T H E S I S

A D E T A I L S T U D Y

Newbury Street Ministry/Coffee House

Back Bay • Boston

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1986 – 87
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THESIS INTRODUCTION

THESIS STATEMENT

My thesis is a study or at least a contemplation of the significance of detail in our buildings and intended architecture today. I am fascinated by older structures bound in developed or even underdeveloped communities that seem to have a well thought out system of its assembled parts. I guess what really tickles my fancy is their expression attached to the systematic integration of their parts. Ultimately, this expression helps let us, the users, figure out what the structure is intended to be. I believe that most part cannot find these same expressions attached to newer buildings of our era. Their expressions have become too vague and have not simply told us the whole story. In other words I feel they are not completed design.

reasons for the lack of detailed expression in contemporary buildings are obvious. The means to make this expression possible is expensive both for materials and for labor involved. The replacement of a new school of thought in both design and construction methodology ever construction techniques that allowed detailed expression to happen also wipes out a continual concern for the art that goes into the building expression.

Our consumerism is another contributor to our withdrawal from building expression. We usually appreciate owning things, but at the same time devalue them. Pressure to replace new items with newer ones is overpowering. We demand quicker availability of our 'things' without thinking first about what we presently have and what would actually benefit us better.

Therefore, efforts to build structures with intricate detail is not even considered a must anymore. It takes time and is obviously expensive to replace.

So why come back now and insist on time consuming and expensive detail? Detail in many ways is utilitarian. As mentioned above, it gives us clues about their structure, functions, and about the people using it. It is when these three are harmonized and expressed together that the building should be thought of as a complete whole and finalized design. A better fit between us and our buildings would result. Productivity, worship, and entertainment (only a few of the activities possible) can better happen in our buildings. Of course, there is the aesthetic benefit gotten from a well thought detail program. A basic product of pride is a result of a workable and beautiful building both constituted by its assembly of parts.
THESIS GOAL

It is my goal through this thesis to be able to come to an understanding of how detail can be used as a driving force in the design. That is not to say that we as designers should start with detail then design to fit it. That is to say, though, that the concentration of design development has to be able to flow from the detailed issues (which more likely mold the physical detail) to whole building issues, as well as flowing in reverse. Designing in both directions appears complex, but is essential when considering that the overall expression of the building can be optimized (therefore a comprehension by the partakers made clearer).

In the following, the design is going to be introduced as an overall system defined by specific principles, such as structure, mass, and envelope. This kind of definition exemplifies the development guided by a building whole to building detail. To explore how detail should feed back into the building whole as guiding instrument, detail principles are discussed. Some principles are derived from overall building notions, while others are principles guided by alien interests.
THESIS INTRODUCTION

THESIS PROJECT

This facility is being sought out by a hypothetical body of believers belonging to a well-to-do downtown Boston church who feel that there is a need for a Back Bay Fellowship to begin.

This facility is to be an unchurch-like church, meaning that this 'church mission' will not necessarily render itself to the traditional church image, but incorporate Back Bay's standards of living without succumbing to its values (in addition to the traditional church roles). Its purpose as a church mission, however, is the same as would that of the traditional church, which is to share God's message of salvation to the church's context. The context is actually the whole focus of this particular mission and the building that this mission needs. Pieces of the program will then, of course, come directly into response to the context of the site, which is Back Bay.
THE BUILDING ASSEMBLY

It has come to my understanding that in order for the building to successfully express its own intent and purpose (and to convince people of its capabilities as building of certain functions) that the overall ordering principle must be communicated well. Detail alone cannot do the job especially if it is not holistically ordered and connected to make sense. Thus, it is logical that ordering principles derived from the overall scheme be the guiding principles for architectural detail.

The following are a few of the overall ordering principles building parts and spaces. After those have been described, the ordering systems for detail follow, not all of which are used in the actual design.

The building can be seen structurally and programmatically as a "supporting umbrella". The structure both supports the more private sector above and covers the public section below without encumbering the structure, thus, the structure itself breaks down further into a typical skeletal frame in the higher registers.

Visually the building can be observed as two opposing envelopes. Each are respectively affected by structure underneath. In the high registers the skeleton characterizes the outer skin. One way it does this is by the slight delineation of the column heights appearing along the interior surfaces. Another is the fenestrations' recognition of the structure by the fenestrations' limitations to their placement. Thus, their placement is restricted to rows and columns even though the visual possibilities of individual windows are virtually limitless.

In the lower register the envelope is not as limited; however, a system for supporting its own weight is needed. Fenestrations are not confined to particular boundaries, thus they can wholly respond to internal needs within.

Another factor, which differs from the events above, is the notion of weight and visual strength. Heavier materials in the realm of stone masonry are used to root the building to the ground.
THE DETAIL PRINCIPLES

DETAIL ORDERED BY MATERIAL SYSTEMS:

The expression and communication tie between people and the building is largely dependent upon materials used. Materials, obviously, have their own systems required for successful assembly. These systems must be understood so that building elements such as windows, doors, stairs, or even piers can be integrated. It is this integration that becomes the detail. From here the element can be accentuated, subdued or equally emphasized with the general material system that the element is part of. In any case, neither the element nor the material used can ignore the other or else the building expression itself might be muddled and the building theme lost.

Take the case between a classroom window and a structural pier, both part of a limestone masonry wall. First we must ask what is (are) the system(s) involved?

A limestone masonry block is predominantly a modular unit as we know. The question arises when the alternating joints from two or more courses interact with the window and pier, what must be the result? The system wants one course to end with a complete unit while the course above and below must end in half of a unit. The window must then respond to the limestone course height so that the course heights can be completed as well.

Additional questions to answer are:

How should the mullions of the window respond to the system?
For detail to retroactivity influence the material system, what might occur?

- taller course heights?
- varying course heights?
- ornamental banding at head and sill courses?

Does the material system allow a curvature to occur at the windows sides, thus, affecting the status between the two.
THE DETAIL PRINCIPLES

DETAIL ORDERED BY SUBSYSTEMS

When we walk down the sidewalk we often tend to perceive objects or groups of them as units. That is, sometimes we standardize objects even unlike to group them collectively. When looking at a building’s facade we can do the same thing like a set procedure to read the external message. The external message many times is influenced by its structure, window patterns or any relationship of building elements that denotes a pattern. Structure, for instance, can allow opportunities for the subdividing of planes into easier readable units. Within these "units", a variety of design decisions can be made according to the needs of the function behind the unit; the material used for the unit; the intended activity that the units are confronting; and to structure which might be setting them apart.

We again can think of this principle in reverse and allow the detail or unit to guide the structural system. A group of units require, for instance, a certain size, a rhythm or pattern of sizes (a...b...a...b...a), or a certain proportion of the structure size to unit size. Thus, the structure grid and its configuration could be affected.
THE DETAIL PRINCIPLES

DETAIL INFLUENCED BY PUBLIC EXPECTATIONS

Detail should, at times, be thought of as convincing evidence that the building is meant to be there and that the rationale for the building's design (whether technically, socially, aesthetically or semantically) is valid. If we are not assured that the building is not true in these respects, then our productivity inside it will suffer. By quoting a general case by Christian Norberg - Schultz from his book Intentions in Architecture, we may come to an understanding for the needs of such evidence. "A simple building task may be satisfied by a relatively inarticulate form, while a task where the two poles - objects are many and belong to different classes demands a correspondingly differentiated form. An articulate form can only receive inarticulate contents."

In the same token, an inferior technical detail can only receive inferior contents. To validate that statement a situation should be posed. Five people are using an exterior wood stair up to an apartment. To make it interesting, three of the people are rather large men, while the other two are women who have been on diets since they were fifteen. The stair is one of those quick-built assemblies using three two-by-twelves as stringers supporting one-by-ten treads. The implication of this technical detail to the two women can, as you see, be staggering. A question they ask is whether it is worth the trip up. If the stair was a truly integrated element of the apartment made from weatherable and appropriately sized materials then the situation could be reversed.

Deciding first the technical means of the design obviously is important. To decide the relational semantics of such means or at least to decide the intended semantical result, and then the technical (aesthetics) means to succeed with that result is of utmost importance. Taking steps in that fashion can ultimately influence the design and the wholistic outlook of the building.
THE DETAIL PRINCIPLES

OTHER DETAIL PRINCIPLES

1. Detail ordered by the integration of two or more other existing systems.

2. Detail produced by an overlapping of elements, spaces or materials.

3. Detail influencing a progression from place by gradation or layering.

4. Detail influencing the building whole from the development of an attitude. Begin the development by deciding how detail can be influenced. An example is saying that the detail needs to be "light", or "bold". The means in reaching those results can be applicable to the whole building. The attitude of a light and lacy exterior envelope by the means windows are punched into a particular wall construction can ultimately effect other design systems such that of the structure. Long tenured structural members may be the study result of the initial attitude.
SUMMARY

This is a thesis to investigate the implications of detail in whole building solution. The investigation was brought about because there is a need for architecture that can effectively communicate its intentions and goals to its users. It is the writer's assumption that once these goals are completed that architecture done by the writer will grow to a mature level.

The process involved the basic designing of a facility. Next, it involved the investigation of principles that would affect the outcome of the facility's detail. Finally, the last step was to reverse the second step and study how detail solutions could affect whole building systems. The thesis year the second step barely got underway. So the succeeding principles are ideas that require further investigation.

The work up to this point, though, has been greatly helped. It has helped me outline a more logical design process and rid me of useless habits. For the future, I am hopefully further the remaining investigations through real building and more excitingly see the results inherent from tangible products.
Back Bay · Boston
APPENDIX A - DESIGN DEVELOPMENT

CONTEXT

Prominent issues of concern are the patterns for vehicular and pedestrian traffic as well as solar and wind situations, and the overall flow of building masses as seen along several blocks of the street, and the arrival of people from mass and movement systems.

Many of these contextual situations can be considered as important aspects for how the building should present itself onto the street. The building's attitude must be somewhat sensitive to the presentation of neighboring buildings. Their system of detailing (both technical and ornamental) must also be observed.

Traffic

the facades would have the tendency of being read from the corner to the middle.

dropping off of passengers might only happen at a considerable distance from the corner, therefore entrances must respond to such procedure.
APPENDIX A - DESIGN DEVELOPMENT

people

obviously people will collect at the
corner waiting, watching, and
eating
the corner should be made a place
for people, but be free of too many
obstructions.

daylighting

since natural light will only come
from the rear of the building, the
usage of both a light well and
window wall in south exposure
will be necessary.

wind

to avoid any problem from
"wind tunneling" the exterior wall
surface should be varied by rough
contours and
textures to reduce excessive air
movement.

massing

at this intersection it's
important to follow the existing
fabric set by the other three
buildings.

their height, volume, and their facades'
division of elements are part of the
existing fabric, to "fit" is to consider or
adopt the basic framework.

system of detailing

Back Bay · Boston
APPENDIX A - DESIGN DEVELOPMENT

SITE / DETAIL ADVANTAGES

The particular requirement for an outside café and the existence of large trees along the front make it appealing to step both the corner of the building and allow the plane to return to the regular setback at the other end. As a result, this will allow space for the café as well as accentuating the avenue of trees.

A problem occurs when using sunken entries because of the presence of tree roots.

The site corner is an important feature for the building in general (for its basic exposure to the public) and to the ministry in particular as a place for personal contact. An entry should probably be set aside to the corner so that personal conversations will not be affected by traffic.
APPENDIX A - DESIGN DEVELOPMENT

MOVEMENT SYSTEMS

1. A basic notion of movement into the building is that of a spiral. The object of this idea is to lead people into the multi-use space along the exterior edge, which passes through the entry zone. This edge in reality is a muscular wall, which actually surrounds the multi-use space. The wall band turns inward further and terminates at the goal.

2. Both ramps and stair systems are used to elevate people to the central entry space. The ramp is built along the spiral to accentuate its purpose.

3. The central entry space is used as an access for all the areas in the building. Its image is a void from the outside to contrast against the solid ground level.

4. Natural light is used to increase attention to specific goals.

DETAIL ADVANTAGES

Railings, floor and pavement patterns are elements to take advantage of. Using them to enhance movement into and out of the building as well as through the building are important.
APPENDIX A

DESIGN DEVELOPMENT

MULTI-USE SPACE

As mentioned in the program, the purpose of this multi-use space is to serve as a worship center as well as an entertainment spot and coffee house. The ability for this room to be transformed from one function to another is essential. The space itself is minimally interrupted by four columns to support structure above. Classroom requirements take advantage of these and are naturally configured along the exterior walls. Referring to the research, space, and detail responses to both the group and personal worship times are needed. At the same classroom locations are where personal worship places should occur creating a natural movement from the center to outside edges of the space.

Some of the issues to be resolved are:

1. Allowance of light into the space when classrooms are partitioned.
2. Questions of intimately detailing personal worship areas so that they contrast with the overall spatial mood. This kind of detailing deals with the floor and ceiling patterns as well as the wall and window detailing. In the floor pattern, for instance, the whole floor is to be covered with but separated by column lines in a linear pattern. Dark bordering tile is used at the outside edges of the unit spaces to help them further. The object here is to allow the amount of joining to express the separation and importance of both events.
APPENDIX A - DESIGN DEVELOPMENT

MASSING
The opportunity for expressing the event within can be accomplished by accentuating volumes, masses, and planes. The articulation of their surface and their intersections found between them can be the framework for which a detailing system is built upon.

Main entrances in both #1 and #2 are the same as those to the cafe. In #3 the cafe and main entrance are separated so that the variety of functions can have a common entrance.

#1 tends to create a dichotomy to mass vs. void and to how both associate side by side.

#2 tends to repeat the same dilemma, but with a top and bottom situation.

#3 is an attempt to resolve the both.

The situation in #3 is most interesting. Here the multi-use space wants to be read through from the inside, but light and lacy from the outside this is juxtaposed to penetrated mass beneath and broken plane above (apartments). Here the general joining of the surfaces from the bottom to the top is a system of contrasting textures delineating by an unifying material such as limestone or brickstone.

Back Bay • Boston
APPENDIX A - DESIGN DEVELOPMENT

FACADE

Two frameworks guided the construction of the facade. The top, shaft, and base relationship configures the framework. The top is a mansard roof so the apartments may be highlighted by dormers giving them special prominence above. The element of the shaft ties in with the usage of the second framework, which is that of the structure. A structural system that begins at the center of the building (four large columns) supports a superstructure of the shaft (and top) above so that the multi-use space below will be unencumbered by an excessive structure. Naturally, the shaft should communicate this from the outside within. The base has the function of rooting the building solidly to the ground. At the same time it deliniates openings as entrances and windows, and leads people to specific points of interest. The ground level also should help form exterior space.

ELEVATION OF MULTI-USE WINDOW
APPENDIX A -DESIGN DEVELOPMENT

A secondary system relates to how window elements are connected. First of all, unifying the fenestration by using a simple material throughout helps. By using limestone window surrounds one has the option to how sculptural they become while still being associated as interrelated pieces.

(language)

Another secondary system deals with the "coding" of entry. Over the main entry a cantilevered, bowed wall is placed to: 1 imply entry and 2 give on eave created by its overhead plane.

The building corner is rounded to: 1 relate the main entry, and 2 make the corner more special. At the top, two dormers are attached with its own rounded corner piercing it with a small window. Windows all along the corner seem appropriate for a rounded condition so that one could fully enjoy its effect.
APPENDIX B—RESEARCH

My argument states that buildings, designed and built presently, have not been attended to enough by their designers to make the buildings self-explaining to their users. I propose that what is missing in many buildings is a lack of discerning detail, which is able to articulate the building’s purpose for existing. A big reason for the lack of detail and sensitivity for peoples’ perceptions has been blamed on the design philosophies and replacement of old construction techniques by new innovative methods and materials in the past fifty years. (Detail should be defined to be the appearances of the technical building assembly and the ornament incorporated into the building). An adaptive design process that recaptivates the inherent use of a cohesive language of detail is the goal for my research.

Questions in light of the argument to be investigated are: How does the user actually perceive the detail in a building? How is the building changed or affected by a concern for detail in the design process? and Do buildings presently work to explain themselves to users better or worse than ones designed in the past?

In basic accordance to the questions, I have formed three hypotheses.

1. In the architectural language and expression of a building, the role of the detail allows users to interpret the experience and mission of the building more clearly, and this creates for a better fit between the setting and peoples’ performance and satisfaction and well being.

2. If in today’s architecture, the visual interface and communication between user and building is significant in revealing its purpose and meaning, then the study of the user’s perceptual response to the detail and ornament is all important in the design process.

3. If the usage of a cohesive and thorough language of detail is established, then the amounts of intensity in the language formed will have a considerable bearing on the building’s success.
APPENDIX B - RESEARCH

My research involves both the usage of surveys and observations, which will be used to find out the truthfulness of the hypotheses. The surveys were given among 55 people, most of which were students. Focused questions in the survey were stated in a simple manner to enable them to understand the information needed since the subject of architectural detail would be hard for the students to grasp.

Observations were done in two different manners. One observation was done on Park Street Church's service in Boston. Here I gathered information on peoples' participation in the service, their actions and reactions. I found this hard to do for two reasons. First, it was not too cool to take notes during a service, nor was it easy to understand what people were thinking as they worshipped. My second observation was done with Trinity Church in Boston. Here, I only observed visitors passing through the church. The biggest draw back here was again 'what were people thinking'.
APPENDIX B—RESEARCH

Please Participate!

Research in Architectural Detail

The following is a brief survey for an architectural thesis project, and will be used for a hypothetical church building in a real setting. One of my goals in this thesis is to learn how the body of believers perceive, see, or come to an understanding of their worship space. Of the knowledge that I hope to get from participants, I want to make for a better expression of the building’s (theses design) purpose and most importantly God’s purpose for us.

Please circle the best answer(s).
(Please understand that these questions are only objective and not meant to offend anyone.)

1. In which do you prefer to worship?
(Probably the most generic question)
   a. a basketball gymnasium
   b. an isolated forest (in a ‘nature scene’ is the idea)
   c. my building in which I’m used to
   d. any of the above or all (I can worship anywhere)
   e. none—i can’t wait to get to heaven
   f. __________________________ (suggest your preference)

2. Choose the best 2 answers. How do buildings you use a lot interest you?
   a. their size of rooms
   b. the kinds of light being used
   c. the patterns created by the building’s assembly or as ornament
   d. the use of colors
   e. other: __________________________

3. In general, I admire more:
   a. the decorative buildings
   b. the buildings with simpler expression
   c. neither satisfy my tastes
   (explain briefly:________________________)

4. If you had to pick, which spatial scenarios could enhance your experience of worship? (Assume that all the scenarios are inexpensive).
   a. A sanctuary that expresses itself architecturally with simple gestures of detail (no ornament—but a clear understanding to you that this building was built to worship God in)
   b. A sanctuary still expressing itself clear to you as a place of worship, but offers detail (just a little more than simple architectural gestures) that might be classified as appreciative ornament
APPENDIX B—RESEARCH

c. A sanctuary that makes a powerful statement of God’s sovereignty through the use of intricate architectural detail (ornament).

5. Answer only one of the questions (a or b).
   a. If expressive detail or ornament in buildings bothers you, or you think it would hinder your use of them, please give a simple explanation why for benefit of this study.
   b. If you appreciate the use of expressive detail, please explain why as well.
      (Please circle a or b)
APPENDIX B - RESEARCH

PRE-CONCLUSIONS AND NOTES

At first glance one will think that the heavy response to answer 'D' makes hypothesis number 2 invalid, suggesting that there is no visual interface and communication between the user and building, thus no need for a study in perceptual response.

Why the high response to answer 'D'? The high response with answer 'D' might suggest that people simply do not care in what kind of environment they worship in, or suggests that people might have a high tolerance to any place whether it may seemingly be suitable for worship or not.

Another possible reason that 'D' was chosen might arise out of types of worship most popular to the people surveyed. Considering that people concentrate or meditate within God's presence personally (while in the presence of others) may provide an answer to such a popular choice. Personal meditation might begin to remove the individual's concentration from his surroundings, therefore any space or place would have the same effect on the individual.

But does the fact that a group of individuals (still meditating separately) suggest a need for a space where individuals can meditate together as in a whole?

1. in which do you prefer to worship?
   (Probably the most generic question)
   a. a basketball gymnasium
   b. an isolated forest (in a 'nature scene' is the idea)
   c. my building in which I'm used to
   d. any of the above or all (I can worship anywhere)
   e. none-I can't wait to get to heaven
   f. [suggest your preference]
APPENDIX B - RESEARCH

PRE-CONCLUSIONS AND NOTES

Some responses to answer 'E':
- Forms of rooms other than rectangular
- Shapes of spaces influenced their light
- Their quality of acoustics way wood is used
- How one may be comforted by its usage
- How they use window (types of fenestration)

The predominant answers 'B', 'C', and 'D' show that the visual elements like patterns, colors and light usage are more likely to catch the fancy of users rather than the more spatial elements such as size, sound and feel.

Obviously people's preferences or likenesses convey their sensitivity to the buildings they use. Since the people surveyed do have these particular interests, it could perhaps be assumed that these 'architectural' elements have meanings and cues to arouse their interests. This might strengthen hypothesis number 2. The interface between users and the building is substantial enough to initiate a perception study.

2. Choose the best 2 answers. How do buildings you use a lot interest you?
- the size of rooms.
- the kinds of light being used
- the patterns created by the building's assembly
- ornament
- the use of colors
- e. other: __________
APPENDIX B—RESEARCH

PRE-CONCLUSIONS AND NOTES

Comments with question number 3:

There is purity and beauty in simplicity.
Simplicity leads to understanding.

In considering the comments and the result of the question surveyed, it can perhaps be stated that a better fit between the setting and people's satisfaction is not solely dependent upon the detail of the building, and its suggested role by hypothesis number 1. Yet that sounds too cut and dry. The role of the detail should probably be reinstated to explain the meaning of the building, to transfer a clearer understanding.

The result is obviously split in two. (Decorative and simple expression could be existing simultaneously, meaning a simple decoration or a simplicity appearing through complexity.) The interpretation of the answers by the people surveyed could have been to them somewhat hairy, but I gather that, to most minds, "decorative" means a complex decoration, while "simple expression" strips the use of additional articulation.

3. In general, I admire more:
   a. the decorative buildings,
   b. the buildings with simpler expression,
   c. neither satisfy my tastes
   (explain briefly _________________________)
APPENDIX B - RESEARCH

PRE-CONCLUSIONS AND NOTES

Now we have a majority vote saying that a sanctuary with some ornament (something more than 'pure' simpler detail) is nicer to worship in. This change brings up a dichotomy in the earlier preferred spaces of worship.

My first inclination to this phenomenon is that the body of believers might feel a general sense of unity upon first entering their gathering place. As they move in further toward their destination, their personal meditations probably begin to occur. If this assumption is correct, then it is probably safe to assume that the group cohesion might naturally start to dissolve from the movement putting more of the responsibility for spiritual enclosure to the architecture and not on the body of believers as an entirety. Here might be the survey's reference to the need of 'something more'. If this rationale was translated into a new hypothesis and then found true, then the pre-stated 3rd hypothesis might be considered true.

4. If you had to pick, which spatial scenario could enhance your experience of worship? (assumed that all the scenarios are inexpensive).
   a. A sanctuary that expresses itself architecturally with simple gestures of detail (no ornament—but a clear understanding to you that this building was built to worship God in)
   b. A sanctuary still expressing itself clear to you as a place of worship, but offered detail (just a little more than simple architectural gestures) that might be classified as appreciative ornament
   c. A sanctuary that makes a powerful statement of God's sovereignty through the use of intricate architectural detail (ornament).
APPENDIX B - RESEARCH

A comment or quote given by a participant said...
"If I’m joyful I need space; if I’m low I want enclosure."

This need for 'something more' might be explained simply by the starvation of architectural delight from worship places used by the people surveyed or by the architecture in general (however, the results from the third question answered the latter). To conclude why people did not choose answer 'C' as often might be explained from the most answered in question #5. It was thought that detail too powerfully expressed would crowd their minds with more than understandable meanings.

Both questions #4 and #5 help to clarify hypothesis three. People have a particular capacity to read or to sense meaning from their spaces that correlate for their purpose of being there. The detail within these spaces can obviously bolster too much from the users and devalue the meeting between the user's thoughts/emotions and the space. In the context of spiritual space a disjoining between the user and his meditation/worship might occur (bad assumptions?).

The higher response to answer 'B' in question #5 strengthens the preference most answered in question #4. Considering the comments given with answer 'B' people perhaps like expressive detail because of both their emotional connection and simple appreciation of it.
APPENDIX B—RESEARCH

Comments made with answer 'B' of question #5:
Like it — seems to say something about the building, not in excess though
Either — prefer more detail as a witness to the variety of God’s character
Adds to atmosphere — emotional/heart/beauty of the Lord
Likes it to an extent — too much lose meaning
It expresses character of building — how the building is structured
Because of reverence
It doesn’t bother me. I can worship anywhere — I prefer simple tasteful decorations though.
I think details and ornaments give churches an enthusiastic background.
Helps think about the beauty of God
Wood/stone — talent — witness to God
Happy medium — too many distractions
APPENDIX B—RESEARCH

POST OCCUPANCY STUDY
of PARK STREET CHURCH
and TRINITY CHURCH

CONTEXT

Both churches have the same type of people attending their fellowships and city context occurring about their surroundings. The people of both churches for the most part are out of the middle to upper class group. Looking back to their histories, one could understand that a highly respectable building in terms of aesthetics was desired. Both were built in Boston during economic productive times allowing highly skilled craftsmen, builders and artists to be used. Also, the buildings could be related to the places they were built. Naturally, to fit into and be considered a place for worship within their contexts the buildings had to be fantastic for their times.
APPENDIX B - RESEARCH

Park Street Church

Trinity Church

Back Bay • Boston
APPENDIX B - RESEARCH

ACTIVITY
Leading of Worship
Group Seating
Entry
Choir

Newbury Street Ministry/Coffee House
APPENDIX B - RESEARCH

VISUAL CONTROL

Both churches do not hinder anything from people's views. The only limiting factor that keeps one from seeing parts of the building is his visual cone.
APPENDIX B – RESEARCH

WOOD:
- pews, columns,
- trim, balcony
- balustrades,
- doors windows
- and other
- furnishings

PLASTER:
- walls and
- mouldings

MATERIALS AND FINISHES:
- marble:
  - columns, some
  - wood panels
- wood:
  - pews, trusses
  - and vault ribs,
  - window frames,
  - balcony panels
  - and other
  - furnishings
- brass:
  - lighting
  - fixtures
- plaster:
  - walls and
  - mouldings

NATURAL LIGHTING

Newbury Street Ministry/Coffee House
APPENDIX B - RESEARCH

ARTIFICIAL LIGHTING

[Diagram of artificial lighting setup]

Back Bay · Boston
APPENDIX B—RESEARCH

DETAILING CHARACTERISTICS OF THE SANCTUARIES

A light Palladio style, white with a rich amount of daylighting. Plan is organized in a basilica fashion. Detail travels along its balcony and articulates the organ pipe panel. Palladio lights articulate the windows.

ORDER OF WORSHIP

Greetings
Announcements
Songs
Prayers
Offering
Meditation/Special music
Songs
Sermon
Benediction

Detail is used to highlight basic elements such as:
- columns - color
- windows - stained images
- pews - smaller detail
- - close-up
- quiet detail to soften the mass
- arches - decorative coursing, intricate patterns, colors, transitions of different materials

The people observed:
Before service starts they are rushed into the sanctuary with only minutes left. A lot of commotion is prevalent — not exactly a worshipful prelude.

Newbury Street Ministry/Coffee House
APPENDIX B—RESEARCH

Through greetings, announcements and then songs the service begins to bring everyone together into a oneness.

The sanctuary has definite strength in helping achieve this end. It is not the classical language or the quality of the finished that does this, but seemingly it could be the vast amount of space delineated and surrounded by the balcony, which makes an enclosure for the sanctuary. This whole notion of enclosure is needed as a physical element of the worship service.

Full effect of the church's design is seen when it is observed as a whole, then collectively stark to apparent complexity as one studies parts.

From far away, detail becomes a texture - even that is a print.

Overlaying of elements with their own textures, ornament and materials make interesting effects.

I begin to think it as a mystery behind something obvious.

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APPENDIX B—RESEARCH

Through the prayers, offerings, and then meditations, people are allowed to move into their own worship and contemplation. In many ways the space lends no help to the individuals; however, it seems not to hinder them either. The individuals, I feel, can easily draw from the activity to worship. The prayers being led and the special music fit with the character of the space. Usually the music takes on a classical fervor, but still provokes a solemn attitude. To sum up this thought, both music and the space do help facilitate people's individual thoughts by the space's solemn and humble character.

Here the worship ends. The sermon can be thought of as a teaching. In many ways, then, the space becomes a gigantic classroom. The people appear to still be in contemplation, but attentive to the speaker. This mode seems to be most appropriate to end with—still within oneself while listening to wisdom. Space again becomes a unifier for the body of believers using its surrounding element as its tool.

Complexity of detail increases as one investigates further up the elevation.

Newbury Street Ministry/Coffee House
The most pronounced difference between the two places of worship is the degree of participation in the service.

I strongly sensed the people there in the overflow room felt absent from the action going on above them - they simply couldn't participate with a T.V. monitor.

After the service and later talking to people I was with, it appeared that it was easier to gain that worship experience needed by isolating ourselves from the pews on upstairs and create our own experience in the overflow space we were in.

To create our own experience we would need to become dependent upon what is in the space and on the characteristics of the space. However, the space itself was not designed to facilitate services, so this becomes harder to achieve.
APPENDIX B - RESEARCH
APPENDIX B- RESEARCH

Both overflow room and the sanctuary were of the same character, taking on a white Palladio parti, so the differences besides the sizes of the spaces were minimal.

Perceptually, I pre-conclude that what becomes a major problem is the percent of visual activity to one’s frame of vision. When in the true sanctuary the activity was in a real sense all around him focusing to the front of the sanctuary. For the overflow room the activity is narrowed down to a small percent of what all is seen. It would be interesting to find out if a big screen monitor would help.

To make the whole overflow room service successful (personal) I had to depend a lot on my personal meditation, separating myself temporarily from the space and others so I could benefit from the service. In ways this was a disadvantage because, when finished with my meditation, I had to compensate for the T.V. monitor.

PEOPLE OBSERVED

1. stop after entering the sanctuary entrance

2. look straight ahead, then from side to side, and then up towards the tower

3. walk down the aisle part of way or down under the tower

4. they look up

5. they look down to the front again

6. finally speculate the sides or walk further to the front

People sit as in contention; they admire things and talk about parts and pieces.

Also they seem to succumb to some unexplainable feeling; the complexity must arouse their minds and set them off from the world.

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APPENDIX B—RESEARCH

CONCLUSIONS

The most important conclusion that can be derived from this study is that different modes of worship must be considered when designing for worship space, (the biggest difference lying with personal time and group worshipping, such as singing, praising, and praying).

The ideas in Question #1 are outweighed when considering their pre-conclusions with question #4. Instead of a denial of the space and its architecture in context of personal meditation, there should be a high regard to personal meditation with respect to the sanctuary and its visual and spatial qualities. In fact, I believe out of the study that the qualities of space become even more important to individual or personal worship rather than the group worship. As understood from the Park Street Church observation the people themselves are able to generate what is needed for worship in a group. When it comes down to personal devotion, the solemn character of the space derived from its simple use of ornament and detailing takes over. Considering Trinity Church, where the sanctuary space could be classified at the other end of the spectrum, about ornament and details, one is immediately succumbed to a personal level of worship. It would have to be assumed that through procession of the service individuals come into a united level of worship.

Out of the survey it was pre-concluded that people had obvious visual sensitivities to their surroundings. Looking at question #2, particular visual qualities were picked according to popularity. In question #3 detail in general was considered important to the degree by how involved it was in buildings.

On a side note, simpler expressive detail was chosen because a clearer meaning was thought important.

Looking at Trinity Church, a whole theme that isn’t easily definable is evident through its architectural elements and massing. Ornament and detail is then overlayed to add emphasis to the elements making up the theme. A thing to watch out for, which is included in the pre-conclusions, is overlaying too much detailing and ornament that will over crowd the process involved with perception.
APPENDIX B—RESEARCH

COMPARISON OF THE CONCLUSIONS TO
THE HYPOTHESES

1. A better fit between the setting and people's performance and well-being through the use of architectural expression of the building is evidently true. But careful consideration of what activity is being fitted needs to be taken at hand. Worship space needs to be designed specifically for the service in mind.

2. From the text above an interface seems to exist between user and building, therefore study of user's perceptual response should be in order. Purpose and meaning of the space and the purpose and meaning of the people need to be examined together and allow the detailing to be a maturing process of design.

3. The survey in regard to question #4 showed an interest in particular of the participants that specific amounts of worshipping needs. Thus far, this response is in agreement of the hypothesis. Reading back about both Trinity Church and Park Street Church, intensity of the languages used had a direct influence on the characteristics of their services and the people who travel through the sanctuary (assuming that Trinity's service is an intimate one through a quick glance at their program). This implies a step toward an evaluation of the hypothesis.
## APPENDIX C - PROGRAM

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COMMENTS

All of the concerns of my resource person are incorporated into the space requirements. Two important ones to mention are the following:

The basic atmosphere of the facility should be that of a house or simply feel like a home. He seriously felt that the traditional church with its inherent associations given it would not suffice.

Another concern, which would find itself into a real application of the design, is that the facility must be designed as a low maintenance building to counteract the high apparent costs of the area.
APPENDIX C  PROGRAM

MULTI-PURPOSE ROOM

4600 sq. ft.

The main part of this facility is the multi-purpose room, which will ultimately serve as a worship area on Sundays and then a space for eating and entertainment on weekdays. Weekly the building as a coffee house should take on a similar atmosphere as those buildings on Newbury Street, getting as much if not more attention. A big aspect of the multi-purpose room is the fact that the space can allow the activities to become something else weekly still emphasizing food, entertainment and 'undercover missions'. On Sundays, a flexible room is still needed to facilitate classes before or after worship, and variations possible in worship.

Minimum of the following will be needed:

capabilities of 2275 people sitting in any arrangement for worship (maximum)

flexible seating

flexible tables

audio-visual: cable, slide projector wiring, usable wall for screens

sound system

movable sound deadening dividers

platform or some accommodation of a raised area

free of any columns

control center for lights and sound equipment

sense of openness: keep away from too low confining space

use of windows for views are essential

storage provided in a separate room
APPENDIX C — PROGRAM

An outdoor space should be included that would be accessible from the street or that is adjacent to it and visually connected;

maximum sunlight during noon to mid-afternoon hours is preferable
APPENDIX C - PROGRAM

ENTRY SPACE 1500 sq. ft.

Serve as a waiting area—5 to 10 seats needed.

Be the introduction to the multi-purpose room having a theme of creation - space for art, vegetation, and creation (involving interaction between people and themselves)

should be a flexible room and easy to clean

be able to see easily from the outside

be easily accessible from the outside by a vestibule

an outdoor space should be included that would be accessible from the street or that is adjacent to it and visually connected;

maximum sunlight during noon to mid-afternoon hours is preferable
APPENDIX C - PROGRAM

KITCHEN FACILITY 600 sq. ft.

capability to serve continuously throughout the day

can be part of a cafe'

immediately joining the multi-purpose space and the service entry—the possibility of it being opened to the multi-use space is considerable / can use a dummy waiter as access

freezer and refrigeration, walk-ins, cleaning station, food prep., and food service
APPENDIX C - PROGRAM

MAIN OFFICES

OFFICES (2) 150 sq. ft. ea.

(Additional leasing space included)
naturally lit
storage closet
entered through secretarial space - 120 sq. ft.
located on a different floor
some provision for copying (separate room ?)
file cabinets, shelving

F - Files
S - Shelving
D - Desk
C - Chairs
CL - Closet
WT - Work Table
APPENDIX C  PROGRAM

Counseling Ministry 660 sq. ft.

Counseling Offices (2) -
120 to 140 sq. ft. ea.
- sound proof
- security system and intercom
- naturally lit
- desk, 3 chairs, book storage, couch, etc.
- storage closet
- restroom connected (cannot go through the
  waiting room to get there) - 20 sq. ft.
- everything must be kept out of reach of any
  children

Family Counseling Room -
180 sq. ft.
- table for 6
- comfort chairs
- could serve as a playroom when not used as a
  counseling room
- storage

Waiting Room W/Secretarial -
180 sq. ft.
- to be a pleasant space - cannot be oppressive or
  be overly exciting
- must have a separate entry from the outside
  other than that of the main entry
APPENDIX C - PROGRAM

Child Care/Nursery - 200 sq. ft.
needs to have an attached bathroom must be isolated from
the outside/kept safe from street, people, etc. - different
floor
appropriate storage - for cleaning items, baby
items, toys, etc.
3 small cribs, assortment of chairs
multi-levels may be considered
access from entry space
different floor (?)

RESIDENTIAL HOUSING - 8800 sq. ft.

staff housing (2)

750 sq. ft. Kitchen
2 bedrooms
dining/living rooms
storage
bath

500 sq. ft. kitchen
bedroom
dining/living rooms
storage
bath

additional housing (10)
same criteria as above
APPENDIX C - PROGRAM

RESTROOMS
near to entry space
custodian closet and storage
others located at offices

SERVICE/STORAGE
for use of kitchen
easily accessible from multi-purpose area
trash area

MECHANICAL - 400 sq. ft.

TOTAL SQUARE FOOTAGES
total space allocation of rooms -
16,625 sq. ft.
circulation 20% of total space -
3325 sq. ft.
total square footage -
19,950 sq. ft.

Back Bay · Boston
# APPENDIX C - PROGRAM

## Strong Spatial Relationships

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## Average Spatial Relationships

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<td>Staff Housing</td>
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Newbury Street Ministry/Coffee House
APPENDIX C  PROGRAM

Weak Spatial Relationships

MULTI-USE SPACE          OFFICES
MULTI-USE SPACE          COUNSELING
                       OFFICES
MULTI-USE SPACE          FAMILY COUNSELING
MULTI-USE SPACE          WAITING ROOM
                       (COUNSELING SERVICES)
MULTI-USE SPACE          STAFF HOUSING
ENTRY SPACE             KITCHEN FACILITY
ENTRY SPACE             COUNSELING
                       OFFICES
ENTRY SPACE             FAMILY COUNSELING
ENTRY SPACE             WAITING ROOM
                       (COUNSELING SERVICES)
ENTRY SPACE             ADDITIONAL
                       HOUSING
CHILD CARE/NURSERY      RESTROOMS
CHILD CARE/NURSERY      WAITING ROOM
                       (COUNSELING SERVICES)

RESTROOMS                COUNSELING
                       OFFICES
RESTROOMS                FAMILY COUNSELING
RESTROOMS                CHILD
                       CARE/NURSERY
PRAYER ROOMS             OFFICES
PRAYER ROOMS             STAFF HOUSING
                       WAITING ROOM
                       (COUNSELING SERVICES)
SERVICE/STORAGE          MECHANICAL

Back Bay · Boston
## APPENDIX D - SITE ANALYSIS

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SITE LOCATION

Newbury Street Ministry/Coffee House
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## DISTANCES FROM CITIES

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<td>10:40 hr</td>
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<td>310 mi</td>
<td>7:15 hr</td>
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<tr>
<td>Albany</td>
<td>169 mi</td>
<td>3:55 hr</td>
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<tr>
<td>Concord</td>
<td>78 mi</td>
<td>1:40 hr</td>
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<tr>
<td>New York</td>
<td>208 mi</td>
<td>4:35 hr</td>
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<tr>
<td>Bangor</td>
<td>241 mi</td>
<td>4:50 hr</td>
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<td>Portland</td>
<td>109 mi</td>
<td>2:20 hr</td>
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<td>Scranton</td>
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<td>7:00 hr</td>
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<td>Hartford</td>
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APPENDIX D - SITE ANALYSIS

SITE LOCATION

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APPENDIX D - SITE ANALYSIS
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BACK BAY -

The site is located along Newbury street at the corner of Exeter. At this location, the church will be in a respective central location along Back Bay's longitudinal spine.
APPENDIX D — SITE ANALYSIS

SITE

The site presently is a parking lot, but before 1969, a Richardsonian Romanesque style building existed here first as the NORMAL ART SCHOOL, then just before its demolition as the DEPARTMENT of EDUCATION.

Across Newbury street is the old PRINCE ELEMENTARY SCHOOL now being renovated into condominiums. The Second Empire style facade is remaining the same for the most part with addition of bay windows.

Across both Newbury and Exeter streets, opening to both streets, is the First Spiritual Temple (also known as Exeter Theater). This Richardsonian Romanesque building too has been renovated for adaptive reuse as retail, restaurant, and office space. It has a rich aesthetic quality to its facade using several colors of stone, and a variety of architectural details.

Across Exeter street there is a Harvard bookstore and cafe with office space above. This building was built very recently and hardly fits into the context of rowhouses. Along Commonwealth Avenue, these rowhouses have become a mixture of owned townhouses and leased apartments. In that same context, hotels and school organizations are also present.
APPENDIX D - SITE ANALYSIS

Exeter Street
Newbury Street

'Site Elementary School'

Exeter Theater
APPENDIX D - SITE ANALYSIS

MASSING

Prevalent solid and void relationships along Newbury and Commonwealth Streets reveal that 50% to 70% of each site is taken up by building. Part of the void is contributed in all the lots by set backs, while, depending upon use, void is greatly contributed to back yard space for the row houses, or a mixture of backyard space and service loading and unloading areas. Also obvious along the same streets is the near consistent rhythm of bay window treatment up to the proposed site.

At the intersection of Newbury and Exeter both the solid/void relationship and facade rhythm ends and begins on pass, indicating importance at this point of activity. Buildings on Boylston Street are obviously larger in nature, taking up as much land as possible and conforming to flatter facade treatments.
APPENDIX D – SITE ANALYSIS

LOT USE

With a quick glance at the drawing it is clear that the site is surrounded by several types of lot uses.

As mentioned, the school across Newbury is being transferred into housing.

Along Newbury, at substreet and street level, rowhouses are spuratically functioning as restaurants and stores while apartments are leased out above.

Behind the site along Boylston Street a strict use of commercial and office space is present, which is evident by the semantics in the architecture of these buildings.

Rowhouses along Commonwealth Avenue are a mixture of owned townhouses and leased apartments. In that same context, hotels and school organizations are also present.
APPENDIX D - SITE ANALYSIS
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Newbury Street Ministry/Coffee House
APPENDIX D — SITE ANALYSIS

ON SITE AND OFF SITE FEATURES

A. Street lights
B. Flood lighting
C. Street down lighting
D. Street down lighting
E. Traffic control boxes
F. Perimeter fence

Newbury Street Ministry/Coffee House
APPENDIX D - SITE ANALYSIS

DRAINAGE

Back Bay · Boston
APPENDIX D – SITE ANALYSIS

NEGATIVE ACTIVITY

NEGATIVE ACTIVITY

B

Haphazard driving and traffic flow at intersection

Possible vandalism in alley

C

Occasional traffic disputes by motorists

Newbury Street Ministry/Coffee House
APPENDIX D - SITE ANALYSIS

VIEWS LOOKING OUT FROM SITE

Along all of the north side of Newbury Street.

Southward down Exeter Street.

Harvard Bookstore/Cafe' building

To the rear of the site.
APPENDIX D - SITE ANALYSIS

NOISE

All noise is predominately coming from automobile and truck traffic.

Some additional noise is temporarily coming from renovation construction at the PRINCE ELEMENTARY SCHOOL.
APPENDIX D — SITE ANALYSIS

NIGHT LIGHTING

Street lighting
Street down lighting
Parking lighting
Exeter Theater signage
APPENDIX D  SITE ANALYSIS

PEDESTRIAN MOVEMENT

12:00 p.m. There is not particular direction of people flow, but depends upon the time of the lunch hour. Depending on the places of particular interest, people move usually quickly, seemingly to get where they are going.

9:00 a.m. The heavier movement is to the south east direction where buses and subway stops are located besides the major points of day time interest, such as the John Hancock Center, Boston Public Library, Prudential Building, and etc.

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APPENDIX D - SITE ANALYSIS

VEHICULAR

Newbury Street Ministry/Coffee House
APPENDIX D - SITE ANALYSIS

SHADOWS

Back Bay · Boston
APPENDIX D – SITE ANALYSIS

CLIMATE

WHAT IS IT LIKE HERE?

The New England Region is known worldwide for its spectacular autumn foliage and deep winter snows.

It is a region of strong and independent creativity, where innovation is quickened by the changing of the seasons. It is a region where people still measure the width of a caterpillar’s dark barb, watch the stomach pack away acorns, and listen for the roar of winter coming in over the Great Lakes, sweeping down out of the Adirondacks — covering everything in its wake with the stillness of snow.

It is a region of biting cold temperatures, far below freezing much of the winter, where people eagerly await the first signs of spring and where looking forward to summer is an ecstatic experience. The rhythm begins again with the first fruits of autumn. Away from the sophistication of cities, it is a predominantly rural region where heavy boots, mackinaw jackets, and warm clothing are a practical solution to comfort needs.

Climate throughout the region, extending across seven degrees of north latitude, varies considerably between the Gulf Stream affects upon Long Island Sound to the wooded forests of northern Maine. In an east to west direction, from where daily sunshine first touches the United States on the eastern coast of Maine to the western reaches of New York at Lake Erie, the region encompasses thirteen degrees of longitude.

The region is predominantly cold and cool, a severe climate recognized as such by colonial settlers, offering unique opportunities for residential energy conservation methods and techniques. Within all areas of the region, from the “Saltboxes” of Cape Cod to the long houses of the Iroquois, the region abounds with historical and contemporary examples of residential architecture attuned to the region’s climatic demands.

However, on a regional level, buildings still focus attention on two environmental aspects of climate — wind and sun — as the principle shapes of northeastern energy conscious homes. As illustrated in the diagram at the left, a deeper awareness of these two factors can be used to substantially reduce energy needs in most homes today.
APPENDIX D — SITE ANALYSIS

CLIMATE

Average relative humidities, for the most part, are just barely comfort-able. Evening and early morning humidities tend to be high especially during summer and autumn, dropping lower into acceptable levels during daylight hours. Extreme summer humidities, coupled with high air temperatures, occasionally produce short periods of discomfort during July and August.

Basic Climate Condition

Homes throughout the region should be designed for severely cold and cool conditions.

Temperature and Humidity

Climate and comfort are not purely a function of temperature and humidity. The effects of solar radiation, wind, moisture addition, and diurnal temperature ranges can significantly influence (or deplete) individual and room comfort. (All data in the graphs are for Hartford, CT.)

The Basic Condition: Temperature and Humidity

1. Temperature: A Liability When It's Too Cold For Comfort

Without question, protection from the cold outside temperatures which cause significant heat loss is of first priority.

2. Wind: A Liability When It's Too Cold For Comfort

Look at your winter wind conditions. When it's too cool for comfort, wind can seriously speed up heat loss. Wind chill factors and infiltration percentages can reflect this loss, stressing the importance of wind proof design. Winter winds are usually from northeasterly and westerly directions, but can be greatly affected by hills and valleys, lakes and coastal influences, as well as other factors including streets, trees, and adjacent buildings. An energy conscious homebuilder should carefully check wind directions to minimize the liability of winter wind impact.
APPENDIX D  SITE ANALYSIS

CLIMATE

3. SUN: AN ASSET WHEN IT'S TOO COLD FOR COMFORT
Look at your winter sun conditions. Where sunshine is available throughout the region more than 50% of daylight hours per day, it is during the colder seasons of spring and autumn when maximum passive energy benefits can be achieved, adding several weeks of natural comfort.

When multiplied against the square footage of south facing horizontal or vertical surfaces, the graph above illustrates the intensity of BTU's available for the extension of natural comfort during the cold and winter season, significantly reducing energy needs. During the winter, when the sun is low in the sky, the solar impact is lowered on horizontal surfaces—and heightened on vertical south-facing surfaces.

4. SUN: A LIABILITY WHEN IT'S TOO HOT FOR COMFORT
Look at your summer sun conditions. Sun can be an asset during comfort periods, generating cooling loads for two months which can be necessary. Although the benefits of sun in the winter outweigh the benefits of sun in summer, careful design can result in both. In summer, when the sun is higher in the sky, the solar impact will be great on a horizontal surface, but small and easily diffused on a vertical surface.

5. WIND: AN ASSET WHEN IT'S TOO HOT FOR COMFORT
Look at your summer wind conditions. High wind speeds and the use of natural ventilation provides effective cooling. High wind speeds can also contribute to cooling through the use of natural ventilation. The summer winds are generally steady. Directly by dual-spread air fans and those can be greatly affected by local conditions.

Newbury Street Ministry/Coffee House
BIBLIOGRAPHY


