

Coptic Diaspora: Supporting Immigrants and Fostering Traditions

by

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To my fellow Coptic congregation in Halifax, and in the diaspora.

Contents

| | |
|---|----|
| Abstract | v |
| Acknowledgements | vi |
| Chapter 1: Introduction | 1 |
| Motivation | 1 |
| Immigrant Identity and Integration | 2 |
| Criticism of the Assimilation Models | 3 |
| Canada and Immigration | 5 |
| Religious Identity | 7 |
| Challenges in Maintaining Ethnic and Religious Identity | 10 |
| Thesis Question..... | 12 |
| Objective..... | 12 |
| Chapter 2: Coptic Immigration and Identity in Canada..... | 13 |
| The Coptic Orthodox Church..... | 13 |
| History and Background | 13 |
| Using the Past to Shape the Present | 15 |
| Coptic Church Architecture | 15 |
| Chapter 3: Methodology | 20 |
| Case Studies: Analyzing Monastery Design..... | 20 |
| The Plan of St. Gall..... | 21 |
| La Tourette..... | 24 |
| Comparison and Key Takeaways | 26 |
| Method 2: Programming | 30 |
| Program Breakdown | 30 |
| Cross-Generational Programming and Collective Memory | 32 |
| Method 3: Modifying Architectural Elements | 34 |
| Mashrabiya (Screen) | 38 |
| Design Principles..... | 39 |
| Chapter 4: Project..... | 41 |
| The Site | 41 |
| Choosing the Site | 41 |

| | |
|-----------------------------|----|
| Site Strategy | 45 |
| The Design | 52 |
| Secular - Private | 52 |
| Secular - Public..... | 55 |
| Sacred | 67 |
| Chapter 5: Conclusion | 82 |
| References | 84 |

Abstract

How immigrants integrate into their host countries has been debated and studied since the early twentieth century. While Canada celebrates the fostering of the immigrant's identity, the integration process often leads to involuntary assimilation. This can be the case for first-generation immigrants, who typically have a strong identity rooted in their home countries. This identity weakens with the following generations and can often be erased.

Recognizing that architecture can allow for historical and cultural knowledge to be passed down between generations, this thesis implements design configurations for sacred and secular programs to foster that relationship. The Coptic Orthodox denomination, along with its ethnic Egyptian identity, is used to test these configurations. The architectural project, located in Halifax, Canada, aims to support Christian immigrants while strengthening their connection to the Egyptian culture and the Coptic congregation.

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To my parents, who gave up their life and immigrated 12 years ago to provide my sister and I with a better future; to my sister, Sandy and my aunt, Magi; thank you all for your continuous endorsement to my future and support of my dreams and for that, I'm very grateful.

Thank you to my friends in the school of architecture for providing me with a shoulder to cry on, laughter, advice and unforgettable memories over the past 4 years. Thank you Emily, Leanna, Georgia, Isi, Adryn, Charlie, Brooks, and Madsen for sticking by my side through it all. And to the rest of my class, thank you for teaching more than I could have imagined learning when I first started this program.

Lastly, thank you to my friends outside the school of architecture, including Rackelle, Natasha, Megan, and Marihan, for their support and patience throughout this journey.

Chapter 1: Introduction

Motivation

There are many kinds of social relationships and identities that can be chosen voluntarily, but no one may choose his ancestry. (Driedger 1996, 34)

In the first few years post-immigration to Canada, I identified fully as an Egyptian. As my spoken English got better and I made more friends in school, I felt my identity morphing into one closer to that of a Canadian native. While I became more comfortable socializing in a place that was so foreign to me, I still missed my home and didn't want to forget it. The place where I continued to feel like my Egyptian self, regardless of how much of the Canadian culture I was taking in, was at my Coptic church. It was where traditional practices were almost identical to the those in my church in Egypt, despite the integration of English to Arabic/Coptic readings and hymns in the services. I could count on seeing the traditional Egyptian dishes at the cafeteria table after every Sunday service. I mourned with my community when the Copts were



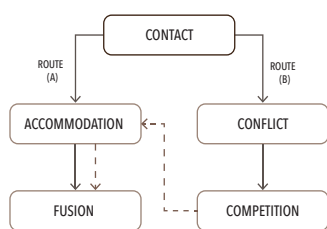
The juxtaposed landscapes of Canada and Egypt

under many terrorist attacks in Egypt; I celebrated with them when the 2011 Egyptian revolution succeeded in freeing the country from the corruption of a 30-year-long presidential reign. The Church continued to instill the teachings of the Coptic church and the Coptic language through Sunday School and hymnology lessons; children played soccer in the parking lot after their lessons. Over the twelve years of living in Nova Scotia, I witnessed congregation members become parents and grandparents, with every generation seemingly further away from identifying with the Egyptian culture. And I imagine that our heritage will be completely erased in the future as more generations are brought up in the diaspora.

Immigrant Identity and Integration

Immigrants are a living embodiment of continuity and change, mediating memories of the past with the present living conditions...Charged with responsibility of keeping some form of ethnic identity alive in the future. Called upon as bearers of the 'original' identity and culture and an 'adopted' one, they embody both continuity and change. (Fortier 1999, 55)

MELTING POT AND ASSIMILATION
Abandoning traditions and opting for newer opportunities; immigrants will be synthesized into a new group



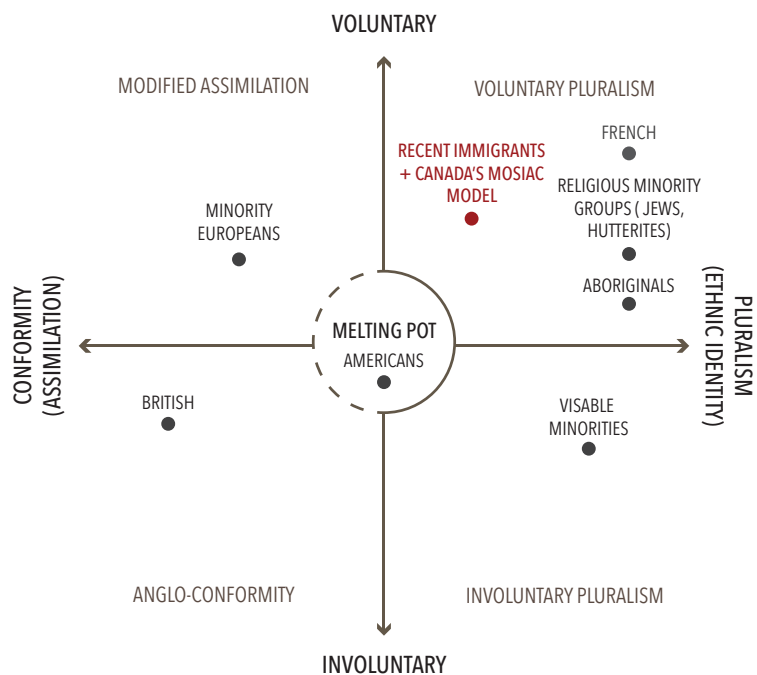
Park's Assimilation Cycle
(Driedger 1996).

This thesis is a study of fostering cultural and religious identity in immigrants. The research began with a theoretical investigation of how immigrants assimilate over time in their host countries. First adopted by sociologist, Robert Park, and largely influenced by the Americans' view on immigrant integration, early assimilation models sided with the argument that immigrants were expected to fully assimilate to their host country and becoming part of the larger "melting pot" (Driedger 1996, 27). Later versions of the model considered immigrant groups fitting within a range of assimilation and pluralist where may still maintain distinctive identities (Driedger 1996, 33). In his book, *Multi-Ethnic Canada: Identities and Inequalities*, sociologist Leo Driedger compiled earlier models into what

he calls Conformity-Pluralism Model; four cells created by the intersection of conformity-pluralism and voluntary-involuntary axes, and ethnic groups would fall somewhere within the four quadrants. I chose this model to build on for the thesis narrative. This thesis focuses on immigrants within Canada, so the Canadian ideology of immigrant integration, referred to as the Canadian Mosaic Model, is highlighted in the Conformity-Pluralism Model below. Siding with the voluntary pluralism quadrant, this view advocates for “all to have the freedom to choose their distinctive quality of life” (Driedger 1996, 35).

Criticism of the Assimilation Models

While assimilation models have evolved to better represent different immigrant groups, they are still lacking in certain areas. A major aspect that I find missing, is generational consideration, which can greatly impact the way we understand immigrant integration within Canada. Before re-



Adopted Conformity-Pluralism model from Driedger's original model (Driedger 1996).

working the assimilation model, we must first differentiate the immigrant generations.

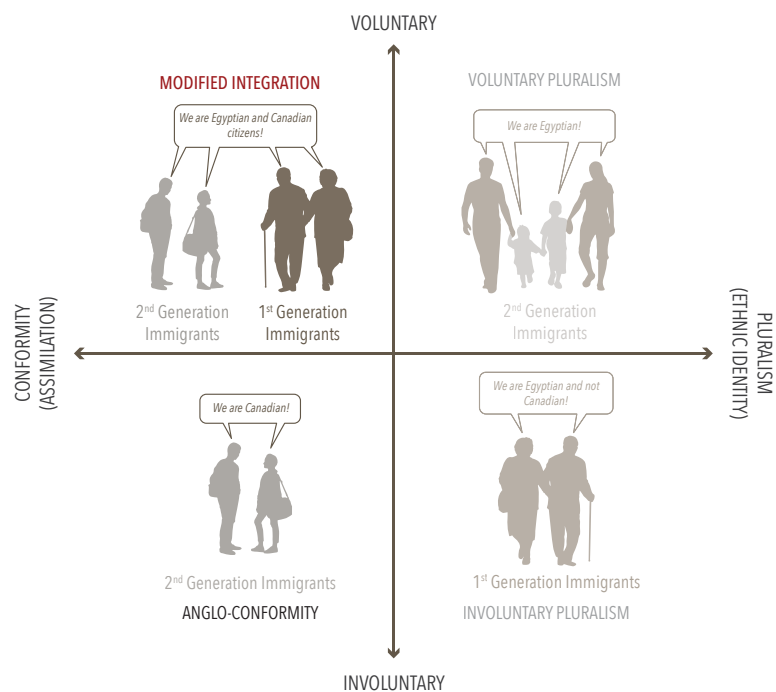
According to Statistics Canada, first-generation immigrants refer to people who were born outside Canada. The majority of this group are individuals who are immigrants, while a small portion is non-permanent residents, have work, study permits, or identity as refugees (Statistics Canada n.d.). Second-generation include those who were born in Canada and had at least one parent born outside of Canada (Statistics Canada n.d.). Lastly, third-generation or more refers to people who are in Canada with both parents born in Canada. They may have several generations of ancestors born in Canada, or their grandparents who have been born abroad (Statistics Canada n.d.).

Using Driedger's Conformity-Pluralism model, a layer of first- and second-generation immigrants is added to investigate the missing link between integration and time. The first step to study this was to adapt Driedger's model using the same conformity-pluralism and voluntary-involuntary axes. The second step is to propose where immigrant generations could fit within the quadrants. Egyptian-Canadians are used in this illustration as they are the ethnic group being studied in this thesis. Recent immigrants, regardless of which generation they fall in, are expected to be in the Voluntary Pluralism quadrant, as indicated in Driedger's original model. Over time, the first-generation may be forced to move to the Involuntary Pluralism quadrant due to racial discrimination, which is often the case for groups of visible minority. Another speculation is for the second-generation to grow into extreme conformity, as they distance themselves from their heritage identity, placing them in the Anglo-conformity quadrant. As generations follow, the possibility

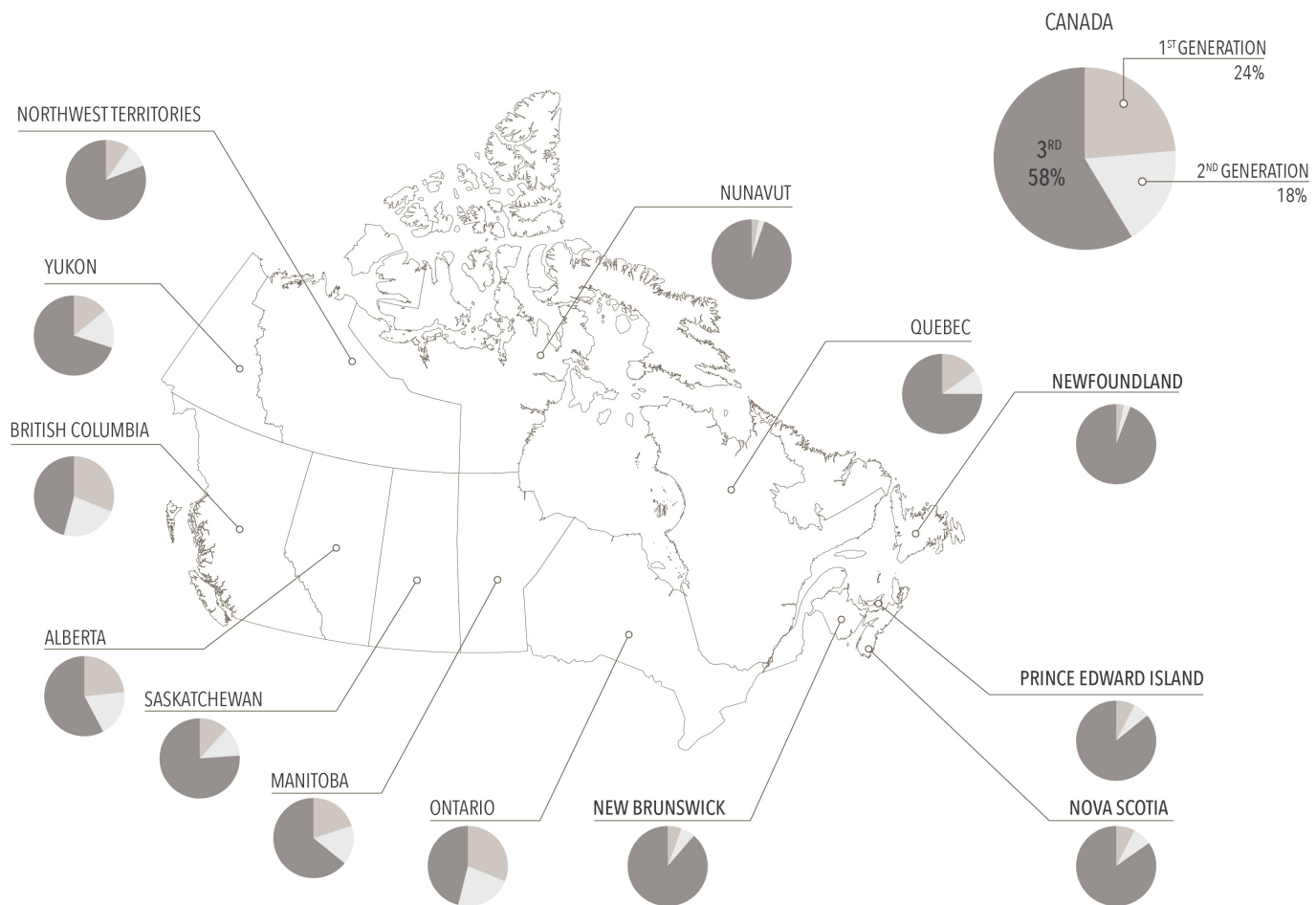
of being placed in this quadrant becomes much more likely since the connection to their heritage identity becomes weaker. A more ideal position within the model is the Modified Assimilation quadrant, where immigrants are expected to integrate into the host country in order to fit and still identify with their heritage and ensure that it is not lost over time. Third-generation immigrants are increasingly making up the immigrant population in Canada, where they make up more than 50% of the immigrant population and over 80% in some provinces (Statistics Canada n.d.). This data highlights why it is important to address the generational differences (1st, 2nd or 3rd generation) when considering their integration process.

Canada and Immigration

The movement of people from one country to another for resettlement has been a central part of the Canadian history and its national identity. When the last census was recorded



Re-designed Conformity-Pluralism model to include first- and second-generation immigrants.

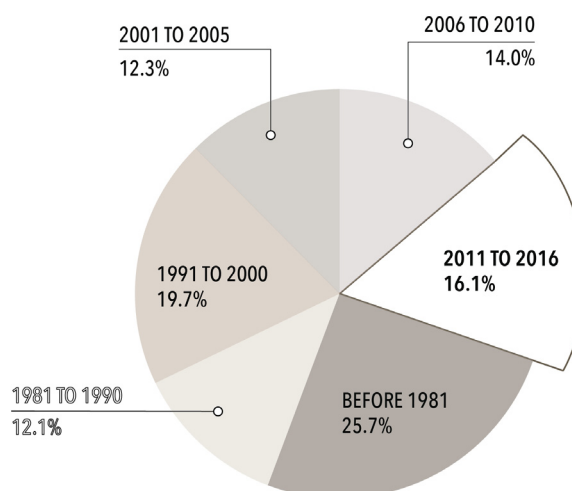


Immigrant generations by province within Canada (data from Statistics Canada, 2016 Census).

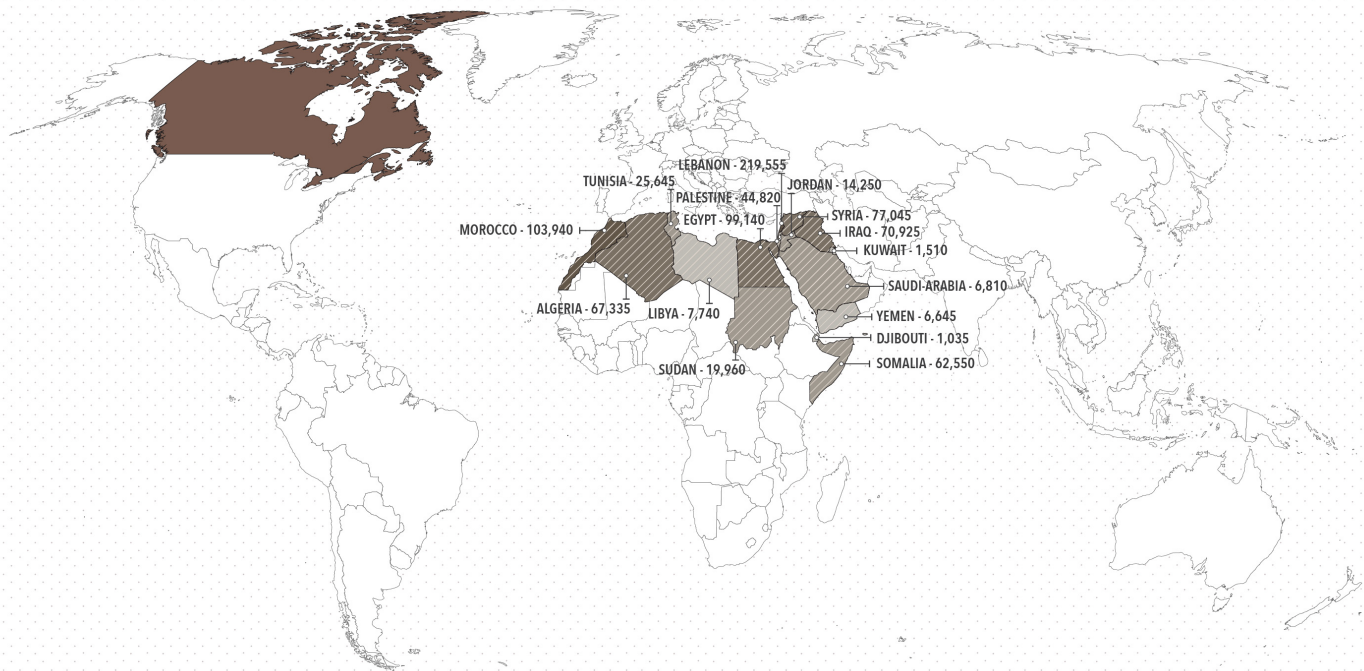
in 2016, over 250 ethnic origins or ancestries were reported, and 41.1% of the Canadian population recorded more than one origin (Statistics Canada 2017). Looking further at the immigration data within Canada reveals a large population of immigrant origins from Arab countries, with people of Lebanese, Moroccan, and Egyptian origin having the highest numbers (Mandil 2019, 3).

Religious Identity

I need to acknowledge the influence of religion on the evolution of immigrant identity. Sociologist and author, Peggy Levitt wrote extensively on the topic of immigrant identity formation in connection to religion and has criticized the lack of research in this area, as well as those who fail to acknowledge religion when studying integration in immigrants. Sociologists and researchers Shampa Mazumdar and Sanjoy Mazumdar state that religious ties provide individuals with “an identification with a place which persists through time and across generations, thus providing a symbolic lifeline to a continuous sense of identity” (Mazumdar 2004, 395). Levitt also states that



Percentage of immigrants to Canada by period of immigration (data from Statistics Canada, 2016 Census).



ETHNIC ORIGIN OF ARAB POPULATION IN CANADA

Map doesn't include 44,705 immigrants with Arab n.o.s. (not otherwise specified) responses, and 1,755 immigrants with North African n.i.e. (not included elsewhere) responses as well as more specific responses indicating North African origins that have not been included elsewhere.

Data from 2016 Census

Map highlighting the population data of Arabs in Canada by country (data from Mandil 2019).

religion should be grouped among social, economic, and political life that are believed to transcend national borders and cultures (Levitt 2003, 848). Other researchers go even further by arguing that religion becomes more important within the diaspora than in the immigrant's homeland, where religion is often taken for granted (Ebaugh and Chafetz 2000, 18). Religious Studies professor, Martha Frederiks argues that faith can provide the immigrant with a vocabulary to express experiences of loss, separation, and disorientation, and construct meaning, while religious communities offer structure and support (Frederiks 2016, 13-14).

Ethno-religious Identity

I focus on the combination ethnic and religious identities in immigrant's process of integration in Canadian culture.

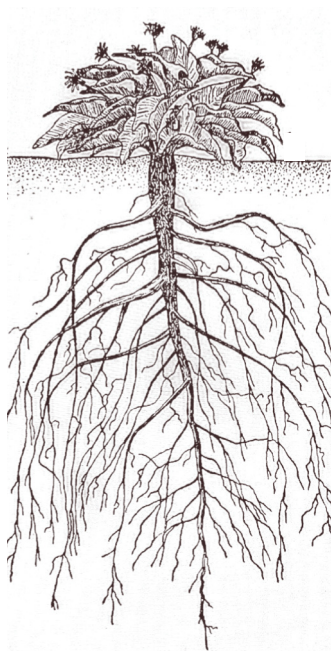
Driedger defines ethnic identification, by writing:

[It] takes place when the group in question is one with whom the individual believes he has a common ancestry based on shared individual characteristics, and/or shared sociocultural experiences. (Driedger 1978, 15)

Under the scope of this thesis, ethnicity specifically encompasses language and cultural practices.

Levitt coined the term "ethno-religion" recognizing that immigrants who identify with ethnicity and religion are more likely to foster that identity because the "two allegiances motivate their continuing identification" (Levitt 2003, 853). Unlike Canada, certain countries have little separation between religion and state, so affiliation with a specific religion can inform and reinforce the ethnic identity of individuals. To illustrate this point, Levitt uses the examples of Pakistan and Ireland, where migrants often struggle to separate what is Pakistani or Muslim, or Irish or Catholic about them (Levitt 2003, 853).

The concept of ethno-religious identity is particularly interesting in the Coptic Orthodox Christian community because it exists under the umbrella of Christian domination but most Coptic come from a non-European background, in many cases from Egypt. Coptic identity then becomes a transnational ethnic marker, where Coptic immigrants can identify with their Egyptian ethnicity and Orthodoxy while living in the diaspora (Lozano 2015, 41). Immigrants from such countries rely on religious institutions to pass on their cultural and religious heritage to their children (Van Dijk and Botros 2009, 192). Religious rituals, which are often performed in the native language in combination with diasporic country's national language, become a link to the traditional culture, which then serve as a primary mechanism for the reproduction of ethnic identity among young and foreign-born immigrants (Ebaugh and Chafetz 2000, 18).

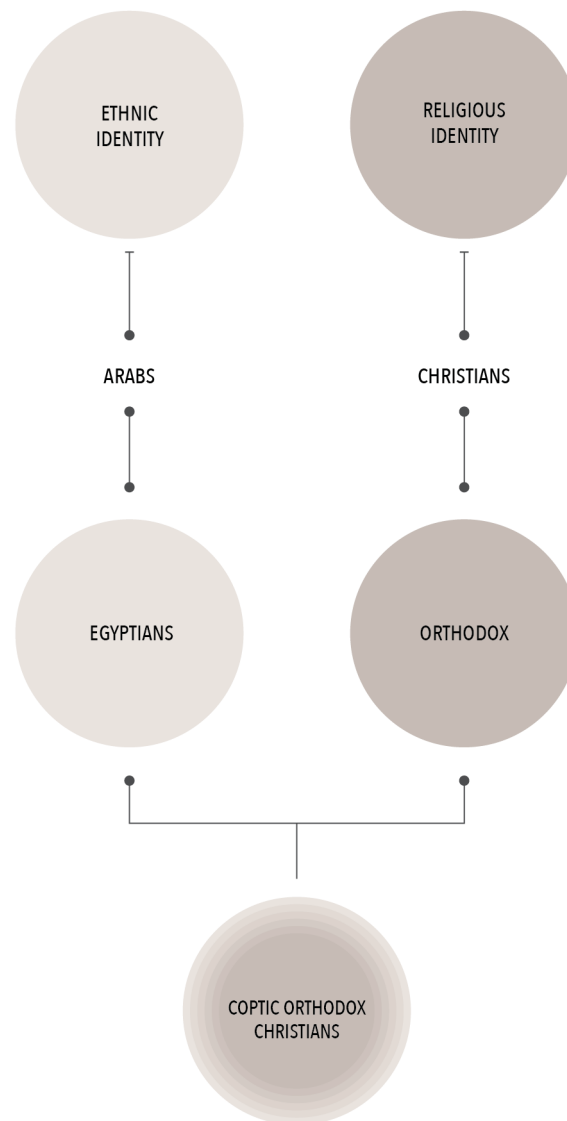


Plant roots stemming from one source used as an analogy to describe diasporic communities (Weaver 1919, 45).

Challenges in Maintaining Ethnic and Religious Identity

Diasporic communities are those “who live in different parts of the world but identify collectively with one another, with the countries or region from which they or their ancestors originated, and with the society in which they currently reside” (Agnew 2005, 5). Sociologist Anne-Marie Fortier compares diaspora to a rhizomatic network of nodes, where there is a core place of where the community originated and the nodes stem into other countries, similar to the roots of a plant (Fortier 1999, 47). These communities face many challenges in maintaining their religious and ethnic identity due to this dispersion. Challenges facing immigrants’ identity retention do not discriminate against certain religions or ethnic groups; in fact, Saad studied the identification of

Christian and Muslim youths in the United States of America and found that both groups struggle with maintaining their ethno-religious identity as immigrants (Martin 1997, 20). While living in a secular world, younger immigrants, who are from much stricter countries, may feel pressure to 'compromise' their values and beliefs to better fit in, losing their identity in the process (Saad 2010, 220). It is worth noting that Canada is a country that encourages immigrants'



Breakdown of thesis's group of interest: those who identify with their ethnicity, with a focus on Arabs and Egyptians, as well as religious groups, with a focus on Christians of the Orthodox denomination

reliance on their religion when it comes to integration. On the other hand, European countries consider immigrant religion to be a barrier to integration (Frederiks 2016, 14).

Thesis Question

How would an integrated multicultural approach to architectural design support the endurance of cultural and religious identities of minority groups in Canada?

Objective

Based on the issue of retention of the immigrant cultural and religious identity and the challenges in maintaining it over generations, this thesis has two main goals: first, to support new Egyptian and Arab immigrants arriving to Canada. Secondly, to connect second- and third-generation Egyptian immigrants to their culture and the Coptic Orthodox Christians to their church's history and Coptic identity.

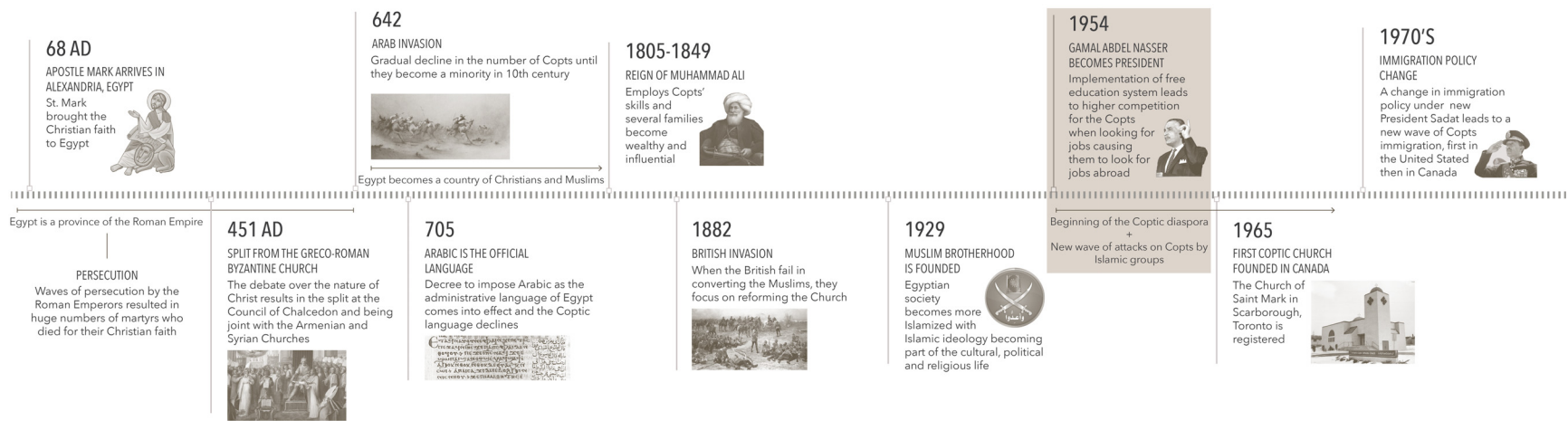
Chapter 2: Coptic Immigration and Identity in Canada

The Coptic Orthodox Church

As mentioned in the previous chapter, the Coptic church is the religious community I am choosing to focus on. This chapter will first detail the rich history of the Church and how the retelling of stories of the Church's past is used to introduce the church and its denominational beliefs to immigrant communities. The Church's traditional architecture is then illustrated with a focus on the typology of Coptic churches in Canada.

History and Background

Christianity was first introduced in Egypt by Saint Mark between the years 43 and 68, the apostle and evangelist who preached the faith in Alexandria (Botros 2006, 184; Haddad and Donovan 2013, 211). The Christians lived as the sole religion in Egypt until the Arab conquest in the eighth century (Morgan 2001, 5). A key moment in the Coptic church's history was its split from the "Greco-Roman Byzantine Christian world" during the Council of Chalcedon in 451 CE over a dispute on the nature of God (Botros 2006, 174). The Coptic church then became a part of "oriental Orthodox Churches" which included Armenian and Syrian Churches (Botros 2006, 174). Today, Copts make up the largest Christian denomination in the Middle East and North Africa, with an estimated 8 to 12% of the total population in Egypt (Brinkerhoff 2016, 470; Morgan 2001, 5; Van Dijk and Botros 2009, 196).



Timeline of the Coptic Orthodox Church, highlighting key moments in its history in Egypt and immigration

Using the Past to Shape the Present

When writing about the Coptic church in the modern era, theorists often acknowledge the impact the church's history had on its present self. Botros argues that much of what exists now is a "persistence or reproduction of what existed earlier" and that "the past is not only holding the present in its grip but is also infused with sacredness because it has primordial qualities" (Botros 2006, 178). The Coptic church prides itself on its rich history, including stories of the church's martyrs and miracles, which is why a historical narrative is a common approach for introducing the Church to immigrant communities (Botros 2006, 180). Retelling the history to the new generations of immigrants then becomes a way of keeping alive in the faith and reconstructing memories (Van Doorn-Harder 2010, 480). Lastly, the past is a major reason for why Copts feel connected to their traditions as it emphasizes their Christian roots and identity, while also confirming the teachings of their current leaders (Van Doorn-Harder and Vogt 1997, 12).

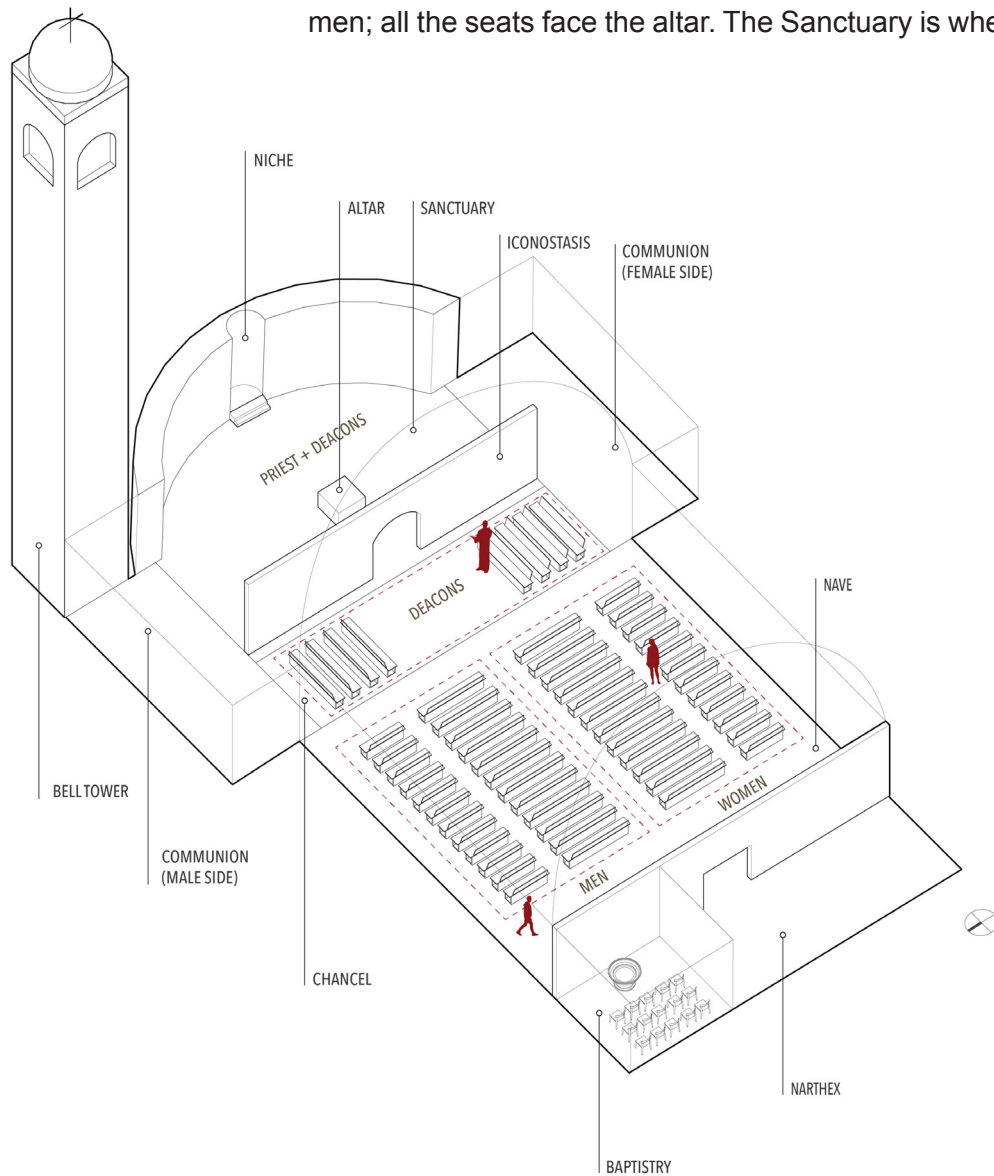
Coptic Church Architecture

Scholars have studied Coptic art and architecture extensively for its richness and deep-rooted history that is still widely present in Egypt today (Butler 1884) (Malaty 1994) (Badawy 1978). Because of its long history, the Coptic style of the churches sometimes combines Basilican and Byzantine architecture (Butler 1884, 7).

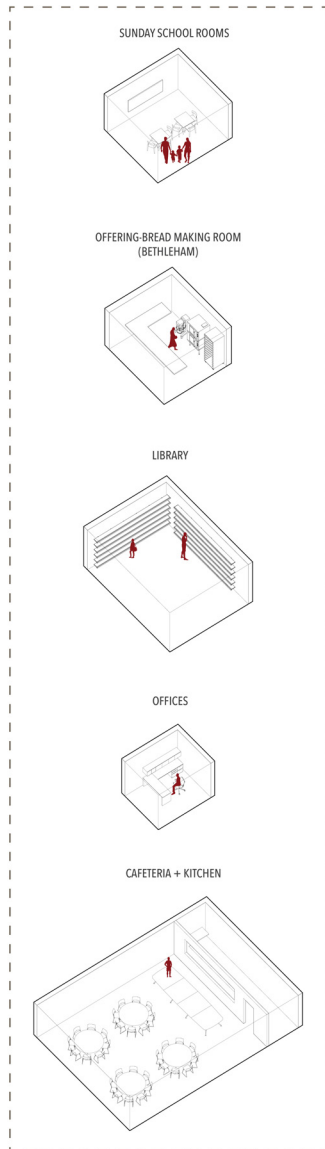
The form of the Coptic church follows one of three distinctive shapes: ship (ark), circle, or cruciform, with the ark being the most commonly used (Malaty 1994, 82). The floor plan of the church reinforces a central axis of a procession, from the narthex to the altar. The Church's tradition stresses

that building should be pointing to the East for its various significances mentioned in the Bible and the Church's teachings (Malaty 1994, 76-82). Eastward orientation is also used in private prayers by Copts (Malaty 1994, 76). Historian Alfred J. Butler, who studied ancient Coptic churches in Egypt, noted that the altar faces toward the east in every church (Butler 1884, 10).

Seats are often placed in the nave along two aisles with the south side allocated to women and the north side to men; all the seats face the altar. The Sanctuary is where the



Annotated floor plan of the Coptic Church



Separate elements of the Coptic Church

church services are performed by the priest and deacons; therefore, it is not accessed to any other group.

The traditional Coptic Church can also include other peripheral spaces for activities for congregation, such as library, Sunday school programs, cafeteria and a communal kitchen, baking room for the Offering-bread known as Bethlehem, and finally offices for the priests to hold confessions and for administration purposes.

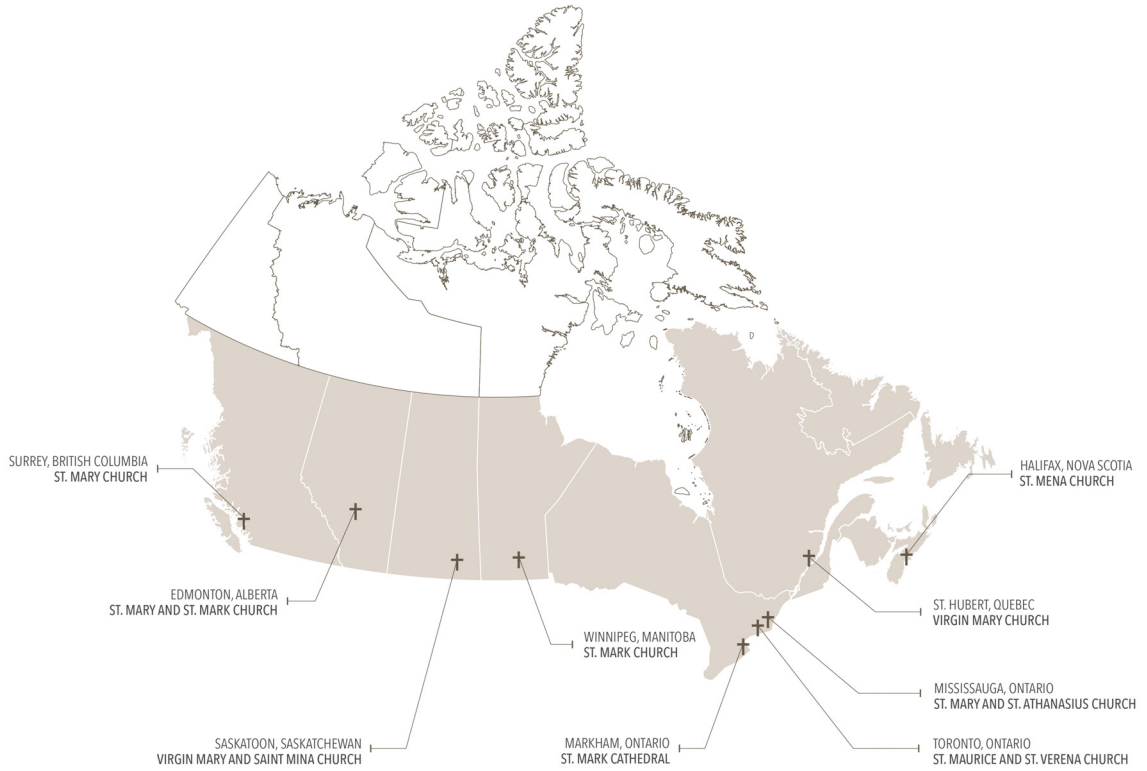
Ethno-Religious Architecture

Coptic and Egyptian architecture overlap in a number of ways, including combined building material and decorative elements. Philosopher Marianne Nabil states that Copts are influenced “by their forefathers...from the scale of the whole building to the finest details...,” including the style of temples in terms hierarchy within spaces (Nabil et al. 2020, 534). Nevertheless, there are a few distinctions in Coptic art: influence from existing Egyptian traits, plus Greco-Roman, Ancient Egyptian, and Christianity as a religion.

Coptic Church Typology in Canada

To get a better understanding of the Coptic church typology in Canada, I developed a matrix which studies form, material expression, scale, number of domes, and services of some of the major Coptic churches in Canada. Through this investigation, some key findings emerged under each the five categories:

1. Form: the crucifix form is the most common of the three shapes in the studied churches. In *Church: House of God*, Well-known Coptic author and priest Fr. Tadros Malaty notes that the crucifix form was very common in the Byzantine style and wasn't common in early



| | ST. MENA'S CHURCH HALIFAX, NOVA SCOTIA | VIRGIN MARY CHURCH ST. HUBERT, QUEBEC | ST. MARY AND ST. ATHANASIUS CHURCH MISSISSAUGA, ONTARIO | ST. MAURICE AND ST. VERENA CHURCH TORONTO, ONTARIO | ST. MARK'S CATHEDRAL MARKHAM, ONTARIO | ST. MARK CHURCH WINNIPEG, MANITOBA | VIRGIN MARY AND ST. MINA CHURCH SASKATOON, SASKATCHEWAN | ST. MARY AND ST. MARK EDMONTON, ALBERTA | ST. MARY CHURCH SURREY, BRITISH COLUMBIA |
|---------------------|---|--|--|---|--|---------------------------------------|--|--|---|
| FORM | + | + | + | ○ | + ◡ | + | ○ | + | + ◡ |
| MATERIAL EXPRESSION | | | | | | | | | |
| DOMES | - | | | | | | | | |
| SCALE | | | | | | | | | |
| SERVICES | | | | | | | | | |

| | | | |
|---|--|--|--|
| <p>FORM</p> <p>+</p> <p>○</p> <p>◡</p> <p>CRUCIFIX</p> <p>CIRCLE</p> <p>BOAT / ARK</p> | <p>MATERIAL AND ITS EXPRESSION</p> <p> BRICK</p> <p> WOOD</p> <p> PRECAST CONCRETE PANELS</p> | <p>OTHER CHARACTERISTICS</p> <p> # OF DOMES</p> <p> SCALE: TO HIGHEST POINT OF THE CHURCH</p> | <p>SERVICES</p> <p> Main Prayer Hall</p> <p> Visitor Suite</p> <p> Sports Facilities</p> <p> Job aid</p> <p> Sunday School Rooms</p> <p> School of Theology</p> <p> Hangout Space</p> <p> Event Hall</p> <p> Kitchen+ Cafeteria</p> <p> Library</p> <p> Daycare</p> |
|---|--|--|--|

Typology matrix of some of the major Coptic Orthodox Churches in Canada

Coptic churches (Malaty 1994, 84). Meanwhile, the most common shape within Coptic churches is the ark (Malaty 1994, 85).

2. Materiality: brick is the material mostly expressed in the studied churches. In newer churches, it was often paired with pre-cast concrete panels. The use of brick pays homage of ancient Coptic churches in Egypt, where brick is often expressed on both the exterior and interior of churches.
3. Domes: another design element that is often seen in Coptic churches is the dome. It usually sits on top of the bell tower, as well as the center of the floor plan.
4. Scale: a high ceiling point of around 35 feet, usually achieved with the presence of the dome.
5. Services: the variety of services offered in the studied churches include the necessary religious programs, such as the prayer hall and Sunday school while others can accommodate supportive and social for their congregation. It will be important for the design project to include all three types of programs.

Chapter 3: Methodology

I used three types of approaches to inform the design proposal: case studies, program, and modifying architectural elements. First, case studies include comparing two monasteries and pulling out key elements and lessons from their analysis to be used as precedent. Second is the program method, which builds on the earlier matrix on the Coptic Churches of Canada typology developed in Chapter 2 that investigated the types of services offered by those churches. Finally, the method of modifying architectural elements uses the well-recognized design and functions of the mashrabiya screen to work with the Canadian climate. The chapter concludes with a set of design principles that were derived from the three methods.

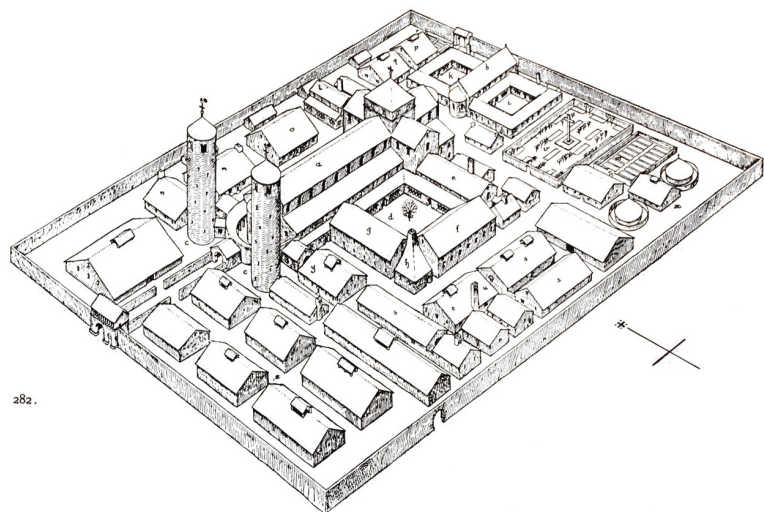
Case Studies: Analyzing Monastery Design

The first approach I used was an in-depth analysis of monasteries. Monastery design serves as a great precedent for the purpose of the project that I am designing, as it brings together sacred and secular activities. Depending on the scale of the monastery, there is variation in the inclusion of religious aspects that focus on the prayer life of the monks, as well as other aspects involving housing and services that function the monastery as a whole. A monastery also bring together its own devoted religious users, the monks, and visitors from near and far from its immediate community. With the goal of learning from both traditional and modern monasteries, I picked an example from each type. I chose to study The Plan of St. Gall (old) and La Tourette (new) by Le Corbusier. This section starts by analyzing the history, plan and program organization, and users of both monasteries

and ends with a summary comparing them and drawing out key takeaways.

The Plan of St. Gall

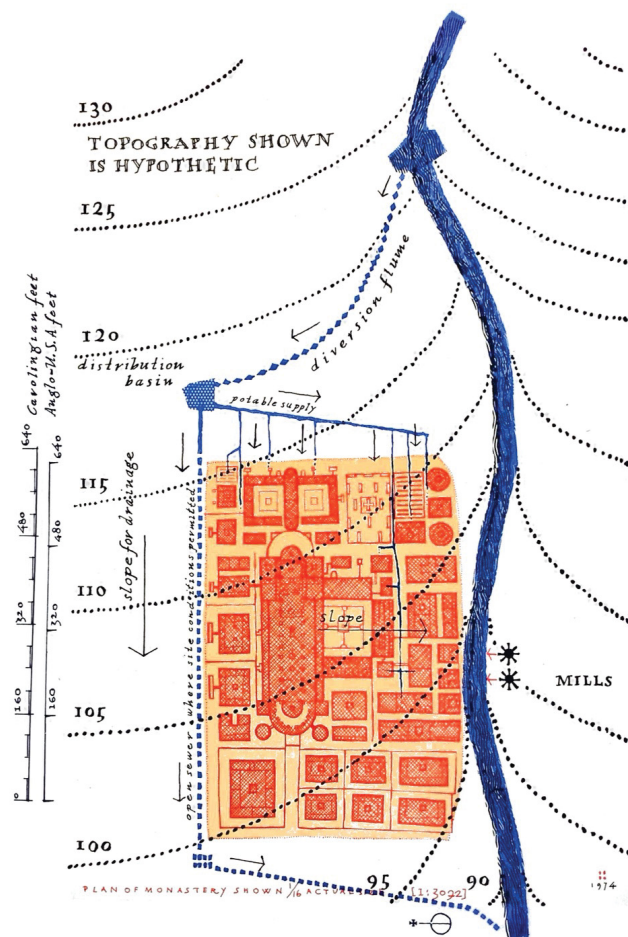
The Plan of St. Gall is an architectural drawing of the idealistic scheme to guide Benedictine monastic planning (Price 1982, ix). The Plan was traced on parchment between the years 820 and 830 AD from a lot original. The scheme included areas for work, study, and prayer for around 270 people, of which over 110 were monks. According to Price, the Plan was a “document created as an instrument of policy to inform and regulate monastic planning” (Price 1982, 1). Therefore, it is believed that the Plan was referenced by abbot Gozbert in 812 to refurbish the older buildings that originally formed St. Gall monastery (Price 1982, 1). The Plan is composed of five smaller sheets sewn together and was conserved in the monastic library of St. Gall (Price 1982, 1). As shown on page 23, the Plan is composed of forty ground plans color-coded by their functions. The monastery was meant to be completely self-sufficient; the building services allowed the monks to rely on them entirely and not have to leave



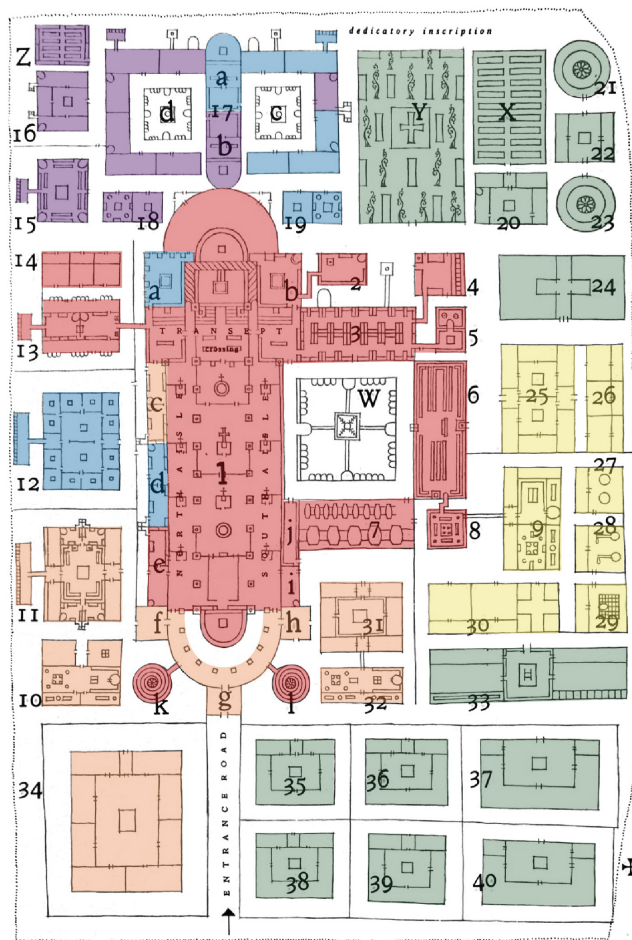
Karl Gruber, reconstructed axonometric of The Plan of St. Gall, 1937 (Horn and Born 1979, 2:21)

the complex; therefore, it contains elements of agriculture, crafts, baking, and milling, and a detailed area for health and medicine, in addition to its religious services. These buildings differed from the religious buildings in shape and sat on the south and west of the church.

The Plan arrangement accommodated for its site conditions. With the need for proper drainage and water supply, especially to the essential buildings of the monastery, distribution basin and mills worked with gravity of the stream to direct water to the monastery, making its way to the down sloping site (Horn and Born 1979, 1:74) .



Walter Horn and Ernest Born, The Plan of St. Gall scheme within the site's hypothetical topography and waterways, 1979 (Horn and Born 1979, 1: 74)



LEGEND

- Church
- Health, Medicine
- Education
- Crafts, Baking, Milling
- Agriculture
- Reception

- 1 Church
- a. Scriptorium below, Library above
- b. Sacristy below, Vestry above
- c. Lodging for Visiting Monks
- d. Lodging of the Outer School's Master
- e. Porter's Lodging
- f. Porch giving access to House for Distinguished Guests and to Outer School
- g. Porch for reception of all visitors
- h. Porch giving access to Hospice for Pilgrims and Paupers
- i. Lodging of Master of the Hospice for Pilgrims and Paupers
- j. Monks' Parlor
- k. Tower of St. Michael
- l. Tower of St. Gabriel
- 2 Annex for Holy Bread Preparation and Holy Oil
- 3 Monks' Dormitory above, Warming Room below
- 4 Monks' Privy
- 5 Monks' Laundry and Bath House
- 6 Monks' Refectory below, Vestiary above
- 7 Monks' Cellar below, Larder above
- 8 Monks' Kitchen
- 9 Monks' Bake and Brew House
- 10 Kitchen, Bake, and Brew House for Distinguished Guests
- 25 Workshop
- 26 Annex of the Workshop
- 27-29 Mill, Mortar, Drying Kiln
- 30 House of the Coopers and Wheelwrights, and Brewers; Granary
- 31 Hospice for Pilgrims and Paupers
- 32 Kitchen, Bake, and Brew House for Pilgrims and Paupers
- 33 House for the Horses and Oxen and their Keepers
- 34 House for the Vassals and Knights
- 35-37 House for Animals and their Keepers
- 38 House for the Servants
- 39-40 House for Animals and their Keepers
- W. Monks' Cloister Yard
- X. Monks' Vegetable Garden
- Y. Monks' Cemetery and Orchard
- Z. Medicinal Herb Garden

- 11 House for Distinguished Guests
- 12 Outer School
- 13 Abbot's House
- 14 Abbot's Kitchen, Cellar, and Bath House
- 15 House for Bloodletting
- 16 House for Physicians
- 17 Novitiate and Infirmary
- 18 Kitchen and Bath for the Sick
- a. Chapel for the Novices
- b. Chapel for the Sick
- c. Cloister of the Novices
- d. Cloister of the Sick
- 19 Kitchen and Bath for the Novices
- 20 House of the Gardner
- 21 Goose-house
- 22 House of the Fowlkeepers
- 23 Henhouse
- 24 Granary

Annotated floor plan of St. Gall complex (base drawing from Price 1982, 11 and 19).



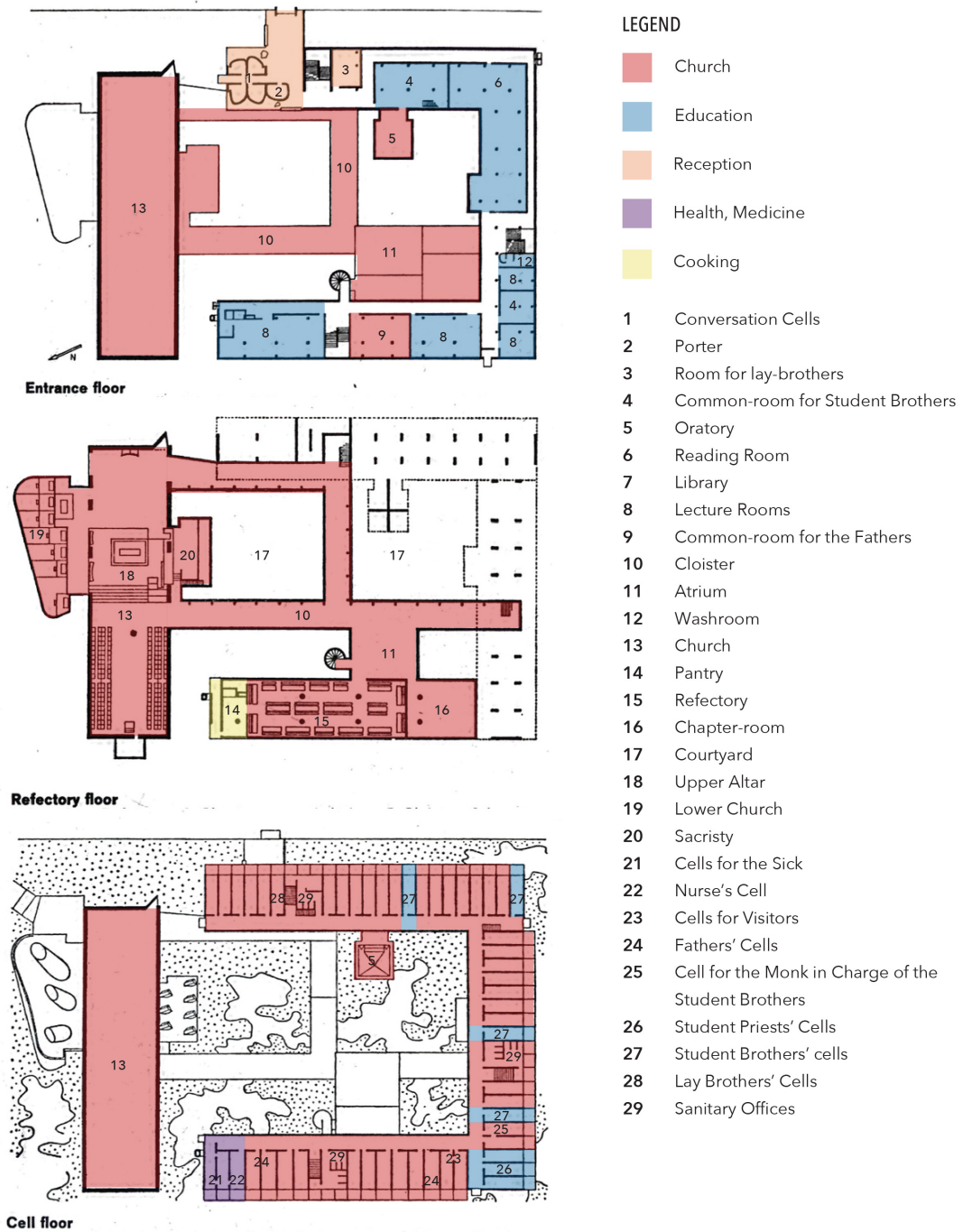
Aerial view of La Tourette from the north (top) and the west (bottom), 1966; photographs by Bernhard Moosbrugger (Henze and Moosbrugger 1966, 66-67)

La Tourette

Le Corbusier was commissioned in 1953 to build a monastery for the Dominican Order, near Lyon, France (Henze and Moosbrugger 1966, 7). In designing the monastery, Le Corbusier reflected on the history and life of the Dominicans. The Order was founded by St. Dominic in the 13th century in southern France, with a goal of spreading the faith among believers and unbelievers. In 1215, St. Dominic gave the Order the Rule of St. Augustine, the oldest monastic rule in the west. St. Augustine urged his brethren to “live in harmony together and to be one heart and soul in God” (Henze and Moosbrugger 1966, 7). After adding new rules, the Constitutions, in 1228, the Dominicans remained the same. They did not evolve a new type of monastery, and chose to simplify their architecture in the 13th century to end with only what is essential (Henze and Moosbrugger 1966, 8). The fundamental programs were served by functional architecture.

The monastery contains a church and oratory (small chapel), chapter-room and refectory, cloister, communal library, lecture-rooms, and cells. Contrary to The Plan of St. Gall, La Tourette’s individual programs are less dispersed. The entire program is contained under a shared roof, with the exception of the inner courtyard. Three sides are taken up by the monastery, while the church occupies the fourth. While the unusual form of the building is not viewed as a monastery to the visitor approaching it, the traditional monastery program reappears in its arrangement.

La Tourette’s users includes monks and members of the public. Le Corbusier emphasized the communal aspects of shared spaces between monks. For example, he designed

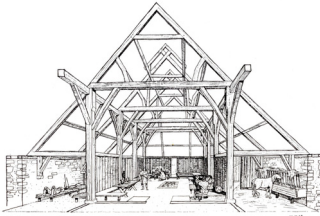
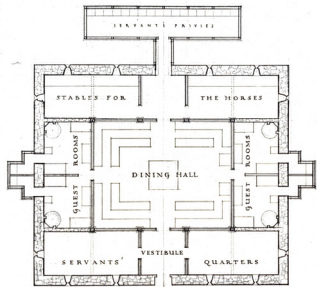


Annotated floor plan of La Tourette (base drawing from Henze and Moosbrugger 1966, 20).

the refectory larger than originally needed so it can accommodate both student and full-term monks. Similarly, the monks' cells level houses student monks, student priests, full-term monks and priests, as well as the cells for visitors, all in close proximity. Other areas of the monastery impose a stricter separation; for example, the church's lower level holds altars at which the monks pray mass by themselves, while the upper church is an expanded hall that accommodates visitors for communal masses.

Comparison and Key Takeaways

Le Corbusier made some changes to the design of traditional monastery elements, such as the cloister which did not follow the typical design of four sided walkway pierced by arcades or pillared windows around an inner courtyard (Henze and Moosbrugger 1966, 12). Instead, he enhanced commuting of the cloister, and designed it to cut through the courtyard to shorten the distance for monks to walk to the main church from their cells. Such changes were not done before and may have caused controversy between observers; however, they were done with the intention of communicating a larger purpose. For Le Corbusier, that purpose was functionality and simplicity, brought on the Dominican's teachings.

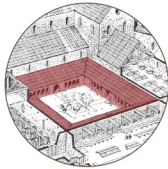



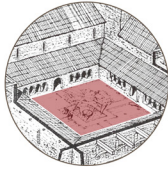



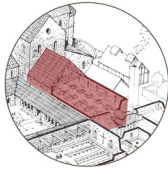











Walter Horn and Ernest Born, Plan of St. Gall's house for distinguished guests floor plan (top) and section (bottom), 1979 (Horn and Born 1979, 2:147)



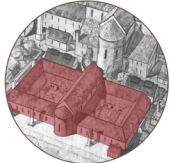







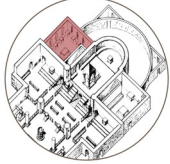



Both monasteries stressed the idea of coming together for meal sharing. In The Plan of St. Gall, communal dining rooms were placed in all its workers' housing and guest buildings, usually in the center of the floor plan. The refectory in La Tourette has chequered glass wall that brings in more light than any other room. The communal aspect of meal sharing will be emphasized in the design project in the later chapter.

| THE PLAN OF ST. GALL (DRAWINGS FOUND IN) ST. GALLEN, SWITZERLAND 820 AD <i>TRADITIONAL</i> | | | | LE CORBUSIER'S LA TOURETTE ÉVÈUX, FRANCE 1961 <i>MODERN</i> | | |
|---|-------------------------------|--|----------------------|--|--|---------------------|
| USER GROUP LEGEND: | | | | NON-MONKS | | |
| | | COMMUNAL + PRIVATE | INDIVIDUAL + PRIVATE | COMMUNAL + PUBLIC | | INDIVIDUAL + PUBLIC |
| | | | | | | |
| ELEMENT | IMAGE + SCALE (IF APPLICABLE) | DESCRIPTION | USER GROUP | IMAGE + SCALE (IF APPLICABLE) | DESCRIPTION | USER GROUP |
| GATE + VISITOR'S AREA | | Where the monastic world would meet the secular world; where monks receive visitors Entrance road leads to the atrium which then leads to the church | | | Small rooms located by the main gate for private conversation between monks and visitors seeking spiritual guidance | |
| ATRIUM | | Semi-circular and sits immediately west of the church All people find their entry here | | | Part of the cloister, where the passage widens and increases in height | |
| MAIN CHURCH: NAVE + ALTAR | | Cruciform layout with 40' modular grid The screens and barriers separate worshipers, while only allowing guests and pilgrims to occupy a very small fraction of its full nave Seventeen altars can be found in the nave | | | Familiar nave with the altar risen The upper church is the only room in the monastery that has direct access to laymen (non-monks) The altar is elevated here as well for reasons mentioned under the lower church's | |
| REFECTORY: | | Monastic eating hall; the abbot's table is centered on the east wall, observing the rest of the brothers seated at tables arranged in a U-shape around the room Windows positioned on the south side allow for direct sunlight while the ones on the north side give view into the cloister | | | Large scale to bring together the whole community of monks (students and full time) in brotherhood for meals Retained the traditional model of the three-aisled hall | |

First of three, comparing key elements in The Plan of St. Gall and La Tourette monastery; photographs by Moosbrugger, and Horn and Born (Henze and Moosbrugger 1966; Horn and Born 1979)

| | | | | | | |
|---|--|---|---|---|---|---|
| CLOISTER |  | <p>Arcaded walk that gave access to the surrounding buildings</p> <p>North walk, broader than the rest, was used as a chapter house for daily meetings</p> <p>Direct access to the church</p> |  |  | <p>Covered walkway between monastery buildings</p> <p>Place for leisure and for private prayer</p> <p>Abandons traditional model but enhanced functional quality of commuting through the shortened passages</p> |  |
| COURTYARD |  | <p>Open yard that allowed monks their only access to nature and sun</p> |  |  | <p>Cloister cuts through the square of the courtyard; Courtyard takes the shapes of a cross</p> |  |
| DWELLING: MONKS' CELLS |  | <p>An open dormitory room housed the monks' beds on the second floor of the building with a warming room below</p> |  |  | <p>Where a monk spends time with himself to compose his mind, meditate, rest, and study</p> <p>Intended to only fit a table, book shelves, cupboard and bed; a loggia leads into the fresh air</p> <p>Arrangement of the cells allows for each one to receive sunshine during the day</p> |  |
| DWELLING: VISITORS + ABBOT + DISTINGUISHED GUESTS |  | <p>Main Church contained lodging for visiting monk; distinguished guests and the abbot stayed in detached dwellings with kitchens, baking and brewing facilities</p> |  |  | <p>Visitor resided in cells located on the same floor as the monks and fathers'</p> <p>Their cells were laid out similarly to the monks' with access to a loggia</p> |  |
| LOWER CHURCH + ALTARS | - | - | - |  | <p>Fixed altars in the lower level to allow the monks to read the mass silently to themselves</p> <p>Elevated altars respect the Christian belief that an altar is where earth rises towards heaven and where Christ descends during the sacrament</p> <p>Round openings in the ceiling bring in daylight</p> |  |

Two of three, comparing key elements in The Plan of St. Gall and La Tourette monastery; photographs by Moosbrugger, and Horn and Born (Henze and Moosbrugger 1966; Horn and Born 1979)

| | | | | | | |
|---------------------|---|--|--|---|--|---|
| ORATORY | - | - | - |  | Small house of prayer – for the purpose of a private prayer life , where one is not to be disrupted Not hidden Extra height is intended to concentrate the mind of a monk onto his devotion |  |
| NOVIATE + INFIRMARY |  | Housed the ill and oblates (youths offered to the monastery by their parents); each group had access to separate private cloisters and two chapels internally halved within one church Learning and healing took place in the embrace of the larger community |  |  | The ill and the student monk under training stayed in cells on the same level as the other monks , which had similar interior layouts |  |
| TOWER |  | Contain two altars, one in each tower Their main use is under speculation of whether they were also used as call towers, funerary light towers , or for defense and surveillance |  |  | Contain the electronic bells , which sat on a corner or two walls that allowed the transmission of sound to reach the valleys around the monastery, transforming it into one huge musical instrument |  |
| LIBRARY |  | Part of the main Church Positioned on the northeast corner where the shadow cast by the choir and transept protected readers from the glare of the sun while it allowed them to work in the more diffused light from the east and north exposure |  |  | Changing height from intimate single-storied library into a two-story common room Rectangular panels of concrete and glass panels play with shadow and light |  |

Three of three, comparing key elements in The Plan of St. Gall and La Tourette monastery; photographs by Moosbrugger, and Horn and Born (Henze and Moosbrugger 1966; Horn and Born 1979)

My study of monasteries (old and new) showed me how a traditional religious building can be modern without sacrificing its essence and core mission. Despite the changes Le Corbusier made and choosing his preferred material expression, brute concrete, it is clear that he understood the limitations to what he can change and did not disrespect the church's architectural symbols.

Method 2: Programming

The program and its arrangement were used as a second method to inform the design.

Program Breakdown

Constructing the program for the design proposal involved two nodes: the users for which the services is catered for, and the services itself.

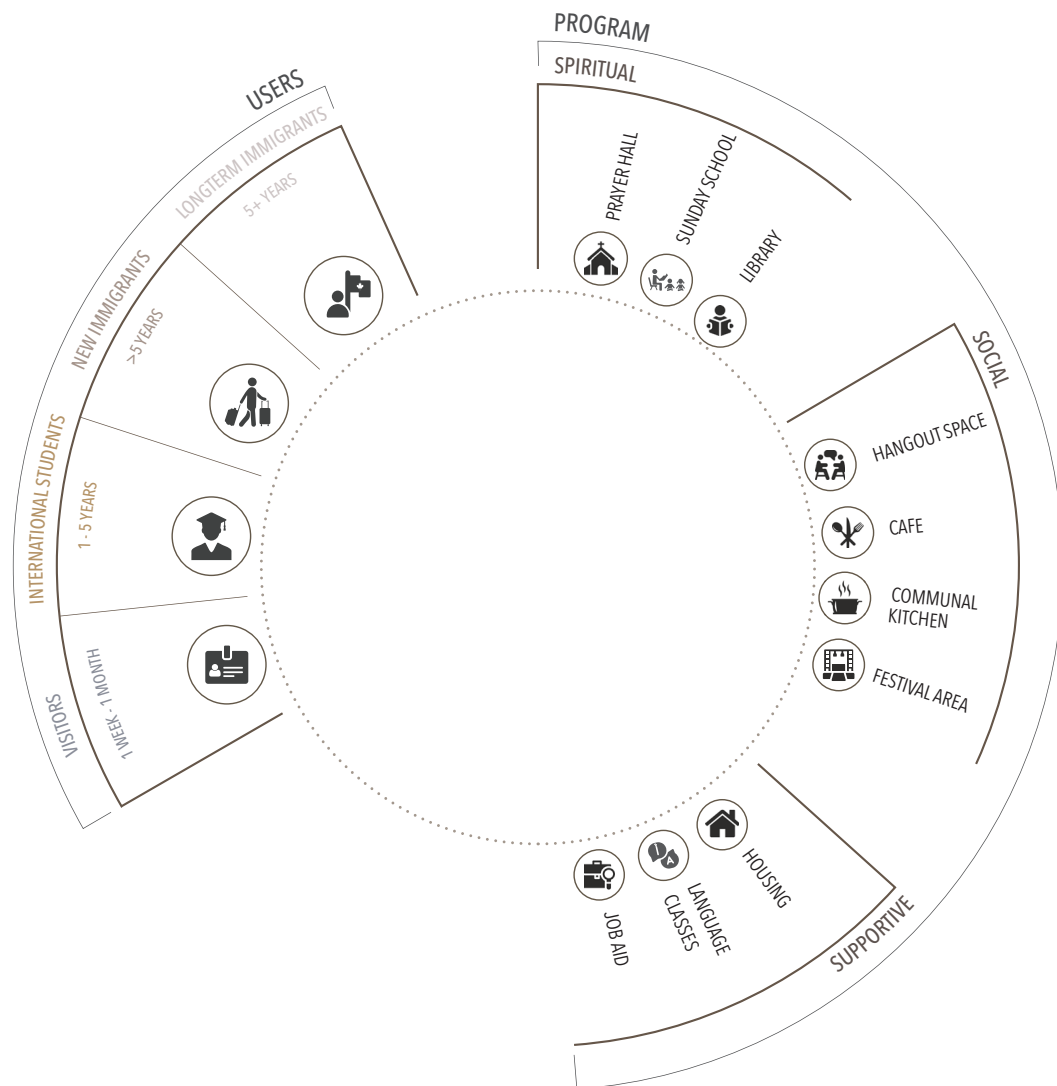
The Users

The research is focusing on first-generation immigrants from Arab countries who have recently moved from their home country, as well as Coptic Christian immigrants of second- and third-generation. As Nova Scotia is a province with well-recognized universities, some of which have international affiliations with Egypt and other Arab countries, it is common for Egyptians to live in the province for some, if not all, of their university years. Therefore the program also provides accommodation for temporary stay for these international students that are Egyptians or from the Coptic faith.

The Program

The specific program list was derived from the earlier analysis done on monasteries, as well as the analysis done in an earlier chapter on Coptic Churches' typology in Canada that

discovered a set of services commonly found in diasporic communities. Since the project covers both secular and religious services, the program is grouped into spiritual, social, and supportive services. Under each of these three categories, services that match the need of the various user groups are placed where they best fit. The spiritual programs include a prayer hall, library, and Sunday school; the social programs has hangout spaces, cafe, communal kitchen, and festival area; the supportive services include



Breakdown of the architectural program and user

housing with collective amenities, language classes, and job aid offices.

Cross-Generational Programming and Collective Memory

My goal is to design a complex that supports crossovers between different age groups in order to have a transfer of knowledge from food preparation to discussions about religious topics. This strategy is derived from the concept called “collective memory”. French philosopher Maurice Halbwachs developed this phenomenon and defined it in his book, *The Collective Memory*:

Collective memory... is a current of continuous thought whose continuity is not at all artificial, for it retains from the past only what still lives or is capable of living in the consciousness of the groups keeping the memory alive. By definition it does not exceed the boundaries of this group. (Halbwachs 1950, 80)

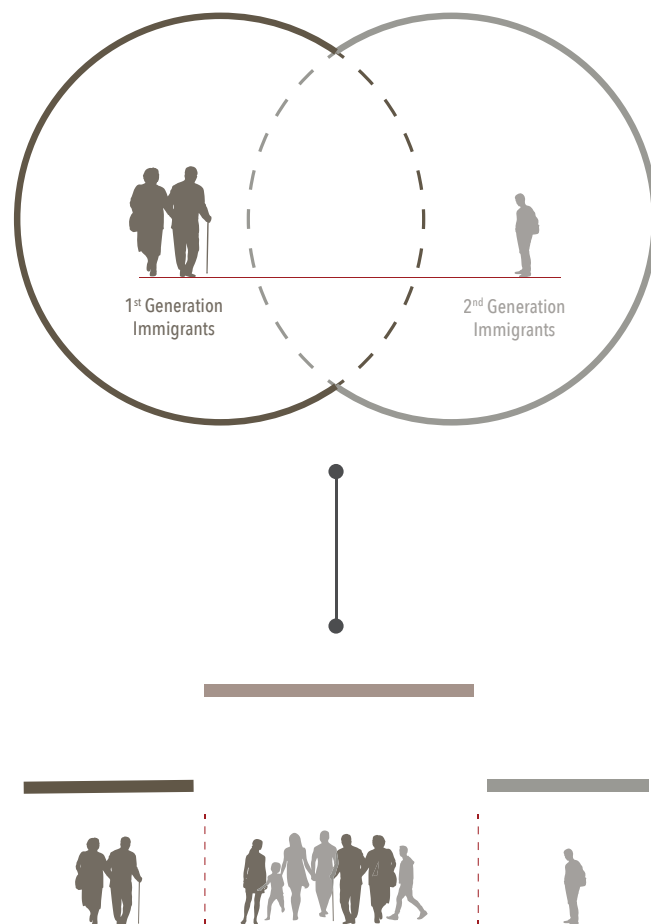
Halbwachs argues that groups with shared identity construct memories which involve knowledge and information associated with said group’s identity. This information can be remembered by individuals, which then causes the memory to live on. I believe the concept of collective memory is the key for ensuring that the Coptic identity remains in the diaspora. To achieve this strategy, I bring the different users to mutual spaces where the transfer of knowledge and memory can take place. Architecturally, this will be mostly recognized through the form of the buildings where the different groups have their allocated programs on either end of a central space that brings them together. With this in mind, the first step is to find connections that associate users with the different programs to inform the design program arrangement.

Spiritual

The first of the program groups is the spiritual services. This includes the main prayer hall, Sunday school and library. The service that shows the highest overlap is the prayer hall, while the library and Sunday school will be used by different age groups.

Social

The second group of programs is the social services, which has hangout space, cafe, communal kitchen, and festival area. This group overlaps in almost all its services; therefore, these services will be dispersed within the final design.



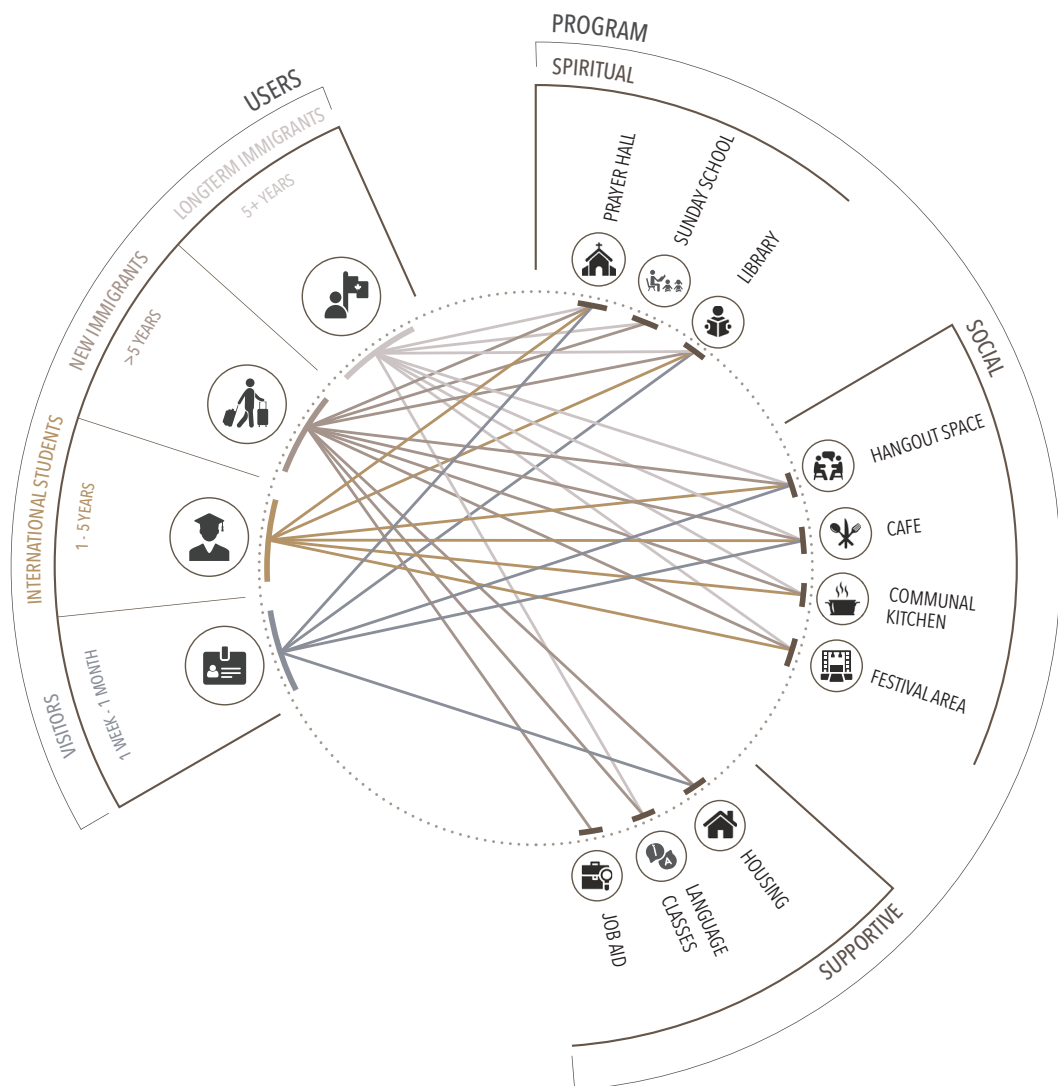
A diagram illustrating how cross-generational programming will be achieved architecturally: groups of different immigrant generations are brought together in central shared spaces

Support

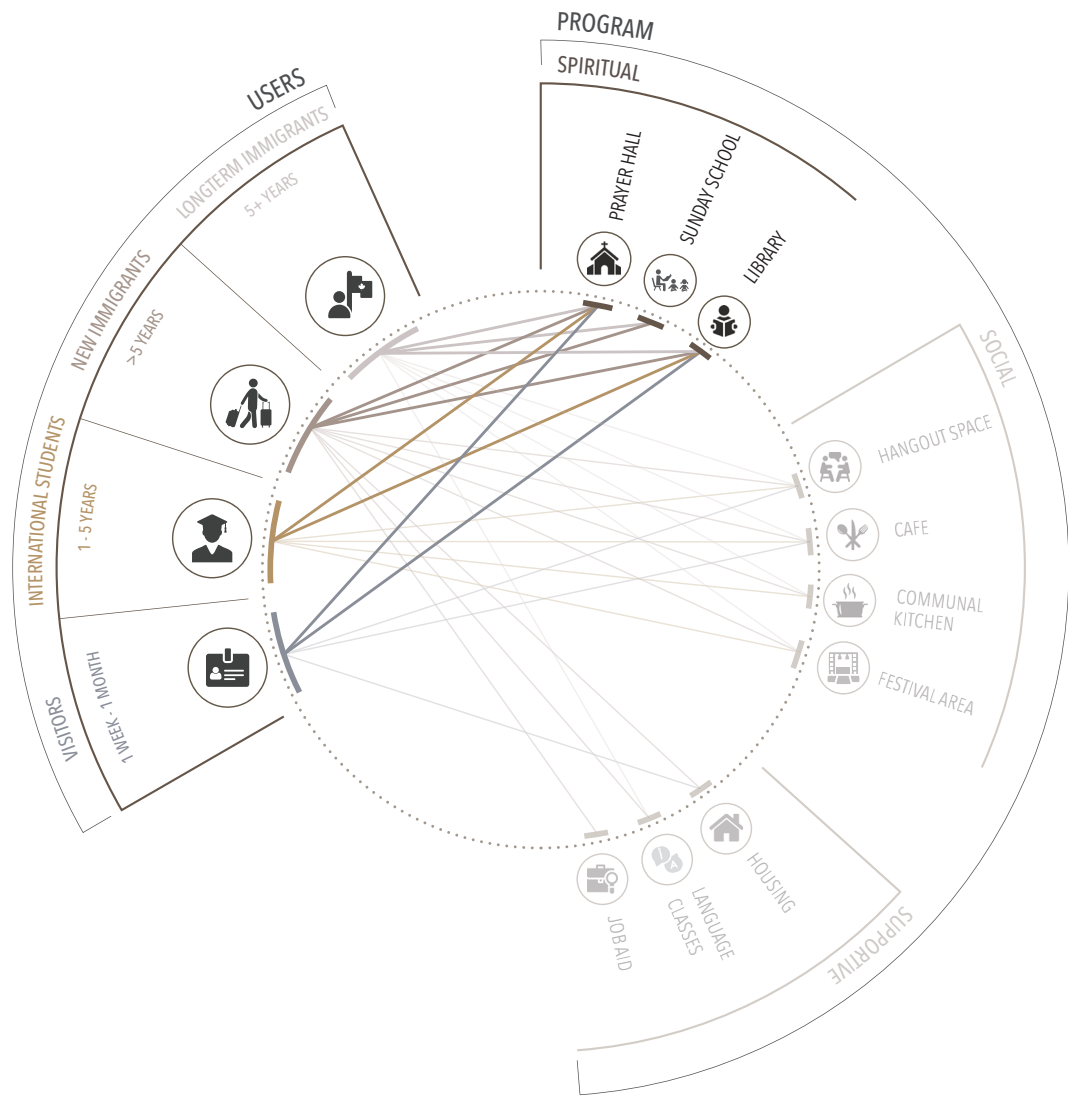
Lastly, support programs include housing, language classes, and job search offices with a computer room for individuals to do job searches, write their CV, etc... Classes are divided into English and Arabic language classes for different immigrant groups.

Method 3: Modifying Architectural Elements

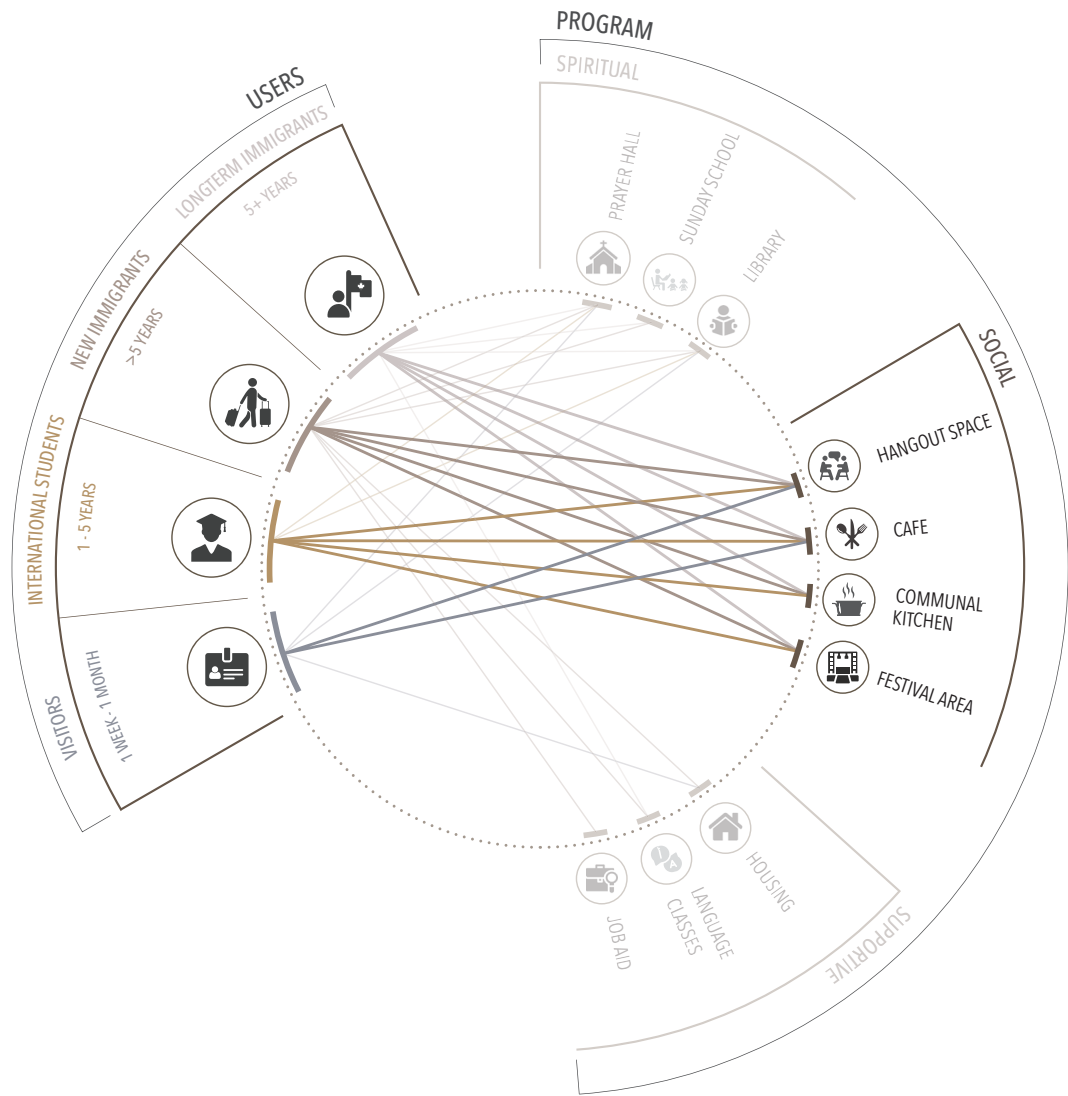
The final approach used involves modifying architectural elements. Similar to how the immigrant integrates to the



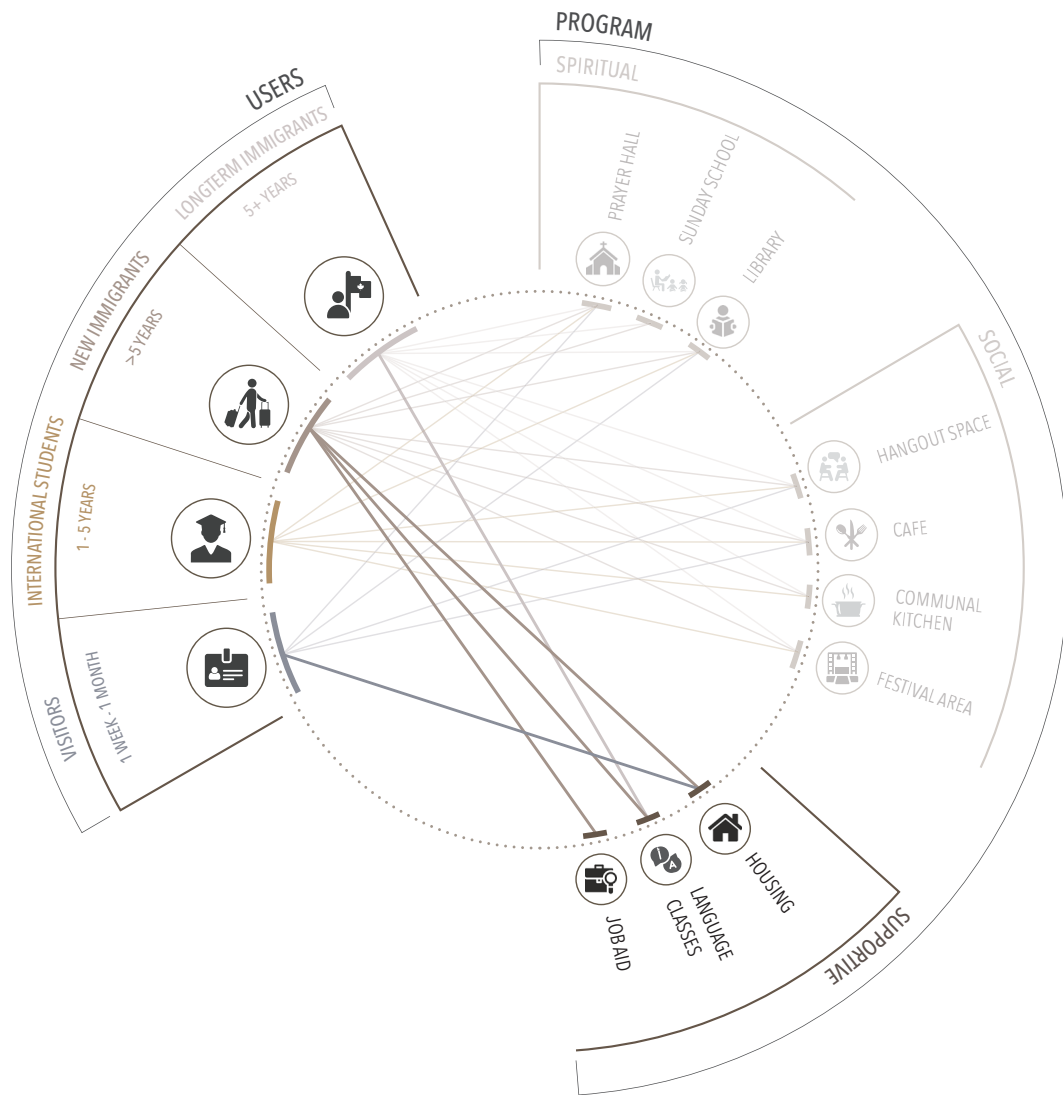
Network of connections between users and programs



Network of connections between users and for the spiritual programs



Network of connections between users and for the social programs



Network of connections between users and for the supportive programs

new country, architectural elements brought on from other cultures also require modification. As these elements are borrowed from warm countries, they will have to be adjusted to work in the Canadian climate. I chose the mashrabiya screen, a common design feature in Arab countries, to modify and incorporate in the design project.

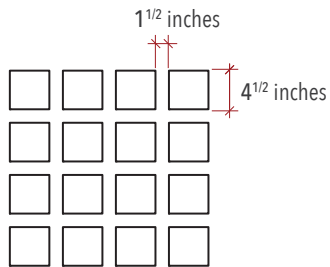
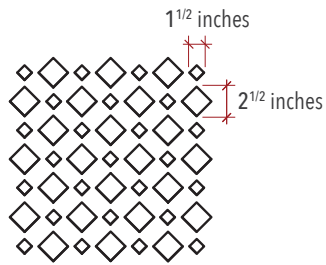
Mashrabiya (Screen)

The mashrabiya describes an opening with a wooden lattice screen in a decorative and intricate geometric patterns. They are often made from pitch pine, ebony or walnut wood (Dobrowolska 2005, 85). According to renowned Egyptian architect, Hassan Fathy, the mashrabiya has five main functions, which are usually satisfied by the different patterns (Fathy et al. 1986, 47). These uses include: controlling the passage of light, controlling air flow, reducing the temperature of air current, increasing the humidity of the air, and ensuring privacy (Fathy et al. 1986, 47). In *Natural Energy and Vernacular Architecture*, Fathy emphasizes the ability of the mashrabiya to lower radiation of sunlight and the intensity of reflected glare caused by daylight entering a room with a south facing opening (Fathy et al. 1986, 47-48).

Mashrabiya screens are usually found in window placement where they are used on their own to bring in light and allow for passive ventilation. Arab countries, where the mashrabiya is commonly used, are known for their hot climate that allows the screens to be utilized in such a way. To showcase the intricate design of the mashrabiya in colder climate country such as Canada, while the borrowing some of its traditional uses, the screen has to be placed behind curtain wall. The glass will offer a moisture barrier while being transparent to allow light to enter. The screen would be clamped behind



Mashrabiya screen seen around Old Cairo, 2019.

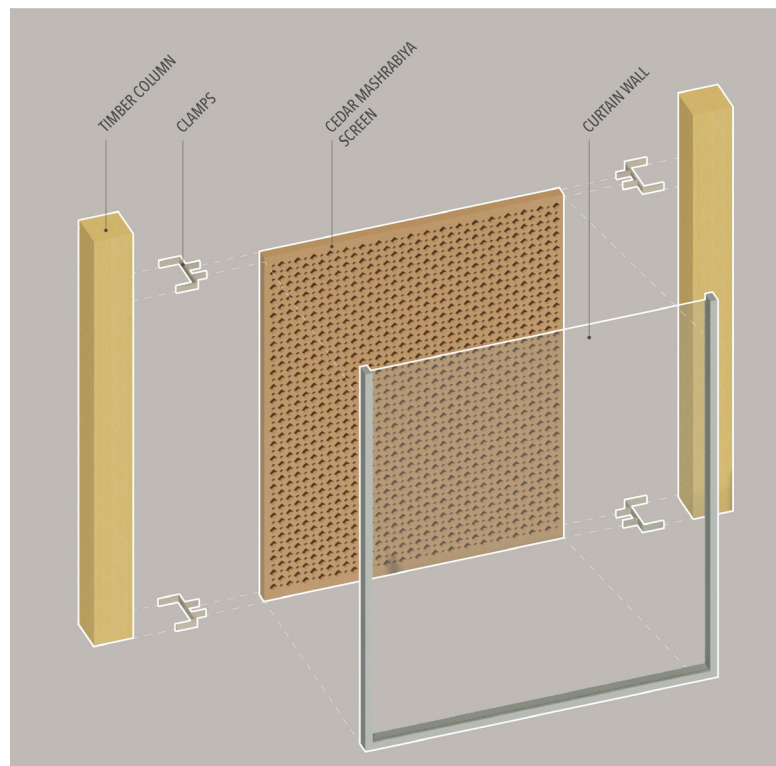


Detail of the patterns developed for sacred (top) and secular (bottom) use of the mashrabiya

the curtain wall using custom metal clamps to secure it to the structural columns, as seen in the exploded axonometric below.

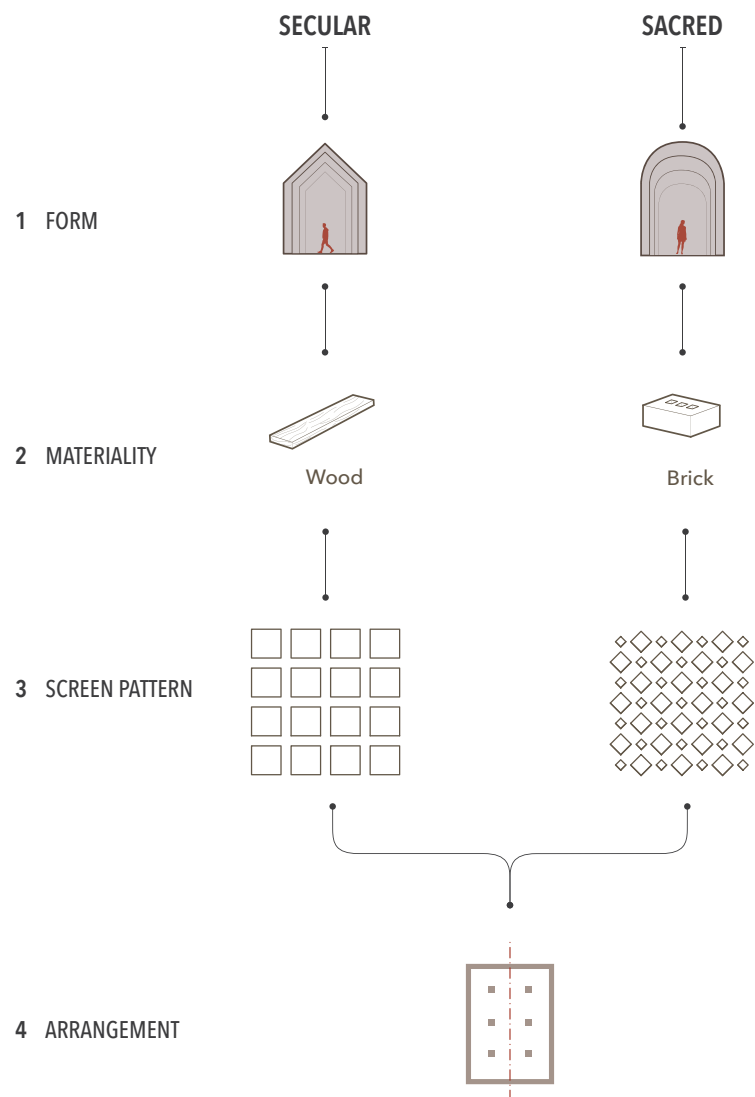
Design Principles

Through the three methods described earlier, a set of design principles was developed. They are divided into secular and sacred categories as they are differentiated by material, form, and mashrabiya pattern, but are similar in their arrangement. The materials chosen for the project are brick and wood. With the heavy expression of brick shown in the earlier analysis of Coptic Church in Canada, it will be used as the primary material in the sacred parts of the project. Complimenting the brick is the wood, which will often be seen in the secular elements. The form will mostly follow a pitch roof for almost all the buildings, except for the main



Exploded axonometric of the modified mashrabiya screen with its attachment to the structural columns using clamps while being placed behind curtain wall

chapel which will have an arch to pay tribute to the frequent use of domes that are often seen on Coptic Churches. The mashrabiya pattern also offers an opportunity to differentiate the secular from the sacred program. The sacred pattern follows a smaller diamond design in the shape of a cross, while the secular design is a larger, more generic pattern of repetitive squares. Finally, the arrangement of the floor plans, which will follow symmetry and repetition of structural elements, will be used in both sacred and secular spaces. This was largely inspired by the layout of monasteries.



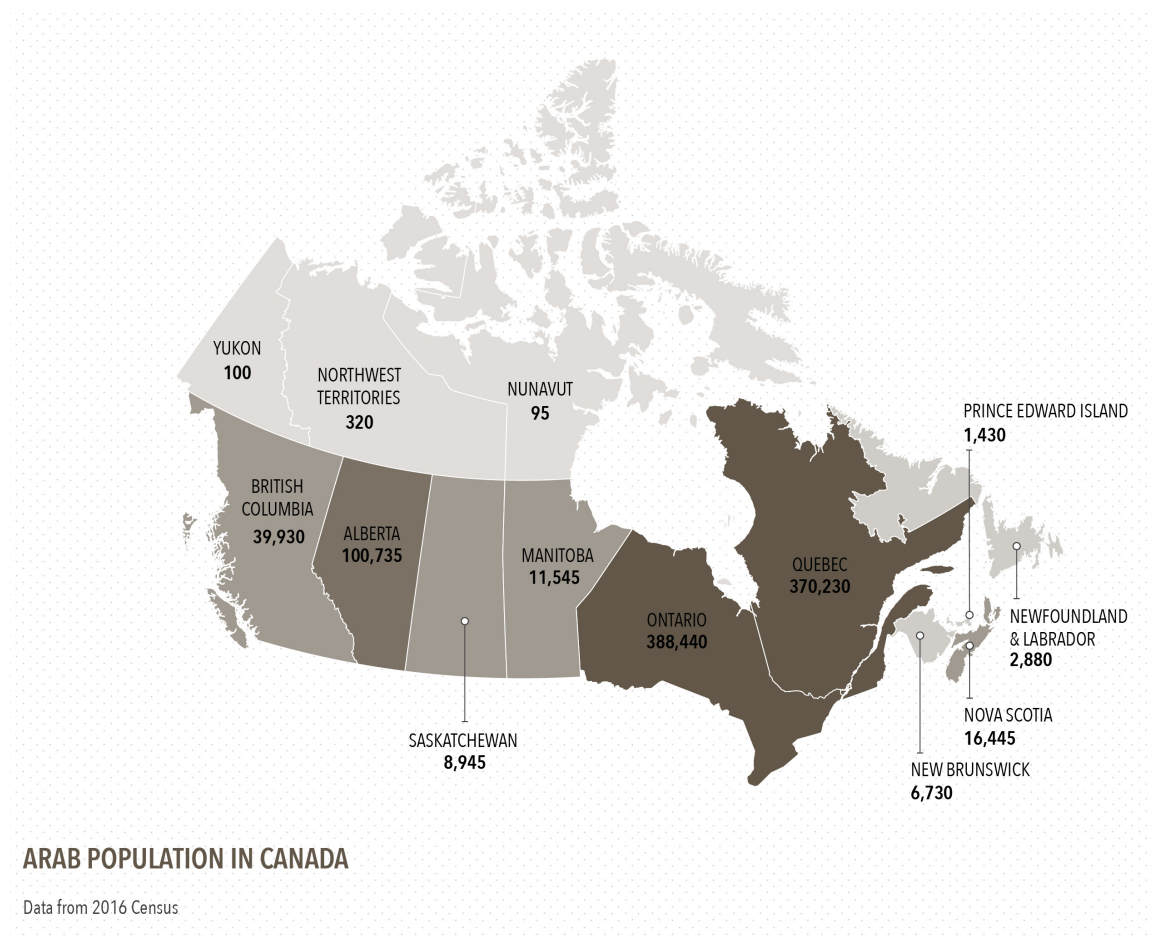
Developed design principles

Chapter 4: Project

The Site

Choosing the Site

Nova Scotia has seen an exponential increase in the number of immigrants entering the province in the last 10 years, which included those of Arab ethnic origins. According to the 2016 census, Nova Scotia has the fifth highest population of Arabs within Canada (Mandil 2019, 4). The increase in the immigrant population of Arabs has led to the province having the largest population of Egyptians and Coptic Orthodox Christians within the Atlantic Canada provinces. The Copts residing in these provinces are supported by one

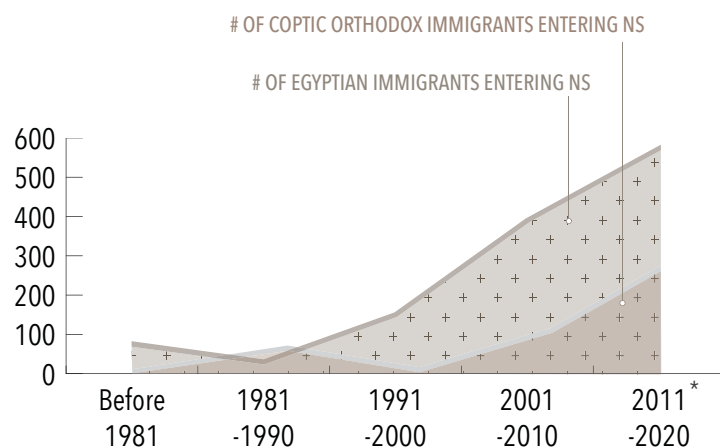


Map of the Arab population in Canada by province (data from Mandil 2019).

main Coptic Orthodox church that is currently located in Halifax, Nova Scotia and specifically in the Fairview district; therefore, I chose Halifax as the city to site my design project as its the central hub for the congregation, as well as the Arab community.

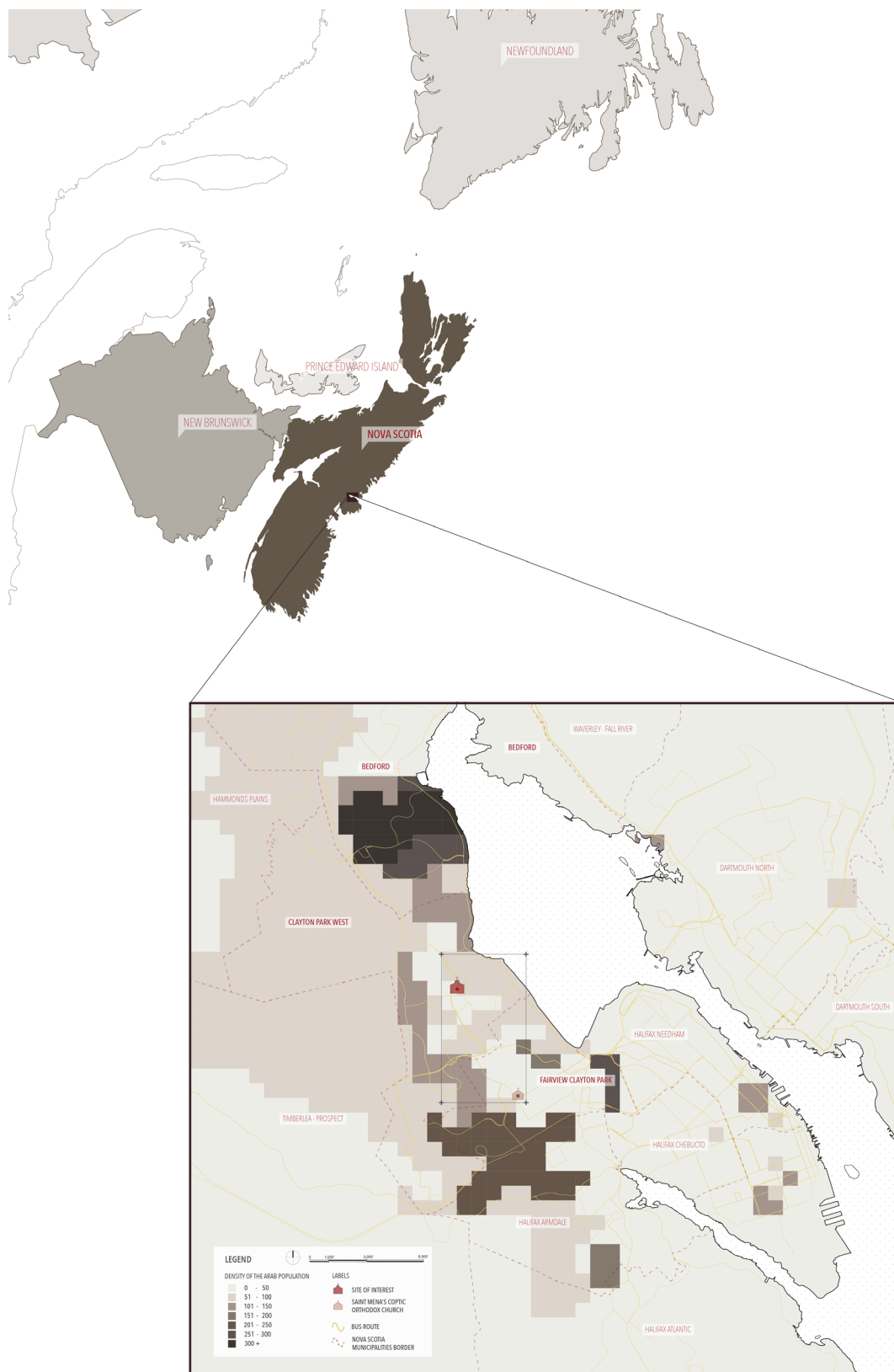
I first mapped where the Arab population resides within the Halifax peninsula to start narrowing down a specific site. Through this exercise, and as shown on the next page, I found that Bedford and Fairview districts showed the highest population of Arabs, with growing numbers in the Clayton Park district. With the intention of being in close proximity to the current Coptic Church, as well as bus routes for accessibility to the center of town, I chose to place my project the Clayton Park district. The chosen site also sits in between the two areas where the high population of Arabs are currently living.

The chosen site is in an urban that features many amenities, including recreational facilities, grocery stores, and schools.

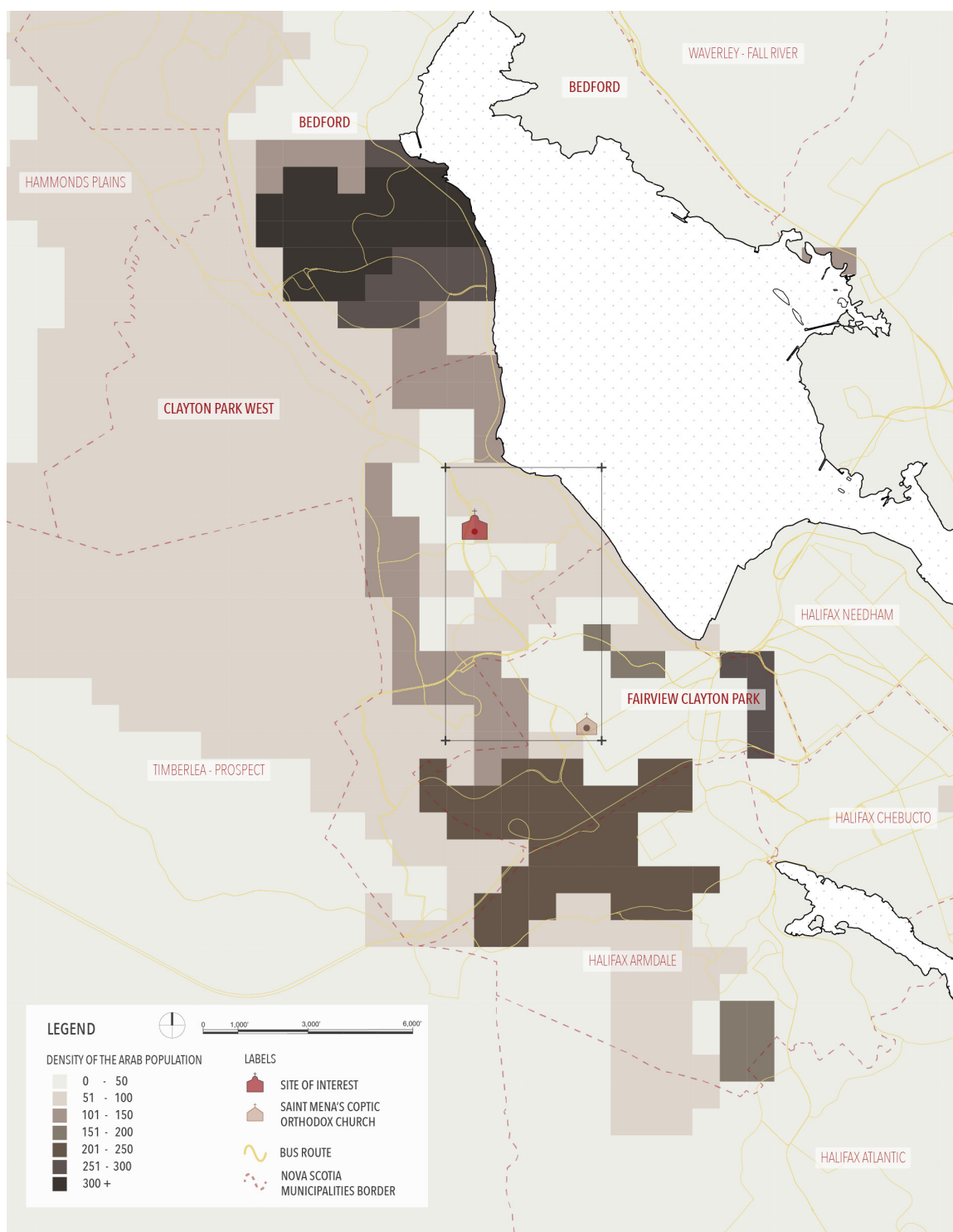


*Estimated number. Statistics Canada is only reporting 265 Egyptian immigrants from 2011 to 2016 (until the next Census), 110 Coptic Orthodox immigrants from 2001 to 2011 (the last census to include religion affiliated questions)

Population of Canada's and Nova Scotia's Orthodox Christian Denominations (data from Statistics Canada 2016).



Map of Atlantic Canada's provinces showing where the chosen site is located (data from Census Mapper 2017)

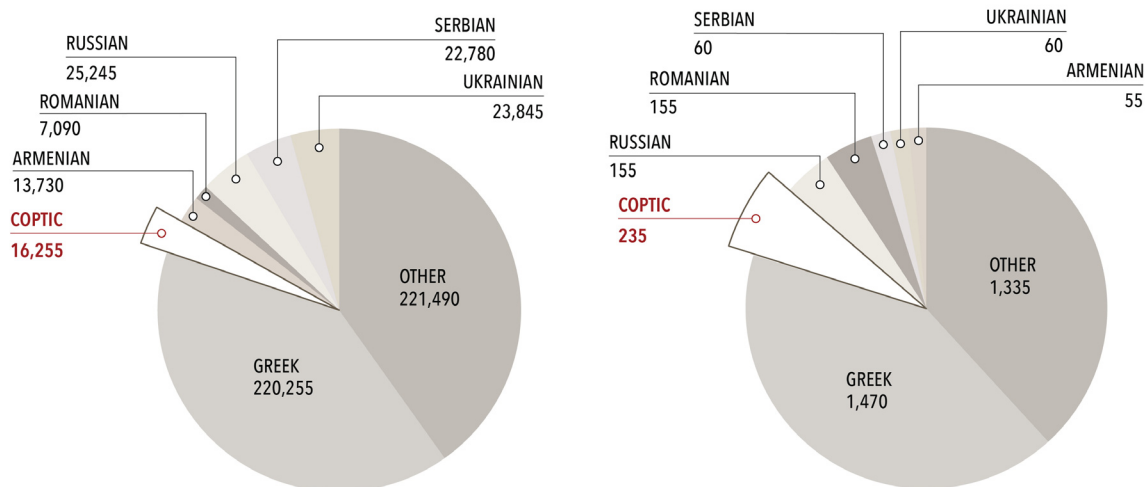


Detail of the previous map, highlighting the concentration of the Arab population within the Halifax peninsula (data from Census Mapper 2017)

This is especially important for new immigrants who may not have access to a car. The recreational facilities also include soccer fields which will allow the Arab immigrants to play their national sport. Within this neighbourhood, there is a large lot that is currently under construction for multiple residential developments. I chose to place my design on the corner of this lot as it is yet to be built on. The map on page 47, shows the relationship between the current Coptic Church, Saint Mena’s Church, and the specific site of interest; the Church is located on Willet Street, which merges with Dunbrack Street leading to where the future design will be. Along the way, churches of various denominations line the Street, one of which is Our Lady of Lebanon Maronite Catholic Church; the Church’s Lebanese congregation can access the future design’s services easily.

Site Strategy

A closer look at the site revealed some findings about its zoning. The site is divided into four zones, framed by the intersection of Dunbrack Street with Ruth Goldbloom Drive



Canada’s (left) and Nova Scotia’s (right) population of Orthodox Christian by denomination in 2011 (data from Statistics Canada 2013)

and Farmham Gate Road. The bottom left corner is a commercial zone where there is a plaza on Farmham Gate Road of various businesses including a pharmacy, post office and restaurants. Adjacent to that is a residential zone that includes singular houses with their back to Dunbrack Street. Another residential zone with apartment buildings, is located on Ruth Goldbloom Drive, opposite to where the proposed design will be. I chose to mirror the different zones by placing the communal housing on Ruth Goldbloom Drive to sit opposite of the apartment buildings, while the public programs reflect the business plaza and takes precedent on the busy Dunbrack Street.

I chose to design this complex like a monastery. So I reserved all pedestrian paths for the inner part of the design, and added a public road curving around on the outside to reach a new parking lot at the north end of the site. This arrangement keeps all visitor vehicles away from the “campus” while allowing easy access to service vehicles the all major buildings from the outside in. The new pedestrian path, accessed from Ruth Goldbloom Drive, intersects with inner covered pathways to access the different buildings within the site and to frame the outdoor areas. The covered pathways also mimic cloisters found in monasteries. The organization of the programs takes the visitor on a journey from the secular world, which is closely tied to the social program, to the sacred one where the chapel and its affiliated buildings are tucked and buffered from the new road by trees. This will be the way in which I walk through the design in more detail in the next section.



Map highlighting amenities in the context of the chosen site and its proximity to Saint Mina's Coptic Orthodox Church (base map from Google Maps 2020)



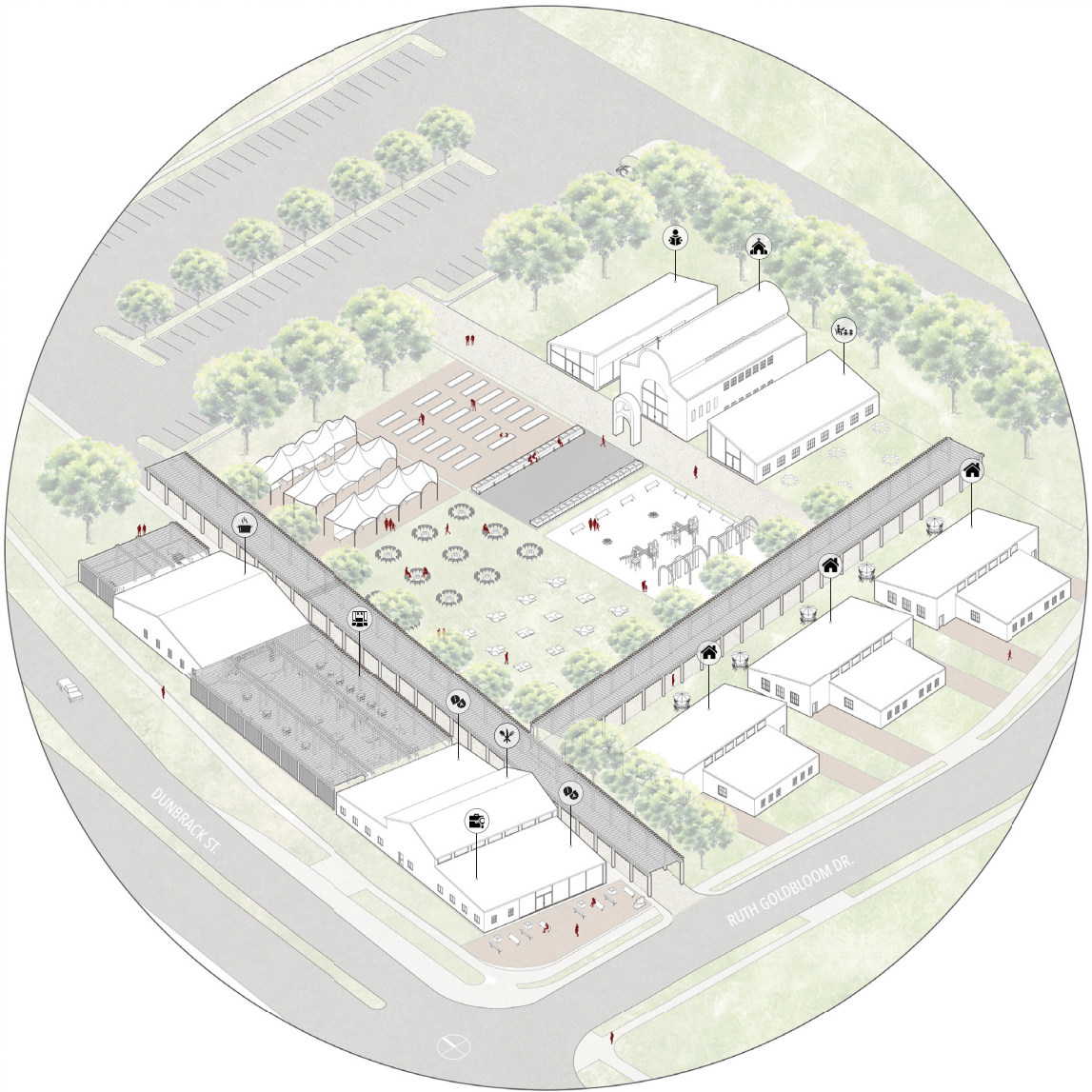
Map showing the zoning areas in the context of the design (base map from Google Maps 2020)



Design site plan within context



Site plan showing the program arrangement



Site axonometric showing the program arrangement

The Design

Secular - Private

Housing

The first part of the thesis design involves the housing program for new immigrants, international students, and Arab visitors from other provinces looking for temporary housing accommodations. There are three buildings, each containing two units that can house up to five people per unit. The buildings are separated from the rest of the thesis design complex through the covered walkway and trees. The floor plan for each building is designed to divide the two units to provide the families with their private entrances and rooms. The skillion and lean-to roof offers opportunity for higher and lower ceiling height with the presence clerestory windows: the lower part of the roof sits on top of the south end of the building to cover the bedrooms and ensuite; the higher end sits on top of the living room, kitchen, and dining room. The south facing clerestory windows bring in light to these spaces while awning windows on the east and west sides allow for airflow when opened.

Inspired by the refectory (shared eating hall of monks) found in the earlier monastery analysis, there is a communal dining room and kitchen in the central space, which is accessed by each set of units. This room allows users, such as new immigrants, to meet, cook and share meals together and it is where they get to know other people in a context that is comfortable and associated within their home. The communal looks upon an outdoor area that includes a shared laundry hanging space and spacious backyard, where people from households has opportunity to meet. Kids can also play within this space.



Floor plans of the housing buildings



Perspective section of one of the housing buildings, showing the shared dining room and kitchen at the center of two units

Secular - Public

Social and Learning Center

The social and learning center is located on the east side of the housing. It includes a paved outdoor seating area that faces Ruth Goldbloom Drive. The building is divided into three distinctive zones: language classes on either end and a central cafe. New immigrants would access the English classroom and job-aid offices from the outdoor seating area. The classroom has space for smaller tables that seat four people in front of the blackboard, as well as larger tables near the book shelves for reading. Computers placed along the back wall can be used by students to access the internet when needed and work on homework. The mashrabiya screen, detailed in the earlier chapter, is used along the south wall of the classroom to allow filtered light to enter, while bringing down the radiation level and lowering the glare intensity that would otherwise make it difficult to see the board and computer screens. Job-aid offices are available to new immigrants to gain support with job searches and writing resumes.

The central cafe room can be accessed through the classroom or through the main entrance on the interior pathway. It is where groups from the two language classes can meet and socialize with one another while grabbing a cup of Arabic coffee and enjoy a taste of familiar sweets. The interior wooden columns arrange the seating while opening the central space for circulation from the main entrance to the service counter. High windows flood the space with light and can be opened to bring in airflow.

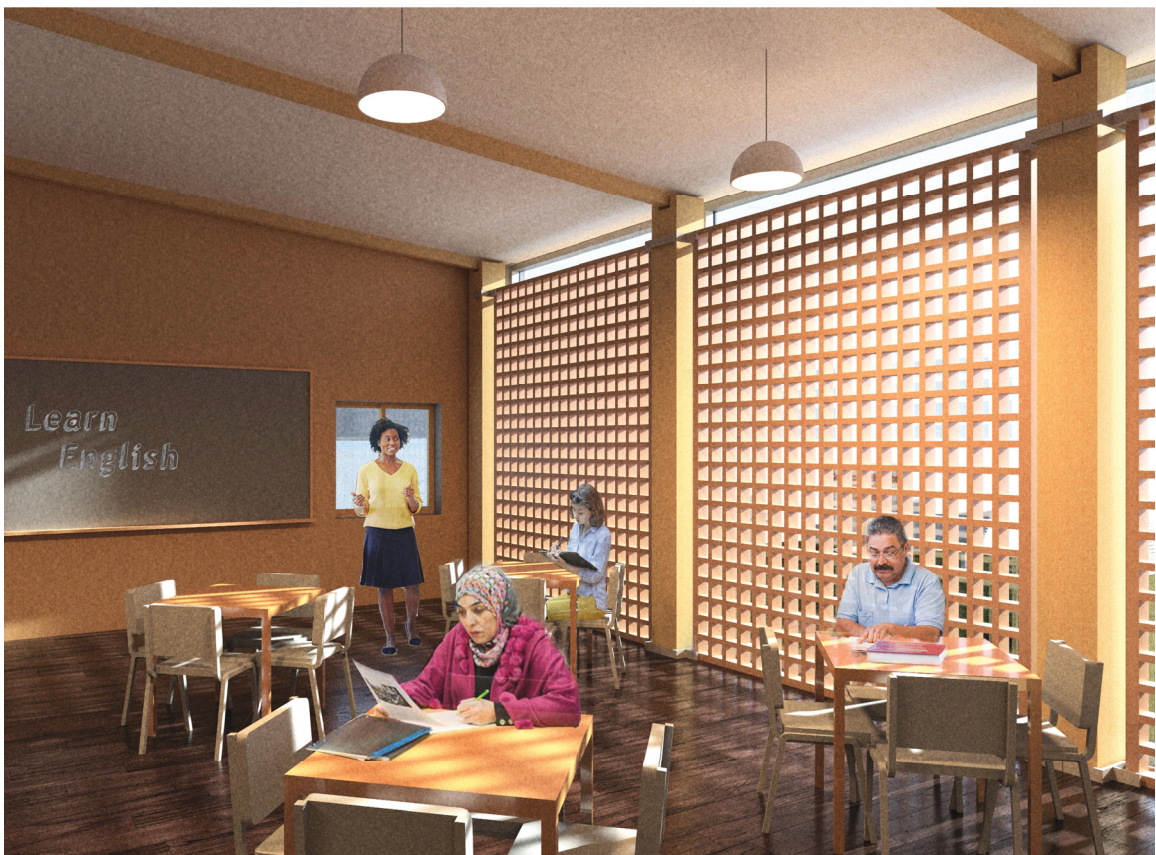
Neighbouring the cafe, on the north side of the building, is the Arabic classroom and a game room. This is where



Floor plan of the Social and Learning Center

Canadian-born immigrants can learn their language and hang-out with friends. The classroom is laid out the same way as the other English class, with the same arrangement of the structural columns and furniture. The game room holds ping pong and foosball tables for users of the Arabic classroom to play in-between lessons.

The two classrooms have doors to open up to the cafe with the intention of not only bringing new immigrants and Canadian-born immigrants to the central cafe, but to also allow these two groups to enter each other's classrooms. This would allow new immigrants to teach the Canadian-born immigrants the Arabic language and subsequently learning English from them.



View of the English language classroom



Perspective section of the central cafe space with the English and Arabic classrooms on either side

Walking past the social and learning center, the immigrant is presented with a communal kitchen and various outdoor programs.

Festival Area

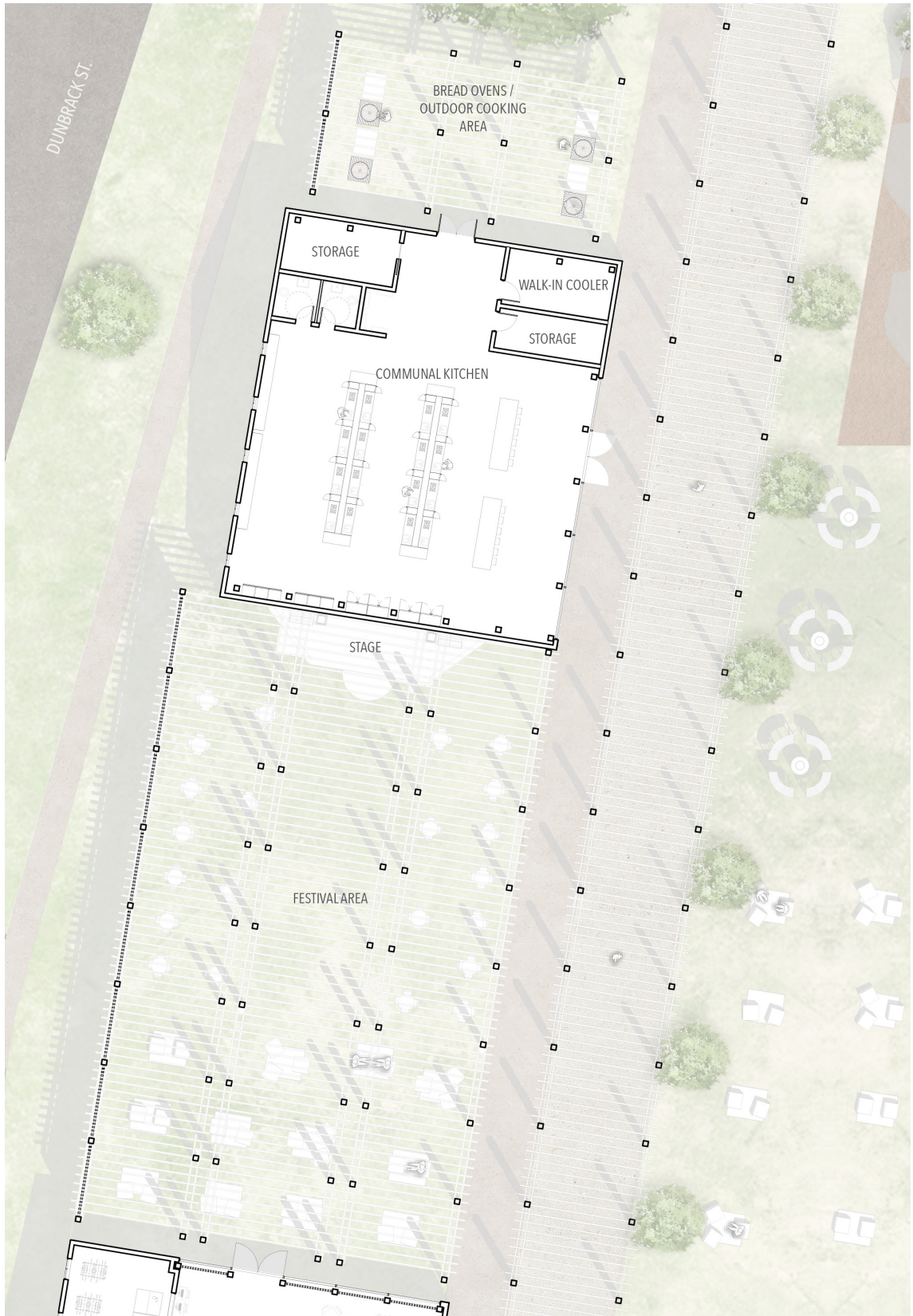
First of these programs is a large space covered with pergola. This area is allocated for seating and stage set-up to be used in performances for special events during various festivals occurring during the warm seasons. The Arab culture is familiar with musical performances using the “tabla” (drum) and “oud”, which would also be played on this stage. Audience members can enjoy the sound of these instruments and watch dancing performances, like the “tanoura”, on the floor pillows and rugs that depicts the traditional nomadic-type seating. The informal seating style also encourages socialization between various users and age groups; multi-age groupings is helpful for home language maintenance (Bernard et al. 2010, 23). The pergola



View of the game room adjacent to the Arabic classroom



Floor plan of the communal kitchen and the outdoor program: festival area, outdoor cooking area, market, garden and storytelling area



Derail of the plan, showing the festival area and communal kitchen

structure offers protection from the heat of the sun while still allowing light to the space. It also supports the mashrabiya screen, using the secular pattern, on the east side to create privacy from Dunbrack Street while still allowing airflow.

Communal Kitchen

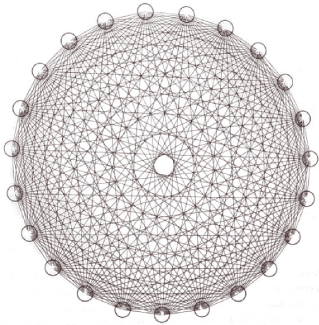
On the opposite side of the stage is a communal kitchen. Arab immigrants of different generations can be found here learning and teaching each other how to cook traditional dishes. On the north wall, a door exits to an outdoor cooking area, where there are bread ovens. The ovens are used to make traditional pita bread that is commonly paired with many Arab dishes.



View of the seating and festival area used for performances during special events

Market and Communal Garden

Dishes prepared in the communal kitchen are served during festival events as well as in the adjacent market. As shown on the next page, the market sits in-between the kitchen and a community garden area. The market paved and covered in tents. It is easily accessed from the parking lot where visitors are invited to buy prepared food and garden produce, including peppers and cucumbers, bringing income to fund the project's facilities.



The network of social interactions by people enforced through the ring arrangement (Schwarz 1958, 41).

Storytelling Area

Lastly, the storytelling area features a large outdoor space with two types of seating: benches and the same nomadic-type seating that was earlier described in the festival space. The benches are designed in a circular form to surround a fire pit. This arrangement was inspired by German architect, Rudolf Schwarz, description of the circular seating. Schwarz called this arrangement “the ring” and describes its significance as such:

The ring becomes the form of cohesion, of girdling, of embrace. It becomes the expression of abundance and safety. Since, of all the figures, the ring units the smallest perimeter with the largest content, it is the richest and the most indwelling of them all. This is again connected with its stability. (Schwarz 1958, 40)

Furthermore, Schwarz draws attention to the network brought on by the social interactions taking place around the circle through the form of speech (Schwarz 1958, 41). With this understanding, the seating is meant to reinforce the connection between immigrants of different generations. It is where they can sit together around the fire and share stories.



Detail of the plan, showing the market area and storytelling area



View of the bread ovens and the market in the background



View of the market and community garden



View of the storytelling area and the communal kitchen in the background

Sacred

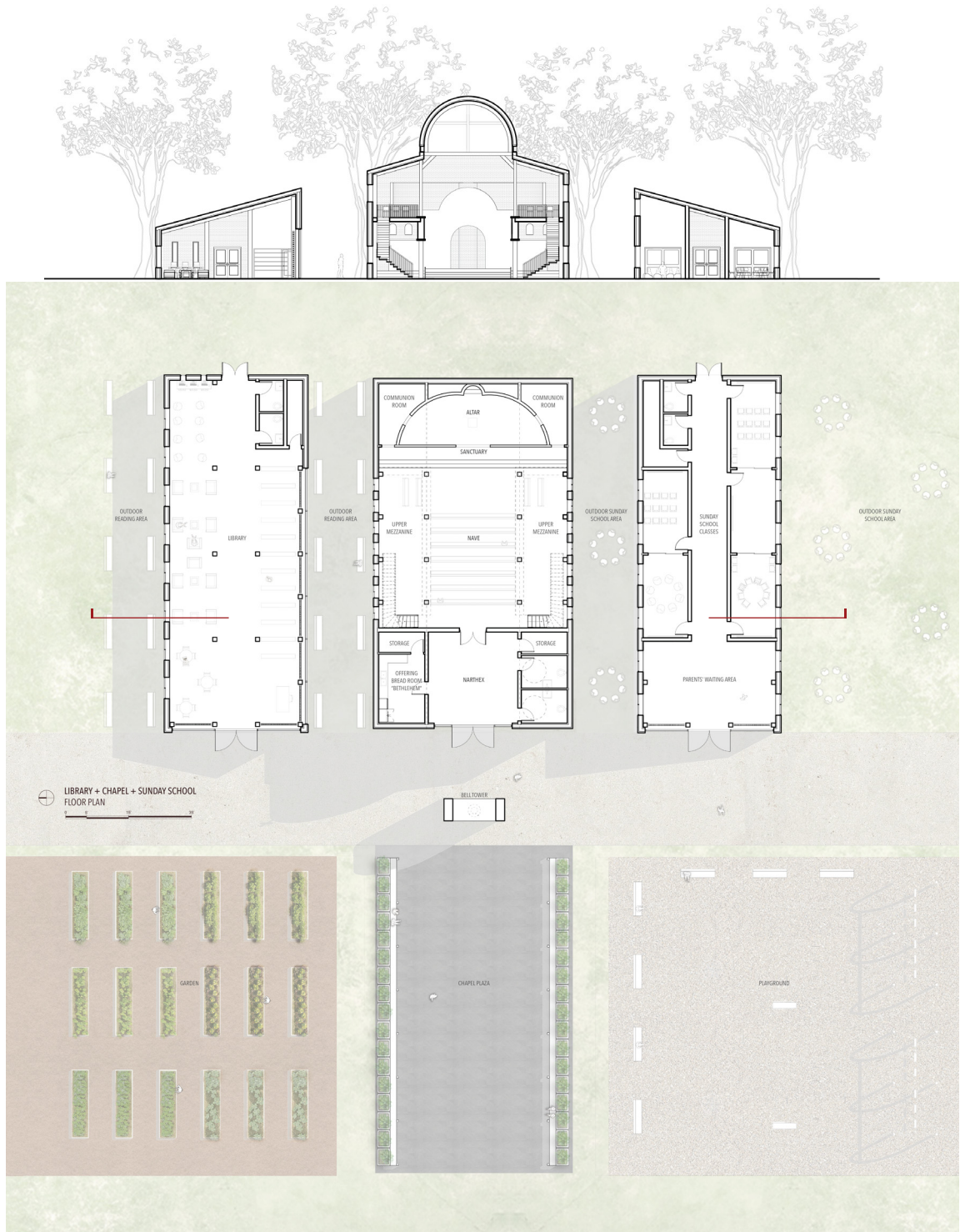
The last section of the thesis design is the sacred program, which includes a chapel in the center and library and Sunday school buildings on either side. As shown in the elevation on the page 70, the three buildings use exterior brick wall with the sacred design of the mashrabiya screen seen when approaching the buildings. The sloped roofs of the library and Sunday school building follow the roof pitch of the chapel, allowing them to read as one extended building.

Library

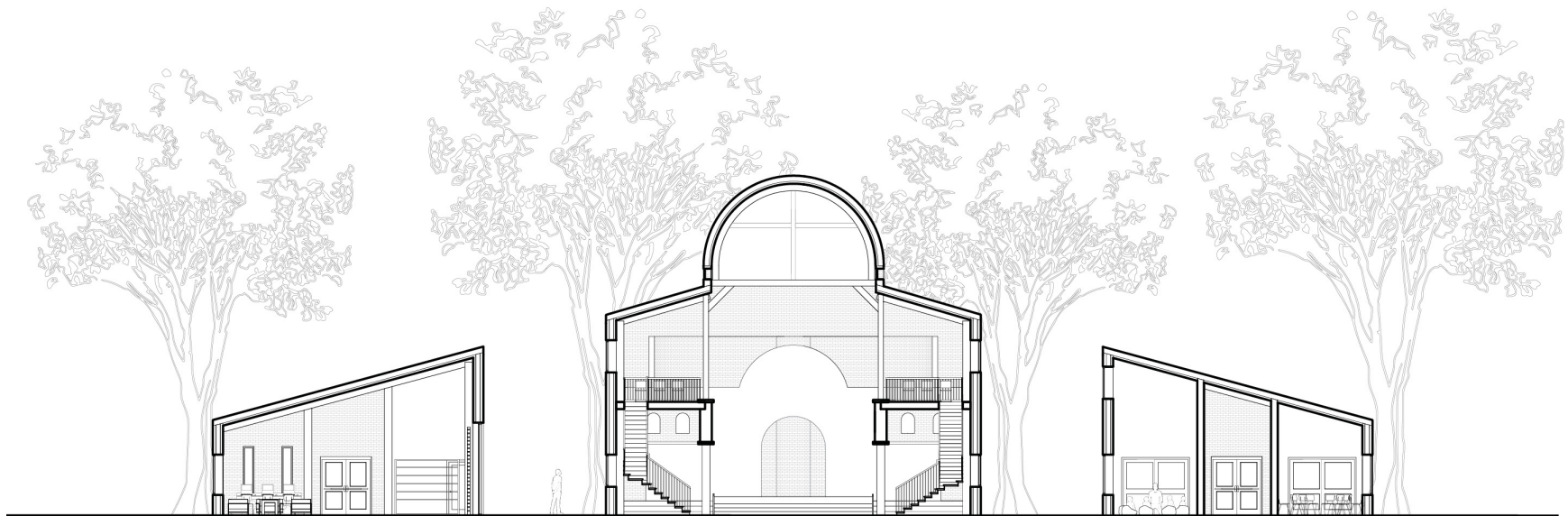
A visitor would be first be greeted by the librarian when entering the library. The library holds Coptic reference material that can be read in the library or borrowed. The back wall has computers to access digital content. Using the guiding design principle of symmetry, the floor plan is divided into various types of seating and book shelves with exposed columns forming the central circulation corridor. The south side is enclosed with the mashrabiya screen wall to filter the light, while allowing view of the chapel next-door. There are exterior benches on the north and south sides of the building to give the users space to read outside. The building, as well as the chapel cast a shadow on the benches that shades them.

Sunday School

The Sunday school building is located on the other side of the chapel. It is aimed for the younger Copts who go for Sunday school and hymnology lessons. Classes have sliding doors to open up classrooms to each other when needed. There is opportunity for outdoor classes to take place in the open area next to the building in the warm seasons. Right across



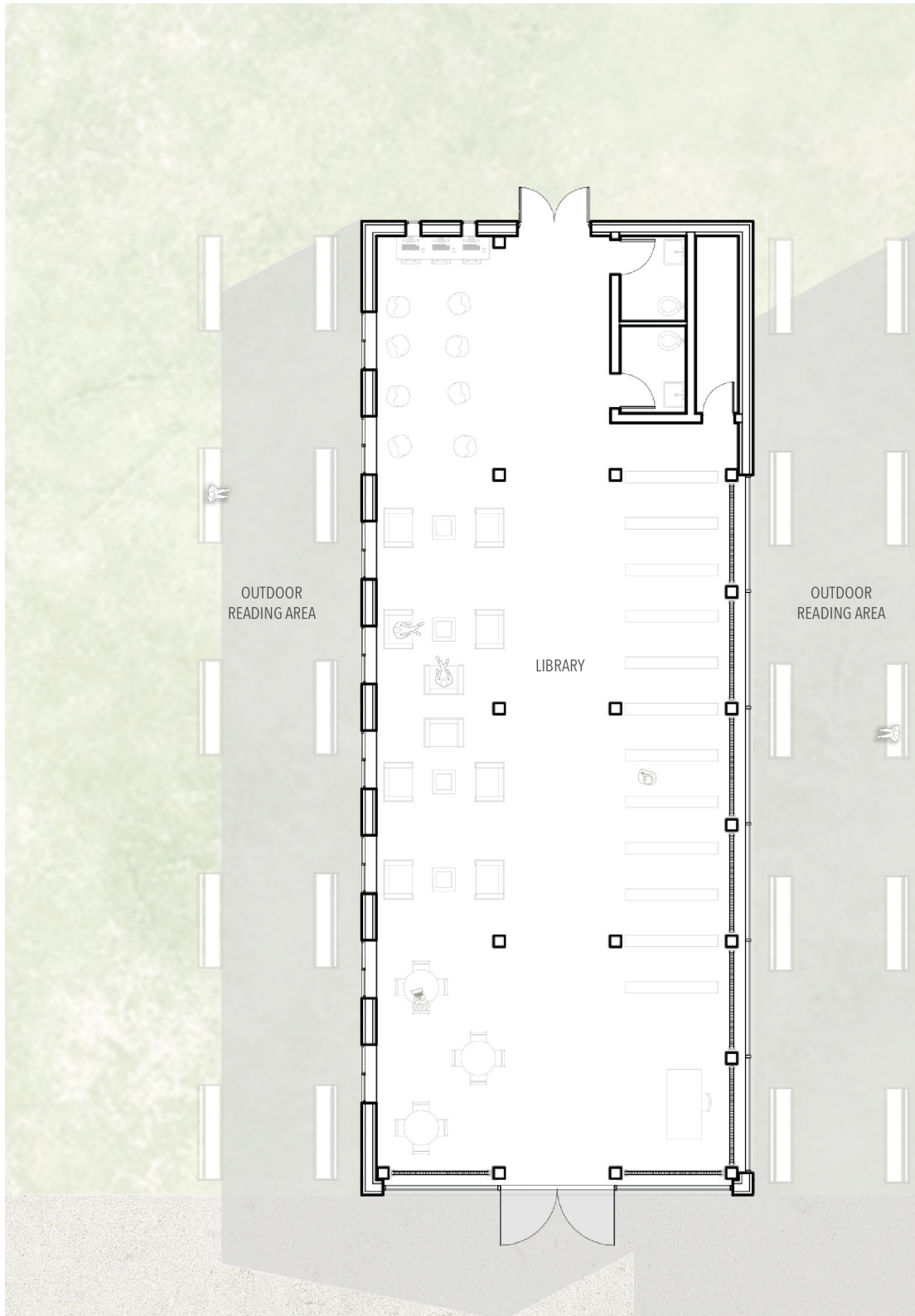
Top: Section of the library, chapel, and Sunday school buildings. Bottom: floor plan of the three buildings with their adjacent spaces, the garden plaza, and playground



Section of the library, chapel, and Sunday school buildings



West elevation of library, chapel, and Sunday school



Part 1: floor plan of the library building and the outdoor reading area on either side



View of the library, looking at the mashrabiya screen

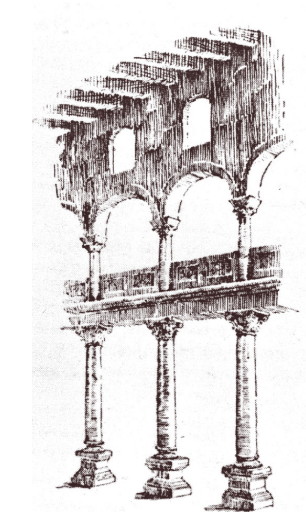


Part 2: floor plan of the Sunday school building and the adjacent playground

the building is a playground where children can play after their lessons.

Chapel

Copts from the library and Sunday school are brought together in the central chapel. The building is oriented to the east as done in Coptic churches. Its design refers to the ark, one of the three used forms of Coptic churches that were mentioned in the previous chapter. The ark is most common used form (Malaty 1994, 85). Following the traditional floor plan arrangement, the chapel is divided into the narthex, nave, and the altar.



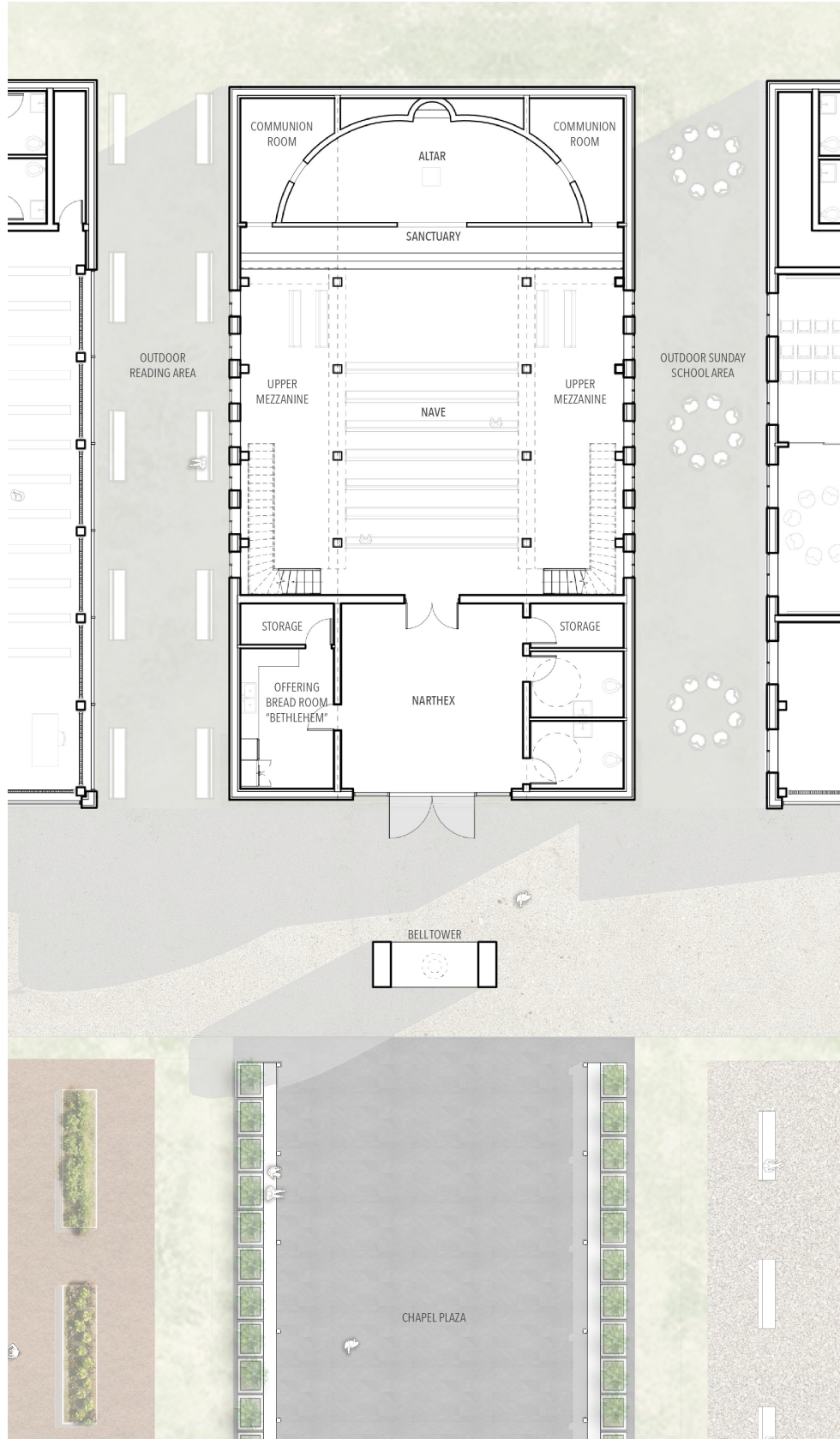
Restored perspective of part of the nave in Basilica of Arcadius at Abu Mina, 4th century, Maryut, Egypt (Badawy 1978, 70)

First, the narthex is where the congregation gathers in-between services. It holds the offering bread room, referred to as Bethlehem, where communion bread is prepared ahead of liturgy. Normally, a baptistry would be located in this area, however, the existing Coptic church has a baptistry that would continue holding baptism ceremonies.

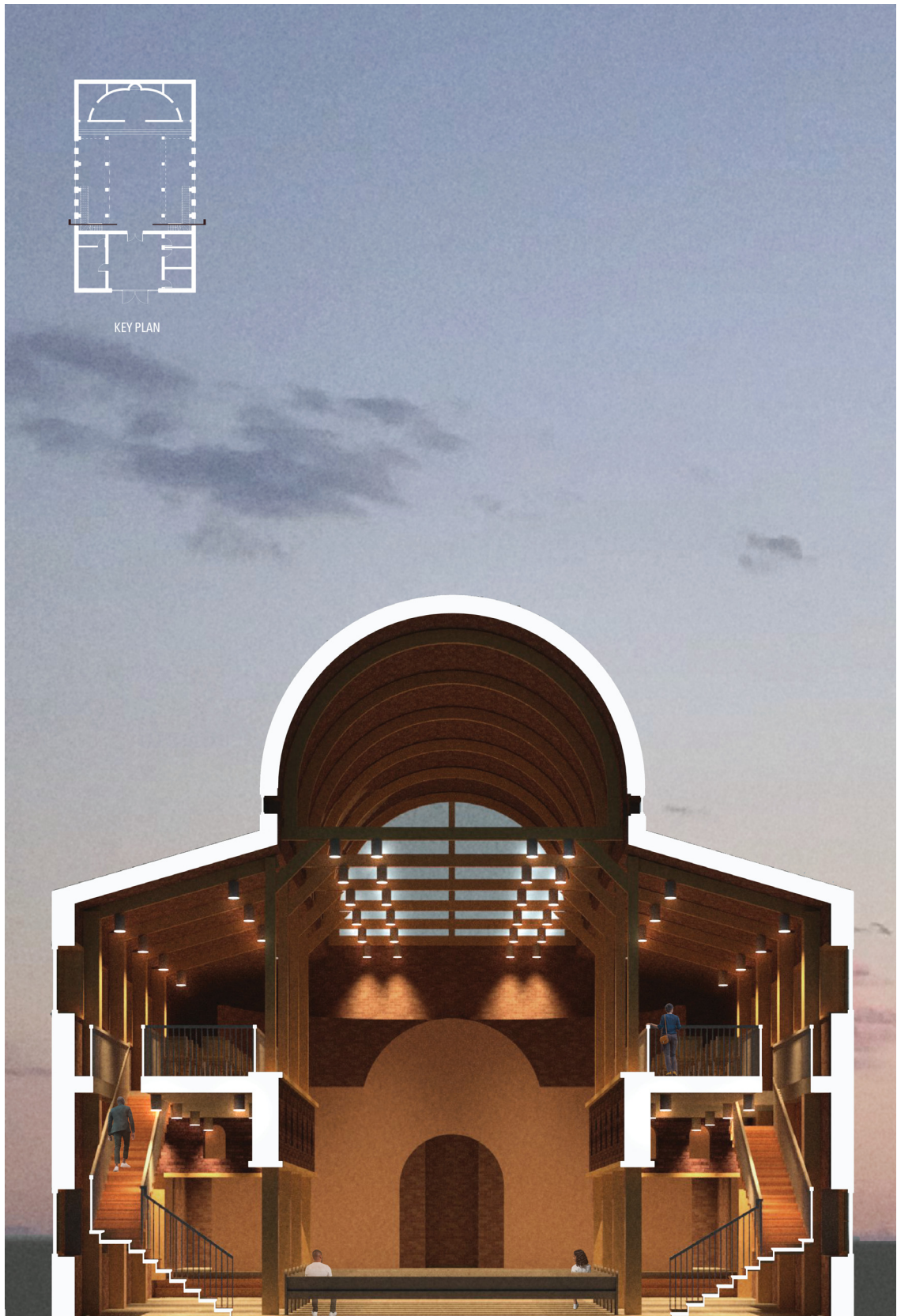


Interior sketch of St. Barbara's Coptic Church in Old Cairo, 5th or 4th century (Badawy 1978, 89)

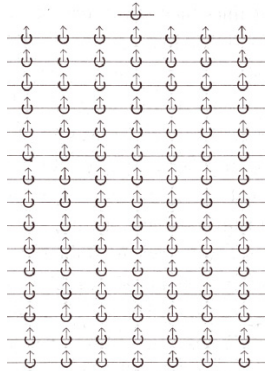
Following the narthex is the nave. This is the largest portion of the chapel, and it is where Copts sit to attend services. Congregation members can sit on wooden pews located on the main level or on the chairs at the mezzanine level. While seating arrangement is often done to split men and women, as shown in the diagram on page 16, I decided to put long pews in the center of the chapel to encourage both genders and age groups to sit together. Schwarz wrote about the significance of this seating arrangement, stating that the congregation "stand together shoulder to shoulder, each man a link in a chain, each chain a rank" (Schwarz 1958, 115). It focuses the attention of the believers ahead and not at each other, while they share in the closeness brought on by communal prayer and goal.



Part 3: Floor plan of the chapel, bell tower, and its adjacent plaza



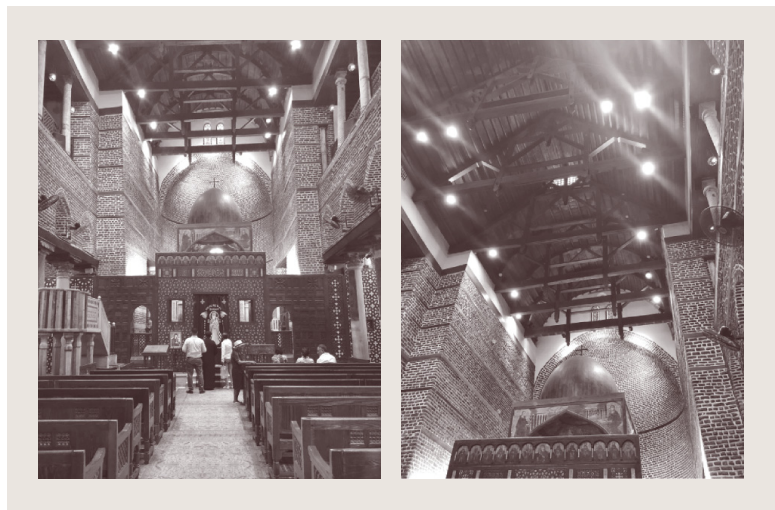
Sectional perspective of the chapel



The arrangement of the congregation within the church, with their focus to the front (Schwarz 1958, 115).

Old Coptic churches usually feature brick arches and columns that hold up the mezzanine. I chose to use the same design features in this chapel, while using four sets of columns on both sides to reference the eight people who were saved in the ark of Noah (1 Peter 3:20). Brick is not only expressed often in Coptic churches in Canada, as seen in the earlier analysis of Coptic church typology, but it is also expressed on the interior and exterior of Churches in ancient Coptic churches. This new chapel is designed to reflect the ancient tradition of brick masonry for the walls both inside and outside. All the interior walls within the nave are clad in brick, with the exception of the iconostasis (the wooden wall separating the nave from the sanctuary). The brick varies in shades of brown to provide depth to the non-curved walls.

The nave is covered with a barrel vault that draws the eye of the believer upwards, where their prayers are going to, and emphasizes the verticality of the space. The exposed structure of the vault was borrowed from Saint Sergius (Abu Sarga) Church in Old Cairo, which is often described in



Interior photos of Saint Sergius (Abu Sarga) Church in Old Cairo, highlighting the exposed brick and timber vault framing the roof 2019.



La Tourette monastery gate, 1966; photograph by Bernhard Moosbrugger (Henze and Moosbrugger 1966, 23)

literature as a model of early Coptic churches (Kamil 2002, 211). The vault also holds a window above the altar, which brings in rising sun light while the thick mullions in the shape of a cross casts its shadows into the nave. The structure also holds the lighting fixtures that illuminate the nave and sanctuary. The height of this middle portion was determined from the analysis done on Coptic church typology.

Adjacent to the chapel is the bell tower, followed by a plaza. The bell tower, shown in a closer drawing on the next page, was inspired by the gate at the La Tourette monastery. To quote Henze and Moosbrugger, the frame not only “slacken the visitor’s pace and exhort him, it also welcomes him” (Henze and Moosbrugger 1966, 10). The use of bells goes as far back as the Old Testament (Malaty 1994, 353). They are traditionally rung at the beginning of liturgy, during the communion, on special services associated with church feasts, and on the death of a member of the parish (Malaty 1994, 354). With noise regulations in Nova Scotia, the use of the bells is very restricted; therefore, I chose to expose the bell itself to serve as a reminder of its presence and importance within the Orthodox church, even when it is not heard.



Left: photo of St. George’s Church in Old Cairo located within the Fortress of Babylon (right), showing the exterior use of brick 2019.



Elevation of the bell tower and chapel



Photograph of the Monastery of Saint Mina and its plaza, Egypt (2017)

Lastly is the plaza. It sits across the bell tower, where congregation members can gather before and after services. The design of the plaza was inspired by the Monastery of Saint Mina in Alexandria, one of the well known Coptic monasteries in Egypt. In a similar way, the new plaza ground is paved with black slate tiles and is lined with planters that extend to form a concrete bench. The bench offers seating without blocking sight of the chapel. When the sun sets, light boxes that line the plaza and the chapel are tuned on. Congregation members of different generations can gather under the night sky to reflect on the prayers and sharing in the memories of their home. Stories of the Coptic church and its history can also be shared here.



Night render of the chapel and plaza where the congregation gathers before and after services

Chapter 5: Conclusion

The thesis design illustrates how architecture can be used to support new immigrants while teaching older immigrants of their heritage and religion with the goal of retaining their identity in the diaspora. It used lessons learned from monasteries to inform design moves, as well as the arrangement of the “campus” that caters to different users, balancing the sacred and secular worlds. The project also illustrated the ability to use the traditional mashrabiya, one of the key design features of Arab and Coptic architecture, while modifying it to work with the Canadian climate.

While the thesis was focused on Arabs and Christians with special attention on Egyptians and Coptic Orthodox Christians, the methodologies used to study this ethnic and religious group can be applied to other groups. Future opportunities could focus on Muslim or Jewish populations. A similar analysis to the Coptic churches' typology can be done on mosques and synagogues to inform new architectures.

There were challenges brought on by the fact that I am a member of the community I am studying and designing for. Those challenges included preconceived notions about the needs of the community. One way that helped me to tackle such challenge was to step back from my immediate Coptic congregation, and start with studying immigration of ethno-religious groups within Canada. Another way was to choose case studies outside the specific cultures and Christian denomination, like La Tourette monastery and the Plan of St. Gall, that have transferable lessons to the complexity of the thesis design program. While I recognize that trying to distance myself from my immediate community was difficult and required extra work at times, I believe that

being a voice for the larger Coptic community living in the diaspora was very empowering; this thesis was researched and developed during the Covid-19 pandemic – a time of social isolation and restrictions on travel; therefore, I felt a greater separation from my home country that I would have normally visited, as well as from my community that I used to see on a weekly basis. This thesis project allowed me to feel connected to my community and home, while giving me momentum during these challenging times.

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