Notes on Graphic Design

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What is Graphic Design?

Images dating from 10,000-5,000 B.C. on the walls and ceilings of the caves at Lascaux in France recorded daily experiences for Cro-Magnons, the first people to communicate visually. ([www.lascaux.culture.fr/](http://www.lascaux.culture.fr/))

**Design is a means of expression:** Graphic communication has been around since prehistoric man told picture stories carved on bone or painted on cave walls. Such images are the earliest attempts to tell a story visually.
**What is Graphic Design?**

**Design is communication:** Pictures of events evolved into depictions of ideas, recorded history and recorded thought. Past cultures often speak to us only through the work of some ancient designer.
Design touches the senses: The ‘decorative arts’ predate the Christian era by thousands of years. The images used in the tombs of Egyptian kings were things of beauty that held deep symbolic meaning.
Design is craftsmanship
■ Early designs were the products of craftsmanship.
■ Graphic design, had the term existed, would have been expressed in one-of-a-kind examples of individual skill up until Gutenberg developed his practical system of printing around 1450.

The Morgan Crusader Bible was a picture Bible without text created for Louis IX of France (1226-1270). Unknown scribes added Latin texts to the margins. More modern inscriptions were added in Persian and Judeo-Persian. (www.themorgan.org/collection/crusader-bible/46)
Katsushika Hokusai (1760-1849), *Behind the Great Wave at Kanagawa* (神奈川沖波裏), from *36 Views of Mount Fuji*, color woodcut. Hokusai was a member of the Nichiren sect of Buddhism. For Nichiren followers, Mount Fuji has traditionally been linked with eternal life.

(en.wikipedia.org/wiki/Hokusai#/media/File:Great_Wave_off_Kanagawa2.jpg)

**Design is universal**

The desire to communicate visually is present in every culture, as is the urge to reproduce each visual message to reach a wider audience. The woodcut and block printing served this purpose in 18th Century Japan.
Designers respond to universal forms

Certain shapes and proportions found in nature become universal elements in design. One such form is the Golden Proportion found art and architecture that includes the works of ancient Greeks, the paintings of Leonardo Da Vinci and the Eiffel Tower.

Hokusai’s *Behind the Great Wave at Kanagawa* incorporates the classic spiral derived from the Golden Proportion.

What is Graphic Design?

Design today is reproducible

- Graphic design as we think of it today implies the ability to reproduce a design by some efficient method.
- In that sense, ‘graphic design’ began with Gutenberg, who developed a relatively speedy and inexpensive way to produce books.
- Gutenberg’s printing press also marked the start of the Industrial Revolution and mass production.

Genesis from a 42-line Bible printed by Johann Gutenberg. Thomas Grenville bequeathed this copy, one of 48 known to exist and one of 21 complete copies, to the British Museum in 1846. You can view it and another copy in high-resolution images at the British Library Web site.
Arts and crafts

- William Morris (1834-1896), an architect, artist, and social critic, resisted the Industrial Revolution and fathered the Arts and Crafts movement.
- In his system, the craftsman was designer and builder, with sole responsibility for his creations.
- Morris’ models were the **artisans** of the Middle Ages, whose work he admired.

Edward Burne Jones (1833-1898), Stained-glass windows manufactured by the William Morris Co., St. Martin’s Church, Brampton, Cumbria, U.K. ([www.stmartinsbrampton.org.uk/](http://www.stmartinsbrampton.org.uk/))
Separating design from production.

- Gutenberg’s printing process was perhaps the first shot fired in the Industrial Revolution, as machine-made products replaced the handiwork of artisans.

- Poor aesthetic quality was a hallmark of mass production in the 18th and 19th centuries.

- William Pickering (1796-1854) insisted that books he design be of high quality.

- He played a major role in the separation of graphic design and print production.

Oliver Byrne (1847) *The Elements of Euclid*. It is one of the most significant books that Pickering designed. Diagrams were printed in brilliant primary colors. Read more about this book on [The Science Project blog](#).
The Bauhaus

Reconciling design and production

- The Bauhaus School (1919-1933) sought ‘universally valid forms’ that would allow for efficient mass production of quality work.
- The artists and designers of the Bauhaus were guided by architect Louis Sullivan’s famous dictum: Form follows function.
- The word ‘bauhaus’ means ‘house for building,’ reflecting the movement’s roots in architecture that eschewed the decorative.
László Moholy-Nagy used the biological sciences to generate functional forms.

He believed that the future held the possibility of a new harmony between humans and their earthly environment if forms in design followed biological functions.

“Functionalist” design was a matter of saving society from the degeneration that Adolf Loos and other modernist architects had associated with traditional ornamental arts.
Herbert Bayer believed that the full attainment of the human potential was to come in designs based on a union between the sciences and craft work.

Graphic design would be functional if its form followed the human conscious and subconscious reactions to light and structure.

World Geographic Atlas (1953), designed by Herbert Bayer (1900-1985). Bayer, an Austrian designer, painter, photographer and architect, studied for four years at the Bauhaus, then served as the school’s director of printing and advertising. “I quote the Japanese saying, First acquire an infallible technique, and then open yourself to inspiration,” Bayer wrote.
Farnsworth House, Plano, Ill., is one of Mies van der Rohe’s most significant works. It is a masterpiece of minimalist design, where every nonessential item has been stripped away.

Simplification, honesty and clarification.

- Architect Ludwig Mies van der Rohe’s motto less is more describes a way of arranging necessary components to create an impression of simplicity.
- This Minimalist architecture can apply to any design where all parts and details are reduced to the point where no one can remove anything further to improve the design.
Ways of Thinking About Graphic Design

Simplicity and universal forms: Logo designers know that a simple logo allows the viewer to add his or her own interpretation. The more complex and detailed logo appeals to a narrower audience.
The Bauhaus tried to resolve the tension between the logic of technology and the creative process by balancing the forces of machine vs. individual.

The issue was not if technology should be harnessed, but how.

One solution was the development of versatile underlying structures, such as grids for print production.

*Zeitschrift fuer Gestaltung* (Magazine for Design), Cover page 1928

Bauhaus designers pioneered the use of a basic grid that would be flexible enough to allow for creativity but also would bring order to the page and serve the needs of production.
The ideas of the Bauhaus help us organize our thoughts about design as it relates to production.

As we try to automate design on the computer, the Bauhaus experience still resonates.

The Bauhaus made design important. Today, design is everywhere we look.

Staatliches Bauhaus, Weimar (1923)
Herbert Bayer’s book cover is an example of Bauhaus experiments in typography, begun under the leadership of László Moholy-Nagy, who contributed an essay titled “The New Typography” to this volume.
Ways of Thinking About Graphic Design

Pushing the boundaries

- Being “creative” means pushing a design to the front edge of what consumers will accept.

- Raymond Loewy expressed this need for innovation with the phrase, **Most advanced, yet acceptable (MAYA)**.

ABOVE: Studebaker Avanti (1961) designed by Raymond Loewy, called the father of industrial design. LEFT: 1955 Jaguar XK140 that Loewy designed; it was never built. “I sought excitement and, taking chances, I was all ready to fail in order to achieve something large,” Loewy said.
Ways of Thinking About Graphic Design

Loewy ... believed that consumers are torn between two opposing forces: neophilia, a curiosity about new things; and neophobia, a fear of anything too new.... They gravitate to products that are bold, but instantly comprehensible. Loewy called his grand theory ‘Most Advanced Yet Acceptable’ — MAYA. He said to sell something surprising, make it familiar; and to sell something familiar, make it surprising.”

Ways of Thinking About Graphic Design

Satisfying the customer

- A new generation of industrial designers, exemplified by Ford’s J Mays, aims to bring us what we want rather than products that are prisoners of engineering and manufacturing.
- “Cars have become appliances instead of something you lust after,” Mays says. “We’ve been designing from the inside out, hawking sheet metal to consumers instead of considering their wants and aspirations and desires.”
Ways of Thinking About Graphic Design

Design transparency

In a good design, Edward Tufte says, “The users become unaware of the design ... they become enthralled with content.”

Beatrice Warde stated that in designing for easy reading, “There is nothing simple or dull in achieving the transparent page.”

For Warde, typography was a “crystal goblet,” revealing the fine wine within.

Ways of Thinking About Graphic Design

Design engineering

- Good designs are easy to build, something important in periodicals that have to be made over and over again.

- British designer Frank Ariss states, “There are many designers who are pretty good with the glib talk, but when they put it to paper, it doesn’t work. … You’d never be able to print or make the bloody thing.

- “You have to roll your shirtsleeves up, and it becomes a project.”

Among Ariss’ many projects, the redesign of the Minneapolis Tribune is marked by brilliant details — such as the logo that reflects the geometry of the press and of the reader.

Michael Carroll photos
Design engineering
In his redesign of the Minneapolis Tribune, Ariss developed a typography and page structure that anticipated the paper’s current and future production needs, especially the transition to computer typesetting and cold type composition.
In summary:

- Design must be satisfying to user and designer
- Form follows function
- Design serves content; design is content
- Less is more
- Try for the most advanced, yet acceptable design
- Design must consider the demands of production

“Applied good taste is a mark of good citizenship. Ugliness is a form of anarchy.”

— Lester Beall

Caterpillar Inc. logo designed by Lester Beall in 1968 on a machine in Nonaburg, Tenn. You can view more of Beall’s work at the AIGA Web site.
The term “graphic design” is relatively new.

“It was not until 1922, when the outstanding book designer William Addison Dwiggins coined the term ‘graphic design’ to describe his activities as an individual who brought structural order and visual form to printed communications, that an emerging profession received an appropriate name.”

— Philip Meggs, Meggs’ History of Graphic Design

Defining “Graphic Design”

Graphic design is a purposeful and systematic process for creating an end product that communicates effectively.
Design can be “art,” if we pursue it with the same dedicated process as with the other arts. Scott McCloud outlines six steps in such a process:

1. **Idea or purpose:** The impulses, ideas, emotions, philosophies and purposes of the work.
2. **Form:** Will it be a book? An identity project? An advertisement? A video?
3. **Idiom:** The style or genre that fits the idea or purpose.
4. **Structure:** The composition of the work, often a schedule for a project.
5. **Craft:** Constructing the work, applying skills, practical knowledge, invention, problem-solving, getting it done.
6. **Surface:** Production values, the “fit and finish” most apparent on first exposure to the work.
Avoid “ready, fire, aim”

The excitement of creating a design can lead us to begin at the surface and work backward, until we realize we need craft to create polish, structure to guide craft, idiom and form to decide the right tools, and finally purpose, where we should have begun.

Modern computer software fools us into thinking we are “designing,” without having a purpose or strategy behind what we’re designing.

The computer should come with a label, “Knowledge not included.”
Design is a systematic process

A good designer follows a step-by-step process that works for him or her. But all designers incorporate the steps above.

The mistake of the novice designer is to skip “study, think and plan” and go right to the “DO.”

A designer must put in the proper time in studying the design problem.

Next comes a period of thought about connections, qualities or concepts that arise from the design brief.

Finally, before executing the project, the designer must come up with a suitable plan for executing the design.

Avoid the “ready, fire, aim” syndrome; plan the work, work the plan.
Know your purpose

- Designers give form to visual texts that satisfy the functional, psychological and aesthetic needs of users.

- A designer starts by “interrogating the brief,” meaning that the designer studies the project until its meaning is clear, and the needs and desires of the client are fully understood.

- More time is spent studying the environment where the design is to be used.

Massimo Vignelli, Minneapolis Museum of Fine Arts. Vignelli designed the signs and other graphics when the museum was restructured in 1974. Vignelli says his goal was “to understate the presence of structures supporting the works of art. ... We wanted our design not to interfere with the art, but to interact with the architecture of the old and new wings of the museum.” Read more at Vignelli Associates.
Purposes of design

Identity

- Corporations use distinctive symbols, called logotypes or logos, to build product identity and consumer loyalty.
- Typography, color and space become linked to a company and its products.
- Likewise, a publication is immediately recognizable by its typography and architecture.

Identity through design, clockwise from top left: Carolyn Davidson created the Nike swoosh in 1971 as a student at Portland State. Nike founder Phil Knight taught accounting there; United Parcel Service, Paul Rand; Enron, Paul Rand; New York, Milton Glaser; Shell Oil, Raymond Loewy.
Purposes of design

Information

■ The task of carrying information varies from project to project.
■ Whatever the goal, the designer must understand the structure of the information and base decisions on bringing out that structure.

Invitation to the Manifest Hope Gallery, an art exhibit held during the Democratic National Convention, August 2008 in Denver. An image created by street artist Shepard Fairey combines with display type and text on a neatly divided grid.
The iPod, top, reflects the insight of Apple CEO Steve Jobs that look and feel differentiated a product from its competitors.

**Experience**

- A well-designed object provides more than just beauty. It provides satisfaction by being pleasant to look at and pleasant to handle, and by fulfilling its function.
- Nobody knew this better than Apple’s Steve Jobs, who said, “In most people’s vocabularies, design means veneer. … But to me, nothing could be further from the meaning of design. “Design is the fundamental soul of a human-made creation that ends up expressing itself in successive outer layers of the product or service.”
Graphic design tools

Typography

Architecture

Color

Texture

An ad for Slacker Radio by Shepard Fairey.
Typography is the balance and interplay of letter forms on the page.

It is a verbal and visual equation that helps readers understand the form and absorb content.
Graphic design tools

Expressive display type

- Typography is the most flexible and most powerful tool a print designer has.
- When combined with color and space, it provides a powerful identity. It is the key to design personality.

NOVA, poster shows the imagery possible using typography.
Type for long-distance reading

- “If the columns of a newspaper or magazine or pages of a book can be read for many minutes at a time without strain or difficulty,” Walter Tracy writes, “then we can say the type has good readability.”
- Erik Spiekermann writes that long pieces of text need typography that lets the reader maintain a steady rhythm, much like a long-distance runner.
- Readability requires “above all, unambiguous clarity in all typography,” László Moholy-Nagy states.

Clear, readable body type is a must for magazines, where a story might run to 5,000 words.
**Graphic design tools**

- **Color** creates a mood and evokes emotion.
- Color guides the eye and emphasize information.
- Color is a tool that enhances information and usability.
Graphic design tools

Color provides:
- Mood or personality: Warm, cold, brilliant, dull.
- Attraction: Color guides the eye.
- Identity: Use color to create a brand.

Ford 021C was designed with the aid of the fashion industry; the name refers to the Pantone number for the orange body color. It was conceived as an urban car that would appeal to women. Read more at the Concept Car Web site.
A computer screen or a printing press can display millions of colors.

From these, the designer carefully chooses and organizes colors that reflect the mood, tone and identity of the design project.

Millions of colors are available in the CMYK and RGB gamuts. Designers use the color wheel to limit their choices to these 96, plus a series of grays.
ARCHITECTURE

- **Architecture** deals with form and space.
- Type and images must be arranged in ways that are **coherent, meaningful** and **functional**.
Creativity starts with structure

■ Designers must have expertise to create visual forms for information systems.

■ A product that is to be reproduced in quantity or in different forms requires a solid, flexible and easy to use structure.

Massimo Vignelli designed the Uni-grid System in 1977 for the National Park Service. The modular grid system sized at ISO A2 (420mm × 594mm) allowed the NPS to create brochures in 10 basic formats and to keep a consistent, recognizable structure across all its materials. This flexible, economical production system is still in use today.
Graphic design tools

The division of the page must be:

- **Coherent.** The page and the whole document must hang together and make sense.
- **Meaningful.** The pages should reveal a hierarchy or a logical progression.
- **Functional.** The design should aid readability and navigation.

For his 42-line Bible printed in 1454 or 1455 (left), Johann Gutenberg adopted the traditional page architecture that had been used by the scribes (right). Before Gutenberg’s process of printing, every book used in Western civilization had to be copied by hand.
**Texture** is the feel or look of a surface. Every surface has texture, tactile (3D) or visual (2D). Texture affects interest but is not a strong organizing element.
Elements of design: Texture

Texture makes the design look real. Consider the effect of something as mundane as your paper choice.
On the two-dimensional plane, texture is achieved through techniques of perspective and light.

The artists of Marvel Comics are masters at using dramatic perspective and shadows combined with brilliant color to create depth on their pages.