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Science and the City: The Poetics of Alice Major's Edmonton

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"A city comes to life only after writers have invented it."
—Robert Fulford

"*To find a city, accept*
the guidance of whatever calculating god
has taken you in care"
—Alice Major, *The Occupied World*

Alice Major, Edmonton's first poet laureate (2005-07), is one of Canada's finest poets. Since her arrival in Edmonton in 1981 she has been dedicated to an intimate exploration of her city and its people, crafting the details of her acquired knowledge into a body of powerful and original poetry. Indeed, she has made her poetic career in Edmonton where over the past twenty years she has published twelve books of poetry and a stimulating study on the relationship between poetry and science. Having made Edmonton her home through both her life and her words, Major has the advantage of seeing this city from fresh and imaginative perspectives, many of which, while revealing a deep and abiding passion for the intricacies and complexities of human nature, are from the viewpoint of the natural and social sciences, often in unconventional or indirect ways. Despite

a common misperception that poetry and science are at odds with each other, Major demonstrates the contrary, contending that both science and poetry "are central to understanding how human beings fit into the world" (*Intersecting* xv). She echoes Nobel prize-winning chemist Roald Hoffman who invites recognition of "the deep humanity of the creative act in science" (Hoffman 57), when she says: "The human world is awash with emotion. Poets merely give that feeling a little structure" (*Intersecting* 236). In her Edmonton poems, Alice Major gives more than a little scientific structure to this emotion, drawing deeply upon her knowledge of both the social and the natural sciences—including psychology, sociology, anthropology, archaeology, physics, mathematics, geography, and geology—to support some remarkable poetic images.

The perspectives of these images vary. In *Scenes from the Sugar Bowl Café* (1998), Major adopts a sociological perspective in the titular restaurant formerly located on Edmonton's 124 Street, watching and commenting on the world as it passes by, comes in, and leaves. In several deft and sometimes satirical verses she vividly captures the essence of selected people and scenes from 1990s' Edmonton. The poems from this collection are reprinted in *Tales for an Urban Sky* (1999), wherein Major seeks to create a unique mythology of Edmonton (here an unnamed "northern Alberta city that is like and unlike any other place" [7]). *The Office Tower Tales* (2008), set in Edmonton's Commerce Place, recalls the themes and structures of framing tales like *A Thousand and One Nights* and *The Canterbury Tales* through the sociological and anthropological perspectives of its narratives. *The Occupied World* (2006) contains sequences devoted to a contemplation of Edmonton from the perspectives of archaeology, anthropology, mathematics, physics, and geology. Most recently, in *Intersecting Sets: A Poet Looks at Science* (2011), she weaves together a number of informative and essential references to herself and to her city in a deeply philosophical study connecting the arts and sciences to the universalities of human life.

A significant exploration in *Intersecting Sets* concerns the science of empathy, a study that reflects her earlier comments at the end of the 2010 Edmonton Heritage Symposium. In this speech Major contends that emotion is "our mental filing system," tagging various, often idiosyncratic, narratives as parts of a web "that extends over time." We can share these emotions with others and create a sense of shared space through the process of empathy. As she puts it,

> A city's heritage is created not just through a memory-like tagging-with-significance but also through empathy. Heritage is a web of *shared* stories/memories. By making those stories conscious, by *noticing* them we can enter into the lives and minds of others who have shared this place, then and now. (Major, "Concluding Remarks")

In *Intersecting Sets*, Major draws on the work of neuroscientists Decety and Lamm to develop this idea, arguing that from a scientific perspective "empathy is not the wishful domain of poets but a real phenomenon in our brains," normally involving three steps: first, when we witness a display of emotion in others, the same areas of our brain actually "light up" as they would were we to experience the same stimulus directly (6). Then adjacent brain cells responsible for our sense of objectivity begin to signal a rational separation between the observer and the observed, and finally the areas of the brain involving "judgment and social context" contribute to, and shape, the ongoing empathic response (6-7). Thus as the poet shapes her response to her city and its people, she is first stimulated by an essential emotional connection, then partially separates her observing self from this response, and finally, through the completed poem, achieves a complex aesthetic and objective structure of the original empathic response.

How does such empathy help her to form the idea of Edmonton? *Scenes from the Sugar Bowl Café* (reprinted, as mentioned, in *Tales for an Urban Sky*) offers several instances where her deliberate notice of specific people becomes an entry point into their lives that, however briefly, opens the possibility of shared stories. For example, in "Persephone on 124 Street" she structures a familiar Edmonton early spring setting with the materials of both classical myth and contemporary allusions. Edmontonians are bound together by many stories, especially those of its ever-changing weather, and in particular its annual spring thaw. Their emerging from the darkness of six months of winter recalls the mythical annual emergence of Persephone from her six-month imprisonment in the underworld. In this poem, as water from the melting snow "goes running down the street" (Major, *Tales* 79), an interesting parade of men likewise figuratively "limbo into summer" to Harry Belafonte calypso tunes broadcast from the café's CD player, all the while being watched from the darkened café by

a contemporary Persephone, a "punk" girl in a "Six Inch Nails" T-shirt,[1] who in turn is being observed by the narrator. As the girl with "sunlight in her hair, a ragged nest / of straw spun suddenly to gold" (80) watches these men, one of them, helping to carry a coffin-like sofa, "turns to gaze / at the girl's hair shining through the glass," at which she "smiles and waves, and suddenly / gets up to go … [leaving] the café / door open and lipstick on her cup" (80). While much of the description appears objective, the narrator reflects her empathy by sensing the men's feelings of freedom as they walk by with jackets either open or completely off, and as a policeman's walkie-talkie incongruously swings on his hip like a grass skirt twitched by a hula dancer. As Persephone leaves the underworld café, the narrator's empathetic connection to the scene becomes more pronounced:

> It feels like summer's dancing up
> from ritual darkness. All the nails
> and manacles have popped loose
> and we're the lucky ones who got away. (80)

These and other denizens of the Sugar Bowl Café are unique individuals but also typical of the narrator's fellow citizens. She portrays them with an insight that, while sometimes droll or otherwise ironic, is nevertheless based on an initial empathy and a desire to create a heritage of shared stories that enliven both the city and their many other textual references.

Such shared stories also proliferate in *The Office Tower Tales*, which brings the concept of various medieval framing tales to modern-day Edmonton. Tales narrated by three office workers—Pandora, an accounting secretary; Aphrodite, a receptionist; and Sheherazad, a public relations agent—unfold in the food court of Edmonton's Commerce Place. Like the Sugar Bowl Café, this food court becomes a locus for observation of a variety of Edmontonians, although the stories shared from these observations are not limited to Edmonton but range throughout time and space, with many literary and mythological connections. Empathy is created as these central female narrators, again unique individuals but also obviously types, form ever stronger personal bonds as they recount their tales over the course of half a year, while the outside river valley landscape slowly transforms through the seasons. Similar to *The Canterbury Tales*, each of these tales, such as "The Police Candidate's Story," "The Waitress's Tale,"

and "The Tale of the CEO's Daughter," is introduced with a prologue by one of the three framing characters, and several conclude with an epilogue. However, unlike Chaucer in *The Canterbury Tales*, the author writes herself into the narration only obliquely, disguised in one of the prologues as a street woman.

In the "Prologue to the Tale of the Gingerbread Girl," the three narrators focus their attention on a small poverty-stricken woman begging quarters from passers-by in the food court. The woman, named Alice, is likely drawn from the same street woman portrayed in "Alice, Downtown" (Major, *The Occupied World* 96-97) and strongly suggests a manifestation of the author's Jungian shadow. She evokes almost immediate and intense reactions from the narrators. The degree of empathy evident in their responses varies quite considerably, so much so that it is possible to read this section as the author writing herself into her own narrative as a shadowy challenging figure, unignorable by her own created characters. Like a scene from a Pirandello play, the relationship between characters and author is playfully yet seriously inverted. Aphrodite "shivers" at the sight of her

> as though the mystery of biography
> has sent a chill
> into the summer sky. *That woman freaks*
> *me out,* she says. *She's always there.* (Major, *Office* 138)

Even when Sheherazad tries to calm her fears by explaining that Alice once did her a good turn by giving her change for the bus, contending "*She's not a maniac, / Just ill, a bit*" (139), her friends are not appeased. Indeed, this challenging figure may also elicit complex empathetic reactions from the readers such as those experienced through encounters with actual marginalized people. Their ensuing discussions of social responsibility and the ethics of biological reproduction (as well as thematic suggestions of artistic production) complicate this encounter between the central narrators and their unrecognized author. Like her fictional counterpart and other characters in Lewis Carroll's famous identity tale, this Alice also eludes our attempts to fix her objectively. She remains just out of range of her characters, and of our control, appearing like "Hecate" (138, 140), the triple-formed goddess whose appearance here belies her powerful creative powers, compelling Sheherazad, just through her "stare from her triune

space / at the corner" (142), to begin her next tale. The triune nature of Hecate thus parallels the triune aspects of Alice as author, narrator, and character, intimately involved in the complex process of both acquiescence and resistance to the empathetic response she evokes, from both characters and readers.

Major has argued that the feeling of "yearning" that motivates a poet to write a poem is closely connected to the feeling of empathy. As she acknowledges, her thesis about the relationship between empathy and poetry/storytelling is similar to Wordsworth's famous definition of poetry as "emotion recollected in tranquility" (qtd. in *Intersecting* 15), but with this essential difference that "the gap between emotion and recollection is not the wide span of years but the narrow cleft in a human being between 'me' and 'her'" (15). In *The Office Tower Tales*, the triune Alice invites readers to consider the implications of such a cleft; the author's comments on neuroscience and psychology in *Intersecting Sets* offer the possibility of supplementary insights into the poetry beyond the literary and mythological, even while they complement such aspects.

Scientific perspectives, particularly the archaeological, anthropological, and geological, also structure some of the poetic sequences in *The Occupied World*, providing perhaps initially disorienting but ultimately thought-provoking views of Edmonton. The sequence of poems entitled "Contemplating the City" (originally published, with slight variations, in *The Malahat Review* as the award-winning "Contemplatio") was inspired in part by Joseph Rykwert's *The Idea of a Town* (1976). Rykwert argues that the planning of modern cities and towns is governed, to their detriment, by an emphasis on the physical elements: "The way in which space is occupied is much studied, but exclusively in physical terms of occupation and amenity. The psychological space, the cultural, the juridical, the religious, are not treated as aspects of the ecological space with whose economy the urbanist is concerned," leading, Rykwert continues, to "a pattern of interaction between the community and its outward shell which will be disastrous for both" (24). In her sequence, Major explores what would happen if one were to graft ancient patterns and rituals for establishing a city upon what already exists in Edmonton. The result is an interesting palimpsest of the city's real and imagined pasts and its present poetic evocation.

The word "contemplating" in this context has rich and complex implications. Rykwert notes that it referred to "the ceremony of *contemplatio*"

(45), the root word of which, *templum*, from the Greek *temenos*, has various meanings. According to Varro, the word is derived from *tueri*, to observe, with "reference to nature, in the sky; to divination, on the ground, and to resemblance underground" (45). All three observations inform this sequence. But *templum* also denotes a sacred enclosure, "a piece of land defined by boundaries and devoted to a particular purpose" (46). Throughout this sequence Major demarcates her city as she re-enacts these ancient rituals.

Despite theories of how best to establish a city, as Rykwert remarks, "the injunctions of the theorists do not seem to have been followed" (43) in the ancient cities any more than in the modern ones. The rituals, although interesting, seem more theoretical and ideal than practical. For Rykwert, "[w]hat the city founder thought he was doing and its mythical 'rightness,' or what his followers saw him do is more interesting in this context than his historical success or failure. It is the *idea* of the town which concerns me here" (44). Similarly with Major's sequence, there is little evidence, if any, to suggest that Edmonton's founding was overseen by oracles or augers familiar with the ancient rituals, or that her own poetic rituals have made any observable difference. However, what matters is the *idea* of what these rituals stood for and their impact on the psyche of the poet as she establishes intimate connections between herself and her city. Through these poems she is establishing a new pattern, a new way of "contemplating" the city.

The sequence contains eleven poems, ten titles of which begin with imperative verbs, instructions for establishing the ideal city. The poet serves fittingly as a modern day augur in poems republished soon after she became Edmonton's poet laureate in 2005. Each poem normally begins with italicized paraphrases of classical instructions for establishing a city. The first, "Locate the Site," begins with a bird's-eye view of the North Saskatchewan River that flows through Edmonton, "the only city in a thousand miles of river" (Major, *Occupied* 12), a view that zooms to a panoramic perspective of the North and South Saskatchewan Rivers, which conflow into the Saskatchewan River east of Prince Albert, as "long legs / of a compass splayed across the prairies" (12), at once both geometrical instrument and female archetype. As the poem progresses, the speaker attempts to empathize with her newly adopted city, trying through a "chance encounter" to find the "X" that "marks the spot" (12) as a means of orientation. She

describes the final approach of her plane in geometrical and physical terms that locate this spot spatially and temporally:

> Runways mark a skewed cross
> on prairie. Wheels rush at tarmac.
> We arc in seats—thrust
> forwards and backwards at the same time. (13)

Mathematical and physics terminology—"cross," "arc," and "thrust"—and in other lines—"Arithmetic of river" and "ratio of circle to the line" (13)—are deftly interwoven with the speaker's personal imagery and emotions. In the final stanza in particular, the speaker appears to have blended with the northern leg of the Saskatchewan River compass, as her passage from the baggage claim to taxi stand moves like the current, guided by *whatever calculating god / has taken [her] in care*":

> I collect my circulating luggage
> from the baggage belt's meander,
> cut through the swirl of strangers
> and their bright foreign chatter,
> head for the taxi stand. (13)

The speaker creates her own version of her new city, identifying herself at first with the point of her landing, the X of the landing strip, and then the city's bisecting river. This is her beginning.

The next poem, "Assess the appearance of portentous animals," portrays Major's portentous animal, the ubiquitous black-billed magpie (*pica hudsonia*). She describes Edmonton as "a city of magpies, a parliament / presided over by the bold-robed birds" (14) to which she comes as "a foreigner—/ a white magpie," wanting to know "that he will be accepted by his kind" (14). This part of the ritual has its ancient counterparts, as in the founding of Rome by Romulus and Remus who "each went on a hilltop to watch for the auspicious birds" (Rykwert 44), in this case vultures, and having sighted them, "determined their exact significance" (45). But, like the white magpie, the foreign poet/augur is sometimes hard to spot. She will, however, make her presence felt by subtly blending into the background, conjuring the city in unusual ways.

"Envision the outline" builds upon the "x-marks-the-spot" motif. The poet as augur creates what the ancients referred to as the *conrectico* (Rykwert 46), establishing the city's "*cardo* and *decumanus*" (47), its intersecting north-south and east-west axes. Already having connected herself with the river, she now positions herself close to the city's centre and, like Varro's augur (Rykwert 46), faces south where not far below the river runs, "the city's hinge, its east-west line" (Major, *Occupied* 16). She completes the north-south axis with an empathetic skyward view:

> Crossing it [the river] from south to north
> geese make their high way overhead,
> a silent, migrant beat
> from the heart. (16)

In "Set up a boundary stone," with reference to the *temenos* or *term*, an ancient boundary marker, she adds a third, vertical axis to the intersecting axes of the geese and river as she moves down to the Rossdale power plant, now a designated historic site close to the original Fort Edmonton as well as to a recently discovered aboriginal burial ground on the north riverbank east of the 105 Street Bridge. The poem chronicles an archeological dig on the site as the cyclists, rollerbladers, and skateboarders "swoop" past (17). Unearthed after a variety of two-centuries-old trade good fragments is a "quartzite knife" dropped by the river bank "eight thousand years ago," the marker of "*our human boundary of time*" (18). The speaker has now, through her empathetic attachment to the river, the geese, and the knife, completed her identification with the city in all three spatial dimensions as well as one terminus of the temporal dimension.

A more recent segment of the temporal dimension, the appropriation of Indigenous land by European settlers and its often unacknowledged but nevertheless underlying guilt, is forcefully expressed in "What is buried under the walls." Here, remembering ancient fratricides and murders connected with the establishment of cities through figures such as Cain and Remus, the speaker is awakened by a woman's three a.m. scream on a quiet Edmonton residential street: "'You're on Indian land, man. / You're all on fucking Indian land, man. / This is fucking Indian land'" (19). The poet, who has by now strong ties to the city, reflects on the "uneasy and

hedging" (19) feelings that complicate her empathetic connections to its various peoples.

"Fix the city's regions, from west to east" further connects writer and city through the metaphor of the "*lituus, the seer's wand*" (20) for the North Saskatchewan River. Rykwert says that, according to Servius, the augur was forbidden in his surveys to gesture with the empty hand, being required to use the *lituus* throughout the ritual (47). In this poem the river thus becomes surveyor's instrument, augur's wand, and poet's pen. Moreover, during spring the river is filled with ice floes, described as deeply translucent, each with a "white frill, / a ruffed margin" (Major, *Occupied* 20). The metaphor of the ice suggests fancy, perhaps formal clothing, glass plates, and indirectly, writing paper. The river and floes signify the writer's flowing imagination that captures or freezes aspects of the city scenery. It serves as a bisecting axis of the city and also as a connection to the prairie beyond, where finally, as it "makes always for the east, / [it] ushers us to the feet of the sun" (20). But if the river is metaphor of augury and poetic creation, it can also play the opposite role, as its "[i]ce plates scrape, shushing, shushing" (20), silencing and perhaps erasing what had gone before. It was also the augur's responsibility to consider the "*patterns in the sky*" (21) in an attempt to fulfil the imperative of the next poem, "Align the city with its stars" (21), where the stars have counterparts in the city's bridges, whose foundations serve as still nodes "on a vibrating string" (22), the still points on the ever-changing river, whose current and curves parallel the curtains of aurora borealis through which can be seen the fixed stars. Thus the North Saskatchewan River, its ice, and its bridges acquire foundational significance for the poet's overall vision of the city, a foundation that will also predominate in a later sequence.

In "Give the City Its Three Names," Major adapts Rykwert's quotation of John Lydus's isolated assertion that "'A town had three names: one secret, one priestly, and one public'" (qtd. in Rykwert 59). She calls Edmonton's familiar public name a "polite gesture / to mother country, mother company" (Major, *Occupied* 23), based on the possibility of the city's being named after a north London suburb. For its "priestly" name she selects that which was once proposed by Fort Edmonton's factor John Rowand, "*Fort Sanspareil*" (24), meaning *peerless*, "from the tongue of the missionary priests / who strung their rosary across the prairies" (24), harking back not necessarily to Roman foundations but indirectly to the influence of

the Roman Catholic Church in the development of the Canadian West. And just as Lydus and perhaps Pliny suspect that Rome itself had a secret name (Rykwert 59), so Major invokes the city's significant yet often unacknowledged ties to its Indigenous history, in the lines "*We hear but do not recognize / our secret name*" when "Into the aching dusk / Coyote cries again" (24).

Mundus grows out of Rykwert's description of the creation of a ritual hole, or *mundus*, whose origins and purpose are uncertain but which he generally equates with "the mouth of the underworld" (59). Major fashions such ambiguities into modern images of sacrificial pits and propitiative fires, marshalled into the augur's service atop the riverbank as she watches it in the reflected sunset cut "like a slow torch" (*Occupied* 25). To the west, beyond the high-rise apartments, "Clouds on fire / [are] like the entry to a blast furnace"; in the centre "The city's hearth burns red / as the blood of trapped animals"; and to the east "Refinery Row / creeps to the lip of the river," the "gas wells flaring" beyond (25). The flaming vision encompasses significant details of the city's heritage, connecting it surprisingly and powerfully to ancient rituals. Both Edmonton's modern oil industry and its historical fur trade are built upon trapped vegetation and trapped animals respectively. And like the ancient augers and modern oil drillers the poet probes dangerously at specified times throughout the year into these secrets of surface and underworld.

While not explicit in Rykwert, the idea of a public parade involving "*rites of regeneration*" (Major, *Occupied* 27) appears in the sequence's penultimate poem, "Arrange Processions," where Edmonton's traditional parade to mark the beginning of its summer exposition, Klondike Days (later renamed Capital Ex and now K-Days), is seen in both modern and ancient light. A key image in this multicultural poem is that of a parade dragon chasing its tail, "a giddy ourobouros [sic]" that also serves as an apt symbol for the parade route, which "takes us back / where we started" (28). In this parade which "commemorates / a time less history than myth" (27), the ancient priests become "Clean young men" marching beside an gospel church float and "robed monks" on the Buddhist temple float who "wave peaceably / beside a lotus flower of cardboard painted pink" (28), sharing the procession equally with, among others, the Captain Hook pirate ship float and the city fire engines, ambulances, and street sweepers that comprise the parade's tail. While some of these connections to the ancient

Roman rites may seem tenuous at best in a literal sense, the poem reminds us that many of our communal activities are governed by anthropological patterns of behaviour stretching back to early times.

In the final poem, "Set the Gates Open," Major compares the retired oil derrick at Edmonton's southern boundary to Janus, *two-faced overseer of beginnings, / or the sphinx of Thebes—human head / on a beast's crouched haunches*" (29). However, this "*monster at the gate*" seems to embody more than the sphinx and Janus; Augustine has suggested in his refutation of Roman gods that the second face of the two-faced Janus, the god of beginnings, should logically be that of Terminus, the Roman god of endings and boundaries (351-52) to whom, as Rykwert notes (62), were often offered blood sacrifices. The monstrous aspect of the derrick's penetration of the ancient Devonian sea is enhanced by the reference to a catastrophic event southwest of Edmonton on 8 March 1948 when the surface casings of oil well Atlantic No. 3 ruptured and "all hell blew in" (Major, *Occupied* 29). It was the worst oil disaster in Alberta's history, as millions of gallons of oil spread through surrounding farmland and beyond, the main rupture igniting in September 1948 with a "column of fire visible at night for nearly a hundred miles" (MacGregor 274), causing extreme environmental damage before being extinguished later that fall. This was an inauspicious beginning to Alberta's oil industry with apocalyptic signs of its ending, embodying the Janus-Terminus duality. Moreover, the well's name, Atlantic, also recalls the classical god Atlas, another boundary god of sorts, as well as the ocean, most obviously the Atlantic, but also perhaps the Cretaceous Sea, which once flowed from the Arctic across almost all of present-day Alberta to the Gulf of Mexico. Finally, the reference to the sphinx of Thebes, the terrifying boundary creature consuming those unable to answer its riddles, is also associated with this derrick. The sequence ends with a powerful series of questions as the monster,

> *a mirror of ourselves*[,]
> *… riddles us*:
> *Who comes to enter through these gates?*
> *What brings you? What do you bear?*
> *What will you bury here?*
> *What will you keep alive?* (Major, *Occupied* 30)

These profound questions are perhaps even more disturbing for the modern reader than the traditional riddle posed by the ancient sphinx to hapless travellers. The final lines of the sequence challenge the city's residents as well as the poet/augur, its subtly unobtrusive "I" who is at last both questioned and questioning.

These archaeologically based poems are complemented by a geologically structured sequence entitled "Root Zones," demonstrating just how deep Edmonton's relatively young "roots" extend. Edmonton's history is often framed in terms of its three-hundred-year development by European fur traders and settlers and several millennia's inhabitation by Indigenous peoples; but the geology of the Edmonton region, consisting of two kilometers of compressed sedimentary rocks above the "basement" of the Precambrian Canadian Shield, predates all human presence by two billion years (Godfrey 3-5). Like "Contemplating the City," this series is primarily centred on the North Saskatchewan River valley, but with an emphasis on the valley's geological connections to the present-day human element.

In the first poem, "Foundation," the speaker personifies downtown Edmonton rising from the river valley as a sentient organism. Cars driving up the hillside through the valley fog are compared to "nerve impulses" (Major, *Occupied* 104) moving up from the unconscious toward the high-rise buildings that

> stare over prairie
> as if their glass thoughts floated
> unconnected to the ground,
> unfounded. (104)

Yet as subsequent poems demonstrate, the connections of these buildings and their inhabitants "to the ground" are profound. The river valley, often overlooked in the daily life of the city, is rendered as a critical if unconscious part of this living organism. The form of the next poem, "River Our Bedrock," suggests a sonnet, but the seven couplets which comprise it also reflect the "steep terraces slung like slipped rungs" (105) that comprise the banks of the river valley. The title's oxymoronic imagery reflects Edmonton's geological reality. The North Saskatchewan River valley began to form through erosion twelve thousand years ago, slowly for the first thousand years and then rapidly over the next three thousand until it stabilized at

its approximate modern level about eight thousand years ago (Godfrey 31), when the river reached the hundred-million-year old cretaceous bedrock over which it flows and which erodes much more slowly than the upper strata. Major likens the river to a "workman" and a "Quarryman" (*Occupied* 105) carving out this immense valley over time, until it is conflated with the "Bedrock" that it has finally reached.

This valley, eroded over several millennia, reveals layers of geological history that Major transforms into urban poetic foundations. "Empress Formation" appropriately references two imposing structures: the architectural formation of the Fairmont Hotel Macdonald which rests atop the downtown north side of the river valley; and the pre-glacial geological formation of a sedimentary layer above the cretaceous bedrock extending from central Alberta into southern Saskatchewan, taking its eponymous name, originally proposed by geologists Whitaker and Christiansen (354), from the village of Empress, Saskatchewan. The Empress Formation underlying Edmonton is exposed in many places along the river banks, notably beneath the Hotel Macdonald. Although the hotel is named after Canada's first prime minister, here Major invests it with the regal feminine characteristics of Macdonald's contemporary, the reigning Queen Victoria, one of whose titles was Empress of India:

> The old hotel surveys the valley—
> Her Eminence, in limestone challis
> and ornate moulding. (*Occupied* 106)

The hotel is described analogously to the geological formation on which it rests. For example,

> Below her sculleries and basements,
> below her buttoned boots' complacent,
> genteel footing,
> is bedrock formed of sands and baggage
> washed from elsewhere. (106)

The "sands and baggage washed from elsewhere" is an apt poetic description of the geological Empress Formation, which actually underlies several layers of glacial sediment and extends downward to the cretaceous

bedrock. Like Shelley's "Ozymandias," the poem reminds us of the tenuousness of empires and that we are "Simply the latest wanderers / on paths that others carved for us" (106).

This reminder of our human and geological antecedents segues elegantly to poems that guide the reader along historical paths. In "Ice Road," Pleistocene inhabitants during the deglaciation of the Edmonton area some twelve thousand years ago call down the millennia to modern readers, alluding prophetically to future place names near Edmonton:

> And we have left the tips of our stone spears
> buried in cages of bone.
> You will discover them—
> you wanderers to come—
> as you seek your rumoured Edens,
> your flowing wells,
> your Rich Valleys,
> your Glory Hills. (107)

"Coal Beds" and "Flour Gold" take the reader to the more recent past, where coal mining and gold dredging along the riverbanks of the North Saskatchewan were viable activities, particularly in the mid- to late-1800s, recalling current place names such as "Gold Bar" and "Clover Bar," named after gold-panner Tom Clover. "We Have Feet of Clay" recalls the clayey mud that "our grandparents" used to experience more directly, still underlying Edmonton's lawns and streets. This clay's source was "the clotted residue / of glaciers rubbing silicate to powder / to pave the basement of a vast and ice-rimmed lake" (110), now called Glacial Lake Edmonton, created when natural drainage from the retreating glacier was blocked to the northeast and then filled with sediment from the surrounding meltwater rivers (Godfrey 28). Its residual clay has been used to form the bricks that now "lift the city sky" and "model / a new world," even as we remain mired in our chthonic origins with "feet of clay" (Major, *Occupied* 110). "Mazama Ash" describes a white layer in the river valley sediment produced about six thousand and eight hundred years ago from the eruption of Mount Mazama in Oregon, most visible just upstream from the Light Rail Transit bridge on the south bank of the river (Godfrey 115, 118). Major refers to this as "Diaspora of dust / from a ruptured mountain / that scattered

this funeral pall / millennia ago" (*Occupied* 111). Overall, the series draws powerful connections between Edmonton's extensive geological history and its much briefer human history. The lives that cling superficially to these ancient geological foundations are emphasized in the sequence's concluding poem, "Root Zones," portraying the struggle between the exposed roots of trees at the edge of constantly eroding riverbanks and the trunks of trees that curve back against "the bank's / persistent slippage" (112).

In many and various ways, then, Alice Major creates new and unconventional perceptions of Edmonton through a variety of scientific perspectives, enlightening her readers through the pleasures of poetic form to a possibly more humane awareness of the city's contextual reality as well as its hitherto unconsidered possibilities for the future. Science has been an important influence on Major's work from the beginning (Querengesser 53-54), and it continues to play an important role in all of her poetry today. But it is ultimately the voice of the poet that predominates, perhaps most powerfully in these lines from the Afterword to *The Office Tower Tales*:

> Touch me and touch this place, this great plain,
> these city lots fenced around with carragana
> where we construct our lines from the wordless
> like windbreaks. Where we make the edge
> bite like the knife that shapes the quill.
> We lay down our evolving alphabets
> against this white, anxious to preserve our being
> here. Our letters take their shapes
> from magpie flight, from aspen's wintry silhouettes,
> *from the stone quarry of cities, the width of steppes*. (251-52)

While this literary alchemy may in some respects remain independent of "the huge edifice of innovation and knowledge [of] the scientist's vocation" (Major, *Intersecting* 233), it nevertheless demonstrates, like so much of her poetry, the powerful ties between the arts and sciences, and just "how enormously complex it is to move, to recognize a pattern, to tell a story, to love" (233). Alice Major's scientific empathy—indeed love—for Edmonton is apparent throughout her work.

Notes

1   Major is not unaware of the famous industrial rockers, Nine Inch Nails, but in a conversation the author suggested her preference for the acronymic connotations of the fictional Six Inch Nails in this context.

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