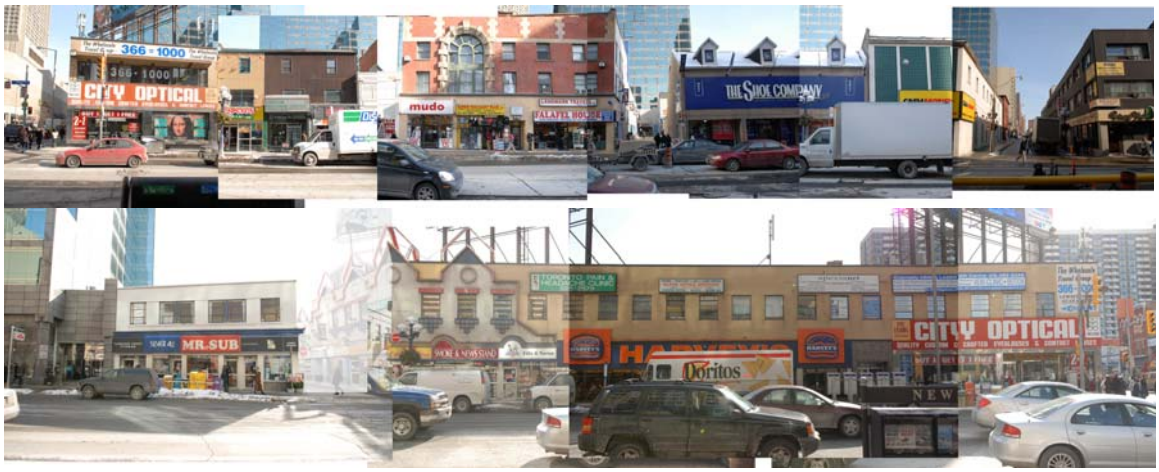

UP! Steel Tower Research Essay

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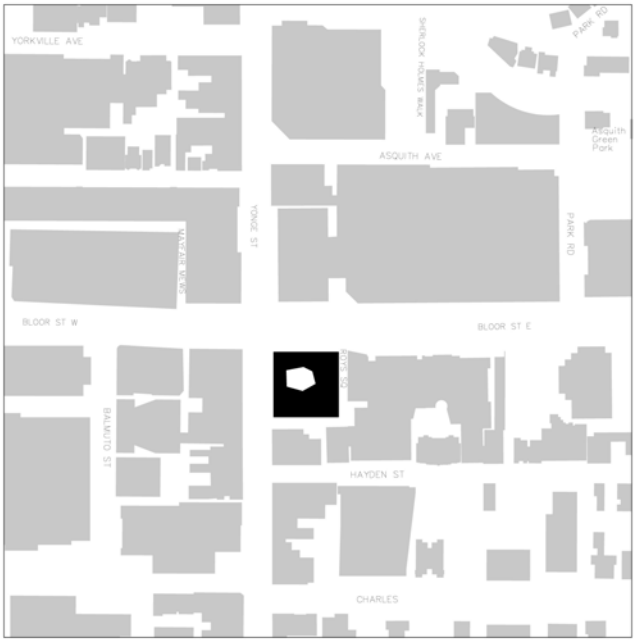
20170845

"Communicating architectural concepts is difficult because architecture inevitably has a dual character. It is both an abstract model of ideas and something that actually exists."[1] So states Toyo Ito in his preemptory approach to the design of the Sendai Mediatheque, located in Japan. This concept of a struggle between the abstract and the reality of any design prevails throughout any architectural design process and so in completing the office tower at Yonge and Bloor, Toronto, for the SSEF competition attempts to reconcile the abstract parti design with a structural reality without compromising either of the two were strongly made. In making such attempts two major precedents were observed, admired, and explored for their successes as well as their shortcomings; Sendai Mediatheque, by Japanese architect Toyo Ito and The Crystal Royal Ontario Museum Addition by New York architect Daniel Libeskind.

(fig.1: Sendai Mediatheque)

The Sendai Mediatheque was commissioned in 1994, and was intended to be a multifunctional facility that would include a library, gallery, visual media centre that all encompassed services for accessibility for the seeing and hearing-impaired. As the design was developed, its purpose evolved from a simple 'mixed-use' facility into a space that could serve as a completely unified space- a 'mediatheque' to respond to and serve to the constantly changing culture and the needs of its users. [2] The design for the Sendai Mediatheque proved useful as a precedent, as the building itself engages the people with the city and the constantly changing urban culture through its architectural elements and design, this understanding of the city and its culture and its people is integral to the design of the steel tower at such an important junction in a city's downtown core.



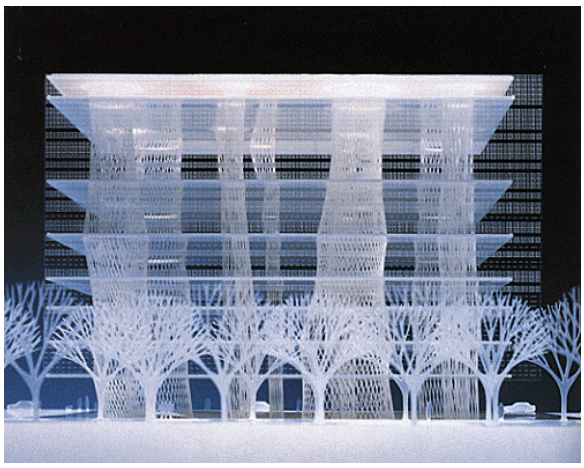
(UP! Office Tower context plan)

[1] http://www.artspace.org.nz/shows/Ito.htm
[2] http://www.smt.city.sendai.jp/en/
[3] http://www.daniel-libeskind.com/projects/pro.html?ID=45
[4] http://www.galinsky.com/buildings/sendaimediatheque/index.htm
[5] http://www.thestar.com/article/217880

Similarly, the design approach for the Crystal Royal Ontario Museum Addition by Daniel Libeskind just blocks away from the steel office tower site, at Bedford and Bloor greatly influenced the design parti for the steel office tower design at Yonge and Bloor. The Crystal extension to the ROM is a great example of a new type of architecture that is both sculptural and thus has the ability to create a great public attraction for its surrounding city, as the very structure and the building program itself transforms the street corner into a shining beacon – a showcase of people, activity and the artifacts held within.[3] Both Ito's Sendai Mediatheque and Libeskind's Crystal Addition to the ROM share a similar use of structural innovation to further exemplify their buildings' design parti, by integrating the structural reality with their abstract concepts – a gesture which proved effective in both cases and thus was implemented into the design process of the UP! Steel office tower design for the SSEF competition.

(fig.2: The Crystal Extension to the Royal Ontario Museum)

Toyo Ito simplified the building's elements by defining the interior space through the usage of three elements only; the floor plates, the structural tube/columns and the skin/façade of the exterior wall. In achieving such simplicity the interior space can be suited for variety of different activities to take place within.[4] A similar scheme was applied in the design parti for the UP! office tower- each office floor plate was left a blank slate with a void cut out in the centre, a reasonably flexible column grid of 9x9m, with the central elevator core running up along the atrium exiting onto a generous lobby with adjacent washrooms and entrances to the office areas, in anticipation of allowing the space to remain flexible to accommodate a variety of uses according to the occupants. The open floor plan is intended to suit a number of uses and allows spaces and layouts to be constantly reconfigured to encourage a diversity of spaces within the one building as a reflection of each individual occupants' usage.



(fig.3: model of Sendai Mediatheque with expressed buildling elements)

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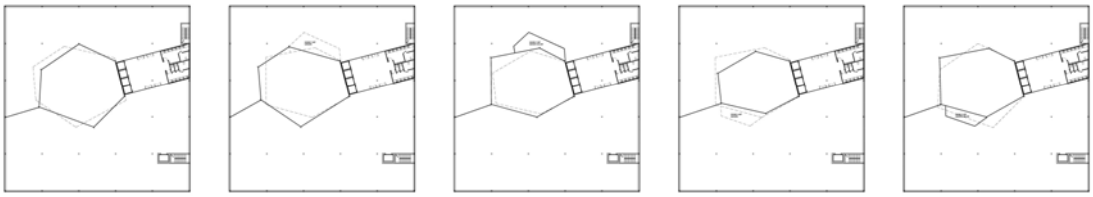
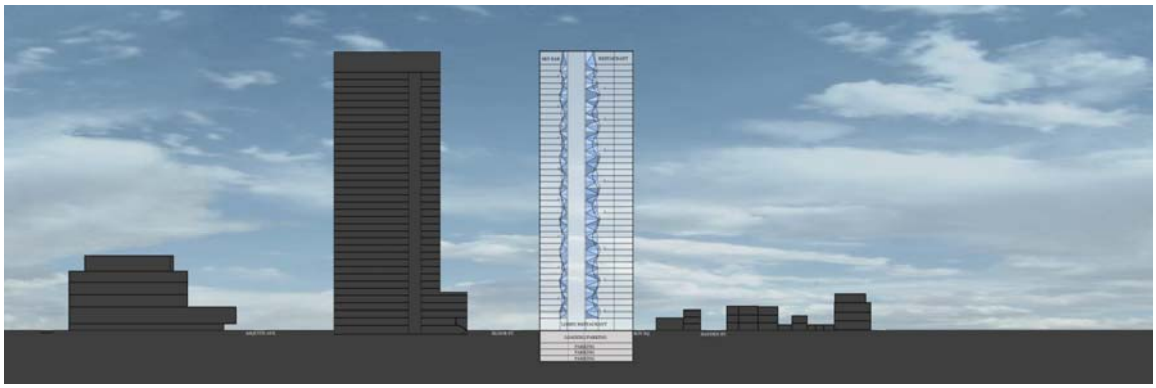


(fig.4: Typical office floor plans for UP! office tower scheme indicating flexible floor space)

Another clever gesture by Toyo Ito in the Sendai Mediatheque was the breakdown of the three building elements to reach a purity of design enables a strong understanding of the unity of the building immediately upon glancing upon it. [1] Likewise, in the UP! steel office tower, the elements are also clearly delineated; the floor plates, the vertical atrium, and the glass skin, this creates similar images in both elevation and section providing an obvious understanding of the spaces defined by aforementioned elements. In the Sendai Mediatheque, Ito recognized the importance of encouraging a relationship between the interior and the exterior spaces defined by the building envelope, and achieved this by ensuring the building envelope was all glass and so provided only a subtle boundary between the two spaces. [4] This technique was mimicked in the UP! steel tower design, to ensure the anti-segregation of the interior space defined by the building walls, to allow the occupants to be in constant engagement with the bustling urban surroundings of the city of Toronto. The transparent glass façade on all four sides of the tower are meant to encourage an interior to exterior relationship, the inside of the building-the offices to the outside of the building- the city, and so the building itself can serve as an architectural connection between the people inside to the surrounding urban fabric of Toronto.



(fig.5: Section indicating the UP! office tower's relationship to its surrounding city)

Among the many innovative aspects found in the design of the Sendai Mediatheque, the primary one must be the graceful manner with how Ito approached the integration of the structure into the building's abstract conception. It is important to note that Ito harbours a certain belief that the human body's existence hovers between two different levels; one being the real, the other being the virtual. " Each of us today possesses two bodies: the primitive body that a human being has always possessed and the virtual body that has come into being with the spread of the media. The former seeks the beautiful light and fresh breeze found in nature. The other body, which responds to the electronic environment might be called ' a media-like body in search of information."[1] He explains that the two bodies are in constant flux and believes it is the duty of the architecture to reconcile the two together. And so he succeeds in doing so, in the Sendai Mediatheque; where he brings both the virtual media; knowledge,

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culture, through audio visual means, theatrical, internet, to the real human body, which possesses still the basic human desire for natural light and fresh air. He accomplishes both tasks along with the other rather hefty one of integrating the structural reality into the design, through thirteen steel tubes/shafts that shoot up through all five floor plates of the building. These tubes although structural are often compared to the organic world of nature, and have been compared to the seaweed floating gently in the waters in an aquarium, or the trunks of trees of a magnificent forest. Along with providing for a practical structural need, without compromising the aesthetic, these tubes still serve many other purposes, and act as light wells, vertical shafts for hvac systems, as well as provide vertical circulation (i.e. elevators and stairs) for the occupants. [2] In the UP! tower design, the atrium was approached in like-fashion, and was intended to serve a variety of purposes. It is intended to be the primary structure of the building and would provide the majority of the support for the fifty floor plates of the tower. Other subordinate purposes include a massive light well to provide light to the interior of all the offices, as well as allows for the stack effect to occur ensuring natural ventilation for the comfort of the occupants within. Also, as the elevator runs up along the atrium, the void serves for vertical mobility between the tower floors.

(fig.6:Section showing interior garden found within atrium space)

Also, the interior gardens facing the atrium are intended to further provide for occupant comfort and primitive human desire by providing a connection to the natural world, once more.

Therefore, it can be concluded that the atrium implemented in the design of the UP! tower serves as its primary structure, a light well, a vertical connection for people, as well as a shaft for light, air and energy to constantly circulate.

The Crystal Extension to the Royal Ontario Museum by Daniel Libeskind is located within close proximity to the chosen site for the office tower and so acted as source of constant inspiration for the design of the UP! office tower. It was important to examine how Libeskind resolved the issues of designing for a highly urbanized area, without compromising the integrity of design as well as without imposing on the surround city fabric. Libeskind's created a sculpture for the street corner for the intention of creating great visual impact to transform the surrounding space, therefore not to take away from the city but to add to the urban life of the very sidewalk surrounding the building.[3] After extensively examining the surrounding cityscape of the Yonge and Bloor area, it became clear that this important corner of Toronto required a building that would provide something of an icon, or landmark, for the city, a place that can be used as navigational purposes on account of its very present on the street. Therefore, without being overtly ostentatious, the atrium of the UP! office building, with

(fig.7:The ROM Crystal Interior Atrium Spaces)

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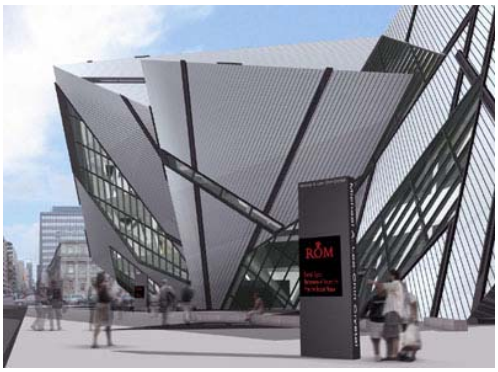
[5] http://www.thestar.com/article/217880

its prismatic and crystalline volumes and form that is apparent through the glass façade to the surrounding city is intended to serve a similar purpose in livening up the currently dreary street corner, and to act as a luminous lantern for the city. Libeskind also creates an interactive interior space, through the implementation of an atrium that acts as one volume for which people can catch glimpses onto other floors, connecting people, spaces, and exhibits.[3]



(fig.8:The ROM Crystal Exterior public space)

The grand atrium in the UP! office tower scheme functions similarly as the volume fosters a spatial relationship between all the floors allowing a constant degree of visual interaction throughout the building. An important issue when designing for a highly urbanized city area is to recognize the sheer importance of giving back to the public realm, in consolation for adding once more to the built environment. The Crystal extension gives back to the city as it is setback 20m from the sidewalk – this creates a new public space at the Bedford and Bloor intersection and is displays Libeskind's dedication to the public realm of Toronto.[5]

The UP! office tower scheme also recognizes the significance of the public realm within the city, by devoting the entire ground floor as well as the top floor to the public, by including restaurants, cafes and bars all open to public access. This design move also strengthens the constant engagement between the office occupants and the city's public realm.

(fig.9: Ground Floor Plan for UP! office tower showing restaurant and cafe)

Above all, both Toyo Ito's Sendai Mediatheque and Daniel Libeskind's Crystal succeed wholly in integrating the structure into the design. They take away the 'structural' aspect of the structure and instead intimate spaces of an abstract, dreamlike quality. In this way, both buildings are able to resolve the conflict between the practicality of structure and the abstract beauty of a design concept. In complete admiration for such great resolve, both buildings were used in inspiration of the UP! steel tower design, in determining the structure of the building without compromising any of the other aforementioned design moves in this building scheme.

[1] http://www.artspace.org.nz/shows/Ito.htm
[2] http://www.smt.city.sendai.jp/en/
[3] http://www.daniel-libeskind.com/projects/pro.html?ID=45
[4] http://www.galinsky.com/buildings/sendaimediatheque/index.htm
[5] http://www.thestar.com/article/217880

Image Citations:

Fig. 1: http://www.lesfilmsdici.fr/moteur/t1/mediatheque_de_sendai1.jpg

Fig. 2: http://www.daniel-libeskind.com/projects/pro.html?ID=45

Fig. 3:
http://archivewww.smt.city.sendai.jp/ja/data/mediatheque/competition/images/competition1_l.gif

Fig. 4: typical office floor plans for UP! steel office tower design

Fig. 5: section illustrating the building's relationship to the surrounding city

Fig.6: section showing interior garden within the atrium

Fig. 7: http://www.daniel-libeskind.com/projects/pro.html?ID=45

Fig. 8: http://www.daniel-libeskind.com/projects/pro.html?ID=45

Fig. 9: ground floor plan for UP! steel office tower design