BARRY JOHNS

Reset

1

Changing the Built Environment in Alberta

Architecture must now construct anew the whole social pattern of our time as a new order of the human spirit.

—*FRANK LLOYD WRIGHT* (1936), cited in Pfeiffer, *Frank Lloyd Wright*

ARCHITECTURE AND URBAN DESIGN in the province of Alberta are explored in this chapter through the eyes of a private practitioner who has been based in Edmonton since 1979. Specific historic and architectural influences are examined to build on the idea of an emerging new response to place in the first quarter of the twenty-first century; this perspective differs from that of an Alberta historically recognized by its pioneering, discount-oriented culture of "Do it now, fast and cheap." Buildings and significant architecture in the province are also surveyed alongside an analysis of the city, framing the proposition that it is time to reposition a province symbolized by its conservative, agrarian past, suburban sprawl, and automobile reliance into a knowledge-based leader in new, responsive, sustainable, resilient architecture and urban ecology.

The discussion focuses on the city of Edmonton but references the province of Alberta and the global context to support the argument.

Prairie Roots

The Canadian prairie is a region unique on earth. As an architect, one quickly comes into contact with and learns a deep appreciation for its vernacular culture and harsh climate. With hot, dry summers and cold,

FIGURE 1.1. *Cree woman and children in front of tipi, Calgary, Alberta, 1887. Photograph by William McFarlane Notman. Used with permission of the McCord Museum* VIEW-1821.

windy winters, we are influenced by the desire of its first inhabitants to live in harmony with the land.

The big sky—closer to us on the Alberta prairie than anywhere in Canada because we are situated 2,500 feet above sea level, on average — yields intense sunlight, violent storms, and other phenomena such as sun dogs, chinook arches, the phantasmagoric northern lights, the moon, and a star constellation that clearly illuminates the snowy winter landscape.

Light here—even the lack of it—is our obsession. It is a surprise to those living at sea level, and used to Arthur Erickson's fond description of the soft, "milky white light" of Canada's sodden coastline, to discover the relentless intensity of the sun in this place and the depth of its natural colour palette, where sunglasses and solar protection are prerequisites year round.

I consider this light as a building material that animates our architecture when the sun is so strong and the sky so clear. It penetrates

deep inside our buildings, casting dappled shadow patterns while roof profiles play with razor-sharp precision against the northern sky.

Into this environment, Indigenous building traditions date back ten thousand years when architecture was created entirely from nature. Nomadic First Nations honoured its bounty, building only with sticks and skins. The tipi is the simplest and best example of all structures—organic, structurally stable, windproof, waterproof, warmed by an internal fire, cooled by natural ventilation, portable, and reusable for many seasons (see figure 1.1). The original sustainable architecture, it touched lightly on the earth, an enduring symbol of exploration and human settlement in the west.

European settlers and railwaymen who arrived on the prairie had little option but to work with the land. Log and sod houses were carved out of their immediate surroundings of forests and plains. This would become a craft-based culture—with the use of wood in Canada now legendary— honed by new tools and equipment made of iron, perhaps best exemplified by the beautiful avalanche sheds that were hewn out of necessity and constructed by the Canadian Pacific Railway in the verdant, snow-engorged passes of the Rocky Mountains (see figure 1.2).

Prior to the first settler building boom, the design of prairie settlements was entirely pragmatic, with survival and shelter being the basic require-ments. At the time of the province of Alberta's founding in 1905, the combined population of Montreal, Ottawa, and Toronto was already more than one million, whereas there were only forty thousand homesteads and a few trading posts (but more than fifty startlingly diverse ethnic or cultural groups) making up this place. Thoughts of cities and urban life would come much later.

Capital Modern: A Guide to Edmonton Architecture & Urban Design alludes to this stark contrast of Canadian cultural geography.[1] A definition of pioneer culture is attributed to Marshall McLuhan (who spent many years in Edmonton and Winnipeg); he observed that "the non-specialization of life on the prairies (a harsh landscape and extremely low population densities forced farmers to be meteorologists, mechanics, accountants, botanists, veterinarians, builders, managers, politicians and poets) imparted an admirable independence of thinking among its residents."[2]

FIGURE 1.2. *Historic photograph, glass lantern slide, showing the construction of a snow shed on the Canadian Pacific Railway, Glacier Park, British Columbia, 1887; copied ca. 1902. Note the size of the milled timbers compared with the diminutive scale of the railwaymen on the roof.*
Used with permission of the McCord Museum N-0000.25.1060.

This culture breeds a self-deprecating and pragmatic self-confidence—prairie people eschewed the need for personal promotion while frowning on those who succumbed to it. It took boldness, innovation or invention, and back-breaking hard work to settle and prosper here; there was no time for anything else. As a transplanted easterner, I see courage, leadership, hard work, and innovation to be the least understood but most endearing of traits among prairie residents with a deeply rooted family history.

Patterns and Development Influences

Another essential trait of the isolated settler population of farmers, ranchers, and merchants is, of course, a fierce independence. Often the freedom that comes with this independence enables a community, once established, to continually reinvent itself through growth while subconsciously sticking to its habitual norms and resisting change, often without discipline.

Early Albertans perceived that there was enough discipline already employed by the Dominion land surveyors and the Land Titles Act, which legally partitioned the province into large agricultural sections and smaller parcels of land for private ownership and real estate development. A surveyor's grid superimposed at varying scales across the entire countryside established both law and order and, in effect, controlled a pattern for the growth of settlements into larger communities.

Ironically, the lovely natural surroundings that interrupt (yet today, define) prairie grid cities—their rivers and ravines—had little early influence in the actual design of places. Driven initially by the fur trade, then by a need to move agricultural products to market, cities like Edmonton evolved during the first real-estate building boom prior to the First World War, around commerce and the railway. The rivers were service conduits— the first facilitators—for transport and water; they were not heralded for their intrinsic beauty.

The prairie city also evolved piecemeal through economic boom-and-bust cycles, with sporadic development. Edmonton experienced discontinuous and incomplete urban development—a lacuna city in an organic sense—throughout the entire twentieth century, with interrupted periods of intense activity producing only pockets of concentrated development on cheap land in commercial, retail, industrial, and housing sectors. As well, unlike cities such as Halifax, Vancouver, or Toronto, where the sea, the mountains, or great lakes militate against growth in every direction, naturally promoting densification, a prairie river city freely expands in all directions, deep into the hinterland. Once begun, this pattern becomes an entitlement, a land avalanche of habitual and exponential consumption fed by boom-cycle industrial development and suburban growth.

The most fertile soils of the hinterland are sacrificed in the process for these same suburbs, industries, and even airports. The unintended consequence of this growth is that Edmonton today, at approximately five people per acre, has one of the lowest population densities, yet it is the largest consumer of land of any city in Canada.[3] Strathcona, the west end, and other new suburbs with their own town centres around the periphery of the city, each suffer the underdeveloped gaps between them, leaving behind an eclectic patchwork-quilt aesthetic that is difficult to perceive as a whole, as a harmonious or contiguous place. Density, since it is not geographically mandatory, does not naturally fit the prairie zeitgeist.

Such was the fate of the first one hundred years of many prairie cities—a generic image around its built form, with modest downtowns and skylines. Calgary's urban profile, while much more expressive than Edmonton's, still relies on the distant Rockies for its primary identity. It is only the verdant and bucolic North Saskatchewan River valley in Edmonton that provides a city-scaled, iconic constant. Likewise, the rivers and valleys are important to Red Deer, Saskatoon, Regina, and Winnipeg, contributing more to place than the cities' architecture.

Suburbia

The exemplification of the North American Dream—a family, a car, a house, a yard—is right here on the prairie. As a desired way of life in the mid-twentieth century, this ideal continues to extend the patchwork quilt of the city today as a primary pattern.

Edmonton and Calgary were originally compact cities, each with a river and a railway running through them. As they comprised smaller land tracts and leafy neighbourhoods within relatively easy walking distance of each other, there was rendered an identity or sense of place with clearly defined zones for living and working—all seamlessly integrated by the grid. However, three booms (the discovery of oil in Leduc in 1947 and the growth of an industrial employment base; the post–Second World War baby boom; and the building boom it caused) proved a combined force so strong as to move the province away from its agrarian past and tightly woven young

cities within a generation. The need for new housing to accommodate a rapidly expanding population, and massive government road-building projects, combined with the encouragement of car ownership, spread new families further into the hinterland, completely decentralizing the prairie city. Unencumbered geography also led to a limitless ability to annex cheap agricultural land—where parcels could be purchased by the acre—resulting in an even more fertile setting for suburban growth. The pattern continues today.

This rapid expansion for housing, commerce, and industry followed the rest of North America but was geographically unfettered on the prairie. Suburban neighbourhoods could increase in size, scale, and population (some eventually reaching sixty thousand inhabitants). Achingly monotonous "megahoods" now surround cities with their superblocks, disorienting cul-de-sacs, automobile-oriented streets, homogenous shopping centres, and colour-matched, so-called architectural controlled suburban rooftops. Each is linked by expressways, the pedestrian all but forgotten, yet remain disconnected from the city and its cultural amenities—except, of course, by car. The car, celebrated as a progressive symbol, enables living in one place and working in another, expanding the mantra of space, individuality, and freedom. Over time, the automobile becomes essential to city living on the prairie. To be without one is to be essentially disconnected from everyday life.

With low density and cheap land, Alberta quite naturally subscribed to the new age of suburbia. Even in cities the idea of large-tract land owner-ship that was so deeply rooted in a pioneering culture proves just too compelling, if not essential, for prairie people. Prairie cities would not thus be naturally urbanized—either by desire, geography, increasing popu-lation, or even the advent of mass transit. In contrast to the much larger, constrained eastern cities of Montreal and Toronto, with more than one hundred years of established mixed-use urbanization before Alberta was founded, prairie downtowns were not considered beyond their traditional singular role as employment centres for decades.

The Modern Movement

Prairie settlers were not particularly aware of or interested in the origins of modern design that emerged in the nineteenth century when Joseph Paxton's 1851 Crystal Palace in London and the 1889 Eiffel Tower in Paris celebrated the new mechanized spirit of the Industrial Revolution. The stripped-down aesthetic that followed in Europe with the founding of the Bauhaus in 1919 was a significant departure from the comfortable symmetry and decorative tradition of neoclassical and Beaux Arts styles. This modernist philosophy of breaking with history and dismissing what was seen as useless, non-functional decoration became a series of theoretical positions in all of the arts—including, of course, architecture, where its protagonists aimed to completely change and reform public opinion.

While new materials of iron, steel, and glass combined with mass production and technology would change almost every preconception about building design, industrialization and the new modern ideals to follow were initially adopted out of necessity on the prairie, not as stylistic or artistic conceit.

Again, it was the Canadian Pacific Railway (ironically the developers of magnificent baronial and "châteauesque" hotels across the country) that, perhaps inadvertently, introduced the first ideas of modernism to Alberta. A succession of beautiful railway bridges eliminated unnecessary embellishment through pragmatic engineering. Structure was expressed in its pure nakedness, inherently celebrating space and light in the process, and the bridges' lacy horizontal profiles registered against the sky and aligned with distant horizons. The 1909 Oldman River Trestle bridge in Lethbridge was the longest and highest of its type in North America when completed (see figure 1.3). The 1913 double-decked High Level Bridge in Edmonton, accommodating trains, streetcars, automobiles, and pedestrians, was the first modern urban infrastructure, embracing utility and beauty long before the impact of modernism on prairie architecture.

Prairie cities did include government or corporate commitments to the public realm but did not originally follow these new ideals. In Edmonton,
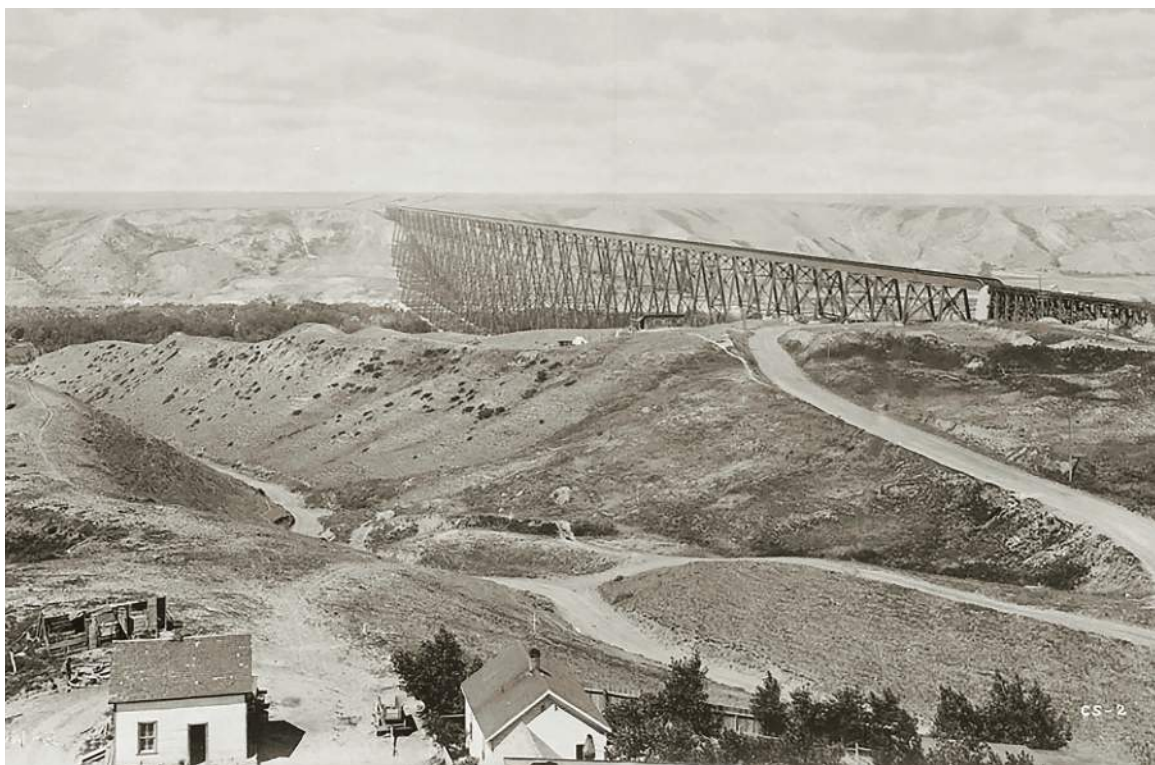
FIGURE 1.3. Oldman River trestle bridge, Lethbridge.
National Film Board of Canada. Photothèque / Library and Archives Canada / PA-044741.

buildings such as the Provincial Legislature, the early academic buildings of the University of Alberta (U of A), and the railway hotels (the MacDonald in Edmonton and the Palliser in Calgary) followed the same design tenets as those in bigger cities, generally retaining traditional styles.

Beaux Arts design traditions were eventually shed after the 1930s as the architecture profession secured a position and established strong periods of growth. Despite interest in the modern movement in architecture from the 1930s elsewhere in Canada, modernism and the impact of its heroes—Walter Gropius, Le Corbusier, Ludwig Mies van der Rohe, Peter Behrens, Eero Saarinen, and Frank Lloyd Wright—would not be significant until some twenty-five years later in Alberta, with the post-war building boom. The inaugural Banff Session in 1956[4] and the introduction to Alberta of the Austrian-American architect Richard Neutra, one of the leaders of early European modernism, fuelled an intellectual path of scholastic inquiry

FIGURE 1.4. Edmonton City Hall, designed by Dewar Stevenson and Stanley Architects and demolished in 1989–90. Used with permission of the City of Edmonton Archives EA-20-990.

by prairie architects wishing to explore new ideals and materials. This spawned a generation of experimentation among the province's better architects, and the modern movement became the cradle for it.[5]

In the modern period, lasting well into the 1960s, architects who had struggled in prior years were finally rewarded with a new and much higher demand for their services, and most of the province—certainly its cities—was built during this time. With an influx of new practitioners from abroad, including a few iconoclasts and new graduates from Canadian schools of architecture such as the one at the University of Manitoba, the ideals of modernism began to manifest in new public buildings. These included schools and office or industrial buildings and, as they were gradually accepted, high-rise, even iconic skyscraper, office buildings like Edmonton's CN Tower and daring 1957 City Hall (see figure 1.4).

Fondly remembered as a superior example of modernism in Edmonton and inspired by the United Nations Headquarters in New York City, the City Hall featured a curtain-wall window-cladding system and brise-soleil (sun screens). The Council Chamber was raised on support columns, or pilotis.

The modern movement thus generated an extensive archive of modernist buildings in Alberta. Excellent examples remain in the cities of Edmonton and Calgary. Interestingly, only a few innovative architects working in the province—Peter Hemingway, Arthur Erickson, Jack Diamond, Barton Myers, Douglas Cardinal, and Don Bittorf, all of whom were trained either abroad or at schools outside the province, especially eastern schools—would command national or international attention and forge the underpinnings of a recognized design culture in the province.

Despite the deep influence of the modern movement on Alberta's architecture, an enduring pedagogy has been denied by a general public that has systematically allowed the demolition of many of the best buildings of the period—those from the 1950s, 1960s, and even the 1970s.[6] Only in recent years has their historic value been recognized. The image or messaging that each embraced was neither familiar nor universally accepted by a conservative population. New ideals and intellectual pursuits agitate one's sense of comfort, one's independence. This is another part of the prairie zeitgeist—a pioneering spirit founded on hard times, where change (inherent to innovations in art and architecture), after years of hardship caused by ongoing cycles of boom and bust, is more often met with skepticism or stubbornly dismissed altogether.

Further, recognition of architecture as a catalyst to improve one's quality of life is a premise not intellectually saluted on the prairie. I attribute this attitude primarily to the lack of identity and coherence in the city structure. The emphasis on individual lifestyle choices as embodied by the car and the suburbs—with few truly engaging public buildings and transformative urban spaces—meant there was actually little public engagement with architecture.

This situation changed with increased air travel, public exposure, and continued growth into the late 1960s when the prairie loomed as a place of

enormous opportunity. The recognition of Canada due to its world expo-
sition in Montreal in 1967 saw the emergence of architecture on stage.
Architecture exploded as an identifier of regional culture, of just who we
are. While the diverse Canadian mosaic emerged as a conversation across
the country, architecture also acquired new meaning and *gravitas* in
prairie cities.

Expo 67

The extremely optimistic era of the 1960s culminated in Canada's centen-
nial celebrations and the world's fair known as Expo 67 in Montreal. The
exposition featured ninety pavilions representing themes around "man
and his world," sixty-two nations, corporations, and industries on two small
islands in the St. Lawrence River that had been enlarged by excavated
material from the construction of the underground Montreal metro.

For six months Canada shone on an international stage that many coun-
tries would later declare as the most successful exposition of the twentieth
century. In terms of political and cultural context, Canada had come of age
with a landmark moment in its young history.

The Canadian pavilion, designed by an architectural consortium
including Arthur Erickson, featured a bold inverted pyramid that show-
cased Canadian forestry and wood products as large-scale structural
building materials (see figure 1.5). The diverse landscapes and cultures
of each region of Canada were explored in provincial pavilions and other
theme buildings. Contemporary architecture in Canada emerged for the
first time, almost instantly, in public conversation.

Canadian construction expertise and indigenous materials—from zinc
and wood to Tyndall limestone and Quebec granite—introduced a wide-
eyed public to a stunning array of pavilions never before seen. Even the use
of poured-in-place, precast, and post-tensioned concrete garnered special
attention. As a teenage Montrealer student armed with a youth pass-
port that allowed access to the site, I viewed the exhibition every day that
summer. This incredible collection of inhabitable art proved too powerful;
it was clear that architecture was my path to pursue.

The national centennial celebration accompanying Expo 67 lasted an entire year, with special events in all areas of the country. In Alberta alone, more than four hundred projects ranging from works of literature, to music and the visual arts, to parks development, to new buildings and infrastructure all contributed to the country's collective pride around innovation, new directions, and hope for a prosperous future.

While architects experimented widely at Expo 67, the provinces also experienced a sea change in the awareness and acceptance of modern architecture as part of the public realm. In Edmonton a public debate resonated with the completion of such varied works as the conservative Centennial Library and the Provincial Museum versus the boldly quixotic Coronation Pool by Peter Hemingway.

The late 1960s, as a result, fomented a new-found boldness of spirit that enabled—even encouraged—new architect intellectuals to innovate. Architecture emerged with art, theatre, music, and literature as an important cause—a culture of modernism and a passion that insisted

this mattered. I studied the impact of modernism in architecture school in the early 1970s. It held significant promise, a breakthrough in Canada. However, as professionals in Alberta, architects continued to struggle to secure an enduring presence among the general population.

The Iconoclasts

Despite the large body of modernist work completed along the Edmonton-Calgary corridor, it is clearly the late modernism of the 1960s and 1970s that can be claimed as the most meaningful in Alberta's short history. Innovative architects of the time explored a local form of modernism that contrasted with universal modernism. It was design that followed the basic tenets of the modern movement but reflected the surrounding environment through interpretation of form, materials, or symbolism. However, these architects also demonstrated currency with other new ideas and buildings that were developing around them elsewhere in the world. This strong emphasis on a universal or global form of expression is perhaps another reason that Albertans have generally not hesitated to replace their built history. Born from European ideals and employed around the world, much of the modern movement was simply not their own.

Space limitations in this chapter preclude a broader investigation of buildings and their architects from this period, especially given that these investigations exist elsewhere. However, the first meaningful and unique design culture in the province can be positioned squarely among the iconoclasts of the late modern movement who were working in Alberta. Of the many important architects who have contributed to the positioning of modern architecture in Alberta, only a few favourite examples are referenced here: Peter Hemingway, Jack Diamond, Barton Myers, Arthur Erickson, and Douglas Cardinal.

Peter Hemingway

Introduced to Edmonton from England via Alberta Public Works, Peter Hemingway catapulted individually to pre-eminence with the Massey Medal–winning Coronation Pool in 1967 and his Stanley Building in 1968.

FIGURE 1.6. *Coronation Pool, a centennial project in 1967–70, now the Peter Hemingway Fitness and Leisure Centre, Edmonton. Photograph by James Dow.*

The pyramidal Muttart Conservatory came later, another iconic building that continues to symbolize Edmonton. Each is a vivid reminder of the optimism of Edmonton during the 1960s.

Coronation Pool (see figure 1.6) is a dramatic, tensile structure, conceived and engineered without the use of computer-assisted, three-dimensional drawing. It owes a debt to the Metabolist architect Kenzo Tange and his 1964 National Olympics gymnasium and pool in Tokyo, a much larger complex with a similar, fluid roof profile. Nested into a bucolic park, Coronation Pool is a technical improbability using a steel-cable roof-support system never before attempted in the cold Canadian climate. The building is one of the city's most popular icons—a habitable sculpture that was eventually renamed in honour of its architect,[7] and received the prestigious Prix du XXe Siècle Award from the Royal Architectural Institute of Canada in 2012.

FIGURE 1.7. *The mall of the Housing Union Building (HUB), 1968–73, University of Alberta, Edmonton. HUB, as its acronym suggests, was conceived as a central gathering place for students and the university community.* Photograph by James Dow.

Diamond and Myers Architects

The Toronto firm of Jack Diamond and Barton Myers (both influenced by working with the acclaimed architect Louis Kahn) developed an entirely new paradigm for student housing with its Housing Union Building (HUB) of 1968–73 for the U of A (see figure 1.7).

This was a time of major institutional growth, experimentation, and widespread student unrest fuelled by the now infamous Kent State University shootings and protests about the war in Cambodia and Vietnam. The building was an opportunity to put in place a new sense of order and democracy. The project was completed with Edmonton architect R. L. Wilkin and addresses living in a cold climate through multi-storey housing units arranged above a necklace of support services along a 1,000-foot-long

FIGURE 1.8. University Hall, 1969–71, University of Lethbridge. University Hall is a fitting response to the terrain in which it is found. Photograph used by permission of Simon Scott.

interior skylighted galleria. It was conceived as the first phase of a long-range campus plan for the institution. The original concept envisioned a myriad of such buildings connecting existing academic buildings on the campus. HUB, as a prototypical indoor community, is an innovative, regional invention about habitation, climate, and place. It is the only truly original modernist thesis in the province. Despite ongoing changes and alterations that have an impact on this oeuvre, the complex endures today.

Arthur Erickson

The "greatest architect we have ever produced,"[8] Arthur Erickson is a Canadian architect synonymous with the integration of architecture and nature. Influenced by the majestic surroundings of his native British

Columbia and his travels, Erickson's best work is always associated with site, light, and cadence. The 1969 University Hall on the University of Lethbridge campus engages the rolling coulees of the Oldman River like a steady ocean liner on a stormy sea (see figure 1.8). The building is completely nested into its unique natural setting; no other architecture in Canada so completely and timelessly resonates with its natural surroundings. In a city famous for its severe, windy climate and dry, almost desert-like summers, the building is protected from the wind by its low profile below the brow of the coulee hilltops on campus. Its pilotis superstructure hovers slightly above the terrain to minimize disturbance to the drought-tolerant fauna and ground covers that characterize this eco-sensitive area of the prairie.

Douglas Cardinal

The modern movement in Alberta at times showed respect for early First Nations' building traditions, particularly a reverence for nature. Nowhere in Alberta's architectural history is there a more original or formidable example of this respect than Douglas Cardinal. His Métis and Blackfoot heritage inspired a love of harmonious curvilinear form, a natural system based on the simple notion that there is no straight line in nature. Thus began a deeply personal, holistic philosophy around organic architecture, pioneered and lionized by Frank Lloyd Wright. However, unlike Wright who used the horizontal planes of prairie landscapes to ground his buildings and integrate them into their natural surroundings, Cardinal develops "object" or sculptural buildings on the ground.

The most original architect to come out of the province, Cardinal continues this oeuvre in new projects around the world. His office was an early adopter of computer-generated design and was inspired by the free-formed possibilities of moulded plastics. His first major commission—St. Mary's Church in Red Deer in 1968 (see figure 1.9)—could not have been built without computer-assisted design. This iconic project established his career, and, for many today, it remains one of his most striking buildings.

Douglas Cardinal completed many other works in Alberta, such as the Grande Prairie Regional College and the Ponoka and St. Albert town and

FIGURE 1.9. St. Mary's Church, 1968, Red Deer. The curvilinear and spiral brick walls have a complex roof slope that required computer calculations to resolve. Photograph courtesy of Douglas Cardinal and taken by Hugh Hohn.

government service centres. In later years he completed the Canadian Museum of Civilization, in 1989 (renamed the Canadian Museum of History in 2013), and designed the Smithsonian National Museum of the American Indian in Washington, DC, completed in 2004.

These architects of the late modern movement, iconoclasts each, showed commitment to the social ideal that architecture should deeply influence and change our lives. Their brilliant individual design skills—while all different—derive nevertheless from many tenets of the modern movement. This is the great architecture of Alberta, confidently establishing a sense of place—unique, authentic, and timeless in its setting.

Mall Culture

Downtowns with lively streets, communal settings, parks, public art, buildings, skylines, and people contribute to a great city, regardless of location.

While splendid natural surroundings such as those found in Vancouver and Hong Kong are of iconic importance, great cities around the world share common values of people-friendly environments and streets, efficient movement systems, a clear self-image, cultural significance, and a confident sense of place. From Paris, San Francisco, and Copenhagen to smaller urban centres like Quebec City and Halifax, each demonstrates, some, if not all, of this embodied energy through its downtown.

Prairie cities, aside from their own natural surroundings, rarely possess such character. Just as suburban housing development is so dramatically conspicuous in a prairie city, so too is the reckless pattern of shopping-mall development that systematically interferes with urban life and the quality of its growth.

Essential services are necessary in each suburb to enable comfort, convenience, and a complete lifestyle. With schools, churches, libraries, community parks, and playgrounds, prairie suburbs eventually grow into small towns. As they have the shopping district and town centre close by, the need for a lively, centralized downtown is eroded unless one actually works there.

In a typical suburban development of cul-de-sacs, limited sidewalks, and automobile-reliant families, the convenience of being able to access services with free parking by the front door proves irresistible, especially in winter. Shopping centres, once small and neighbourhood oriented, became larger regional centres with major grocery stores serving an increased catchment area. The appeal and value of a suburban neighbourhood, now largely homogenous, controlled, and fenced in, is often measured by its proximity to these retail centres. This is further reinforced by the even cheaper "power centre" of big-box stores built in the past fifteen years. An even better solution for developers, they offer greater convenience with the maximum number of cars being parked right at the front door.

Shopping downtown in bigger department stores could only hold its appeal for so long and is doomed when parking is hard to find or requires payment. The growth of the suburban shopping mall eradicated most leisure-time interest in a city's downtown, except for perhaps weekend theatre or concerts. Lacking a residential base, downtown development remained primarily focused on the workday. This resulted in a steady decline of downtown areas, exacerbated when economies stagnated, with pockets of expensive developable land left vacant or used as surface parking lots. The suburbs, in contrast, endured relentless growth further and further from the core. By the 1980s, prairie downtowns had effectively died.

During the 1970s and 1980s many cities across Canada devised urban redevelopment schemes aimed at luring people back downtown by increasing the retail mix and building their own upscale malls—climate enclosed, connected to office buildings, and offering underground parking, theatres, and restaurants. As most of these facilities ignored the street, pedestrian activity moved indoors, and downtowns were still left with open-space parking lots and undeveloped surrounding areas, now even more isolated. In prairie cities without a resident downtown population to support this infusion, since people were clearly not lured back from the suburbs, this was by and large a failed experiment.

Nowhere in Canada would the shopping-mall phenomenon be taken to such an extreme as in Edmonton. Already awash in strip malls and regional shopping centres in the late 1970s,[9] and with marginal retail activity downtown, the city approved yet another regional mall development, this time on an unprecedented scale. West Edmonton Mall (WEM) was devised to reinvigorate a flagging economy and collect much-needed tax revenue during the downturn of the early 1980s. It was an entirely new paradigm that illustrated a complete lack of understanding of the basic principles of urbanization and balanced growth. In a few short years it added to an already oversupplied retail inventory, becoming the world's largest shopping mall—in a city of less than one million people.

Opened in 1981, WEM ultimately changed the face of Edmonton and set back the cause of downtown redevelopment by twenty-five years. It

obligated the city's engineering and transportation departments to cope with focused infrastructure development to accommodate a plethora of new roads and services in the west end at the expense of other areas of the city. It altered the city's budget priorities, especially concerning downtown development. This mall as lifestyle, however, was a game changer—artificial, plastic, climate controlled, and manipulative—it enabled an escape from hot summers and cold winters and further alienated the street and places where people lived, worked, and played.

WEM arrived fully equipped with a whopping six million square feet of theatres, restaurants, nightclubs, the world's largest indoor water park with beaches, wave pools, slides, and sun-tanning areas, an indoor National Hockey League–sized ice rink, an indoor roller coaster, pirate ship, submarine fleet, aquarium, zoo, hotel, convention facilities, chapel, eight hundred stores, and its own police force.

Turning its back on the community and isolated from the rest of the city with its protective cocoon of blank walls and multi-storey parking garages, WEM invited people to frolic year-round inside this ultimate anti-urban experience.

And people came by the thousands.

Supporters claim that the enormous tourist boost and the mall's terrific economic impact trump everything the project leaves in its wake. WEM's regular catchment area includes families from across Alberta, Saskatchewan, and British Columbia who "power shop" in bulk for themselves and their friends—alternating monthly to gather months of communal supplies at a time—while taking in a movie, the beach, or a Roman bath–themed hotel room for the weekend. The mall's mass appeal is unmistakable, yet its true net negative impact on architecture and urban design has never been openly debated.

WEM was valued at more than C$900 million in 2007, and I asked the question then, while lamenting the myriad empty buildings and storefronts along a long stretch of Jasper Avenue: What if this investment had instead been made downtown? At the time, the existing light-rail-transit (LRT) infrastructure along the Jasper Avenue corridor, the empty buildings,

and the surface parking lots were fertile ground desperate for a lively mix of commerce and residential development, active streets, gathering areas, parks, public art, and, finally, more people.

If we wish to understand why we are now well into a new century and the topic of urbanizing the residential population is only just gaining traction in the prairie city, we need look no further than the full parking lots of the regional shopping mall and power centre.

World View and Influences on Alberta

The science of climate change notwithstanding, there can be no argument that we no longer live in a stable environment; catastrophic climate events affect humankind as never before. We must reset the goals and objectives of good design as a means to being more responsive to the world community and the environment.

Since the beginning of my own career I have regularly compared architecture in its current state with its beginnings, when built form was very simple—providing shelter against the elements. I continually contend that architecture from the nineteenth century through to our current social-media-obsessed information age has generally ignored climate and culture in the making of places and architecture authentic to its surroundings.

Today the built environment relies heavily on technological solutions to keep out the weather and provide what is hyped as state-of-the-art environmental control. We have seen this pattern exacerbated by "signature," form-based, self-absorbed architecture, fuelled by the architecture press, and driven by celebrity architects. "Starchitecture" is the result, from sculpted, impossible parametric forms into which myriad functions are programmed and shoehorned, to tall buildings and new cities that completely ignore their climate and place. These overstimulated constructs continue to perpetuate the placelessness of cities in every hemisphere, from Toronto to Shanghai to Sydney to Dubai, where buildings so similar compromise the integrity of architecture as a cultural expression or a reflection of its place.

Two Solitudes

As the province of Alberta settled into yet another cycle of its boom-and-bust history (this time a bust) from the 1980s until the millennium, so the design professions and those who educated designers fell into a period of less certainty. No equivalent to the power of the modern movement emerged in Canada or around the world. In my view, postmodernism proved facile—a weak, short-lived counterpoint to the austere style of modernism and its urbanistic failings. Today the design profession exists in tension between two philosophical architectural solitudes: the objectification of design largely as fashion and form, and a more self-effacing sustainability or resiliency agenda.

For architects, this represents a crossroads, and we must choose between intellectual but culturally insufficient, self-indulgent exercises in the promotion of form and surface (the object building) and the making of places and architecture with redeeming socio-cultural, economic, and environmental value (more design, less technology).

The Object Building

The building industry has experienced incredible internationalization through the Internet. Advances in building materials and computational parametric processes now enable complex construction just about anywhere. International offices work twenty-four-hour days in continuous rotating shifts to enable project teams to synchronize in real time with their offices around the globe. Complex projects can be assembled by remote control and robotics anywhere a GPS signal can be received. The opportunities presented by this sophistication in the digital age are staggering.

Yet these technological advancements continue to expose greater indifference to local geography and climate. One need only examine Dubai, home to some of the most exuberant and tallest buildings, as exemplar of architecture as fashion, resplendent in delicate western-hemisphere skin and superimposed into a 50°C, sun-baked, desert environment. These super tall buildings in the desert can only admit a fraction of the blinding,

existing light indoors and must at the same time reject tremendous solar energy due to their excessive height. They rely solely upon expensive, foreign, high-technology products and building systems to enable basic comfort within, while their embodied carbon footprint is enormous. Meanwhile their design principles remain mute about their location or culture.

Inherently working against the forces of nature, these buildings deny the existence of climate altogether. By contrast, a desert souk stays naturally habitable from the sea or desert breezes that are induced to flow through it. This becomes a basic issue of appropriateness and authenticity. In this context, architecture as fashion that yields a disharmonious relationship with nature has migrated a long way from the tipi.

More Design, Less Technology

The use of more design and less technology is environment oriented; it is the exploration of an entirely different approach to contemporary architecture and urban design. This approach was exposed on a large scale in 2012 at the Biennale Architettura in Venice, Italy, the widely recognized world olympics of architecture. Here, every two years, architects from fifty-two countries around the world exhibit their current work and examine noticeable trends and significant issues within their profession internationally. The Biennale is intended to be an ongoing dialogue in which architecture positions itself and sets its course for the future.

At the 2012 edition of the Biennale, recurring primal themes of sustainability, adaptive reuse, and even traditional building methods were woven through the various pavilions. As I wandered the grounds, I observed an underlying coherence from all corners of the globe, calling for a wholesale re-evaluation of the underlying principles of architecture. It was a convincing reminder that, as architects holistically trained, we are ethically bound to examine the complex forces that shape the world and the environment into which we place our buildings.

This culminated in the Lion d'Or–winning Japan exhibition that focused on sustainable housing and community through reuse of salvaged

coastline materials in the wake of its 2011 tsunami. The message was that architecture must not lose its way and instead must declare a more self-effacing search for meaning about sustainable design, place making, and resiliency in the twenty-first century.

Unlike the energy crisis of the 1970s that spawned the rise of eco-activists like Greenpeace, the movement toward a greener future and addressing climate change now has an intellectual *gravitas* that transcends the activist, demanding worldwide discourse and new public policy.

Since buildings on average represent 50 per cent of all energy consumed in developed countries, much of this from non-renewable resources, performance matters. Building performance measuring tools such as LEED (Leadership in Energy and Environmental Design), Green Globes, and other initiatives such as the Living Building Challenge and Architecture 2030 validate the green movement and its buildings as mainstream. Cities and governments around the world now mandate reductions in energy consumption, greenhouse gas emissions, and carbon footprint. Leaders are now developing regenerative design, where buildings create more energy or enviro-by-products (e.g., clean, harvested water) than they consume.

Currently, despite (or perhaps because of) its former resource wealth beget by non-renewable energy sources, Alberta is having to respond to this challenge amid significant public pressure. The province aims to be a world leader for the future, before its non-renewable resources are depleted. The design profession in Alberta has embraced, alongside the vast majority of colleagues in Canada, the ideals that clearly support the environment, the second solitude.

The future of architecture here is inexorably linked to an environmentally sustainable agenda. A young generation of Albertans have shown in recent years a clear sensitivity and commitment in this regard.

A Time to Abandon

This is a pivotal time for the general architectural profession, which, as mentioned, embraced the ideal of treading lightly on the earth with the emergence of the green movement alongside the alarm bells of climate

change and the need for resilient, low-carbon buildings. The increasing lack of support for the energy sector—while at times misplaced—is proof that the environmental agenda is now mainstream. There are a significant number of energy-certified and renewable-resource buildings in Canada and Alberta that rival the best of green buildings around the world. As such, sustainable design objectives provide a noble cause to re-energize the profession in Canada, after a generation of underfunded cities and government deficits in the 1980s and 1990s, and architects are responding.

It is not only architecture that is benefitting from this new attitude in Alberta. The idea of city is changing in the twenty-first century, more than in the boom of the 1950s and 1960s. In Alberta, the cities of Edmonton, Calgary, and Fort McMurray (recently devastated by wildfires and floods) are finally realizing that the costs of unfettered expansion—with infrastructure capital requirements and long-term maintenance—are no longer sustainable, and they are seeking alternatives through urbanization, densification, new housing models, and downtown residential development to address these issues.

Progress here is painfully slow while we continue to suffer from annexation and suburban growth into fertile farmlands. One nevertheless senses an undeniable paradigm shift in the way that prairie cities are contemplating their futures. The city of Edmonton has embraced urban infill and walkable neighbourhoods while developing Blatchford (see figure 1.10), an international competition-winning master plan, into a sustainable, carbon-neutral, mixed-use, medium-density, walkable residential community for thirty thousand people and ten thousand jobs on its former municipal airport lands. Incredibly, the location of this site is in the heart of the city, a short eight minutes from its downtown. This entirely new community incorporates transit-oriented development; LRT; urban agriculture; recreation; health care and commercial services; primary, secondary, and post-secondary education; and a regional park at its epicentre. The original Blatchford master plan envisioned combining sustainable buildings and Blatchford's own renewable energy systems for heating and electricity, with biomass and deep geothermal energy plants on site. The regional

park is part of this working infrastructure. It includes a man-made lake and a wind-protecting hillside, natural habitat areas for migrating birds and waterfowl, and a variety of natural water reclamation, treatment, and management strategies that could ultimately yield a completed development beyond carbon neutral. Its 520 acres is a fraction of the size of every Edmonton subdivision and is designed to be pedestrian and bicycle oriented, actively discouraging automobile use with narrow, leafy residential streets, small blocks, broad sidewalks, and public gathering places.

In many ways, the plan goes back to the future, reinventing the city as it once was—walkable, integrated, intimate, and connected. It is a new precedent for urban design in the city.

Calgary and Edmonton have also invested billions in the last decade to bring housing and increased density—and more festivals—to the downtown core. This residential influx especially is changing the prairie downtown as expected. Alongside the development of a new arena district in Edmonton and another planned for Calgary, there is finally a palpable interest in the design of public amenities. There is certainly room for the abandonment of sprawl economics in Edmonton, where there is traction around resetting downtown with the expansion of a pedestrian-friendly rapid-transit system, funicular and overhead trams, downtown markets, and temporary street closures such as those observed during the Jasper Avenue Open Streets Festival in the summer of 2019.

Architects are born optimists, and, as such, many of us have joined with others to combat climate change by promoting new sustainable and resilient development. It is a province of almost limitless future opportunity blessed with peace, freedom, clean air, water, and space. It has a new generation of young, affluent multiculturals, an increasingly better educated and talented work force, and a knowledge base rapidly creating new industries in health care, e-commerce, and artificial intelligence. With many of these enterprises located downtown and fuelling new residential urban development, all are capable of demanding that it is neither too late to envision doing the right thing in building the city nor too soon to meet head on the complex needs of this new millennium.

Are We Ready?

There is still a gap between reality and this fresh and necessary attitude.

Despite the fact that Edmonton and Calgary have among the lowest population densities of cities in Canada,[10] developers continue to lobby for suburban growth and increased consumption of agricultural land. The City of Edmonton, despite its commitment to building Blatchford, still annexed

more land to the south in 2019, a few years after approving an area structure plan for new suburban housing in the northeast, areas each with a historic agricultural base. There was a time when Edmonton's and Calgary's international airports were deemed to be unacceptably distant from the city. Now the two cities are rapidly enveloping them.

The home building industry is a significant lobby, slow to change, and governments are quick to support it. Eventually the city will reach its borders and simply run out of options.

Government must be better committed to a consistent set of principles.

It makes little sense to promote densification and a sustainable design agenda, especially on long-term economic principles, while at the same time continuing to approve new subdivisions on superior agricultural soil. Doing the right thing inside the city core does not go hand in hand with continuing the status quo outside of it. It positions the city as philosophically weak and awkwardly behaving, as if there really was no impact from increased physical growth. This policy has dire infrastructure cost and servicing consequences over the long term—where citizens, no matter how far from the centre they might live, expect the exact same amenities and services to be provided. This expansion also continues to threaten the biodiverse nature of prairie cities at their edges. It becomes clear that an "end of growth" land-acquisition freeze is a logical and necessary next step for our long-term future.

The power of social media has re-awakened environmental awareness, and climate change is now living-room conversation. This, as previously noted, is challenging the future of the fossil fuel industry and fossil fuel dependency—despite increasing worldwide demand and the necessity to feed global markets and sustain an economy. Environmental standards must be continually improved and managed. These are enormous, complex socio-cultural-economic and environmental concerns that at once pressure cities to engage better and more efficiently their resources to streamline infrastructure and urban development. Edmonton is expanding its LRT network at great cost, yet ridership has plateaued, and its underground network along the Jasper Avenue corridor remains, to this day,

woefully under-utilized. Edmonton, like other cities, is unique, and with this uniqueness comes the need for innovative local solutions, not universal ones. As a result, here and elsewhere, local civic priorities are being actively debated like never before, driven by a lack of faith in the political class and by increased activism at the local level of public engagement, which is changing the dynamic of city building.

Finally, while the impact of COVID-19 has not yet been fully absorbed, it has changed the world.[11] In just a few short months with normal daily life effectively shut down, the atmosphere around the globe has suddenly yielded cleaner air and clearer skies. This phenomenon is a disturbing revelation on how humankind wreaks havoc on the environment daily.

We need to seriously examine how we should live together in the future. It is a prerequisite for architects and architecture to address design ethics in this context—in Alberta and elsewhere. It is overdue but never too late to commit to sustainable, regenerative, resilient, inclusive, safe, and humanistic buildings, communities, and cities. These must improve our collective quality of life and, like our forebears, touch lightly upon the planet. Never has the epigraph from the beginning of the chapter carried more meaning: "Architecture must now construct anew the whole social pattern of our time as a new order of the human spirit" (Frank Lloyd Wright).

Notes

1.   Crowston, *Capital Modern: A Guide to Edmonton Architecture & Urban Design, 1940–1969.*

2.   Cited in Boddy, "Edmoderntown," 8.

3.   Smith, "Edmonton's Suburban Explosion, 1947–1969," 43.

4.   The Banff Session is a conference series of the Alberta Association of Architects that has taken place in Banff, Alberta, since 1956.

5.   Many early modernists in the province would follow Richard Neutra, who returned to Alberta many times. For a listing of Alberta's early modern architects, see Murray and Fedori, "Overview of the Practice of Architecture in Edmonton, 1930–1969."

6.   Trevor Boddy claims in the postscript to *Capital Modern: A Guide to Edmonton Architecture & Urban Design, 1940–1969,* referring to Edmonton in particular, that "the city stands out for conspicuously destroying its finest architecture" (155).

7. The building formerly known as Coronation Pool is the first and only building in Canada thus far to be named after its architect. It is now known as the Peter Hemingway Fitness and Leisure Centre.

8. Adrienne Clarkson, quoted in Martin, "The Greatest Architect We Have Ever Produced," para. 10.

9. Routinely and historically holding the top position in Canada for per capita retail sales, Edmonton is a favoured target market for new retail chains and trend testing for specialty stores in North America.

10. The 2016 Canadian census available through Statistics Canada shows that Edmonton occupied 768 km^2 of land, compared to the City of Toronto at 630 km^2. The Edmonton population in 2016 was 932,516, or 1,214 people per km^2, compared to that of Toronto at 2,731,571, or 4,335 people per km^2. Calgary occupied 825 km^2 with a population of 1,239,220 or 1,501 people per km^2 in 2016.

11. Johns had the opportunity to revise his writing in the summer of 2020 and reflected on the current and future impact of COVID-19.

Bibliography

Boddy, Trevor. "Edmoderntown: Four Factors Shaping Edmonton Architecture." In *Capital Modern: A Guide to Edmonton Architecture & Urban Design, 1940–1969*, edited by Catherine Crowston, 5–14. Edmonton, AB: Art Gallery of Alberta, 2007.

Crowston, Catherine, ed. *Capital Modern: A Guide to Edmonton Architecture & Urban Design, 1940–1969*. Edmonton, AB: Art Gallery of Alberta, 2007.

Martin, Sandra. "The Greatest Architect We Have Ever Produced." *Globe and Mail*, May 21, 2009.

Murray, David, and Marianne Fedori. "Overview of the Practice of Architecture in Edmonton 1930–1969." In *Capital Modern: A Guide to Edmonton Architecture & Urban Design, 1940–1969*, edited by Catherine Crowston, 23–42. Edmonton, AB: Art Gallery of Alberta, 2007.

Pfeiffer, Bruce Brooks. *Frank Lloyd Wright: On Architecture, Nature and the Human Spirit*. Petaluma, CA: Pomegranate Communications, 2011.

Smith, Troy. "Edmonton's Suburban Explosion, 1947–1969." In *Capital Modern: A Guide to Edmonton Architecture & Urban Design, 1940–1969*, edited by Catherine Crowston, 43–50. Edmonton, AB: Art Gallery of Alberta, 2007.

Statistics Canada. "Data Products, 2016 Census." September 17, 2019. https://www12.statcan.gc.ca.