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Design theory and methodology

Carla Tedeschi

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A Thesis Submitted to the
Faculty of The College of
Fine and Applied Arts
in Candidacy for the Degree of
MASTER OF FINE ARTS

Design Theory and Methodology

By

Carla Tedeschi

May 15, 1992
Approvals

Advisor: Professor Deborah Beardslee

Date: May 20, 1992

Associate Advisor: Professor Roger Remington

Date: May 20, 1992

Associate Advisor: Professor Pamela Blum

Date: May 29, 1992

Special Assistant to the Dean for Graduate Affairs: Professor Philip Bornarth

Date: 5/22/92

Acting Dean, College of Fine and Applied Arts: Dr. Peter Giopulos

Date: 6/9/92

I, Carla Tedeschi, prefer to be contacted each time a request for production is made. I can be reached at the following address.

79 Kirklees Road/ Pittsford/ New York/ 14534

Date: May 24, 1992
This thesis is dedicated to my parents Marie and Bill Tedeschi, my mother for giving me the encouragement and confidence to attend graduate school, my father for his enduring patience and for instilling in me the desire to learn.

Thank you both for your never ending love and support.
Acknowledgement

I wish to thank Alicia, whose hard work and dedication is a source of inspiration.

I also wish to thank my committee members Deborah Beardslee, Roger Remington and Pamela Blum for their helpful suggestions, encouragement and patience.

And, a special thank you to Roger for his wisdom and thoughtful advice, and to Deborah for the inspiration and excitement she instilled in me.
As my interest in the visual design process and investigation onto new methods of problem solving intensified, I began to ask questions about the relevance of process, methods, concept, and theory which we as designers and educators believe in and on which we rely.

Could the implementation of theory or a particular process improve design? The answer can be found in response to two contemporary challenges to designers: to be more responsive to audience needs and to be more analytical. Systematic analysis fosters the exploration of initial concepts, new insights and the ability to explore a wide variety of choices. A positive aspect occurs in the ability to adhere to a systematic analysis in that the end results are produced from in-depth explorations.

Designers and educators need to enhance, broaden and increase the number of options and choices they work with. They need to be rational problem-solvers. These all are goals. The way designers think affects their ability to solve problems. Problem solving channels ideas and analysis improves designers’ explorations through attention to process and methods. Not all problems must be handled in this systematic manner, but these restrictions may enable designers to “see” problems in their simplest, abstract forms. From these simple, abstract forms follow interpretations and a sense of completeness. This completeness enables the designer to produce the most effective communication possible.
Dedication

Acknowledgements

Preface

Table of Contents

Introduction 1

Proposal Development 3

Timeline 5

Research 6

Project Development 10

Conclusion 17

Bibliography 18

Appendices

A Thesis Statement
B Thesis Proposal
C Revised Thesis Proposal
D Design Theories and Methods Index
E Timeline
F Beardslee’s Visual Design Process Handouts
G List of Categories
H Remington’s Front End Tool Kit
I Byrne’s Reading List
J Index Introduction
K Skagg’s Reading List
L Skagg’s Unpublished Discussion Paper: Ways of Knowing
M Standardized Discipline and Subject Categories
N Written Diagram
O Visual Design Process Poster Series
P Method: Mind Mapping
Q Method: Scoring
R Method: Interaction Matrix
S Placement Exploration
T Poster Format Exploration
Towards the end of my first year of graduate school I began to reflect on ideas for a thesis topic. I began to compile a reading list.

One important text, Peter G. Rowe’s *Design Thinking*, gave a systematic account of the design process. Rowe discusses architectural design with comparisons from examples from more diverse areas of design study.

This book provoked my interest for the same reasons as an independent study with Professor Beardslee, which introduced me to creative problem-solving, exploration and utilization of design methods.

The culmination of this newly-gained knowledge, coupled with a year of intense, concentrated effort emphasizing design process under my core professor, Roger Remington’s guidance, contributed to the direction of my thesis topic.

Professor Remington supported my topic decision. He extended an invitation to attend a summer workshop on Design Process sponsored by the Graphic Design Education Association. Professor Remington recommended several relevant books. He suggested I contact Professor Beardslee to determine if she would be interested in heading my thesis committee.

Professor Beardslee accepted the position of chief advisor. Professors Remington and Blum became my associate advisors. I asked each member for a specific reason: Professor Beardslee was the original catalyst behind the inspiration for my thesis topic; Professor Remington, a professor in my major, a fountain of resource and knowledge in Design Theory and Methodology. Professor Blum who
is also process oriented and interested in thought structures, as well as a fine artist, a painter, was someone I believed would challenge me as an artist and a graphic designer.

Autumn approached and I found myself in libraries and bookstores locating and reading diverse publications related to my topic.
The mid-September deadline for a thesis statement was quickly approaching. A documented initial thesis statement was required in order to obtain an authorized signature of approval from the Special Assistant to the Dean for Graduate Affairs.

A summary of the initial thesis statement follows:

The purpose of this thesis is to investigate methodology and design theory in graphic design. This project will investigate whether a "front-end" process is required for effective graphic design (see Appendix A).

As time progressed, it was necessary to elaborate and specify information found in various components of the proposal. The fundamental questions of who, why, what, where, when and how were answered in structures that ranged from a problem statement to the actual dissemination of the completed work.

A retrospective comparison of an earlier version of my thesis proposal (see Appendix B) to the final version (see Appendix C) reveals that considerable alterations occurred in the application of the poster series.

My initial concept for the applied component was that a series of posters would reflect specific design theories selected from the final version of the Design Theory and Methods Index (see Appendix D).
In the initial concept, each poster was to communicate a specific design theory selected from the Index. In the finalized project proposal, the posters would collectively illustrate a theory through the process of using various methods. In other words, the theoretical emphasis was on the visual design process. The poster series would reveal the parts of the visual design process as well as the whole. These parts range from Problem Identification to Retrospective Evaluation. Various methods would be chosen from the Index. A page spread dealing with Irezumi (the art of Japanese tattooing) would be designed to simulate how an actual product could be created through the process of using various methods.
A firm grasp on my goals and objectives allowed me to implement a plan of action which took the form of a timeline (see Appendix E). Deadlines needed to be met. One important deadline was the completion of the application for the thesis show. Meetings with all committee members present, made difficult to coordinate because of busy and often conflicting schedules, needed to be arranged far in advance. My progress approximated anticipated due dates so that no major problems occurred.
Research began over the summer as soon as my topic was determined. Professor Beardslee and Professor Remington both suggested readings that I eagerly devoured. An early start was needed because it would be difficult to digest all the materials that had to be covered. Research led me to begin a Design Theories and Methods Index.

The Design Theories and Methods Index is a computerized data base retrieval system that contains a compilation of theories and methods collected and combined in one Index from a variety of disciplines. The Index is intended to be used by educators and professionals of visual communication for locating theories and methods quickly and with ease.

I began corresponding with others interested in Design Theory and Methods, such as Professor Meredith Davis of North Carolina State University; Professor Kevin Byrne of the Minneapolis College of Art and Design, and Professor Steven Skaggs of the University of Louisville. With the help of these individuals and my committee members, I was able to compile a vast array of readings. These contributions would represent the bulk of data for the Design Theories and Methods Index, an open ended index that will expand over time.

After compiling the Design Theories and Methods Index it became necessary to research standard indexing styles. As I began to develop the Index, I contacted Barbara Polowy, the Arts and Photography librarian from the Wallace Memorial Library at the Rochester Institute of Technology. She made several helpful suggestions and recommended various resources. *The Chicago Manual of Style*, an important resource, helped me build an index by suggesting standard categories and widely used formats.
The bulk of my research was already completed by the time I began designing the poster applications. All readings regarding the design process and methods were taken from the Index itself.

The most significant resources were *The Universal Traveler* by Jim Bagnall and Don Koberg, *Graphic Problem Solving for Architects and Builders* by Paul Lasseau, and *Design Thinking* by Peter G. Rowe.

While investigating the visual design process, I came across three different models of organizing, approaching or analyzing the design process.

I believe the most universal breakdown of the visual design process is the two-step process by Allen Hurlburt as discussed in *The Design Concept*. Hurlburt divides the process into analysis, then synthesis. Koberg and Bagnall identify three stages of: Analysis, Conceptualization and Synthesis. The most in-depth process and the one I chose to follow consists of seven steps. Their sequence is as follows:

Problem Identification  
Research and Analysis  
Synthesis  
Ideation  
Evaluation  
Implementation  
Retrospective Evaluation.

I received this information from Professor Beardslee during the first year graduate level Theory and Methods seminarat RIT. Professor Beardslee conducted a lecture in late October, 1991 about the visual design process. There, I received handouts (see Appendix F) that became a major resource for the application of the poster series as it began to take shape.
At this point in time, it was necessary to define the sequence of steps listed above. During **Problem Identification**, it is necessary to define and understand the nature of a problem. **Research and Analysis** represents the systematic inquiry for discovering facts or relationships which may aid in solving a problem. **Synthesis** is the discovery of interrelationships and patterns as one sorts through and organizes the parts of the problem. **Ideation** is the generation of conceptual solutions. **Evaluation** is the selection of designs from possible viable alternatives. **Implementation** can be defined as refinement and development of the final phases of production. Finally, **Retrospective Evaluation**, the determination of effects of the solutions, is useful for feedback in solving future problems.

It was also necessary to research methods. **Methods** are described as sub-procedures or tools used during the process of design. There are many variations in sequencing procedural steps as well as many different techniques or methods for accomplishing each operative step along the way. I choose (1) Mind Mapping, (2) Scoring and (3) Interaction Matrix.

These three methods were chosen because they were best suited to the stages in the process that were being investigated. I used Mind Mapping during Problem Identification, Scoring in Research and Development and the Interaction Matrix in the Synthesis stage.

Mindmapping was clarified by reading Tony Buzan’s *Use Both Sides of Your Brain*. I had prior experience with this process during an independent study with Professor Beardslee.
I discovered Scoring by reading *RSVP Cycles* by Lawrence Halprin. William Pena’s *Problem Seeking* provided information about the Interaction Matrix.

Method definitions were compiled from research. The definitions were included in the series posters. The definitions are as follows:

**Scores** are symbols of processes which extend over time and cannot be separated from the process itself. There is no one method of scoring. Scoring processes vary. They are at the heart of the process of creativity.

A **Mind Map** is a type of brainstorming with words or images. Rather than starting from the top and working down in sentences or lists (linear thinking), one should start from the center or main idea and branch out as dictated by the individual ideas and general form of the central theme.

The mind should be left as free as possible. Any thinking about where things should be placed or whether they should be included will simply slow the process. The idea is to recall everything one’s mind thinks around the central idea.

**Theory** is also another important word that needs to be defined at this point. The following definition was given to me by Professor Remington. A theory is a set of generalizations related by a net of deductive thinking and arrived at by stages of discovery, verification and comparison.
In order to begin the Design Theories and Methods Index specific categories needed to be developed and organized. Categories would contain information to systematically make the information easily accessible to the user. I originally began with the following categories: Theory or Method (keyword), Title or Entry, Name, Author, Publisher, Volume/Issue, Source, User/Contributor, Date and Origin/Discipline. This list was brought to the attention of Barbara Polowy as the result of a suggestion from Professor Remington. Barbara recommended a few changes. A second list was then prepared (see Appendix G).

The first draft of the Index was compiled in early November, 1991. I began by inserting information given to me by Professor Remington (see Appendix H) and a reading list sent to me by Professor Byrne (see Appendix I).

I encountered several problems during initial stages of the Index due to my unfamiliarity with the computer software being used. It was recommended that I document the Index on Filemaker II by The Claris Corporation. Due to the file's limited space I needed to shorten column widths and experiment with typefaces and point sizes. I originally selected 10-point Helvetica and in the end up using 8-point Helvetica Condensed instead.
The first presentation of the Index occurred in early December, 1991, during my first full committee meeting. Suggestions which I incorporated were to give credit to those who had contributed; to indicate the sources of my material and to distinguish between published and unpublished works. The idea of separating Theories from Methods was also discussed, but eventually rejected.

I decided to begin working on an Introduction to the Index, something to familiarize the user with its context (see Appendix J) and purpose. I attempted to answer some of the questions raised during the committee meeting. I decided to give credit to contributors in the form of short biographies about each. I also established that only unpublished work would be coded and located under a category entitled Locator. This information made it possible for the user to easily contact the author or repositor of a particular work.

In early January, I received a reading list (see Appendix K) from Professor Skaggs which included an unpublished discussion paper he had written entitled, Ways of Knowing (see Appendix L), which I also included in the Index. This is an example of work that was coded so that the user could easily locate it even though it is currently unpublished.

Once again, I found myself needing to research indexes more carefully, with guidance from The Chicago Manual of Style. The Topic category of my Index had become too congested. I adopted a format from the Manual that suggested using Subject in conjunction with Topic. Topic was defined as narrow and concrete, and Subject as something broader and less sharply defined.
Later it was suggested by committee members to standardize my discipline and subject categories (see Appendix M) in order to create a sense of unity.

In mid-January, I submitted the second draft of the Index to the committee and requested approval to move on to the application phase of my thesis preparation.
Research for the poster series was complete. It was time to apply this research. The main communication, the visual design process, was the common thread that linked the poster series together. As each poster in the series progressed and as the process began to unfold, each step contained a method for aiding the design development.

During one meeting Professor Remington and Beardslee discussed the choice of content to be contained within the simulated page spread. Because of the seriousness of the visual design process, Professor Remington suggested I choose something of contrast; something esoteric. Later, I "mind mapped" the word esoteric to investigate new ideas. From the mind map I chose the word "body decoration" and eventually investigated Irezumi, the art of Japanese tattooing.

My thesis show was quickly approaching. I was informed that gallery space would be limited. I decided to produce a total of four posters.

**Poster One**
The first poster would describe the seven steps of the visual design process in general terms. Each poster would include a brief definition of a particular method. Embodying the method and for visual impact a one-line introduction about Irezumi, was included. The content for the process and methods information would be simulated in an actual page spread. The page spread is intended to be from a publication dealing with body
decoration. The initial poster set up the standard format and system of all elements for the remaining three posters in the series.

It was necessary to represent a sense of unity and similarity, a system throughout the series, in order to link one poster to the other. I wanted to express a sense of growth and development in order to echo the message of the central theme, the visual design process. Therefore, placement and color were key factors. Taking the advice of my committee, I created a written diagram that would document and organize the intended visuals (see Appendix N) before I began any preliminary sketches.

The most obvious link to unify the series was a consistent finished size for each poster. I chose a format that measured 14” x 22”. On the right hand side of each poster was a vertical bar (see Appendix O). As the posters progress in the series, the color of the bar changes from light to dark. This bar is part of a coding system for recognition. It acts as a unifying element as well as a subtle message conveying to the viewer that as the process develops and becomes more concrete, so does the color.

The bar was also a designated area where images and information used in the creation of the Irezumi page spread of the central theme would appear. The actual page spread was located on the bottom left hand side of the bar. The design elements used were words and/or images, and color. As the poster series develops and becomes more concrete so does the Irezumi page spread. Type is added, colors chosen and images selected.
Method text is located in the foreground of each poster. Located in the same position on each poster is an image (silkscreened) in the background to reflect the method used.

**Poster Two**
The second poster in the series dealt with Problem Identification. There I used a mind map (see Appendix P) which is a form of brainstorming and is an important stage at this point in the process. From this mind map, I chose key words. These words were also used in the layout, appearing within the colored bar on the right hand side.

**Poster Three**
The third poster explained Research and Analysis. Scoring aided in the selection of color and imagery used in the Irezumi publication spread.

**Poster Four**
The fourth poster represented Synthesis. The method used at this stage was the Interaction Matrix (see Appendix R). The Interaction Matrix aided in the exploration of the emotional and pragmatic aspects of Irezumi. It allowed me the opportunity to combine very different issues of Irezumi which in turn provided unique ideas related to visuals that were used in the page spread.

In the beginning stages of the poster series, I struggled with the placement of necessary components (see Appendix S). I needed to create clear zones of information. Professor Beardslee and Professor Remington made it clear that placement was a key element to the success and legibility of the series and should be handled with the utmost care.
Early on, I began experimenting with the format of the posters (see Appendix T), not knowing in which direction to go. Professor Beardslee suggested I let the format come as a result of the process. As soon as I "let go", stopped struggling with size, shape, and form, and delved into the process itself, the format evolved naturally.
Conclusion

In conclusion, I discovered that, in fact, following a theory and applying methods indeed broadens and increases the number of options and choices one is able to work with.

The reference materials that have been compiled will be a great source of information and reference to other visual communicators.

I believe I have successfully completed the objectives I had placed upon myself and have been able to incorporate the knowledge regarding design theory and methodology gained while at RIT.


Appendix A

Thesis Statement
**Design Theory and Methodology**

The purpose of this thesis is to investigate methodology and design theory in graphic design. This project will investigate whether a "front-end" process is required for effective graphic design. Theory and Methods will be analyzed through the use of examples from contemporary graphic design.

Physical outcomes for the thesis will be a book of terms, process documentation and a series of posters or postcards.
Appendix B

Thesis
Proposal
Draft 2

Project Title: Design Theory and Methodology

Designer and Address: Carla Tedeschi
79 Kirklees Road
Pittsord, New York 14534

Problem Statement: To investigate methodology and design theory used in graphic design.

Audience: Educators of Graphic Design
Graphic Design Students
Graphic Designers

Context: Design Studios
Workshops and Seminars
Educational Facilities (Classrooms, lecture halls)

Documentation of Need: This project will investigate the stage or stages in graphic design before implementation occurs. In other words, the “front-end” process will be examined and methods in aiding this process will be explored.

This project will explore and document a visually invisible process.

This project will examine the graphic designer as he/she engages in the practice of visual communication problem solving.

The importance of this project will be to validate that, in fact, successful graphic design does not rely solely on aesthetics and quesswork; but rather, graphic design can be described as a series of logical steps, a systematic account of sequences and procedures, not excluding the eureka factor.

The project will be analyzed by selected theories and methods chosen from the Design Theories and Methods Index. The chosen theory and methods will be analyzed by actual practice and application. The design processes selected will be thoroughly investigated by way of visualized and written documentation.

The initial project assumption is that a “front-end” process is a necessary sequential set of steps, that, when followed, will produce effective graphic communication of quality.

Mission Statement: The project, Design Theory and Methodology is a “front-end” process or tool that will enhance and aid in the production of effective graphic design. A Design Theories and Methods Index will be compiled, a documentation notebook will be produced along with a series of posters created using the design process and selected methods. The project will prove that theory and methods are prerequisites of effective graphic design.
Objectives:

Build an awareness of design theories and methods in order to enhance the creation and quality of graphic communication.

Identify that successful graphic design problem solving does not need to be based solely on an aesthetic rational or random guesswork. In other words, the project will show that the philosophy of art and beauty are not the only grounds on which to determine the creation of a creative graphic design solution.

To identify a series of sequences and steps found during the design process and apply appropriate working methods at turning points in the process.

To identify that the “front-end” process is a necessary component in successful graphic design.

The designer, educator and student will be able to list a variety of “front-end” processes and identify those who are working on, researching or contributing to them.

The graphic designer, educator and student will be able to read, see and understand the systematic documentation or journey of various sequences and events made during the design process with the aid of various methods.

Process and Strategies:

Design Theories and Methods Index
The design theory source index will be compiled by researched lists taken from my research, Professor R. Remington, Professor D. Beardslee, adn Instructor Kevin Byrne.

The index will be in alphabetical order and include origin.

The design theory source index will be analyzed/reviewed and a selection of specific design processes/theories will be choosen.

Series of Theory and Method Posters
A series of posters dealing specific theories selected from the design theory Index.

Respectively, every poster in the series will communicate one theory.

Solutions for each poster will be generated by implementing the theory into actual practice.

The posters will begin from the abstract (single theory or word) and proceed to the concrete (designed poster).
Revised Thesis Proposal
Draft 11 2/4/92

Project Title: Design Theory and Methodology

Designer and Address: Carla Tedeschi
79 Kirklees Road
Pittsord, New York 14534

Problem Statement: To investigate methodology and design theory used in graphic design.

Audience: Educators of Graphic Design
Graphic Design Students
Graphic Designers

Context: Design Studios
Workshops and Seminars
Educational Facilities (Classrooms, lecture halls)

Documentation of Need: This project will investigate the stage or stages in graphic design before implementation occurs. In other words, the “front-end” process will be examined and methods in aiding this process will be explored.

This project will explore and document a visually invisible process.

This project will examine the graphic designer as he/she engages in the practice of visual communication problem solving.

The importance of this project will be to validate that, in fact, successful graphic design does not rely solely on aesthetics and quesswork; but rather, graphic design can be described as a series of logical steps, a systematic account of sequences and procedures, not excluding the eureka factor.

The project will be analyzed by selected theories and methods chosen from the Design Theories and Methods Index. The chosen theory and methods will be analyzed by actual practice and application. The design processes selected will be thoroughly investigated by way of visualized and written documentation.

The initial project assumption is that a “front-end” process is a necessary sequential set of steps, that, when followed, will produce effective graphic communication of quality.

Mission Statement: The project, Design Theory and Methodology is a “front-end” process or tool that will enhance and aid in the production of effective graphic design. A Design Theories and Methods Index will be compiled, a documentation notebook will be produced along with a series of posters created using the design process and selected methods. The project will prove that theory and methods are prerequisites of effective graphic design.
Goals:
A sharing of information with peers, colleagues, students and educators
A way to make educators, designers and design students aware that a “front-end” process occurs and may aid in successful graphic design.
The Theories and Methods Index is a tool to aid educators, designers and design students in locating sources or specific publications that refer to works of interest.
The poster series can be used as a tool by instructors to aid in the introductory education of the design process and specific methods.

Objectives:
Build an awareness of design theories and methods in order to enhance the creation and quality of graphic communication.
Identify that successful graphic design problem solving does not need to be based solely on an aesthetic rational or random guesswork. In other words, the project will show that the philosophy of art and beauty are not the only grounds on which to determine the creation of a creative graphic design solution.
To identify a series of sequences and steps found during the design process and apply appropriate working methods at turning points in the process.
To identify that the “front-end” process is a necessary component in successful graphic design.
The designer, educator and student will be able to list a variety of “front-end” processes and identify those who are working on, researching or contributing to them.
The graphic designer, educator and student will be able to read, see and understand the systematic documentation or journey of various sequences and events made during the design process with the aid of various methods

Process and Strategies:
Design Theories and Methods Index
The Design Theories and Methods Index is a compilation of theories and methods taken from a variety of disciplines.
The index is a computerized database retrieval system that allows the user to search for information by any one of the main categories, be subject, author, topic, discipline, etc.
The index will be in alphabetical order by author.
The Index categories will include:
  Theory and Method name (Topic)
  Discipline
  Periodical (author, title of article, title of volume, issue number, date)
  Book (author, title of book, author, publication, publisher)
  Locator
The Design Theory and Methods Index File will be reviewed and a specific design process and methods will be chosen before several graphic manifestations can occur.
The Design Theories and Methods Index will be a first stage, open-ended research file.
Series of Theory and Method Posters
A series of posters dealing with the design process will be executed using key methods selected from the Design Theory and Methods Index

Respectively, every poster in the series will communicate a stage in the design process. The posters will be a "translation" of the process.

Solutions for each poster will be generated by implementing the process into actual practice and appropriate methods will be applied.

The posters will begin from the abstract (single theory or word) and proceed to the concrete (designed poster).

Target audience for the poster will be first year graduate graphic design students.

The posters will be a resource to the target audience.

Implementation of each poster will be documented, both written and visualized.

Documentation
Documentation will be a systematic and logical review of sequences and events made during the process.

Written: Research, Index File, notebook, notes.
Visual: Possible charting, diagramming, sketches, thumbnails, roughs, finished (comped) posters.

Pragmatics:
Committee members: Professor Deborah Beardslee, Professor Roger Remington and Professor Pamela Blum.
Libraries, Bookstores, Colleagues, Professors

Dissemination:
College of Fine and Applied Arts, RIT Bevier Gallery. Possibly the GDEA, design classrooms and educational facilities.

Evaluation Plan:
Share project information with colleagues, peers and educators. Possibly use the Design Theories and Methods Index File and Posters in a classroom situation.
Glossary of Terms:

Theories: A set of generalizations related by a network of deductive thinking and arrived at by stages of discovery, verification and comparison.

Methodology: A systematic and logical process for controlling or monitoring change.

Process: (Sequence) A series of interrelated actions or events.

Design-Visual Communication: (Design) The arrangement and coordination of the parts of details of any object, by means of which the whole achieves a certain effect or impression, or produces a certain result. A visual pattern or composition.

(Visual) Based on the use of sight; visible.

(Communication) The transmission or exchange of ideas, information, etc.

Documentation: The collection, storage, and dissemination of recorded information in an integrated system for efficient use and easy accessibility.

Front End: The part of the design process before implementation.

Tool: Any instrument or means necessary to the efficient prosecution of one's profession or trade.

Problem Identification: To define and understand the nature of a problem.

Research and Analysis: The systematic inquiry in order to discover facts or relations which may aid in solving the problem at hand.

Synthesis: To discover interrelationships and patterns: to sort, to sequence or order the information or parts of the problem.

Ideation: Generate conceptual solutions and prepare alternative preliminary designs.

Evaluation: Selection of design solutions from viable alternatives.

Implementation: Refinement, development and production of the final form.

Retrospective Evaluation: Determination of effects of solutions for feedback into future problems.
Bibliography:


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Van Oech. *A Whack on the Sise of the Head*. ( )

(*) Books read ( ) Books to be read
Appendix D

Design
Theories
and
Methods
Index
Design Theories and Methods Index
Contributions by readers from non-standard sources

Under this heading:

Acknowledged in future issues of the Index.

Welcome and contributions will be appreciated.

Copies of relevant articles or publications are

are vital to overcome to continue to be explained.

Contributions by readers from non-standard sources

Specific, as possible,

defined. Where extensive entries are focused and as

Subject entries are broader and often not so sharply

can be obtained.

complete names and addresses where the information

section contains a list of locations where information

for locations will be listed at the back of this volume at the

Location column of the end of the Index. All other

Unpublished works can be obtained from consulting

location.

Author column:

known. The title of subject of the entry is listed under the

in the Index. Authors appear alphabetically. If no author is

categories deemed applicable.

above the use to look under any one of the main

sections. Therefore, a comprehensive database retrieved

The user may find the only at the first place

Field of inquiry.

look under the top category before finding the intended

subject. Key words or phrases that are used under the

because of limited space in the assignment of the

The editor of the Index has had to exercise caution

Topical and Location.

Publication, Volume, Issue, Date, Discipline, Subject.

In this Index are Authors, Articles, Publications

in the field of visual communication, the categories included

the communication and create of the creative process in

disciplines in order to make a substantial contribution to

to bring together some information from a variety of

The Design Theories and Methods Index has been created
Biography to come.

Matthew Davies

Assistant Professor of Graphic Design Education

Specialties: Education, Design, Fine Arts, Psychology. He currently serves on the board of the American Center for Design and is a member of the board of the Design Education and Research Foundation. His research interests include communication theory, design methodologies, and the evaluation of design protocols. His interests also include visual communication design for education and design education. He is also active in research on visual communication theory.

Kevin Byrne

Biography to come.

Pamela Elam

Graphic Design Education

She currently serves as a member of the board of the Design Education and Research Foundation and has also been active in research on visual communication design. She is also active in research on communication theory.

Biography to come.

Deborah A. Breslated

Degree in Graphic Design and a Masters degree in Design. Breslated possesses a Bachelors of Fine Arts degree in Graphic Design.

Deborah A. Breslade

Deborah A. Breslated.

Joanne A. Breslated.

Biography to come.

Joanne A. Breslated.

Plain text representation:

List of Contributors:

Biography to come.
member of the AAJA/Photojournalists chapter.

Board of Directors of ODPA and was a founding
member of the Board of Directors of ODPA. He is a member of the Board of
Sponsors of ODPA. He is a member of the Board of
Sponsors of ODPA.

He is an active participant in educational

discussions of the role of the arts in society and in the education for
continuing education programs. His research interests include

capabilities of the computer for understanding the

treatment of the arts and the role of

This is being accomplished by joining the capabilities
electronic archive on the history of graphic design, a desk-top
developing the graphic design archive, a desk-top
which was written with Collins, among others.

His career has included being a practicing graphic de-

and Apple Computer Inc.

Graphis Foundation. He is an active participant in the

The Arts, the New York State Council on the Arts, the

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developing the graphic design archive, a desk-top
which was written with Collins, among others.
Louisville.

Associate Professor of Design at the University of

Steven Skaggs lives in Louisville, Kentucky, where he is

director of Visual Semiotics and Graphic Design.

beginning in electronics, and nothing dollar to the
release by the world. The release coronation in 1992. He

has been named for performance art in the New Sounds | Composition

composition, textures and fragments. Work a

country as well as South America and Europe. His

his underlying art has appeared in exhibitions in this

been printed in Calligram, New York, and Sticke

Typography: Two Sticken while articles by him have

Steven Skaggs, Work has appeared in the books From

elements.

It is the connection itself that is the focus of my

writing and the spoken, the seen and the heard.

My interest is to explore the relationships between

core: stress that hispresent reveals around a common

stimulating in an actual grandiose, in a nonetheless
identity design, calling for composition. and

his professional work into four categories: Visual

the Rochester Institute of Technology.

1980 and

studies under the master's degree and the

communication on letterism design. He continues the

Steven Skaggs received his master of Science degree in


A Result in Visual

Alexander C

Research Literature

Methodology

Methodology

Survey

1990

Computer User

Information Management

Law Practice

Reader Profile

MIT

Design Process

Emerging Methods

Alvino

Location

Title

Subject

Discipline

Publisher

Volume

Issue

Date

Place

Affiliation

Article

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Architectural Design

Networking/Computer

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We can study and
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Appendix E

Timeline
Thesis Timeline for September 1991-June 1992

September 1991:

9-5  Fall Quarter Begins
9-5  Meeting with R. Remington: Review initial proposal.
9-17 Initial Statement due
9-26 Initial Statement approved

October 1991:

10-1 Meeting with RRR: Rework and refine proposal
10-8 Meeting with RRR: Continue refinements of goals, objectives and strategies
10-15 Meeting with RRR: Continue refinements of proposal
10-22 Meeting with RRR: Continue refinements of proposal

November 1991:

11-5 Meeting with RRR: Continue refinements of proposal
11-13 Final critique of proposal

December 1991:

12-3 Winter quarter begins
12-3 Meeting with RRR and Deborah Beardslee: Begin Theory and Method Index
12-10 Meeting with RRR and DB: Continue work on Index
12-17 Committee Meeting (1:00) RRR, DB and Pamela Blum: Review Index, discuss posters

January 1992:

1-7 Meeting with RRR and DB: Review changes on Index and research posters
1-14 Meeting with RRR and DB: Discuss possible Theory and Methods for poster
1-21 Meeting with RRR and DB: Continue poster development
1-28 Meeting with RRR and DB: Continue development and research

February 1992:

2-4 Meeting with RRR and DB: Continue research and development
2-11 Meeting with RRR and DB: Continue research and development
2-18 Committee Meeting: Begin Implementation

March 1992:

3-10 Spring quarter begins
3-10 Meeting with RRR and DB: Implementation of posters
3-17 Meeting with RRR and DB: Continue implementation
3-24 Meeting with RRR and DB: Critique Posters
3-30 Thesis Exhibit
3-31 Begin documentation of thesis

April 1992:

4-7 Documentation
4-14 Documentation
4-21 Documentation
4-28 First draft of thesis handed in to RRR, DB and PB

May 1992:

5-15 Committee Meeting: Sign Thesis
5-23 Graduation

June 1992:

6-12 Thesis due
Beardslee's
Visual
Design
Process
Handouts
The Design Process

1. Problem Identification
   Defining & Understanding the Nature of the Problem

2. Research & Analysis
   Systematic Inquiry - Discover Facts or Relationships
   that May Aid in Solving the Problem

3. Synthesis
   Discover Interrelationships & Patterns
   Sort, Sequence, Order Information or Parts of the Problem

4. Ideation
   Generate Conceptual Solutions
   Prepare Alternative Preliminary Designs

5. Evaluation
   Selection of Design Solution from Possibilities

6. Implementation
   Refinement, Development, Production of Final Form

7. Retrospective Evaluation
   Determination of Effects of Solution for Feedback into Future Problems

Feedback Loops

(At any stage, used to strengthen the entire process)

Seek
Solve
Process!

(Different Ways to Approach the 7 Design Processes)

**Linear Process**

- Step-by-step, logical sequence

**Circular Process**

- Starting at any stage and advancing to others in turn

**Feedback Approach**

- Moving forward while looping back to reconsider previous discoveries

**Branching Paths**

- Allowing specific events and the interrelation of separate stages to control progress

**Natural Pathway**

- Awareness of all stages concurrently but emphasis on one or two steps at a time
1. Problem Identification

Objectives

Problem Statements

Constraints

Discussion

Requirements

Recording

Design Factors

Key Words

Sub- Problems

Attributes

Parallel Problems

Role- Playing

Case Histories

Rank- Ordering

Courses of Action

Interaction Matrix

Timetable

Facilities

METHODS OR TOOLS TO AID IN STAGES
2. Research & Analysis

User Identification
User Ergonomics
User Motivation

Environment
Function

Experiential Factors
Mechanics
Aesthetics

Market Environment
Archetypes
Production

Constraints
Analogous Problems

Bi-Polar Scales
(SEMANTIC DIFFERENTIATION)

Direct Observation
Unobtrusive Measures

Interviews
Scoring
(RSVP CYCLES)
IDENTIFYING PARTICULAR
RELATIONSHIPS WITHIN A
CONTEXT.
Dependent Variables

Independent Variables

Connections

Outlines of Sub-Problem Solutions

Structured Relationships

Venn Diagrams

Interaction Matrix

3. Synthesis

Interrelationships among the Sub-Problems of the Information System
4. Ideation

Trendy Solutions

Ideal Solutions

Other Possibilities

Remove Mental Blocks

Synectics

Morphological Charts

Lateral Thinking

Brainstorming

(MINDMAPPING, ASSOCIATIVE, BRANCHING)
5. Evaluation

Selection
Feasibility Analysis
Reappraise Objectives
Rank Ordering
Comparing Ideas / Objectives

Goals
Definite Requirements

Requirements
Constraints (budget, size, viewing, etc.)

Facilities

Checklists
Finalize Design

Define Conceptual Ideas

Structural Ideas

Physical Ideas

Time / Task Schedule

Construct a Model

6. Implementation

Construct Variants

Implementing Performance Specifications

Compare Variants with Feasibility

Production

Specifications

Schedules

Documents

Production Supervision
Efficiency 

Resolution of Objectives 

Effectiveness 

Design Performance 

Questionnaires 

Interviews 

7. Retrospective Evaluation 

Solution of Sub-Problems 

Observation 

Incorporation of Requirements 

Bi - Polar Scales 

Handling Constraints 

Checklists
Appendix G

List of Categories
Theory and Methods Index File: Possible Categories

Topic

Discipline

Periodical:   Author
Title of Article
Title of Publication
Volume
Issue number

Book:   Author
Title of Book
Place of publication
Publisher
Date
Remington's
Front
End
Tool
Kit
Roger's Front End Tool Kit: Index

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Revised 10/26/91
Appendix I

Byrne's
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- Audit, T. J. and C. D.
- Query, T. J. and C. D.
- Evaluation, T. J. and C. D.
- Vignelli, T. J. and C. D.
- Congress, T. J. and C. D.
- Design, T. J. and C. D.
- Public Opinion, T. J. and C. D.
- Survey, T. J. and C. D.
- Card Sorting as a Technique for Cardiac E. A. et al.
Kevin Byrne, Designing List: Design Methods
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**Guide to Reading List: Design Methods**

**Title: New Way to Measure Consumers' 1975**

**Author:** Green, P. E.

**Publisher:** Wind.

**Journal:** Industrial Design

**Volume:** 1979

**Number:** October

**Pages:** 1984

**Language:** English

**Design Evaluation:** Environment Design Evaluation: 1978

**Title:** The Key to This Factor Is Human

**Author:** Fechter, J.

**Publisher:** Plenum Press

**Date:** 1979

**Source:** Plenum Press

**Volume:** 33 (1)

**Number:** 1975

**Title:** Getting the Best From Your

**Author:** Graham, J.

**Publisher:** Wadsworth

**Date:** 1984

**Language:** English

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**Author:** Fechter, J.

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Appendix J

Index
Introduction
Biography to come.

Melinda Davis

Association

Appointments: director for the Graphic Design Education
Board of the American Center for Design and is a
Member of the editorial board of Design and
Communication. He currently serves on
Commission for the Evaluation of Design Programs and
Institute for Communication Today. Design Methodology,
Several articles and student proposals. His interests
Are in the field of Visual Communication, Design for
Occasionality, and Visual Communication Design for
Memorable Colleges of Art and Design. He is also
A frequent speaker at the
and and a frequent speaker at the National Design
and

Kevin Byrne holds a bachelor's degree in the arts

Kevin Byrne

Biography to come.

Pamela Bloom

Graphic Design Education Association

The extraordinary service as chairman of the board of the
Design Education and Interdisciplinary Programs,
Teaching and Woman's Work, "Design Roles and
Communication," Design Methodology.
Teaching and Woman's Work, "Design Roles and
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Teaching and Woman's Work, "Design Roles and
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List of Contributors
number of the Akron/Reisner chapter of the Board of Directors of AIGA and was a founding member of the Board of Directors of AIGA. He is a member of the Board of Directors of the Graphic Design Education Association. In this capacity he was co-chair of the 1998 Annual National Conference of the Graphic Design Education Association, serving as vice-president of the conference. He is an active participant in educational workshops, seminars, and conferences as well as a consultant to graphic design education institutions.

Mark Graber, Communications Inc., is President of Prodigy Productions, a Rochester-based firm that has produced major exhibitions and symposia on the history of graphic design. He is also the author of several books, including "The Design of Communication," and is a consultant to a number of graphic design firms. His research has included work on the history of graphic design and the role of the graphic designer in society. He is a member of the AIGA's Rochester chapter, and has served as a consultant to the Rochester chapter's executive committee. He is also a member of the Rochester chapter's board of directors. In 1998, he was co-chair of the 1998 Annual National Conference of the Graphic Design Education Association, serving as vice-president of the conference. He is an active participant in educational workshops, seminars, and conferences as well as a consultant to graphic design education institutions.

R. Roger Freeman is Professor of Graphic Design at the University of Wisconsin, Madison. He is also a member of the AIGA's Rochester chapter, and has served as a consultant to the Rochester chapter's executive committee. He is also a member of the Rochester chapter's board of directors. In 1998, he was co-chair of the 1998 Annual National Conference of the Graphic Design Education Association, serving as vice-president of the conference. He is an active participant in educational workshops, seminars, and conferences as well as a consultant to graphic design education institutions.
Louisville, Kentucky 40292
University of Louisville
Fine Arts Department
Steven S. Haggard

Pocahontas, New York 14623-0007
Post Office Box 9887
James E. Booth Building
College of Fine Arts
Pocahontas Institute of Economics
A. R. Fremont

Minneapolis, Minnesota 55404
2501 Stevens Avenue South
Minneapolis College of Art and Design
Kevin Byrne

Pocahontas, New York 14623-0007
Post Office Box 9887
James E. Booth Building
College of Fine Arts
Pocahontas Institute of Economics
Pamela Blum

Letter
Appendix K

Skagg’s
Reading
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AUTHOR: John Deely
TITLE: Introducing Semiotic
PUBLISHER: Indiana University Press
CITY: Bloomington, Indiana
DATE: 1982

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BIBLIOGRAPHY CARD NUMBER 34

AUTHOR: Julian Jaynes
TITLE: The Origin of Consciousness in the Breakdown of the Bicameral Mind
PUBLISHER: Houghton Mifflin
CITY: Boston
DATE: 1976

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BIBLIOGRAPHY CARD NUMBER 35

AUTHOR: Clifford Geertz
TITLE: The Interpretation of Cultures
PUBLISHER: Basic Books
CITY: New York
DATE: 1973

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BIBLIOGRAPHY CARD NUMBER 36

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BIBLIOGRAPHY CARD NUMBER 37

AUTHOR: Sigel, Steven
TITLE: WAYS OF KNOWING: FOUR PROCESSES OF RECEIVING MESSAGES
PUBLISHER: UNPUBLISHED MS
CITY:
DATE: 1991

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This paper is enclosed for your inspection.

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Appendix L

Skagg's Unpublished Discussion Paper: Ways of Knowing
Ways of Knowing: Four Processes of Receiving Messages
A Discussion Paper

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Basic communication theory tells us that the flow of messages goes like this:

Sender > Signal/Channel > Receiver

A designer’s clients can be said to be the sender, the printed piece becomes the signal, the audience receives the message. In this working paper, I want to take a closer look at the reception of the message. In particular, I want to offer a model of the process of reception. A model that is sympathetic to a designer’s needs and intuitions. A model that allows for a more comprehensive conception of the act of decoding than that which is commonly held in our profession, yet a model that avoids unnecessarily fine distinctions.

What can we say about reception? That it is partially a physiological and perceptual process. That it is also a process that turns basic percepts over to a higher level of processing known as cognition. That cognition involves memory, experience, associations. We know that branches of psychology study the ways in which perception and cognition operate and that a great deal remains to be explained.

From another perspective, we are aware that a branch of linguistics, known as semiotics, takes the interaction of signal and receiver to be ‘sign’. We understand that this study of signs takes a less empirical route than do the psycho-sciences and that semiotics has yielded both insight and confusion about the nature of signs.

Taken together, psychology and semiotics offer a great deal of information about reception. But the the semiologist and the psychologist speak different languages when they discuss these issues. Their jargon, disputed even within their own camps, is certainly a hinderance to any attempt to create an overview that encompasses both spheres. Certainly, the graphic designer has a desire to understand what happens when his work is absorbed by the receiver. But is it possible to steer clear of the snarls posed by the brambles of semiotics, the thicket of psychology? Is it possible to arrive at a conception that seems both clear and forthright, complementing general theories while giving particular insight to
the designer?

Designers rarely think that the reading of their signals involves anything more than simply ‘getting the message’ - as if ‘getting it’ was a single activity. This atomistic view of reception sometimes leads to rather byzantine and heated discussions about the value of a given solution. The dispute between Joe Duffy and Tibor Kalman played out in pages of CA magazine* is a case in point. Duffy’s design firm had devised a new look for Classico tomato sauce. It featured a jar that resembled the kind used in home preserving. The label employed references to an earlier, simpler time. Kalman felt that such ploys were deceptions - that, in fact, the tomato sauce was prepared in a large factory, that the ingredients were no more fresh than other similar products. The Classico label, to Kalman, was a lie.

Throughout this whole conversation, the ‘meaning’ and the ‘symbolism’ of the Classico packaging were discussed as if they existed physically upon the label along with the list of ingredients. By taking the act of the audience’s reception to be a homogenous, unified process, Kalman and Duffy missed the chance for a more insightful and precise discussion. The ability to articulate their views, perhaps that viewpoint itself, was severely constrained and the discussion became more heated as their frustration increased.

The discussion between Kalman and Duffy was noteworthy only because it serves to illustrate that even the most penetrating, stimulating discourse about design breaks down into a haze of blurred, ambiguous concepts. Their debate is repeated a hundred-fold every day in design studios and classrooms. The problem is not, as some have suggested* that designers are non-verbal creatures who need grammar transplants. The problem is that very little serious work has been done by graphic designers to understand the process of visual communication. This need is especially acute when it comes to understanding the process of reception.

There is a profound contrast between the graphic designer’s* notion of reception (as an unsegmented lump) and that of the psychologist’s or semiologist’s. From their positions, reception certainly is not a single, monolithic event. If reception were a pie, psychologists in particular seem to delight in seeing just how finely that pie can be divided. First, there is perception which itself is split into peripheral neurological systems (such as the action of rod and cone cells in our eyes) and into basic ‘executive’ functions such as feature detection or attention. Then, there is cognition which at some fuzzy point takes over from perception and which involves memory, associations, and the accumulation of knowledge. Finally, there is the formation and operation of the personality along with the behavior that may be expected to ensue.

Meanwhile, semiotics often pretends that signs exist without the need for such inconveniences as sense organs, brains, people.

*See for instance: "Design Speak vs. Communicating For Success". RitaSue Siegel, CA. June 1990

*Indeed, all the arts could probably be included here
Semiotics tries to describe of the nature of signs themselves. Reception to the semiologist is simply the act of joining a ‘signifier’ to a ‘signified’. It is that very wedding of signifier/signified that constitutes the sign. For to the semiologist, signs are not external ‘things’ but are the union of percept and concept. The semiotician is less interested in slicing the pie of reception itself; is more interested in categorizing all various flavors of pie that exist. The psychologist divides, the semiotician multiplies.

Graphic design theory, if such can be said to exist, must rest upon the twin supports of semiotics and psychology. It must interconnect and complement them, extend and enhance them. Yet, can a designer find it worthwhile to master these areas of inquiry without re-interpretation? I think not. I believe graphic designers need a paradigm that is respectful of the general theories yet one that is more immediately relevant to a designer’s problems - and to a designer’s instincts.

So, here is our problem: how might graphic designers deal with this problem of reception - how do we slice the pie? With semiotics and psychology as backdrop, what concepts can we pull forward that have utility for us? These are big questions, but they are important questions and a discussion of the issues seems overdue. The model presented below is intended to form a departure point for that discussion.

I suggest that designers need slice the pie into quarters. Designers need to consider four processes of reception in order to adequately function as encoders of visual messages. Slicing the pie into more pieces will not provide significantly more insight into the graphic design process - fewer pieces would inadequately account for the responses to visual signals. Here are the four processes - the four ways of knowing - that I propose graphic designers consider:

**Reception - The Four Processes**

- Formulation
- Classification
- Extraction
- Accommodation

**Formulation**

Formulation consists of all the perceptual/cognitive events that result in a person seeing a particular structure to a visual surface. The process is called formulation, the resulting received structure I call the surface order. Formulation allows us to see unified clusters or groups of visual ‘stuff’, even before that ‘stuff’ is identified, ‘understood’. It is formulation that attracted the interest of the gestalt psychologists. The principles that they isolated - proximity, similarity, closure, etc. - seem to guide or affect formulation as a process, probably reflecting our need for
information to be packaged in the most efficient possible way. Through formulation, there is a sense of proportion, of relatedness between items, a sense of units and sub-units. A structure is bestowed upon raw visual data and that structure - that surface order - is offered to higher cognitive levels for further processing.

Imagine seeing the title page of a book. Before you are ever aware of the title, or even that the page is a title page, the light pattern (Saussure, from the semiotic perspective would say sound-pattern or signifier) that constitutes the visual surface is handled by rods, cones, and neurons. Along the line it is packaged into distinct clusters of information. These very first steps have happened so quickly and at such an early stage of cognition, that we are not aware that the process has occurred at all. The gestalt principles that govern the process seem to be so natural that they are likely to be ascribed to the visual elements themselves, not taken to be a perceptual/cognitive function. Yet it is at this very early stage of perception that much of the information that will be read and transformed into meaning has already undergone a series of perceptual transformations preparing it for higher cognitive levels.

Formulation is virtually instantaneous. It also seems to be 'transparent', in the sense that we are not aware that we are doing it. Surface order seems to flash upon our consciousness as a given. So it would seem that it is a sub-conscious activity. Yet, despite being beneath the threshold of consciousness, there is no function more important to the practice of graphic design than anticipating formulation when encoding a surface. Because not only is it the form, the structure, the surface order that carries the message forward toward consciousness - it is the emotional response to the surface order that renders 'expression'.

Does formulation differ substantially between people or between cultures? I would like to know more about this issue. Intuitively, one would expect a great deal of diversity between cultures at higher, conscious, levels of cognition. But such a basic sensory function as formulation might be a 'wired-in' program, basically universal (though affected by such 'abnormalities' as nearsightedness, etc). A given typographic arrangement may be variably interpreted as elegant or rude, old-fashioned or contemporary, depending on the life histories of the various perceivers, but the text will be seen as consisting of the same clusters of words. Although you may have a different sense than your neighbor of the "personality" of a typeface, if you and your neighbor are literate in English and share the same degree of visual acuity, there should be little disagreement about its legibility. Legibility is a surface order issue.

Many of the misunderstandings that occur in the discussion of design solutions arise through a failure by the parties to clearly discriminate between levels of decoding and the emotional
A largely subconscious process
Most of the time classification is a process that happens subconsciously. Classification prepares us for full interpretation of the messages in our environment, we do not need to be aware of the operation of the process itself. But it is possible to bring classification into our awareness and to make it a topic of discussion. One such instance is when we speak of 'style'. When an object is in the "Art Deco style", the surface order has been assigned to a class of surface orders that the perceiver has learned to call by the name "Art Deco". Style is important in art history, but not all surface classification is linked to such monumental cultural gateposts. For instance, if you are driving through a commercial strip, you are continuously monitoring the objects you see. Shop placards, street names, traffic signals and advertising posters all offer themselves for attention. The ability to quickly file objects into categories on the basis of surface characteristics makes it unnecessary to read irrelevant verbal messages or to decode all the objects in the perceptual field unless they agree, on the level of surface order, to the classification that you seek. So you are able to isolate all the "placard-like" signals, for example, before extracting the full information. And so one may say that something is in the "style" of a street sign.

An implicit issue
Perhaps because classification occurs at a subconscious level most of the time, it tends to a hidden factor in the planning of visual communication. While the marketing manager may be concerned that a proposed design won't 'reach' a given audience, the parties in the discussion have a difficult time pinpointing exactly what the problem is. How often one hears, "It simply looks wrong - it looks good, but wrong for this audience." The inability to be more articulate about what, precisely, is wrong and how it is wrong hampers efforts to reach a suitable conclusion.

A case of misclassification occurred when a fine Louisville designer was asked to design a label for a whiskey to be marketed in Mexico. The whiskey was aimed at an "upscale" market and it was important that the label denote elegance and sophistication. The resulting design was spare and understated. The distiller, the marketing team, the designer were sure they had a winner. But in market tests, the label performed disastrously. The reason? In the experience of the intended audience, the pricier products have tended to have quite complex labels; the more "cluttered" a design is, the more it is considered to be a reflection of quality. The clean, spare, restrained design was classified "cheap liquor" - precisely the reverse of the way the surface order would have been classified in the United States.
A connection with the concept of semantic marker

There is, in semiotics, the idea that units of meaning arrange themselves in relation to other units of meaning. For instance, 'red' is somehow positioned closer to 'hot' than it is to cold. Within this 'semantic field', this web of meanings and relatedness, there are certain stressed concepts that act as landmarks. These are known as semantic markers. It is intriguing to speculate that the schemas that result from classification could be analogous to semantic markers. To think of them as such, provides a connection between the psychological and the semiological traditions. It would seem that much further work could be done investigating this concept.

The schema is of central importance to graphic designers. It forms a foundation that can be manipulated in quite subtle ways. With slight variations, one can produce an objective rendering, an emulation, a parody, using the same schema as the base concept. Perhaps the schema is the fount of symbolism.

Cultural variation and classification

The story of the Mexican whiskey label suggests that classification is a process that is strongly linked to culture. This is not surprising since, to a far greater degree than formulation, classification makes use of a person's prior experiences and memories.

A case in point was relayed to me by Jack Kehoe, the former director of the University of Georgia Program Studies Abroad Program. Once, he and a colleague visited a small town in Italy. It was his friend's first trip abroad. Walking through the streets of the town, his friend noticed the abundance of posters pasted on the walls bordering the street. Each poster proclaimed an exhibition in large centered capital letters, "Mostra: Luigi Pellegrini", "Mostra: Alberto Rossi", "Mostra: Bernadetta Cosano".

The layout of these posters very much resembled those seen in ArtForum and other fine arts magazines familiar in the United States. The colleague remarked on the flourishing state of the arts in this small, provincial town. Only later, after a fuller reading, did it become clear that these were obituary notices. They were
exhibitions, but at funeral hames, not art galleries! The formal black borders and prominent names were very similar in composition to the gallery notices advertised in the United States. Their surface order was certainly remote from the discrete, almost hidden fine print of an American newspaper's obituary page.

There are other examples of the variability of surface classification between cultures. Spare compositions making use of grids have been popular in central Europe long before the "Swiss style" graphics of the mid 20th century. Centered, symmetrical typography making use of ornamentation have tended to be popular in Great Britain for centuries.

Even within a given culture, surface classification changes through time. "Russian Constructivist" is classified in a different way by Americans today than Americans in 1926. The names for styles often reflect this. The prefix "neo" in "neo-classic", for instance, indicates a style that paid homage to the classic period through emulating (but not copying) that earlier period's surface order. As soon as a particular classification becomes part of a culture's shared vocabulary, the style becomes linked with that place and time, becomes a schema of the then and there.

Surface classification is...

- Based upon surface order only
- Subconscious
- Associative, therefore based on prior experiences
- Related to semantic markers
- Culturally variable

**Extraction**

Classification gives us a potential, or provisional, identity about a visual surface. Extraction is the pulling out from that surface the full denotative message. Classification happens so 'quietly' that it hides in the receiver's subconscious. However, the receiver is very much aware of extracting. When someone, looking at an image on a poster, describes the image as a cellist alone on a darkened stage preparing to play, or that there is a concert Friday night at 8:00, the information is extracted from the image and the typography of the poster. Extraction is the reading of an image or text. If classification can be described as a procedure that categorizes, extraction can be described as a procedure that interprets.

To clarify their distinctive features, consider each process as a producer of progressively larger chunks of information. The product of the process of formulation is surface order. The product of the
process of classification is schema. The product of the process of extraction is message. Or, you can think of it this way: During formulation, the focus is on how something is. During classification, it is on what kind of thing it is. During extraction, the focus is on which specific thing it is.

Perhaps because we are conscious of it, extraction seems to be more accessible to verbal articulation. Because of this, it is easy to be fooled into thinking that the extracted message constitutes the entire message of the surface, and to be totally unaware of the roles played by formulation and classification. Yet these three processes each have their role to play.

Imagine that a visual surface were a packaged gift. You receive the package, noting its size, shape, proportion, color, weight (formulation). Perhaps you shake the package to see if it rattles or shifts. On the basis of these features, you guess that it contains, perhaps, a shirt (classification). What you are doing here is placing the known physical qualities into a context of potential items that bear a family resemblance to the physical qualities you’ve observed. You hypothesize a provisional, or potential identity. Finally you open the package and pull out the gift - “Hey, it’s a shirt!” (extraction). At this point your knowledge of the particular shirt, with its full description of color, pattern and style vivid and clear as you behold it, seem to wash away the hazy imaginings of “shirtness” you may have harbored while opening the package. You are left with the awareness of having received a shirt. The extracted content (the message) somewhat diminishes the consciousness of the preceding stages. So it is with the process of extraction. The pulling of full message content from the “container” of surface order, through the intermediate stage of classification, is such a powerful force, and one to which the perceiver is so attentive, that other levels seem to recede into a haze of subliminality.

Our gift analogy fails in one important sense: no matter what kind of container the shirt is placed in, it will be the same shirt when it is extracted. Messages are much more slippery. During visual communication, each stage of the process has an influence on the others. If the container is strongly classified as “x”, it may impart some of that “x-ness” on its content “y”.

Take, for instance, the effect classification has on message content. Consider the following example:

*adapted from Spoehr and Lehmkuhle, Visual Information Processing

**TAE CAT SAY TIA**

The ambiguous letterform “H” is half way between an “H” and an “A”. The fact that most people read the word CAT suggests that the message extracted has been influenced by the classification of the visual surface order as part of the category “English word”. CHT
does not fit the category, while CAT does. SAY and SHY however are equally potential members of the category “English word”, and so confusion lingers. TIA, on the other hand, offers no potential content in either interpretation as long as it is contained in the category “English word”, but would be interpreted as TIA (aunt), by anyone from Latin America because it belongs to the category “Spanish word”, whereas TIH offers no content. In the world of visual messages, gifts in shirt boxes become shirts.

Extraction is...
Conscious and sub-conscious
Denotative and connotative
Culturally determined and therefore highly variant, even to sub-cultures
Contains the message
Strongly influenced by personal experiences

Accommodation
To understand the concept of accommodation, we must go back momentarily to classification. We spoke of the effect of association and personal experience and how these not only influenced, but permitted classification to occur. Of course, these past experiences and associations were themselves the result of the previous reception of information.* So there must be a final element to the receptive act that includes the retention of incoming information in the mind.

Before the Behaviorist tradition removed from psychology all agents of action except for the functions of muscles and glands, there was the concept of apperceptive mass. Your apperceptive mass is all the attitudes, beliefs, understandings and viewpoints that make you you. A concept deriving from the 17th century German philosopher G. F. Leibnitz, it refers to the fact that our mental experience seems to be whole-cloth, not simply a collection of isolated scraps. In the 19th century, J. F. Herbart extended the concept by stressing that apperception functioned because new ideas could be taken in, or accommodated by an existing complex of ideas. Though the ideas of Leibnitz and Herbart were considered preposterous by psychologists in our own century (among other things, Herbart seemed to believe that ideas existed as actual physical ‘lumps’), their view of the mind as active agent, processing new information by the use of prior information seems uncannily to foretell the semiologist’s notion of signs as well as the the course of research into artificial intelligence.

Given that bit of background, we can define accommodation as the process during which the received message is taken in by the apperceptive mass. The new information affects to some degree the

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*This is the basis for the semiologists concept of unlimited semiosis. Every sign is a result of previous signs, which were the result of previous signs ...
condition of the apperceptive mass. It literally 'changes your mind'. You make the message your own. The new message might reinforce, contradict, or dissociate itself from your previously held ideas. Regardless how much may be remembered or forgotten, the message has some influence on the apperceptive mass. As Herbart recognized, ideas do have a way of bouncing off each other.

Accommodation is a method of "resetting the dials" of cognition in preparation for the next reception. An English speaker, having encountered the word "TIA", makes a new category for Spanish words, or at least for this particular Spanish word. Accommodation permits experience to play its part in the unlimited chain of messages. The product of accommodation is a change in the apperceptive mass itself - knowledge.

Accommodation is ...

unconscious and subconscious
Culturally determined, therefore highly variable
Influences and shapes apperceptive mass

I've tried in this paper to offer a model of the way in which people receive information. It is a model that is based on a synthesis of ideas from semiotics and psychology. I believe that by considering the reception of their messages according to these processes, discussion of the merits of any particular design will be facilitated. It's certainly not clear that holding to any particular theoretical model will make someone more creative, yet it is equally unclear that holding to a particular theory impairs the creative facility. At the very least, the formation of basic theory - by designers, for designers - can provide some insight about what we do. And this alone is justification for those of us who have never been satisfied to hold the Nike® "just do it" attitude.
Appendix M

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Appendix N

Written Diagram
The context chosen to illustrate the visual design process is expressed through a publication spread dealing with Irezumi (Japanese tattooing).
Synthesis is the point during the process to begin discovering alternative solutions and patterns to suit sequences or order the manipulation of the parts of the problem. Simply stated, after this examining a situation and discovering what is required, one utilizes the knowledge gained and does something to resolve the situation. One can continue this examining, exploring or changing parts of the relationships according to the range found in analysis.

Various methods that can be used include diagrams, interaction matrices, sub-problem structuring and classification of design information.

matrix
Appendix P

Method:
Mind
Mapping
Method: Scoring
Method:
Interaction
Matrix
<table>
<thead>
<tr>
<th>Permanent</th>
<th>Traditional</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual</td>
<td>Mystical</td>
<td>Erotic</td>
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<tr>
<td>Erotic</td>
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</tr>
</tbody>
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Appendix S

Placement
Exploration
Poster
Format
Exploration
Design Process

Problem Identification

Research and Analysis

Synthesis