

Rochester Institute of Technology

A thesis submitted to the faculty of the  
College of Imaging Arts and Sciences  
in candidacy for the degree of Master of Fine Arts.

**The Practice of Graphic Design and Architectural Theory:  
*A Study of Two Disciplines***

by Tara McVean  
May, 2001

Approvals

5/14/01

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Date

14 May 2001

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Date

5-14-01

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Date

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5/14/01

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Tara McVean

Date

## Acknowledgements

A special thanks to Mom and Dad, Carrie, Scott and Joe for their support throughout my education.

For my advisers that gave their time, support and knowledge.

For R. Roger Remington, for his expertise and excitement for the project.

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## Introduction

One can learn from other people's expertise. This can then enhance what one already knows. Theories exist all around us but they are only useful if they can be applied to something that you know.<sup>1</sup> This relation of ideas is the only way to learn or remember anything, according to information designer Richard Saul Wurman.

This thesis project is an examination of the unique aspects between graphic design and architecture. Having a design and architectural background, an interest developed for how the two are related to one another with respect to exactly how architectural theories have influenced designers.

This thesis application, a book, will be beneficial to both the graphic designer and the architect because understanding one discipline can enhance knowledge of another. To show this comparison of two disciplines, it may be helpful to show their theories along side images, in order to verify their rationale. The book shows the influences of the two disciplines, graphic design and architecture, on each other. This project will open the eyes of the non-designer as well as designers and architects. It will show that education in a particular field should not limit one's area of study, interest or curiosity.

## Thesis Definition

### The Practice of Graphic Design and Architectural Theories

One may believe that architecture and graphic design are separate fields of work and study; however there are many connections and similarities between the two disciplines. Laszlo Moholy-Nagy said "design is thinking in relationships."<sup>2</sup> The relationship between architecture and graphic design is bonded together as in both cases theory informs practice.

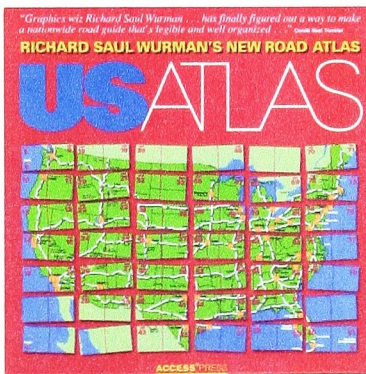
Architecture is not just buildings and graphic design is not just print materials. Architects such as Robert Venturi, Frank Lloyd Wright, Le Corbusier and R. Buckminster Fuller were great designers as well as architects. Then, there are designers such as Alvin Lustig and Charles Eames who were also architects. One connection made between the two disciplines is Le Corbusier's book, *Le Modulor*, as it serves as a point of connection from architecture to Massimo Vignelli's format grid used in his graphic design. Each of these two men, display a use for a rigid grid system in their work. Le Corbusier adapted his system from the golden section. Then Vignelli, indirectly, used a similar grid of Corbusier's to use in his own work. Designers and architects should be aware of the coincidences in the aspects and theories between architecture and graphic design and how they have influenced, as well as helped with the practice of each other's disciplines.

The goal of the thesis is to make a book of images and theories, that will enhance the knowledge of individuals that are in these two fields of study. Also, it will provide insight into graphic design history and architectural theory for those not in the field of graphic design or architecture.

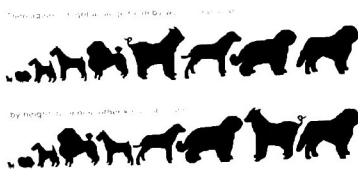
## Precedents

### *Information Architects* by Richard Saul Wurman

The book entitled *Information Architects* is about information design, not architecture. Richard Saul Wurman was a practicing architect until he decided, instead to concentrate in the way people access and understand information. He wrote *Access Guide Books*, which relates to subjects such as cities, medicine, and the stock market. Other books he has written are *Information Anxiety*, *Man Made Philadelphia*, *Yellow Pages of Learning Resources*, *Cities: Comparisons of Form and Scale*, *Making a City Observable*, *Urban Atlas: 20 American Cities* and *Follow the Yellow Brick Road*. He simplified and improved the way people use and read maps. His *U.S. Atlas* is organized geographically, by where each state is located, instead of the standard atlas, which is alphabetized by state name. Another idea that he is known for is his ability to categorize information. Wurman thinks that there are ways to categorize items other than by alphabetizing them. He calls this L.A.T.C.H, which stands for location, alphabetical, time, category, and hierarchy. For example, in his book, *Information Anxiety*, Wurman arranges dogs by size, breed, name, and locations where they are found.



U.S. Atlas



L.A.T.C.H. Information Anxiety

## Precedents

### *Environmental Design Thesis* by Kathleen Kaminski

Kathleen Kaminski is a practicing professional architect. She also is an alumna of the Graduate Graphic Design program at Rochester Institute of Technology. In 1999, she wrote her thesis on architecture and graphic design. Kaminski overlapped the two disciplines and concluded with environmental graphic design. She touched upon how graphic design is influenced by architecture using architectural scenes in background graphics of television shows and the web. Kaminski thought that incorporating graphic design into architecture becomes another way to broadcast information. This demonstrates one way architecture has had on graphic design.

Using theories, this thesis will show another attribute of the comparison of graphic design and architecture. Each of these precedents show the variety and years in which architecture has been involved with graphic design. They each provided a starting point for the development of this thesis project.



First, a methodology diagram was created to guide the research process. It is a useful tool for a time management system that represents the entire thesis project. It shows each phase of the thesis project, from the people involved, needs assessment, and planning, to development of the thesis, its application, dissemination, evaluation and conclusion. Each stage is equally important to the project. (see diagram in Appendix A)

Extensive research was started after establishing the preliminary planning report and timeline. (see preliminary report in Appendix B) There were three objectives for the research process: one, to find a usable definition of the practice of graphic design; two, to find a definition of architectural theory; and three, to find a number of designers and architects that were considered to be influential in their own disciplines. There were many definitions of graphic design and what the practice of graphic design incorporates. One definition that suited this project was by Steven Heller:

“A good graphic designer is able to adapt existing historical or contemporary models and derive unique approaches; this comes from patient study and dedicated practice. To become a graphic designer, forging knowledge and instinct into critical thinking is necessary. Graphic Design has many aspects such as traditional print, media, including type, book, periodical...and cross-disciplinary practices, including collaborations with architects and environmental designers.”<sup>3</sup>

Most architectural theories are intended for the age in which they are written, but also may be applicable at a later date.<sup>4</sup> This is the basis which this thesis project is concerned. One point was to look for influences that architects had on designers throughout history. Reading about each designer and architect's biography was a starting point of the research for the prototype. The search was needed to find the best representation for the prototype. (see list in Appendix C) People that demonstrated the clearest connections between architecture and graphic design were chosen. The list grew to be quite extensive and included twelve designers and nine architects, as seen below.

<b>Designers</b>		<b>Architects</b>	
Peter Behrens		Frank Lloyd Wright	
A.M. Cassandre		R. Buckminster Fuller	
Josef Müller-Brockmann		Robert Venturi	
Leonardo Da Vinci		J.L Mathieu Lauweriks	
Massimo Vignelli		Filius Bonacci (golden section)	
Laszlo Moholy-Nagy		Le Corbusier	
Alvin Lustig		Vitruvius	
Charles and Ray Eames		Mies Van Der Rohe	
Herbert Bayer		Louis Kahn	
Richard Saul Wurman			
Katherine McCoy			
Roger Whitehouse			

## Research

## Biographies

The chosen designers and architects lived and worked in times ranging from antiquity to the present. The initial search was broad in order to include many, not just the most influential, people in their field. Starting with a list of architects and designers, developed by the thesis committee and chief advisor, the reading began. The first step was to find out what actually were the influences in their lives as well as their work. This was done by reading their biographies. The compiled research noted their design work, the countries they were from, the years in which they lived and also with whom they associated in their daily lives.

Research began and ended in the library. Resources at the Rochester Institute of Technology's Wallace Library, Rochester Public Library System and R. Roger Remington's private collection were used extensively. Also, to accompany the books, videos of life works of certain designers and architects were viewed. The videos gave insight into actual personalities and influences, whether they be architecture or otherwise.

## Research

## Organization of Material

Organization took place after reading and taking notes from numerous biographies from both disciplines. This was done by establishing a database separating the designers from the architects. After learning about each person and their individual backgrounds, the initial list was reviewed by committee members. A new list emerged and new names were added to the list of designers and architects. Even though a designer or architect might have been chosen originally for his outstanding work throughout history, he might not have had a clear connection for the purpose of this prototype. Several were then discarded from the list. A new list meant further research of biographies was required in order to find the clearest examples for the prototype. Throughout the selection process, matrices were made in order to see how the research worked visually. Each time new information was found or new connections were made, preliminary matrices changed. This extended into four to five drafts.

At first the matrix just encompassed dates and biographic information. Slowly, images were chosen to demonstrate such person's theories and application. Images ranged from architecture, sculpture and interior design to product design, graphic design and industrial design. Some of the designers were graphic designers but produced other types of work such as product design or sculptures. For example, Moholy-Nagy was a designer but also made sculptures. All types of work were viewed to get a sense of the range of work done by each designer. For each person two to ten images were found. The images were scanned, labeled and put into the database. (see images in Appendix D) All final images were selected from this group of pictures. The final image is meant to represent the person and part of his life's work.

## Research

## Organization of Material

After finding images, biographies and dates for the stated people another matrix was made. At this point, there was a need to prioritize a hierarch in the information in the matrix. There were dates, names, biographies, images and connections involved in the matrix. And still there needed to be more. Speaking with associate advisor, Professor Bruce Ian Meader, he suggested using a categorizing method of breaking down the similar subjects in each person's work. This approach resulted in categories such as organic architecture, mathematical proportions, post-modernism and human body proportions. The subjects were determined based on recurring themes in designers' work. The connections made from architects to designers is the primary information in the matrix and is found in the center. The years and biographical information of the people is the secondary information and is found on the outside area of the matrix. The categories are listed beside each person's name. Such as:

Designer	Categories
Da Vinci	<ul style="list-style-type: none"> <li>• Circle in a square</li> <li>• Mathematical proportions</li> <li>• Geometric proportions</li> </ul>
Behrens	<ul style="list-style-type: none"> <li>• Geometric grid systems</li> <li>• Lauweriks theories of communal art and individualism</li> </ul>
Moholy-Nagy	<ul style="list-style-type: none"> <li>• Organic design</li> </ul>
Bayer	<ul style="list-style-type: none"> <li>• Mathematical proportions</li> <li>• Structure</li> </ul>
Cassandre	<ul style="list-style-type: none"> <li>• Proportions of the golden section</li> </ul>
Eames	<ul style="list-style-type: none"> <li>• Organic design</li> </ul>
Architects	Categories
Bonacci	<ul style="list-style-type: none"> <li>• Mathematical proportions from the human body</li> </ul>
Vitruvius	<ul style="list-style-type: none"> <li>• Human proportions related to other objects such as architecture</li> </ul>
Lauweriks	<ul style="list-style-type: none"> <li>• Geometric grid system proportions</li> </ul>
Wright	<ul style="list-style-type: none"> <li>• Organic architecture</li> <li>• Natural site materials</li> <li>• Horizontal themes</li> </ul>
Le Corbusier	<ul style="list-style-type: none"> <li>• Modular thinking from the golden section</li> <li>• Harmony</li> </ul>

Process Matrix	Architects biographies	The Golden Section
		<ul style="list-style-type: none"> <li>• Mathematical proportions and the golden section shows up in the Renaissance and in Le Corbusier's Modulor.</li> </ul>
		<ul style="list-style-type: none"> <li>• Mathematical proportions from the human body</li> <li>• Fibonacci Series</li> <li>• Algebraic &amp; Geometric Properties</li> </ul>
<b>Leonardo Da Vinci 1452-1519</b> Painter and Designer, he did the first in Italy, to use perspective in his work	<ul style="list-style-type: none"> <li>• Circle in a square</li> <li>• Mathematical proportions</li> <li>• Golden Ratio</li> </ul> 	
<b>Peter Behrens 1868-1940</b> He made the first architectural plan. Was the first to use a grid system. Was the first to use a grid system in architectural design. He did so after seeing a building in Paris, with a grid system. He was the first to use a grid system in architectural design.	<ul style="list-style-type: none"> <li>• Geometric grid systems</li> <li>• Lauweriks Theory of Individual Art and Individualism</li> </ul> 	
<b>Walter Gropius 1868-1960</b> He founded the Bauhaus in 1919. He was the first to use a grid system in architectural design. He was the first to use a grid system in architectural design. He was the first to use a grid system in architectural design.	<ul style="list-style-type: none"> <li>• Proportions</li> </ul> 	

Sample Part of the Final Matrix

## Synthesis

The matrix is composed of the final listing of designers and architects. (see matrix in Appendix E) It was used as a starting point for the table of contents of the prototype. The connections and the categories were the basis for the chapter titles of the prototype. A matrix is one way to organize research information. It was used here to show layers of information in a way that is understandable. One may study it and determine which architects really influenced which designers. As seen in the matrix, there is not necessarily only one designer influencing one architect. There are many influences that take place and can be found when reviewing the matrix. The connections between the designers and the architects are direct or indirect relationships. Depending on what information was found, it was deemed direct if there was concrete information supporting the theory or it was deemed indirect if the connection was concluded to be hypothetical. For instance, a direct connection would be Josef Müller-Brockmann using the golden section to make his grid structure within his graphic design posters. An indirect connection would be having the evidence to convey the information but not necessarily having concrete facts to back it up. This is the case of Massimo Vignelli using the type of grid structure made by Le Corbusier, but no evidence has been provided.

For example:

Direct	Indirect
Müller-Brockmann to Golden Section	Müller-Brockmann to Mies Van der Rohe
Lustig to Wright	Vignelli to Le Corbusier
Eames to Saarinen/Wright	McCoy to Venturi
Bayer to Fibonacci series	
Behrens to Lauweriks	

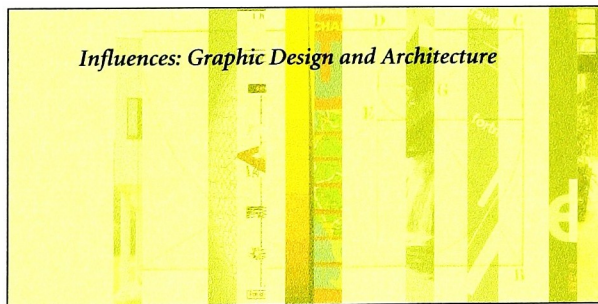
The yellow vertical layer and the blue horizontal layer represent each individual's biography and years on the matrix. The white layers have images for each person that best represent the connection being made in that category. Also in the white section, key words are used to place them in a certain category, such as organic architecture or mathematical proportions. The tan colored center demonstrates the connections made after the research was finished. The images in the center of the matrix represent designers that have been placed under the architect that influenced them. The matrix is organized chronologically both vertically and horizontally. This was done to visually show the relationship of influences that had taken place throughout history.

## Ideation

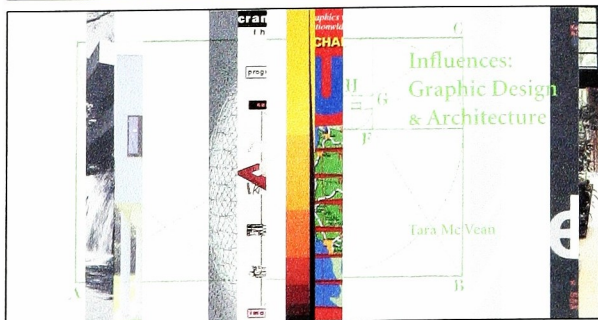
The categories from the matrix generated the prototype. The application prototype is a book because it can best represent the findings of the research. It is also a graphic design printed piece that can be read over and over. The proportions of the book were decided by the form of the golden section. The golden section starts as a rectangle, one side measuring twice the size of the other side. It is based on a series of numbers that involve the Fibonacci series where a theory suggests that it makes a "perfect" rectangle. The Fibonacci series describes a progression in which each additional numerical term is the sum of the preceding two terms (1, 1, 2, 3, 5, 8, 13, etc.).<sup>5</sup> The rectangle then is the basis for the spiral curve used in architecture and other places. The prototype progressed from 5 by 7.5 inches, to 4 by 8 inches and then its final size, 5 by 10 inches.

The cover was designed originally with a yellow-green tint to reiterate the green colored text within the prototype. It consists of using sliced rectangular parts from the full-size images presented inside the prototype. The typeface chosen was Adobe Minion and Minion Expert. They gave a traditional feel with serif typefaces based on old style type designs. Two colors were chosen for text within the book; a light green and a royal blue. The green is a non-threatening color that blended nicely with the images within the prototype. Blue, a cool color, appears selectively to contrast conceptual ideas.

Below are a few ideas that were considered for the front cover of the book. The title of the book also progressed from *The Practice of Graphic Design and Its Influences from Architecture to Influences: Graphic Design and Architecture*. By suggestion from Professor Bruce Ian Meader, the second was chosen for a shortened version from the full title of the thesis.



First Ideation, Cover

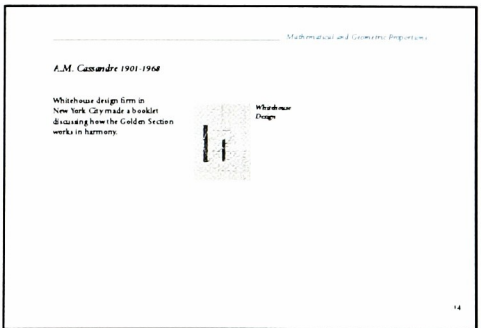
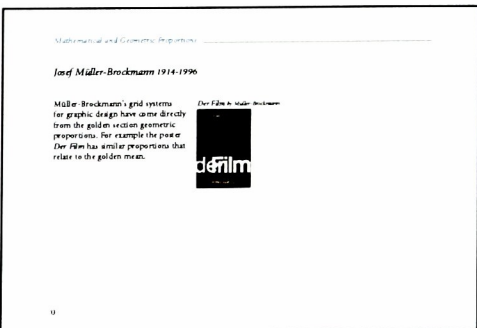
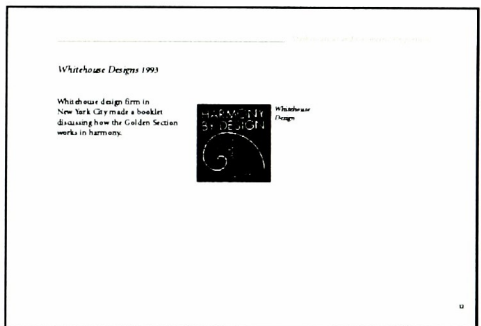
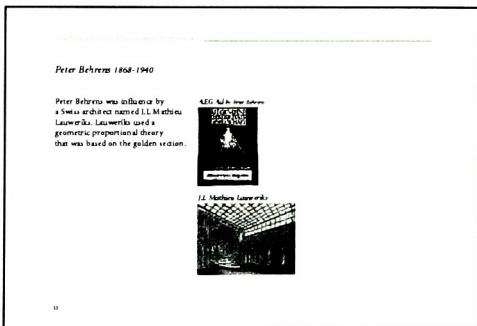
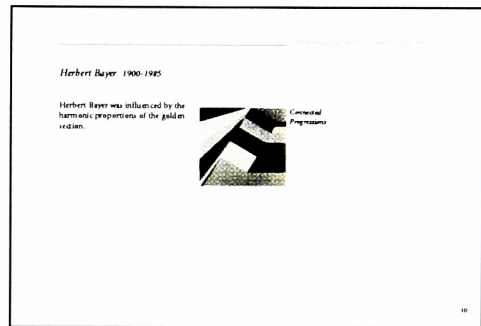
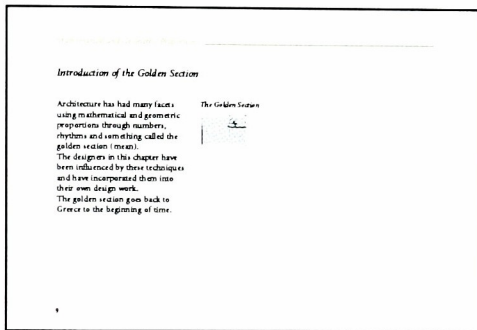


Final, Cover

# Ideation

## Prototype 1

Below is an example of Chapter One of the first draft of the application. It started as a three column grid, with text on the left and images on the right or center. All text was left justified. The headings for the chapter, the headings within the chapter and the caption for the image were all italic. It became apparent that there was not enough variation in the type. And that images were too small to see clearly. The size of the prototype was arbitrary at this point and was further evaluated.



Chapter One  
Spreads 5 x 7.5 inches

The Table of Contents for prototype 5x7.5:

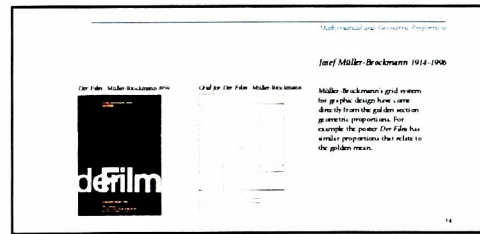
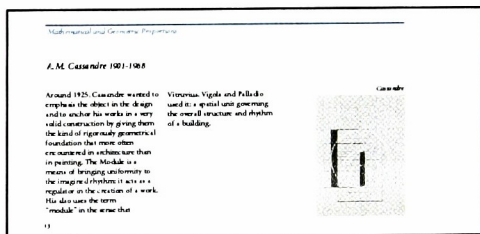
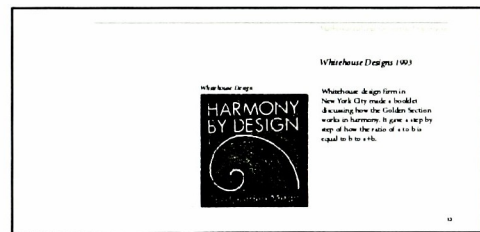
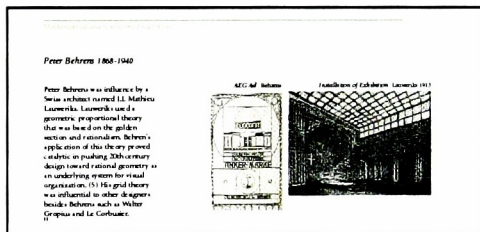
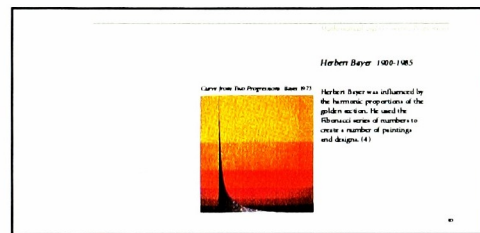
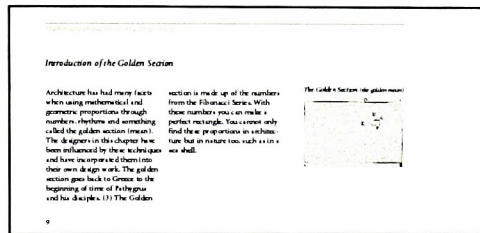
<i>Table of Contents</i>	
1 Copyright	21 <b>Charles and Ray Eames</b>
2 Dedications	22 <b>Laszlo Moholy-Nagy</b>
3 Acknowledgements	23 <b>Alvin Lustig</b>
5 Foreword	24 <b>Walter Gropius</b>
6 Introduction	
8 <b>Mathematical and Geometric Proportions</b>	26 <b>Influences (Post-Modern)</b>
9 <b>Introduction</b>	27 <b>Introduction</b>
10 <b>Josef Müller-Brockmann</b>	28 <b>Katherine McCoy</b>
11 <b>A.M. Cassandre</b>	29 <b>Richard Saul Wurman</b>
12 <b>Herbert Bayer</b>	30 <b>Herbert Bayer</b>
13 <b>Peter Behrens</b>	32 <b>What does this mean?</b>
14 <b>Whitehouse Designs</b>	33 <b>How do theories work?</b>
15 <b>Proportions of the Human Body</b>	34 <b>What does it mean for you?</b>
16 <b>Introduction</b>	35 <b>Why is it important?</b>
17 <b>Leonardo Da Vinci</b>	36 <b>Appendix</b>
18 <b>Massimo Vignelli</b>	37 <b>Image Credits</b>
19 <b>Nature in Architecture</b>	38 <b>Works Cited</b>
20 <b>Introduction</b>	39 <b>Index</b>

The title of the chapters were "Mathematical and Geometric Proportions"; "Proportions of the Human Body"; "Nature in Architecture"; "Influences (Post-Modern)" and "What does this mean?." The titles were selected from the matrix to categorize each chapter.

# Ideation

# Prototype II

The second draft of the prototype included a more developed copy as well as imagery, but the page size was smaller; 4 by 8 inches. It was a rectangle but the small size limited the impact of the images. It was suggested by committee member Professor Charles Lewis that the pages could mirror each other instead of using flush left on every page. This draft still structured by with a three column grid.



## Chapter One Spreads 4x8 inches

In a review meeting, Professor Bruce Ian Meader, suggested a need for typographic and hierarchy changes. Italic style was used for the folios, subtitles, and captions of the images. Although they were all different sizes, a clearer distinction between them was required. The placement of the page numbers was flawed and was reevaluated. The placement of the rule above the folio could possibly be moved.



The Table of Contents for prototype 4 x 8 inches:

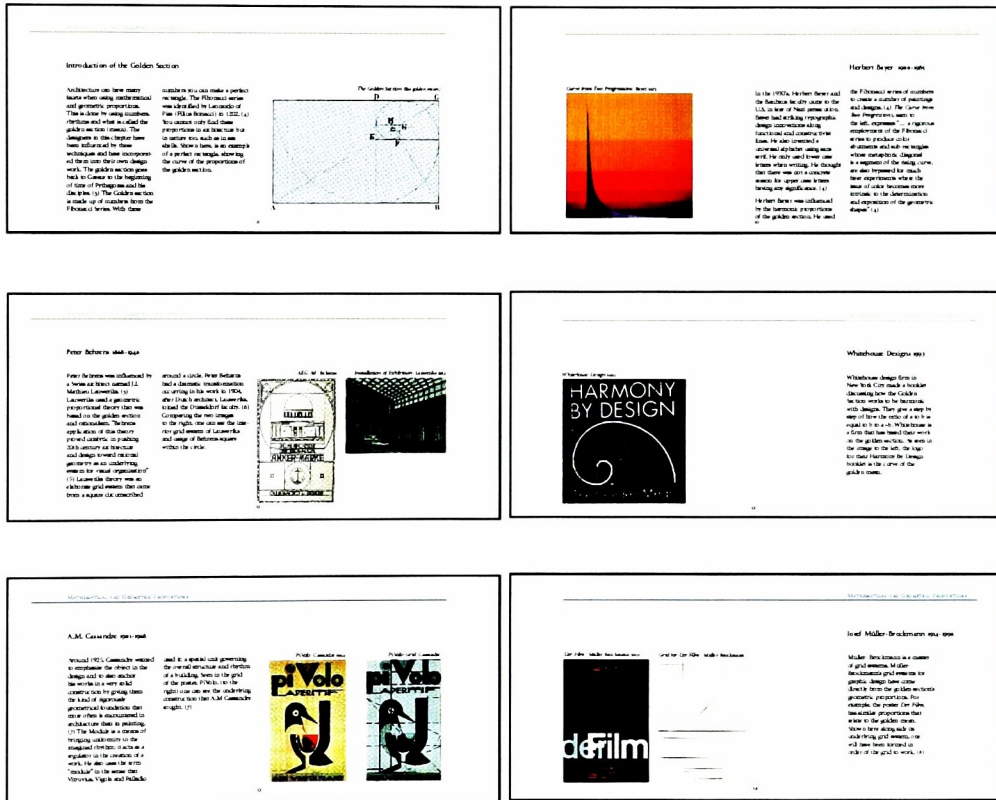
<i>Table of Contents</i>		
1	Copyright	
2	Dedications	
3	Acknowledgements	
6	Introduction	
8	Influence on Design <i>Mathematical &amp; Geometric Proportions</i>	
9	Introduction	
10	Peter Behrens	
11	Herbert Bayer	
12	Whitehouse Designs	
13	A.M. Cassandre	
14	Josef Müller-Brockmann	
15	Influence on Design <i>Proportions of the Human Body</i>	
16	Introduction	
17	Leonardo Da Vinci	
18	Massimo Vignelli	
19	Influence on Design <i>Nature in Architecture</i>	
20	Introduction	
21	Walter Gropius	
22	Laszlo Moholy-Nagy	
23	Alvin Lustig	
24	Charles and Ray Eames	
26	Influence on Design <i>Post-Modernism</i>	
27	Introduction	
28	Herbert Bayer	
29	Josef Müller-Brockmann	
30	Richard Saul Wurman	
30	Katherine McCoy	
32	Influence on Your Work <i>How do theories help you?</i>	
33	How do theories work?	
34	What does it mean for you?	
35	Why is it important?	
38	Works Cited	
39	Index	
40	Bibliography	4

The titles were changed after draft one of the application. The titles now referred to how the subject of the chapter was an influence on design. Each of the chapter titles was placed underneath the heading *Influence on Design*. In Chapter One, the names A.M. Cassandre and Josef Müller-Brockmann, were set in blue as they represent the geometric section of the chapter of "Mathematical and Geometric Proportions".

# Ideation

# Prototype III

The final spread size of the book was decided to be 5 by 10 inches. It still is a rectangle. The larger size allows for clearer images and a four column grid structure instead of three. This is the example of what was produced for the intermediate evaluation for the Graduate Thesis Exhibition in Bevier Gallery.



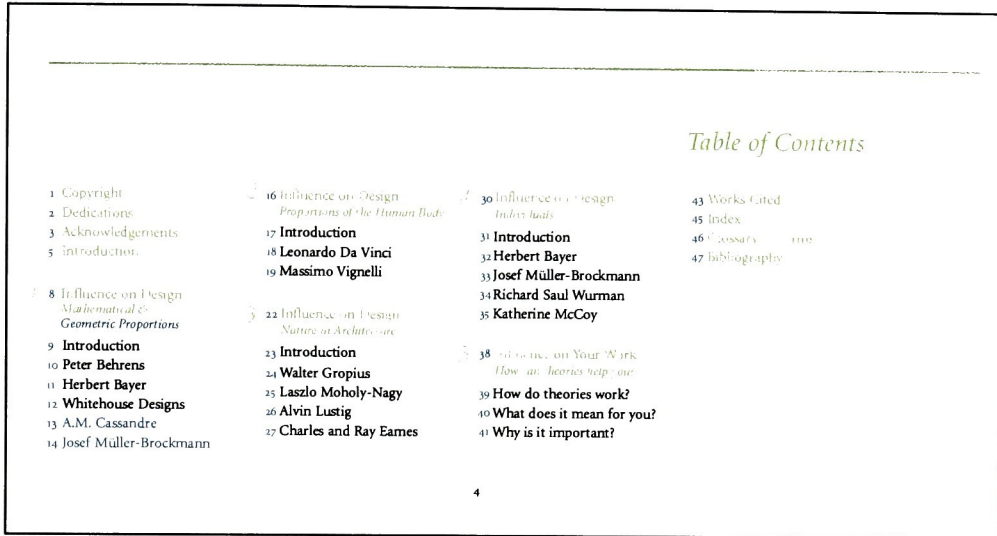
## Chapter One Spreads 5 x 10 inches

The suggested changes to prototype II were made. A hairline rule was placed below the folio to give a slight separation. The folios were changed to small caps and a smaller point size. The leading between the subheadings and copy grew closer to associate them with each other. The captions were the only items in italic and were given a smaller point size than the copy. The folios were placed in the third column of the grid.

# Ideation

# Prototype III

The Table of Contents for prototype III was the following:



The image shows a page titled "Table of Contents" with a list of chapters and page numbers. The text is arranged in four columns. The page number "4" is centered at the bottom.

Table of Contents			
1 Copyright	16 Influence on Design	30 Influence on Design	43 Works Cited
2 Dedications	<i>Proportions of the Human Body</i>	<i>Industrials</i>	45 Index
3 Acknowledgements	17 Introduction	31 Introduction	46 Glossary
5 Introduction	18 Leonardo Da Vinci	32 Herbert Bayer	47 Bibliography
	19 Massimo Vignelli	33 Josef Müller-Brockmann	
		34 Richard Saul Wurman	
		35 Katherine McCoy	
8 Influence on Design	22 Influence on Design		
<i>Mathematical &amp;</i>	<i>Nature in Architecture</i>		
<i>Geometric Proportions</i>			
9 Introduction	23 Introduction	38 Influence on Your Work	
10 Peter Behrens	24 Walter Gropius	<i>How do theories help you?</i>	
11 Herbert Bayer	25 Laszlo Moholy-Nagy	39 How do theories work?	
12 Whitehouse Designs	26 Alvin Lustig	40 What does it mean for you?	
13 A.M. Cassandre	27 Charles and Ray Eames	41 Why is it important?	
14 Josef Müller-Brockmann			

4

Below, is the grid structure for the final prototype of the book. It is a four column grid. Each column being two inches wide. This was used to organize the information by grouping two columns together.


## Intermediate Evaluation

One intermediate evaluation occurred after a presentation to first year graduate graphic design students and faculty. The presentation included a summary of the thesis process up to that point and also possible ideas for the application. Professor Deborah Beardslee provided feedback about the presentation content and also suggestions for further thesis development. (see suggestions in Appendix F )

Another, intermediate evaluation was after the thesis show presentation in the gallery. Each committee member gave feedback for continuation of the thesis application. The Graduate Thesis Exhibition was to inform the public of the findings in the thesis project. It was mostly seen by School of Design and School of American Crafts students and faculty. The prototype was presented, in a semi-final form, to all committee members. Each member discussed a different subject of the thesis project. Professor Charles Lewis asked questions of how the book will or could be benefited from in the future. This was discussed and then determined that design students in a design history course would benefit the most from the information in the prototype. Professor Bruce Ian Meader made suggestions for further development for the design and organization of information in the Table of Contents as well as the copy within the prototype. Also Professor Meader pointed out the uses of certain colors needed to be consistent throughout the prototype.

## Implementation

The intermediate evaluation by committee members suggested changes to the prototype and evaluation methods to use for an retrospective evaluation. The Table of Contents of the book changed once again. The titles of the chapters, as well as the designers listed, were changed to black text. This was to make them the most information in the contents. The numerals were changed to black, from the previous blue color, and then placed at 50% black to make a gray. Everything in the green tint suggests that the information is secondary. How the subjects are treated in the Table of Contents flows throughout the rest of the prototype.

<i>Table of Contents</i>			
<ul style="list-style-type: none"> <li>1 Copyright</li> <li>2 Dedications</li> <li>3 Acknowledgement</li> <li>4 Introduction</li>   <li><b>Mathematical &amp; Geometric Proportions</b></li> <li><i>Influence on Design</i></li> <li>5 Introduction</li> <li>6 <b>Peter Behrens</b></li> <li>7 <b>Herbert Bayer</b></li> <li>8 <b>Whitehouse Designs</b></li> <li>9 A.M. Cassandre</li> <li>4 Josef Müller-Brockmann</li> </ul>	<ul style="list-style-type: none"> <li>10 <b>Proportions of the Human Body</b></li> <li><i>Influence on Design</i></li> <li>17 Introduction</li> <li>18 <b>Leonardo Da Vinci</b></li> <li>19 <b>Massimo Vignelli</b></li>   <li>22 <b>Nature in Architecture</b></li> <li><i>Influence on Design</i></li> <li>23 Introduction</li> <li>24 <b>Walter Gropius</b></li> <li>25 <b>Laszlo Moholy-Nagy</b></li> <li>26 <b>Alvin Lustig</b></li> <li>27 <b>Charles and Ray Eames</b></li> </ul>	<ul style="list-style-type: none"> <li>28 <b>Individuals</b></li> <li><i>Influence on Design</i></li> <li>29 Introduction</li> <li>30 <b>Herbert Bayer</b></li> <li>31 <b>Josef Müller-Brockmann</b></li> <li>32 <b>Richard Saul Wurman</b></li> <li>33 <b>Katherine McCoy</b></li>   <li>34 <b>How Can Theories Help You?</b></li> <li><i>Influence on Your Work</i></li> <li>35 How do theories work?</li> <li>36 What does it mean for you?</li> <li>37 Why is it important?</li> </ul>	<ul style="list-style-type: none"> <li>38 Works Cited</li> <li>39 Index</li> <li>40 Glossary of Terms</li> <li>41 Bibliography</li> </ul>
4			

## Dissemination

In the future, a limited edition of the prototype book may be printed and bound to be used as a tool for a graphic design history course, awareness of graphic design in the field of architecture, or for anyone interested in either of these two subjects. The best possible audience interaction with the application would be designers or design students. A survey with design students who have read the prototype could provide feedback on the decisions made about the prototype and permit suggested changes. The prototype would be distributed to graphic design programs that wish to teach about the other disciplines that are involved such as photography, interior design, illustration, and of course, architecture.

Also, the information within the prototype could be distributed by the use of a website or a Macromedia Flash interactive site. This could allow more images to be seen along with links to pages about the individual backgrounds of designers and architects. A website would be an asset to both information gathering and distribution.

## Retrospective Evaluation

From the results of the surveys, the weaknesses and the strengths of the prototype were evaluated. (see complete survey and results in Appendix F) Found below are the questions from the survey and numbered results.

1. From a quick glance at the book, do you feel that you gained access into design history?  
1. 0 2. 0 3. 4 4. 7 5. 3
2. How much architectural history did you gain from reading this book?  
1. 0 2. 1 3. 3 4. 9 5. 1
3. Does the book clearly state how the theories of architecture have influenced graphic designers?  
1. 0 2. 0 3. 3 4. 8 5. 3
4. Do the images help you better understand the concepts?  
1. 0 2. 1 3. 2 4. 4 5. 7
5. Does the book make you think about learning or working with other disciplines?  
1. 0 2. 0 3. 3 4. 8 5. 3
6. Which concept stood out the most to you?

<b>mathematical and geometric proportion</b>	<b>9</b>
human body proportions	3
organic architecture	2
individual influences	1
other _____	1

The choices of numbers one through five, where five is best, number four was chosen most often in questions one through three on the survey. This indicates room for improvement, but that the information given was understandable. The weaknesses of the prototype could be found in questions that had the number two chosen for an answer. This occurred two times in the fourteen surveys; once on question two and once on question four. This indicated that there are still some questions or concerns about the book. One way to adapt these concerns would be to make the prototype a larger size that could accommodate images, copy and background information. In question four, about how images helped towards the understanding of the concepts, five was the most common answer. This could imply that there should be more images or that there were just enough. In question five on the survey, which was to see if the prototype provoked interest in other disciplines, again number four was chosen the most. The last question, of which concept stood out the most to you, was answered with the "Mathematical and Geometric Proportions." This could be because it was the most complete chapter or because it is the first chapter of the book.

The strength of the prototype is the useful information provided in a manner that is not overwhelming to a student's needs. This was one of the goals of the thesis– to introduce architecture and graphic design so people understood what they were all about. The concept that was chosen to be the most noticed in the prototype as mentioned before, was the mathematical and geometric proportions. Concepts favored by students, other than mathematical and geometric proportions were ones that they felt were interesting. Overall, the evaluation of the book was on the higher end of the spectrum. One student taking the survey inquired "Could I have a copy of the prototype? As it has a lot of great information that is useful!"<sup>6</sup> The comment exemplifies the acceptance of and need for a book like this one.

## Conclusion

Having a background in graphic design and architectural history and finally being able to relate the two disciplines together, was enlightening. To research relationships of graphic design and architecture, with which, there was already familiarity, opened doors to new information. The prototype demonstrates how graphic design and architecture, shown jointly, feed off of each other for inspiration, technique, and structure. The influence of Marcus Vitruvius Pollio, a Roman architect, from the first century B.C., on Leonardo Da Vinci in 1495, was an exciting connection to make. To know that hundreds of years had past and Da Vinci still was inspired by a great architect, Vitruvius, is remarkable.

The influences that were found during this thesis project validated inquiry of a relationship of graphic design and architecture. To understand and possess historical theories provides you with concrete ideas of the past, present and future.

The outcome of the project met the goals that were established in the project planning report. One goal, was to produce a book that explained how architectural theories influenced the practice of graphic design. The prototype book was designed, written, and printed to final form. (see prototype in Appendix H) It was then validated by the committee, design students and also non-designers. The real success of the book may come later, after it is distributed into a design classroom setting, where it then can be used to its full potential.

Making numerous drafts of lists of people, images, and of course the prototype established a great foundation to work with. The process of using a block diagram and preliminary reports not only shaped the project but guided it step by step to make the project functional. It is encouraging to have confirmed, through evaluation, the need for the product that is being designed and produced.



## Glossary of Terms

antiquity	the period of history before the Middle Ages
application	in the sense used in this thesis document, an informational book
architectural theory	ideas of past and present architects that have used the theories to create buildings based on them
database	organization of research materials in a set structure
environmental design	using information design, wayfinding systems, and signage to engage architecture with graphic design
Modernism	divergence from the past in the arts occurring in the course of the 20th century and taking form in any of various innovative movements
fibonacci series	with these numbers of the fibonacci series you can make a "perfect" rectangle. The Fibonacci series was identified by Leonardo of Pisa (Filius Bonacci) in 1202.
folios	the placement of page numbers on a page within a book's structure
geometric proportions	proportions that are based on geometric shapes
graphic design	graphic design has many aspects such as traditional print media, including type, and cross-disciplinary practices, including collaborations with architects. "A good graphic designer is able to adapt existing historical unique approaches"
grid structure	layouts to make a plan of structure for a project, whether it be two dimensional or three dimensional
golden section	a series of numbers that involve the fibonacci series which generate, what is considered by many, a perfect rectangle. The rectangle then is the basis for the spiral curve used in architecture and other places.
hierarchy	to arrange information according to its importance to the piece
hypothetically	to assume something exists by hypothesis or educated guess
influence	someone or something that has persuaded one's ideas in a direction
information design	an area of graphic design that is concerned with understanding reader and user responses to written and visual represented information
mathematical proportions	proportions that have a number sequence dependent on them
matrix	a rectangular array consisting of rows and columns of numbers, symbols, linguistic or other data
organic architecture	when organic or natural materials are used to build the structure or interior of a building
prototype	a first or experimental working model of something to be manufactured
serif	a typeface using legs or base such as: Minion Typeface
typographic (typography)	to bring structure, legibility and readability to text

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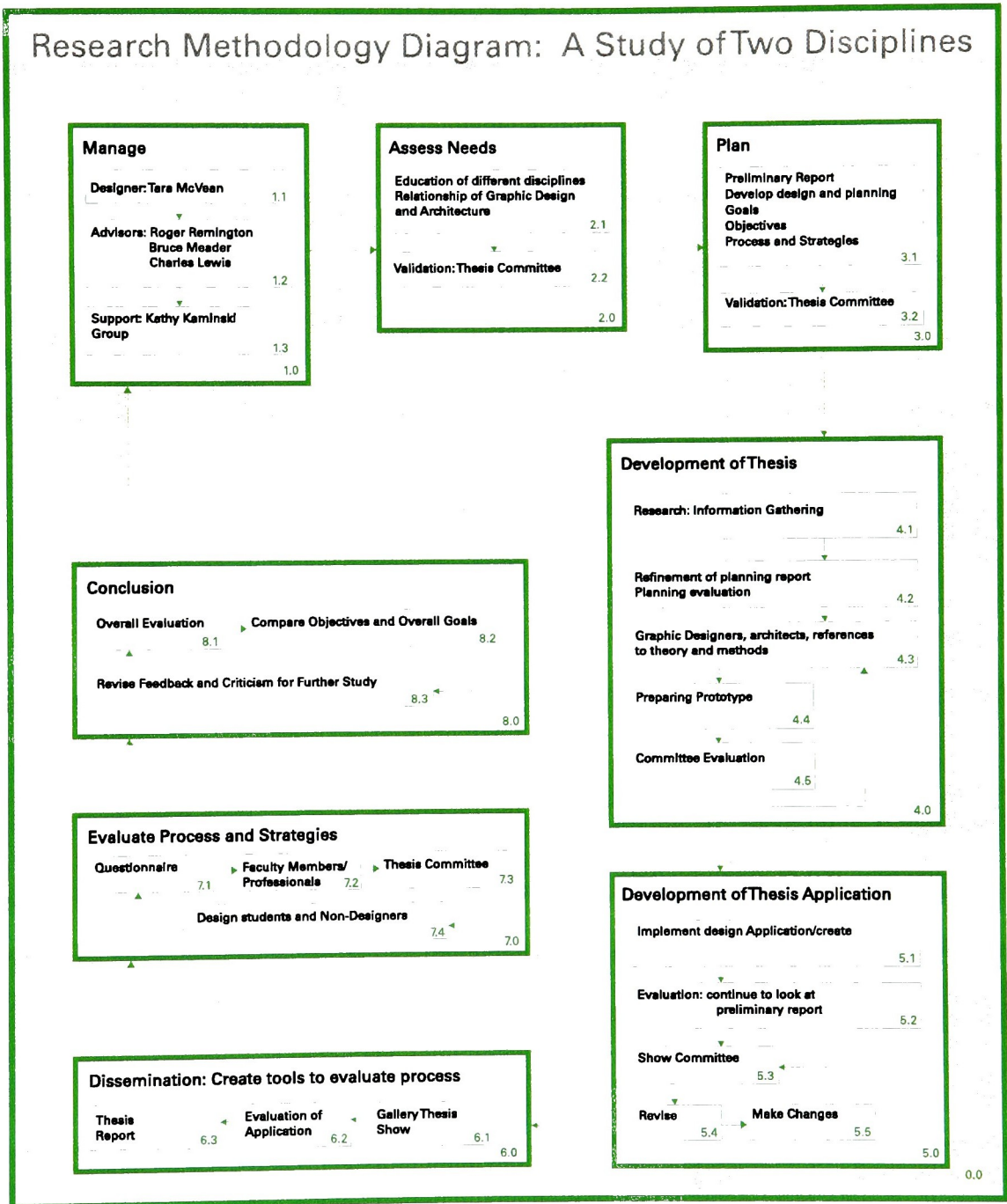
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- 6 Undergraduate graphic design student: Information Design class. R.I.T. April 3, 2001. *evaluation*

## Appendices

- A Methodology Diagram
- B Preliminary Planning Report
- C Listing of Architects and Designers
- D Research Images
- E Matrix
- F Intermediate Evaluation
- G Survey, Example Evaluation, Results
- H Final Prototype

# Appendix A Research Methodology Diagram



## Appendix B Preliminary Planning Report



The Practice of Graphic Design  
and Architectural Theory:  
*A Study of Two Disciplines*

Thesis Plan

Tara Mc Vean  
Graduate Graphic Design  
Rochester Institute of Technology

## Contents

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Situation Analysis	4
Problem Statement	5
Mission Statement goals, objectives, processes & strategies	6
Timeline	7
Research Methodology Diagram	8
Inputs:Processes:Outputs	9
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Evaluation Plan	11
Works Cited	12
Glossary of Terms	13



Thesis Committee Members

**Chief Advisor:** Professor R. Roger Remington

**Associate Advisor:** Professor Bruce Ian Meader

**Associate Advisor:** Professor Charles Lewis

**Designer:** Tara Mc Vean

17 Colonial Drive

Penfield, New York

## Situation Analysis

A person's interests can be narrow or very broad. I believe that interests, even if very different from each other can relate to each other. One may believe that architecture and graphic design are separate fields of work and study. There are many connections and similarities between the two disciplines. Lazlo Moholy-Nagy said "Design is thinking in relationships". The relationship between graphic design and architecture is bonded together because theory informs practice. As Charles Plummer says "There is nothing more practical than a good theory".

Architecture is not just buildings and graphic design is not just print materials. Architects such as Robert Venturi, Frank Lloyd Wright, Le Corbusier, Buckminster Fuller, and Marcel Breuer were great designers as well as architects. Then there are designers such as Alvin Lustig and Charles Eames who were also competent architects. Le Corbusier's Modulor is a point of connection from architecture to Massimo Vignelli's format grid of graphic design.

In order to have something work, one needs structure and order. Vignelli strongly believes that "Design without structure is anarchy" and his results give him the "sense of recurrence, of unity throughout" his work (USGS). Applications in graphic design, using the grid system, lend themselves to being well balanced and rational. There is an important need for an awareness of the aspects and theories of architecture and graphic design. They have influenced as well as helped with the practice of each other's disciplines.

## Problem Statement

One can learn from other people's expertise and enhance what one already knows. Theories exist all around us but they are only useful if they can apply to something that you know. This is the only way to learn or remember anything according to information designer, Richard Saul Wurman. The thesis application must be able to be understood to the graphic designer and the architect because understanding one discipline is necessary to enhance knowledge of another.

I am proposing to create a program of interpretive materials illustrating the relationship between graphic design and architecture. To organize the two disciplines together, their theories should be shown in concrete applications, in order to verify their rationale. The application will show influences of the two disciplines such as grid structures and how graphic designers can also be architects. The product of this thesis will provide key visuals to prove what the theories are trying to say. This project will be written to open the eyes of the non-designer as well as all designers and architects. It will show that education in a particular field of study should not limit one's areas of study.

## Mission Statement

*The Practice of Graphic Design and Architectural Theory* is a graduate thesis project that will explore the relationship between these two disciplines to the end that will expand the viewer's ideas and learning beyond their own capacities

Goals	Objectives	Processes & Strategies
<ul style="list-style-type: none"> <li>• To review planning document &amp; decisions and revise accordingly</li> </ul>	<ul style="list-style-type: none"> <li>A) To research theory and methods of graphic design and architecture</li> <li>B) To gather information</li> </ul>	<ul style="list-style-type: none"> <li>• Find various brainstorming methods</li> <li>• Interview individuals about theory &amp; methods</li> <li>• Research topic thoroughly</li> <li>• Conduct interview with architects &amp; designers about their views</li> </ul>
<ul style="list-style-type: none"> <li>• To show and interpret relationships between disciplines</li> </ul>	<ul style="list-style-type: none"> <li>A) To realize common theories within disciplines</li> <li>B) To collect visual relationships shown in graphic design and architecture</li> </ul>	<ul style="list-style-type: none"> <li>• Test the theories</li> <li>• Evaluate the messages found in certain theories</li> <li>• Use solutions in either discipline</li> <li>• Show similarities with visuals</li> </ul>
<ul style="list-style-type: none"> <li>• To develop a prototype pertaining to found information</li> </ul>	<ul style="list-style-type: none"> <li>A) To examine solutions in found relationships</li> <li>B) To show previous works that combine disciplines</li> </ul>	<ul style="list-style-type: none"> <li>• Show the grid in various ways</li> <li>• Show the grid in various ways</li> <li>• Examine books-Past/Present</li> <li>• Examine Design Firms: (Agnew, Moyer, &amp; Smith)</li> </ul>
<ul style="list-style-type: none"> <li>• To interpret prototype and develop the application</li> </ul>	<ul style="list-style-type: none"> <li>A) To review feedback from first prototype</li> <li>B) To explain the theme of relationships using past experiences</li> </ul>	<ul style="list-style-type: none"> <li>• Make a book showing helpful visuals</li> <li>• Use feedback from prototype</li> <li>• Create a multimedia presentation</li> <li>• Incorporate disciplines to help you</li> </ul>
<ul style="list-style-type: none"> <li>• Evaluate concepts and application</li> </ul>	<ul style="list-style-type: none"> <li>A) To use a survey in order to evaluate application</li> <li>B) To establish an overall meaning of design</li> </ul>	<ul style="list-style-type: none"> <li>• Use solutions in either discipline</li> <li>• Use Photographic survey</li> <li>• Determine if there is a heightened awareness</li> <li>• Show differences in interdisciplinary working methods</li> </ul>

# Timeline

## Calendar and RIT Schedule

## Thesis Plan

Fall	Sept. 4	Labor Day	Sept. 25	Proposal Due
	Sept. 6	Start of Classes		Thesis planning
	Oct. 9	Columbus Day		Thesis proposal
	Oct. 31	Halloween		Problem statement
	Nov. 7	Election Day	Nov. 21	Mission statement
	Nov. 23	Thanksgiving		Research & Analysis
				Library research and Gathering info.
	Nov. 21	Fall/Winter Break	Dec. 3	Interviews with architects
			Dec.4	Committee Meeting #1
	Nov. 30	Winter Quarter Starts		Evaluation of proposal
			Dec.21	Research
	Dec. 21	Winter Break		Organizing database
	Dec. 25	Christmas Day	Jan.3	Synthesis
Winter			Jan. 15	Ideation
	Jan. 1	New Year's Day		Preliminary design
	Jan. 3	Classes start up again		Layout book
				Sketches/Ideas
	Jan. 15	Martin Luther King	Jan. 20	Committee Meeting #2
				Feedback on layout
				Evaluate
	Feb 14	Valentine's Day	Feb.1	1st Year Presentation
			Feb. 10	Refinement
				Development of CD-Rom
			Preparing Prototype -See Editor	
	Mar. 3	Spring Break	Feb.26	Committee Meeting #3
				Implementation
	Mar. 12	Classes resume		Preparing Final -See Editor
	Mar. 17	St. Patti's Day	Mar.12	Thesis Show One
			Mar. 19	Evaluation of surveys
	Apr. 15	Easter		1st draft of Report -Editor
Spring			April 20	Committee Meeting #4
			April 25	Completing Thesis Report
				Finalize book publishing
				Finalize CD-Rom
				Final Evaluation -See Editor
	May 13	Mother's Day	May 1	Final review of report
				Final meeting with editor
May 26	Commencement	May 22	Committee Meeting #5	
			Sign off of thesis with committee	
	May 28	Memorial Day		
	June 4	Summer Quarter starts		

**Missing Page**

## Inputs:Processes:Outputs

---

### 3.0 Planning Report

Input: thesis proposal (mission statement)

Process: finding out your goals, objectives and strategies  
starting a timeline of events to take place

Output: planning report

---

### 4.0 Development of Thesis

Input: planning report

Process: refining of planning report  
researching disciplines and their methods  
preparing preliminary prototype  
receiving validation from committee

Output: Prototype

---

### 5.0 Development of Thesis Application

Input: Revision of prototype and  
research materials

Process: creating application  
combining materials  
implementing ideation into application  
revisions of prototype

Output: application  
better understanding of material

## Dissemination Plan

---

<b>Item</b>	<b>Audience</b>	<b>Evaluation</b>
Planning Report	Thesis Committee	First Meeting Prior to project
Development of Prototype	Thesis Committee Fellow students	Researching stage January
Application	Thesis Committee Designers Architects Non designers	Thesis Show March 16th,2001
Thesis Report	Thesis Committee Faculty Students Public	Post-Thesis show



## Evaluation Plan

---

<b>What</b>	<b>Who</b>	<b>When</b>	<b>Questions</b>
Planning Report	Thesis Committee	Prior to first meeting	Is this a valid topic? Is it feasible to complete?
Development of Prototype	Thesis Committee Support Group Students	Prior to Thesis Show January	Is the prototype understandable? Do the relationships that are shown make sense? are they distinct?
Application	Thesis Committee Students Professionals	Thesis Gallery Show	What does the user get out of the application? Were there at least two professionals consulted?
Thesis Report	Thesis Committee Faculty	Post-Thesis Show	Was the planning report completed? Were the goals met for the project?

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## Glossary of Terms

A ***theory*** can be a body of mathematical principles or a particular view of something to be done or method of doing it.

A ***grid*** is a network of horizontal and perpendicular lines that are uniformly spaced.

***Modular*** is understood to be a self contained unit or item that can be combined or interchanged with others like it to create different shapes or designs.

***Design*** is forming or conceiving a plan for a work to be executed.

***Rational design*** could be referred to a specific set of forms in which to go by in designing.

***Structure*** is the pattern or system of beliefs.

***Information design*** is an area of graphic design that is concerned with understanding reader and user responses to written and visually presented information.

***Interpretation*** is to give the translation of something as you understand it.

***Multi-media*** is using more than one aspect of media, such as programs, computers, etc.

## Appendix C List of Designers and Architects

Graphic Designers that  
were researched for  
the application:

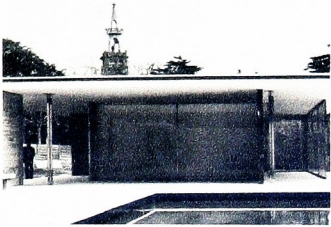
Dwiggins  
Walter Gropius  
R. Buckminster Fuller  
Laszlo Moholy-Nagy  
Herbert Bayer  
Marcel Breuer  
Charles and Ray Eames  
Richard Neutra  
Karl Gerstner  
Josef Müller-Brockmann  
Alvin Lustig  
Massimo Vignelli  
Peter Behrens  
Richard Saul Wurman  
Josef Albers  
Richard Meier  
Michael Graves  
A.M. Cassandre  
Leonardo DaVinci  
Katherine McCoy  
Whitehouse Designs

Architects that were  
researched for  
the application:

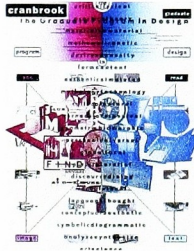
Filius Bonacci (The Golden Section)  
Vitruvius  
Alberti  
Palladio  
Le Corbusier  
Robert Venturi  
John Ruskin  
Frank Lloyd Wright  
Louis Kahn  
Louis Sullivan  
Chris Alexander  
Eeil and Eero Saarinen  
J.L Mathieu Lauweriks  
Frank Gehry  
Richard Neutra  
Mies Van Der Rohe

# Appendix D Research Images

*Barcelona Pavilion*  
Mies Van Der Rohe



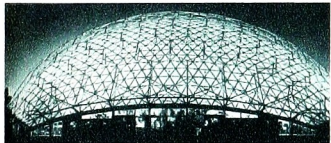
*Cranbrook School Poster*  
Katherine McCoy



*Curve from Two Progressions*  
Herbert Bayer



*Geodesic Dome*  
Buckminster Fuller



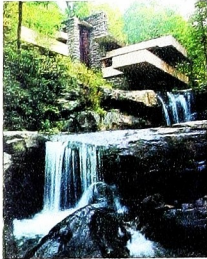
*AEG Ad*  
Peter Behrens



*Der Film*  
Josef Müller-Brockmann



*Fallingwater*  
Frank Lloyd Wright



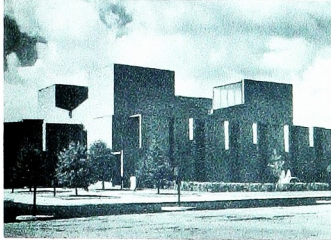
*Eames House*  
Charles and Ray Eames



*Black Mountain College*  
Walter Gropius

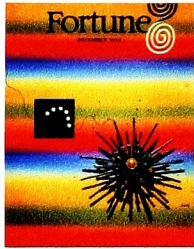


*First Unitarian Church*  
Louis Kahn

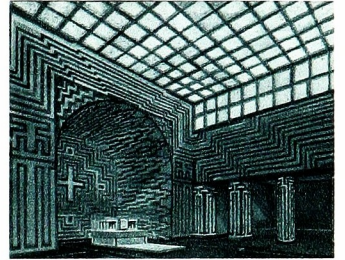


# Appendix D Research Images

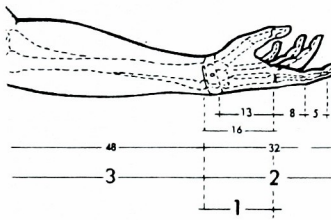
Fortune Magazine  
Alvin Lustig



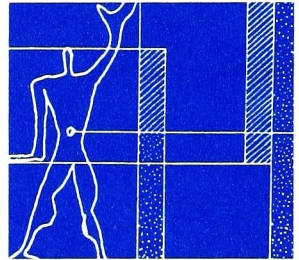
Installation of Exhibition  
J.L. Mathieu Lauweriks



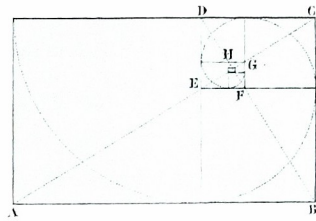
Fibonacci Series



Modular Man  
Le Corbusier



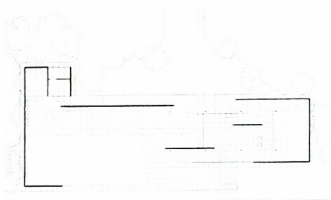
The golden section



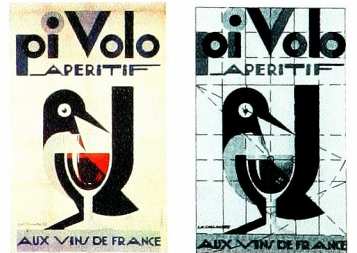
Glass Loop  
Laszlo Moholy-Nagy



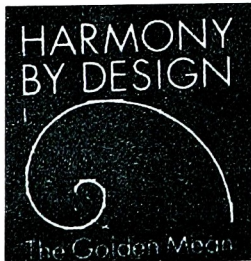
Barcelona Pavilion Grid  
Mies Van Der Rohe



Pi Volo and its Grid  
A.M. Cassandre



Harmony By Design  
Whitehouse Design Firm

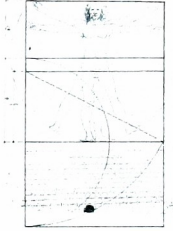


Potpourri Géométrique  
Herbert Bayer

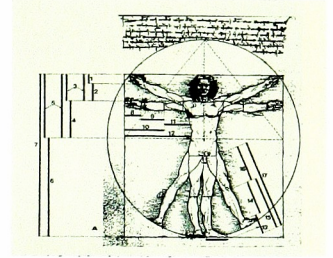


# Appendix D Research Images

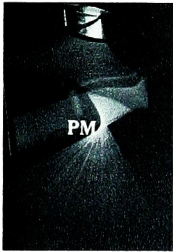
Canonical figures  
Da Vinci



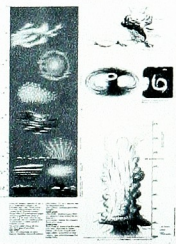
Vitruvian Man  
Da Vinci



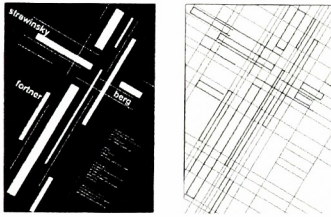
Publicity Over Chicago  
Laszlo Moholy-Nagy



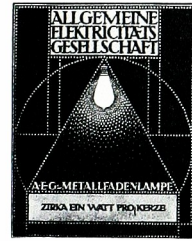
World Geo-Graphic Atlas  
Buckminster Fuller



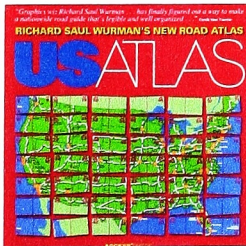
Affiche Pour Le Touffle  
Josef Müller-Brockmann



AEG  
Peter Behrens



US Atlas  
Richard Saul Wurman



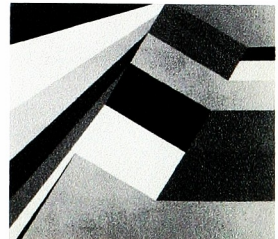
Au Bucheron  
A.M. Cassandre



Guild House  
Robert Venturi

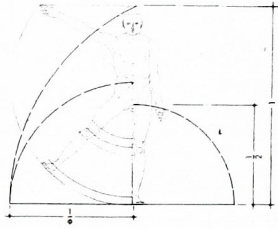


Connected Progressions  
Herbert Bayer

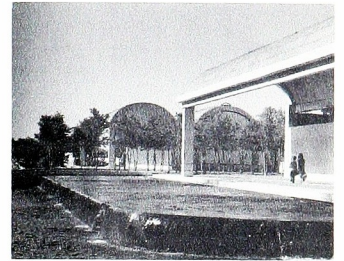


# Appendix D Research Images

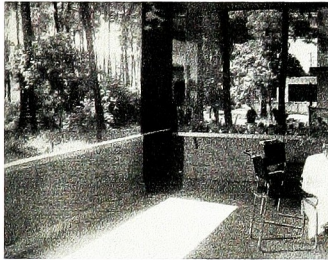
*Human Proportions*



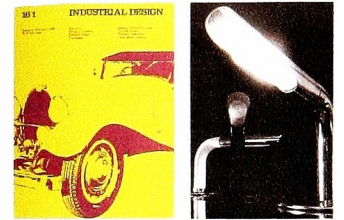
*Kimbal Art Museum*  
Louis Kahn



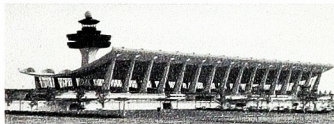
*Gropius House*  
Walter Gropius



*Industrial Design Magazine*  
Massimo Vignelli



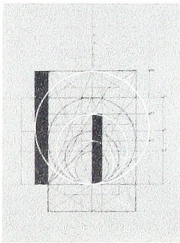
*Dullus International Airport*  
Louis Kahn



*Northland Mall*  
Alvin Lustig



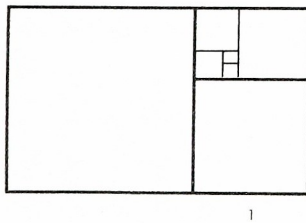
*The golden section*  
A.M. Cassandre



*Piccolo*  
Massimo Vignelli



*The "perfect" rectangle*  
Whitehouse Designs



*Ville Savoye*  
Le Corbusier



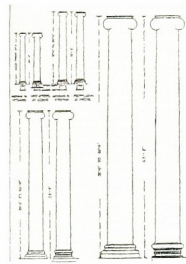


## Appendix D Research Images

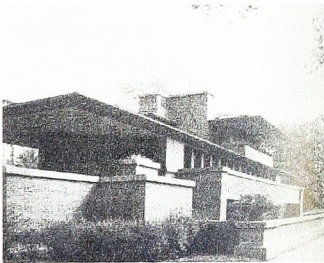
*Guggenheim Museum*  
Frank Lloyd Wright



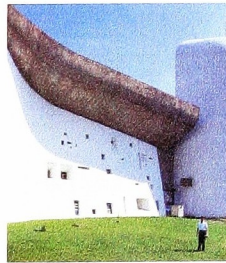
*Classical Column Proportions*  
Vitruvius



*Robie House*  
Frank Lloyd Wright



*Du RonChamps*  
Le Corbusier





## Appendix F Intermediate Evaluation-feedback

Comments from Professor Deborah Beardslee

Tara/Thesis Presentation

- clear presentation/description
- would be good to label which architects were responsible for which theories (in book content outline)
- just be sure to be consistent...sometimes you label by persons' name, sometimes by theory only
- how would you describe the difference between "informational" and "educational"?
- why/how did you choose a book format?
- I'm wondering if there would be some benefit to incorporating some cross-reference ability into your book...a non-traditional book format
- wonder about your decisions to select omit—strong
- at one point you'd asked me about Christopher Alexander...architecture

# Appendix G Survey

## Survey: Graphic Design and Its Relationship to Architectural Theories

Circle One: designer architect other  
(design student)

This is part of a graduate graphic design thesis project. Please take a few minutes to read through the book provided to you. Then, read the questions below and rank each answer 1-5, 5 being best.

1. From a quick glance at the book, do you feel that you gained access into design history? 1 2 3 4 5

2. How much architectural history did you gain from reading this book? 1 2 3 4 5

3. Does the book clearly state how the theories of architecture have influenced graphic designers? 1 2 3 4 5

4. Do the images help you better understand the concepts? 1 2 3 4 5

5. Does the book make you think about learning or working with other disciplines? 1 2 3 4 5

6. Which concept stood out the most to you?

mathematical and geometric proportions human body proportions

organic architecture individual influences

other \_\_\_\_\_

Appendix G Example of Survey- Retrospective Evaluation 1 out of 14

Tara McVean  
Graduate Graphic Design  
April 3, 2001

Survey: Graphic Design and Its Relationship to Architectural Theories

Circle One: designer architect other  
(design student)

This is part of a graduate graphic design thesis project. Please take a few minutes to read through the book provided to you. Then, read the questions below and rank each answer 1-5, 5 being best.

1. From a quick glance at the book, do you feel that you gained access into design history? 1 2 3 4 5
2. How much architectural history did you gain from reading this book? 1 2 3 4 5
3. Does the book clearly state how the theories of architecture have influenced graphic designers? 1 2 3 4 5
4. Do the images help you better understand the concepts? 1 2 3 4 5
5. Does the book make you think about learning or working with other disciplines? 1 2 3 4 5
6. Which concept stood out the most to you?  
mathematical and geometric proportions      human body proportions  
organic architecture      individual influences  
other

## Appendix G Results-Retrospective Evaluation Survey

Surveys were given to an junior level, undergraduate, information design class. They were given a black and white copy of the book. They had about twenty minutes to read or skim through the book and to respond to the six survey questions. The book was surveyed by 14 design students. They were to rank 1-5, 5 being the best. The results were:

1. From a quick glance at the book, do you feel that you gained access into design history?
  1. 0
  2. 0
  3. 4
  - 4. 7**
  5. 3
  
2. How much architectural history did you gain from reading this book?
  1. 0
  2. 1
  3. 3
  - 4. 9**
  5. 1
  
3. Does the book clearly state how the theories of architecture have influenced graphic designers?
  1. 0
  2. 0
  3. 3
  - 4. 8**
  5. 3
  
4. Do the images help you better understand the concepts?
  1. 0
  2. 1
  3. 2
  4. 4
  - 5. 7**
  
5. Does the book make you think about learning or working with other disciplines?
  1. 0
  2. 0
  3. 3
  - 4. 8**
  5. 3
  
6. Which concept stood out the most to you?

<b>mathematical and geometric proportion</b>	<b>9</b>
human body proportions	3
organic architecture	2
individual influences	1
other _____	1

Comments from surveys:

The body text doesn't seem too architectural, more nature  
Architecture is generally noticeable, because of potent "Fallingwater"  
The concept of historic vs. recent

## Appendix H Final Prototype

The final prototype is placed in a pocket in the back of this thesis documentation.