# The Symbolic use of sea Shells in design

A Thesis Report Submitted to the Faculty of
The College of Imaging Arts and Sciences
In Candidacy for the Degree of
Master of Fine Arts

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August 1996

## Table of Contents

**Part I. Thesis Report**

# Table of Contents

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## Dedication

This thesis report is dedicated to God who has guided me through three wonderful years in an educational setting in a new country. He has always been by my side to guide and encourage me.

I also thank my dear parents, my two sisters and brother, in Korea for all their prayers and help over the years. Without their support this book would not have been possible.

While I have been at school my two nephews, Chang Hyun and Jung Eun, were born. I send them my love and look forward to seeing them soon.

## Acknowledgement

## Introduction

This thesis report details the various stages taken in the process of selecting a suitable topic for my graduate thesis, and moving through the various stages to complete an exhibition and an art book on the topic, *The symbolic use of sea shells in design.*

Sea shells are an important design component in all of the visual arts. My thesis is an investigation into how four types of shells (scallop, nautilus, conch, and cowrie) have been used as signifiers in a variety of applications. My goal was to create a book that could be used by designers as a quick visual and historical reference. It would also serve as an aesthetic object that would give pleasure.

All of the found images using sea shells as signifiers were scanned using Adobe Photoshop™ 3.0.5 and a flat-bed scanner. QuarkXPress™ was used to combine the scanned pictures with accompanying text. The pages for my book were printed on both sides by UFO Systems, Inc. The art book was bound by Olde Ridge Bookbindery.

My thesis exhibition consisted of a sea shell Mandala poster, three pictures of how sea shells are used as decorative elements in different native cultures, and a basket containing a large number of actual sea shells.

## Selecting a Topic

I have always had a strong interest in sea shells and as a child in Korea I had my own collection. It wasn't until I came to RIT, and as a graduate assignment, decided on a project that involved sea shells. I was assigned to study sea shells as an informational design project. I learned much from this experience. It rekindled my early interest in sea shells and set me on a course to study them further.

In the Winter of 1995 I was searching for a thesis project that could hold my interest and expand my knowledge of graphic design. As I thumbed through a magazine I began noticing many ads using sea shells. This caught my interest and I began wondering why sea shells were being used so often. I continued looking at other magazines, especially design magazines. The more I looked the more I discovered sea shells as design elements. I began thinking of them as signifiers (See Appendices I B. Sign Theory) and wondered what they signified. This propelled me into my research and thesis of *The symbolic use of sea shells in design.*

The course "Project Design and Evaluation" was taken in preparation for my thesis. A library search was conducted to explore areas of interest for a research topic. As a result of looking at a number of magazines and talking with resource people, I decided to concentrate on sea shells as a topic.

Having decided on a topic, I began to review books dealing with a variety of sea shells. At first I was overwhelmed by the amount of information, the large variety of shells and the number of different ways they were used. I decided to limit my research to four types of shells, those most often used in art and design.

Having done this, I began to prepare a proposal on how I would proceed with my research including a Mission Statement, a Methodology, and Time frame. (See Appendices II)

## 1. Interviews

In addition to continuing my library research, I began interviewing resource people in the arts and sciences.

Dr. Margaret D' ambruso, a retired RIT professor of biology, was interviewed in her home where she introduced me to her large collection of sea shells from around the world and explained the scientific importance of each. She was very enthusiastic about her shells and my interest in them from an art and design perspective. She allowed me to borrow several of her large picture books on sea shells that were most helpful.

Dr. Richard Orr, a mathematics professor at RIT, helped me to appreciate the relationship of the nautilus shell spiral, and the Fibonacci series of expanding numbers (1,1, 2, 3, 5, 8,13, etc.), and their relationship to the Golden Section which is so important in art, design, and architecture.

Dr. Joanne Szabla, art historian in Fine and Applied Arts, provided me with a number of her personal art books that had picture and text references to works of art that included sea shells. This not only provided a historical art perspective but also introduced me to some of the mythology surrounding sea shells and their use by artists. She also provided me with several pictures in which sea shells were used in a humorous way. One in particular was the cartoon character, Miss Piggy, as Venus a joke on Botticelli's "The Birth of Venus". Dr. Szabla also reviewed my collection of pictures of sea shells and made many useful editing suggestions.

Ms. Barbara Polowy, RIT art librarian, introduced me to a number of reference books. One in particular that I found very helpful was, *A Woman's Dictionary of Symbols.* There were many illustrations of sea shells and what they signified along with some of the mythology. For example, the scallop shell used by Botticelli for his painting of Venus signifiers birth and sensuality. It was used by Leonardo's painting of the "Annunciation" to signify a virgin birth. Historically, the mythology of the scallop shell is associated with the Legend of St. James.

Ms. Polowy also visited me in my studio to view the large matrix I had posted on the wall. As a result she made a number of additional useful suggestions.

## 2. Travel Research

Locally, my travel included the Visual Studies Workshop, the George Eastman House, Memorial Art Gallery and the Rochester Public Library. The Visual Studies Workshop provided wonderful examples of a variety of artists books that I was able to study in their research facility. At the Eastman House I was introduced to the sensual sea shell photography by Edward Weston.

Research travel outside of Rochester included Boston and New York City. My time in Boston was short but I did managed to visit both the Museum of Fine Art and the Museum of Natural History. More time was spent at the Museum of Natural History where I saw many specimens of actual sea shells, and looked at them with fascination– as one would look at a Fine Art sculpture. Indeed, the shells were beautiful in their shape, form, color texture and so on.

Much more time was spent in New York City where I had relatives with whom I could stay. I made three separate and extended trips. My research included visits to Libraries, Museums, Galleries and Artist Book stores. The New York Public Library was an excellent source of picture books on sea shells whereas the New York Manhattan Library was a good source of loose pictures of sea shells and their use in art and advertisement. At the Metropolitan Museum I visited the Asian collection hoping to find some example of sea shells used in Asian Art. To my surprise and disappointment I found none. I then visited the area where Greek sculpture and architecture were displayed. The first thing that caught my eye was the spiral decorative elements on some of the Greek columns. Although the spiral was not an expanding one as in a nautilus shell, I couldn't help but wonder whether the Greeks were influenced by such a beautiful shell.

The highlight of my New York experience was the Guggenheim Museum whose architecture resembled the expanding spiral of a nautilus shells. I remember very clearly the joyful, almost mystical feeling I had as I walked up and around each level of spiraling floors – a feeling of being inside and one with the beauty of the nautilus shell, and therefore one with nature.

## 3. Internet Inquires

Having access to the Internet and the World Wide Web, I decided to do a little sea shell surfing. Much of what I found had to do with the commercial promotion of sea shells and resorts. The most interesting commercial cite was that of Sanibel Island. I discovered that it was located on the west coast of Florida and was one of the best ares in America for the collection of sea shells. Their email address is <ssi@seashells.com>.

As I continued surfing the net, I found several non-commercial sites. The two most interesting were from a student in Sweden and one from a professor in California. The exchange was informative but they seemed to be more interested in my shell research than I was of their research.

## 4. Shell Oil Company

The scallop shell logo for the Shell Oil Company is an internationally recognized symbol that has changed over the years. The logo and its history was of great Internet to me but I was not able to find much on it in libraries. So I got onto the Internet and called the Shell Oil Company hoping to get some information. Receiving no reply, I decided to call company headquarters. They were pleased to hear of my interest and provided me with considerable information of the history of their logo and how its design has evolved over the years to keep their image contemporary.

At my first committee meeting I presented my plans to study how four different sea shells (scallop, nautilus, conch, and cowrie) are used and have been used in art, design and advertisement. On the basis of my research I would then design a personal identity logo. My Methodology Diagram of how sea shells as signifiers would be analyzed in seven different disciplines and then synthesized was presented for discussion. (See Figure 1.)

After giving my presentation I was cautioned to delay how I would apply my research until I had collected all the data. It was also suggested that I create a large matrix listing how the four sea shells have been used in different areas or domains. This was excellent advice as I found later while collecting data and trying to arrange it.
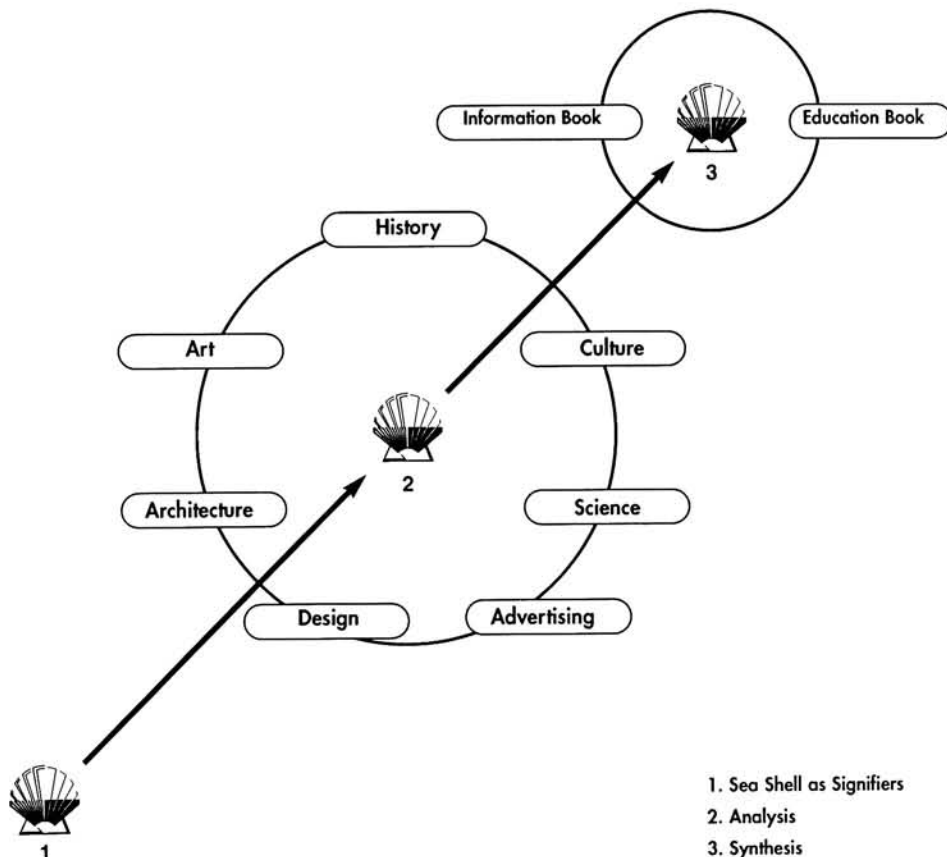
1. Sea Shell as Signifiers
2. Analysis
3. Synthesis

**Figure1. Methodology Diagram**

I prepared a large matrix on the partition walls in the studio that I could use to place pictures and text. The vertical heading for the matrix listed seven signifiers that would be associated with the four sea shells. On the horizontal headings I listed seven areas or domains I would search for example of how sea shells have been used. (Figure 2.)

**Domains**

| | History | Art | Architecture | Design | Advertising | Science | Culture |
|---|---|---|---|---|---|---|---|
| SENSUAL | | Botticelli "Venus" | | | | | |
| STRUCTURAL | | | | Gyorgy Kepes | | | |
| FUNCTIONAL | | | | Milton Glaser | | | |
| MOTIF | | | | | | | |
| BIRTH | | Botticelli "Venus" | | | | | |
| DEATH | | | | | | | |
| HUMOR | | Cartoon Botticelli "Venus" | | | | | |

Representation

**Figure 2. Representational Diagram**

## Wall Size Layout of the Representational Matrix

At the suggestion of my committee, I created this wall size matrix in which I could place the actual pictures that I would later use in my book. The matrix proved to be very helpful in editing and rearranging the placement of pictures to coincide with the various signifiers and domains.
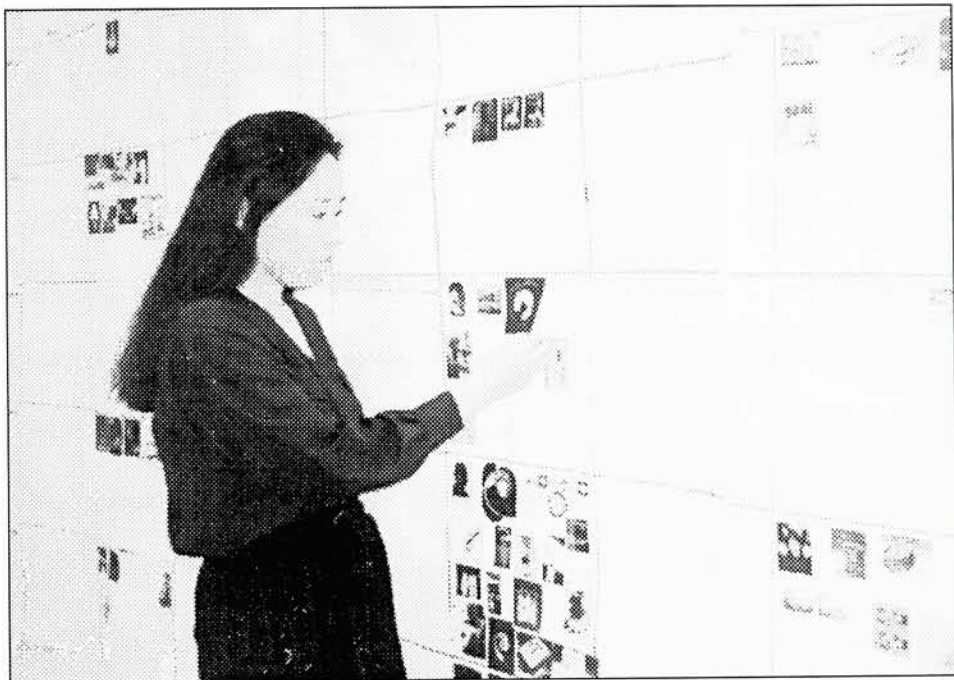


Wall- Size Representational Matrix

## Placement Samples

Samples of placement of some of the visuals are shown in the representational Diagram. For example, the scallop shell used in Botticelli's "The Birth of Venus" signifies sensuality and birth, used in a cartoon it can signify humor. The nautilus shell used in a design poster by Gyorgy Kepes for a packaging company represents structure and strength. The same shell, used by Milton Glaser for Sony sound, represents a functional part of the ear (cochlea) necessary for music to be heard.
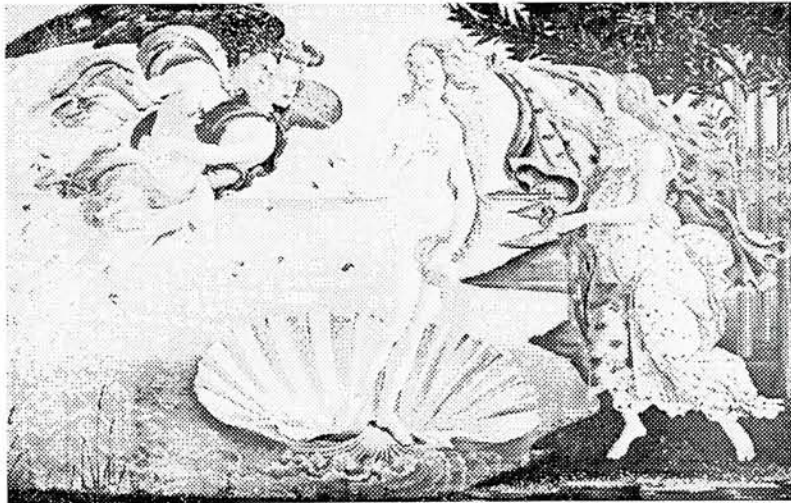


Sandro Botticelli, *The Birth of Venus*, 1482



Gyorgy Kepes, *Paperboard packaging*, 1938



Milton Glaser, *Full color sound tape*, 1980

## Placement Samples

Books, magazines, libraries, museums, galleries, resource people and the internet were used to locate examples of the use of sea shell as signifiers. Historic use of sea shells can be traced back to a 7,000 years old necklace from Arpachiya (now Iraq), a lovely early Roman perfume flask, the spiral nautilus shape of the Great Mosque, Samarra, architecture built in Iraq in 848 A.D and thirteen century Christian coats of arm using scallop shells.



*Roman perfume flask*



*Melanesia*
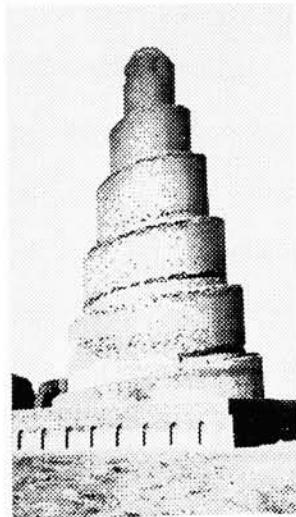


Great Mosque, *Samarra*, Iraq, A.D. 848-52



*Thirteen-century coat-of- arms*

## 1. Sensual

Many examples of sea shells as sensual signifiers, particularly the scallop shell, were found in art and advertisements. Most familiar is the famous painting of "The Birth of Venus" in 1452 by Sandro Botticelli. The painting of "The Treasures of the Sea" by Jacopo Del Zucchi in the 16th century, now in the Borghese Gallery in Rome, bring together some of the key elements of the Mannerist school such as the exotic, the allegory of plenty and erotic mythology and the taste for pearly, polished, iridescent flesh.
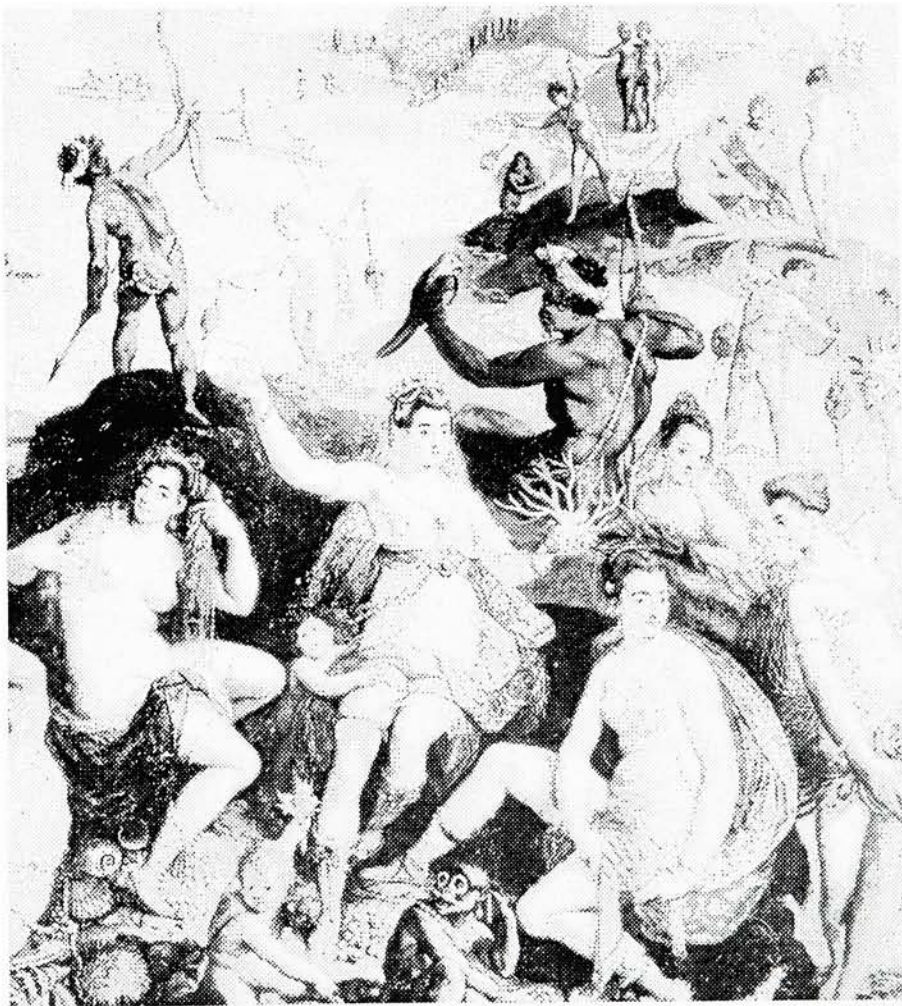


Jacopo Del Zucchi, *The Treasures of the Sea,* 1541-1589

In the 18th century Matisse painted a set of rather sensual chairs using the shape of a large scallop shell as a back rest. The photographer Edward Weston created a number of highly prized erotic black and white photographs of a variety of sea shells, most notably the nautilus shell. His mistress Tina Modotti referred to them as 'mystical and erotic'. Several well designed covers for Vogue magazine in the 1930s show nude or woman in bathing suits with associated with scallop shells and stylized shells.
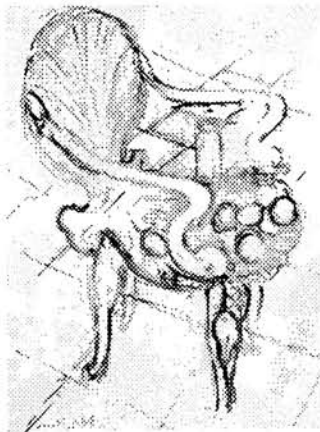


Matisse, *The Armchair*, 1942
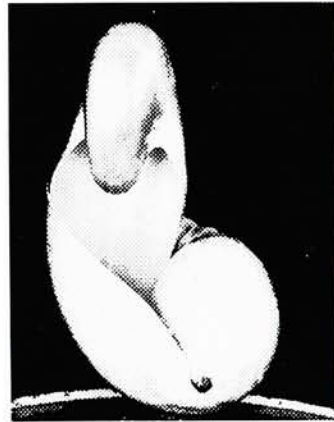


Edward Weston, *Two shells*, 1927
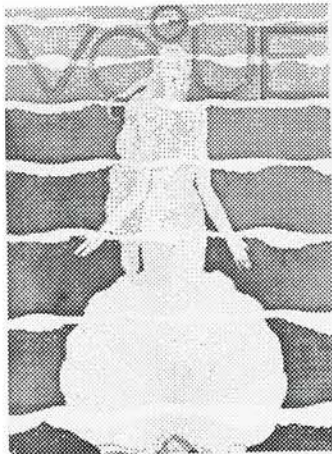


1938, Cover design by Covarrubias



July 1, 1937 Cover by Covarrubias

## 2. Structural

The most important sea shell in terms of its occurrence in nature and applications by man is the nautilus shell. Its logarithmic expanding spirals can be seen in sunflowers, pine cones, and the Milky Way Galaxy. In art and design it takes the form of the universal Golden Section or Golden Mean. In architecture one has only to look at the wonderful expanding upward spiral of the Guggenheim museum in New York City. In Greek architecture the decorative tops of same of the columns begin to take on the spiral shape of the nautilus. In mathematics the expanding spiral is described in numbers as in the Fibonacci series 1, 1, 2, 3, 5, 8, 13, and so on.

*Spiral Nebula*

*Sunflower head*
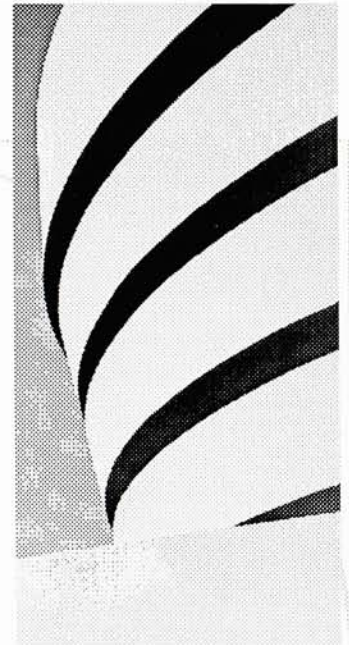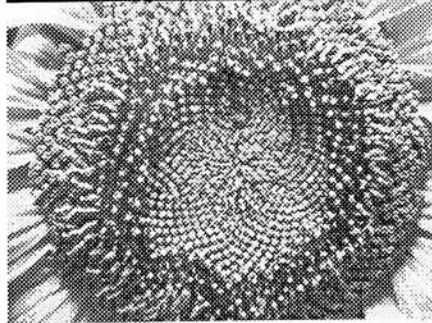
Frank Lloyd Wright,
*Solomon R. Guggenheim Museum,*
New York, 1943-59
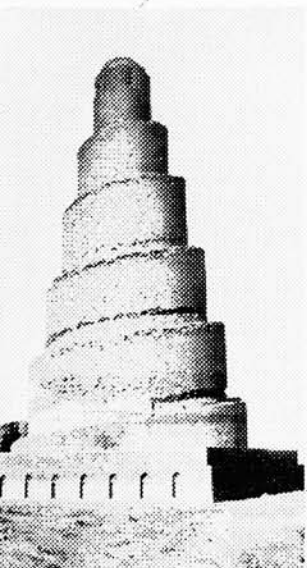
Great Mosque, *Samarra*, Iraq, A.D. 848-52

## 3. Functional

Sea shells have played an important practical use for humans over the years. The cowrie shell, for example, has been used as money in exchange for goods and services. The rarest shells had the highest value and some were used as decoration and were prized possessions of the wealthy royalty. Conch shells were used to create sound and to amplify sound. Fuji natives and Buddhist monks used the conch to trumpet people to services. In 1600s the Jesuit priest, Athanasius Kirchers, used conch shells in a novel design of a building that would house giant conch shells within its walls as secret listening posts.
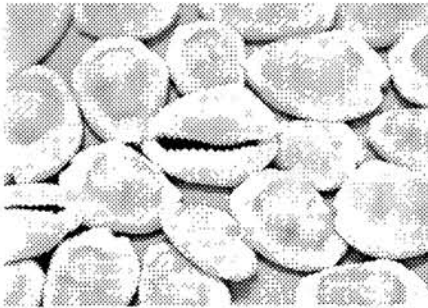


Money cowries



Fijian women blowing Triton shells
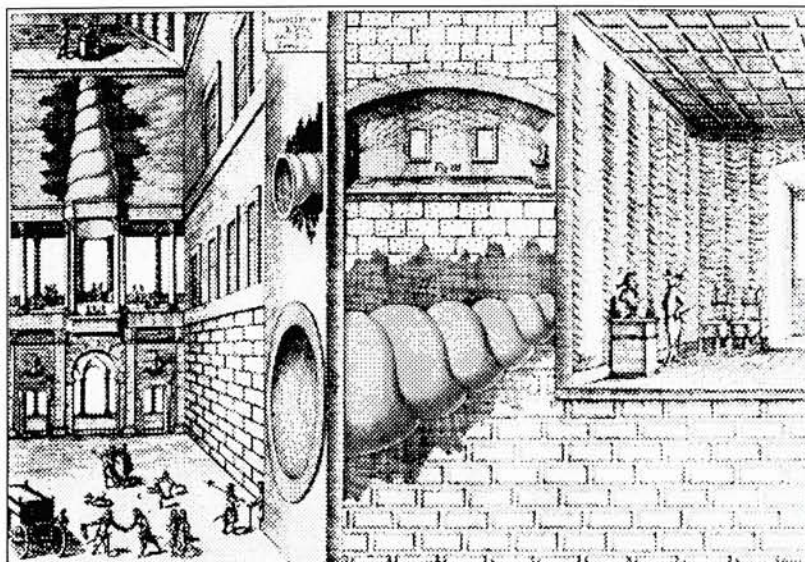


Secret Listening Posts

## 4. Motif

Shells, particularly the scallop, have been used throughout the years as interesting motifs in architecture, furniture design, baptismal vessels and even coats of arm. Thirteen century coat of arms used the scallop shell as a Christian symbol of a pilgrimage. "Cathedral of the Archangel Michael" constructed in 1505 is adorned with large concave scallop shells above the entrances. A baptismal fountain designed by Bernini in 1644 can be found in the Piazza Barberini in Rome, Italy. Scallops used as religious motifs signify birth, creation, spirituality; used as a decorative element, as in Queen Anne style furniture, it takes on a sensual significance.



Thirteen-century coat-of-arms
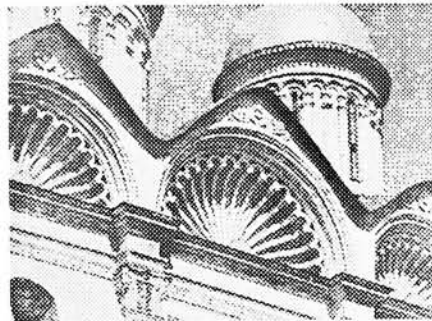


Cathedral of the Archangel Michael, 1505
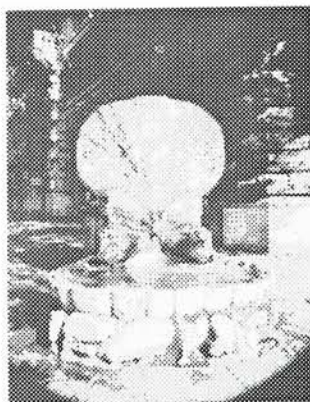


The Fountain of the Bees in Piazza
Barberini, Rome, 1644
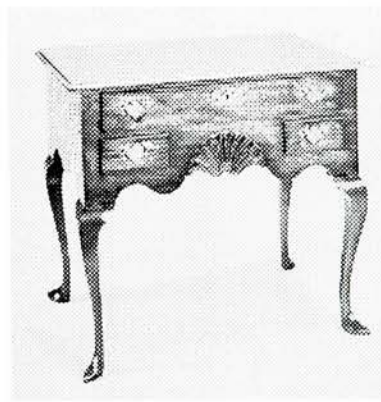


*Dressing table*, America, 1740-50     16

## 5. Birth & Death

A prime example of the use of a scallop shell to signify birth is in the large painting of the "Annunciation" by Leonardo da Vinci. It has long horizontal shape and on the far left the angel Gabriel, on bended knee. He is announcing to the virgin Mary, who is seated and radiant, that she is to become the mother of God. On the small alter in front of Mary, one notices a single scallop shell embedded in the stone alter. In the background one can also notice a row of pine trees whose top comes to a point—pointing upwards towards the heaven—an indexical sign. (The shape of these trees reminds one of the beautiful Gothic spires atop Cathedrals pointing upwards towards the heaven.)

Cowrie shells have been used in the eye sockets of dead people as part of the burial ceremony. They are placed so that the slit – opening of the shell looks as if the eyes are partly open—perhaps signifying the belief, rebirth.
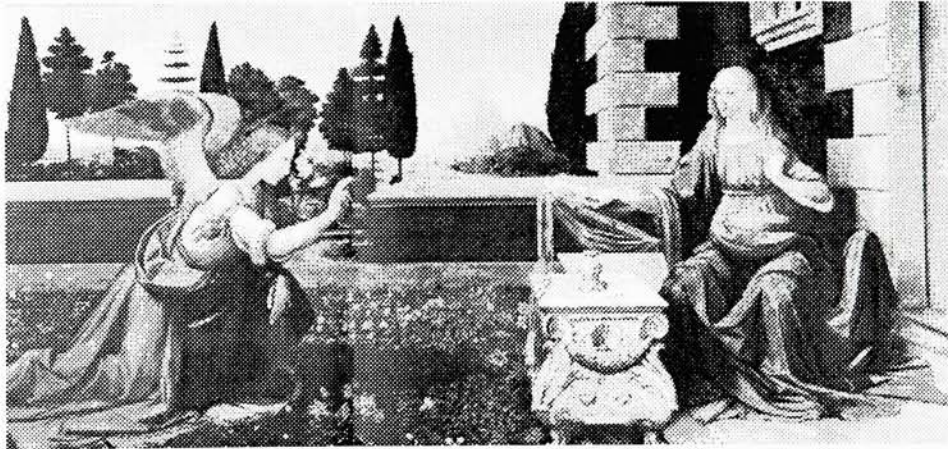


Leonardo de Vinci, *Annunciation*, 1478



Cowrie Eyes

## 6. Humor

Sea shells have been used to signify many things, not the least of which is humor. A number of shell collages were used early on to mimic the style of Archimboldo, the great Italian painter who used arrangements of fruits, vegetables, grains, fish, and the like to create portraits of members of the Vienna court in the 1500s. The shell collages by Pascal Maisonneuve in the 1900s, "Faithless Woman", and "Head with Long Ears", are two classic images.



Pascal Maisonneuve,
*Faithless Woman*, 1927-1928
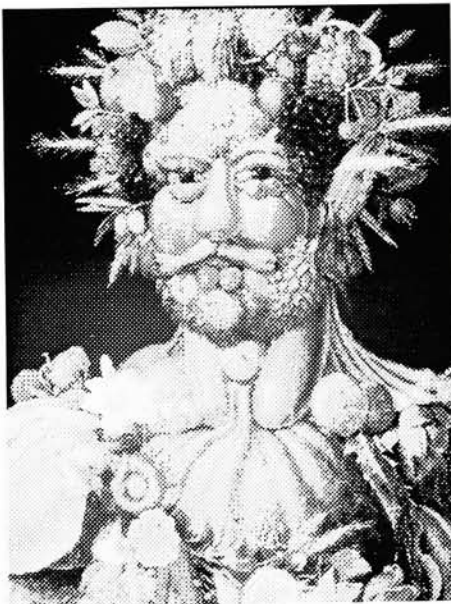


Giuseppe Archimboldo



Pascal Maisonneuve,
*Head with long ears*, 1927-1928

Magazine covers, book covers, cartoons and posters have also made humorous use of sea shell. A cartoon – like illustrations shows a paper doll cut-out with Madonna wearing a pair 3-dimensional scallop shells shaped as breasts that project out in a pointed cone shape about six inches from her body.

A wonderful parody on Botticelli's "Venus" shows the Sesame Street character, Piggy, as a shy Venus with a cast of Sesame Street characters playing the roles of other members in Botticelli's painting.
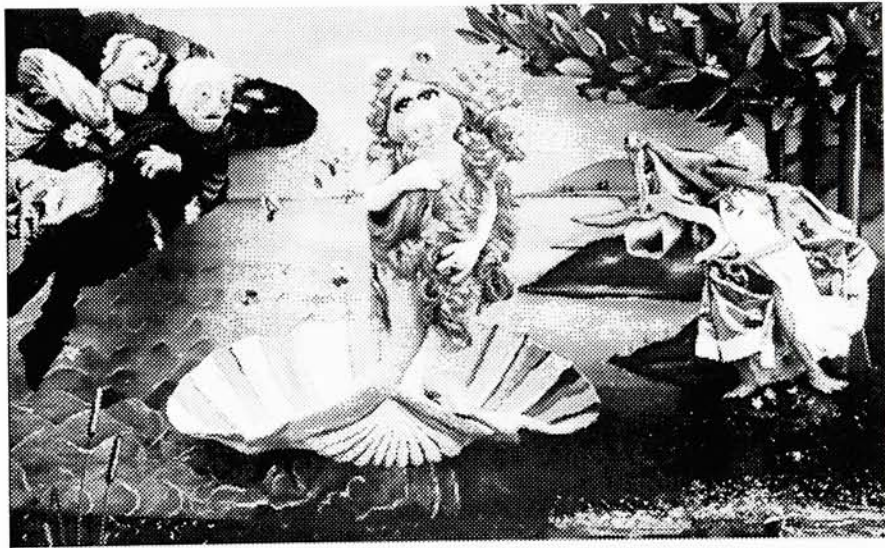


Miss Piggy



Rob Day, *Portrait of Madonna*
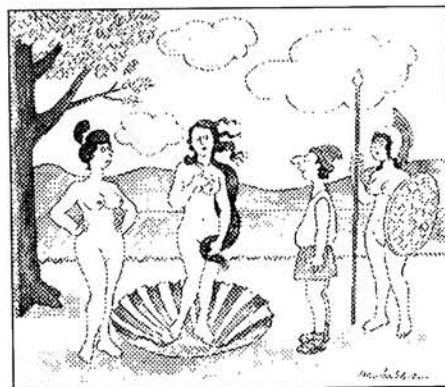


Greek mythology regarding Helen of Troy.

## 7. Eastern Culture

Although sea shells were easily found as signifiers in Western culture art, design, architecture and advertisement, they seem to be little used in Eastern culture. Some example, however, were found.

An early Chinese "Hunting Scene" uses the concave side of a sea shell as a 'canvas' on which to paint a hunting scene. The marking on the shell reminds one of scrimshaw —to decorate on bone or shell with intricate carving or design.

An Indian painting showing "Sudama Approaching the Golden City of Krishna" has a stylized, expanding nautilus–like spiral in the sky.
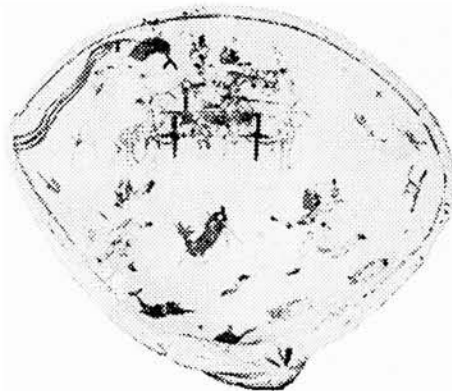


*Hunting Scene,* Late Chou, 4th-3rd centuries B.C.



Sudama approaching the Golden City of Krishna. painting,
Punjab Hill, India, 1785

## Signifiers

An early Japanese painting shows two women in Kimonos collecting sea shells on a beach. Some contemporary Japanese ads and window displays in sophisticated department stores now use sea shells as signifiers in much the same way one sees them in Western culture. One can also find similar examples of this Western influence in a Korean advertising, such as the jewelry ad by Lee Gold.



Early Japanese painting showing two women in *Kimono* dress collecting sea shells.
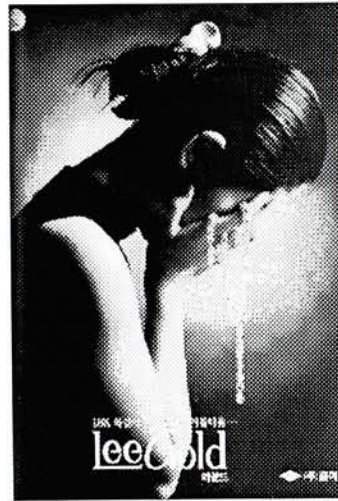


Lee Gold jewelry ad
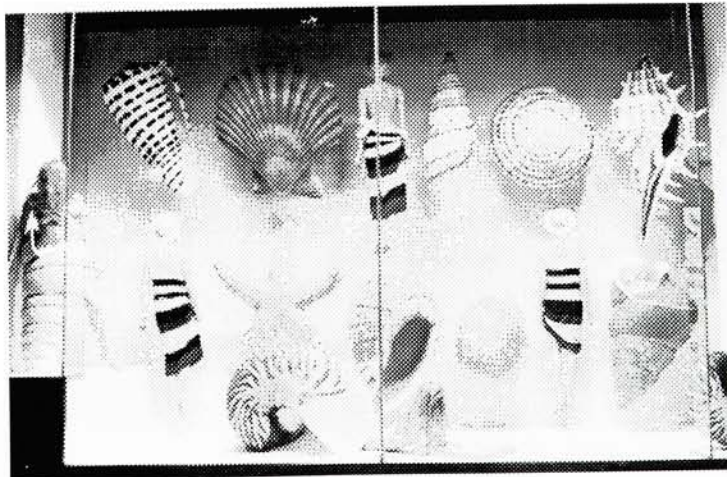


A photograph of a display in the window of a large Japanese department store.

## The Second Committee Meeting

For the second meeting I displayed my large Representation Diagram on several large display units. For each of the seven signifiers (sensual, structural, functional, motif, birth, death, and humor), I had collected examples of how sea shells as signifiers were used in history, art, architecture, advertising, design, science, and culture. This allowed my committee to actually see the examples I planned to use and how I had placed them in my representational matrix. The committee made several suggestions on different possible placements within the matrix, which were very helpful. In addition, they recommended that I include "Birth and Death" as one domain. They also suggested that I continue to search for examples of the use of sea shells in Asian culture.

After much discussion, it was agreed that a good way to display my findings would be in the form of a book. I felt comfortable with this and the fact that the committee agreed that an art book would be an appropriate way to show the beauty of sea shells.

At the suggestion of my committee during our meeting in the Winter quarter, I continued my search for examples of how sea shells are used in the various disciplines. I concentrated on design applications as well as trying to find examples in Eastern culture. A number of interesting examples were found at the New York City Library dealing with design and advertising, and a few examples showing sea shells in Easter culture.

Satisfied with the number of sea shell examples I had located, I began to place them in various positions in my representational matrix. At the same time I began to remove those examples that were not essential or were redundant. The process was on-going for as I edited out examples I also found that some examples fit better in a different category within the matrix.

## 1. Scanning

Satisfied with the edited examples and their placements, I began the process of scanning the images. A Macintosh computer with Adobe Photoshop™ 3.0.5 and Ofoto were used to scan a large number of pictures to magneto–optical (M/O) disks. The pictures were scanned at 200 to 300 dpi. Most pictures were in color but a few were in black and white, and some were simple line drawings. A total of 10 M/O disks were filled with pictures representing 2,400 MB of information. Not all of these pictures were used for my art book but they are available on disk and provide a good look at the prolific use of sea shells as symbols and signifiers.

## 2. Presentation of Work

Students were invited to show their work-in-progress to fellow students and faculty. I decided to show my work in a slide presentation since my work was primarily visual. The pictures I planned to show were on M/O disks and needed to be transferred to photographic slides. This presented a two-fold problem; I did not realize the expense involved, nor the length of time required to have slides made. Since I planned to show 123 pictures at $3 a transfer, the cost would have been beyond my budget. I presented the problem to one of my committee members who suggested I project the pictures directly from my M/O disk. This was a good suggestion since it would take care of both the time problem and the budget problem.

Using a software program called "Macromedia Director", I edited the pictures that I wanted to use from the M/O disk and then transferred them. The procedure was to take the selected pictures from my M/O disk that were on a *Tiff* file, scanned at 300dpi, and first transfer them to Photoshop. In Photoshop I reduced the resolution to 72dpi and put the images in a *Pict* file. Once the pictures were in "Macromedia Director" I could sequence them and program them as I found necessary. To add visual interest to my presentation I designed and added muted backgrounds of the various sea shells used in my thesis.

The presentation consisted of 123 pictures. I also commented on some of the pictures shown to extend their significance. The presentation was a new experience for me and I was pleased with the favorable response.

The final record of my thesis work took the form of an art book. I decided to use a horizontal 10.25 x 8 inch format. The cover consisted of a pattern of scallop shells and a book with a *perfect* binding.



Book Cover

My choice of font was Esprit and Helvetica. Esprit was chosen because is seems to mimic the sensuality of sea shells. Helvetica provided clarity for the text used in my book.



Esprit Fonts used for Chapter Heading



Example of Chapter 1 Layout

The book was divided into seven chapters. Each chapter was introduced with a picture of a variety of sea shells appropriate to that chapter.
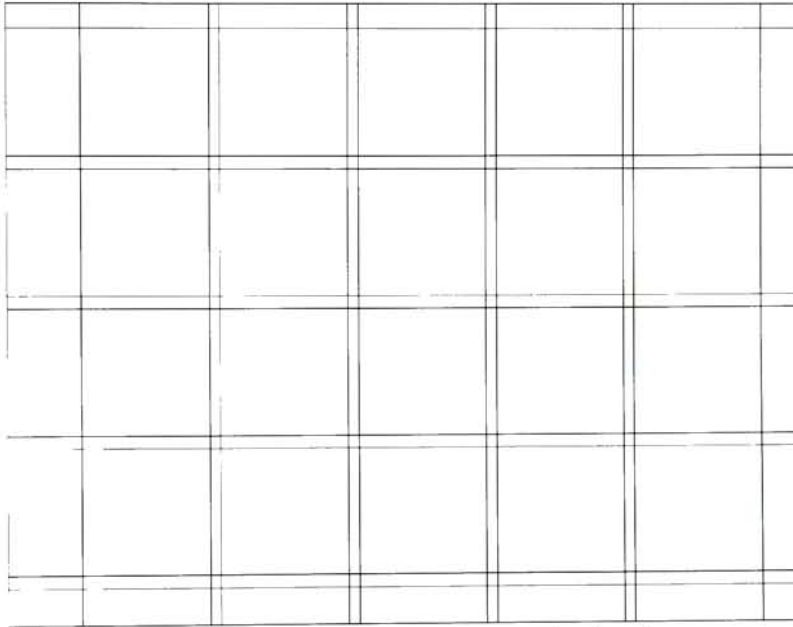
The layout of each page in book was based on this grid

Legend of St. James

St. James
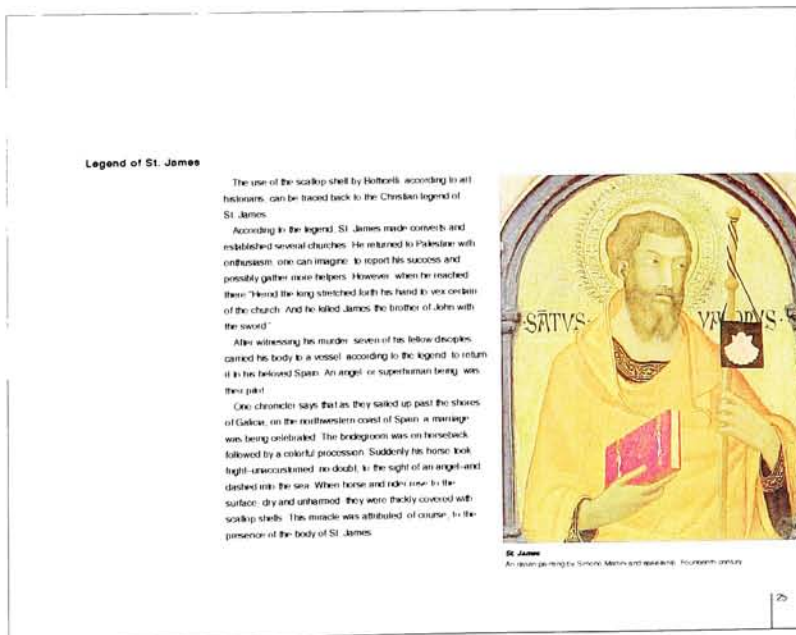
This is a sample page based on the grid

## Sample Page

Sample page of a layout based on the grid. Each left-hand page had the chapter title in the upper left.

signifiers
Sensual

Chapter title ← Introduction

20
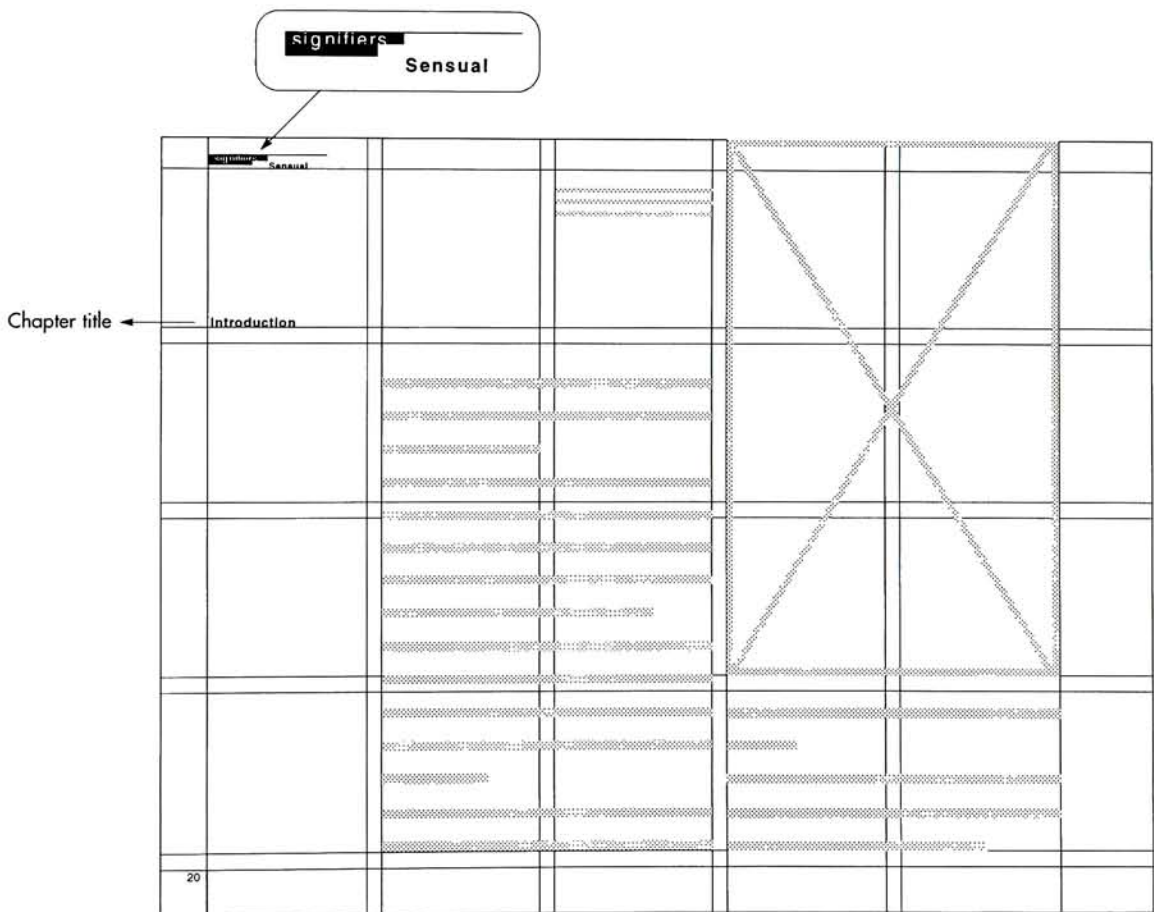
Left hand page layout

Sensual

Heather Cooper **Style**
Client Style Magazine

### Introduction

The American Heritage Dictionary defines the word sensual as

"1 Pertaining to or affecting any of the senses or a sense organ

2 a Pertaining to or given to the gratification of the physical appetites, especially sexual appetites

b Suggesting sexuality, voluptuous

c Carnal rather than spiritual or intellectual worldly"

The first definition is a general one that can apply to all objects in our environment, we can see, hear, smell, taste or touch objects. Not all are interesting and fascinating as sea shells.

The second definition (a and b) applies very much to sea shells as signifiers of sensuality. The way sea shells, especially the scallop shell, have been used throughout Western history and continue to be used to gently feed the physical and sexual appetites can be seen in art, design, architecture and advertising.

The (c) part of definition 2 suggests that carnal and spiritual body and spirit are separate or opposite. In Eastern culture opposites can be harmonious as the Yin-Yang symbol signifies. Body and spirit can be in harmony as one and feed each other.

The photographer, Edward Weston, whose photographs of sea shells have been described as sexy, erotic, and perverse defends them as someone from an Eastern culture might *I am not blind to the sensuous quality in shells with which they combine the deepest spiritual significance indeed it is the very combination of the physical and the spiritual in a shell like the Chambered Nautilus which makes it such an important abstract of life*

20

**Left Page**



Melocactus
Chest jewelry made
of shells and cochet
cork.

Cowrie shells are rarely used in art, design and related fields. Their primary use has been as objects signifying fertility and birth, magical powers and as money. Some are used as status symbols by kings, nobleman, and chieftains.

*Patriarchal Moslems insisted that woman's mouths be covered by veils because of the archetypal fear that equated women's mouth with vagina dentata (toothed vagina)* *

*Medieval Christianity made the vagina a metaphor for the gate of hell and revived the ancient fear-inducing image of the vagina dentata.* *

### Fertility Symbol

According to Mary Seut, the belief that shells had magical powers probably began when early man first picked up a cowrie shell on the shores of the Red Sea. He probably noticed the shape, color and the form of its opening, it resembles the genital area of a woman, the vulva. When the animal inside the shell came out of the opening, it probably reminded him of the actual act of a woman giving birth. On this fact he probably reasoned that a cowrie shell had magical powers—The power to make a woman fertile so she could give birth. When girls were ready for marriage they were given cowrie shells as a gift.

Cowrie

23

**Right Page**

The final page layout consisted of text and color, black and white and line images on QuarkXPress™. A total of 147 pages were to be printed on Hammermill Laser Print paper by UFO System, Inc. of Pittsford NY.

Primary tests were run on several pages to be sure the colors were correct and the printing on both sides of a sheet of paper did not show through. After some minor adjustments, a complete set of 147 pages were printed on a Canon Color Copier. To assure the sequences of pages would be correct, I prepared a dummy book in black and white to give UFO System, Inc. Unfortunately, the printer did not use it, so problems in page sequence had to be corrected.

Once all the pages were correctly printed and sequenced I put them in a metal spiral binding so they would be available during my thesis exhibition. Later I would have the book bound at a professional binding place.

After my thesis exhibition I made some minor adjustments to the book and then had UFO Systems print four complete copies of my book.

Important to the book and its contents is the binding. Since my book was to be an art book and to reflect the beauty of sea shells, I chose a *perfect* binding. The binding for the books was done by Olde Ridge Bookbindery located in 274 North Goodman St., Rochester, N.Y. 14607.

## Thesis Exhibition

In planning for my exhibition I decided to display a poster to introduce my work, an art book to show how sea shells are used as signifiers a basket full of actual sea shells and three photographs from history books to show how sea shells have been historically used.

## Mandala Poster

Considerable thought went into deciding the content and layout of an appropriate poster. I finally decided on the use of a circular Mandala format to show the universality of sea shells.

My poster makes use of the mandala as a visualization device. Sign theory is here considered the center for imaging, integrating the different ways sea shells have been used to signify the various things in related disciplines. My Mandala shows applications of four of the most common shells used in design and design

### Mandala

In Oriental art and religion, any of various design symbolic of the universe. A mandala taken the form of a circle with a center and is usually divided into four sections. It is used as a meditation device in some religions.

*The universality of the Mandala is in its one constant, the principle of center. The center is the beginning and origin of all form and all processes.*

José and Miriam Arguelles. **Mandala**. Berkeley, CA: Shambla, 1972, p 12

### Sea Shell Mandala

My poster makes use of the mandala as a visualization device. Sign theory is here considered the center for imaging, integrating the different ways sea shells have been used to signify the various things in related disciplines. My Mandala shows applications of four of the most common shells used in design and design related disciplines.
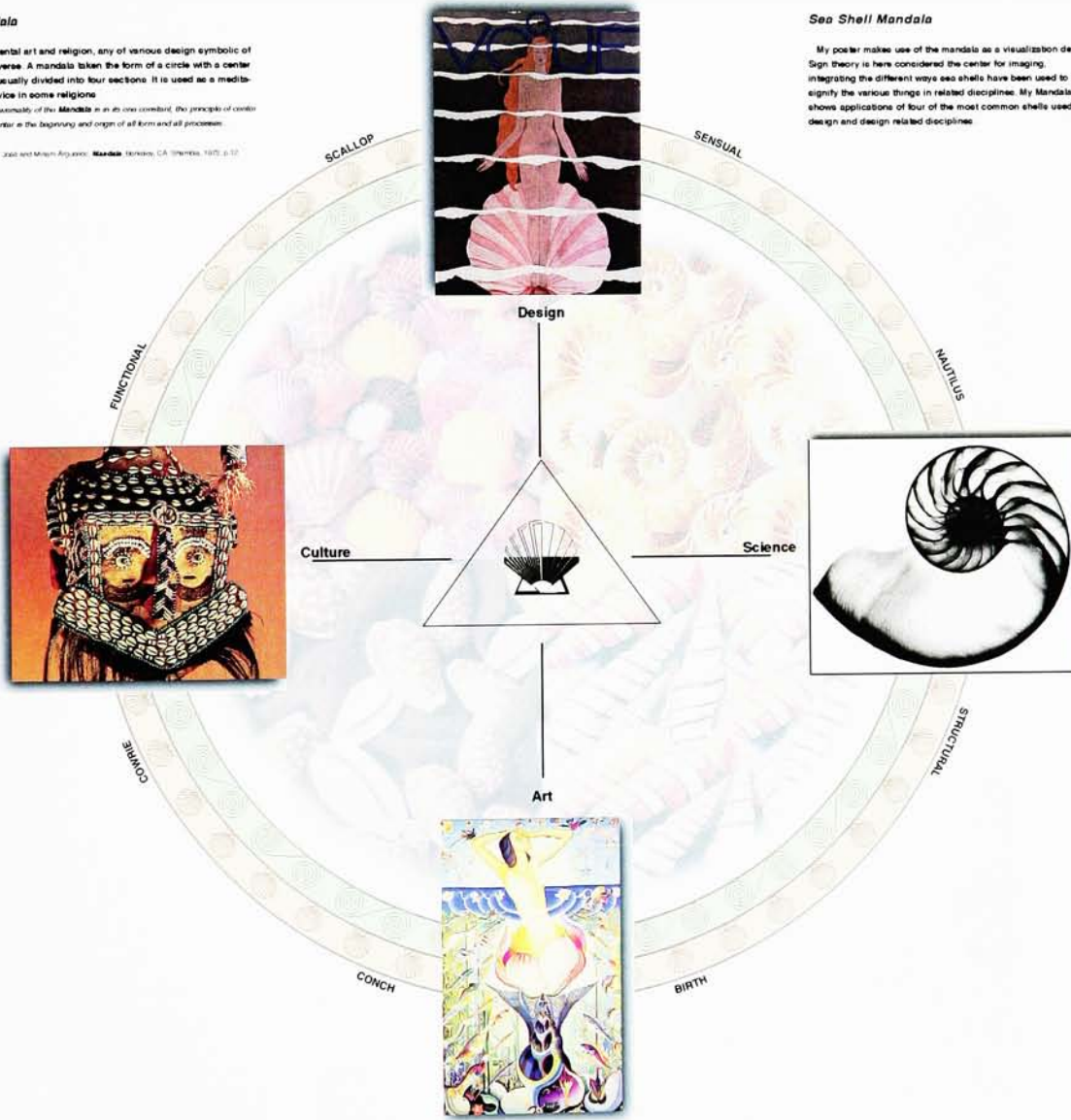
"The universality of the Mandala is in its one constant, the principle of center. The center is the beginning and origin of all form and all processes..." [1]

1. José and Miriam Arguelles, *Mandala*, Berkeley, CA: Shambla, 1972, p 12

## Exhibition Space

My spiral bound art book was placed on a four foot platform as was the basket full of sea shells. On the wall adjoining the poster were three pictures showing the historical use of sea shells as jewelry in native cultures.

## Conclusion

Four types of sea shells, scallop, nautilus, conch and cowrie, were analyzed in terms of how they were used to signify various characteristics and qualities. The domains for the study consisted of; history, art, architecture, design, advertising, science, and culture. The four sea shells were studied in terms of what they signified; sensual, structural, functional, motif, birth, death, and humor.

1. The scallop shell was found to be the most used shell in all seven domains studied. Depending upon the context, it signified mostly birth and sensuality, and found considerable application in art, architecture, design and advertising.

2. The nautilus shell, with its expanding spiral shape, serves to signify strength and structural characteristics. It is universal natural spiral pattern resembles our galaxies, the Fibonacci number series and the Golden Mean. Design, advertising and science were the domains that made the most use of nautilus shell.

3. The conch shell was shown to have a functional purpose serving as a horn to call others for a gathering. One side of the shell, having a shiny flesh like color and curvature, is often used in still life to signify sensuality.

4. The cowrie was found to be used for body decoration with native people and as money. Depending again on context, it has also been used to mimic the vagina and suggest fertility and birth. Since the shell also resembles a partially open eye, it has been used in burial ceremonies to suggest rebirth.



1



2



3



4
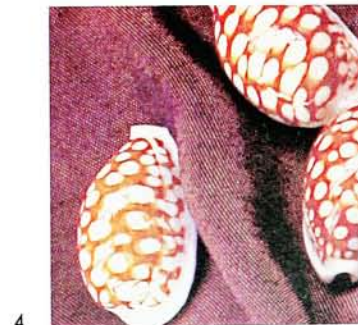
## Conclusion

When I first began gathering information on the use of sea shells as signifiers, I had no idea how often they have been used historically and currently. At first the task of gathering data seemed overwhelming. Sea shells, especially the four I have chosen to study, are powerful symbols and signifiers, easily recognizable and seen all over the world. Designers, artists and architects have used them in many different ways. Advertising relies heavily on them, particularly to sell women's products.

Although sea shells are used widely in Western cultures, I was surprised to discover that they are seldom used in Eastern cultures. One begins to notice, however, that as Western influence continues to spread, countries like Japan are using sea shells in window decorations in their more fashionable department stores and in some of their advertising.

As a designer, I feel that this has greatly increased my knowledge of the importance of symbols in design work, particularly sea shells but also symbols in general. As Carl Jung reminds us, *Because there are innumerable things beyond the range of human understanding, we constantly use symbolic language to represent concepts that we cannot define or fully comprehend.  This is one reason all religions employ symbolic language or images.* [2]

2. Richard D. Zakia, *Perceptual quotes for photographers*, Rochester, NY: Light Impressions, 1980, p.61

## Part II. Appendices I

# A. Sample Pages

## 1. Sensual

**Milton Glaser**

Milton Glaser uses a small nautilus shell to suggest the structure of the inner ear; the auditory whorl is the key to hearing music (sound).

the absolute sound

Gerry Vinson, Poster promoting the magazine *The Absolute Sound*
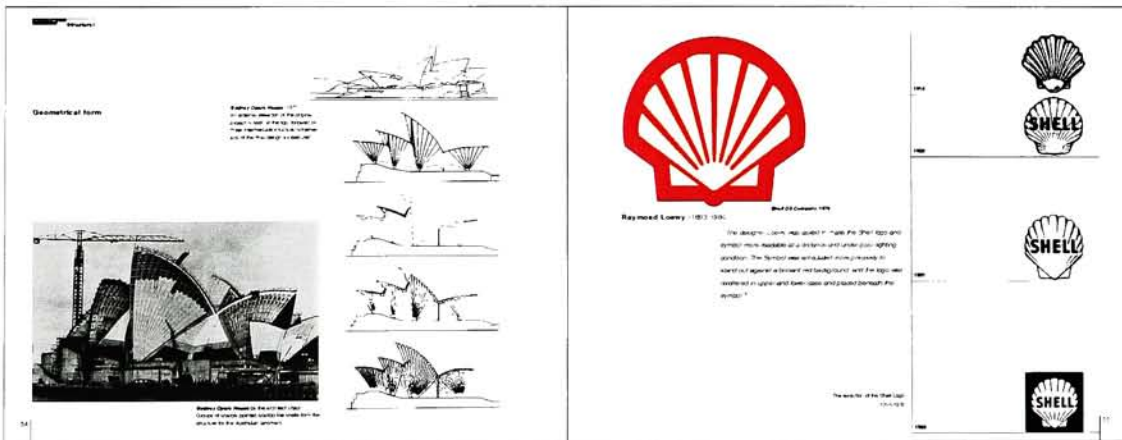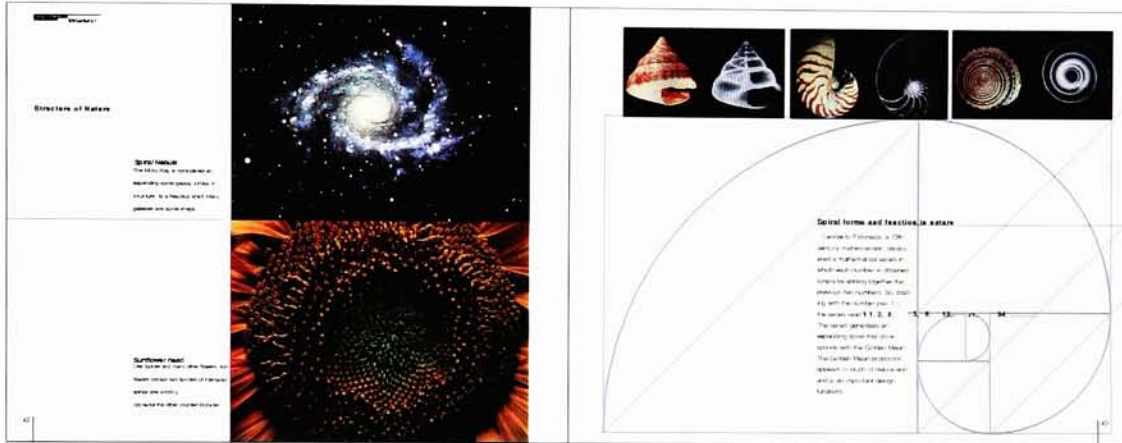
Nautilus shell ad, *SONY TAPE. FULL COLOR SOUND.*







**Secret Listening Posts**

Athanasius Kircher, a Jesuit (1601-1680) designed an interior of an imaginary building with three huge conch-shell tube horns embedded in the walls to pick up conversation by people in the large hall to the left.

Notice the man in the upper room to the right. He stands in front of a column such as if he were looking at it and indeed he is but he is also secretly listening to the conversation taking place in the large room to the left. Similar secret listening rooms are located throughout the imaginary building.

Scallop Shell

The use of the scallop shell as a Christian symbol of pilgrimage originated in the 12th century when pilgrims traveling to the shrine of St. James wore the emblem - a scallop - on their hats, cloaks and bags. The metallic scallop (or seashell) often has two holes pierced in the base of the shell, a reference to the cord on which the pilgrims wore them.

Thirteen-century coat-of-arms

Architecture Motifs

Many churches in the Renaissance period used scallop shell motifs as decoration and to signify faith - remark: to Vitruvius's version of the Tabernacles.

Queen Anne Style in Furniture

Victorian Style

## 5. Birth & Death

China
Scrimshaw

**Hunting Scene.** Late Chou, 4th-3rd centuries B.C. Painted shell, w. 5 in.

The American Heritage Dictionary defines scrimshaw "to decorate (whale ivory, bone or shell) with intricate carving or designs."

The early Chinese "Hunting Scene" is an excellent example of scrimshaw using the inner concave side of a clam shell to create images of the hunt. The unique shape of the shell serves as a frame for the images and adds to their beauty.

Early north American Eskimos also pleased out whales using ivory whale bones and walrus tusks to carve then into side designs. Early sailors that hunted whales spent the long hours of sea creating scrimshaw using whale ivory.

Scrimshaw, in addition to ivory art objects that can now be seen in museums, are visual documents that depict the early activities of the hunt in various cultures.

India

A Rajput wanders in the hills in search of the highest wisdom. The distant expanding spiral in the cloud formation, similar to that of a nautilus shell, is a reminder of the long, circular and expanding journey ahead of him.

Sadhu approaching the Golden City of Amitra, painting, Kangani hill, India, 1751



Japan

The shell, formerly used in Japan as currency, is the subject of this campaign for the Sun Home Bank. The Chinese character denote the world's shell. Chinese characters are the same in Japanese and Korean such as the characters in English are the same in a number of countries.



Ishioka Keiko, **Poster for Shells**, Art Director, Ishioka Eiko, Photographer, Ishioka Keiko



A photograph of a display in the window of a large Japanese department store. The generous use of sea shells in the display probably reflects the strong influence of Western culture on Japan.

## B. Sign Theory

Applying sign theory or semiotic principles to how sea shells are used in design and related visual disciplines provides a useful structure for collecting data, analyzing it and then synthesizing it. This book is a product of that synthesis.

Sign theory defines a sign as anything and everything that is used to convey meaning; words, pictures, music, dance, color, symbols (natural and human made), gesture, objects, etc.

My purpose was to do research on how natural objects such as scallop shells, nautilus shells, conch shells and cowrie shells have been used as signs to convey meaning.

Sign theory is based on the relationship between that which is signified, the signifier, and the intended audience.

**Representation**
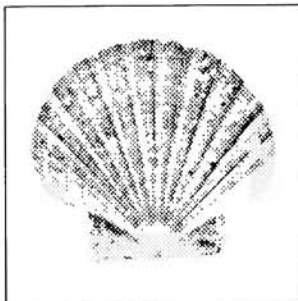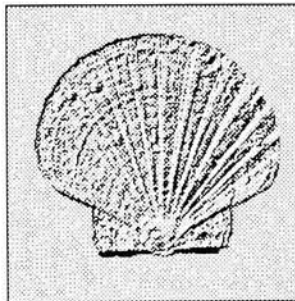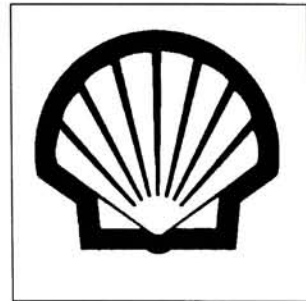


| Iconic | Indexic | Symbolic |

## B. Sign Theory

**A.** A generalized triad showing the relationship between audience, signifiers and what is signified.

**B.** The primary audience in my study are designers particularly graphic designers. Sea shells in various contexts were studied to discover how they were used to signify qualities such as sensual, structural, functional, motif, birth, death, and humor.

**C.** Sea shells as signifiers can be represented in three different but related ways.
  1. **Iconically,** a sea shell such as a scallop looks like a scallop– a realistic rendition.
  2. **Indexically,** the same shell can be represented as an embossment in a paper surface or as a relic imprint.
  3. **Symbolically,** the shell can be used as a logo, as is the case with the Shell Oil Company logo.

Signifier

Signified          Audience

**A**

Signifier

Signified          Audience

**B**

Sea shells

1 Iconic
2 Indexic
3 Symbolic

Sensual          Designer

**C**
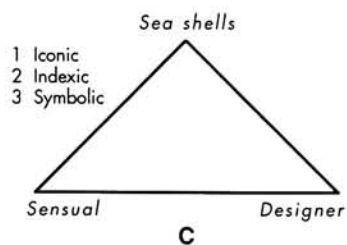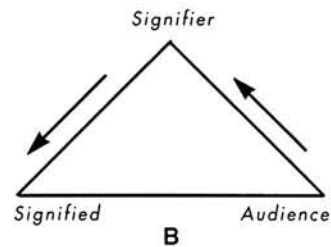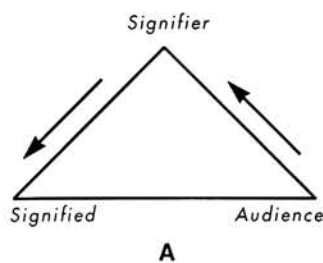
**Cochlea**         A spirally wound tube in the international ear, forming an essential
part of the mechanism of hearing.

**Fibonacci Series** The Fibonacci Series and the Golden Mean are intimately
connected. The Fibonacci Series is a series of numbers in which
each number is the sum of the two previous numbers:
1+2=2  2+1=3  2+3=5  3+5=8  5+8=13  8+13=21  13+21=34
34+21=55  etc...
The ratio of each term to the previous term in the Fibonacci Series
is equal to the Golden Mean. At higher numerical values, the
Fibonacci Series more and more closely approximates the ratio of
the Golden Mean.

**Informational Design**     This stresses the importance of reader and user responses
to written and visually presented information. Design stress clarity
and accessibility while incorporating a variety of formats (i.e.
charts, diagrams, business forms, tables, maps, instruction materi-
als, wayfinding systems, graphic user interfaces, etc.).

**Legend of St. James**     According to the legend, St. James made converts and
established several churches. He returned to Palestine and when he
reached there "Herod the king stretched forth his hand to vex
certain of the church. He killed James the brother of John with the
sword." After witnessing his murder, seven of his fellow disciples
carried his body to a vessel, according to the legend, to return it to
his beloved Spain. As they sailed up past the shores of Galicia, on
the northwestern coast of Spain, a marriage was being celebrated.
The bride groom was on horse back, followed by a colorful
procession. Suddenly his horse took fright and dashed into the sea.
When horse and rider rose to the surface, dry and unharmed,
they were thickly covered with scallop shells. This miracle was
attributed, of course, to the presence of the body of St. James.

**Mandala**  Sanskirt: Literally 'disk' or 'circle'; any bound group of entities. In the religious field, a diagrammatic representation of the cosmos or an aspect of it. The layout of a mandala is often compared to a lotus, its segments being termed petals and so forth. In appearance the diagram may be a purely abstract design of over lapping triangles within concentric circles.

**Mannerist**  A term to describe Italian painting in the last half of the sixteenth century. It developed in reaction to the classical balance and austere harmony of the High Renaissance, and was characterized by a subjective, sometimes highly emotional portrayal of its subject matter through elongated or otherwise distorted forms, exaggerated perspective, and relatively harsh, vivid colors. Its major exponents were El Greco (1541-1614) and Tintoretto (1518-1594); some of the late work of Michelangelo is also considered by some authorities to fall into the Mannerist category.

**M/O disk**  When writing data, an intensive write beam warms up the surface of the disk. Under the influence of an external magnetic field, this spot cools down and magnetizes according to the external magnetic field. When reading data the external magnetic field is switched off and a weak sensing beam scans the disk. A sensor determines the magnetization direction of the disk with a polarization filter.

**Perfect Binding**  Spines must be perforated or bundled with end boards Grain should run parallel to the binding edge.

## C. Glossary

| | |
|---|---|
| **Formatting** | There are a number of ways to save and transfer images and text depending upon the end use; PICT, TIFF, EPS. |
| **PICT** | Image destined for a presentation program, a multimedia program, or another screen-based application, PICT is the best format to use. |
| **TIFF** | Image destined for a page layout using QuarkXPress™ use a TIFF file. |
| **EPS** | Illustrations created with EPS can be transferred to QuarkXPress™ or Adobe Photoshop™. |

## D. CD Rom Instructions

Two Computer Disks are located on the back page. (To use the CD Rom you will need the following software: QuarkXPress™, Adobe Photoshop™, and Macromedia Director). They are labeled Sea Shells 1 and 2. Sea Shells 1 contains the book information and Sea Shells 2 contains Presentation, Poster, Exhibition, and Images.

1 Click on the CD Rom shown the screen.
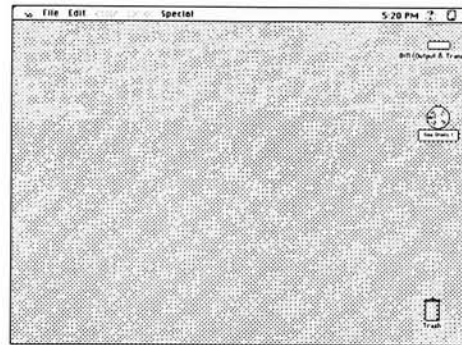


2 You will see this menu on the screen:

**Book**
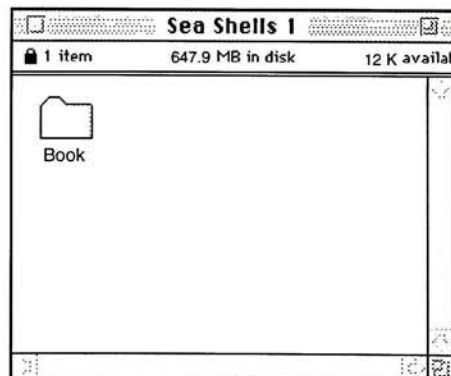


| | |
|---|---|
| **Book** | This file contains the entire contents of my book. |
| **Presentation** | This presentation was produced using Director and consists of about 123 pictures of various examples of how sea shells have been used as signifiers. |
| **Posters** | A poster in the form of a Mandala was used as a major part of my exhibition. |
| **Images** | Additional pictures, not included in my book, are available in this file. There are about 150 examples. |
| **Exhibition** | Pictures of my exhibition were displayed in the Bevier Gallery on April 19, 1996. |

## D. CD Rom Instructions

3 To look at the book file, click on **Book** and it will darken as shown.
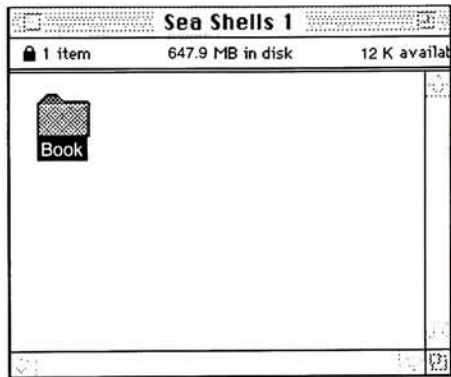


4 When you click on **Book**, you will see on the screen a listing of the seven sea shell signifiers, an introduction and conclusion.
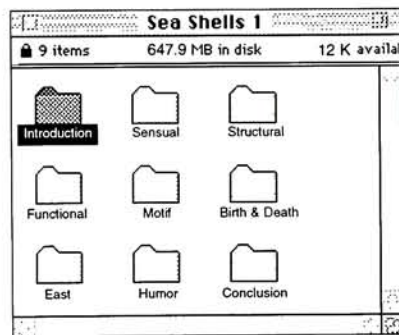


5 When you click on introduction, you will see this on the screen.
Click on **Introduction**, the icon darkens, and a new screen comes on.



6 The new screen shows a picture of sea shells and a vertical column of icons to the right.
Each icon is a page in the introduction.
Click on any page to view that page.
(Shown is page1)
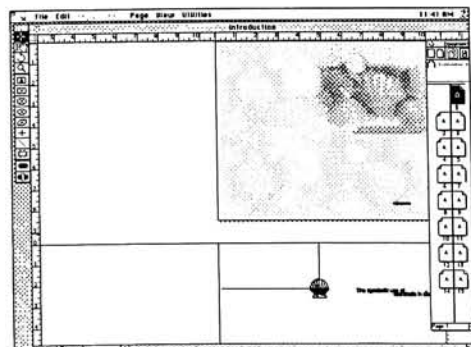
## D. CD Rom Instructions

7 You can also look at the pages by using the arrow to scroll the pages up or down. To move the information left or right use the arrow on the bottom of the screen.
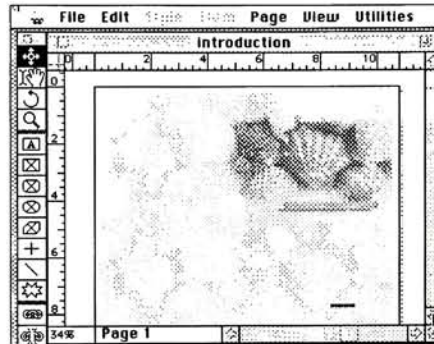


8 For a close up of what is on the screen use the Zoom icon as shown, which darkens when you click on it.
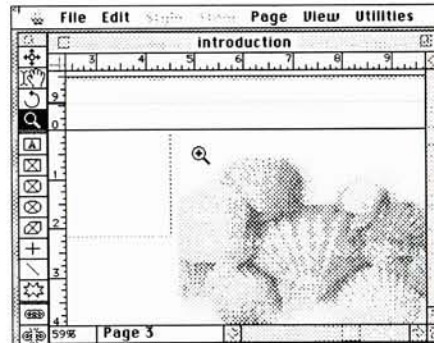


9 If you want to look as the sea shells used to signify sensual, click on **Sensual**.
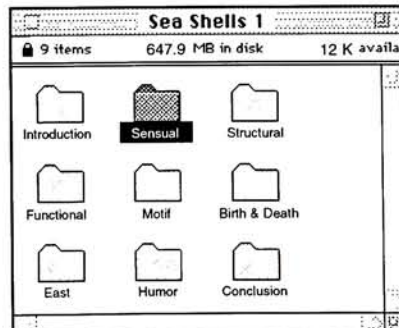
10  To look at the images and pages for **Sensual**, simply repeat steps 5 to 8.
Do the same for the remaining files.

11  To view the pictures in the files:

**Presentation**      **Poster**

**Images**            **Exhibition**

simply click on them and view the
pictures.
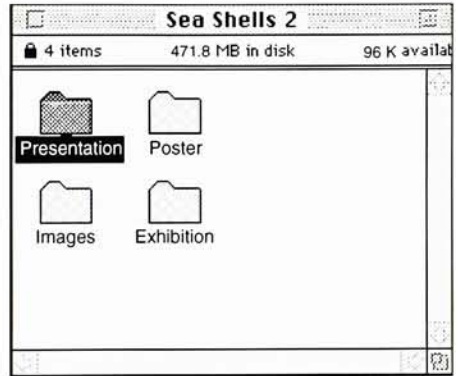
## Part III.  Appendices II

Thesis Proposal Approvals
Thesis Planing Report
        Situation Analysis
        Problem Statement
        Mission Statement
        Research Methodology Diagram
        Representational Diagram
        Outline
        Schedule Chart
        Evaluation Plan
        Bibliography
        Glossary of Terms

## Thesis Planing Report

## Situation Analysis

Symbols are an important form of communication and information. They are used daily as signs, on television, advertising, design and in magazines. Symbols can have different meanings in different contexts, for example, the scallop in 'The Birth of Venus' by Botticelli, means 'birth' but in advertising it could mean 'sexuality'. This kind of mixed meaning can cause confusion and weaken communication. Pragmatics, the context in which a symbol appears, determines meaning.

## Problem Statement

There is a need to analytically study symbols and the contexts in which they are presented. Through theoretical constructs such as semiotics, the designer is provided with means by which symbols can be studied and understood.

## Mission Statement

The sea shell will be the object of my study. I will research several types of sea shells and their use in design contexts: posters, advertising, packaging, logos, and architecture. For example, where they are used, what they signify, and why they were used. I will create an interpretive presentation that will show the importance of the relationship of symbols and their contexts. I will design a new identity program, using what I have learned in my analysis phase.

## Research Methodology Diagram

Sea shells as symbols will be studied at from a number of different perspectives;art, design, science, architecture, and history. The results will be synthesized and applied to the creation of promotional material.
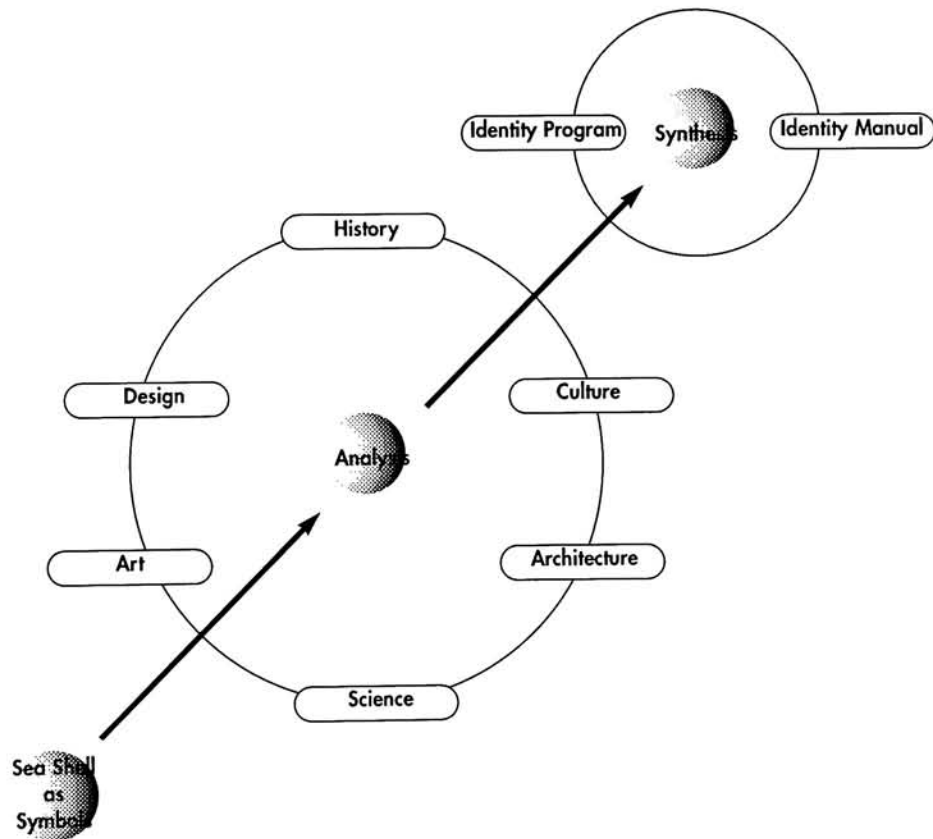
## Outline

**1. Problem Identification**

    **1.1.** To create a planning document

        **1.1.1.** To develop a situation analysis

            **1.1.1.1.** To establish meaning of sea shells in design

        **1.1.2.** To write a problem statement

            **1.1.2.1.** To analyze symbols and contexts

        **1.1.3.** To write a mission statement

            **1.1.3.1.** To refine problem statement

        **1.1.4.** Complete and present planing document

**2. Research and Analysis**

    **2.1.** To research and analyze sea shells in art and design

        **2.1.1.** To do a library search

            **2.1.1.1.** To gather published articles

            **2.1.1.2.** To gather pictures from various sources

                **2.1.1.2.1.** To create an interrelationship matrix

        **2.1.2.** To do travel research

            **2.1.2.1.** To visit museums and art galleries

                **2.1.2.1.1.** To visit science and natural history museums

            **2.1.2.2.** To visit architectural sites

                **2.1.2.2.1.** To record relevant information

        **2.1.3.** To conduct interviews

            **2.1.3.1.** Artists and designers

            **2.1.3.2.** Scientists

                **2.1.3.2.1.** Dr. Margaret D'ambruso

            **2.1.3.3.** Historians

                **2.1.3.3.1.** Dr. Joanne Szabla

**3. Synthesis**

    **3.1.** To categorize the symbolic meaning of seashells

        **3.1.1.** To compare and contrast cultural meaning

            **3.1.1.1.** To classify several types of seashells

            **3.1.1.2.** To identify meaning of symbols

            **3.1.1.3.** To collect cross-cultural design works

**3.2.** To create design criteria

    **3.2.1.** To gather visual aspects

        **3.2.1.1.** organic and inorganic shape

## 4. Ideation

**4.1.** To create a personal Identity Program

    **4.1.1.** To list objectives

        **4.1.1.1.** To develop interpretant matrix

            **4.1.1.1.1.** Iconic

            **4.1.1.1.2.** Indexic

            **4.1.1.1.3.** Symbolic

    **4.1.2.** To create preliminary design

        **4.1.1.1.** Identity logo

        **4.1.1.2.** Business card

        **4.1.1.3.** Poster

        **4.1.1.4.** Brochure

        **4.1.1.5.** T-shirt

## 5. Pre Evaluation

**5.1.** To conduct critique interviews

    **5.1.1.** Artists and designers

        **5.1.1.1.** To evaluate feedback

    **5.1.2.** Committees

        **5.1.2.1.** To refine problems

    **5.1.3.** Focus group

## 6. Implementation

**6.1.** To analyze critique comments

    **6.1.1.** To incorporate relevant comments for the final design

        **6.1.1.1.** Aesthetics

        **6.1.1.2.** Syntactic

        **6.1.1.3.** Semantic

**6.1.2.** Out put

**6.1.2.1.** To contact and secure service bureaus

**6.1.2.2.** To estimate costs

**6.1.2.3.** To choose quality paper

## 7. Post Evaluation

**7.1.** Methodology

**7.1.1.** To develop testing methodology

**7.1.1.1.** To create a questionnaire

**7.1.1.2.** To develop a semantic differential

**7.1.1.3.** To conduct unobtrusive measures

**7.1.1.4.** To conduct interviews

**7.2.** Open thesis show

**7.2.1.** To display work

**7.3.** To write thesis report

**7.3.1.** To gather documents

**7.3.2.** To create thesis report

**7.3.2.1.** To conduct committee

**7.4.** To submit final thesis report

## Schedule Chart

**2nd Thesis Show** 4/15-24

4/7

Easter

1st Thesis Show 4/1-10

3/28

**Spring**

Classes Begin 3/21

Winter/ Spring Break 2/27-3/8

**Implementation**
- To incorporate relevant comments for the final design
- Out put

Last Class 2/22

Washington 2/15

**Pre Evaluation**
- To conduct critique interviews

2/14

Valentine's Day

2/12

Lincol

2/8

1/12

**Ideation**
- To list objectives
- To create preliminary design

**Third Committee Meeting**
Show work and discuss

1/4

**Synthesis**
- To compare and contrast cultural meanig
- To gather visua aspects
- To gather verbl aspects

**Second Committee Meeting**
Develop concept and sketches

Classes Resume 1/3

M.L. King Jr.

Holiday Break 12/26-1/2

New Year

12/25

Christmas

12/14

**First Committee Meeting**
Research and Analysis of thesis
Gather images and articles

**Winter**

Classes Begin 12/7

**Research and Analysis**
- To do a library search
- To do travel research
- To conduct interviews

Fall/Winter Break 11/22-12/3

Thanksgiving

Last Class 11/15

11/6

Mrs. D'ambruso, Margaret (Biologi

10/12

**Fall**

Columbus Day

Classes Begin 9/7

9/4

Labor Day

**Project design and Evaluation**
- Thesis proposal Draft
- To develop a situation analysis
- To write a problem statement
- To write a mission statement

*Thesis Project*

**Commencement** 5/25

Last Class 5/23

**Final Committee Meeting**
Report submission

5/17

4/25

4/18 **Post Evaluation**
•To develop testing methodology
•To display work
•To gather documents
•To create thesis report

•post evaluation application
•Begin writing thesis report
•Writing thesis

**2nd Thesis Show** 4/15-24

4/7

Easter
1st Thesis Show 4/1-10

3/28

**Spring**
Classes Begin 3/21

**Implementation**
•To incorporate relevant comments
 for the final design
•Out put

**Fourth Committee Meeting**
Complete application

Winter/ Spring Break 2/27-3/8

Last Class 2/22 **Pre Evaluation**
•To conduct critique interviews

Refinement

Washington
2/15

2/14

Valentine's Day
'12

**Ideation**
•To list objectives
•To create preliminary design

**Third Committee
Meeting**
Show work and discuss

ontrast

**Second Committee Meeting**
Develop concept and sketches

spects
spects

**First Committee Meeting**
esearch and Analysis of thesis
ather images and articles

## Evaluation Plan

In preparation for the thesis show, I will prepare the following evaluative instruments: a questionnaire, semantic differential, unobtrusive measures, and interviews. I will the summarize the results of each test instruments to the determine consensus.

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### Articles

Deutelbaum, Marshall. *"The Birth of Venus" and the death of romantic love in out of the past.*

## Glossary of Terms *

| | |
|---|---|
| **Aesthetic** | Relating to the beautiful as distinguished from the merely pleasing, the moral, and esp. the useful and utilitarian. |
| **Analysis** | The separation of an intellectual or substantial whole into its constituent parts for individual study: opposed to synthesis. |
| **Botticelli** | (Alessandro di Mariano Filipepi known as Sandro Botticelli) Florence 1445-1510. Florentine painter, pupil of Filippo Lippi, author of numerous altarpieces in Florence. Painted for the Medici: *Adoration of Magi, Primavera, Birth of Venus.* Dominates Florentine art at the time when the frescoes of the Sistine chaple were being painted in Rome(1481-82). Disturbed by the moral crisis of the end of the century, drew a complete set of illustrations to Dante's *Divine Comedy.* |
| **Communication** | The act of imparting or transmitting. |
| **Context** | Any phrase, sentence, or passage so closely connected to a word or word as to affect their meaning. |
| **Iconic** | The representation of an object based on conventions of resemblance or likeness. |
| **Indexic** | Representation directly influenced by the object. |
| **Interpretant** | In the semiotic triad it is the process of interpretation which, among other things, includes the person interpreting the sign. The interpretant extends to all uses and understands of a sign. It represents the life of the sign. |
| **Matrix** | A situation or surrounding substance within which something originates, develops, or is contained. |
| **Multimedia** | The presentation of information on a computer in more than one form and includes using graphics, sound, animation, and text. |
| **Nautilus.** | Any of a group of cephalopod mollusks with a spiral shell whose chambers are lined with mother-of-pearl; especially, the chambered of pearly nautilus. |
| **Pragmatics** | The relationship between signs, their context, and interpreters. |

## Glossary of Terms *

| | |
|---|---|
| **Scallop** | A bivalve mollusk, having a rounded, ridged shell whose valves are shaped together in swimming. One of a series of semicircular curves along an edge, as for ornament. |
| **Semantic** | The relationship between the representamen and the object; the meaning that the signs conveys. |
| **Semiotics** | The general theory of signs in all their forms and manifestations among man and animals, normal and pathological, linguistic or nonlinguistic, social or individual. |
| **Signify** | To make known by signs or words; express; communicate; announce. |
| **Syntactic** | Putting together, composing, of relating to or according to the rules of syntax or syntactics. |
| **The Birth of Venus** | Horne has proved that the picture was painted for Lorenzo and Giovanni di Pierfrancesco de' Medici. The Birth of Venus is linked with the myth of Earth and Heaven. When heaven, in the darkness of night, embraced the earth and was deprived of his manhood, foam appeared on the sea and from it rose Venus, the goddess of loving desire and perpetual beauty. Driven by the west wind, she glides over the waves in a shell and steps on land when she reaches the island of Cythera. In Paphos the Seasons, or Horae, wrap her in garments. |

*Definitions are from these book
 in the bibliography
1 Mihal Nadin
2 Cooper, Jean. C.

15

Sea Shells 1

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Sea Shells 2

3G6A1013G474