Life Before Man

Alberta’s Royal Tyrrell Museum not only owns one of the world’s largest collections of dinosaur fossils but depicts life on earth three billion years before these creatures existed.

BY PETER ROLHEISER

If dinosaurs had never existed, our imaginations would surely have created them. The brain cells that house our nightmares, fear of the unknown and primal awareness of our mortality would inevitably have one day conjured up the spectre of a giant reptile creature whose primary instinct is predatory.

But dinosaurs did exist. And, indeed, far more than exist. They were among the planet’s most successful species, dominating the earth for 160 million years. Their primeval existence has proved singularly fascinating to us more highly advanced primates, whose own tenure on earth has by comparison been miniscule. What makes dinosaurs particularly intriguing is the fact that they came to an absolute end, and, as yet, mysterious end about 65 million years ago.

Our highly advanced primate brains love a good mystery, and the dinosaurs have left us some real dandies.

Since their existence was established as fact by British scientists in 1824, we have been following their fossilized footprints, grooping for and grappling with the clues they left behind. Separated by more than 60 million years, we glimpse their ghosts in wonder.

If the mysteries left us by the dinosaurs are ever solved, it’s a sure bet Alberta’s Royal Tyrrell Museum of Palaeontology will have a good deal to do with it. Tucked among the multicoloured rock faces and deep, steeply sloped gullies of southern Alberta’s badlands, near the town of Drumheller, the Tyrrell is one of a very few museums in the world focused exclusively on palaeontology – the study of the structure and evolution of extinct animals and plants through the examination of plant and animal fossils. A relative upstart as museums go, the Tyrrell marks its 10th anniversary this year, a rather modest milestone for a facility whose area of expertise reaches back about 4.6 billion years to the Precambrian era. But even at this young age, the museum has achieved international prominence and is one of the world’s foremost centres of dinosaur research.

Bruce Naylor, the museum’s director, has little interest in comparing the Tyrrell with other museums of palaeontology. Comparisons are far less important, he suggests, than the ongoing collaboration among the Tyrrell and its counterparts, which include the Page Museum in Los Angeles and Montana’s Museum of the Rockies. That being said, the seasoned vertebrate palaeontologist offers this unapologetic assessment: “All of our work is scientifically top notch, and dinosaurs are our particular area of expertise. If you want to do dinosaur research, this is the place to be.”

“Albertans are intimately connected with the Devonian period. So much of our economy, culture and way of life is based on petroleum created during that time.”

PAUL JOHNSTON, CURATOR OF INVERTEBRATES

Among museums, stature and scientific credibility are traditionally measured by the strength of a facility’s collection.

By that yardstick, the Tyrrell is as imposing as the Tyrannosaurus rex skeleton, whose gaping jaws greet visitors in the museum’s vast dinosaur hall. The Tyrrell’s collection of dinosaur fossils, which includes 35 intact specimens, is among the largest in the world.

Dinosaurs are the undisputed rulers of the Tyrrell. By sheer size and force of presence, they dominate the museum, much as they dominated the 160 million-year span of time we know as the Late Triassic, Jurassic and Cretaceous periods. And while these darlings of everything from merchandising campaigns to Hollywood blockbusters tend to claim the limelight, Naylor cautions that there is far more to the Tyrrell than being just a dinosaur museum. The Tyrrell Museum is, he notes, “a one-stop shop for geology, palaeontology and paleobotany.”

note to the Tyrell than dinosaurs. Indeed, just one of the museum's seven professional palaeontologists devotes his full-time study to dinosaurs. "We cover the entire history of life on this planet, and life goes back more than three billion years," says Naylor. "The dinosauers are a very small part of that continuum."

Dinosaurs dominate the museum not because they were more important than other creatures or aspects of the world's evolution but because they were very numerous in Western Canada. "We serve to reference all of our work to the particular history of Western Canada," explains Naylor. A stroll through the Tyrell's various displays provides a journey through several billion years of life in Western Canada. Precambrian rocks show barely discernible - but indisputable - traces of microscopic life forms more than three billion years old. A verdant tropical conservatory recreates in fragrant splendour the lush plant life that covered many parts of Alberta about 70 million years ago during the Late Cretaceous period. A tunnel-like, shadow-filled display places visitors at the bottom of the Boreal Sea, which covered a large part of North America at the time. And the showpiece dinosaur hall includes a brilliant life-size diorama that recreates a typical Alberta afternoon in the late Mesozoic era, which ended as the dinosaurs became extinct.

One display in particular, added to the museum last year, gives visitors a glimpse of an age of singular importance to humanity in the 20th century. It provides a view of the Western Canada that more than 150 million years before dinosaurs made their appearance. At the time, a vast shallow sea covered Alberta. The place where the city of Medicine Hat now lies was on the equator, and everywhere the warm sun-drenched waters teemed with plant and animal life similar to that of the tropical seas of great reefs. It was the age of fishes. We know it as the Devonian period, a 46-million-year chapter in evolutionary history destined to play a seminal role in the future story of a province called Alberta and a company called Imperial Oil. The story holds particular fascination for Paul Johnston, the museum's curator of invertebrates and one of the world's foremost experts on clams. "The Devonian period is the biggest palaeontological story so far as Western Canada is concerned," he says. "There is a unique symbiosis between the explosion of life that took place in the great reefs of the Devonian period and our way of life today."

It's an intriguing story a passionate palaeontologist clearly delights in telling. "Reefs have always been critical features of the biosphere. Devonian reefs were evolutionary factories that created new diversity," he explains. "The skeletal remains of those bilions of sea creatures were chemically transformed into porous limestone beneath the sediments of the 370 million years that followed. But that isn't all. The weight of those sediments squeezed the muddy layers surrounding the reefs. Countless remains of microscopic plankton within the muds were transformed into petroleum. Under great pressure, the petroleum seeped into porous reefs, which acted as perfect traps."

These prehistoric reefs, their pores and voids filled to bursting with what Johnston fondly calls liquid sandstone, "cooked for 350 million years" and are the Holy Grail sought by the geoscientists of the modern petroleum industry. There has been a better than average record of locating these underground deposits. In 1947, the resolving bit of an imperial drilling rig chanced its way into a Devonian reef at Leduc, Alta. A year later, another imperial bit penetrated a much larger reef at Redwater, 70 kilometres northeast of Leduc. Other reef discoveries followed, adding their names to the history of Alberta's petroleum industry: Gold-in Spike, Wizard Lake, Bonnie Glen, Judy Creek and, more recently, Rainbow Lake and West Pembina. Even the company's oilfield at Norman Wells, N.W.T., produces oil from a limestone reef that once teemed with marine life under an equatorial sun.

"Albertans are intimately connected with the Devonian period," Johnston muses. "So much of our economy, culture and way of life is based on petroleum created during that time. It's unusual to have a symbiotic relationship that spans 370 million years. Who would ever have guessed that we so highly specialized primates would develop such a relationship with the invertebrate creatures of so long ago? But the connection is there. We're hooked on the Devonian."

The significance of that connection isn't lost on Imperial. A company donation of $250,000 enabled the museum to create its latest exhibit - a life-size diorama, complete with sound and light effects, that recreates a 370-million-year-old Devonian reef environment. Imperial's funding of the display was the brainstorm of Ken Potma, a senior geologist at Imperial who shares Johnston's fascination with the Devonian period and its impact on the petroleum industry. He proposed that Imperial sponsor the Tyrell's Devonian reef diorama as a way to commemorate the upcoming 50th anniversary of Imperial's discovery at Leduc. Imperial's growth in Western Canada resulted largely from its ability to discover and produce oil and gas from Devonian strata. "Two-thirds of the conventional oil produced in Alberta comes from Devonian reefs," explains Potma, who also worked with the museum to produce a video about Devonian reefs and their importance to Alberta's petroleum industry. "The diorama offers an excellent opportunity to celebrate the success Devonian reefs have brought Imperial and to highlight the tremendous economic and scientific benefits that success has helped bring about."

Imperial senior vice-president Doug Baldwin, who heads the company's Alberta-based exploration and production division, has spent more than three months watching Imperial find and extract crude oil and natural gas created and stored in Devonian reefs and is pleased with the financial and technical partnership Imperial is building with the al operating budget comes from government. The rest comes from admission fees, fees charged for special programmes such as school "camp-in" sales of fossil casts to other museums (an average cast of a dinosaur skull goes for about $4,000 and a cast of an intact Tyrannosaurus rex skeleton for $50,000) and private and corporate donations.

Tyrell. "Being able to contribute in this way to a scientific facility like the Tyrell Museum is a rare opportunity," he says. "It's one of the top institutions of its kind in the world, and its value as a scientific resource to our industry is enormous. The museum has done an outstanding job of making the diorama a peaceful place where people can sit and gaze and quietly contemplate what the Devonian period means to our modern world."

Giving people a chance to gaze upon the tranquility of a Devonian sea at one time face to face with the ferocious reptilian giants of the Mesozoic era is an integral part of the museum's mission. "The tourist aspect is terribly important to the museum from a financial standpoint," says Bruce Naylor, "and in maintaining public interest in and awareness of what we do."

The museum's ability to attract visitors - from scientists to schoolchildren - is vital to the continuation of scientific research at the museum. Research leads to new discoveries, which fan public interest, which leads to public and private funding for further research, which leads to more new discoveries. Only about half of the museum's $2.5 million annua
Nearly 50,000 people have visited the museum annually in recent years. Of every 10 visitors, seven are Albertans, two are from elsewhere in Canada and one is from outside the country. A significant number are repeat visitors, a tribute to the quality and variety of the Tyrrell's exhibits, which provide glimpses into the history of the planet that stretch the bounds of understanding. There are fossils of ancient pillate sponges that in life were tall as an elephant; a replica of the skull of a 370-million-year-old fish called Dunkleosteus that stretched nearly 10 metres in length and had a bite twice as big as that of today's great white shark; a doughnut-shaped shell of a cambrian snail; and a crowd-pleasing Tyrrell's dinosaurs and other exhibits are, they're only a part of what has put this young museum on the international map. The museum must be much more than a tourist attraction, its director cautions. "Visitors," he says, "see only a part of the Tyrrell." What they don't see is the museum's scientific heart - the offices and preparation laboratories where the museum's senior staff of seven doctoral-level palaeontologists conduct their research. Witness a sample of their recent work.

Petroleum Institute, he searched for clams, fish and scorpio-like eurypterids.

Elisabeth Nicholls's ongoing research into Mesozoic reptiles in Alberta, was awarded last year with the discovery of an exquisitely preserved short-necked prosauropod at the Syncrude oilsands operation near Fort McMurray, Alta. A National Geographic Society grant, sent last fall to send Donald Brinkman, the curator of vertebrate fossils, and David Eberth, a sedimentary geologist specialist, to a remote region in northwestern China, was intended to study the ancient environments of China's dinosaur beds.

Northern China is one of the world's richest dinosaur fossil regions, but it ranks second to the Tyrrell's own backyard. The Alberta badlands extend along the Red Deer River Valley, southeastwards from the city of Red Deer, through Drumheller to the Saskatchewan border. Carved by meltwater torrents in the wake of retreating glaciers between 10,000 to 15,000 years ago, the badlands resemble a deep, yawning crack in the rolling uniformity of the southern Alberta prairie. Strange twisted pillars of rock (called hoodoos), boulders, sinkholes, caverns and multilayered cliff faces erected like fingers, some were washed together from an ancient, alien landscape.

The Red Deer River Valley, from Drumheller southwards to Dinosaur Provincial Park, is the richest dinosaur fossil bed on earth and has provided impressive examples of such specimens as Tyrannosaurus rex, the largest, most fearsome predator that ever lived; the duck-billed, plant-eating hadrosaur; the armored ankylosaur; the three-horned Triceratops, and the swift, fierce Saurosuchus, a crocodile-size, hunted in packs and had relatively big brains.

The first recorded glimpse into the 180-million-year Mesozoic era is attributed to the Tyrrell Museum's namesake, a 25-year-old geologist and surveyor named Joseph B. Tyrrell, sent by the Geological Survey of Canada in the spring of 1880 to map coal deposits in the area. Tyrrell found something he hadn't planned on. On a rocky slope 20 metres up from the bed of Kneehills Creek, one of three creeks that flow into the Red Deer River near Drumheller, he spied the remains of a dinosaur. He duly recorded the discovery in his field journal: "... found a number of dinosaur bones in an excellent state of preservation, though very brittle. Most of them were heavy and massive, but among these was a large and fairly perfect head of a gigantic carnivore." That large and fairly perfect head belonged to an Albertosaurus ("Alberta lizards"), a smaller relative of Tyrannosaurus rex and the most common of the large carnivores of late Mesozoic Alberta. More than a century after the Tyrrell's discovery, a replica of Albertosaurus has become one of the highlights of the dinosaur hall.

The past several years have yielded some of the richest discoveries for the Tyrrell's dinosaur hunters. A nearly perfect adolescent Albertosaurus has been retrieved from Dinosaur Provincial Park. A truly remarkable fossil, the Grande Prairie, about 700 kilometres to the north, has yielded an intriguing horned dinosaur. And near the southern boundary of the province, a trio of gorgons north of the Milk River known as Devil's Coyle yielded a previously unknown species of duck-billed dinosaur - bearing a distinctive forehead crest - dubbed Hypacrosaurus subgenki.

"This is an exciting discovery - very exciting," Currie says enthusiastically of the latest find. "We have found at least six nests of the dinosaur already - some with as many as 16 eggs. Embryos were in some eggs. We have babies and teenagers and adults all in the same nest area. What a find like this will teach us is truly phenomenal."

The thirst for greater understanding of ourselves is the heart of humanity's quest to know better the creatures of the Deucan, Cretaceous and numerous other periods of evolutionary history. In the badlands of Alberta, the Royal Tyrrell Museum is bringing the past into the present.
Turning on Generation X

Four years ago, a young student had an idea for helping his contemporaries shape their own futures. Today, his branchchild, Generation 2000, is helping thousands of young Canadians.

By Shona McKay

NEETHI DHALIWAL'S CHILDHOOD has not been idyllic. The daughter of Indian immigrants, she was born in Victoria and in 1982 moved to Surrey, a city near Vancouver with a large population of new Canadians and a history of racial strife. "I have watched kids pick on other kids just because they are of a different race or religion," says the articulate 15-year-old grade 10 student at North Surrey Secondary School. "I've seen gang fights happen for no reason other than that the people involved have different coloured skin. And they are bored. It's so senseless. It's stupid."

Last spring Dhaliwal made a decision to combat the meaningless violence plaguing her community. "I started thinking about the racial tension that existed at most Lower Mainland schools," she says. "I thought it might help to get student representatives from each school together to begin a dialogue about the issue."

To that end, Dhaliwal has since enlisted the aid of a favourite teacher. "If we can just get more kids talking about how stupid racial hatred really is," she says, "I think things will be better for everyone."

According to Dhaliwal, the decision to act was actually born the day Generation 2000 came to her school. A nonprofit organization run by youths for youths, Generation 2000's mandate is to inspire young Canadians to understand and become involved in their country. Says Dhaliwal, "A young woman from Generation 2000 came to our social studies class and spoke. She told us about her life and her experiences, including the shocking fact that she had been raped. I was amazed at her openness and moved by her story. She also talked to us about making a difference. She said she wanted to make things better—and that we could do the same thing, I believed her."

Across Canada there are thousands—tens of thousands—of young people as well as educators who, like Dhaliwal, have come to believe in Generation 2000, viewing the organization as a powerful force for improving the lives of young people at both the individual and community level. Almost four years old, Generation 2000 is the branchchild of Robert Barnard, a 27-year-old graduate of the University of Western Ontario in London, Ont. In the summer of 1991, Barnard attended a local, informal meeting of individuals who had gathered to discuss the Spicer Commission's Citizens' Forum on Canada's Future. "I never said a word," recalls Barnard. "After the event was over a person who had organized it came up and admonished me for not speaking up. Why, he asked me, hadn't I shared my thoughts and ideas? He remarked on the fact that I had been the only person in the room under 35 and that I—and other young people—had a responsibility to our generation and..."
our country to become involved.

The stranger's words fell on fertile ground. "For days I thought about what that man had said to me," remembers Barnett. "I knew he was right. From that point, I began to search for a way to challenge myself and looked at how I could inspire other young Canadians."

Barnett's advertising led to the creation of Generation 2000. Funded by the federal government's Stay in School initiative, Generation 2000 also receives substantial support from corporations.

Recently, the organization has expanded, opening five regional offices across the country, whose functions include arranging meetings between young people and community leaders. The major focus of Generation 2000, however, continues to be its annual national tour. Lasting four months, the tour involves about 35 young Cana-tans from diverse geographic areas and family backgrounds who work in groups of four or five. Each group travels to about 15 high schools from coast to coast.

At each school, the Generation 2000 representatives use theatrical performances and workshops to entertain students and stimulate discussion.

The action that took place at C.W. Jefferss Collegiate Institute in the city of North York, Ont., last April is a typical example. In an auditorium-cum-catering room, approximately 50 young people applaud and laugh as four Generation 2000 representatives perform a skit about what is wrong with an alien and non-speaking Mrs. Canada. "Take two aspirin and call me in the morning," Dr. Oldway's advice, "No, no, we need new solutions, new ideas," insists Dr. Youth. "Listen to him, he's right," implies Professor Future.

The laughter turns to attentiveness as 22-year-old Neil Rikh in from Edmonton, B.C., who has taken a year off from college to participate in Generation 2000, talks to the students about his motivation that was "right for the times, it's Generation 2000." says Helen Hackett, a former acting director of the federal government's Stay in School initiative, which provided $380,000 to the nonprofit group for the 1994-95 academic year. According to Hackett, 22-year-old Rikh in has the potential to combat the illusion that too often characterizes the lives of young people today. "The sense of alienation is real," she notes. "There are the kids who belong to what we call Generation X and the Lost Generation. Too many of them will tell you, 'I am no one.' They can't even receive one no one cares about me. No one has made a place for me.'"

Certainly the numbers point to a generation besieged. According to Statistics Canada, the four million Canadian between the ages of 15 and 24 have an unemployment rate of nearly 15 percent, compared with a national average of less than 10 percent. This age group also accounts for a large share of criminal activity.

What's more, the fact that these young people are moving into the workplace at a time when Canada is sluggishly emerging from the longest recession since the Great Depression has made meaningful employment something that many members of Generation X can only dream of.

Today's young women and men are doubly unlucky in that their generation will always be positioned behind the massive baby boom group, a phenomenon that has essentially blocked paths for younger workers to more meaningful and better-paying jobs. Says Hackett: "Combine the recession and the boomers and the result is a lot of kids who can't even get entry-level jobs, let alone good jobs. No wonder kids despair—and act out."

It's a view shared by Debra Kizer, 19, a 4-year-old student from Ontario, who is now in her first year at Harvard University, having graduated last year from St. Lawrence High School in Cornwall. In May 1990, Kizer became a member of Generation 2000's 1994 national tour. Says the first high-school student on the tour: "Whenever I went, I tried to pass on the message of encouragement that Generation 2000 had given me."

Last spring that message was heard by a group of young native people attending the Chehalem Community School on the Chehalem Reserve near Agusta, B.C. Ron Victor, then a grade 12 student, was one of the young people who participated in a workshop on how to make better decisions about the future.

"We talked to the Generation 2000 visitors about how there was nothing for kids to do on the reserve," he recalls. "We told them that the kids were bored and that a lot of them got into trouble with drinking and drugs."

The young First Nations people also explained that schools on the reserve face many of the same problems as schools in large cities. "So we made people aware that there are solutions, and that kids can make a difference," says Victor.

Victor and a handful of other students who attended the workshop have Since then, they have been meeting weekly to try to form a student Government 2000 in local communities.
Keeping the Books

The Thomas Fisher Rare Book Library is internationally respected. And rightly so. The many items in its collection range from a work from the 18th century BC to anthologies of modern Canadian poetry.

BY STEPHEN SMITH

The Thomas Fisher Rare Book Library, whose collection includes a letter from a husband to his wife (below) written in a manuscript in the first century BC.

Hitherto or Not Major-General James Wolfe, in the battle of the Plains of Abraham, actually recited Thomas Gray's An Elegy Written in a Country Church Yard to his fellow officers from an open boat in the St. Lawrence River at Quebec City, which is something that is still debated by historians. While some maintain that it did happen, others suggest that the report is a piece of romantic exaggeration.

What is beyond dispute, however, is that Wolfe had a copy of the poem with him on the ship that carried him to Quebec City in 1759. And he certainly pondered the poem carefully, underlining some passages in ink and appending several short notes of his own. Today, the slim volume of text compiled by Wolfe is to be found in a marocco-covered box at the University of Toronto's Thomas Fisher Rare Book Library.

Wolfe's copy of the elegy is a material witness to our past, whose historical significance is comparable to Champlain's astrolabe or the sword that George Vancouver wore at his side. It was for this reason that the library bought the book from a private collector for about $40,000.

The copy of Gray's elegy is a prize among many prizes; the Fisher contains 500,000 volumes and numerous manuscripts – enough to fill more than 1,500 metres of shelving – and many are equally noteworthy. Canada's largest rare book library and among the most respected in the world, the Fisher is a research facility and a repository in which the past is preserved. First of all, perhaps, it is a place in which scholars, historians, students and members of the public (observing certain rules) can take these rare volumes – and the past they represent – into their own hands.

If you go wandering by computer through the seemingly bottomless depths of the library's catalogue, you might find a 1479 Latin edition of Aristotle's Topics (the first printed edition), a first folio from 1623 that introduced into print 18 of Shakespeare's 36 plays or a 1916 edition by Albert Einstein describing the general theory of relativity. Or perhaps something from the extensive collections of works by and pertaining to Galileo, Voltaire,
The Fisher," says Roger Stoddard of Harvard University's Houghton Library, "is run by a very savvy book man"

Charles Darwin, W.B. Yeats, Sir Frederick Banting and Margaret Atwood. "The collection ranges from a congenital laboratory in the 19th-century B.C. to modern Canadian poetry, which we acquire as it's published," says Library's director, Richard Landon, an agreeable man of rumpled appearance and inordinate middle age.

It would be impossible to say that the Fisher is the best facility of its site in the world—such rankings are very difficult to arrive at. There's little doubt, however, that it is the most important rare book collection in Canada, and in some areas—Moto de la Roche, For example—in it the Fisher is the most important library in the world. In number of volumes, the Fisher is not far behind the rare book collections at Washington University's Library of Congress, which has 575,000 volumes. A fair measure of the library's significance might be the esteem that Landon himself commands. "Richard is very well known internationally and widely respected," says Gordon Workentin, a professor of English at the University of Toronto's Victoria College and an authority on Renaissance and early Canadian literature. "The Fisher," concurs Roger Stoddard, curator of rare books at Harvard University's Houghton Library, "is run by a very savvy book man." For Landon, then, the issue of how much the contents of the Fisher are worth is purely academic: none of it is going back on the market, he says. Hugh Ammon-Carrington, a Toronto antiquarian book dealer who is also active with the library's public support program, believes, "Richard is the Thomas Fisher Rare Book Library's curator, and has a great deal of influence on the library."

If even you could calculate the worth of the Fisher's holdings down to the last penny, that would only communicate the collection's value within specific bounds. "The books are bought and when they are bought cunningly and intelligently—they become an extraordinary endowment for the university," Ger- motorne Workentin says. "And they increase the wealth of the university at every level."

So the Fisher is better judged on its own merits—the range of its collections, for instance, and the way it accommodates those collections. "I've been to lots of rare book rooms and manuscript libraries in Europe and in North America, and there's really nothing that compares to it that I know of," says Greg Gatenby, a writer and the artistic director of Toronto's Harbourfront Reading Series. For his book The Wild is Always There, a literary history and anthology of writ- ings about Canada by non-Canadians that was published in 1993, Gatenby borrowed deep into the Fisher collection. "The things that really make it successful are that the staff is so friendly and the books so accessible,"

David W. Smith is a professor in the University of Toronto's French depart- ment whose scholarly business is com- piling bibliographies of the works of two little-known 18th-century French writers, Claude-Adrien Helvétius and François de Ruffigny. Both are well represented on Fisher shelves, and to Smith's ongoing satisfaction the library continues to seek our editions of both writers' works. "Obviously it simplifies my task if the editions in question are right here," he says, "and quite a lot of them are." It would say that Toronto will finish up with one of the best collections of both authors there is to be found anywhere.

If the Fisher is a place to which Smith is drawn by scholarly necessity, it's also a research environment in which he likes to work. "I don't think it's a bad place to work. The service is excellent," he says. "Books are called for and come very quickly—and the staff doesn't make an exces- sive fuss about some tangle of handling and that sort of thing. Richard Landon is himself a bibliographer, a good scholar and a student of the book, so he understands what readers want. They are very well informed. He's said that there is a system in place that is very easy to live with. I don't mean they are in any way negligent of the books, but they're not stupid about them. For example, in the rare book section at the National Library of Aus- tralia you have to wait two weeks to use the books. There are other libraries that won't let you hold a book up to the light to see the watermark without making a big fuss. Here they're reasonable and careful."

The Fisher has only existed as such for the past 21 years, but its origins go back to 1827, when John Strachan (who later became a prominent Toronto bishop) took it upon himself to see that a royally chartered college was established in Upper Canada. In his original blue- print, Strachan made special mention of the need for a library, and proposed that $100 a year be set aside for the pur- chase of books. When King's College became the University of Toronto in 1849, the fund number crossed 4,000 books. Ten years later the library moved into the newly built Uni- versity College, and there, in a hall modelled on the Long Room of the library at Trinity Coll- ege, Dublin, the collection continued to grow until 1900, when, it is said, the library found its way through the nearly 13,000 vol- umes then on hand.

It continued to grow in February (Valentine's Day, in fact), and caretakers preparing a display upset a tray of kerosene lamps. In a few hours the library lay in ashes within the stone walls of the colle- ge. A student librarian were in among the flames and rescued 100 volumes; a few others were extract- ed, chanted, from the cooling rains; still others, out in the snow, refused to work. The destruction of the library ignited an almost instant reaction. Over the following days, gifts of books and money arrived by the score. The Province of Quebec gave $500 towards the refurbishment of the collection; in Britain, the prime minister, the Archbishop of Canterbury and Alford Lord Tennyson sat on a University of Toronto library restoration com- mittee. Gifts were received from the kings of Saxony and Württemberg, Queen Victoria and her grandson Kaiser Wilhelm. "Within a decade," says Landon, "the collection was probably better than it had been in 1899.

As the university's holdings grew again, so too did the recognition that many of the books—rare, old or antiquarian—required special treatment. "For material that was considered very valuable one might use the library as if it were a museum," Landon says. At first a cupboard in an unused storeroom was all there was, eventually the library sparked a room in which the cupboard could spread its contents. "They showed into it anything they thought was special, including some alleged pornographic works.

It wasn't until 1955 that the depart- ment of rare books and special collec- tions was first established, with holdings of about 20,000 items, and a librarian named Marion Brown to oversee them. Sev- eral complete collections were acquired, including the De Lury Collection of Anglo-Irish Littera- ture—had been given to the university and provided a foundation on which the depart- ment could build.

In 1973 the department of special collections moved to expanded quarters appened to the newly built John P. Robarts Research Library and became known for the first time as the Rare Book Library, taking its name from an early Toronto settler who came to Upper Canada from Eng- land in 1821 and prospered as a merchant. Book collecting formed a part of the Thomas Fisher Rare Book Library's activities from its inception, a rich tradition. In 1973, two of them, Sidney and Charles Fisher, entrusted their private collections, including a sig- nificant body of rare Shakespearean texts, to the library's care, and in recognition of this, the library was named in honour of their forebear.
From the street, the Fisher looks less like a library than a squat flying buttress, attached as it is by an overhead walkway to the cathedral heights of the Robarts library. Windows are few and high up, emphasizing its cathedrallike appearance. The Fisher is fortified - locks, alarms, and motion detectors help secure it - but inside the architecture lets its defenses down. When you enter onto the second floor and pass through a narrow turnstile to a display area, the building opens up above you: a gallery rises five levels to the ceiling, and arranged on shelves on every side are books, underlit in such a way as to suggest, fleetingly, the pinpoint illumination of candles. Most of the collection is kept below ground, in two crowded floors, but in its public spaces the library's interior is architecture to give you a sore neck: you can't keep from looking up to admire.

To reach the reading room you take an elevator down to the first sublevel, visible in it are uncrowded, five or six books are carved over unseen materials. "Everything is available for use," Landon is saying, and to everyone, he is as welcome an academic. Materials are used intensively rather than extensively, he goes on to explain as he leads you down a corridor and then up again to a place on which books descend every day, but rather one that a scholar will visit on the course of a month while sifting through, say, the 10,000 books here by and about and biographies.

Landon's office is a long room with cabinets of books covering two walls. The style is institutional eclectic. The floor is linoleum, the library mostly of bookshelves. During one's death mask hangs over one cabinet, while over the desk is a framed 1871 poster from Woodstock, Ont., with one of the earliest knowadogs to compete in the Canadian Tire's campus of a page from a tabloid newspaper. In it is preserved a ragged lof of papers on which is written a letter, husband to wife, from the first century BC. Landon is naturally enough, an area of special strength; it also reflects both the library's commitment to textural materials and potential, research value.
Oil Wells that End Well

As more and more of Western Canada’s oil wells run dry, much of the land they occupy is being returned to valuable agricultural production.

By WINNIE THOMAS

The view from atop a knoll on Clarence Hrubner’s farm in the Hay Lakes district of central Alberta on a warm sunny afternoon last summer was about as bucolic as it gets. Two weeks of rain had greased-up the countryside and the crops were full of promise. A herd of cattle abandoned the shade of an aspen grove and, surrounded by a host of flies, ambled down a grassy slope to drink at a nearby slough. There were mallard ducks splashing in the slough, and yellow-headed black-birds called noisily from a clump of reeds.

It’s difficult to reconcile such tranquillity with the fact that this pastoral scene is close to the traditional heart of Alberta’s oil patch. Oil was discovered here — in what came to be known as the Joacan oilfield — in the early 1950s and has been produced from the field ever since. About 50 kilometres to the west lies Leduc, scene of Imperial Oil’s 1947 discovery that marked the real birth of Alberta’s oil industry; to the north and south are to be found two other major and still-producing fields — Redwater and Pembina respectively — that were discovered in the wake of Leduc.

If one had visited Hrubner’s field two years earlier, the connection between oil and agriculture would have been easier to make. The view then was markedly less pastoral than it is today; with the artifacts of oil production everywhere in evidence. Between the aspen grove and the slough, a disused nodding-horse pump jack marked the site of an oil well that had ceased production. The pump sat on a pad of concrete cut into the hillside at the end of a gravel road. A line of disused poles that had once carried power to the well site still marched across the countryside.

As if by magic, that Imperial-operated oil well has vanished with not trace, leaving probably pumped close to half a million barrels of crude oil to the surface over a period of about 40 years. It is one of more than 1,000 well sites throughout Alberta that have been returned to agricultural use after reaching the end of long and productive lives.

Production of conventional oil is falling throughout Alberta’s oilfields — some discovered more than 40 years ago — become depleted. For example, after nearly 50 years, the producible oil from the Leduc field, southwest of Edmonton, has been virtually exhausted. While the field still holds substantial amounts of natural gas, this can be produced by using just five percent of the many hundreds of wells that were needed to extract oil.

But the oil industry’s loss is agriculture’s gain. When well sites are reclaimed for agricultural purposes, unused pipes and machinery are removed, the well itself is sealed to...
In 1994 alone, Imperial returned more than 1,000 hectares of land to agricultural and other uses.

In many cases, modern technology makes it possible to extend the life of a well for several years or more. Interestingly enough, the eventual reclamation of sites in Western Canada that are currently being drilled will present far fewer problems to the oil industry in the future. For one thing, the industry in general is much more environmentally conscious than it was in the heyday of Leduc, and current conservation practices impose far more stringent requirements on those drilling new wells. Technology has also made huge strides in recent years, resulting in such improvements as horizontally drilled wells, which make it possible for a much larger area of oil reservoir to be tapped from a single well. Low-profile, above-ground machinery also makes possible far less disruption of the environment. As a result, some new wells in Western Canada blend in among flourishing market gardens and commercial potato crops.

The oil industry refers to the process of returning old well sites to their preindustrial condition as “abandonment and reclamation.” But somehow “abandonment,” with its connotations of careless and irresponsible abandonment, seems precisely the wrong word to apply to a process that is anything but irresponsible. Indeed, the below-ground work alone can cost upwards of $300,000.

Neil Drummond and Dave Slade, two of Imperial’s environmental advisers, are key figures in the reclamation side of the operation. Drummond, whose territory covers both northern Alberta and northern British Columbia, makes no attempt to conceal his enthusiasm for his job, and to take a drive with him around a set of reclaimed well sites is to glimpse the magnitude of the task that he and his colleagues often face in their daily work. “A year ago,” says Drummond as he stops his truck alongside a beautifully contoured field of sweet-high oats, “there was a pump sitting right over there, with a service road running in from the right and power poles coming in from the left. Recontouring the land presented a lot of challenges. For one thing, the end of this road had been bulldozed away many years before so electrical services could be brought in and to improve access to the well. There were no photographs of records to indicate what the place had looked like originally. So we had to rely on our experience and our imagination.”

It’s a situation that both Drummond and Slade encounter frequently. Reclamation criteria established by Alberta Environmental Protection (AEP), a government department, require that a site be returned to its original state, but often no one can recall what the particular piece of topography looked like half a century ago. In some cases, farmers who have worked the same land all their lives can still remember how the place looked before oil was discovered; in other cases, research on the well history is required to find enough information on a particular site. (This problem will not exist in the future. Regulations now demand detailed information on new sites, including photographs and topographical and soil data, before wells are permitted to be drilled.)

The final look of a rehabilitated site reflects the wishes of the landowner and the use to which he intends to put the land. When a well ceases to be productive and an oil company reclaims the site, the farmer loses his surface rental fee and naturally looks to make up the loss with increased agricultural production provided by the former well site.

The job of environmental adviser requires a rare combination of skills — he or she must be both an agronomist, part landscape architect and part diplomat. Western Canadian farmers have lived alongside the oil industry for many years and are respected as tough and shrewd negotiators. At one of the few sites where...
Drummond is proud of the fact that he and his colleagues have been able to contribute to a more logical approach to the reclamation of old well sites. The adoption of specific criteria is fairly new," he says. "Up to a couple of years ago the business was based on 'feel' -- there were really no hard-and-fast criteria that one could use as a reliable tool to measure the job that had been done. Since then we've been able, through the Canadian Association of Petroleum Producers, to have some influence on the process. The work we have done to date, particularly in the Leduc area, has helped to shape the legislation that's in place today."

Rick Oster, a conservation and reclamation inspector with AEP, says his department has enjoyed a good working relationship with Imperial. "It's a good, honest relationship," he says, "and we've shown ourselves to be very keen at meeting the objectives of the government's reclamation programme."

In the end, however, the diner is a better judge of the meal than the chef. It's the landowner who generally gets to pass final judgment. "It's a subjective one," he says.

Sixty-two-year-old Don Welda, who farms three quarter-sections near Hay Lakes, was born in the area and has lived there all his life. His father emigrated from Norway in 1904 and worked in North Dakota ("in the days when a $10 bill bought you a farm") before moving to Alberta. Imperial reclaimed three sites on Don Welda's property in 1992. "The company did a good job," he says. "I got a good crop every year and the royalties that was planted did well. Of course, we did a little horse trading. Imperial put in a cattle guard for me and let me keep what had been a service road. That was a real asset as far as I'm concerned."

In fact, Welda is no stranger to the oil business. "I worked on oil wells on my own land for 11 years. I was a field operator, looking after four batteries of wells."

Another local farmer, Mac Douglas, echoes Welda's sentiments. "I've farmcd this place for 25 years. In 1992 Imperial restored one of their wells on our land, and I have to say that they made a good job of it, putting it back to the point it had to be. They seeded some pasture for me, and now it's come up really nicely."

Comments such as these are music to the ears of Slade and Drummond. "Typically they do not see the results of their efforts to reclaim a particular site until at least a year after they have initiated remedial action. Even then, occasionally, despite their best efforts and the technical competence of their crews, well sites will fail and require replanting. "You have to be braced for the occasional disappointment," says Slade. "You learn not to be too cocky in this job because, no matter how hard you try, sometimes a new crop will not take in a given

The crop-growing capability of a reclaimed site must be equivalent to that which existed before the site was disturbed.

To a large extent the success of the whole effort depends on common sense and a degree of compromise with landowners."

However, there's no room for compromise when it comes to meeting the standards that Alberta has established for all reclaimed well sites in the province. Precision and exacting criteria are spelled out for landscaping, soil quality and vegetation. For example, the crop-growing capability of a reclaimed site must be equivalent to that which existed before the site was disturbed. The depth of topsoil on a reclaimed site must not be less than 80 percent of the average topsoil depth in the area. Vegetation must be evenly distributed over the reclaimed area, with no more bare spots than on adjoining land. It's not always easy for the industry to meet such stringent criteria. Take the case of topsoil, for instance. Today, it is recognized as a valuable and irreplaceable commodity. But, understandably, nearly 50 years ago, when Western Canada was being drilled daily, environmental concerns took second place (in fact, the salvaging of topsoil from drilling sites was not required by the Alberta government until 1978). The general practice was to cover existing topsoil with a layer of gravel. A few years ago, when reclamation of disturbed land was begun, the mixture of gravel and topsoil was hauled to a disposal site and new topsoil was trucked in to replace it. However, it became apparent that this was expensive and that conserving topsoil was extremely important. After considerable experimentation Western Canada's general practice is toCI a portable topsoil screening machine to separate the topsoil from the gravel. So successful did this procedure turn out to be that, on average, 75 percent of the original topsoil at a site is salvaged for reuse. The
The Ghosts of Gold

Panning for memories of gold rush days in the ghost towns of British Columbia.

By Al Purdy

Driving through the British Columbia mountains. In late April on the Hope-Princeton Highway, when spring has unlocked ice and snow on the heights, you notice streams of water falling down the mountains and falling so steeply that they have scarcely any acquaintance with stone. Passing the nearby mountain walls, you glimpse small patches of purple rock, then oracle, there's purple flowers growing right out of the stone cliffs.

I say to my wife, who's doing the driving, "Isn't it as if the earth was displaying itself, showing off all its best features for our pleasure?"

This exploration into British Columbia's mining high country is no visit ghost towns, preferably where gold had been found and the finders had gotten rich as a result. And where viable remnants of the miners themselves remained.

Gold was discovered at Hill's Bar, a sand bar in the Fraser River near the old fort community of Yale, on March 23, 1858. A week later (on Sunday, April 27, to be exact) just as many of the 100 residents of Fort Victoria, the supply centre for the area, were returning from church, the summer Chemistry, one of San Francisco, pulled into the harbor loaded with gold washer. It was followed shortly by other ships, the Golden Arrow, the Star of Hope, and the Columbia. The little community on

the edge of nowhere was overwhelmed by 1,700 old gold seekers.

In that same year, 30,000 more of them thronged into British Columbia. In 1861, a new strike on Williams Creek in northern Cariboo country, close to the geographical centre of British Columbia, resulted in a flood of miners. Dozens of other creeks in the area produced gold as well. When news of all this reached the eastern seaboard, it seemed that the earth had been turned inside out to move thousands of gold seekers streaming to British Columbia.

My wife and I on our much smaller expedition had already tried to reach Leechtown, 40 kilometres northwest of Victoria on Van-
couver Island. We’d been stopped by No Tres-passing signs on a tangle of logging roads. Back in 1884 Peter Leech found gold-bearing gravel in the river to which his name is now attached.

Shortly after this discovery, hundreds of men slogged up the Sooke River to its junction with the Leech. A few weeks later, six general stores and three hotels were open for business. For the first year, the town was nearly deserted; until very recently, however, miners were still patiently panning the gravel.

At its peak, Leechtown and nearby Boulder City had a combined population of 4,000.

Dorothy and Hedley in the Okanagan-Similkameen area of British Columbia were similarly unproductive of whatever I was looking for. And what was I looking for exactly? Not just rotting log houses, shuttered remnants of people’s lives in the shape of things they left behind. I wanted the sense that actual people places, men and women whose lives were understandable in terms of my own life. And how would I discover that feeling in these rather pitiful abandoned places, among broken boards and useless household utensils, where nothing can touch you in any personal way?

On the mountainside at Hedley, just beyond an unbridged creek, you could see the ruins of a mill. A heavily laden middle-aged man, Barry, is the grand-grandson of Ned Stout, one of the first miners to reach this Cariboo gold field.

Yale is now a neat little community of 250 people; only a plaque beside the river, the local museum and the pioneer cemetery remain of the old town. In 1858, the first year of the Fraser strike, herds of miners from all over the world ranamaged the river for gold. Scarcely a trace of them remains. We met Bob Barry at his logging camp near Yale and, while we were at the mill, a middle-aged man, Barry, is the grand-grandson of Ned Stout, one of the first miners to reach this Cariboo gold field.

Yale is now a neat little community of 250 people; only a plaque beside the river, the local museum and the pioneer cemetery remain of the old town. In 1858, the first year of the Fraser strike, herds of miners from all over the world ranamaged the river for gold. Scarcely a trace of them remains. We met Bob Barry at his logging camp near Yale and, while we were at the mill, a middle-aged man, Barry, is the grand-grandson of Ned Stout, one of the first miners to reach this Cariboo gold field.

Yale is now a neat little community of 250 people; only a plaque beside the river, the local museum and the pioneer cemetery remain of the old town. In 1858, the first year of the Fraser strike, herds of miners from all over the world ranamaged the river for gold. Scarcely a trace of them remains. We met Bob Barry at his logging camp near Yale and, while we were at the mill, a middle-aged man, Barry, is the grand-grandson of Ned Stout, one of the first miners to reach this Cariboo gold field.

Yale is now a neat little community of 250 people; only a plaque beside the river, the local museum and the pioneer cemetery remain of the old town. In 1858, the first year of the Fraser strike, herds of miners from all over the world ranamaged the river for gold. Scarcely a trace of them remains. We met Bob Barry at his logging camp near Yale and, while we were at the mill, a middle-aged man, Barry, is the grand-grandson of Ned Stout, one of the first miners to reach this Cariboo gold field.

Yale is now a neat little community of 250 people; only a plaque beside the river, the local museum and the pioneer cemetery remain of the old town. In 1858, the first year of the Fraser strike, herds of miners from all over the world ranamaged the river for gold. Scarcely a trace of them remains. We met Bob Barry at his logging camp near Yale and, while we were at the mill, a middle-aged man, Barry, is the grand-grandson of Ned Stout, one of the first miners to reach this Cariboo gold field.

Yale is now a neat little community of 250 people; only a plaque beside the river, the local museum and the pioneer cemetery remain of the old town. In 1858, the first year of the Fraser strike, herds of miners from all over the world ranamaged the river for gold. Scarcely a trace of them remains. We met Bob Barry at his logging camp near Yale and, while we were at the mill, a middle-aged man, Barry, is the grand-grandson of Ned Stout, one of the first miners to reach this Cariboo gold field.

Yale is now a neat little community of 250 people; only a plaque beside the river, the local museum and the pioneer cemetery remain of the old town. In 1858, the first year of the Fraser strike, herds of miners from all over the world ranamaged the river for gold. Scarcely a trace of them remains. We met Bob Barry at his logging camp near Yale and, while we were at the mill, a middle-aged man, Barry, is the grand-grandson of Ned Stout, one of the first miners to reach this Cariboo gold field.
once saw camels form part of its traffic, until they spoke the more numerous horses and the experiment was abandoned.

We branched off Highway 97, the main north-south artery, at 150 Mile House, taking a wilderness road that led eastwards to the stars, or seemingly did. Our objective now was Horsefly, the oldest of the mining camps (it opened in 1899). Not much is left in the way of ghost town ruins. Then why Horsefly?

Mainly because we liked the sound of the name. (Just say it to yourself, “Horsefly.”) Doesn’t it rival Tumbstone, Dodge City and all the other American western show-cowtowns?

The guidebooks were right about Horsefly. It’s now a scattered village of painted frame houses with nurly a log cabin in sight. Farmhouses and ranches appear to intrude right into the settlement itself. We went searching for one old log cabin said to date from the earliest times but encountered only a friendly dog. All we got from Horsefly was two orders of poached eggs on toast (12 bucks) at the local restaurant and that half- Jim cat to whisper in the mind.

For north by this time—bright and sunny by day, much colder at night because of the increased altitude. From Horsefly country to Likely (another tiny modern community), following a wandering gravel road with cattle grids at intervals to prevent the cattle from straying. (The biscuit brown-and-white animals are probably like me— in a phone booth I have to dial the operator to ask how to get out.) The calves we saw here didn’t look more than a few weeks old and stayed close to their mothers. Small herds of deer lifted their heads in wonderment as we went by.

From our motel at Likely to Quesnel Forks, an old-time mining settlement eight kilometres across the hills. Hills! Hell no, nothing to contain. Our Chevrolet Lumina clung to a road scaped from the sides of overhanging cliffs as it fell the earth below. You could see the road on the road from which mountain landslides had taken a bite and were hungry for more. It occurred to me then: A single rain drop might trigger a thousand tonnes of rock and gravel to fall on the roof of my car. It’s an uneasy feeling.

Hupper up, snow had disappeared; spring was coming in the mountains. Deciduous trees in little groups spread lazy netting to catch the sky. Evergreens remained apart, but in darkness.

Quesnel Forks amounted to a dozen or so log buildings, tumbling down and caught in the act. I had no sense that people had ever lived here, despite the indistinguishable remains.

Wong Kim, the last Chinese miner here, died in 1956. In his heyday during the early 1860s the town had been half Chinese and half Caucasian— it was one of the early Cariboo gold towns.

Less than 200 kilometres from here, in a narrow valley, is the place to which Billy Barker came from Cambridgeshire, England, via the California gold fields. Barker is described in one guidebook as "five feet nothing" with a bad temper. Here as well came the greenhome and veteran forty-miners with fever in their veins, searching for the last big strike. Many of them remain here, part of the earth.

Barkerville itself is now government-restored but still a ghost town, despite the arrival of 120,000 noisy tourists during the summer season.

On August 17, 1867, Billy Barker made the richest strike here that “anyone had ever seen,” according to the tourist brochure. In 10 hours he and his partners took out 3.5 kilograms of gold.

Seemingly overnight a wilderness community sprang up mining camps were born—saloons, groceries, brothels, blacksmiths, a drugstore and bakery— everything sprung up magically here in the mountains nowhere.

When my wife and I arrived, great heaps of piled snow stood among the log and frame buildings. At the administration office we were rewarded to ask how to get out.) The calves we saw here didn’t look more than a few weeks old and stayed close to their mothers. Small herds of deer lifted their heads in wonderment as we went by.

Fro come motel at Likely to Quesnel Forks, an old-time mining settlement eight kilometres across the hills. Hills! Hell no, nothing to contain. Our Chevrolet Lumina clung to a road scaped from the sides of overhanging cliffs as it fell the earth below. You could see the road on the road from which mountain landslides had taken a bite and were hungry for more. It occurred to me then: A single rain drop might trigger a thousand tonnes of rock and gravel to fall on the roof of my car. It’s an uneasy feeling.

Hupper up, snow had disappeared; spring was coming in the mountains. Deciduous trees in little groups spread lazy netting to catch the sky. Evergreens remained apart, but in darkness.

Quesnel Forks amounted to a dozen or so log buildings, tumbling down and caught in the act. I had no sense that people had ever lived here, despite the indistinguishable remains.

Wong Kim, the last Chinese miner here, died in 1956. In his heyday during the early 1860s the town had been half Chinese and half Caucasian— it was one of the early Cariboo gold towns.

Now just a part of British Columbia's history, Barkerville (top), in the province's Cariboo country, was a booming mining community in 1865.
toria with $300,000 more of it and retrieved his wife's body, returning with it by ship around Cape Horn to Canada West. There he married again, this time to Christianne Wood in 1865.

But rumors began to circulate about Sophia's body; was it really inside that metal casket or could the casket be filled with gold and not Sophia? Then a New York newspaper reported that the lady had returned from the dead: she'd been a slave among the Indians, evidently now was back at Cameron's grandiose new house in Cornwall, along with Cameron and Christianne. The bedevilled and angry Cameron was forced to exhume his former wife's body and prove there was no skulduggery afoot or under.

A crowd gathered at the cemetery, both relatives and the ruberneck curious. Cariboo Cameron poured out the alcohol, the body was identified and the casket sealed again. Rumours ended. One story has it that grass never grew again where Sophia's last drink drained into the earth.

In Wells, a small community eight kilometres from Barkerville, we called on Kathy Landry to ask her about present-day miners searching for gold in the Williams Creek area. Landry, a pleasant-looking woman in her late twenties, had lived in Barkerville until 1951 when she moved to Wells. (The B.C. government took over Barkerville in 1958.)

"I object to Barkerville's being a ghost town," Landry told me. "It was a nice place to live before the government got involved." And while we were there she also talked about Mildred Tregillus. "Her father and brother were both miners for years," she said. "She's in hospital extended care at Queenel, getting pretty old. But her mind is still sharp and clear. She'll be able to tell you all about the old days."

From Barkerville to Queenel (not to be confused with Queenle Queulfl of the gold rush days), 89 kilometres on Highway 97, the Chevy van clocked a regular 100 kilometres an hour, the people whose lives and deaths I had touched on passed through my mind again. Cariboo Cameron on his long journey around Cape Horn, lagging the pickled body of his dead wife, Billy Barker, "live foot nothing" with a red riempor, John Curry at Granite Creek whose lassies paid large dividends. But more than any of the others, Mildred Tregillus in Queenel - alert and somehow indomitable, preparing for a long journey.

There is no happy ending to this kind of story. Nearly all of those long-haul miners who found the rainbow's pot of gold wasted their money on gambling and booze or whatever, but who is to say that it was really wasted? Cameron had the feeling those lives were filled fully, their outpourings of triumph so wholehearted, their drunken howls at the moon so pleasant - in some unexplainable way they have not died. And the gold itself even after the glittering yellow nuggets are sold, for dollars and groceries and boozes, their feverish dream will remain in the mind for human generations yet to come.

IN CLOSING

THE NEWCOMERS

One rainy afternoon a few weeks ago, a colleague walked into my office with two cups of tea and what he forcibly refers to as a "sticky bun." As he broke the bun in two he said, "We're celebrating. I've been in Canada 40 years today."

The incident started me thinking about immigration, a subject much in the news these days. I've heard complaints that immigrants take jobs from Canadians and drain the public purse. I've even heard them blamed for the increase in crime. A Statistics Canada report released last summer, however, tells us that immigrants are, as a group, better educated, harder working and less likely to find their way into prison than people born in this country.

Over the years I have met a vast number of fellow immigrants, and my life has certainly been better for it. I think of Tan, who came to Canada from a Malaysian refugee camp in 1982, fleeing by boat from Vietnam, where he left his wife and young daughter. Tan shared a tiny, worn apartment with another Vietnamese immigrant and worked as a dishwasher for the minimum wage, scrip-ping to save every penny he could so he would be able to bring his family to Canada.

When he wasn't working, Tan spent most of his time studying. A pharmac- ist in Vietnam, he had to qualify in Canada and, since he was settling in Ontario, become proficient in English. Within five years his wife and child had joined him and he had opened a pharmacy, employing several people.

Tan was a friend of my cousin's, and met him a few times at her apartment, when we were both invited to dinner. Despite his meager income and need to save, Tan would always bring a contribution. He would talk about his efforts to get his family out of Viet- nam. He was always hopeful, and while his life was then a very hard one, I never heard him complain. He was, it seemed, grateful simply for the freedom and opportunities this country offered him - he had, it believed, been in a "re-education" camp in Vietnam.

My cousin tells me that today Tan and his wife own their own home and car and have another child. I think of Erma, who came from the Philippines and for a while looked after my children when I was at work. During the seven or so years she has been in Canada she has cared for - and loved - children from at least five families. Erma never forgets any of "her" children. Every Christmas Eve - after work if it's a weekday - she makes her way around the city by subway to take each child a gift. Erma and her sister have managed to bring their parents and two sisters to Canada. The sisters found jobs within a few months, and the daughters support their par- ents. The family is living together in a one-bedroom apartment. When Erma first told me this I commented that it must be a bit crowded. She smiled and replied, "We are all together, Sarah. We are happy."

I think, too, of Alec and Mary, who walked through the mountains by night to Bee Eastern Europe after the Second World War with little more than their lives and baby daughter and who were like kin to me when I was a teenager and lonely for my relatives in England; of my cousins and aunt, who emigrated from the Bahamas more than 20 years ago and who, as a matter of course, volunteer many hours to various organizations and by example urge others to give themselves too of the immigrant women who formed part of the housekeeping staff of the Public General Hospital in Chatham, Ont., and whose warmth brought com- fort to many a patient and made the two summers I worked at the hospital as a cleaner more than 20 years ago a pleasant experience.

I was heartened to hear of Statistics Canada's findings and hope that they will help to make people less quick to judge all immigrants on the misdeeds of a few. This country, I think, is richer for the varied perspectives and experiences its immigrants bring, and I, for one, would like to say thank you to them. - Sarah Lasley

30 Spring 1995