The Fury of the Blast

One chilly December lunch-time in 1973 there was a small party on the sidewalk outside the Toronto Stock Exchange. The celebration honoured Ann Grossman, or “Mrs G”, as she was known to the traders. She was the Stock Exchange’s resident news vendor, and she had been selling papers on the corner of Bay and Wellington for 18 years. She had made a fond impression.¹

The Grossman family had a long association with that street corner. Ann had inherited her news stand from her husband Lou, who started it in 1935. Lou was an old-time newsboy, and prominent in their fraternity. He sold papers outside the Stock Exchange, he played on newsboys softball, and basketball teams. He acted as president and treasurer of the Newsboys Association.² He did well enough to marry Ann and set up a home for their young family on Vinci Crescent, in the city's east end. But one evening, in July 1955, as he drove the family home from the Henry Street synagogue, he suffered a fatal heart attack. He was only 39.³ Widowed with three young children, Ann took up Lou's old news stand and continued the business. She braved the corner in all weathers until, by 1973, her children had all safely completed university.

Ann was a resourceful and courageous person, and it was a combination of her fortitude and cheerfulness which won the respect of the stock traders. She became a character on the street outside the Exchange, well known to the traders and to the newspaper people. She interacted with a great many of the players in the city's financial scene, and was

¹ Toronto Star 11 Dec 1973 C11.
conveniently at hand whenever a journalist wanted a quote.\textsuperscript{4} Her stamina and courage was readily apparent to the Star’s Garry Lautens, who interviewed her in 1966.\textsuperscript{5} The 1973 retirement simply brought out the respect she had earned over the years.

The sidewalk retirement party was graced by a cake, bouquets and by several of Ann’s Bay Street friends. News vendors may not be powerful people, but they sell papers to the city's movers and shakers. Her retirement drew an Exchange vice president, a gaggle of Toronto Star circulation managers, a Star reporter and staff photographer. The reporter, Lee Belland, asked her about the changes she had noticed on her corner over the years. What had changed in her 18 years at Bay and Wellington? Her response was quite interesting. As the tall buildings went up around her, she said, the winds had increased.\textsuperscript{6}

Ann's observation was highly significant. She had been on hand to witness a fairly common phenomenon of major cities. It is known to science as the urban canyon effect. The city's buildings deflect the wind, creating shelter in some places, but in others they increase their speed and ferocity. It is an example of the Venturi effect where the wind, forced through a narrow gap or canyon between tall buildings increases in pressure, speed and turbulence. Winds change, of course, but as a city adds to its stock of major structures, the winds at street level are likely to get more ferocious. Lou Grossman ran the news stand during the slow-construction years of Depression and war. Construction resumed after 1945, but was slowed by shortages of materials, especially steel. The buildings around Lou’s news stand did not change much in all the years he was there, and

\textsuperscript{4} Toronto Star 19 Nov 1960 p. 2; 4 May 1961 p. 32.
\textsuperscript{5} Toronto Star 14 Jun 1966 p. 4.
\textsuperscript{6} Toronto Star 11 Dec 1973 C11.
the winds at his blustery corner probably didn’t change much either. Ann’s experience was different. She sold papers all through the major construction boom of the later 1950s and the 1960s. With the Toronto-Dominion Centre and other structures going up around her it is no wonder that she noticed the canyon winds getting worse.

*The Victorian Era*

Victorian Toronto was a city without high rise buildings (if we discount the very end of the century). For much of the Nineteenth Century its buildings were neither tall nor massive. Compared to the modernist monsters which ruffled Ann Grossman's newspapers, these were gothic and classical pygmies. But Victorian Toronto experienced winds and, as I will argue, had incipient urban canyons.

Toronto is a mid-latitude city on the Great Lakes and it experiences a significant amount of wind. Winds blow, of course, as part of the general circulation of the atmosphere. High pressure builds at both the poles and the equator, and air flows toward the lower pressure region of the mid latitudes. Warm air is pushed from the tropics, and cold air is pushed from the poles. Somewhere in the mid latitudes the two flows of air meet and mix, causing a great deal of weather. The movement of the air, what we call wind, is deflected by the rotation of the earth, and therefore bends eastward as it moves towards its convergence. This gives the mid latitudes, in both hemispheres, their characteristic westerly winds. High up above the mid latitude convergence zone, at the top of the troposphere, the mixing generates a high-altitude wind known as the Jet-stream. This is a sinuous river of turbulent air which flows around the planet in an eastward direction,
often looping in great meandering arcs as the polar and tropical air masses converge. Along the general line of the Jet-stream the tropical and polar air mingles in rotating wedges and slices, with frontal systems of cold and warm air mixing slowly together. This brings the mid-latitudes a great deal of weather, as the frontal systems track along the Jet, locally altering wind direction and speed, swinging violently and abruptly according to the twists and gyrations of the mixing zone and its pressure gradients. So, besides the common north westerly and south westerly winds, the mid-latitudes get northerly and southerly winds, strong winter easterlies and south easterlies, as the frontal systems track through.

In classic winter weather the Jet-stream shifts south of Toronto and the city is left on the distinctly polar side of the convergence zone. The city gets cold north westerly winds, bringing rather dry air from the Canadian Arctic or Sub-Arctic. In winter this air has little chance to pick up moisture. There is little plant growth or evaporation to put humidity into the air over land, and too much land to allow pick-up from water bodies. So the skies of a winter north westerly are typically clear, cloudless and bitterly cold. Although it is not as warm in winter, Toronto gets more sunny days than Los Angeles. Much of the precipitation of classic winter weather comes from lake-effect. Until Lake Huron and Georgian Bay freeze over, they allow dry north westerlies to pick up moisture, which is rapidly dropped once the air passes over land. The precipitation, usually falling as snow, forms streamers downwind. These streams of lake-effect snow typically fall in the early phases of winter, creating major snowfalls and ski-resort opportunities in the so-called
The snow-belts fringing Georgian Bay. The snow streamers are often long enough to stretch into Toronto and beyond.

In classic summer weather Toronto usually finds itself on the tropical side of the convergence, with the Jet-stream north of the city. This normally brings the city a flow of warm, moist air from the south west. Toronto enjoys humidity and sticky heat, rain showers and in recent decades, plenty of second hand smog to add to its home-grown collection. The heat and moisture originate in the tropical and subtropical realm, typically the Gulf of Mexico. Of course, it is possible, even in winter for southern moisture to reach the city. Outside my house, as I write, is a major January snowfall which the TV weather people tell me is a present from Texas.

Spring and fall are transition seasons where the full heat of a summer or full cold of a winter has not yet emerged in the Northern Hemisphere. The zone of convergence, where the polar and tropical air masses mix, is likely to be spending a good deal of its time in Toronto's general vicinity. The city tends to see a lot of frontal systems passing through in spring and fall, with variable winds, precipitation and temperatures. Despite the general tendency toward westerly winds, frontal winds can be deflected to all points of the compass.

What all this means is that Toronto really has no overall prevailing wind direction, although it sees a lot of westerlies and tends to have different winds in different seasons.
But even so, the directions and speeds vary considerably as the frontal systems curve and gyre through their arcs of convergence.

Victorian Toronto therefore experienced quite a varied pattern of winds, with a tendency toward westerlies. While the winds varied, the city was much more fixed in location and layout. It lay beside a sheltered bay on Lake Ontario, and its colonial planners decreed it would have a rectangular grid pattern of streets perpendicular to the line of Yonge Street, a strategic highway which connected Lake Ontario with the upper Great Lakes. Yonge Street gives the city its sense of north and south, east and west, but it is out of alignment by 17 degrees of the compass. As the Victorian city expanded outwards, a street grid grew, aligned to Yonge Street, with all of its cardinal directions 17 degrees out of their true geographical position. Rows of buildings, especially downtown, would eventually align themselves along this tilted grid of streets. The 'north-south' streets would tend to channel the cool winter north westerlies, and the 'east-west' streets would channel the summer south westerlies. The potential for shelter in one season would be offset by the blast to be expected in other seasons and from other directions. Long runs of gridded streets suited tidy bureaucratic minds, but they produced linear urban canyons, whereas a more complex street grid might have produced more shelter.

The winds of Victorian Toronto had a significant effect on the city's trade and commerce, much of which moved by water. Steamboats began carrying passengers and high-value freight from the 1830s. Railroads began to haul a great deal of traffic from the 1850s onwards, but when bulk cargoes went by water in the Nineteenth Century they were
carried by sailing schooners. Schooners moved much of the coal, the firewood, the stone, the lumber and the grain that was shipped in and out of the port of Toronto. Unless bulky cargoes were moved by rail, they came by water, and that meant they were at the mercy of the wind and the currents.

After 1850 the industrialising and increasingly steam-powered city depended on coal, much of which arrived by schooner. Schooner traffic in bituminous coal began in the 1840s and continued until the 1880s when it had mostly been replaced with rail haulage. The anthracite coal, however, maintained its schooner haulage for much longer. The two types of coal came from different parts of the Appalachian coal field, and reached Toronto by different water routes, and schooner fleets.

The bituminous coal was shipped by schooners from the ports on the south easterly quadrant of Lake Erie, where schooners loaded with coal from the north western parts of Pennsylvania and from eastern Ohio. Loaded coal schooners therefore had to make their inbound run to Toronto via the Welland Canal. A southerly or south westerly wind would be ideal for this, taking the schooner north eastwards towards the port of Toronto and through the Western Gap of Toronto harbour. A north easterly wind would be frustrating for this route, but such winds were rare. The return journey was more difficult, especially in the face of a south westerly wind. This is common when Lake Ontario is on the tropical side of the convergence. The heaviest coal traffic though tended to be in late summer and fall, when the region normally finds itself in the convergence zone, and the
frontal systems bring changeable winds, and some wiggle room for a coal schooner to make a reasonable return trip. In any case, south westerly winds were seldom very strong.

The anthracite fleet had a different geography. This type of coal reached the south easterly shore of Lake Ontario via rail and canal and was loaded onto schooners in such ports as Oswego, Fairhaven and Charlotte. For the inbound run to Toronto a south easterly wind would be ideal, but it tended not to last long and crews had to accept a south westerly much of the time. This was feasible if Lake Ontario was on the tropical side of the convergence, but when the fall weather turned cold, and Toronto moved into the polar side of the convergence, a north westerly wind was common. Fall north-westerlies can be fairly strong. The cold weather would motivate Toronto's more upscale households to contact their coal dealers for fresh deliveries of anthracite, while the same winds kept the anthracite schooners out of port. There was a distinct tendency in the busy fall coal shipping season for the anthracite schooners to be bunched by adverse winds, and be kept out of port until the north westerly winds shifted. When they did, the fleet would come into port in a body, and each of the major coal dealers had to cope with two or three schooners at once. Captains on the anthracite run would race in through the Eastern Gap trying to berth first. At coal docks along the waterfront there would be a few days of frantic unloading activity before the schooners could depart again. The north westerlies, so frustrating to the inbound run were ideal for the return journey, but the return journey was feasible in south westerlies too.
We might continue our look at sailing conditions, but it is obvious by now that winds played an important role in shaping Toronto's Victorian trade in bulk commodities. The winds challenged the movements in some cases, but provided the motive power for much of the movement. To some extent the seasonal and daily life of the urban economy moved to the vagaries of the winds.

But what of the city itself? How did its built form shape or modify the winds? Toronto's urban landscape was rather low-rise in the nineteenth century and dense only in the downtown section. The population was still relatively small and the built-up area was not extensive, but it was developing clear signs of wind modification, sheltering in many places, and increasing exposure in others.

Toronto before 1850 was small and only densely-built in a small downtown section. It buildings were typically low, two or three storeys at most. There wasn't enough water pressure to provide fire protection to taller buildings, and there wasn't the economic demand to build them. Nevertheless Toronto's citizens were conscious of the sheltering nature of their limited built form, because they recognized that outside the city, even on its edges, the winds increased. The mid-Victorian out-of-town outdoors, the lake shore, the waterfront, the Davenport Hill, the lake itself were recognized as reliably breezy places, where a refreshing breeze might offset summer heat, where one could escape the odors, the heat, the noise and the smoke of the growing city.
We have evidence that if Torontonians noticed wind exposure outside the city's sheltering walls, but do we have evidence of wind canyon activity within the urban envelope? The evidence is a little mixed. One of the great nuisances of the Victorian city was its street dust in dry and warm weather. The city's chronically unpaved streets were laid out on the clay bed of late-glacial Lake Iroquois, at least downtown, and in dry weather, with any appreciable traffic, and enough breeze, the wind entrained the clay particles as dust. The dust nuisance was a frequent source of public complaint from April to October, until wet weather dampened it all down. The city's inclined grid of streets tended to create lines of travel, of wind movement and dust clouds. In the 1840s the city began to establish street watering for dust control. As it began to do this, it is interesting that the north-south streets were prominent in the watering demand. The city required property owners to petition for street watering, and then it was arranged, funded by a special levy charged against the property taxes of the participating streets. East-west streets asked for street watering too, but the north-south arteries were prominent in street watering demand.

Was the dust worse on the north-south streets? Was this the result of developing urban canyon effects? In 1873 we get another clue. This time in the form of some grumbling by the editor of the Globe, George Brown. He complains of the dust nuisance of the day before, in what sounds like an eye-witness account. A pedestrian, he said, and presumably meaning himself, cannot walk along Queen Street (an east-west artery) without encountering three or four clouds of dust along the way. Presumably, but he isn't specific, the clouds were where the north-south streets intersect and canyon winds punch through the landscape and raise dust.
It is quite possible therefore that the perpetual Victorian nuisance of street dust was, in fact, a manifestation of the urban canyon effect. I have long suspected that the dust issues shaped the geography of the city's fashionable shopping districts at this time. The south side of King Street, immediately east and west of Yonge, was the centre of fashionable shopping in the 1860s and 1870s. This was on a major east-west artery, on the shaded south side, and reasonably protected from the south westerly winds of the warmer months which would raise dust.

There are other clues about the emerging wind canyons of the Victorian city which take us much later into the nineteenth century. In this era we begin to see references to 'windy corners' in reports on windy weather. Pedestrians, it seems, struggled with winds in late nineteenth-century Toronto on the "downtown corners". As the downtown streets were paved, and concrete sidewalks were laid, pedestrians braved the ice underfoot. Evidence is a little scattered but there seem to be more complaints of slippery sidewalks on the north-south streets in the downtown, on Yonge, Bay and elsewhere. Again, it is not conclusive, but we are beginning to see a pattern of north-south aligned streets presenting dust and ice problems, and their corners being windy. These same arteries would develop into real wind canyons in the 1910s. Rumours of the birth of the urban wind canyon in the Twentieth Century appear to be exaggerated.

The Nineteenth Century was an era in which Toronto expanded dramatically in size and renewed its downtown landscape several times. Improvements in water supply, in
quantity and pressure but not, alas, in quality, allowed taller buildings downtown. This was mainly by extending the water pressure for firefighting, but increased water pressure allowed the installation of water-powered hoists and elevators, which made taller commercial buildings more practicable. These, for the first time could reach the 5-7 storey range. The downtown buildings therefore became taller and more massive, affecting both thermal mass and wind deflection. By present-day standards, nothing was really very tall, but it seemed impressive at the time. The city's major churches, especially St James, continued to dominate the late Victorian urban skyline, while the city's banks and mercantile houses acted out their architectural ambitions with mid-rise structures.

Edwardian Transformation

Toronto's late Victorian business culture was very much connected to the directions in from which its capital flowed. For the nineteenth century this was London. Before 1914 90% of the bond capital invested in Canada came from Britain. London, in those days, was the world's pre-eminent financial metropolis, the centre of the capitalist world. London bankers and mercantile houses built their offices and counting houses as low to mid-rise structures in banker classicism, Italianate or gothic, according to the whims of commercial fashion. When London money crossed the Atlantic and was transmogrified into Montreal or Toronto banks or mercantile houses, these were also built to the prevailing commercial aesthetics in banker classicism, Italianate, gothic or Second Empire. It was a landscape whose aesthetics were utterly familiar to a pin-striped inhabitant of the London-centred universe. London's money, influence and business culture produced mini-Londons overseas, in Toronto as elsewhere.
As it turned out, Toronto at the end of the Nineteenth Century was about to undergo a significant alteration to its patterns of capital flow. North American capital sources would rapidly replace those centred on London, especially after 1914, but for a while Toronto's business and elite culture continued along their familiar Victorian lines, although geographic and aesthetic alterations in the landscape were about to unfold.

The emerging new geography of Toronto's capital sources had a powerful new architectural symbol: the skyscraper. These structures, now so common in Toronto's landscape were a shocking architectural novelty in the early Twentieth Century. The skyscraper was a radical departure from the low to mid-rise commercial landscape in which Toronto's business and cultural establishment took such self-congratulatory pride. On the main downtown corners stood proud banks and insurance companies whose offices looked like those of London or Manchester.

The move towards skyscrapers seems to be powerfully associated with outsiders in the London-oriented business world, with people and businesses whose wealth was more powerfully connected to North American capital resources. In 1895 a group of outsiders to Toronto's Anglo-Scottish business culture began to build the city's first skyscraper, the 10-storey Temple Building on the north east corner of Bay and Richmond.

The Temple Building was the brainchild of a prominent Mohawk doctor and Oxford graduate, Dr. Oronhyatekha, or Dr. O as he was affectionately known. Gracious and
articulate, he had a curious role in late Victorian Toronto. He was a well-regarded representative of the Mohawk people, and of the First Nations, but despite his stature among White Ontario, he was outside the circle of Anglo-Scottish leadership. He was prominent, persuasive and capable, but never really a member of the city's elite. He had taken over the leadership of the Ancient Order of Foresters in the 1880s, a moribund Orange-order offshoot, and built it into a major late-Victorian fraternal order, offering attractive insurance coverage to members. In the 1890s this emphasised medical and funeral insurance.

The Foresters, as an insurance fraternity, were able to tap into the petty capital falling into the pockets of North America's skilled industrial and clerical workers. Recruiting mainly in the US Midwest, including Chicago and southern Ontario, Dr. O rapidly built up the fraternity from a few hundred to around 100,000 by the mid 1890s. The fraternity controlled almost $2 million in assets, including $1.2 million on North American real estate. There was some connection to the traditional financial hub of London, but the vast majority of the Order's funds were rooted in North American capital sources. The Foresters' were not really in London's financial orbit, and they prospered in the increasingly lucrative fringes beyond it. The business contacts were developed with plenty of American and especially Chicago influence. Dr O himself was not particularly beholden to the niceties of Toronto's Anglo-Scottish business culture, or toward its architectural preferences and modalities.
In 1895, despite some organizational misgivings about the magnitude of the undertaking, the Foresters under Dr. O made arrangements to construct a new headquarters in Toronto. It was to be a 10 storey skyscraper, the first such structure in the city. The order picked up a suitable site at Bay and Richmond on the cheap edges of the downtown core, brought in a co-operative Forester architect (George W Gouinlock) and proceeded to construct a skyscraper worthy of Chicago's State Street. It was a bit of a hybrid, with cast iron instead of structural steel, but it was very well-built. The cast iron structural elements were encased in fire-resistant concrete, the floors and walls were fireproof. The doors were sheathed in fire-resisting metal, the windows in fire-resistant metal frames. Even the wainscoting was made from fire-resistant copper. It was, by all accounts, well built and beautiful, with the fastest passenger elevators in the city. The Order took the top two floors for its own fraternal activities and insurance undertakings, the lower 8 floors were set aside as rentable space. As completion approached, they were all fully rented. The top floor accommodated a 300-seat banqueting hall, with gilded ceilings, copper trays set into the walls and splendid kitchens. This provided excellent space for Forester activities, but it could also be rented out to other parties. The rentals of office space and function space made a clear business case for the building. The rents not only carried the property, but gave the Foresters a source of income from their capital. The function space of this skyscraper of outsider capitalism was, fittingly enough, used to accommodate outsider social events. For a number of years the banqueting hall of the Temple Building hosted the glittering events of Toronto's Jewish social calendar, the big Jewish weddings, fundraisers, and banquets.
For a number of years the Temple Building, tallest in the British Empire, was Toronto's only skyscraper. But it would not be unique for long. The city's banking and financial sector was in flux in the early part of the Edwardian era. While the London-linked banks and mercantile houses continued in their customary lines of business, there was a ferment of growth among the smaller fishes of the financial pond. Several, like Standard Loan, were busy gobbling up competitors, siphoning capital from the savings of local skilled and salaried workers, while trying to leverage foreign capital out of London. A certain amount of bribery and corruption greased the squeaky machinery of financial merger and acquisition. Standard Loan's controlling financial intelligence, W S Dinnick, became adept at the bribery, but he found the directors of his takeover targets all expected under-the-table payments for their acquiescence. While Dinnick hoped to use Canadian capital to leverage investment from London, others found ways to expand their pools of North American capital. The Traders' Bank, a financial house originating in Guelph and other small Ontario towns, grew aggressively in the 1890s, strengthened by its savings bank business (which tapped into local petty capital sources) and by investments in North American securities. By the mid Edwardian period it had assets in the $30 million range, comparable to several of the Toronto's more venerable banks.

There had been previous attempts to add skyscrapers to Toronto's skyline. The Western Assurance Co, for example, a business closely tied to the New York market had tried to float a skyscraper scheme on Yonge Street in 1897. There was another scheme for a 13-14 storey structure at Queen and Yonge in 1896 in connection with Manufacturer's Life,
but this failed too (although, connected to the Gooderham family it was not really an outsider scheme).

In 1905 the Traders' Bank began construction of a skyscraper at Yonge and Colborne. At 15 storeys, it would be much taller than the Temple Building. It had a New York architect, and a lawyer, E F B Johnston who was an associate of Dinnick at Standard Loan. There had been a great fire in the downtown in 1904, after which the city architect recommended a height limit of 7 storeys. Nevertheless the new Traders' Bank skyscraper, at 175 feet, and 8 full storeys above the recommended height limit passed quickly through the Board of Control and City Council. Controller Hubbard was the lone dissenting voice. The building had been approved despite the absence of detailed plans or engineering drawings.

A storm of protests erupted, beginning with Toronto General Trusts, whose neighbouring offices would be shaded by the new development. In the end the architects of the Traders' Bank arranged for light-coloured brick to be installed on the skyscraper's exterior and purchased extra land to reduce the shading effect.

It is no real surprise to discover that skyscrapers were political. There are politics in everything, but it is curious that the skyscraper issue in early Twentieth Century Toronto became almost party political. Opinion was sharply divided.
The established circle of the city's prominent and well established architects was quick to complain about the new building and the others it would undoubtedly bring. The Ontario Society of Architects joined a chorus of disapproval. Skyscrapers, they told the Guild of Civic Art, and all who would listen, would shade the downtown streets, overload the transit system and downtown real estate values. They would cut off the ventilation, and prevent the winds from blowing away the poisonous *miasmae* which still dominated the medical imagination of laymen. Skyscrapers were overbuilt, too big, too massive, too ugly and mechanistic. They were also (and this was understated) being designed by outsiders, by carpet-bagging New Yorkers and Chicagoans. The Toronto Guild of Civic Art provided a sympathetic hearing, possibly because most of the city's prominent established architects were also members. Several of Toronto's prominent women artists and art fanciers, custodians of received artistic taste, joined the choir of skyscraper disapproval, telling the women's Art League or the Parkdale Travel Club of their fears of an advancing phalanx of 'scrapers.

Gradually too the anti-skyscraper movement grew among the city's more conservative politicians and newspapers. The *Globe* and the *Telegram* grumbled about the structures from their editorial pages, while the conservative politicians sensed a nefarious connection between their liberal opponents and lurid fears of American influence creeping into Canadian life.

The skyscrapers had their admirers and defenders, principally on the liberal side of the political spectrum. The *Toronto Star* was especially enthusiastic about these phallic
symbols of progress. Most of the skyscraper projects in Toronto's downtown before 1930 were indeed linked to American investment in Toronto. The USA was the place to find enthusiastic financial backers for such schemes, experienced and credible skyscraper architects and leasing managers. Technical construction materials also came from the same direction. Strauss & Co of New York became prominent in financing the Toronto skyscrapers in the 1920s, beaten out only by the emergence of local Toronto talent, Yolles and Rotenburg. American money continued to be crucial to Toronto skyscrapers long after the 1920s, and can be seen in every subsequent high rise building boom, down to the present. Driving the early Twentieth-Century skyscraper boom were other forms of American capital. Toronto was emerging as a major financial market for the trading of bank, mining and resource stocks. Infusions of American capital were crucial to this, and have helped to make Toronto a very important centre for the financing of global mining activity.

Toponyms

References to urban canyons have a curious etymology. It seems obvious to English speakers that to describe the gulches between tall buildings as canyons, simply borrows a topographic term from Spanish. A great many of our topographic terms for rugged or mountainous scenery are borrowed from Spanish that it seems only natural to use the Spanish word for a gorge to describe a street flanked by tall buildings. It is interesting to note, however, that the Spanish word cañon is almost certainly a derivative of callon, a derivative of calle, the Spanish word for a street. Spaniards, it seems, applied an urban
street metaphor to describe a topographic gorge. In speaking about urban canyons, English speakers are simply returning the word to its Spanish origin.

Judging by the city’s newspapers, Toronto began to speak of canyons in the downtown core in the late 1910s, following the completion of the Traders’ Bank and other tall structures.⁷ It was a phase in which (at least to local eyes) Toronto was assuming some of the features of lower Manhattan. Some (channelling the Toronto Star) greeted the skyscraper canyons with enthusiasm, while others (channelling the Globe) greeted them with derision.

A 1909 Globe editorial gazed into Toronto’s bleak skyscrapered future in which "the chief retail thorofares will then look like a Colorado canyon".⁸ "The skyscraper era is just beginning in Toronto" it complained again in 1912, "but if the skyscraper habit grows, as there is every indication it will … the lower end of Yonge street and the central portion of King street will become dim sunless canyons such as one sees in the financial centre of New York".⁹ Another editorial in 1913 moaned that "instead of the city beautiful we are to have the city terrible, long narrow canyons of streets without a single open space".¹⁰ By contrast, the Star was more optimistic in its references to the canyons of “the skyscraper belt”.¹¹ Toronto people continued to talk about their downtown in terms of

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skyscraper canyons throughout the Twentieth Century,\textsuperscript{12} and the habit spread to other places.\textsuperscript{13}

Fairly quickly, the references to downtown canyons became more geographically specific. People began to identify specific canyon sections or localities. In the process, Toronto’s urban wind canyons prompted their first informal place-name. In December 1912 the \textit{Toronto Star} coined the term “Canyon Corner” for the King-Yonge intersection, with its cluster of tall buildings. Indeed, it was a linguistic innovation powerfully connected with the winds at that corner. Canyon Corner, thought the \textit{Star}, gave Toronto a powerful windy corner to rival those around the Woolworth Building of New York.\textsuperscript{14} It was, thought journalist Greg Clark a “Cave of the Winds”.\textsuperscript{15} References to Canyon Corner continued routinely through the 1910s and into the 1920s, although the term subsequently fell out of use.\textsuperscript{16} By the later 1960s the term had disappeared from memory, and the \textit{Toronto Star} had to explain what the term had once meant.\textsuperscript{17}

One of the issues which challenged ‘Canyon Corner’ was the recognition that, by the 1920s, there were other canyons which deserved attention, especially those on Bay and King streets.\textsuperscript{18} We begin to see several references to the “Bay Street Canyon” from the

\textsuperscript{13} \textit{Toronto Star} 12 Apr 1954 p. 6 quoting an editorial in the \textit{Barrie Examiner}.
\textsuperscript{14} \textit{Toronto Star} 12 Dec 1912 p. 1.
\textsuperscript{15} \textit{Toronto Star} 22 Mar 1913 p. 9.
\textsuperscript{17} \textit{Toronto Star} 6 Nov 1967 p. 9.
\textsuperscript{18} \textit{Toronto Star} 16 Jul 1930 p. 4.
1920s onwards,\(^{19}\) and the term evidently continued in use until the late 1960s,\(^{20}\) although by then it competed with references to the canyons of Yonge, King, and University.\(^{21}\) There is evidence that among urban planners, the idea of a Bay Street Canyon continued for much longer.

**Look out below**

The Traders’ Bank, which seemed to set the tone for skyscrapers in Edwardian Toronto, also set the tone for its construction safety. The standards were poor, and in the 18 months it took to build there was a fatality and numerous on-the-job accidents.\(^{22}\) The first serious casualty occurred early in the build, in November 1905, when an engineer was scalded by a faulty steam injector.\(^{23}\) Unionised labour complained of poor safety measures in the winter of 1905-6, as flimsy scaffolding clung to the 9\(^{th}\) floor.\(^{24}\)

The low standards of workplace safety meant that surges downtown construction brought surges of injuries and death among construction workers. Two died on the Kent and one on the Darling buildings in 1909-11.\(^{25}\) Conditions did not improve with the massive CPR building, under way 1911-1913. Again the unions complained, this time of the lack of floors.\(^{26}\) But it was an unprotected elevator shaft which killed a carpenter in April 1912. As he fell 150 feet to his death, some 200 workers heard his screams.\(^{27}\) Another worker

\(^{19}\) *Toronto Star* 26 Jan 1935 p. 1.  
\(^{24}\) *Toronto Star* 12 Dec 1905 p. 10; 27 Feb 1906 p. 5.  
\(^{26}\) *Toronto Star* 6 Mar 1912 p. 2.  
\(^{27}\) *Toronto Star* 30 Apr 1912 p. 3.
on the same building was injured in July 1912 by a falling brick.\textsuperscript{28} The accidents continued in 1913 and 1914 on other projects. A worker was crushed by a 300 lb steel beam at the Royal Bank in March 1914,\textsuperscript{29} while the Dominion Bank and the Methodist Book Room killed two each.\textsuperscript{30} The new Union Station claimed the life of fourteen-year-old lad in 1918.\textsuperscript{31} The woeful litany of injuries and deaths continued through the 1920s, with no real improvement. Workers died on the London Union building in 1922, and on a Bay-Adelaide tower in 1925.\textsuperscript{32} A collapsing scaffold on the Atlas Building in 1927 toppled three workers, two fell, one fatally.\textsuperscript{33} Two more died in an excavation collapse in February 1928 at Bay and Richmond,\textsuperscript{34} and another in a fall at the Royal York in 1928.\textsuperscript{35}

While unionised labour continued to protest the dangerous conditions, the mainstream press noted them with the brevity appropriate to the misfortunes of small people. One more dead or injured construction worker was a quickly passing tragedy, especially if he was an ethnic immigrant. There was little recognition that the problems were systemic, and the risks essentially unmanaged in the name of cheap expedience.

Construction workers were obviously at risk from lax safety, but so were pedestrians and other innocent passers-by on the canyon floor. I found two instances of falling planks, one from the Traders Bank in 1905 and one from the CPR in 1912, but there were

\textsuperscript{28} \textit{Toronto Star} 29 Jul 1912 p. 8.  
\textsuperscript{29} \textit{Toronto Star} 26 Mar 1914 p. 12.  
\textsuperscript{30} [Toronto] \textit{Globe} 21 Apr 1914 p. 8; \textit{Toronto Star} 10 Jul 1914 p. 5.  
\textsuperscript{31} \textit{Toronto Star} 30 Jul 1918 p. 5.  
\textsuperscript{33} \textit{Toronto Star} 8 Nov 1927 p. 36.  
\textsuperscript{34} \textit{Toronto Star} 4 Feb 1928 p. 1; [Toronto] \textit{Globe} 4 Feb 1928 p. 1.  
\textsuperscript{35} \textit{Toronto Star} 18 Jul 1928 p. 26.
probably others.  

The 1905 incident claimed a messenger boy on his bicycle. A three-ton stone block fell 100 feet to the sidewalk from the Imperial Oil building in 1916.  

These were simply some of the longer object to rain upon the ground-dwellers.

The most notorious for dropped construction materials was the Royal Bank tower, under way 1913-14. It inflicted an almost Biblical plague of hammers, paintbrushes, bricks, mortar, and planks on the groundlings, with intermittent showers of red hot rivets. Heavy iron plungers from riveting guns hurtled onto the road and sidewalks, injuring and frightening pedestrians and other mortals.  

There was sufficient public alarm to stir the civic authorities to prosecute the hapless Montreal-based contractors, although not enough to get the charges to stick.

Even when construction was over, the hazards to pedestrians did not cease. The rain of falling objects continued from the canyon walls above. Sections of roofing tin were torn off the CPR tower in the gale of Good Friday 1913, to land bouncing and sparking on the streetcar wires. By the early 1920s freeze-thaw cycles were liberating chunks of mortar, brick and terra-cotta from the CPR tower, and from other structures built in the Edwardian boom.  

To be fair, though, the structures of the 1890s were also shedding masonry by the 1920s, including the Bank of Toronto and most spectacularly, the 1898

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37 Toronto Star 6 May 1916 p. 1.  
39 Toronto Star 12 May 1914 p. 2; 22 May 1914 p. 8.  
41 Toronto Star 11 Jun 1914 p. 1; 15 Feb 1915 p. 1; 28 Feb 1916 p. 3.  
42 [Toronto] Globe 8 Dec 1920 p. 6; Toronto Star 8 Dec 1920 p. 3; Toronto Telegram 10 Apr 1923 p. 24; Toronto Star 10 Apr 1923 p. 3.
City Hall. It lost the heavy heads of two of its gargoyles, one of which crashed through the ceiling of a Works Department drafting office.

The rain of falling objects was not confined to structural materials. Edwardian skyscrapers were built with retractable canvas awnings to shade the windows. Lazy office workers found that an opened window offered disposal of unwanted smoking materials. During the working day a rain of discarded cigar and cigarette butts descended on pedestrians, bouncing off the awnings on the way down. Some of the material was still burning as it fell, and occasionally would ignite the awnings. This happened on the Lumsden and CPR buildings and elsewhere. The awnings on the 6th and 7th floors of the CPR tower caught fire in this way in 1913, despite the superhuman efforts of the janitorial staff with chemical fire extinguishers.43 Crowds of gawping onlookers gazed upwards in fascination as flaming fragments of burning canvas fluttered down. It happened on several other occasions.44

All of this serves as an important context for the emergence of Toronto's canyon system in the Twentieth Century. The canyons were fashioned out of the increasing stock of tall buildings which, in turn, were connected to the major shifts in the capital markets influencing the Toronto economy. So we have skyscrapers beginning to appear around 1900 onwards, and surging in the Edwardian era. What happened to the wind?

43 Toronto Star 25 Aug 1913 p. 5.
44 Toronto Star 10 Sep 1914 p. 15; 19 Aug 1918 p. 5.
The Temple Building was relatively isolated for several years although it stood reasonably close to the 1898 City Hall. It took a decade or so before other tall structures began to rise nearby. However, we are told in 1909 that Bay and Queen, a nearby intersection and in front of the 1898 City Hall and close to the Temple Building, was an "always windy corner" and there are some interesting photographs taken by William James, circa 1911 of Toronto commuters struggling through the vicious winds of the Bay and Richmond intersection. They clutch hats as their coats and skirts flap and billow in the gale.

The completion of the Traders' Bank though made things much worse on Yonge Street, and by 1909 it was evident that some very unpleasant wind effects were developing around it and other tall buildings. The winds tugged at women's skirts and created considerable difficulties for pedestrians. The canyon winds threw sandwich board men into disarray at Yonge and Queen, the boards going one way, and their plug hats going the other.

The references to fierce canyon winds increase in the 1910s, with the completion of the CPR skyscraper at King and Yonge in 1912. Once the building was substantially complete, by the late fall of 1912, the newspapers began to note severe wind conditions had developed at the intersection. The *Toronto Star* called it Canyon Corner, and happily compared it to the legendary winds around Manhattan's Woolworth Building. The strong winds of December 1912 tugged at skirts and hats, disarranged hair, blew over parked

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45 *Toronto Star* 7 Apr 1909 p. 11.
bicycles and fed them to passing streetcars. Passengers disembarking from streetcars had to brave the winds at Canyon Corner, or often preferred to bypass the intersection altogether, proceeding instead through the indoor spaces of the Manning Arcade. William James braved the wind, atop his stepladder, and photographed the winds of Canyon Corner mauling the pedestrians. In his snapshot the women grimace and tug their skirts tighter, the men grasp their hats, and even the sturdy bank messengers cower before the gale.

During the 1910s and 1920s Toronto's canyon system greatly expanded, as the skyscrapers rose at opportune spots across the downtown area. King and Bay streets became an area of significant canyon development. Bay itself became recognized as the Bay Street Canyon from the 1920s. Bay, perhaps more than Yonge, emerged as a favourite route for parades and celebratory homecomings for Toronto's sporting and cultural heroes. The rising mass of Bay Street's tall buildings allowing ticker-tape parades in an almost Manhattan style. In 1930 it was a parade route for the Shriners, and for the R100 airship, although the latter flew high above it.

Complaints about the King and Bay Street wind canyons were fairly few in the early Twentieth Century, although it was windy. There was enough wind to ruffle the ticker tape, but not enough to rival the reputation of Canyon Corner. Windy conditions expanded on Yonge though in the 1920s, north and south of King, to the Yonge-College intersection where the Eaton department store company was building its new emporium.
Just as surely as Toronto's downtown had acquired skyscrapers, it had acquired a distinct and functioning system of wind canyons.

*Windblown Stepchildren*

Toronto's emerging high-rise skyline, with its whistling winds were not mere voids, they were inhabited and populated. Diurnal tides of commuters came and went, waiting on windswept corners for their streetcars. People had to brave the canyon winds, not merely as passers by, but sometimes in the more long term. Prominent and ubiquitous at every major downtown intersection were the newsboys, hustling their papers in the city's gritty canyon winds.

The newsboys probably appeared with the emergence of the city's newspapers. We have the reminiscences of a newsboy who worked in the 1840s to show that news selling on the streets was an old and well established profession in the Victorian city. As newspaper circulation expanded, with rising population, improved literacy and cheaper newsprint, the newsboy became a common feature of the urban street corner. By the later Nineteenth Century they numbered in the hundreds. At that time there were essentially two newsboy workforces, with some overlap, which corresponded to the time that papers were published. Those who sold the morning papers tended to target the suburban intersections where crowds or flows of inbound commuters passed through. The boys darted on and off the streetcars, allowed by custom to board to sell papers without paying a fare. Newsboys got to know regular commuters, and sometimes sold papers on a

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47 *Toronto Star* 16 Sep 1905 p. 21.
weekly payment arrangement. In the 1880s, at College and Spadina the morning papers were sold by "The Trotter" and his newsboy minions. The Trotter and his crew would meet every streetcar, and hustle through them with papers, before running back to meet the next car.\[49\] The Trotter and others like him disposed of large quantities of morning broadsheets, and he used the proceeds of his lucrative sales to finance a news agents and grocery store on Lippincott Street. He was a bit unusual in this respect, because most of the newsboys were much poorer. Downtown there were newsboys on the corners with the morning paper, but the real money on the morning sheets appears to have been in the suburbs.

The downtown corners, though, came into their own for the evening papers. These began to appear in the middle of the afternoon, and went through several editions as the news was updated. Commuters starting their homeward journeys downtown or in the factory districts found newsboys willing to sell them an evening paper in time for the journey home. Boys at the downtown corners, with the newspaper offices nearby, could easily return to collect fresh supplies if they sold out. Prominent downtown in the 1880s was Danny O'Brien 'King of the Newsboys'. Like the Trotter he had a small army of underpaid helpers at the King and Yonge intersection.\[50\]

Newsboys worked long hours, braving the cold, the wind and the rigours of the street. Some did so lucratively, but most got into the trade out of poverty. Toronto newsboys of the later Victorian period mostly seem to have Catholic Irish names, but after 1900 the

newsboys were recruited almost entirely from the Jewish community. Newsboys, it seems, were drawn from the city's social and economic out-groups. Bay Street, stony-hearted stepmother, had a number of windblown Irish and Jewish children.

Newsboys developed a reputation for pushy sales techniques. Lusty-lunged, they infiltrated streetcars, trains, stores, offices, parades and political meetings in search of customers. This might amuse or annoy the respectable public, but it was also dangerous. Newsboys leapt on and off moving trains and streetcars, they darted out into traffic, prompted by the whistle of a customer, the lift of a gentleman's gloved hand, or the waft of a lady's parasol. They could easily be killed or maimed.

Newsboys, poor and street-toughened, often fell into the clutches of the police, and were regularly sucked in the vortex of Magistrate Denison's police court. Newsboys, by reputation, fought each other for selling turf, engaged in petty theft, yet returned found objects to their astonished owners. Newsboys sold the papers for which the journalists worked, but they were also constantly on hand as witnesses to the events of the street, the fires, collisions, murders, robberies and suicides. Reporters in search of an eye witness only had to ask the newsboy who worked on the corner. They were easy to find.

Selling newspapers in the city's wind canyons required various adaptations to make the most of the available custom and to endure the harsh selling environment. From about 1905 Sam Lichtman, the "king of the newsboys" in the Edwardian era, arranged with the city for vending stands to be placed at key intersections. The police licenced the trade and
despite the objections of Commissioner Harris the city allowed the news stands. Most of the news boxes were placed on the east-west streets, where they intersected with the north-south ones. Here the wind was a little less likely to create 'runaways', and there was a little more shelter. Cloth flaps, straps, bricks, and other improvised devices helped anchor the stacks of unsold copy.

The most lucrative places to sell newspapers were the main downtown corners where traffic was greatest. These were also the places where the buildings were tallest, and most massive. King and Yonge, Canyon Corner, was one of the most lucrative as well as one of the windiest spots for selling papers.

The First World War generated some major changes for the newsies, because it produced a group of blinded and maimed soldiers and created the political will to find them jobs. Newspaper selling was one of the tasks which the city felt able to offer the wounded heroes. In the 1920s it became civic policy to allocate vacant news vending spots to the blind and incapacitated, finding work for veterans and civilians alike. The newsboys found that they were simply expected to make room. A newsboy representative, Mr Roher, attended key meetings at city hall where the policy was hatched, but the deck was stacked against him. The fresh vending spots, even those with a Jewish newsboy occupant, were to be allocated to the deserving war wounded.

The Jewish kids, though, quickly had their revenge. Most of the veterans who tried newspaper selling could not compete with the practised hustle of the existing newsboys.
The Jewish kids were simply too quick, too loud and too successful. Most of the veterans who tried the trade gave up rather quickly. Some stayed, such as Anne Baker at Gerrard and Yonge, but the Jewish boys continued to dominate the trade despite the efforts of the City Hall Orangemen to alter things.

Sam Lichtman, like Danny O'Neill and The Trotter before him, succeeded as a newsboy, using the proceeds to set up a more mainstream business. Lichtman's News sold papers in several locations, and in the 1920s broke into publishing. Lichtman and various partners produced a series of weekly racing tip sheets, clearly intended to support off-track betting. Various attempts were made to curb this infringement of gambling laws, but did not succeed since racing tips were themselves not illegal. There was another legal escapade in which Lichtman was sued as a distributor of allegedly libellous materials in one of the western newspapers he carried. Lichtman succeeded in defending himself creating an important legal precedent in the process. Lichtman's News and Books became one of Toronto's prominent retail chains in the sector until the 1980s.

The economic success of a few newsboys was not very typical of the majority. Most got into the trade out of poverty, and lack of an alternative. Many of the Jewish newsboys had found that anti-Semitism closed off the economic mainstream.

_Turbulence_

The winds of Toronto's urban canyons strengthened over time, and spread to new areas as the tall buildings multiplied. These winds were not simple artificial gales, strong and
disagreeably gusty. In these inevitably confined spaces they became turbulent. As the
canyon system matured, the evidence increases for complex turbulent wind patterns. In
certain conditions, and perhaps especially at key intersections, rotational winds
developed. In places Toronto was generating artificial whirlwinds.

The corner of King and Yonge was the earliest and most obvious focus for rotational
winds. In the fall and winter of 1912-13, immediately following the completion of the
CPR buildings we begin to hear of recurrent wind vortices here.\footnote{Toronto Star 12 Dec 1912 p. 1.} Blizzards swirled and
the winds of the CPR corner disarranged women's skirts, routinely revealed their
stockings.\footnote{Toronto Star 12 Dec 1912 p. 1; 27 Mar 1913 p. 1; 30 Jan 1918 p. 6.} Unwary soldiers in highland regiments risked embarrassment if they tried to
cross the street wearing kilts.\footnote{Toronto Star 14 Apr 1916 p. 2.} Men and women had their hair disarranged and lost their
hats. One gentleman watched as his hat was whisked upward by a spiralling wind, and
deposited on a skyscraper window ledge. The hat owner, accompanied by the journalist
Greg Clark, went into the building and retrieved the missing headgear. Clark's write-up of
the incident made the front page of the \textit{Star}, and helped launch his career as a prominent
journalist.\footnote{Recalled in Toronto Star 6 Nov 1967 p. 9.}

The swirling winds of Canyon Corner did not limit themselves to playing with hats and
umbrellas. On occasion they threw carelessly parked bicycles into the paths of
streetcars,\footnote{Toronto Star 12 Dec 1912 p. 1.} tore down signs or moved much heavier objects. A westerly gale in October
1917, for example, created "terrible suction" at King & Yonge, enough to disarrange

\footnote{Toronto Star 12 Dec 1912 p. 1.}
heavy wooden news stands. These heavy wooden objects danced in the wind, and one was driven into the entrance of the Royal Bank.56

Most of the time, the rotational winds at King and Yonge spiralled upwards. The intersections' famously uncouth winds tended to lift hats, skirts, hair and umbrellas. But on occasion, the winds spiralled downwards. One January noon, for example, in 1917 the winds sucked the rooftop smoke downwards into the intersection, spoiling visibility at this busy corner and creating the exciting impression of a fire.57

Most of the rotational wind activity at King and Yonge seems to have occurred in connection with westerly winds, or those with a strong westerly component, although the references are too scattered and fragmentary to amount to proof.

During the 1920s, as the canyon system expanded downtown, the pattern of rotational winds also spread. King and Bay, and the Bay Street canyon generally began to develop rotational winds as the local skyscrapers went up. We hear of accidentally-dropped checks and stock orders, for example, swirling in the air at King & Bay in a light north-easterly wind.58 Photographers covering ticker tape celebrations often found swirling tornadoes of office paper at the Bay Street intersections, as the Globe & Mail did on VE day.59 But Bay Street, though windy, never quite developed the savage reputation of King and Yonge.

56 *Toronto Star* 17 Oct 1917 p. 16.
57 *Toronto Star* 2 Jan 1917 p. 1.
58 [Toronto] *Globe & Mail* 9 Sep 1932 p. 11.
59 CTA Globe & Mail 96214, 96215.
Suburbanity's Bitter Winds

In spite of urban canyons, the general effect of the built environment is to shelter a city's inhabitants. Buildings and shade trees reduce exposure to bitter winter winds even if they also curb the cooling of summer breezes. Less heavily built areas, suburbs, exurbs and countryside, by contrast, tend to increase wind exposure. Parkdale in the early 1880s was a place where "the heat of summer is tempered by the breezes of Lake Ontario with dispense refreshing coolness". Queen's Park and other "suburban places of resort" were attractive in the July heat-waves of the 1880s. Cooling breezes drew increasingly large crowds to the Island in the summers of that era, and to steamer and excursion resorts. References to cooling summer breezes were a constant feature of suburban real estate marketing through to the 1920s, and accompanied most summer resort advertising.

Toronto's suburban belt expanded significantly in the 1880s, and filled in somewhat in the 1890s, aided by the electrification of the streetcars. The city's suburbs were flung further out than ever before, and knit together with increasing dependence on public transit. This might seem pleasant in the refreshing cool breezes of summer, but brought discomfort in the bitter winds of winter. Worse, the commuting suburbanite was forced to endure cold, wintry waits for streetcars, on windswept suburban corners and in draughty urban canyons. An expanding streetcar city inflicted greater and greater degrees of winter wind exposure to its suffering commuters. Metaphors of windy bleakness accompanied newspaper stories of winter transit journeys. Even in leafy Rosedale transit riders were not safe from the "howling hurricanes of winter" as they waited for streetcars that never

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60 Toronto Star 18 Feb 1911 p. 18; 10 Dec 1917 p. 20.
seemed to come. Bitter winds of passenger invective whistle through the various commuting horror stories. Passengers at the Humber Loop, for example, faced a 30 minute wait between services in a shelter which the TTC had thoughtfully left without walls. Avenue Road and St Clair was another intolerable place to wait for crowded cars on those oh-so-cold mornings. Cold winter commutes usually began with cold winter waits at windswept suburban transit stops. The wind exposure of suburban commuting probably added to the attractions of the automobile, but wartime gasoline and tire shortages forced commuters to return to the streetcar. The miseries of winter transit rides became one of the privations of war. Eaton's saw it as a opportunity to sell warm, winter clothing.

We should probably remember too that transit riders' exposure to winter winds was probably also gendered. Men, with greater earning power and a tendency toward proprietary control over family vehicles were more likely to drive to work. Women were more likely to be dependent on transit.

Despite the blandishments of much of the city's real estate advertising, the breeziness of the suburbs became as much of a detraction as an asset. It was especially true of the cheaper districts. Cruel winter wind exposure was an obvious characteristic of Edwardian Toronto's numerous suburban shack towns. In Wychwood and Earlscourt, in Dovercourt

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61 Toronto Star 16 Jun 1921 p. 6.
62 Toronto Star 2 Jan 1932 p. 29.
63 Toronto Star 22 Jan 1923 p. 6.
64 Toronto Star 3 Feb 1934 p. 1.
65 Toronto Star 9 Nov 1942 p. 32.
66 Toronto Star 12 Dec 1947 p. 28.
and East Toronto, Mimico and the Beaches, the flimsy wooden shacks rattled and twisted in the Edwardian gales.\textsuperscript{67} Windstorms flattened suburban hydro poles and blew roofs off shack town churches.\textsuperscript{68} Budget-priced houses sprouted in the "barren wind-swept fields" east of Pape Avenue, beyond the limits of paving and the TTC.\textsuperscript{69} Over the years the metaphors of windy winter bleakness would circulate among the city's moderately priced and cheaper suburbs. It probably helped if the suburb's transit rides were cold and inconvenient. Over the years the accolades and insults of windiness descended upon places as varied as Don Mills and Jane-Finch.\textsuperscript{70}

The most enduring recipient of the metaphors of suburban bleakness, however, was not a residential suburb. It was a university. We are referring, of course, to the Keele campus of York University, academic home of your humble narrator.

Universities have their poets. Matthew Arnold described Oxford as a city of dreaming spires. Frederick Raphael described Cambridge as a city of perspiring dreams. It is difficult to believe that the Keele campus of York University could ever inspire poetry. Especially in a chilly January. Yet in Toronto's popular culture the image of York has been permanently connected to windswept wasteland. The \textit{way must be tried} amid winds, gales, snowdrifts and bleak tundra.

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\textsuperscript{67} Toronto Star 21 Jan 1907 p. 1.
\textsuperscript{68} Toronto Star 10 Dec 1917 p. 20; Toronto Telegram 22 Jul 1933 p. 4.
\textsuperscript{69} Toronto Star 12 May 1926 p. 2.
\textsuperscript{70} [Toronto] Globe \& Mail 16 Mar 1959 p. 6; Toronto Star 7 Nov 1980 C1.
\end{flushleft}
York's windswept prosody dates back to the initial sod turning in April 1964, when four ceremonial spade-fulls were turned in a "windswept field just west of Keele Street".\textsuperscript{71} Bleakness became an immediate and lasting feature of Star editorials mentioning the campus. Similar metaphors also occurred to the writers at the Globe & Mail, with Fraser Robertson referring to the Keele campus as "a windswept tract of land in the northern part of Metropolitan Toronto".\textsuperscript{72}

The 1970s were a golden age of windswept references to York. For several decades degree ceremonies were gruelling affairs, conducted in the outdoors, or in flimsy marquees. Convocations were more likely to be endured than enjoyed. The eminence of the luminaries asked to speak seldom compensated for the "wind swept, open-air ceremony".\textsuperscript{73} Wise students arranged to graduate in June, not October. The windy conditions sometimes intimidated distinguished campus visitors. W O Mitchell, a prominent Canadian author of windswept novels, had to postpone a 1978 visit owing to January gales.\textsuperscript{74}

The bleakness of the Keele campus had become an \textit{idée fixe} by the 1980s. The winter winds howled between campus buildings, and whistled across the empty concrete podium of the Ross Building. Humanizing the campus was a vital priority for incoming president Harry Arthurs in 1985, who deplored the popular "visions of snowdrifts, empty fields and

\textsuperscript{71} Toronto Star 3 Feb 1965 p. 6.
\textsuperscript{73} Toronto Star 1 Oct 1973 A3.
\textsuperscript{74} Toronto Star 27 Jan 1978 D1.
concrete". His presidency was marked by a surge of construction. Under his leadership the Ross Building lost its Aztec-style ramp and became thankfully hidden by Vari Hall. The campus added a new student centre and shopping mall, and a university common. But it would not be easy to dispel the image of York as "a dreary building on a windswept campus" and almost impossible to transform it into "a traditional ivy-covered university". The Star continued to note York's "half-completed campus where a lot of wind whistles almost constantly through sparsely-spaced buildings". It was, according to Jack Cahill a "struggling, crowded, windswept but still human institution".

It was this desolate image that Harry Arthurs wished to change. He launched a major campus plan, with new sports facilities, academic buildings, parking facilities, residences and landscaping. The York University Development Corp handled the plan, which the University hoped to finance by leasing off large areas of vacant campus lands. But even those officials charged with transforming the campus still found it easier to subscribe to the metaphors of bleakness than to engage with something more positive. Dr Philip Lapp, member of the Board of Governors and CEO of the campus development corporation continued to describe York as a "windswept wasteland".

The major changes of the Arthurs presidency and subsequently have indeed changed the campus. In many respects it is more humane and liveable, but the metaphors of bleakness still come to mind. In May 2002 the Ross Building was used to shoot outdoor scenes of a

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movie about Boris Yeltsin. The film makers brought in a selection of battered Lada cars, quantities of fake snow and extras in fur hats. But what was truly remarkable was how little they had to alter the Ross Building to make it look like a Moscow winter. It seems that York will remain windswept for some time to come.

The Post-1945 Boom

Depression and the war years brought a general halt to major construction in Toronto. There was some residential construction in the affluent suburbs, in Forest Hill, Swansea and the Kingsway, but nothing like the 1920s boom. There was very little new construction in the downtown core, beyond the completion of the projects already well under way. Shortages of materials in the war years limited major construction to those projects essential to the war effort, mainly munitions plants and essential workers' housing.

The building cycle began after VE day, although it was hampered by shortages of construction materials, particularly steel. The Bank of Montreal at King and Bay was the most prominent of the new skyscrapers of the era. It completed the corners at the intersection. The post-war revival of the skyscraper though occurred in a new context, one in which the subway was being constructed. The first sections of subway, on Yonge Street, enhanced the accessibility of the Yonge corridor, which was already heavily built downtown. Subsequent elements, materialising in the early 1960s, would extend the subway to University Avenue.
During the 1950s and 1960s Toronto became a powerful financial centre, eclipsing Montreal in importance. Skyscraper construction surged in the city's downtown, to accommodate the growth. Biggest of all was the Toronto Dominion Centre, a massive skyscraper cluster at the King-Bay corner. Originally planned to open 1 July 1967, and by Queen Elizabeth, completion was delayed and Her Majesty otherwise engaged. The TD Centre's rising towers were the largest and tallest in Canada, outstripping the Bank of Commerce and giving the city a large Miesian high-modernist architectural statement in the glassy International style. Elsewhere the 1960s downtown was in a frenzy of demolition and construction. As the TD Centre grew, Commerce Court was added to the opposite corner of King and Bay, the relatively new Bank of Montreal skyscraper of the 1950s was replaced by one even larger, but in the International style. The Temple Building, grandparent of the city's high rises, was torn down in 1970 to make room for a large concrete hotel complex of no great architectural merit.

The 1960s were a period of rapid transformation in the downtown skyline, and saw the building of high rises elsewhere. Urban renewal schemes brought residential towers to St James Town, to Bloor & Dovercourt, south Parkdale, the Annex, and High Park. They were added to the city's burgeoning suburban belt, along Jane Street, in North York, Etobicoke, Weston and Scarborough.

The emergence of these high rises was linked, the growing towers downtown needed a workforce to fill them, an accessible residential population, perhaps in suburban high-rises, and transportation to tie them together. As the TD Centre was developed, city
officials fretted over the potential for its workers to overload the transit system. At peak times they would overload the subway and transit vehicles, clog the roads, and even overwhelm the subway stations. Crushes of commuters might push each other off subway platforms. The entrances and exits of Union Station did not seem adequate to the massive tidal influx. One solution was to try to stagger commuting times, another was to create a pedestrian tunnel system which would funnel the commuters to and fro, but would attenuate their volume. This developed into the extensive PATH system of underground corridors in Toronto's downtown. Another solution was to adapt the city's railway system to offer rail-based commuting, eventually known as the GO Train.

At suburban subway and commuter rail stations, in Port Credit, Yonge and Eglinton, Yonge and St Clair, and elsewhere, clusters of residential high rises grew, as much as anything, as a residential counterpart to the towers downtown. Many residents of the residential high-rises commuted to the downtown towers to work. Every building cycle since the 1960s has added more high-rises to the city's skyline, residential and commercial, with the residential increasing dramatically in the downtown area in recent years, sopping up land vacated by departing rail-based industry.

As we might expect, the various waves of high-rise construction altered both the geography and the strength of the canyon winds. The affected area of the city broadened dramatically, the winds increased in strength, but in many respects the centre of the city's wind canyon geography shifted. Canyon Corner at King and Yonge had been the classic centre of Toronto's wind canyon system in the 1910s and 1920s, but by the later 1960s
the King and Bay intersection had emerged as the city's most notoriously windy intersection. This had a lot to do with the construction of the TD Centre, and also probably by the other tall buildings drawn to the King and Bay corridors. The winds dramatically increased at King and Bay and quickly mocked the careless modernism of the TD towers. The TD Centre towers were grouped around a central podium, an open banking plaza intended to be a showcase urban open space, privately owned and controlled but apparently available for public use. Management created a series of outdoor entertainments for the summer lunchtimes, concerts and other events to lift the mood of lunching office workers. Middle-of-the-road jazz and popular tunes competed with the sounds of traffic and construction noises coming from the uncompleted towers. But when the winds were strong, especially in the colder months, the open podium plaza was a horrible liability. The TD Centre was designed so that commuters would climb the steps from Wellington Street and walk into their buildings across the plaza. The short flights of stairs on the podium's perimeter were originally without hand rails. Management had to improvise climbing ropes to help the office workers in windy weather, and eventually installed handrails. In high winds, as the office workers quickly discovered, the TD towers creaked in the wind. Winds in the plaza got rapidly worse with the completion of the second, shorter TD Centre tower. Adding the second tower also produced an alarming increase in bird strikes, as migrating songbirds negotiated the flyway and were fatally attracted to the TD Centre's perpetually-lit glass sides. The dead and injured songbird bodies piled up by the hundred on the plaza below. In migration season, security guards had to make the rounds with garbage bags each morning before the office workers arrived.
By the end of the 1920s it is fairly clear that Bay and Yonge had emerged as windy canyons, with the intersections along these streets being especially so, particularly at King and Queen. However, there was only one intersection, King and Yonge, where the winds were strong enough to knock pedestrians over. This is the basic threshold of deadliness, because all it takes to kill pedestrians is to knock them over onto hard urban surfaces. Most will be unhurt, some will be injured and a few, eventually, will be killed or permanently disabled. The canyon system of the 1920s offered fairly widespread pedestrian discomfort in strong winds, but only became dangerous apparently at one intersection, King and Yonge.

The construction boom of the 1960s changed this dramatically, expanding both the zone of pedestrian discomfort and the zone of pedestrian deadliness. Potentially dangerous conditions began to emerge at a number of downtown corners. The windstorms of the 1970s brought this dramatically to life. In the photographic coverage of the Star we have pictures of people clinging to lamp posts outside Union Station, waiting for lulls in the gusts before trying to cross the downtown streets. People were blown over at Yonge and Dundas, at Bay and Dundas, on University Avenue, at King and Bay and on Bay Street itself.

One storm in January 1978 swayed the Commerce Court skyscraper so much that dozens of office workers on the upper floors became seasick. The victims cleaned out the gravol and other nausea remedies from Tamblyn's drugstore in the building's basement. A
window was blown out of one of the upper storeys, it flew across Bay Street and sliced through a window of the TD Centre where it chopped a (fortunately unoccupied) desk in half. So many windows were blow out of the passport office in the TD Centre that it had to close. Security guards at the TD Centre's ground level watched in horror as the wind felled a man in his fifties trying to climb the steps into the podium plaza. He was blown into a concrete column and knocked insensible, blood pouring from a gash in his head. Seven security guards had to form a human chain to retrieve the victim, and drag him to safety. He was taken to hospital with a suspected skull fracture. The hospitals reported hundreds of casualties, as pedestrians were knocked down by the wind, or were hit by flying debris. There was at least one fatal casualty, on Scarlett Road, in the suburbs, where a woman was killed as she tried to enter her apartment building. The winds were severe enough to force the subway system to close.

Another dramatic demonstration of the city's dangerous canyon winds came in 1982. It was the era of the jogging craze, when urbanites were struggling to rid themselves of the waistlines and vascular consequences of their increasingly sedentary lives. The city had accepted private funding from Sun Life to create a wooden jogging track around the raised podium of New City Hall. It was a track that anyone could use, and which might promote lunchtime exercise among the office workers. The track, installed in the spring of 1982 was designed to rest on the podium, and was not attached. It was thought sufficiently heavy to rest under its own weight. It seemed to survive the summer winds, even gusts above 100 kmh in early September. But the second time that north westerly winds gusted above 100 kmh, in December 1982, a large section of the jogging track was
blown off the podium, while a family of four was standing on it. The family was dropped 18 feet from the podium onto Nathan Phillips Square, and then the jogging track landed on top of them. All were seriously injured. The mother, and one of her sons landed on a flowerbed, and were less badly hurt, but the father and the other son landed on the concrete. Both the adults had spinal injuries, the father's were sufficiently serious that he became paralysed, and for a few days was unable to breathe without the help of a ventilator. It was a horrible incident, and excruciatingly embarrassing for the city. The jogging track was quickly removed, and the city had to pay out a large and uncontested compensation claim.

The building boom of the 1960s, which had done so much to increase and extend the city's wind canyon system, also had political consequences. There had been a politics of skyscrapers in the early Twentieth Century, and some public awareness of the related wind issues, but the main emphasis had been on other things. The politics of skyscrapers revolved around questions of their size, their distortion to property values, their overloading of transit, their visual obtrusiveness, and the demands they made on public finance. Winds, though noted, were not yet political. They became much more political in the 1960s building boom. In this era, and the years following, we see more attention being paid to the canyon wind issue, and its recognition as a planning concern, even though there was little in the way of practical action. Wind entered into some of the important downtown planning discourses of the era.
The redevelopment around New City Hall, for example, was one important area where the new politics played out. Viljo Revell's design called for the New City Hall (which itself incorporated two skyscraper towers) to be set in an open plaza, later known as Nathan Phillips Square. In the various newspaper discussions of the New City Hall, and its environs, there was little recognition of wind. Revell had tested his design in a wind tunnel and had determined that the structure would survive severe wind, but there had been no testing of winds as pedestrians might experience them. It is difficult to find examples of the matter even being raised. As we now know, Nathan Phillips Square is rather windswept, especially in the cooler months, something which severely detracts from its ability to function as important public space. Public it is, but inviting, it is not. As the civic plaza redevelopment unfolded, there was the question of what to do with the 1898 City Hall. It was a looming antique and, for many in the modernist 1960s, a dingy Victorian embarrassment. There was quite strong opinion in favour of demolishing it, with some arguing for the preservation of the clock tower. To survive, Old City Hall needed friends and persuasive arguments. One of the friends was the aging Vincent Massey, a sage of Canadian public life, who offered the crucial public argument that Nathan Phillips Square was already rather windswept, and that the demolition of Old City Hall would only make it more so. It was a fine old building, part of the city's heritage, but adding to the plaza's stock of windswept empty space would not be beneficial.

In 1972 Toronto voters elected the so-called Reform Council, led by David Crombie. This was, in many respects, a voter response to the excesses of the 1960s boom, and especially to its redevelopment excesses. A compliant city council had allowed the
developers to build skyscrapers downtown, almost without restraint, and had permitted high-rise redevelopment in many low-rise inner city neighbourhoods. As a political movement the Reform Council was complex and multi faceted, but it is very interesting that references to the urban wind canyon frequently turned up in the rhetoric of its members. When asked for a sound bite on downtown redevelopment, Reform councillors usually spoke of their aversion to "windswept asphalt canyons" downtown. Details of their approach to planning were obviously more complex, but it is remarkable how often the wind canyon was uppermost in Reformer minds when they needed a shorthand phrase to express their approach.

Indeed, the first serious recognition of canyon winds as a planning issue came with the Reform council. They had imposed a five-year moratorium on new high-rise construction downtown, and as the expiry approached, had to consider what would come next. Council hired outside consultants to look at policy options, including reviews of the pedestrian experience at street level. There was discussion of separating pedestrians from traffic, but although the city backed the creation of the underground PATH system, it opted for continued pedestrian presence on the downtown sidewalks. Little was done to improve the conditions for pedestrians at ground level, but at least the city had decided to let them remain, and had begun to consider the consequences of high-rise construction on the people at ground level.

Another series of studies of the city's wind canyon systems were undertaken in the mid 1980s and renewed in the preparation for CityPlan 91. For the first time, the consultants
used a wind tunnel and models to estimate the ferocity of the canyon winds. The Yonge-
Bloor intersection, it was estimated, was boosting north-west winds by as much as 150%.
But the studies focussed on the parts of the downtown which were then in planning flux. The existing downtown wind canyons were not studied, although wind conditions in the
districts faced with redevelopment got some attention. Bloor-Yorkville was an area of
interest, for example, but the notorious King-Bay intersection was not.

In recent years, perhaps especially in connection with the Lower Don redevelopment,
pedestrian wind conditions have been studied at the design stage. We are led to believe
that the Lower Donlands high-rises will be tactful toward pedestrians and won't
dramatically worsen the wind conditions at ground level.

Despite the belated interest, Toronto has already developed major canyon wind systems,
bringing discomfort and danger to a wide section of the downtown and to other parts of
the city. In high winds, several intersections become deadly. Some parts of the downtown
core reached this threshold by 1910, and it has been getting steadily worse for more than
a century. Through utter neglect, the canyon winds have been allowed to bring
discomfort and danger to the city's streets. In the case of Nathan Phillips Square,
unmanaged canyon winds have degraded what should be an important public space,
making it unpleasant and uninhabitable for much of the year. This sorry state of affairs is
not inevitable, it is largely avoidable. It needs to be managed as part of the planning
process, but to do this it must first be recognized. We are now seeing some tendency to
take up the issue of wind management in new development, but we have missed many
earlier opportunities and we are stuck with the intractable legacies of the failure to manage the issue in the past. Large parts of the city, usually its most valuable lands, have their outdoor spaces rendered dysfunctional, uncomfortable and sometimes downright dangerous because we failed to manage the problems of the wind canyon. There is a steep price to be paid for so many decades of this kind of neglect.