THE HUBBARD CONSERVATORY
A Center for the Study, Performance and Construction of Early Keyboard Instruments

Todd A. Fenoglio

Terminal Thesis
College of Architecture and Planning
Ball State University

20 December 1989

Thesis Committee
Alfredo R. Missair, Chairman (1/89-5/89)
Michel A. Mounayar, Chairman (8/89-12/89)
Carlos Casuscelli
Gregory S. Fryzel
This Thesis Document is submitted in partial fulfillment of the course requirements for Architectural Thesis ARCH 404 and the requirements for the degrees Bachelor of Architecture and Bachelor of Science in Environmental Design

Building Type:
A Center for the Study, Performance
and Construction of Early Keyboard Instruments

Location of Project:
"The Landing"
West Berry Street
Fort Wayne, Indiana

Thesis Committee:
Alfredo R. Missair, Chairman (1/89-5/89)
Michel A. Mounayar, Chairman (8/89-12/89)
Carlos Casuscelli
Gregory S. Fryzel

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To Judy,
who has sacrificed and contributed greatly
to the development of this thesis.
You are a source of continuing inspiration.
Acknowledgements

I once heard my father say that a man doesn’t often get the chance to thank those who have helped him along the way, and so while I have the opportunity I would like to gratefully acknowledge the following people:

Gregory Fryzel:
You have brought your love and friendship to this project as I knew you would. I will always hold dear the time spent with you in this romantic endeavor. Your consummate care and perfection in detail will always be the beacon upon which I am fixed. I love you.

Christine Chaney:
You may never know the degree to which you have affected me. I see and hear you in both my architecture and my daily experiences, and I see in this thesis more than a little of you. I found in you a wonderfully committed friend and you continue to inspire me even in your absence. I love you.

Family, friends:
You have all been a constant source of comfort for Judy and me, and we will never be able to repay the debt we owe you. Please know that we could not have done it without your support and prayers. We love you.

Judy:
You, more than anyone, deserve this acknowledgement. You have encouraged me when I was disheartened and celebrated with me in my triumphs. You are a friend, a lover, a companion, a true helpmate. You are my strength. I adore you.
Contents

Acknowledgments

Table of Contents

Preface

Spring Semester 1989
  Syllabus
  Introduction
  Process Reports
  Thesis Proposal

Fall Semester 1989
  Syllabus
  Introduction
  Gregory S. Fryzel
  Harpsichord Research
  Construction Photos - Fryzel/Ligett Virginal (1981)
  Program - Harpsichord Workshop
  Site Photos
  Presentation Drawings
  Presentation Models

Appendix
  Soundboard Newsletter
  William F. Buckley Jr. Article
  D. Jacques Way & Marc Ducornet Literature
  Vladimir Horowitz Article

Glossary

Illustrations

Bibliography
Preface

To be a "romantic" is a permanent state of mind that can never be confined to any segment of time. Its characteristics include: a yearning for the infinite, for the unattainable; identification with nature, and with the joys and sorrows of life; and a desire to fathom the purpose of existence and to gain a fuller understanding of man's destiny, both here on earth and in the afterworld. Above all, romanticism is filled with opposite extremes: a love of solitude and a love of another; a search for the exotic and a nostalgia for the familiar; a wish for fame and notoriety and a need for the simplicity of isolation; a penchant for growth and self-improvement and a longing for the "good old days." Sometimes romanticism is a reaffirmation of the realization that the unattainable is, after all, just that - unattainable, which does not keep the romanticist from striving for it.

Karl Haas
Inside Music
p. 292
DEPARTMENT OF ARCHITECTURE
Ball State University
Muncie, IN 47306

SYLLABUS FOR FIFTH YEAR ARCHITECTURAL DESIGN AND THESIS
ARCH 403 and 404
FALL SEMESTER 1989

1. CATALOG DESCRIPTIONS

403. Architectural Design. (5) Design of multi-use projects on multiple-building sites with emphasis on research, programming, and systems integration through detail design development. Additional emphasis on circulation and movement systems. Exploration of presentation media. Prerequisite: ARCH 402 and admission to fifth year by Faculty Design Review Panel.

404. Architectural Thesis. (5) Development of a thesis idea plus an architectural project to test or verify the thesis statement. Includes execution of extensive program research, comprehensive site and building prototype analysis. Emphasizes project management and design development including all major technical systems. Prerequisite: ARCH 403, 452.

2. FIRST SEMESTER ARCH 403

The first semester will consist of projects assigned by the studio instructor which will help students focus on design processes, articulate a range of architectural issues, formulate procedures for evolving projects, and further develop an awareness of inquiry as an integral part of design. Additional objectives of this studio are the establishment of thesis committees, and preparation of the individual project proposal for the final semester.

During this first semester, students must have passed or be enrolled in ARCH 427 (Philosophy), 451 (Research), and 452 (Programming and Thesis Prep). Entry into ARCH 404 is conditional upon submission of a project proposal by the required deadline, and the approval of said proposal by the committee.

SECOND SEMESTER, ARCH 404

During this final semester of studio, the issues and methods explored or developed in ARCH 403 are to be resolved in the design and presentation of the individual thesis project.

It is highly recommended for the success of the thesis that all non-elective degree requirements be completed prior to entering the final design semester.
3. **Thesis Introduction**

The undergraduate Architectural Thesis is intended to be a comprehensive architectural design project through which the student demonstrates the fullest level of development of his or her skills in incorporating those philosophical and theoretical concepts or ideas that guide the design processes, into the design and successful presentation of a well-integrated architectural environment of significance.

The Thesis is an opportunity for each student to creatively generate a design project on a theme of personal interest, while assuming greater responsibility for initiating and managing those activities that are required for successful completion of the project. At the same time, the Thesis is an opportunity for the faculty to challenge the risk-taking ability of the student, and to make the measure of success the depth of individual exploration in architectural designing, in addition to the basic criteria more common to the earlier studios.

The Thesis is the culmination of the undergraduate architectural curriculum. It should provide the students with the richest and most rewarding experience of the architectural design process that is possible in an academic context. It should also assure the faculty of the maturity of each student's thinking and communication skills, self-confidence in design, and responsibility for judgment, prior to joining the architectural profession.

4. **Thesis Committee**

Each student's thesis committee will consist of his or her thesis studio instructor, who will serve as chairperson, and two additional members chosen by the student: a second architecture faculty member, and at least one other outside consultant suitable to the theme of the thesis. The responsibilities of the Thesis Committee are (1) to assist the student in developing a Thesis Project Proposal, (2) to review the proposal and, if satisfied, recommend its approval, (3) to guide progress on the Thesis project by consulting with the student on a regular basis, and (4) to assign the grade(s) for thesis work. The student must ultimately take responsibility, however, for ensuring the active role of the committee, and for the nature and quality of the proposal and project.

5. **Thesis Project Proposals**

The following model proposal outline is based on a comprehensive architectural programme, or brief; alternative formats of comparable scope may be used for actual proposals, but are not recommended unless essential or as directed by faculty in Arch 452.

The purpose of this proposal is to provide the foundation for a successful Thesis Design Project. The proposal establishes the subject, scope, and direction of the thesis project, and provides a concise summary of the background information required to begin designing.
A. Thesis topic/issues and position (what is to be tested)
B. Design objectives (now it will be tested)
C. Building program (indoor/outdoor functions and requirements)
D. Context analysis (physical and social/cultural)
E. Analysis of precedents (typological and/or historical)
F. State of Research (what else has been written or accomplished in your topic area, in architecture or related fields), including a bibliography with full citations.

6. THESIS SCHEDULE  First Semester

Week
One     403 Studio Assignments and Design Projects Given
Two
Three   403 Thesis Committees Formed
Four
Five    403 Meet With Thesis Committees
Six     Field Trip Week
Seven
Eight   Mid Term Reviews
Nine
Ten
Eleven  403-Thesis Proposals Due W/Signatures of Committee
Twelve
Thirteen
Fourteen
Fifteen Final Presentations
7. Thesis Schedule  
Second Semester

Week

One  Begin Thesis Design work

Two  Note: Schedule of this semester to be coordinated individually with studio professor/committee chair.

Three

Four

Five

Six

Seven

Eight

Spring Break

Nine

Ten

Eleven

Twelve

Thirteen

Fourteen

Fifteen  Final Reviews
SPRING SEMESTER 1989

Introduction

The spring semester of 1989 was spent in ARCH 403 under the tutelage of Alfredo Missair. There were two independent design projects completed and research for the Thesis Proposal was conducted.

The first design problem offered was the Competition Diomedes. This was an international design competition that used the two islands on either side of the international date line - The Diomedes - as a "site." The intent was to propose an idea that would serve to begin a dialogue between the East and the West. The two islands were a study in contrast: the USA/USSR border, the transition from one day to the next, the "line" between East and the West, etc., etc., etc. The project was completed and mailed to Washington D.C. where it was included in an exhibit of all entries.

The second design project was the National Competition for the Proposed Korean War Veterans Memorial. The site given was directly across the Mall from the Vietnam War Veterans Memorial by Maya Lin. This was a very exciting and challenging problem for me, not only in terms of the design solution itself, but also because I worked with two friends (John Day and Jon Salzmann) over the course of one weekend. This process, called a "charette" is a very exciting way to design because it forces you into quick decisions and chance-taking. It helped me immensely in the ability to work closely with other people, a process I was unfamiliar with due to a daily commute. I felt that the team came up with an elegant solution that was both subtle and powerful. At this time, I sincerely considered it as some of my best design work.

The investigation/research/reading portion of this semester was conducted simultaneously with these two projects and resulted in a Thesis Proposal submitted at the end of the semester. Along with daily discussions with my thesis Chairman, Alfredo Missair, I conducted my own research into the area of "Music and Architecture." Although I enjoyed the process of researching, I often found that my curiosity and inquiries had led me into an area somewhat different from where I had started. By reading the process reports that follow and the proposal at the end of this section, you will see the different trails that I followed in search of:

the ultimate thesis proposal!
Todd A. Fenoglio
Thesis Process Report
11 January 1989

THESIS COMMITTEE:
Alfredo Missair, advisor
Carlos Causescelli (sp?)
Rod Underwood
Tony Costello (?)
Bro. Gregory Fryzel, o.f.m.(?)
Music Department Person: music theory (Dr. Pelligrini?)

THESIS PROPOSAL:
*An investigation into the close relationships between music and architecture

*As music was written specifically for a work of architecture (Notre Dame, St Mark's) and about architecture (Mussorgsky), can architecture be made for musical composition?

*Does music inherently involve architectural ideas of form, rhythm, hierarchy, etc. and architecture of melody, harmony, theme, pace, etc.?

*A chance to deepen understanding about something which I enjoy from a purely uneducated standpoint

*Video!

*Write to Karl Hauss concerning program/s of music and architecture; also about similarities between Copland and Wright in a search for an indigenous, original, purely American idea of music/architecture separate from the Europeans
An Investigation Into The Relationships
Between Music and Architecture

My initial intention in this endeavor is to study the similarities between music and architecture. Concentration will most likely be made in what is normally referred to as "Classical" music. From a purely historical point of view, architecture and music have been closely associated, whether in the composition of a piece for a certain space (St. Mark's, Notre Dame), a piece actually describing certain architectural forms (Moussorgsky, Pictures at an Exhibition), or simply the intrinsic similarities between composition and building, composer and architect (Aaron Copland and Frank Lloyd Wright).

I feel confident that the study and analysis of accepted "great" compositions will yield some insightful conclusions; that good musical composition, by its very nature, contains the same primary elements as good architectural design: rhythm, hierarchy, proportion, detail, balance, etc.

For the execution and testing of the thesis idea, I am initially planning to take a well known "classical" composition (yet to be decided) and to design a building using its discovered ordering elements. I am considering doing what, to the best of my knowledge, is a unique building type. We have seen, in the 1980's, the emergence of corporate seminar facilities, geared toward the improvement of the company's employees. At these often remote facilities, the employees attend seminars, training workshops, and other planned activities with the intention of becoming better managers, leaders, etc. I would like to adapt this building type to the use of the musician, composer, conductor, etc. This facility would become a type of "summer camp" for those eager to improve their craft, and who desire interaction with like musicians.
In the following pages I hope to accomplish three tasks: to put forth the ideas behind the development of an architectural thesis subject, to list and annotate a bibliographical list of sources (books, audio recordings, and video recordings), and to explain a possible direction for further study and research into the subject.

It must first be understood that this is merely and in-process report. When I began this investigation, I was naively confident where my study would lead me. I had formulated a desired building type based on the discipline that I wished to study. In my initial submittals, I indicated that I wished to undertake the design of a national musician's retreat center where the nation's foremost composers, conductors, and musicians might travel to spend time interacting with like-minded individuals. This idea stemmed from an initial hypothesis that music and architecture were basically similar, and that to study what made music exceptional would lead toward an understanding of what could make architecture exceptional.

But and interesting and personally enlightening thing happened. As I began to study and listen to classical music, the chosen arena, I began to recall very early musical memories of my childhood. One recording in particular, Rachmaninoff's Five Pieces and Preludes recorded by Ruth Laredo, stimulated an intensely emotional memory of my youth. This, in fact, was the first classical music that I had ever heard. I had played it on a small record player as a child and became so familiar with it that, when one piece would end, I could begin the next piece. Upon talking to friends and family, I discovered that they, too, had certain pieces of music which recalled a specific memory every time they heard it, and many times this certain song elicited a very strong physiological reaction (increased heart rate, goose bumps, "a lump in my throat," etc.). This became the basis of what, for me, is a very strong architectural idea.

I would initially pose three questions:
- If music and architecture are so similar, can a piece of architecture be designed that can have this same sort of emotional effect on a person?
- Can this piece of architecture be designed using a similar process and with similar inspiration as a musical piece?
- Can the spirit of a certain musician/composer be the inspiration for a work of architecture to honor him and, if so, how will that translation between disciplines occur?

This final question comes in response to another issue which I feel is
very important, in both an architectural sense as well as a cultural sense, to the development of this project.

The late Sergei Rachmaninoff has, through my research, become a very strong personality to me. I view him with a great deal of respect and feel that I can become a better architect by emulating some of his artistic musical characteristics. In addition, the living American virtuoso, Vladimir Horowitz, has also become an incredibly interesting person to me. It occurs to me that this composer, Horowitz, is the embodiment of an idea that is all but lost... he has aptly been described as the last Romantic. Sadly but inevitably, this man will die in my lifetime. Probably, only then will the general public become aware of what the life of Vladimir Horowitz meant, and how much we will have lost with his departure.

To that end, I would like to use the lives, works, and inspirations of both Sergei Rachmaninoff and Vladimir Horowitz as the basis for my own search for an inspirational and meaningful architecture. How that idea will manifest itself in an architectural solution should prove to be an exciting and growth-filled experience.
"I have never been quite able to make up my mind," confessed Rachmaninoff, "as to which was my true calling - that of a composer, pianist, or conductor... I am constantly troubled by the misgiving that, in venturing into too many fields, I may have failed to make the best use of my life. In the old Russian phrase, I have 'hunted three hares.' Can I be sure that I have killed one of them?"

... But in their revelations of the struggles of a noble nature with its environment these recollections owe their supreme dramatic interest to their picture of Rachmaninoff as a composer. This is partly because, of all the three "hares" that he was hunting, composition is the shyest, the most difficult to come near. In piano-playing and conducting you have external routine, social stimulus, immediate appreciation. Composition you have to pursue by yourself; you have to evolve it, as the German did the camel, out of your inner consciousness; you have to be your own occasion, audience, and critic. Rachmaninoff, moreover, had to overcome many formidable obstacles, inner and outer, in order to compose at all; and it is the supreme drama of his life that he never entirely overcame them (who ever does?) and so has probably never shown the full measure of his gifts. To an appreciable extent, in the very years he has been feted as a pianist he has been crucified as a composer.

... It is enough that Rachmaninoff, by his talents one of the most highly gifted of contemporary composers, has also been one of the noblest in character - in loyalty to art, in contempt of obloquy, misrepresentation, and attack. He has had the misfortune to live in an epoch of weariness and disillusion, when eccentricity was at a premium, sensationalism alone could attract general attention, and journalism largely dominated and disastrously depraved music. Through all that noise and confusion, he has kept quietly on his way. Whether a renascence of reason or a new dark age in now upon us we cannot tell. But of one thing we may be fairly sure: when at last the tonal rockets that have monopolized most of our attention leave nothing behind them but some sticks an a sour smell, music like Rachmaninoff's will abide, to comfort us with its equable human glow.

July, 1934
Daniel Gregory Mason
Introduction to Rachmaninoff's Recollections
BOOKS:


Whitman, Alden. *Great Performers: Vladimir Horowitz* [audio].
   Charles Sutton)

**Future Books:**

Graffmann, Gary. *I Really Should Be Practicing.*
   -Horowitz coached

MUSICAL SCORES (SHEET MUSIC):

Sergei Rachmaninoff
Piano Concerto No. 2, Opus 18
   New York: Boosey & Hawkes, 1947

Sergei Rachmaninoff
Piano Concerto No. 3, Opus 30
   London: Hawkes & Son, 1942

Sergei Rachmaninoff
Trieze Preludes, Opus 32
   New York: Boosey & Hawkes, n.d.

Sergei Rachmaninoff
Six Études-Tableaux, Opus 33
   New York: International Music Co., 1941

Sergei Rachmaninoff
Album for the Piano
   New York: G. Schirmer, 1946

Alexander Scriabin
The Complete Preludes & Études for Pianoforte Solo
   New York: Dover Publications, 1973

Future Scores:
AUDIO:

RACHMANINOFF:

Rachmaninoff
The Complete Works for Solo Piano, Vol. 1
  Preludes, Opus 23
  Five Pieces, Opus 3
Ruth Laredo, piano
Columbia Masterworks M 32938
1974

Sergei Rachmaninoff
Great Men of Music Series
  Symphony No. 2 in E Minor, Op. 27
    Philadelphia Orchestra; Eugene Ormandy, conductor
  Songs:
    Oh, Cease Thy Singing, Maiden Fair, Op. 4, No. 4
    Wait for Thee, Op. 14, No. 1
      Galina Vishnevskaya, soprano; Alexander Dedyukhin, piano
  Spring, Cantata, Op. 20
    John Shaw, bass-baritone; Cathedral Choir of St. Ambrose (John McCarthy, director); New Philharmonia Orchestra; Igor Buketoff, conductor
  Rhapsody on a Theme of Paganini, Op. 43
    Van Cliburn, piano; Philadelphia Orchestra; Eugene Ormandy, conductor
  Solo Piano Music:
    Prelude in C-Sharp Minor, Op. 3, No. 2
    Sergei Rachmaninoff, piano (recorded April 4, 1928)
    Étude-Tableau in E-Flat Minor, Op. 39, No. 5
    Prelude in D, Op. 23, No. 4
    Prelude in G, Op. 32 No. 5
    Prelude in G Minor, Op. 23, No. 5
    Prelude in E-Flat, Op. 23, No. 6
    Prelude in C Minor, Op. 23, No. 7
    Van Cliburn, piano
  Isle of the Dead, Op. 29
    Chicago Symphony Orchestra; Fritz Reiner, conductor
  Piano Concerto No. 3 in D Minor, Op. 30
    Vladimir Ashkenazy, piano; Philadelphia Orchestra; Eugene Ormandy, conductor
Time-Life Records STL 566
1978
Rachmaninoff
*The Complete Works for Solo Piano, Vol. 6*
Seven Pieces, Opus 10
Six "Moments Musicaux," Opus 16
Ruth Laredo, piano
Columbia Masterworks M 35836
1980

Twilight of Romanticism
Sibelius, Rachmaninoff, R. Strauss, Mahler
*Great Ages of Music Series*
Sibelius: Finlandia, Op. 26
London Promenade Orchestra; Charles Mackerras, conductor
Rachmaninoff: Piano Concerto No. 2 in C Minor, Op. 18
Vladimir Ashkenazy, piano; London Symphony Orchestra; André Previn, conductor
Richard Strauss: Don Juan, Op. 20
Vienna Philharmonic Orchestra; Lorin Maazel, conductor
Mahler: Symphony No. 4 in G Major
Sylvia Stahlman, soprano; Concertgebouw Orchestra of Amsterdam; Sir Georg Solti, conductor
Time-Life Records SGMU-09
1984

HOROWITZ:

Horowitz
25th Anniversary of His American Debut
Carnegie Hall Recital
*February 25, 1953*
Schubert: Sonata in B-Flat (Posthumous)
Chopin: Nocturne in E Minor, Op. 72 (Posthumous)
Scherzo No. 1 in B Minor, Op. 20
Scriabin: Sonata No. 9, Op. 68
Étude in B-Flat Minor, Op. 8, No. 7
Étude in C-Sharp Minor, Op. 42, No. 5
Liszt-Horowitz: Hungarian Rhapsody No. 2
Encores:
Debussy: Serenade for the Doll (from the "Children's Corner" Suite)
Chopin: Waltz No. 3, in A Minor, Op. 34, No. 2 ("Valse brillante")
Vladimir Horowitz, piano
RCA Victor LM-6014
1953
The Sound of Horowitz

Schumann: Scenes From Childhood (Kinderszenen), Op. 15
   Toccata, Op. 7
Scarlatti: Sonata in E Major, L. 430
   Sonata in A Major, L. 483
   Sonata in G Major, L. 209
Schubert: Impromptu in G-Flat Major, Op. 90, No. 3
Scriabin: Poem, Op. 32, No. 1
   Étude in C-Sharp Minor, Op. 2, No. 1
   Étude in D-Sharp Minor, Op. 8, No. 12

Vladimir Horowitz, piano
Columbia Masterworks ML5811 (monaural)
1963

Vladimir Horowitz
In His First Recordings of:
   Beethoven: Sonata No. 8 in C Minor, Op. 13 ("Pathétique")
   Debussy: Three Preludes (Book 2)
   Chopin: Étude in C Minor, Op. 10, No. 12 ("Revolutionary")
   Étude in C-Sharp Minor, Op. 25, No. 7

___
   Chopin: Scherzo No. 1 in B Minor, Op. 20

Vladimir Horowitz, piano
Columbia MS 6541 (monaural)
1963

The Horowitz Concerts 1977/1978
Golden Jubilee Recital
   Liszt: Sonata in B Minor
   Fauré: Impromptu No. 5, Op. 102
   Nocturne No. 13 in B Minor, Op. 119

Vladimir Horowitz, piano
RCA Red Seal ARL1-2548
1977

Vladimir Horowitz
Golden Jubilee Concert
Recorded Live at Carnegie Hall
January 8, 1978
   Rachmaninoff: Piano Concerto No. 3
   New York Philharmonic, Eugene Ormandy, conductor

Vladimir Horowitz, piano
RCA Red Seal CRL1-2633
1978
Vladimir Horowitz

**Great Performers Series**

**Chopin**: Sonata No. 2 in B-Flat Minor (Funeral March), Op. 35

**Schumann**: Kinderszenen (Scenes from Childhood), Op. 15
  - Arabeske, Op. 18
  - Toccata, Op. 7

**Encore Pieces**:
- **Clementi**: Rondo (from Sonata in B-Flat Major, Op. 41, No. 2)
- **Scarlatti**: Sonata in B Minor (Kk. 87)
  - Sonata in G Major (Kk. 125)
- **Chopin**: Étude in C-Sharp minor, Op. 10, No. 5
  - Étude in G-Flat Major, Op. 10, No. 6
- **Poulenc**: Pastourelle
  - Toccata
- **Bizet/Horowitz**: Variations on Themes from “Carmen”
- **Prokofiev**: Toccata, Op. 11
- **Liszt**: Hungarian Rhapsody No. 19 (arr. Horowitz)
- **Scriabin**: Sonata No. 10 in C Major, Op. 70
  - Étude in C-Sharp Minor, Op. 2, No. 1
- **Rachmaninoff**: Étude-Tableau in C Major, Op. 33, No. 2
  - Étude-Tableau in E-Flat Minor, Op. 39, No. 5
  - Concerto No. 3 in D Minor, Op. 30
  - Philadelphia Orchestra; Eugene Ormandy, conductor

Vladimir Horowitz, piano

Time-Life Records STL-P06

1981

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Horowitz At The Met

Recorded Live At The Metropolitan Opera House

**November 1, 1981**

- **D. Scarlatti**: Sonata in A-Flat, L. 186
  - Sonata in F Minor, L. 118
  - Sonata in F Minor, L. 189
  - Sonata in A, L. 494
  - Sonata in B Minor, L. 33
  - Sonata in E, L. 224

- **Chopin**: Ballade No. 4 in F Minor, Op. 52
- **Liszt**: Ballade No. 2 in B Minor
- **Chopin**: Waltz in A-Flat, Op. 69, No. 1
- **Rachmaninoff**: Prelude in G Minor, Op. 23, No. 5

Vladimir Horowitz, piano

RCA Red Seal ARC1-4585 (digital)

1982
Horowitz
Performances Featured in the film "Vladimir Horowitz - The Last

Romantic"

Bach/arr. Busoni: Chorale Prelude "Nun komm' der Heiden Heiland"
Mozart: Piano Sonata in C Major, K. 330
Chopin: Mazurka in A Minor, Op. 17, No. 4
Scherzo No. 1 in B Minor, Op. 20
Schubert: Impromptu in A-Flat Major, D 899, No. 4 (Op.90, No. 4)
Liszt: Consolation No. 3 in D-Flat Major
Schumann: Novellette in F Major, Op. 21, No. 1
Scriabin: Étude in C-Sharp Minor, Op. 2, No. 1
Chopin: Polonaise No. 6 in A-Flat Major, Op. 53
Moszkowski: Étude in F Major, Op. 72, No. 6

Vladimir Horowitz, piano
Deutsche Grammophon 419 045-1 (digital)
1985

Horowitz in Moscow
Recorded Live at The Moscow Conservatory
April 20, 1986

Scarlatti: Sonata in E Major, K. 380 (L. 23)
Mozart: Piano Sonata in C Major, K. 330 (300h)
Rachmaninov: Prelude in G Major, Op. 32, No. 5
Scriabin: Étude in C-Sharp Minor, Op. 2, No. 1
Étude in D-Sharp Minor, Op. 8, No. 12
Liszt/Schubert: Soirées de Vienne: Valse-Caprice No. 6
Liszt: Sonetto 104 del Petrarca
Chopin: Mazurka in C-Sharp Minor, Op. 30, No. 4
Mazurka in F Minor, Op. 7, No. 3
Schumann: Träumerei
Moszkowski: Étincelles, Morceau caractéristique Op. 36, No. 6
Rachmaninov: Polka de W. R.

Vladimir Horowitz, piano
Deutsche Grammophon 419 499-1 (digital)
1986

Future Audio:
VIDEO:

"Vladimir Horowitz - The Last Romantic"

"In Celebration of the Piano" - hosted by Van Cliburn

Future Video:

"Horowitz In Moscow"

National Network(?) Performance, 1968

Televised(?) Performance at the White House, Feb 1978 (Carter)

Carlos Saura: Bodas de Saugre, Garcia Lorea

Julio Cortazar
Vladimir Horowitz
Golden Jubilee Concert
Perf. S. Rachmaninoff: Concerto No. 3

This, I think, is my favorite of all the recordings that I've heard so far. The occasion was unabashedly Romantic: Vladimir Horowitz, America's premier piano virtuoso, was celebrating the 50th Anniversary of his American debut. I can only try to imagine the energy and emotion of the night! Horowitz would later have what would be for him, a more emotional event - his performance at the Moscow Conservatory in April of 1986 - but at the time, this was the pinnacle of his career. In the newly restored Carnegie Hall, a full house thunderously welcomed the 73 year old master on stage to perform with Eugene Ormandy and the New York Philharmonic. It was, in fact, the very same orchestra with which he had performed in the 1928. And to further enhance the magic, Horowitz would perform Sergei Rachmaninoff's Concerto No. 3 for Piano and Orchestra.

Rachmaninoff, like Horowitz, was a Russian expatriot who was considered to be the last "Romantic" composer of his era. Horowitz had openly idolized the older gentleman during his lifetime, and they had formed a sincere friendship that would forever influence the pianistic world.

unfinished ...
When Vladimir Horowitz prepares to play a piece by a particular composer, he immerses himself in that era. He studies the letters of the composer, the political and economic climates of the period, most, if not all of the other works by the composer (including, if the songs and operas), and any other such factor which may have influenced the composer and contributed to his music. Horowitz feels that this is the truest way to gain insight and understanding into the meaning of the work. He then takes all that he has learned and combines it with his own feelings about the music, and produces a very personal, very emotional, very romantic performance. For this is the true Romantic ideal: to interpret a piece of music that brings part of the original composer and part of the performer into the music.

Horowitz contends that, in recent years, however, virtuoso piano performing has taken on a very modern character. He argues that emphasis is currently placed on technique and mechanical ability. The pianist's individual interpretation of Chopin, for instance, is now much less important than the flawless performance of the original score. This "trend" is perpetuated by the current system of piano competitions. Since ________, it has been commonly recognized that the best, if not the only way to gain international prominence as a pianist is to win a major piano competition, such as the Tchaikovsky, Van Cliburn, and Chopin Competitions. With a multiple member panel of judges selecting the eventual winner, the contestant is virtually forced into a very conservative approach to the music. An interpretation that is praised by one judge may be detested by another, and to offend a even one judge in this type of competition is to forfeit the prize. Thus, the attention to strict time, strict dynamics, and flawless technical performance is vital.

What I wish to do is to design a new type of musical conservatory that teaches a balance between the technical and the artistic
performing of piano. In this facility, the teachers would actually be visiting concert pianists, and the students would be future virtuosos. The facility would encourage the interaction between the two schools of thought and would have, as its function, simply the "study, practice and performance of music for the piano."

My initial intent is to do an architectural thesis using a process similar to the one Horowitz uses. I am devoting this semester to research of the project, this summer to programming, and fall semester (Arch 404) solely to schematic design and design development.

My current research has led to study in the following areas:
- listening to the recordings of pianists and composers such as Vladimir Horowitz, Ruth Laredo, Van Cliburn, Jorge Bolet, Andre Watts, Joseph Hofmann, Vladimir Ashkenazy, Arturo Toscanini, Sergei Rachmaninoff, Alexander Scriabin, Frederic Chopin, and numerous others
- reading album liner notes, album reviews, and concert reviews
- reading literature about Horowitz, Rachmaninoff, Liszt, and others
- reading Horowitz's and Rachmaninoff's recollections (Horowitz states that in order to learn about an artist, you should read what he has said, in addition to what others have said about him.); I intend to listen to recorded interviews with Horowitz
- viewing recent videos made by Horowitz such as The Last Romantic, Horowitz in Moscow, Horowitz in London, in addition to selected PBS programs on the Tchaikovsky Competition and a Carnegie Hall program entitled In Celebration of the Piano; I also plan to view some of the tapes Horowitz made in the 1960's and '70's
- attempting to follow musical scores with the recordings
- a scheduled interview with the pianist of the Carmel Symphony Orchestra
"I have never been quite able to make up my mind," confessed Rachmaninoff, "as to which was my true calling - that of a composer, pianist, or conductor. . . . I am constantly troubled by the misgiving that, in venturing into too many fields, I may have failed to make the best use of my life. In the old Russian phrase, I have 'hunted three hares.' Can I be sure that I have killed one of them?"

On a more pragmatic level, my initial research has led me to this very basic hypothesis: the process of creating successful and meaningful architecture is closely related to the creation of meaningful music. By studying music, I will improve my abilities as an architect, and music can be a powerful inspiration and influence on the work I create.

The modern architect needs to be skilled in three areas, closely associated with the "three hares" of composer, pianist, and conductor. As a "designer" he composes, and as a "construction manager" he conducts. If he ignores the middle area, though, that of the pianist, he has sacrificed a vital element. This pianism is analogous to an architect's understanding of his instrument, namely materials. To understand materials is to play an instrument, and this sensitivity and knowledge is vital to a holistic architecture.

I have always been attracted to the work of architect's who seem to possess this understanding, and Steven Holl and Tod Williams are of particular interest to me. In my ensuing thesis project, I hope to "catch" this elusive hare, and, in the end, to create a meaningful and complete work of architecture.
Architecture as Frozen Music:
an investigation into the synesthetic concept in art

Todd A. Fenoglio
College of Architecture and Planning
Ball State University
17 April 1989

Thesis Proposal

synesthesia: a concomittant sensation: esp: a subjective sensation or image of a sense (as of color) other than the one (as of sound) being stimulated.¹
ABSTRACT

The process of artistic creation is vitally dependent on inspiration. Without a significant basis from which it can originate, the process becomes shallow and meaningless resulting ultimately in a banal product. Music has been utilized as this source by countless writers, painters, sculptors, and architects since early history. This thesis is an attempt to discover those intrinsic qualities common to both architecture and music, and to incorporate them into a final design project.
INTRODUCTION

With the world's people watching more television than seems imaginable, a particular association takes place with numbing frequency. Advertisers bombard us with ludicrous combinations of classical opera and laundry detergent, Pachelbel and light bulbs, Vivaldi and toilet tissue, etc., etc., etc. "Madison Avenue" has long since realized that music forms our perception of many things, and its daily influence on our lives is incalculable.

In lieu of these meaningless and incongruous associations, I submit that the relationship of music and architecture is a natural one. Imagine the following scenario:

We are sitting in a darkened movie theater. The first scene of the show opens with a marvelous panoramic view of the Capitol Building in Washington D.C. The scene is combined with a musical score that is noble, even aristocratic. The sound of trumpets announce our arrival. Deep basses grow louder as we ascend the steps. As we pull open the heavy doors a single tympany drum rolls and then stops. For a moment there is nothing: no image, no sound. Just when the silence threatens to break the musical line, we step into the grand rotunda. The entire symphony rings forth in a triumphant climax.

Here we can imagine music and images of architecture uniting to create a larger-than-life experience. That these two seemingly separate fields are so easily united leads me to believe that there are underlying principles, rules, systems, and techniques which are common to both. This thesis will be an exploration, and hopefully a discovery, of those similarities, resulting in their implementation in my own design process.
PROBLEM STATEMENT

Music plays a role, whether limited or extensive, in all our lives. In my own, this influence began at an early age. Blessed with parents who have always enjoyed music and owned an eclectic assortment of recordings, I was exposed to a variety of musical styles ranging from Classical to Big Band Era. At the age of twelve I underwent the “torture” of childhood piano lessons but quit after a short period. Now, as with most people who stopped playing an instrument too early, I regret my impatience. Although I stopped taking formal lessons, I continued to listen to classical piano and now I listen with a longing heart to the performances of such virtuosos as Vladimir Horowitz and Ruth Laredo. My interest continues to grow with time and I now see the opportunity in this thesis to study, in unison, the two artistic and creative fields that I enjoy most: music and architecture.

The combination of music and architecture has always seemed to me to be a very natural one. Whether discussing the quality of music in a cathedral or viewing a videotape of architecture with a musical soundtrack, there seems to be a natural unity between the two fields. This idea germinated when I was an intern in a professional architecture firm and I was given responsibility for using videotape productions in a public relations and sales capacity. I chose this combination of musical soundtracks and architectural images as my method. I was influenced by the emergence of new video technology and the popularity of music videos (a combination of image and pop/rock music). In these projects I strove to find a piece of music which expressed the character and feeling of the particular building. I have learned that some buildings possess certain characteristics such as formality, playfulness, rhythm, balance, texture, and scale. I feel that certain musical works have identical characteristics.

Here in the College of Architecture and Planning, we have a similar bi-annual project known as the PolyArc Show. The final presentation is a combination of music and architecture similar to my own projects. Aside from the obvious (and often very trite) associations of a country’s native music to its architecture, a certain character is expressed, communicated in the music as well as the architecture. For example, images of Greece and its temples are nearly always accompanied by bold, triumphant music. Italian villages are seen while quaint, romantic music is heard, and English meadows are coupled with rolling, melancholy pieces. And it is just as easy to identify a good match of music-to-architecture as it is to identify one that is mismatched (It would seem odd to combine images of Gothic cathedrals with Swing Era music!).

That these combinations could either succeed or fail raised questions as to whether or not there were rules, systems, and techniques of musical composition that could successfully be applied to architectural design.
PRECEDENT

"...Music and Architecture make us think of something quite other than themselves; they are in the midst of this world like monuments of another world; or, if you will, like the examples, disseminated, here and there, of a structure and duration that are not those of beings but those of forms and laws. They seem dedicated to reminding us directly, one, of the formation of the universe, the other, of its order and stability; they invoke the constructions of the mind, and its freedom. . . . The analogy we were hunting for is perhaps connected with those half-concrete, half-abstract existences, which play so large a part in our two arts; they are singular existences, true creatures of man, partaking of sight and of touch - or else of hearing - but also of reason, number, and language."  
Paul Valery, *Eupalinos or the Architect*  

The synthetic notion of music and architecture can be traced as far back as the myths of Apollo and Amphion. Amphion was said to have built the walls of Thebes (and Apollo, Troy) simply by the beautiful sound of his music. As he played his lyre, the magic sounds made the stones move and slide into their desired places.

The late-nineteenth century Romantic composer Richard Wagner revolutionized theater design with his visionary opera house in Bayreuth (1876). The *Festspielhaus* was the realization of his dream to create a hall designed specifically, if not solely, for the performance of his *Ring* opera. Wagner chose opera as his medium because it best expressed this synthesis of arts in an immersion of the listener's senses of sight and sound. The hall was designed and built under Wagner's supervision according to strict principles extracted from his music.

In 1958, Le Corbusier pushed the boundaries of music, architecture, and their association in his Philips Pavilion for the Brussels World Fair. Corbu collaborated closely with composer/engineer Iannis Xenakis and composer Edgar Varese. The structure was based on a mathematical analysis of a hyperbolic paraboloid. Inside the pavilion, four hundred amplifiers distributed sound throughout the space to create a feeling of movement along with the images. Le Corbusier himself actually worked less with the architectural form choosing, instead, to concentrate his efforts on the invention of a light and sound production. He wrote to one of the directors of Phillips: "I shall not give your pavilion a facade, but I shall compose and Electronic Poem contained in a "bottle" ... the Poem will be composed of pictures, coloured rhythms, music. The Electronic Poem will combine in a coherent whole what films, recorded music, colour, words, sound and silence have until now produced independently."  

Obviously, the synesthetic idea is nothing new and these projects all attempted to realize this unity and cross-inspiration of the arts.

"Collapsed boundaries open crossroads and galleries of connections - opportunities to establish a more direct architecture in the dynamic condition of the 20th century culture. This is only one way of confronting pressures toward the autonomy of architecture, or its validation by historical precedent alone. A move away from compartmentalizing and mental closing is a move toward an open future."
LITERATURE REVIEW

Michael Forsyth takes an historical look at the auditorium as a building type in Buildings For Music. This review goes back as far as the seventeenth century omitting notable example of theater design from Greek and Roman periods for example, but overall it is a very thorough analysis of concert halls and opera houses. Of particular interest to me is his discussion of Richard Wagner and that composer's architectural ideals. Also worth noting is his final chapter, entitled "Toward the Future: A New Context for Music" which presents some rather interesting methods recently employed to close the gap between music and architecture.

An entire section of Precis, The Journal of the Columbia University Graduate School of Architecture, Planning and Preservation was devoted to the subject of music and architecture. Most interesting to me were the articles by Yolanda Cole and Steven Holl. Cole's, entitled Frozen Music, took an historical look at the synesthetic idea, tracing it from early mythology to contemporary performances. Steven Holl, an architect currently practicing in New York City and teaching at Columbia, presented a description of the experimental research he conducted at Columbia in 1984 on the relation of music to architecture. Entitled "Staten Island School of Music: A Design Experiment," the article discussed two particular student projects done for a conservatory. It had a major influence on the selection of a final design project and offered some interesting sources for study such as Paul Klee's Notebooks and Theodor Adorno's Philosophy of Modern Music.

The desire to learn more about a particular artist resulted in the reading of Glenn Plaskin's Horowitz. This was an interesting work, not only in the biographical respect, but also for the cultural and philosophical ideas proposed by Horowitz. It was fascinating to read of the intense process that the pianist goes through before performing a composer's work. To continue to educate myself on music in general, I plan to continue this type of research into individual musicians/composers.

Karl Haas' book Inside Music has proven to be invaluable reference source. Covering such topics as musical notation, music history, analysis, and theory, it is clearly written and made-to-order for the novice. The author also has a daily radio program on National Public Radio, "Adventures in Good Music," which has also proven valuable. The book contains an excellent listing of recommended recordings for beginning a Clasical Music library, as well as an extensive glossary and bibliography.
PROCEDURE

Research: Because I would like to use this thesis as an opportunity to discovery and explore the area of music, my research will continue throughout the entire project. I will not change the overall direction of the thesis, but I will continue to use what I learn to influence the project.

Programming and Site Selection/Analysis: During the course of the summer (May 1989 - August 1989) I will develop a complete facility program and select/analyze a specific site for the final project.

Architectural Preludes: This will be a study based on a combination of experiments undertaken by J. S. Bach (and imitated by Chopin and Rachmaninoff, among others) and Modest Mussorgsky. In the case of Bach, it was the composition of twenty-four short keyboard pieces utilizing every major and minor key. Bach used the exercise to demonstrate the practical application of the theory of equal temperament, i.e., equal spacing between notes on a musical instrument. His "Well-Tempered Clavier" contains a great deal of excellent music attesting to the validity of the experiment. Chopin also undertook this procedure, but his intention was to create a diversity of colors, moods and textures. And in this respect, Rachmaninoff's Preludes derive from Chopin.

My own exercise will be similar but it will pursue a much more architectural idea. My source will be Ravel's classic orchestration of Mussorgsky's Pictures at an Exhibition. Mussorgsky was a close friend of the Russian painter-architect Victor Hartmann who died in 1873. After attending a memorial exhibition of the artist's works, Mussorgsky decided to interpret ten of the drawings in a composition for the piano. But it was not until Ravel orchestrated the work that it became successful. Ravel brought a wonderful color and character to each sketches that proved to be even more emotive of the original sketches than Mussorgsky's attempt. My own method will be to convert these ten musical interpretations back into an architectural piece while maintaining the color and character. I will work in both a 2-D drawing/painting format as well as a 3-D model format.

With this first series of studies I think that I will be able to create some small scale spaces while discovering and testing the synesthetic ideas. This portion of the thesis will occur during the first 3-4 weeks of the semester.

Final Project: The final project is tentatively planned as a music conservatory with an area of about 50,000 square feet. It will probably contain a recital hall, dressing rooms, practice rooms, classrooms, administrative space, a library and a lounge. This project will be finalized with the completion of the facility program by the first day of the Fall Semester.
EVALUATION

Points for critical evaluation will begin with the first week's review of summer work and then will occur at quarter marks through the semester. This schedule will also be finalized by the first day of Fall Semester.

Thesis Chairman, Alfredo Missair, will be consulted periodically for informal desk-crits. All Thesis Committee members will be asked to attend the critical reviews for input and direction. They will be notified one week prior to the dates for schedule coordination.

THESIS COMMITTEE

Alfredo R. Missair, coordinator
Assoc. Prof. Architecture
4211 N. Oakwood Avenue 47304
office: 317-285-1915
home: 317-284-3714

Carlos Casuscelli
Assoc. Prof. Architecture
1404 W. Neely 47304
office: 317-285-1900

James R. Underwood
Prof. Architecture
7300 W. Isanogel Rd. 47304
office: 317-285-1927
home: 317-289-5926

Bro. Gregory Fryzel, o.f.m.
1229 West Berry St.
Fort Wayne, IN 46802
home: 426-0115
NOTES


4Holl, p. 190.
BIBLIOGRAPHY


SYLLABUS

PREFACE: All previous rules, schedules, and dates of the thesis regulations will be respected.

GOALS: In this final studio students should show competence and depth of thought to be at the standard of departmental undergraduate thesis.

Students should experiment and draw conclusions from their scholarly work.

Students should demonstrate an acceptable level of understanding of building components and building design.

Students should show connections between their work and the designs of architecture.

Students are responsible for scheduling and the management of their design projects.

GRADING

Student work will be reviewed by their thesis committee according to class schedule.

Students will be graded by this committee based on criteria established by the committee and the students.

GRADED ACTIVITIES WILL INCLUDE:

Research
Analysis
Program
Preliminary Design
Design Development
Final Presentation
Thesis Document
SCHEDULE

A schedule of activities will be presented in studio.

No delay or late projects will be allowed. Deadlines will be extremely important to respect. NO EXCEPTIONS!

Medical excuses will be required for any violations.

NOTE: Attendance is mandatory

THESIS BOOK

A publication presenting the students' findings will be prepared and presented to all members of the thesis committee. The thesis book is a prerequisite for completing requirements for this course.

READING AND RESEARCH

Students will establish an appropriate reading list directly related to their research. Students are to arrange for review of any such material.
COLLEGE OF ARCHITECTURE AND PLANNING
Ball State University
Muncie, IN 47306

Michel Mounayar
Schedule
Arch 404
Fall Semester

Final Design Work

Final Presentation

Thesis Book Due

December 6, 1989

December 1989

December 20, 1989

Studio Work Dates

Week 1 - Finalization of design research program & building requirement

Week 2 - Schematic design presentation I September 15

Week 3 - Preparation

Week 4 - Schematic design final presentation September 29
(project main concepts selected explored and understood)

Week 5 - Prep. design development
(selection of design spaces to be developed)

Week 6 - Design development presentation I
Friday October 13, 1989

Week 7 - Prepare work - Design exploration - refinement

Week 8 - Design development II
Friday October 27, 1989

Week 9 - Refinement completion, Minor adjustment production of final
presentation Mock-up

Week 10 - Final design development
Presentation Friday November 10, 1989

Week 11-12 & 13 - Dedicated for preparation of final design
presentation models, drawing, diagrams, other...

Week 14 & 15 - Dedicated for thesis book production and design

THESIS BOOK DUE STRICTLY DECEMBER 20, 1989. NO LATE SUBMISSIONS WILL BE
ACCEPTED PAST THIS DATE
Presentation Standards

Students in thesis studio are expected to exhibit professional behavior. Presentation should show a level of creativity and vision. Design communication technique should be consistent with design attitude and thinking.

Students are challenged to show innovation in their use of traditional presentation techniques.

A minimum final presentation standard is set:

- Building concept presentation
- Spatial, massing, context, technical, etc
- Context drawing showing adjoining sites.
- Axonometric
- Plans of all spaces
- Elevations of all exposures N, E, W, S
- Minimum two sections showing spatial quality
- Minimum one section showing technical information
- Minimum three interiors eye level perspectives showing spatial mood
- Detail drawings of designed elements shown to appropriate scale
- Model showing site development and building(s).
  (Mass model or finished model)
- Thesis book
  Documenting entire process and presenting research conclusions

Interim presentations should show work in progress. Emphasis should be placed on the quality of spatial and architectural design.
DEPARTMENT OF ARCHITECTURE
Ball State University
Muncie, IN 47306

Arch 404
Fall Semester 1989
Prof. Mounayar

FINAL PRESENTATION STANDARDS

The Final Presentation will consist of two parts.
First: Oral Review of project December 8, 1989; 10:00 a.m. -
5:00 p.m.

Second: Thesis Book consisting of research work evolution and
conclusions of research. Also showing design work related to
research project.

THE ORAL PRESENTATION

1) Organize all drawings and projects by 9:00 a.m., December 8, 1989.

2) Organize oral presentation so as the entire presentation can begin
on the hour and end 55 minutes later.

3) Drawings, models, or other graphic material should be at the
highest standards.

4) Background, research, analysis, findings, design approach, design
solutions, presentation techniques, medium, etc., should be
reflected in the presentations.

THESIS BOOK turned in no later that December 1989

A. Quantitative Standards

1. All thesis books should be in a format of 8 1/2" x 11"
   (direction of page is optional).

2. All appropriate credit should be included (list of committee,
   quotes, drawings, etc.

3. Committee Chairman will be Professor Michel A. Mounayar.

4. At least two original copies will be turned in to your studio
   professor. One will be kept at the architecture library and
   the other will be part of the faculty records.
B. Qualitative Standards

Your thesis work and final document should contribute to the profession of architecture and evoke the creative spark that make the art of architects so wonderful to experience.

This work should inspire further inquiry into the experimentation of Design and the environment.

The work should speak to social, cultural, and human responsibility of architects.

Eloquent and beautiful, modest and clear, celebrating the beauty of life and the environment as a universe.
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<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
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<td>10:30</td>
<td>Mullen Moen, Nicholson</td>
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<td>11:00</td>
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<td>11:30</td>
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Introduction

After spending the summer between Spring and Fall semesters doing everything except what I had intended to do, I came back to school "geared up" for Thesis. Early in the semester I set some very tangible but challenging goals for myself. First and foremost, I wanted this Thesis project to be the best work that I had ever done. I wanted to take it farther, resolve it more completely, and get to a level of detail which I had never reached. Second, I wanted to be proud of what I hung up on the wall at the end of the year. Plain and simple. We have all, at one time or another, experienced that sense of embarrassment when we present a project that we know is inferior. I resolved that this would not be the case. Third, I wanted to do a "real" project. By this I mean that I wanted to look at real issues. I didn't wish to propose a far-flung utopian ideal and build my project around it. I don't dismiss these type of projects, but it was different from what I wanted. My thesis was never meant to be didactic. I wanted to approach the project on the side of reality without constricting my design opportunities. Fourth, and most important, I wanted to use my Thesis project as a means of reestablishing a friendship gone dormant.

I asked Gregory Fryzel to serve as my outside committee member because I wished to bring him back into my life. As a high school senior, I established a friendship with this teacher that would profoundly influence me. Through the years I have set his standard of perfection as my own, and have tried to emulate him in his attention to the details of life. This project was a chance to reawaken that friendship. I asked Gregory to serve on my committee and he graciously accepted. Furthermore, I asked him to serve as my "client" for the project. Again, he accepted.

As you will see on the resumé following, this man has an extraordinarily rich life. Two interests/professions that he has became the initial impetus of the project. We decided that we would design a French restaurant with residences above in the heart of downtown Fort Wayne. A small city block known as "The Landing" had originally been the Main Street of turn-of-the-century Fort Wayne, and it contained buildings with a wonderful architectural character. It was also the only block in Fort Wayne where I got a real "urban" feel due to the narrow one-way street and the strong wall of facades. There was a vacant lot in the middle of this block which diluted that feeling and, thus, we chose it as our site.

Initial studies into the restaurant, produced more questions than they did answers. I knew very little about restaurant design and, to be honest, there wasn't much in it that appealed to me. After many conversations, much hair-pulling and agonizing, and more than one fitful night's sleep, I decided to radically change the project . . .
As I mentioned before, Gregory and I became friends in my senior year of high school. He was my French teacher but our friendship developed mostly out of the classroom. At that time he, along with another person, was constructing a harpsichord (an Italian virginal) in the school friary. Through the course of the year, I was privileged enough to see the beautiful instrument come alive and to hear it make wonderful music. What interested me even more than the Baroque music, however, was the incredible simplicity of the "machine." The beauty of the harpsichord, I discovered, was as much in its action, its details, as it was in its product.

During one of my visits to Fort Wayne, Gregory and I had finished reviewing my progress on the restaurant and we were reading some literature he had received from a harpsichord manufacturer. It was here where I stumbled across a sentence that, quite simply, changed the course of this Thesis. The author was discussing the historical methods of instrument building and wrote: "The Zuckermann kits through the years continued to explore the eighteenth-century way of doing things. The cases became lighter, depending on a balanced tension for their strength, instead of massive framing." That idea of balanced tension hit me stronger as an architectural idea than it did as a "musical" one. But as I pondered it, I realized that it was a very musical one. Suddenly it hit me: HERE WAS WHAT I HAD BEEN SEARCHING FOR! I decided to use this common love, the harpsichord, as the inspiration for my Thesis. I had been laboring over a way to allow the "music" into the architecture, and here it was. From this point on, as anyone around me will attest, my interest in the project and its design blossomed.

What follows, then is a summary of the research that was conducted for the "second-phase" of this project. I have included quite a few of the illustrations I discovered because they are so vital to the end product. Without an appreciation for the technical simplicity of the harpsichord, the final solution I have developed will be meaningless.

I have arranged the research into the following general categories:

- Technical Drawings of Instruments
- The Instrument Maker's Workshop/Tools
- People Associated With the Harpsichord Revival
- Historical Instruments
- Contemporary Instruments
OBJECTIVE
To conduct courses in French and in English in an institution noted for its strong academic tradition and to work in an atmosphere which enables me to teach not only the disciplines of the languages but also the discipline and the development of the self.

EDUCATIONAL BACKGROUND
- Middlebury College in France, M.A. in French, August 12, 1988
  M.A. Thesis: Un Bestiaire Colette
  Certificate of Proficiency in Phonetics from Middlebury, August 1978
- Wright State University, B.A. in French, June 9, 1979
  Phi Delta Phi French Honor Society, April 19, 1978
- Michigan State University, 1965-1966

WORK EXPERIENCE
- French Instructor at Bishop Luers High School, Fort Wayne, 1979-present
- Registrar of Saint Leonard College, Dayton, Ohio, 1976-1979
- Chef, Dayton, Ohio, 1971-1976
- Pastry Chef, Cincinnati, Ohio, 1970-1971

PUBLICATIONS
- Presently working on translation of texts by Colette (nine radio conferences given in 1939 and 1940) with the aim of being published.
- Article appeared in "Neighbors" @ May 13, 1989, News Sentinel. Feature article entitled "Friar has French Writer's Passion."
- Appeared on WOWO (Fort Wayne radio station) to read original stories written on the life of Saint Francis of Assisi, 1987 and 1988.
- Winner of Poetry Contest, Journal Francais d'Amérique, January 2, 1986
- French poems appeared in Critères, @ 1979, Le Cercle Français de Poésie
- Photography for Walk in Beauty, ©1974, Saint Anthony Messenger Press

PROGRAMS
- Chairman, Department of Foreign Languages, Bishop Luers High School, 1983-present.
- Co-directed the STUDY ABROAD Program for students, Quimper, France, Summers of 1984 and 1986.
- Instrumental in instituting multi-level enrollment in Foreign Language classes at Bishop Luers High School.

PERSONAL INTERESTS
- Harpsichord making (built Flemish single, Italian spinet, Italian virginal, repaired several instruments), Fort Wayne, Indiana
- Gourmet Cooking and Fine Dining (cooked for Smothers Brothers, Pat Boone, Helen Reddy, all part of school fundraiser), Fort Wayne, Indiana
- Literature and Classical Music
Wednesday Evening

Dear Todd,

What a splendid visit we had! And how dear and loving of you to want to do a project for me. It was such a wonderful surprise. I'm just sure if I ever was able to convey to you how deeply touched I was and am by your love and your kindness. Thank you for choosing me as the beneficiary of such affection. All the while you were here, I felt as though I were in the presence of someone who "knows" me, someone who is moved by the same beautiful lines in music, in literature, in architecture. How can this be? It certainly goes beyond our human understanding. It is, therefore, divine, from God.

I am sending you a story, a translation. I hope you enjoy them. I await your next visit.

Todd always have great confidence in what you do and in who you are. You move within the realms of love...

And I send you mine,

[Signature]

Gregory
December 1, 1981

Bro. Gregory Fryzel, O.F.M.
333 East Paulding Road
Fort Wayne, IN 46816

Dear Bro. Gregory,

I have to hand your charming letter, and with your permission would love to send a copy of it, to Bradford Tracey and Rolf Junghanns. That recording of the Canons is one of my favorites, not only for the beautiful performance, but also for the faithful reproduction of the sound of those two instruments. They are copies of a Parisian harpsichord made in 1730 by Nicolas (père) et François (fils) Blanchet. The Blanchet family were the most celebrated Parisian harpsichord makers in the 18th Century, and to my ear, this 1730 instrument is one of the finest surviving antiques we have. While strictly speaking, Bach probably would have used instruments made in Eastern Germany (Prussia) there are very few surviving German instrument and, as in so many other artistic matters, the Germans looked toward Paris for their inspiration. It has always been a surprise to me how beautifully a French harpsichord can express complex polyphony even though the composers for which these instruments were built (Couperin, Rameau, etc.) almost never wrote polyphonically.

In 1971, when in Paris examining antique harpsichords, I met a fine cabinet maker named Reinhard von Nagel, who was interested in harpsichords. The result was that we set up a shop there to make my instruments in Paris to be sold throughout Europe. Now, ten years later, the Paris shop is the same size as the Boston shop, having about 7 workers and producing about 20 harpsichords per year. The instruments are identical to the ones made in Boston, with the exception of some decorative details. Plying my trade in Paris has enabled me to live part of my life there, which I indeed love.

Your students may be interested in the location of the French shop: It is a 17th Century convent which was disestablished rather abruptly in 1789, as were so many others. It is in the Fauxbourb St. Antoine, which in the 17th Century was, of course, outside of the city walls. Tradition has it that when Le Beau Chrétien was killed at the seige of La Rochelle, Roxanne retired to this convent and it was in our courtyard that Cyrano came to tell her the news of the day. Cyrano was said to have died in our courtyard. Unfortunately for this beautiful story, our convent was built several years after Cyrano actually died (1655) but it would have been another one (in the same neighborhood) which now no longer exists.

I am sending you our catalogue with a fair number of pictures and a copy of a recent newspaper article on the Boston Early Music Festival. Also a flyer which may interest your students on the harpsichord we recently built for the Musée Chagall near Nice.

Very sincerely,
Yours,

William R. Dowd

WRD/et
Plan and elevation of an Italian harpsichord. The strings for each C have been indicated on the plan. Based on an instrument inscribed "F.A. 1677" owned by David Aronson of Sudbury, Massachusetts (78” long, 28½” wide, 7½” high; 10 13/16” scale).
Interior of an Italian harpsichord.

Figure 1. Detail of jack rail mounting block.
Figure 2. Instrument with soundboard and spine removed, showing the frame.
Figure 3. Underside of soundboard showing style of ribbing used occasionally.
Figure 4. Underside of soundboard showing the more usual style of ribbing.
Figure 5. Detail of the bass end of the bridge.
Figure 6. Section of a soundboard rib.
Figure 7. Molding often used to outline soundboard and wrest plank.
Figure 8. Section through the cap molding at the upper edge of the case. (The exterior of the instrument is to the left.)
Figure 9. Detail of an alternate treatment for the front of the instrument.
Figure 10. Another molding used to outline the soundboard.
Figure 11. End of the jack rail.
Figure 12. Molding at lower edge of case.
Action of an Italian harpsichord.

Figure 1. Key bed showing the rack and usual three-rail construction.

Figure 2. Key head and sharp. The natural key top is of boxwood. This sharp is ivory topped although many Italian sharps are of ebony or black-stained wood. This arcade is more ornate than most.

Figure 3. Typical Italian jack and register. This style of register is not as common as the box slide shown in figure 4. It requires a separate lower guide and overlaps the wrest plank or soundboard upon which it rests. The jack shows the gauge marks which guided the maker in cutting it out.

Figure 4. Typical Italian jack in a box slide. The rear of the key lever and the rack are shown. This jack has a bristle spring at the rear of the tongue. A flat leaf spring is somewhat more common. The plectrum is of quill although leather is sometimes found in Italian harpsichords.
Italian virginal of the false inner-outer construction.

Figure 1. The virginal with soundboard removed. Note the hitchpin rail to which the soundboard is glued.

Figure 2. Underside of the soundboard showing typical ribbing and the box slide.

Figure 3. Section showing front and back of the virginal. The way in which the cypress veneer ends immediately below the liner may be seen clearly.

Figure 4. One style of jack rail (in section).

Figure 5. The end of another type of jack rail.

Figure 6. Typical jack rail mounting block.

Figure 7. Plan of the virginal. The rose is omitted as was sometimes the case. The strings for each C and the top F have been indicated. The usual arrangement of the C short octave is shown.
Plan, elevation, and detail of a Flemish harpsichord by Hans Moermans, 1584 (8 3/4" long, 33 1/2" wide, 9" high; 14 1/4" scale). The instrument is disposed 1x8', 1x4', with a range GG/BB-f", similar to Ruckers model III.

Figure 1. Plan. The strings for each C and the top and bottom notes have been indicated on the plan.

Figure 2. Elevation. Note the typical two-rail key bed with metal pin rack and overrail to limit the key dip.

Figure 3. Detail at the cheekpiece showing projecting registers. End motion of the registers is regulated by the two pins which pass through elongated holes cut through the registers.
Figure 1. Instrument with soundboard and spine removed, showing the frame. A small hinged opening in the spine gives access to the space between the belly rail and the first frame for storage of tools and supplies. In the treble the four-foot hitchpin rail rests on a small block glued to the rear face of the upper belly rail, and in the bass it is let into the liner.

Figure 2. Underside of the soundboard showing ribbing and four-foot hitchpin rail.

Figure 3. Molding at upper edge of nameboard.

Figure 4. Molding at upper edge of case.

Figure 5. Molding surrounding the soundboard (used as an eight-foot hitchpin rail).

Figure 6. Section of the cutoff bar.

Figure 7. Section of a soundboard rib.

Figure 8. Section of the four-foot hitchpin rail in the bass.

Figure 9. Section of the four-foot hitchpin rail at the halfway point.

Figure 10. Section of the four-foot hitchpin rail at the treble end.
Interior of a Flemish harpsichord (model IV).
Plan and elevation of a French harpsichord. Based on a harpsichord signed by Henry Hemsch but bearing no date, at the New England Conservatory of Music in Boston. Strings for all the C's and the top and bottom F's are indicated on the plan. The sides of the lower-manual key bed are dotted in on the elevation so that the edge of the upper-manual key bed may be seen. Note that the upper-manual key bed slides in a recess cut into the lower-manual key bed. As drawn the upper manual is in the forward position and the coupler is "off." If it were pushed back to the dotted line, the ends of the upper-manual key levers would be over the coupler dogs and the manuals would be coupled. The key beds are raised off the bottom of the instrument by battens shown in Plate XII, figure 1.
Figure 1. Instrument with the soundboard and spine removed, showing the frame. Note the rounded frame members and the T-section upper belly rail.

Figure 2. Underside of the soundboard showing the ribs and the four-foot hitchpin rail.

Figure 3. Section of the four-foot hitchpin rail at the bass end.
Figure 4. Section of the four-foot hitchpin rail at the treble end.
Figure 5. Section of the cutoff bar.
Figure 6. Section of a soundboard rib.
Figure 7. Molding section at upper edge of case.
Figure 8. Molding section at upper edge of nameboard.
Figure 9. Section of the molding surrounding the soundboard and used along the bentside and tail as the eight-foot hitchpin rail.
Interior of a French harpsichord. Based on a harpsichord made by Pascal Taskin in 1769 (Boalch no. 1).
Interior of a French harpsichord. Based on a harpsichord made by Pascal Taskin in 1769 (Boalch no. 1).
Figure 1. The rear of the key levers (uncoupled position) showing the coupler dog and indicating the motion necessary to couple the manuals.

Figure 2. French keyboards assembled. Note how the upper manual slides in a stopped groove on the inside edge of the sides of the lower-manual key frame. Note also the method of pinning the upper-manual keys at the rear. (The lower-manual key levers are guided by metal pins sliding in a rack.)

Figures 3, 4, and 5. Mechanism used to raise the rear rank of jacks. The knee lever crank transmits motion to the right as indicated by the arrow. The inclined planes shown in figure 4 lift the sliding batten. The hinged strip shown in elevation in figure 5 is raised slightly. The hinges are of parchment. The spring (figure 3) returns the sliding batten when the knee lever is released.

Figure 6. Rear of lower-manual key lever showing the metal rack pin and coupler dog.

Figure 7. Rear of upper-manual key lever showing the mortise for its back rail pin to pass through.

Figure 8. Natural key head. Note the deeply rounded ebony key top scored with three lines, the slight overhang above the arcade (sometimes gilded), and the deep undercutting of the key head to save weight.

Figure 9. A Taskin upper-manual jack. Note the tapered tongue and the deep bristle groove. The jack itself is tapered in both width and thickness from top to bottom, but too little to show in the drawing.

Figure 10. Various views of an upper-manual key lever. Note the undercutting and the bent lever.
Action of a French harpsichord. Based on keyboards by F. E. Blanchet (1758) and action by Taskin (1781) for a Couchet harpsichord (1680), the property of Mr. Edwin Ripin of Forest Hills, New York (Boalch no. 6).
Figure 1. General view of the mechanism showing the knee levers and the trapwork. The knee levers were actually mounted in the stand (not shown) and were hitched by being raised and pushed to the right. A pin (shown in figure 6) prevented them from falling out entirely. The second and third knee levers are loosely connected so that it is easy to raise and hitch them simultaneously while the other knee is used to put "on" the *peau de buffle*.

Figure 2. Detail of the risers on the spine. The riser for the upper-manual eight-foot register is different from the others since it has to pull rather than push the stop "off."

Figure 3. Detail of the ends of the registers (the rearmost three). See figure 2 for the end of the upper-manual register.

Figure 4. Trapwork for the coupler. The crank is connected to the upper-manual key bed. I suspect that a leaf spring was originally used in place of the coil spring shown. A new bottom has removed any trace of the original spring.

Figure 5. Detail of the risers partially disassembled. The leaf springs catch under the tabs on the ends of the registers (figure 3) and pull the stop "on." The risers push them "off." The upper-manual register is pushed to the right by the spring, and pulled "off" by the riser.

Figure 6. Knee-lever pummel showing retaining pin and notch for the hitch.
Knee lever mechanism of a French harpsichord. Mechanism was installed by Pascal Taskin (1781) in a harpsichord by Couchet (Boadch no. 6).
English virginal.

Figure 1. Interior view of the instrument. Note how the rear edge of the lower guide is high enough to be glued to the underside of the soundboard (figure 6) while the soundboard rib (figure 2) meets the projections on the front edge of the lower guide.

Figure 2. Underside of the soundboard showing ribs and mortises for the jacks.

Figure 3. Key bed with rack and overrail to limit the key dip.

Figure 4. Plan. Note the close plucking point. There is one extra mortise and string in the bass. The jack from the last note (C) can be placed in this mortise. It continues to rest on the C key but plucks the extra string which can be tuned to any desired pitch.

Figure 5. Detail of the rack.

Figure 6. Elevation. Note the construction of the lower guide.
Figure 1. Interior of the Haward harpsichord. Note the full-depth frames running diagonally across the instrument, a design much superior to that used in mid-eighteenth century English instruments. The belly rail is also interesting. Compare to figure 11.

Figure 2. Key bed of the Haward harpsichord. Note the two-rail (Flemish) construction and the curious cutouts in the balance rail.

Figure 3. Plan of the Haward harpsichord. The lute stop has been blocked up but originally existed as drawn. The grain of the soundboard is parallel to the spine.

Figure 4. Molding around the inside of the upper edge of the Hitchcock case.

Figure 5. Molding around the outside lower edge of the Hitchcock case.

Figure 6. Eight-foot hitchpin rail of the Hitchcock.

Figure 7. Key tops of the Hitchcock. ("Skunk-tail" sharp and ivory natural with ivory arcade.)

Figure 8. Jack rail hold-down block from the Haward showing provision for the lute stop jack rail.

Figure 9. Lid-edge molding of the Hitchcock.

Figure 10. Molding at the junction of the spine and soundboard in the Hitchcock.

Figure 11. Interior of the Hitchcock. Note the similarities in frame and belly rail to the Haward.

Figure 12. Lower-manual key bed of the Hitchcock. Note the pins between the keys under the nameboard.

Figure 13. Plan of the Hitchcock. The direction of grain in the soundboard is canted about 30° from that of the spine.
Figure 1. Plan. The strings for top and bottom F and all of the C's are indicated. Note the characteristic curve of the bentside in which all of the curvature is concentrated in the treble end.

Figure 2. Elevation. Note the dogleg jack (front eight-foot) which operates from either manual, and the absence of a coupler. The top of the nameboard has been lowered to accommodate a music desk. In earlier English harpsichords the top of the nameboard was flush with the upper edge of the instrument.

Figure 3. Section of the four-foot hitchpin rail to show the undercutting in the treble. The bottom edge in the drawing is the one which is glued to the soundboard. The undercutting begins below c'.
Plan and elevation of an English harpsichord. Based on an undated J. and A. Kirkman, the property of Charles P. Fisher of Framingham, Massachusetts (91\(\frac{1}{2}\)" long, 36\(\frac{1}{4}\)" wide, 12" high, 13\(\frac{3}{16}\)" scale). The nameboard is missing from this instrument, but the I.K. rose is present.
Figure 1. Instrument with the soundboard and spine removed showing the frame. Note the sloping braces to the belly rail, a typically English feature. The notch in the liner on the spine is to receive the bass end of the four-foot hitchpin rail. The block nailed and glued to the rear edge of the belly rail in the treble (also shown in figure 2) supports the treble end of the four-foot hitchpin rail.

Figure 2. The underside of the soundboard showing the ribs and the four-foot hitchpin rail. Each joint in the soundboard is reinforced by a glued-on strip of cloth (as is also the case with the ends of the ribs).

Figure 3. Section of the four-foot hitchpin rail in the bass.
Figure 4. Section of the four-foot hitchpin rail in the treble.
Figure 5. Section of the cutoff bar.
Figure 6. Section of a soundboard rib.
Figure 7. Section of the eight-foot nut showing the buff stop.
Figure 8. Section of the eight-foot bridge.
Figure 9. Molding section used on the key fronts.
Figure 10. Molding section on the under edge of the lid.
Figure 11. Molding section at lower edge of case.
Figure 12. Section of the four-foot nut.
Figure 13. Section of the four-foot bridge.
Figure 14. Section of the eight-foot hitchpin rail.
Interior of an English harpsichord.
Figure 1. Upper-manual key bed with several keys in place. The key bed is made of a panel of oak. Note how the rear pads begin to divide as the lute jacks separate from those in the gap. Note the front rail pins, an exclusively English feature.

Figure 2. Key head with the ivory removed from the tail showing the mortise for the front rail pin.

Figure 3. Section of the key lever at the balance rail pin showing the form of the mortise.

Figure 4. Lower-manual key bed. Note the front rail pins and front rail cloth to limit the key dip.

Figure 5. Jack (from the lute stop). Note the staple at the rear which limits the back motion of the tongue and stiffens the top of the jack.

Figure 6. The tongue (rear view). Note the characteristically English shape and the pad at the top to prevent it clicking against the staple.

Figure 7. The tongue (front view).

Figure 8. Quill plectrum.

Figure 9. Cutaway view of the top of a jack. Note the form of the holes drilled to retain the bristle.

Figure 10. Jack in position in the register and lower guide. Note the clearance given in both register and guide.
Action of an English harpsichord.