North of Canada Furnishings Council has come a long overdue organized approach for dealing with the decor of the residences. A design is being drawn up, for example, all the staterooms. “We take it room by room,” Richard Raycraft said last November, shortly before he left his position as the National Capital Commission’s chief designer. “Looking at the historical evidence photographs and old documents—and decide what period the decor of the room should reflect. If we don’t have all the appropriate furniture, or the cash to buy it, we turn to the Canadiana Fund.”

Currently, the fund is helping restore the Long Gallery, one of Rideau Hall’s reception rooms, to the oriental motif it had in the era of Vincent Willington, governor general from 1926 to 1931. But picking a style and period for a room isn’t simple, said Raycraft. “For example, we were to take the ballroom back to its style of its original period (the 1860s), we would have to get rid of a fine Waterford crystal chandelier installed in the 1950s, and we’d have to replace fine turn-of-the-century furniture. If we go with the oriental style of Willington’s days we can incorporate these things. We have to weigh all the factors—money, history, aesthetics.”

The value of having the Official Residences Council take responsibility for the decor of the residences is perhaps more evident than in the Long Gallery, where each time it changes hands—and consider how frequently that happens—the decor, to a lesser or greater extent, is changed to suit the new occupants. Built in 1868 by the lumber baron Joseph Corrigan, the 30-room grey-stone mansion was expropriated in 1943 from a subsequent owner as a home for future prime ministers and transformed in 1950 from an elegant Gothic structure into a larger, plainer, “modern” building. The changes made by occupants for the next 20 years were limited. John Diefenbaker’s wife, Olive, made slipcovers and curtains for the private quarters herself. Lester and Mayron Pearson had the back porch enclosed and set up a Canadiana room in the basement, which, said Mayron, “will be here, I hope, for ever.” The room was subsequently turned into a rumpus room, although some of the vintage Canadiana furniture graces the staterooms on the first floor.

At times the redecorating that is done when the residence changes hands seems ridiculous. One example is the case of the dining room wallpaper, which it is said has been re-covered by almost every new prime minister to occupy the residence. Rockefeller’s deal was spent on renovations and additions, which included a large indoor swimming pool, a sauna and a patio joined to the house by an underground tunnel. It is difficult to say whether all the expenditures were warranted. Few would argue that the prime minister’s residence, where many foreign dignitaries are received and entertained, should be well appointed, gracious and in excellent condition. The difficulty is that it has been left largely to prime ministers and their spouses— all of whom have different ideas—to decide what is necessary. Placing responsibility for the decor of the state buildings with the Official Residences Council removes ministers from controversy and allows a more planned approach.

Adjacent to 24 Sussex Drive and Rideau Hall, the two best-known houses, is little-known Seven Rideau Gate, an elegant Georgian mansion with a canopy in front reaching out to the circular drive. Built in 1862, the property was bought by the Pearson government in 1966 and remodeled to lodge foreign leaders on tour to Expo ’67. The grand piano in the living room is cluttered with photos of famous visitors. Kenny O’Toole, a former minister, well-mannered, tastefully dressed women, is chairman of Seven Rideau Gate. It is her job to manage the household and serve as hostess to the high-profile guests (generally, political leaders stay at Seven Rideau Gate, heads of state at Rideau Hall). Anticipating their varied needs. Over the years those needs have taxed the skills of many a chanteuse. One had to have a bed rebuilt for Helmut Kohl, the extremely tall chancellor of Germany; another had the living room converted into a day-and-night communication centre for a visiting prime minister.

The residence hosts foreign visitors about 150 nights a year, and O’Toole says that “they seem to find it comfortable and a kind of home away from home.” When not occupied, the mansion is used for meetings and meals by very senior civil servants, judges, cabinet ministers and parliamentary secretaries.

Local politicians wanted the area developed as a resort similar to that at Alberta’s Lake Louise, but the community chairman, Major-General Howard Kennedy, was determined to protect the park from commercialism and decided that he could achieve this by making Harrington Lake a country retreat for Canada’s prime ministers.

His problem was that Louis St. Laurent preferred to retreat to his home in Quebec City. When John Diefenbaker became prime minister in 1957, however, Kenneth had his chance. Diefenbaker was a keen fisherman, so Kennedy instructed the caretaker at Harrington Lake to take the new prime minister fishing, adding that he should “be sure Mr. Diefenbaker catches a trout.” Diefenbaker did, and Harrington Lake became the official escape from prime ministerial pressures, thus saving Gatteau Park from commercial development.

In the early 1950s the Conservative leader George Drew was living in Ottawa’s Rockport apartment hotel, a venerable haven for out-of-town politicians. But his good friend and frequent visitor Gratian O’Leary, the eloquent, influential Tory editor of the Ottawa Journal, felt this to be an uneasiness abroad for the leader of Her Majesty’s Loyal Opposition. Over the years he sold this view to a group of wealthy Liberals and Tories. They set up a trust fund and bought Sostrowny, which the well-off Drews furnished in grand style. But the upkeep was crippling, and in 1970 O’Leary, the sole surviving trustee, who by then was paying back taxes out of his own pocket, persuaded Prime Minister Trudeau to buy it for one dollar.

The government spent about $575,000 on Sostrowny between the fall of 1949 and the winter of 1966, redecorating, adding furniture and replacing the furnace. Hearing is a perennial problem—the walls of the house are made of hollow clay blocks that can’t be insulated properly. The residence is hamid in summer and cold in winter. The answer,” says Rick Sabourin, “may be as simple as installing something to circulate the air better. But until we find it, Sostrowny’s fate is a question mark.”

Work still needs to be done on three of the six bedroom suites upstairs, where toilets, tubs and sinks are a bit of a monstrosity. But most of the downstairs has been restored to Victorian richness. A few blocks away, in Rockcliffe (one of the most exclusive neighborhoods in Canada and home of the capital’s elite as well as almost 50 ambassad0res) is the official residence of the leader of the Opposition, Stornoway, a grey-stone red-brick, 15-room dwelling, circa 1914, that is shrouded by cedars and surrounded by spacious lawns, gardens, shrubbery and stately old trees.

Stornoway was rented during the last World War by Princess (later Queen) Juliana of the Netherlands, who became a familiar figure strolling along the winding roads.

A mid-19th century armchair, originally owned by the influential French Canadian politician Louis-Joseph Papineau.
The wisdom of age

One afternoon a few weeks ago I visited a woman named Kathleen Warner Hoag. She is a small, near woman with large eyes and a sharp, insightful mind and a rapier wit. Now confined to a wheelchair, she lives in St. Luke's Place, a seniors' residence in Cambridge, Ont. She is 96.

Mrs. Hoag and I sat in her small but pleasantly homey room and, over a glass of cherry, she told me about her life.

An old child, she was born on a farm near Trenton, Ont., on August 26, 1917, only a dozen years after the Riel rebellion. Victoria was queen, the Kinkade gold rush was just beginning and Alberta and Saskatchewan had yet to join Confederation. Her father was, as she says, "a gentleman farmer," and when she was young, Kathleen and her parents summered on the farm, spending the rest of the year at their home in Trenton. Mrs. Hoag remembers well those days of horse-drawn carriages and sleighs. Sometimes in winter she and her parents would travel to a nearby town by sleigh to visit an aunt.

"We'd have hot bricks at our feet and booth blankets over us," she says, mimicking a horse-pulled sleigh.

In 1909 she found herself travelling across this country by train. She and her parents were moving to the Kitosano area of Vancouver, when her father was to work in real estate. "Kitosano was just being developed," she says, "and they were still clearing the land, burning the trees. It was very exciting—we had corduroy roads." Laps, she explains, were laid on the muddy tracks to make them passable.

Mrs. Hoag was 17 when the First World War broke out. Recently graduated from Brampton, a private girls school in Vancouver, she took in a lot of work, including domestic work down town with the Bank of Montreal and worked there as "head of cash department" for nine months. Afterward, she moved to Toronto, where she lived with an uncle and aunt, worked in Simpson's catalogue department and became acquainted with John Atlan Hoag, the brother of a childhood chum from Trenton and her future husband.

My companion reaches for a pile of books. "When I heard you were coming, I dug this out," she says, handing me a slim white wedding book. There, among the floral watercolours that decorate the delicate pages, are the signatures of guests and descriptions of their gifts. I read a yellowed newspaper clipping and imagine the young bride in the "embroidered veil with orange blossoms" greeting her new life with the anticipation of youth.

John Hoag worked as an accountant for the Bank of Montreal in Brantford, Ont., where the young couple gave birth. Kathleen was to bear three sons during the next nine years; the middle child, "a blue baby," died shorty after birth. "There wasn't much they could do for them then," she says with sad resignation, and I realize that time was the pain of losing a child but does not erase it.

By 1930, the year her third son was born, the Depression had taken hold. Times were tough, says Mrs. Hoag, but people pulled together and somehow got through it. "Families moved in with another one," she says. "People grew their own food in their own backyards. They were resourceful. In many ways we were stronger for it."

In the early thirties, John Hoag left the bank to go into business with a partner. The business failed, and he became an insurance salesman. In 1936, at the age of 46, the perennial country girl from Trenton had found that hard times had not been endured before. "Oh, the Depression and the wars had happened but what we're going through these days," says Mrs. Hoag. It seems too all we often ignore the gifts others offer us. "We look at wrinkled faces and bent bodies and we forget about the souls inside," wrote Bernard Shabad and Mosman Bennett in a book. "We fail to appreciate the accumulated wisdom, the graciousness acquired in an earlier, kinder time." I would agree.

— Susan Lane

IN CLOSING

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