

Embodied Design Theory, Indigenous Cosmologies and the Creation of Place

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Preamble: I would like to begin by saying that I present this paper as a visitor of this land; and to acknowledge that we are gathered on the traditional lands of the Lenape people (lenapehoking) and that we honor you and your ancestors.

PART 1. - The legacy of Alberti

If architectural theory calls us to be “reflective leaven for the profession,” as Professor Rykwert used to say, then we may continually decipher our profession through the treatise writers of antiquity. Some 1,500 years after Vitruvius, the Florentine Leon Battista Alberti’s account of architecture and construction, *De re aedificatoria (Ten Books)*, sets out to codify the search for order and meaning anew, with an underlying set of rules or models that places the role of the architect, and architecture, within a specific canon.

For this paper, I am using the 1988 English translation of Alberti’s mid-15th century treatise.¹ To begin, I intend to focus on select tenets of Alberti’s treatise that shaped the architectural profession for centuries; tenets that were used in planning the first curricula as teaching architecture moved from the building site to the architect’s office and finally into the academy. In the prologue, Alberti writes: “Before I go any farther, however, I should explain exactly whom I mean by an architect; for it is no carpenter that I would have you compare to the greatest exponents of other disciplines: the carpenter is but an instrument in the hands of the architect. Him I consider the architect, who by sure and wonderful reason and method, knows both how to devise through his own mind and energy, and to realize by construction, whatever can be most beautifully fitted out for the noble deeds of man, by the movement of weights and the joining and massing of bodies. To do this he must have an understanding and knowledge of all the highest and most noble disciplines.”²

I will briefly mention Alberti’s notions of material, Nature, beauty, and *concinnitas* in order to trace the principles of the western ‘modern’ architectural tradition. Alberti begins his treatise with: “the whole

¹ L.B. Alberti. *De re aedificatoria (Ten Books)*. Trans. J.Rykwert, R.Tavernor and N.Leach,. Cambridge: MIT Press, (1988).

² *Idid.*, 3.

matter of building is composed of lineaments and structure. All the intent and purpose of lineaments lies in finding the correct, infallible way of joining and fitting together those lines and angles which define and enclose the surfaces of the building”³ Lineaments are described as “the precise and correct outline, conceived in the mind, made up of lines and angles, and perfected in the learned intellect and imagination.”⁴ Is design, therefore, no longer directly connected to material or construction? There emerges in Alberti a possibility that these three aspects (lineaments, matter, and construction) are separately conceived. Alberti confirms: “It is quite possible to project whole forms in the mind without any recourse to the material, by designating and determining a fixed orientation and conjunction for the various lines and angles.”⁵

Alberti soon turns to the humanist analogy between the human body and the building, noting: “... we observed that the building is a form of body, which like any other consists of lineaments and matter, the one the product of thought, the other of Nature; the one requiring the mind and power of reason, the other dependent on preparation and selection; but we realized that neither on its own would suffice without the hand of the skilled workman to fashion the material according to lineaments.”⁶ In Alberti’s triad, the body of architecture - meaning lineaments and matter - are united through the hand of the artisan, opening up the possibility that, although related, they are separate operations of the process.

Drawing upon Nature, in Book Two on materials, Alberti warns the reader “... be careful, then, to avoid any undertaking that is not in complete accord with the laws of Nature.”⁷ First, he says “nothing should be attempted that lies beyond human capacity, not anything undertaken that might immediately come into conflict with Nature.”⁸ For Alberti, architecture is an imitation (*mimesis*) of Nature: “It would be most convenient, I believe, to follow the natural order and begin with the material that man first used for building: this, unless I am mistaken, was timber from trees felled in the forest,...”⁹ Drawing upon the ancients, Alberti explains the correct time for harvesting materials, noting that “the fir, the pitch tree, and the pine should, be felled as soon as they germinate and begin to send out young shoots,

³ Ibid., 7.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid., 5.

⁷ Ibid., 35-36.

⁸ Ibid., 25.

⁹ Ibid., 39.

in that the high quantity of sap produced at that time will facilitate the removal of the bark.¹⁰ In order to harvest materials such as wood, Alberti accounts for the various winds, the lunar cycle's effects on the wood (as well as on the axe). In true Paracelsian correspondence, Alberti quotes Varro in stating never to cut your hair when the moon is waning, for fear of the moon's effects on the iron blade of the barber, the result being "soon going bald."¹¹ Alberti's world is still one of correspondences and ancient wisdom.

Alberti also addresses the various characteristics and types of stone, noting: "A stone that rings out when struck will be denser than one that does not."¹² In the northern Canadian shield, the La Cloche mountains are thus named due to their property of ringing like a bell (*cloche*). Scattered across Great La Cloche island are huge boulders that 'ring out' when they are struck. Local indigenous people around Birch Island have their own stories about the properties of these timeless stones and their associated sacred sites.

Having gone into depth concerning Nature and her lessons, in Book 9 Alberti tackles the concept of beauty in relation to architecture. "The great experts of antiquity, as we mentioned earlier, have instructed us that a building is very much like an animal, and that Nature must be imitated when we delineate it. Let us investigate then, why some bodies that Nature produces may be called beautiful, others less beautiful, and even ugly."¹³ Early in the argument, he writes "...the three principal components of that whole theory into which we inquire are *number*, what we might call *outline*, and *position*. But arising from the composition and connection of these three is a further quality in which beauty shines full face: our term for this is *concinnitas*; which we say is nourished with every grace and splendor."¹⁴ The author goes on to define this rule of order: "It is the task and aim of *concinnitas* to compose parts that are quite separate from each other by their nature, according to some precise rule, so that they correspond in appearance."¹⁵

¹⁰ Ibid.

¹¹ Ibid., 39.

¹² Ibid., 48.

¹³ Ibid., 301.

¹⁴ Ibid., 302.

¹⁵ Ibid.

Alberti consistently relates the part to the whole, while accounting for both beauty and ornament. After describing aesthetics and the pleasure found when contemplating beauty in the mind, Alberti concludes: “Beauty is a form of sympathy and consonance of the parts within a body, according to definite number, outline, and position, as dictated by *concinnitas*, the absolute and fundamental rule in Nature. This is the main object of the art of building, and the source of her dignity, charm, authority, and worth.”¹⁶ While *concinnitas* dictates overall harmony as it relates to beauty, it is even more than that for Alberti, calling *concinnitas* “the spouse of the soul and of reason.”¹⁷

From this brief glimpse into Alberti’s treatise, we can appreciate that although there are analogies between Nature and architecture, as between body and building, the codification of western architecture has also had an inherent tendency towards binary opposition and hierarchy. As a result, three of the legacies that have impacted architectural education are: Nature in relation to architecture, conceptual design to construction, and architect versus artisan.

PART 2. - On kinship with Nature and Manitou

In the Anishinabek tradition, everything begins with respecting the Earth Mother. All relationships are interconnected as expressed in the structure of the language. I have learned that Ojibway is verb-based; it is a language of doing, with a myriad of prefixes and suffixes that give the compound nouns meaning through action. While a passive noun-based language such as English leads to naming ‘things’ and objects (more formal in nature), the verb-based Anishinabek language describes live actions. There is no equivalent separation between subject and object, nor between the human world and the world of creation, since human culture is part of the interconnected natural world of the Earth Mother.

How different is a cosmology where all creatures are interconnected through spirit (*manitou*)? All cycles of life are interconnected. This is why when the life of something sacred is ‘taken’ to improve the life of a person, or community, tobacco is offered in exchange to the Earth Mother. In the Anishinabek worldview, exchange is always at play with the intention to maintain balance and equilibrium. From the first sunrise ceremony where elders and the chief welcomed us onto the site, these aspects of Anishinabek culture have been present in our School. Teaching alongside this presence creates a

¹⁶ Ibid., 303.

¹⁷ Ibid., 302.

radically different model within which to consider 'the act of building' - and making architecture. This view includes Alberti's theory on 'the art of building' but it introduces a very different epistemology.

Indigenous buildings are visualized in the mind's eye, they are often first dreamt of as a way of coming into being. Interestingly, that aspect of future projections also resides in Alberti: "It often happens that we ourselves, although busy with completely different things, cannot prevent our minds and imagination from projecting some building or other."¹⁸ The Métis Elder who has taught birch bark canoe (*wiigwaasi-jiimaan*) building at our School had never built one before first dreaming of making one. Marcel recounts how he dreamt of the whole process, including each material, before going into the forest and harvesting the birch bark.

The lessons of building the canoe are also linked to the Seven Grandfather teachings: Wisdom, Love, Respect, Bravery, Honesty, Humility, and Truth. Once the birch bark is harvested, it is dried out and flattened with a collection of grandfather stones. Spruce roots, also harvested, are split and used to stitch the bark together. Cedar ribs are bent using one's body and inserted to stiffen the bark, and the final stage to is apply the waterproof seams. Traditionally, birch bark canoe seams are made with spruce gum (the blood of the tree), ashes from the burnt pieces of wood left over from the canoe building, and bear fat (a protector spirit), all boiled together and then applied by hand to the stitching of the bark.

Here too, I think of Alberti's mention of ingenuity¹⁹ in Book 4. How did someone realize that the mixture of these three elements would produce a material that doesn't run like tar at over 100 degrees Fahrenheit, but at the same time, stays supple and doesn't become brittle at 20 degrees ? The birch bark canoe seam is much more ingenious than many silicones and gaskets that are employed in architecture today. Such ingenuity was shared by Indigenous people as they traversed the waterways of Turtle Island (North America) on their journeys. As we build a canoe in second year design studio, students become aware that the canoe is much more than a mere vehicle; it is a sacred object, alive, with spirit, and considered a gift from the Creator.

¹⁸ Alberti, *De re aedificatoria*, 4. I fondly recall the way in which Prof. Marco Frascari at PENN used to speak about the act of making an architectural drawing as the imaginative projection of future possibilities.

¹⁹ Alberti writes: "...a few individuals stand out from the entire community, some of whom are renowned for their wisdom, good counsel, and ingenuity, others are known for their skill and practical experience, and others famous for their wealth and prosperity." (Bk. 4 "on Public Works," 93).

The indigenous model of education follows land-based learning which resonates with hands-on learning and learning-by-doing, principles that lend themselves to design studio culture. In a design-build culture, which we are fostering within our design studios, the work of the body in making things leads to embodied thinking, expressed in the built work. Scholar Jake Chakasim uses a Cree term for “bending it” with the body, *Oshichikaywin*, a phrase that leads to animated (*win*) embodiment as the principle of expressive action. In a design-build pedagogy, mistakes are opportunities for teaching, technique is perfected, and students improve their skill and confidence in creating the thing being made. This connects the role of direct experience to knowledge, whether that be fishing, hunting, making a drum or a building. Taking us outside the classroom and beyond the passive lecture mode, I return to the mystical philosopher and farmer, Simone Weil, who writes: “The most important part of education – to teach the meaning of *to know* (in the scientific sense).”²⁰

Along the same line, Ojibway scholar and storyteller Basil H. Johnston writes: “Without exception, every man and woman had to master the practical skills: archery; spearing; setting nets and traps; making canoes, tools, shelters and medicines; curing meat and vegetables; tanning hides and making clothing; understanding animals; and knowing the properties of plants and their parts. There was so much to master, so much beyond human knowledge and understanding.”²¹

Phenomenologist Maurice Merleau-Ponty touches on this mystery of expression: “The meaning of a work of art or of a theory is as inseparable from its embodiment as the meaning of a tangible thing – which is why the meaning can never be fully expressed. The highest form of reason borders on unreason.”²²

For Anishinabek people Kitchi-Manitou is the Creator and Muzzu-Kummik-Quae is the Earth Mother. Storyteller Basil Johnston recounts: “According to tradition, Kitchi-Manitou (the Great Mystery) created the world, plants, birds, animals, fish, and other manitous in fulfillment of a vision. This world was flooded. But while the earth was under water and life was coming to an end, a new life was beginning in the skies. Geezhigo-Quae (Sky Woman) was espoused to a manitou in the skies, and she conceived.

²⁰ Simone Weil. *Waiting for God*, xi.

²¹ Basil H. Johnston, *The Manitous*, xviii.

²² Maurice Merleau-Ponty. *Sense and Non-Sense*, 4.

The surviving animals and birds ...set aside whatever concerns they might have had about their own fates and asked one of the fellow survivors, the Giant Turtle, to offer his back as a place of rest for Sky Woman, who they invited to come down."²³ The creation story continues, where the Sky Woman asks for a handful of soil from the bottom of the waters. After a number of other animals tried to dive to the bottom, unsuccessfully, the muskrat, "was able to retrieve the soil from beneath the flood waters, and Sky Woman took the pawful of soil and etched it around the turtle's back. She then breathed the breath of life, growth, and abundance into the soil and infused into the soil and earth the attributes of womanhood and motherhood, that of giving life, nourishment, shelter, instruction, and inspiration for the heart, mind, and spirit."²⁴ The island on the back of the turtle continued to grow into a continent, becoming the Land of the Great Turtle, or Turtle Island, as North America is commonly known to Indigenous people.

Johnston writes: "The spirit, the manitou, the mystery, were part of life and could not be separated from it."²⁵ The concept of manitou, given its innumerable contexts, means more than simply spirit: "Manitou refers to realities other than the physical ones of rock, fire, water, air, wood, and flesh – to the unseen realities of individual beings and places and events that are beyond human understanding but are still clearly real."²⁶ The indigenous worldview is interconnected, all life forms relate to each other for mutual benefit (*idi* in Ojibway). Thus, the canoe is a sacred vessel, it takes its participants on a spiritual journey, not unlike Charon's boat in Greek mythology. Every canoe (*jiimaan*) is connected to the spirit world, its maker (*jiimaanikewinini*), and the waters all at the same time.

It is humbling to think of a design-education based upon the Seven Grandfather Teachings. The Anishinabek concept of Respect is linked to honoring all creation. This frames 'Traditional Ecological knowledge' (TEK) in terms of sustainable thinking. The teaching of Love has the term "*idi*" in it, which refers to mutual benefit (the same term is in Ojibway words including umbilical cord, describing the mutual benefit between mother and child). Mutual benefit and leaving the planet in a better condition than when one entered it is the foundation of seven generational teachings. Non-indigenous leaders and citizens groups are now becoming conscious of this imperative through climate change and long-term sustainability policies and accords. Here I think of the indigenous teachings around Humility, as both

²³ Johnston, xv.

²⁴ Ibid.

²⁵ Ibid., xviii.

²⁶ Ibid., xxi-xxii.

‘compassion’ for others as well as for the interrelated life forms that inhabit our planet. Honesty refers to *both* word and action. Suddenly, climate change and ecological thinking resurface for 21st century design through an Anishinabek worldview, echoing visions by Rachel Carson, Ian McHarg, and countless Elders.

In describing how indigenous people need to flourish once more, Leanne Simpson writes: “We need our Elders, our languages, and our lands, along with vision, intent, commitment, community and ultimately, action. We must move ourselves beyond resistance and survival, to flourishing and *mino bimaadiziwin*” (good life).²⁷ This concept appears close to the Latin term *virtus* (Virtue) that, as Joseph Rykwert notes, in antiquity meant ‘good action,’ with an emphasis on the action.

PART 3. - A hybrid curriculum open to the Other

Then there is the story of Sudbury basin, created by a large meteor that fell from the sky, either exposing or depositing one of the largest areas of nickel on the planet. The city of Sudbury, with its mining and timber histories is close to Manitoulin Island, named after the Great spirit.

The premise of mutual respect and inclusion of First Nation, Métis and Francophone perspectives within our curriculum impacts every aspect of it, from funding Indigenous students to rethinking what kind of critiques (or jury) should take place. We often have celebration and exhibition in place of reviews. We often have sharing circles and smudging ceremony. Rarely do students leave the reviews shaken up or feeling disrespected. I say rarely because this radical way of teaching Respect and Humility with a largely non-indigenous faculty and student body presents many challenges, not the least of which is buy-in to the entirely new point of departure that this hybrid architectural theory implies.

We decided early on to invite Elders to work alongside and sometimes within the design studio. As a whole, the student body values the role of the Elders, who bring a sense of ethical action to the Program. The exposure of all of our students to indigenous thinking also raises questions of identity. They become aware of “white privilege” through the study of residential schools and treaty signing.

²⁷ Leanne Simpson. *Dancing on the Back of the Turtle*, 17.

As I began to rewrite the initial curriculum, I had a clear vision of a course called “Sacred Places.” This course includes places such as Mont St. Michel, built upon a former Roman temple to Mercury (both being winged messengers). The syncretic process of layered meaning happens so frequently in architecture that expanding that history to include indigenous sacred places made sense if we were going to embark on a more inclusive point of departure. Sacred places with rock petroglyphs as old as the cave paintings at Lascaux are on our very doorstep. We have been privileged to visit these sites with Medicine men or Elders to guide students through the sacred sites.

Another key strategy remains to offer one Program to all students. We intentionally all follow the same program, syllabi, and design exercises to promote the sharing of cross-cultural perspectives. To begin, we hired the first six faculty, including one Cree and one Métis professor. Later, we contracted craftsmen to lead the teaching of building canoes, both birch bark and carbon fibre. In the forty-three mandatory courses that comprise the core Architecture Program, all students are exposed to Indigenous content through Sacred Places, Indigenous Precedents, Structures – Wood, and Canadian Art & Architecture. French content is delivered through instruction in French and design studio projects with Francophone communities. Our model allows Francophone students to take all undergraduate design studios in French, along with elective credits on campus in French as well as their co-operative placements in French offices, wherever possible.

Without advertising, once the School opened, design studio partnerships have evolved naturally every term. Northern communities are forced to be resilient, reinventing themselves economically after some industry closes or a mine moves. Exposing all students to ceremony, smudging, prayers, and drumming circles has prepared them to work in diverse communities while displaying respect. Our studios often relate directly to what Edward Burtynsky and his collaborators are showing the world in his travelling Anthropocene project.

With a focus on indigenous and Francophone local cultures, engaging Elders and knowledge keepers, emphasizing wood as a renewable resource, exposing students to design-build projects every year (not just one magical term or experience) and addressing northern community design projects, the platform for the School is radically different from any other architecture program. In Canada, several Schools are presently being mandated to decolonize their curriculum; searching for one indigenous faculty member who will guide ethical actions on all matters indigenous lends itself to ‘red-washing.’ By contrast, we had

the unique opportunity to build a new curriculum from the ground-up, in parallel to designing a new facility that is a mirror of the curriculum and of the community. In many instances, it is hard to decipher if the spaces in the building were generated by the idea of the curriculum or vice-versa. In our narrative, the community vision came first, a vision that eschewed tokenism. This required rethinking the theory underlying architectural education.

Architectural theory has been disseminated since the early Renaissance through the book. For indigenous peoples, the land was their book. Red Jacket, the celebrated orator of the Seneca Nation responded to a group of missionaries in 1805: “To you the Great Spirit has given the book, to us He has given the earth.”²⁸ The inflection embedded in our curriculum is much more syncretic and complex than binary. It favors the inclusion of many traditions and values, each one for its uniqueness. It draws upon Indigenous knowledge and worldviews to guide our studies of material and ecology. It allows First Nation and Métis students to see themselves valued in the content of the Program. It allows everyone in the community to witness kinship and dependence among things in the cycle of nature. Perhaps most importantly, the systems that we study include us. And since we are part of the entire cycle of creation, we study climate change and indigenous precedents to develop new knowledge about how to act in the present, so that there is a future that will include us.

Within the context of ‘Re-Definitions’ at this conference, I am conscious that our architecture faculty (even Indigenous faculty) were largely educated following a western model that perpetuates the legacy of Alberti. Architecture, and architectural judgement, is for Princes and Kings and those in power. The Architect is a mirror of divine creation as witnessed in Blake. The genius of the architect is tantamount, and as Alberti wrote: ‘the carpenter is but an instrument in the hands of the architect.’ Even though our Program and professors are well-intended, faculty are prone to unconsciously carry and repeat the ‘patterns’ of their own colonial architectural education. Since our post-colonial hybrid model is so radically other, it is easy to imagine it failing as a result of our incapacity to reinvent other modes of teaching and learning. This will remain an ongoing dilemma as Programs attempt to ‘decolonize’ their architectural curricula; it is a theoretical issue that needs to be written about and worked through together with Elders, teachers and architectural theorists.

²⁸ Basil Johnston, *Honour Earth Mother*, v.

I conclude with a comment on alterity. Our actions are never removed from the Other, whether that be a birch tree, a river's ecology, or another community. For Emmanuel Levinas, the Other is an abstraction for the I. He spent his entire philosophical life trying to describe the enigma of the face of the Other as the ground of being human. "The reference to the other (*autrui*) is an awakening, an awakening to proximity, and this is a responsibility for a neighbor, to the point of substituting for him. Elsewhere we have shown that substitution for the other (*autrui*) lies in the heart of responsibility, and undoing of the nucleus of the transcendental subject, the transcendence of goodness, the nobility of a pure *supporting*, an ipseity of pure election. Such is Love without Eros."²⁹

The architectural theory underlying our Program offers a critique of much more than meets the eye. As I continue to experience, teaching within this hybrid model of architectural education opens further possibilities for inclusion, healing, and confronting alterity through the redefinition³⁰ of the architectural canon.

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²⁹ Emmanuel Levinas. "God and Philosophy," *Emmanuel Levinas: Basic Philosophical Writings*, 140.

³⁰ Some scholars may jump to the term 'decolonization,' whereas my approach is one of redefinition. Decolonization has a very specific meaning, and process, that is beyond the scope of this paper.