MUSEUM OF MODERN ART
Helsinki, Finland

Architectural Thesis by
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INTRODUCTION

In the evaluation of past societies, important characteristics can be determined from its physical expression and imagery. This expression is represented by a collaboration between its arts and architecture. I feel this collaboration is becoming increasingly deficient in today's modern society. As a fifth-year architecture student, I am concerned with the architecture, we as a society create. With my knowledge of history and philosophy in both architecture and art, I am able to formulate this hypothesis.

My interests in the creation and exhibiting of both art and architecture influenced my decision to design a museum for my thesis project. The design involved an entry in a competition for a National Museum of Modern Art in Helsinki, Finland. Because of my admiration gained from my visit to Helsinki in 1989, it proved to be an ideal site for this exploration. I used the design process of this museum as an exploration for reinstating artistic creativity into the conception of architecture.
STATEMENT OF ACTIVITY

Throughout history, an integration between Art and Building existed harmoniously within society. The work performed by the artists and the builders consisted of an unprejudiced search for a symbolic form of expression relative to their time and geographical existence. This wholistic expression was experienced and perceived by society's masses as Architecture. Today, there seems to be a creative deficiency in the desire to search for this wholistic expression. Art and Architecture have become separate entities within a complex society; a society aimed towards quantity instead of quality. Our society will remain visually underdeveloped unless there is a rejuvenation towards the understanding of the built environment and its aesthetic responsibility to its culture. Artistic intuitiveness must once again play an important role in the conception of architecture.

I attempted to re-emphasize the importance of this coexistence between art and architecture with the challenge of a design competition sponsored by the American Institute of Architectural Students. The challenge was to design a 92,000 square feet National Museum of Modern Art for Helsinki, Finland. Here, within the granite walls, great works of art from the modern era will be displayed to a culture full of artistic tradition and awareness.
SIGNIFICANCE

Museums have always played more than one role for those whom it involves. A museum serves its society as a temple of culture and intellectual congregation. Within its walls are housed unique, expressive examples of creativity driven from forces of individuality. Here, the intellect of the observer is tested and possibly satisfied with the enhancement of his imagination. This is the critical experience which art must create for its society and those who inhabit it. Society must recognize the importance of enhancing its creative intellect or it will remain in a non-progressive state of expression. This museum, as all architecture must do, exclamates these notions.

A museum also serves as a literal collaboration between the world of Art and the world of Architecture. Those who experience the building for its art begin to develop relationships between the spaces which exhibit the art, and the art itself. Between the two disciplines, relationships are identified in a less abstract manner. Here, a sense of understanding is determined with the manipulation of the architecture towards an enhancement of the art. This is where architecture will play an important role in the development of society's subconscious relationships between art and architecture.

The architectural expression of the museum probably plays the most important role in emphasizing the relationships between art and architecture. Aside from the literal similarities, the architecture embodies all principle and fundamental rules of artistic creativity.
FINLAND

Finland is located in Scandinavia between the 60th and 70th degrees of latitude. It is the fifth largest country in Europe, covering 130,500 square miles (337,995 square kilometers). The population is approximately 5 million, half of which live in the southern and southwestern part of the country. One million people inhabit the metropolitan area of Helsinki.

In the Middle Ages, Finland was part of the realm of Sweden and the location of many territorial wars between Sweden and Russia. In 1809, Finland was ceded to Russia and became an autonomous grand-duchy of the Romanov family retaining many of its previous laws and institutions under its Grand Duke, the Czar of Russia. After the Russian revolution in 1917, Finland declared itself an independent republic. In late 1939, Russia once again invaded Finland to enlarge its territorial boundary. In 1941, the Finns could not forbear joining the side of the German Nazis (though they were never Fascists) in attempt to defeat the Russians. Today, Finland is a western democracy, combining a capitalistic mode of production and a developed social welfare system. By gross national product, Finland ranks as the 15th most affluent country in the world. The government is controlled by the Parliament and the President.
Helsinki was founded in 1550 by the king of Sweden, Gustav Wasa. Helsinki was primarily a small unpopulated fishing village. During a war with Sweden in 1808-09, most of the city was razed. Nevertheless, in 1812, the Czar Alexander I moved the capital of Finland from Turku to Helsinki. Between 1817 and 1840, a grand formal centre was created, largely by Architect Carl Ludwig Engel to a plan by Johan Albert Ehrenstrom. This was Finland's first image of conscious urban design. The Senate Square, designed by Engel, comprised of numerous public institutions including governmental buildings, the university, and the cathedral, all designed in the Russian Empire style. A statue of the Czar decorates this square, which is considered one of the world's most grandiose Neo-Classical monumental squares. After its independence, the country needed new buildings to symbolize the country and the people. In the 1920's, the Parliament building was completed and the new civic center for democratic Finland began.

Presently, the Helsinki peninsula is characterized by a cityscape consisting mainly of four to six-story buildings with an emphasis placed on the horizontal. The geographical location of Helsinki provides the city with many unique characteristics which include lush greenness and an abundance of water and coastline.
FINNISH ARCHITECTURE

The Architecture of Finland is diverse in both expression and its history. Because of the vast quantity of forests existing in Finland, the early architecture was primarily built from timber on stone foundations. Many of the early examples of Finnish Architecture can be compared to the early American Pioneer Architecture. Although, because of the severity of the Northern climate, these structures had limited life expectancies. The one clear difference between the American Pioneer Architecture and that of the early Finnish Architecture was the exquisite wood carvings and detailing found throughout each building. This commonly apparent characteristic of fine craftsmanship seems to be a trait which still exists throughout Finland and Scandinavia today.

By the nineteenth century, the architecture of Finland began to quickly mature. The sophistication of the inhabitants increased rapidly during this century, allowing for more creative and expressive designs. When the Russian Czar Alexander I moved the capital to Helsinki in 1812, he began the implementation of governmental buildings organized around an open square. The master plan for the newly developed capital was created by Johan Albert Ehrenstrom. The majority of the architecture around Senate Square was designed and realized by the architect Carl Ludwig Engel. Engel was trained with Karl Friedrich Schinkel under the direction of the architect Friedrich Gilly in the Neo-Classical style which was the most up-to-date international style. This grandiose monumental image suited the Russian Czar's expectations.

After the assassination of Alexander II, the Russian administration in Finland became more oppressive and the degree of autonomy Finland enjoyed under previous czars was much reduced. Attempts were made in many ways to obscure Finland's separateness, cultural as well as politically. The most extreme example was the disallowance of the Finnish language in administration, in the schools, and in the literature. This caused a strong reaction and an urge by the Finnish people to reassert their cultural identity through the study of the Kalevala folk-legends and
through the study of their traditional arts and crafts. This lead into new forms of art based on immemorial Finnish models as a form of resistance to the increasing Russian oppression. This movement is identified as Finnish National Romanticism.

One of the first leaders of this Nationalists movement, as far as the arts were concerned, was a designer and painter, Akseli Gallen-Kallela. In 1894, as a demonstration of his allegiances, built himself a studio-house modelled on the traditional log-houses of the Karelian region of eastern Finland. A group of Gallen-Kallela’s close associates in this Nationalists movement followed his example. This group included such architects as Eliel Saarinen, Lars Sonck, Herman Gesellius, and Armas Lindgren, along with the composer Jean Sibelius.

In 1900, the decision was made that Finland could build its own pavilion at the Paris exhibition rather than being represented by the Russian Pavilion. A national competition was created to determine the design of this pavilion. As a revolt against the Neo-Classical style dominating Europe and Finland at the time, the winning entry was conceived by Saarinen in partnership with Gesellius and Lindgren. This exhibition proved to play an important role in the acceptance of this movement. Also at this time, the influences from Europe began to make an important impact on the success of the cultural seperateness from the Russians. A variety of individuals travelled throughout Europe taking notice to such architects as Philip Webb, Charles Voysey, Charles Rennie Mackintosh, and those involved with the Vienna Secession and the Jugendstil. The relationship with the progressive West was much more important than that of the East and Russia.

In 1901, the first of three public buildings reflecting the new generation of architects’ aspirations was built. This was the National Museum designed by Gesellius, Lindgren, and Saarinen. This project occupies a prominent position on the Mannerheimintie (directly west of my project site). This museum was the subject of a national competition; already the tradition had been established of holding competitions for the design of all important new buildings,
which has had an important effect on Finnish architecture to this day.

As time passed, the influences from central Europe became more influential for the Finnish architects. For example, in the domestic architecture, strong similarities can be found with the characteristics of English architecture. This was also true for the influence of the *Art Nouveau*. The elements of the *Art Nouveau* began appearing on public buildings combined with that of the Finnish Nationalists. Nevertheless, there was still an element in Finland of the Nationalists and deeply Romantic feeling that had initially created the anti-classical movement. But the conviction behind it was quickly fading.

The best example of the degenerating conviction can be found in the design of the new railway station at Helsinki. This too was subject of a competition won by Gesellius, Lindgren, and Saarinen. The design included many of the elements common to the Finnish and Nationalists vernacular which they had used with such acclaim before. However, there were signs that the opinion was changing. The design was met with reservation, especially on the part of fellow architects and architectural critics, who seemed to have felt that the style it employed had become a little parochial. A new generation was emerging which saw little promise in nostalgia and reminiscence. The leading architectural critic of this generation, Gustav Strengell stated, "A building is no longer a silhouette; it is a living organism which fulfils a defined purpose". The philosophy of the *Modern* Movement was clearly beginning to show itself as an alternative to the rivalry between period styles.

During the interval while the design for the railway station was reconsidered, Lindgren left the partnership that had won the competition and travelled for a while in Germany. Here he met the architects Joseph Olbrich and Peter Behrens and was strongly influenced by the *Rationalists* Movement. Lindgren then returned to Helsinki, not as a partner with Saarinen, but as the head of the School of Applied Arts (and incidentally Alvar Aalto's professor), thus opening the door to Rationalism rather than Romantic
influences from Europe. Meanwhile, Saarinen on his own worked on the revision to the design of the railway station, which was finally accepted. Building began in 1911 and was finished in 1914, 10 years after the competition. The station is a handsome building, in a style still very different from the Classical styles that Saarinen and his partners broke away from when they pioneered National Romanticism 15 years before, but it is more central European in derivation and altogether without the direct borrowings from Finnish vernacular architecture that had marked the group's revolutionary, and consciously Nationalists, work. Moreover, it shows for the first time an interest, again influenced by central Europe, in the new technology that was later to become a basic component of the changes that were to take place in architecture.

With the railway station in Helsinki, the Nationalist episode came to an end. Finnish architecture itself came to an end in 1914 with the out brake of the war. When building resumed, Finland had gained independence through the Russian Revolution, thus changing the atmosphere of architecture altogether. The influences from central Europe penetrated even deeper and the era of Modern Finnish architecture began with such names as Erkki Huttunen, Erik Bryggman, and eventually Alvar Aalto. The impetus behind the National Romantic movement - the urge for Finland to reassert her cultural identity in the face of the danger of being absorbed into that of Russia - existed no longer. Nationalism in architecture served its purpose.

During the 1920's, Europe, including Finland, was bombarded with Neo-Classicism. One leading figure of this epic was Erik Gunnar Asplund. Asplund was very influential among the young Finnish architects, one of them being Aalto. In Helsinki, one example was the Parliament building, by Siegfried Siren in 1927-31 (the Parliament building sits directly south of the National Museum, west of my project site). Neo-Classicism was short lived in Finland, and it gave way to the Rationalists by the 1930's.

The 1930's saw the emergence of maybe Finland's most notorious architect, Alvar Aalto. Aalto, along with other architects
of the time, were extremely influenced by the *International Style*. This style of building maintained precedence over Finnish architecture until the outbreak of WWII, when building halted completely.

The post-war years brought an intense impetus to building, with an emphasis on housing, due to the great demand caused from the accommodation of nearly 500,000 eastern refugees. As a result of favourable loans brought forth by the government, quality was sometimes sacrificed for quantity. These years also witnessed the return of *Functionalism* and *Rationalism*, in Finland.

Present day Finnish architecture is represented by a multitude of images. There still exists the *Expressionists*, those resembling the later works of Aalto, along with the *Functionalists* and the *Rationalists*, which were popular during the 1930's, 40's, and 50's. One fortunate coincidence apparent in the Finnish architecture today is the avoidance of Post-Modern architecture. Even though capitalism is booming in Finland, the architects have not caught on to this unfortunate fad.
PROJECT SITE

The site of the project is located in the center of Helsinki between Eliel Saarinen's Central Railway Station and Toolo Bay. To the site’s immediate north lies Alvar Aalto’s Finlandia Hall. This cultural center clearly represents the individualistic notions of Finnish contemporary architecture.

Since the beginning of the century, several architects, including Saarinen and Aalto, proposed master plans for the Toolo Bay area. In 1964, Aalto studied the possibility of forming a string of public buildings on the waterfront. The Finlandia Hall was the only building constructed.

In 1985, the state and the city organized an ideas competition concerning the future of the Toolo Bay area. The outcome consisted of mostly public buildings, one of which was a National Museum for Modern Art. The other building types included a Helsinki City Art Museum, an addition to the Finlandia Hall, an addition to the Main Post Office, a hotel, office and commercial buildings, and apartment buildings.
SITE ANALYSIS

The analysis of the site began by studying the relationships between the site of the Museum of Modern Art and its surroundings. To the north of the site sits one of Finland's most respected and admired civic buildings, Finlandia Hall, by their infamous architect, Alvar Aalto. This building functions as a cultural center for the city of Helsinki and the country of Finland. This white marble wonder sits on Toolo Bay; a body of water which links the inner city of Helsinki with the Baltic Sea. Running along the entire west boundary lies the elevated Mannerheimintie. This north-south artery serves the city of Helsinki as its most important transportation roadway. Rising from beyond the Mannerheimintie can be found Finland's Parliament Building and the National Museum. Both the south and the east boundaries are currently abandoned railway stockyards belonging to the Helsinki Railway Station. This railway station was created by Eliel Saarinen and is also very popular with the Finnish people. It is located about a quarter of a mile south-east of the site. These stockyards will not remain but will be readapted. Throughout the history of Helsinki, there has been numerous attempts at a master plan suitable for the success of Helsinki as the new cultural, political, and commercial capital of Finland (remembering that Helsinki was merely a fishing village until 1812). Following a conglomeration of these different master plans; neighboring to the south, replacing the stockyards, will be another civic building (this follows a master plan by Aalto which strings civic buildings from the north of Toolo Bay, between its western waters edge and the Mannerheimintie, directly south to the north of the Helsinki Main Post Office). To the east will be a city park which separates the civic buildings along the Mannerheimintie and those proposed to the east.

The next consideration which was studied was the effect of the location in the far northern part of the hemisphere. Because Helsinki is located at about the 60th latitude, the winters are severe and the summers are short. Northerly winter winds are brisk and dangerous and require adequate filtering and screening. Also due to
the far northern location, the solar altitude never reaches an extreme height which is beneficial for natural lighting for either the building or the site. This requires an abundance of open spaces directly adjacent to the southern edge of the site to utilize the maximum amount of sunlight available.

The final consideration was the problem of circulation and public access. This also included a solution for the location of adequate parking facilities. The four circulation paths were first defined, three of which were pedestrian, and the remaining, vehicular. The first two pedestrian accesses were very similar, one from the north and Finlandia Hall, and the other from the south and the downtown district of Helsinki. The remaining pedestrian access was from the elevated Mannerheimintie, which also required vertical allowances to the level below. The final required access was the allowance for the automobile and service vehicles. Since there was already an access road running south of Finlandia Hall, I chose to take advantage of it. This road could be easily adapted into the service access for the museum without creating a second path. This same adaptation could facilitate the required parking requirements by slightly enlarging the parking lot of Finlandia Hall, thus, sharing the facility. This solution required an allowance for another pedestrian access to be considered, the pedestrian access from the parking lot.
PROCESS

This project required an understanding of many variables which related not only to the pragmatics of museum design, but also an attempt of understanding a culture outside of my own. I began this challenge by developing a knowledge for the history, culture, traditions, and trends associated with both Helsinki and its country, Finland. I then educated myself towards an understanding of Modern Art, starting with the art of the Post-Impressionists, up to the art of today. Once the understanding was developed, I recognized the important features which must exist within a museum to successfully exhibit its works of art. This involved studying diverse relationships of human experience. These studies included how a human perceives and responds to characteristics of the space surrounding him and how individuals observe objects within the surrounding space. Also, an understanding was developed on how an individual moves through a space filled with objects of intellectual interest. Finally, it was important to discover an expressive image which encompassed all of the variables acknowledged and organize them into a wholistic piece of architecture.

The process of determining the expression began with the study of simple, elementary notions of color, form, rhythm, organization, and hierarchy. Studying these notions enabled me to design with the simple tools of an artist. All architecture should, once again, begin its evolution with these basic fundamentals. Once the fundamentals were given time to mature, the architecture of the museum was created. This process allowed architecture to act as an artistic expression for its society.
CONCLUSION

This entire process served as an experiment for reestablishing the importance of art into the conception of architecture. A museum was chosen for this experiment because of the literal relationships it possessed between the two disciplines. This exploration was done because I feel the need for architects and designers to, once again, develop and follow an artistic precedence when aesthetic decision making occurs.
PROGRAM

The major interior space requirements in the museum total close to 92,000 square feet (8550 square meters). They are briefly described below as follows:

Public Areas: 52,500 sq. ft. (4879 sq. m.)
- Lobby and lounge area: 3,800 total sq. ft. (353 sq. m.)
  - museum bookstore: 900 sq. ft. (84 sq. m.)
  - cafe for 150 people and kitchen: 1,500 sq. ft. (139 sq. m.)
  - public restrooms: 1,100 sq. ft. (102 sq. m.)
  - lobby staff room: 300 sq. ft. (28 sq. m.)
Exhibition spaces: 39,000 total sq. ft. (3625 sq. m.)
  - galleries for permanent collections of paintings, sculpture, graphics, and photographs: 23,000 sq. ft. (2138 sq. m.)
  - galleries for temporary exhibition: 16,000 sq. ft. (1487 sq. m.)
  - outdoor sculpture garden
Three auditoriums: 7,200 total sq. ft. (670 sq. m.)
  - projector rooms, AV control booths, and rooms for the press
Library: 2,700 total sq. ft. (250 sq. m.)
  - 15,000 volumes, reading space for 30 people
  - staff rooms, research chambers, microfiche and xeroxing facilities
Four meeting rooms: 1,200 total sq. ft. (112 sq. m.)

Work and Storage Spaces: 33,800 sq. ft. (3141 sq. m.)
  - Workshops for exhibition construction equipment: 5,700 sq. ft. (530 sq. m.)
  - Conservation laboratory: 500 sq. ft. (46 sq. m.)
  - Storage for exhibition equipment: 6,500 sq. ft. (604 sq. m.)
  - Loading and unloading exhibition equipment: 9,200 sq. ft. (855 sq. m.)
  - Temporary storage for items: 5,700 sq. ft. (530 sq. m.)
  - Rooms for photographing exhibition material: 800 sq. ft. (74 sq. m.)
  - Archives for original drawings, etc.: 5,200 sq. ft. (483 sq. m.)
  - Vault: 200 sq. ft. (19 sq. m.)

Administration, Research, and Technical Spaces: 5,700 sq. ft. (530 sq. m.)
  - Administration offices and associated facilities for 15 people: 2,300 sq. ft. (214 sq. m.)
  - Research offices for visiting scholars: 400 sq. ft. (37 sq. m.)
  - Mechanical, cleaning, and other facilities: 2,800 sq. ft. (260 sq. m.)


1 contemplation
2 permanent exhibition
3 temporary exhibition
4 library
5 auditorium
6 roof sculpture exhibition
7 balcony
EXHIBITION LEVE

1. contemplation
2. permanent exhibition
3. temporary exhibition
4. auditorium fly space
5. balcony