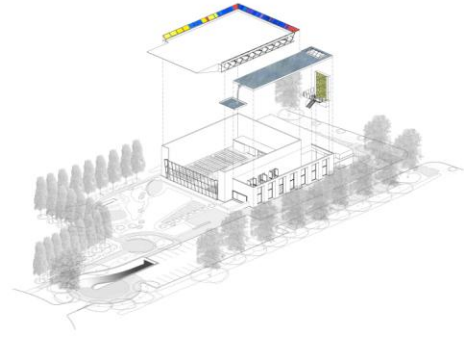


St. Gabriel of the Sorrowful Virgin: Re-defining Sacred Space for a Sustainable Future



In 1998, the Passionist Community of Canada decided to provide a new legacy for St. Gabriel of the Sorrowful Virgin, a Roman Catholic parish in Toronto, Canada that it has served for over 53 years. In November of 2006, this legacy was realized with the consecration of a new church that includes a 750-seat worship space, a generously proportioned narthex, offices, meeting rooms, and other support facilities for its ongoing ministries. More significantly, it has become the first church in Canada to receive Gold certification from the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System. LEED™ was developed by the U.S. Green Building Council and adapted for use in Canada by the Canada Green Building Council. Both organizations bring together industry leaders to promote high-performance sustainable buildings.

The new church replaces a 500 seat, deteriorating facility that had become prohibitively expensive to operate and maintain. “While reducing energy costs was one of the reasons for building a ‘green’ church, says Fr. Paul Cusack, C.P., current Pastor at St. Gabriel’s, “Our primary motivation was to establish a link between the sacredness of the gathered community of Faith and the sacredness of the Earth.” As such, the new church constitutes a dramatic departure in the design of sacred space. Unlike most churches built to inspire a sense of other-worldliness, the new St. Gabriel’s is designed to emphasize that when we gather to Worship, we do so within the greater context of creation. It has been conceived as an articulation of the eco-theology of Passionist, Father Thomas Berry and his belief that the greatest challenge of our times is to establish a mutually-enhancing, human-earth relationship.

It has long been apparent that we are facing an ecological crisis of alarming magnitude. The daily news is filled with stories about the devastating effects of climate change; of deteriorating air and water quality; of the landslides caused by

deforestation; of species that are endangered; of rising problems to human health. We are all inextricably part of a human process that is quickly bringing to an end the Cenozoic Age of geological history, that sixty-five million year period after the extinction of the dinosaurs when the great complexity and diversity of plant and animal life that we know today came to flourish. In our race to control and exploit the earth's natural resources for the benefit of humankind, we have been blind to the fact that we are shutting down the very life supporting systems that we depend upon for our survival.

How do we weave ourselves back into the web of life? How do we become re-encharmed with the glory of creation? As an architect who designs sacred space, how can I respond to the insights revealed by eco-theology? Once again, I would like to return to the work of Father Thomas Berry for the answers. He believes that the real hope lies in our ability to re-establish an integrated sense of the whole, to redefine a cosmology based not upon an anthropocentric view of the human as primary but based instead upon a biocentric understanding of the earth as primary and the needs of the human as derivative. In order to do this, he believes we need first to examine the inner intentionality of the Universe as manifested by its three creative principles: *differentiation*, *subjectivity*, and *communion*.

According to Thomas Berry, "differentiation" is the primordial expression of the universe. Out of the fiery violence of the "Big Bang" came radiation and differentiated particles that through a certain sequence of events, found expression in an overwhelming variety of manifestations. The universe is coded for an ever increasing, non-repeatable, biodiversity as exemplified by the incredible variety of life that has evolved on the earth. From its rich and abundant tropical forests to the stark beauty of its polar regions, the evidence of this tendency towards biodiversity is obvious. Humankind would not have appeared as a species if somehow the process towards increasing biodiversity had been allowed to shut down. In reality, we cannot help but be creative because the universe is creative. Our role as humans must now be to restore the earth's ability to continue its growth towards complexity and differentiation.

The second primary creative principle of the universe as identified by Berry is that of increased "subjectivity". Together, every reality that makes up a part of the universe is not just a collection of objects but is a community of subjects. As subjects, we all have an inner dimension, an interior reality which not only reflects the diversity that surrounds us but reflects the original bursting forth of energy at the beginning of time. Our creativity as humans is informed by the diversity of subjectivity that is allowed to declare itself around us. Any human activity that contributes to the impoverishment of the natural world will then inevitably contribute to the impoverishment of our sense of wonderment and awe. With every species that becomes extinct, every mountain that becomes scarred by deforestation, every river that becomes polluted with our industrial wastes, the presence of the divine that inspires our creativity as humans, is diminished. Our

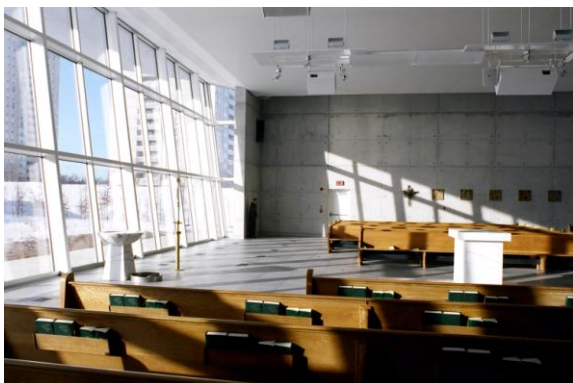
own ability to survive as a species will depend to a great extent on the ability of all natural entities on the planet both living and non-living to develop their full potential apart from human influence as much as possible.

Thomas Berry's third creative principle of the universe "is the communion of each reality of the universe with every other reality in the universe". As mentioned before, we are an inextricably related community of subjects. This genetic interrelatedness of everything in the universe to everything else means that the universe is in dialogue with itself as a community. "Everything is intimately present to everything else." The original bursting forth of energy at the beginning of time contained all the elements necessary for the evolution of the universe up to and including human culture. The potential for religion, liturgy, music, poetry, dance, art and architecture existed as part of that original expression. This is why we are connected to the stars in the night sky and to all living and non-living realities on the planet, why they are deserving of our awe and reverence, and why we must celebrate them in our creativity.

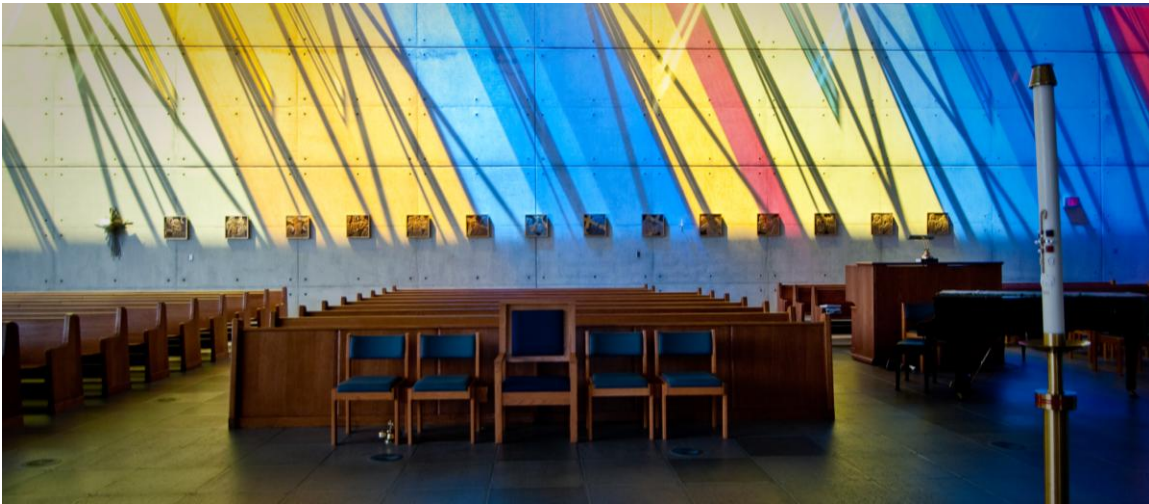
As humans, the time has come for us to forfeit our role as exploitive dominators and to assume the more responsible role of participatory co-creators with God by re-aligning our sense of creativity with the creative principles of the universe and the planet. Only then can we contribute to the healing of the Earth in all its life systems and achieve a relationship with the Earth that is mutually-enhancing.

In designing the new church for the St. Gabriel of the Sorrowful Virgin Roman Catholic Parish and the Passionist Community of Canada the parish building committee sought to demonstrate how it could respond to this imperative in a tangible, realistic, and meaningful way.

When asked by his own community to suggest an appropriate response, Thomas Berry replied with this simple question: "How will you address the sun?" In contrast to most churches that are inwardly focused and employ stained glass to create an other-worldly liturgical environment, the entire south façade of the worship space at St. Gabriel's is glazed with clear glass.



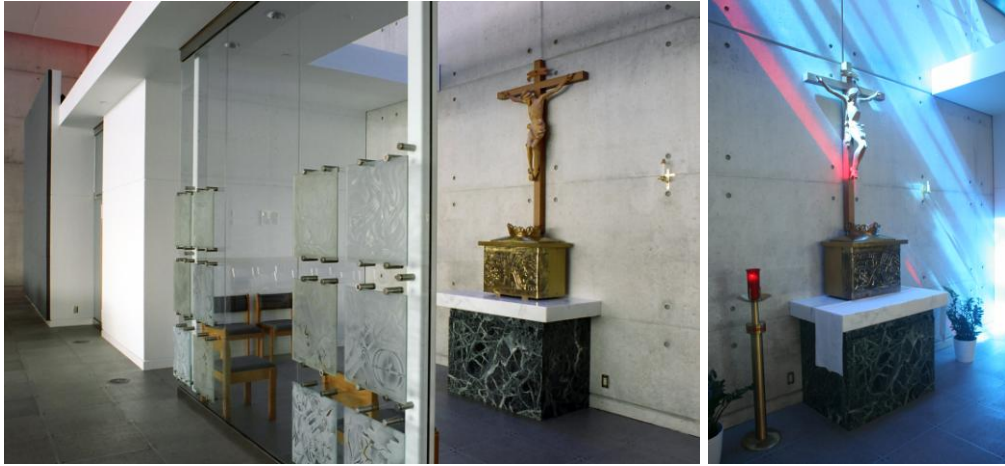
This has been done in order to passively harness the winter sun's energy and to extend the sacred space of the worship area into the sacred space of the world beyond, emphasizing that when we gather to worship, we do so within the greater context of creation...the primary revelatory experience of the Divine. As such, the projecting canopy, glazed south façade, and adjacent garden replace the traditional steeple tower and peaked roof as iconic images of a new church typology. The remaining three walls of exposed architectural concrete serve as a constantly changing canvas for the dynamic play of natural light that is filtered by artist David Pearl's coloured glass panels of the continuous perimeter skylight and further fractured by wall-mounted dichroic coated reflectors.



In effect, the cosmos shapes the liturgical environment and participates in the ritual action of the liturgy. Similarly, time also takes on a cosmic dimension with the earth's daily rotation and orbit around the sun. Seasonal influences on the sun's intensity and inclination together with the daily diversity of weather conditions ensure that no two masses will experience an identical liturgical environment.

The pews, re-claimed and re-furbished from the original church, have been arranged antiphonally in the new 750 seat worship space. The facing rows embrace a sacred north-south axis that begins in the garden and terminates at the north wall of the nave with the tabernacle. Immediately adjacent to the south wall of glass, with the garden as backdrop, the original marble font, re-designed to flow with "living water", emphasizes that when we are baptized into the faith community, our Baptism also consecrates us for the sacred earth community. The re-furbished and transformed marble ambo and altar are also situated along this sacred axis with space enough to allow for processing the Word before it is proclaimed. Each has its own space defined by a marble platform with just a single step up from the floor needed to facilitate sightlines. A transparent screen, superimposed with etched glass panels depicting images of the Passion that were salvaged from the front doors of the original church, delineates an intimate

chapel of reservation at the north end of this sacred axis. In each case, these precious elements transferred from the original church were lovingly restored but also transformed in ways to highlight the new perspective.



Movement from the south to the north is reinforced by the colours of the skylight. Brilliant yellows are situated closest to the sun's intense light at the south end whereas the deeper, richly hued azure blues and crimsons at the north end provide a beautifully mysterious and meditative light for the chapel of reservation and the reconciliation room adjacent. The ceiling of the worship space stops short of the walls on all sides, appearing to hover weightlessly over the congregation, the cosmic coloured light of the perimeter skylights spilling into their midst from an unseen source high above.

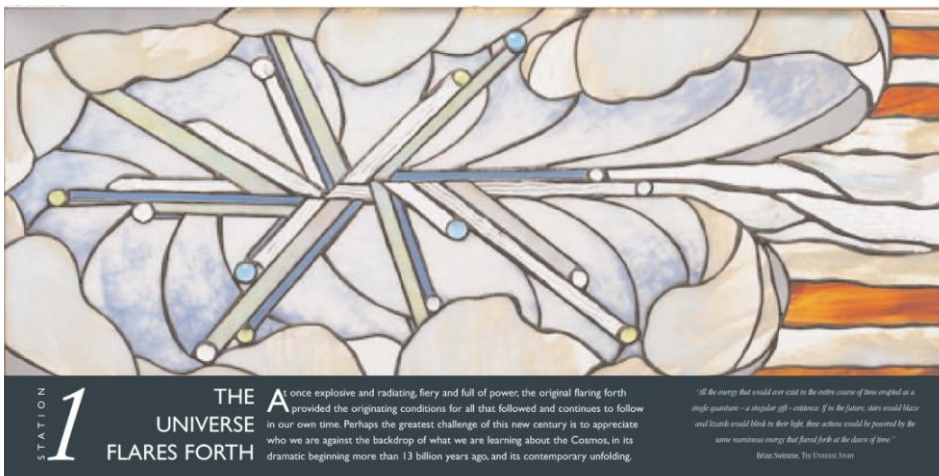
The nave is entered from the narthex on the cross-axis through a pair of massive fifteen foot high paneled doors reminding us that Christ is our "gateway" to salvation. This central ceremonial aisle ends at the sacred axis, facing the presidential chair, which is located in the front row of opposite pews amongst the gathered worshipping community. The space at the crossing remains void, free to receive the gifts, the bride and groom, and the body of the deceased. It also serves as a place to identify the liturgical season, allowing the altar to remain unfettered as a primary symbol.

Distinct from most suburban churches that are corralled by huge asphalt parking lots, St. Gabriel's church accommodates the majority of its parking underground. This unprecedented investment ensures that a large portion of the ground plane remains devoted to the garden, landscaped to recall pre-settlement indigenous ecosystems and to provide a broad range of color, depth, and wildlife habitat throughout the seasons.



Preferential parking spaces are provided for those who carpool and those who drive hybrid vehicles. The unique charm of the Canadian Passionists attracts worshipers from well beyond their traditional parish boundaries. The new church, conveniently located within a few hundred metres of two subway stations, encourages these parishioners to leave their cars at home and arrive via public transit.

Pedestrians who approach the church from Sheppard Avenue are greeted with “stations of our cosmic earth” situated strategically along the path through the garden. Based upon a series of eight stained glass windows by artist Carolyn Van Huyse, commissioned for the chapel at the Passionist’s Holy Cross Centre for Ecology and Spirituality, the stations depict significant moments in the evolutionary story of the universe and the pilgrim journey of humankind within that story.



The first station depicts the “big bang”, the initial bursting forth of energy at the beginning of time from which all else has evolved. The following two stations move through the coalescing of matter to form our solar system and the emergence of early life forms within the seething primordial broth of our planet’s oceans. The fourth depicts the emergence of the human. Juxtaposed to this station are the remains of a tree, its arching branches recalling the image of the cross. The copper cross from atop the original church roof is mounted to this

tree, reflecting a contemporary understanding of the Passion of Christ as including the Passion of the Earth. To continue their approach towards the church, visitors walk under the outstretched arms of the “tree cross”. Alternatively, they can choose to journey deeper into the garden past the remaining stations. If so, they first come upon the fifth station which depicts the beginnings of agriculture, responsible for the significant shift away from nomadic hunting and gathering towards settlement and a more pervasive human presence upon the earth. The station characterizes this change with the appearance of a deep fissure that both physically and symbolically identifies the emerging rift between humans and the rest of creation.



In the next station, this fissure increases in breadth and depth to reflect the emergence of religions and non-indigenous cultures. Here the tree reappears, within its trunk and branches, the image of two human figures intertwined, one revealing an expression of suffering, and the other... an expression of ecstasy. The seventh station depicts the appearance of technology with the prophetic image of an atomic bomb's mushroom cloud overshadowing the earth's fertile green landscape below. The final station is out of sequence and is meant to represent a resurrection theme of hope. Captured in a large mural made from colorful Venetian glass tile mosaics salvaged from the front face of the original church, it describes in abstract form, the bursting forth of flowers that characterized the dawn of the Cenozoic Age of earth history after the extinction of the dinosaurs some sixty-five million years ago.

After making their way through the garden, parishioners emerge upon a generously proportioned piazza designed to be used as a seasonal outdoor gathering space and staging area for weddings and funerals. The deeply recessed arcade that articulates the front wall of the narthex overlooking the piazza is a contemporary expression of the form and architectural detailing of the ancient Basilica of Sts. John and Paul at the Passionist world headquarters in

Rome. Made of a unique limestone from the province of Manitoba that is distinguished by its many embedded fossils of ancient sea crustaceans, the fabric of the narthex defines an important chapter in the geological history of Canada.



Inside, the narthex is terminated at the north end by a sky-lit, “living wall”. Water running over the roots of the living wall’s plant material conditions and purifies the air of the narthex and worship space. The enzymes in the roots of the tropical plants process the volatile organic compounds and other atmospheric pollutants while the water provides natural humidification during winter and de-humidification in summer. Parishioners rising from the underground garage are drawn into the light by the “living wall” and are reminded of their baptismal covenant by the sound of its purifying waters. They are also reminded of how the rainforests serve a crucial role for earth’s climate. At the opposite end of the narthex is a framed view of an outdoor water feature that harvests rainwater from the roof which in turn supports plant life within a constructed wetland.



Potable water usage is significantly reduced by a highly efficient drip irrigation system for the garden, waterless urinals, dual low-flush toilets and low-flow fittings on all sinks. This helps to complete the narrative that underscores the

irony of holding the precious natural resource of water as a primary religious symbol of purification while willfully contributing to its ongoing degradation.

Buildings in North America consume 40% of the world's total energy, 25% of its wood harvest, 16% of its water and contribute 30% of its carbon dioxide emissions. As a LEED® Gold (Leadership in Energy and Environmental Design) certified building, the entire building process from design through construction, to the selection of furnishings, has been researched and re-thought to embrace and reflect the underpinning eco-theology that seeks to mitigate this impact. Maximizing insulation values; specifying highly efficient mechanical systems incorporating heat recovery methodologies; the supplemental use of passive solar heating along with utilizing the thermal mass of the building to store and retain heat; maximizing natural ventilation and daylighting; use of room occupancy and daylight sensors to control electrical lighting; use of carbon dioxide sensors to alert the building's mechanical systems when fresh air is needed, are all strategies that have been used to reduce dependency on non-renewable energy resources. Minimizing finishes beyond those provided by the building's concrete structure; re-directing construction waste from landfill to recycling opportunities; maximizing use of locally obtained materials; use of recycled steel and substituting a percentage of the cement with slag, (a waste by-product of the steel industry) not only represent good stewardship of precious earth resources, but along with the energy savings, also contribute to good stewardship of the parish's financial resources through a reduction of ongoing long-term operational and maintenance costs. The further re-use of existing pews, stained glass, etched glass, and liturgical furnishings also helps to achieve these important goals while providing continuity of the rich heritage of Passionist presence within the parish.

Use of low or zero VOC (volatile organic compound emitting) materials and finishes; carpets with a percentage of their fibers made from beets and corn stalks; formaldehyde-free wheat strawboard in all millwork; GreenGuard™ certified office and meeting room furnishings that meet strict environmental guidelines in their production, purchasing power from a "green" electrical utility, and incorporating a "green" maintenance protocol all contribute to further reductions in the parish's ecological footprint and help to create a healthier environment for staff and parishioners alike.

Incorporating these and other sustainable design strategies has contributed to an understanding of early scriptural teachings that emphasized the sacredness of all creation and not just the sacredness of humankind. The new building as sacred space redefined, presents a "Gestalt whole", and like the medieval cathedrals of Europe, becomes itself a form of Catechesis, engaging the senses and inviting transformation.

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