MOTION GRAPHICS BITE 3623

DR. SITI NURUL MAHFUZAH MOHAMAD

FTMK, UTEM

Lecture 2:
Fundamental of Graphics

What's the purpose of design?

- To grab the reader's attention
- Accomplished through:
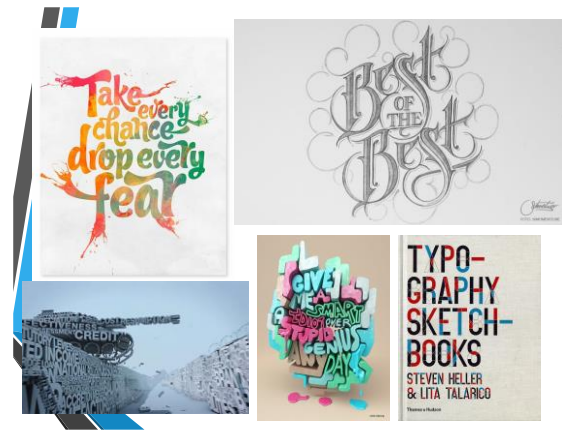 - Typography
  - Design Principles
  - Design Elements

Something to think about…

"When pictures and words pull in opposite directions and the poor reader doesn't get any message at all, he simply turns the page."

John Newcomb, Author

Book of Creative Problem Solving

Typography

Investigate typefaces and fonts.

What is "Typography?"

The art and technique of *printing*
The study and "process" of typefaces
- "Study"
  - **Legibility** or **readability** of typefaces and their layout
  - **Attractiveness** of typefaces and their layout
  - **Functionality** and **effectiveness** of typefaces and their layout
  - *How a typeface/layout combo "enhances" or "honors" content*
- "Process"
  - **Artistic composition** of individual type
  - **Setting** and **arrangement** of type
  - Basic elements of "desktop publishing"
- Typeface
  - A full set of type made to a particular design (size and style)
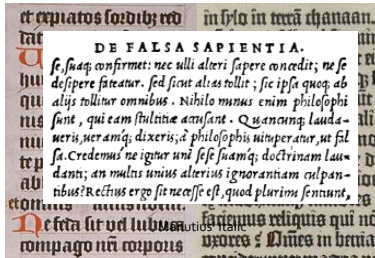 - A font

Some Typeface Examples

- Quick brown foxes jump - Times New Roman
- Quick brown foxes jump - Bookman Old Style
- Quick brown foxes jump - Courier New
- Quick brown foxes jump - Trebuchet MS
- Quick brown foxes jump - Comic Sans MS
- ⬛🏢①▢☄ ✂ ✗⛏ ⌇ ● 🚘⚓🚫💼? ⌇🏢! 🚗 - Webdings

Typography and Print

German Script

Gothic Type

Manutius Italic

DE FALSA SAPIENTIA.
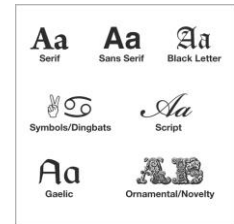
Principles of Typography

- "Types of Type"
  1. Display type
  2. Body Type
  3. Serif Typefaces
  4. Sans Serif Typefaces
  5. Specialty Type

Aa Serif   Aa Sans Serif   Aa Black Letter

Symbols/Dingbats   Aa Script

Aa Gaelic   AB Ornamental/Novelty

Principles of Typography

- Display Type
  - Larger type, 18 points and above
  - 18, 24, 30, 36, 48, 60, 72
  - Used in display pieces (posters, flyers, covers)
  - Also used in titles, headlines, and headings

  Dr. Codone is a Great Teacher! = 28 pts bold
  Dr. Codone is a Great Teacher! = 18 pts bold

Principles of Typography

Hello
(Sans-Serif)

Hello
(Serif)

- Body Type
  - Classic size is 10 point
  - Also traditionally 9, 11, and 12 points
  - Used for large blocks of text
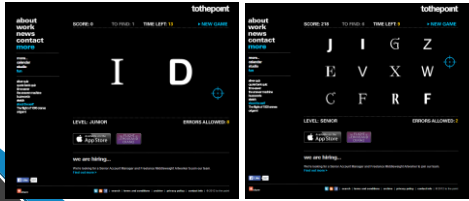 - Enables reader to read easily

Lets Play

http://www.tothepoint.co.uk/more/fun/shoot_the_serif/

I Shot The Serif is a game where players must identify and 'shoot' all of the serif letters and characters that appear on the screen, while avoiding shooting the sans-serif characters. Read more about this game in my recent post.
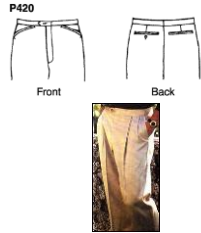

Principles of Typography

- Serif
  - Derived from ancient Roman letter carvings in stone in which engravers finished each stroke with a serif to correct unevenness in the baseline and cap height
  - Serifs are the finishing strokes at the top and bottom of a letter

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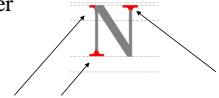
Principles of Typography

- Sans Serif
  - Sans means "without" serifs
  - Plain, unadorned letters
  - Arial
  - Think "Sans-A-Belt" pants

Front   Back

Principles of Typography

- Specialty Typefaces
  - Script -- imitate calligraphy
  - Comic Sans
  - Novelty
  - Special Sets (Wingdings, etc)

Principles of Typography

- Type Families
  - Those fonts with variations -- all in the same family
    - Helvetica
    - Helvetica Bold
    - Helvetica Narrow
    - Arial
    - Arial Bold

Principles of Typography

- Anatomy of Type

Point Size   Serif   Ascender
X-height
Cap Height   Descender
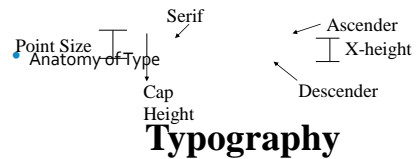
Typography

Typography

- the style, arrangement, and appearance of text
- Text should:
  - Be appropriate for the medium used
  - Increase readability

Typeface Categories

- Typeface – the basic design of a character
- Typefaces can be divided into four main categories.
  - Serif
  - Sans Serif
  - Ornamental
  - Script
  - Symbol

Serif Typefaces

- Have strokes at the tips of the letters
- Easier to read for printed body text
- Examples:
  - Courier
  - Times New Roman

k

Sans Serif Typefaces

- No strokes at the tips of the letters
- Easier to read on digital displays

- Examples:
  - Arial
  - Verdana

k

Serif vs. Sans Serif

Serif

The ends of each
character do have
attributes (serifs)

Sans Serif

The ends of each
character do not have
attributes (serifs)

Ornamental Typefaces

- Designed strictly to catch the eye
  - Should be used sparingly.
  - Can be hard to read.
- Used for decoration
- Should never be used in body text

- Examples
  - ALGERIAN
  - Bauhaus

Script Typefaces

- Appear to have been written by hand
- Should never be keyed in all caps
- Conveys a formal mood
- Examples
  - French Script
  - **Brush Script**
  - Bradley Hand

Symbol Typefaces

- Use decorative pictures or symbols instead of characters
- Allows the user to use a symbol to convey the message without importing a graphic
  - Example: Webdings ▶🏠 ♥ ①●■ ?
- Can be used for specific purposes such as musical notation and mathematical symbols
  - Example: Mathematical symbol ≠

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Just for fun

- Thankfully, I was awakened by the ✈ that flew over my 🏠. I did not 👂 my ⛈, and I was almost late for work.

Go to this website

ShapeType, made by the same people as KernType, is a game that asks players to drag character outlines until they create a perfectly shaped letter. This game is a little more challenging than the others, and requires great attention to detail.

Typeface spacing

Monospace

Proportional

Monospaced Typefaces

- Each character takes up the same amount of horizontal space
  - Harder to read in large bodies of text

  `Courier is monospaced`

Proportional Typefaces

- Proportional
  - The amount of horizontal space each character takes up varies.
  - An *i* is not as wide as an *m* and receives less space.
  - Better for body text

  `Courier is monospaced`

  Times New Roman is proportional

Proportional vs. Monospace

Proportional
Monospace

Type Size

- Points vs. Picas
  - Type size is measured in points
  - 72 points per inch
  - 72 points is not quite 1 inch high, but close
  - 12 points in a pica; 6 picas to an inch, 72 points per inch
  - pts (points), pi (pica)
  - InDesign uses picas or inches

Type Style

- Type Style
  - **Bold**
  - Roman (normal)
  - *Italic*
  - <u>Underline</u>
 - Outline
  - Shadow
  - Emboss

Text Alignment

- Text Alignment
  - Flush left (ragged right)
  - Justified
  - Centered
  - Flush right (ragged left)

Text Alignment

This is justified text; notice the text is even at the right and left. White space is evenly distributed between words and sometimes between characters. Sometimes words are unevenly spaced and there are "rivers and lakes" of white space.

RagTime asks players to take badly ragged texts and adjust the line breaks to fix them.
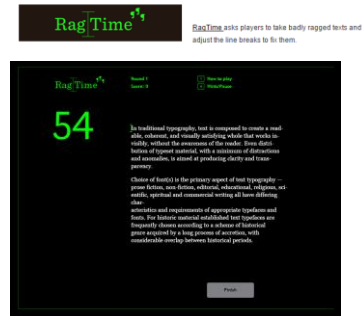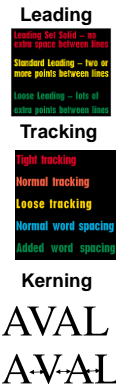
Text Alignment

This is centered text. Extra white space is distributed evenly at the left and right sides of the copy. This should be used only in small blocks, since it is not easy to read. The shape should be contoured; if not, it may just look like improper indentation.

Text Alignment

- Text Indentation
  - First line
  - Hanging indent
    What is a hanging indent? Well, I'm happy to tell   you. A hanging indent is where the top line is flush left, but   the lines below are indented, just like this .
  - Full indent

Principles of Typography

- Other Important Items
  - **Widows** -- single, incomplete line at top of a page or column
  - **Orphans** -- same thing at the bottom of page
  - **Leading** --vertical space b/w lines of type
  - **Kerning** --reduction of horizontal space between characters for a better fit
  - **Tracking** -- uniform reduction of space between all characters in a line

Leading

Leading Set Solid – no extra space between lines

Standard Leading – two or more points between lines

Loose Leading – lots of extra points between lines

Tracking

Tight tracking

Normal tracking

Loose tracking

Normal word spacing

Added word spacing

Kerning

AVAL

A·V·A·L

kern me

KernType is a game that tests students on the concept of kerning, or adjusting the space between letters.

Principles of Typography

- *Always Safe* -- use only one typeface, with variations in style and size
- *Usually Safe* -- use sans serif display with serif body type
- *Take Your Chances* -- using both sans serif and serif display and body type
- *Rarely Effective* -- using two very similar or very dissimilar typefaces

Principles of Typography

- Selecting Type to Match the Job
  - Typeface must be compatible with the message
  - Type can be feminine, masculine, friendly, harsh, elegant, delicate, etc
  - Start by choosing Times Roman for formal serif applications and Helvetica (Arial) for informal content.

Typography Today

- Typography in the digital environment
  - New process of typeface design
    - computer programs vs. hand design and casting
  - New possibilities for layout with the screen
    - computer programs vs. galleys, etc.
  - New elements of expression
    - text and images
    - sound and animation
    - screen brightness and contrast
  - New concept of materiality
    - pixels vs. ink
    - links, buttons, IP addresses

- Typography plays an important role in how audiences perceive your document and its information.
- Good design is about
  - capturing your audience's interest and
  - helping your audience gather information quickly and accurately.
- Typography creates relationships between different types of information, both organizing this information and keeping it interesting.

- Legibility: Making sure the audience can read and understand your text.
- Similarity, alignment: Using typography to create relationships between similar kinds of information.
- Uniformity or consistency: Repeating familiar elements to focus your audience's attention.
- Contrast: Creating interest and distinguishing different types of information with different typefaces. One element of contrast is hierarchy—making sure the audience understands that information has different levels of importance.
- Legibility is a combination of factors:
  - Font family
  - Font size
  - Letter, word, and line spacing
  - Alignment

Legibility and font families

	Online	Print
Serifs create distinctions between characters (uppercase "I" and lowercase "L")	Appears blurry	Helps the reader follow text easily
Serif fonts have contrasting strokes and lines	Helps move reader's eye character to character	Helps move reader's eye character to character
Sans serif fonts have uniform strokes throughout	Helps readers easily read text	Makes words in a sentence hard to follow

Stroke
Line
A Garamond

Stroke
A Tahoma
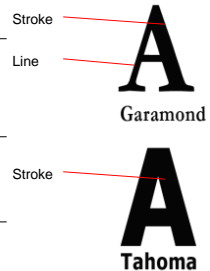
- Legibility of body text varies for different audiences:
  - Younger audiences may be able to read fonts sized at 8 or 9 points.
  - Older audiences may be able to read font sizes around 10 points or above.
  - Font sizes above 14 points break down the continuity of the text, making text appear too gray.
- If letters, words, or lines are too close together, readers have a hard time because text blocks tend to look too dark.
- If letters, words, or lines are too far apart, readers have a hard time because blocks of text tend to look too light, causing readers to lose a sense of continuity.
- Spacing between words needs to be consistent to promote legibility; too much variation leads to eyestrain.

Font families and audience

- Each font family has a different "personality."
- Use different font families to evoke tone and mood.
  - An advertisement for a school, for example, might use an "elegant" font such as

    Garamond

  - An advertisement for a financial firm, on the other hand, might use a more "modern" font such as

    Franklin Gothic

Font families for headings

- For body text, you may want to use something fairly conventional and legible.
- For headings, consider audience: teenagers respond to different fonts than businesspeople or academics.
- Choose font families that support your subject matter, or deliberately use a contrasting font to create interest.

Contrast and baseline shift

- Designers shift baseline to create interest:

Dropping the first letter adds a playful look. — Sometimes

Moving other letters around creates a "jittery" effect. — Shaking

- Use typography to guide readers through the levels of your document.
- Use different headings by changing font family, font type, font size, font color.
- To promote uniformity and help your audiences navigate, keep typographic choices consistent for each subsection throughout the document.

Hierarchy and typography

- Hierarchy helps your audience distinguish between levels of information, such as headings versus body text.
- Many documents are divided into hierarchical sections:

  Main title
      Section
          Subsection
  Or
  Book
      Chapter
          Subheading
              Sub-subheading

Example of hierarchy

Top-level headings can use unconventional fonts

Different levels use different font sizes, font families, font colors, and leading.

These headings look the same because they express the same level of hierarchy

Top Level Heading

Second Level Heading

Volute feum ing ex eugue tissam zzril ut velessmsd ip exer insto odion eum quis nos aut aliscipt etue modo dolor ipisat ver susci endre mod tio et adio et iriliqu tisi.

Third Level Heading

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Third Level Heading

Nullan vent in vel irilit illsim nis nummy mmmolobor si bla core tat alis euguit volobore molutat eliquat. Sum velessequi blaore dolor sum zzrillan velis eu faccum non eum volor iril ecte

Summary

- Typography can play a key role in design.
- Good typography starts with font family; choose these to mee your design goals, but keep them limited.
- Use text alignment to create relationships between different kinds of information.
- Create contrast by using a serif font for headings and a sans serif font for body text (or vice versa). You can also use italics, bold, tracking, or color to create contrast.
- Use contrast to indicate hierarchy.

Look at this video

- https://www.youtube.com/watch?v=SAoZa2G4ao8
- https://www.youtube.com/watch?v=iwIyoenG6uU&ebc=ANyPxKpWMjIzNlZt4rfosQfsXNE2Cc3Ulnx-cEVU2eukSW9y1Y3vzbugb7pqZC3vzsfD_DeQdCK7y-AykKFyFYdegyHBHSyp-g
- https://www.youtube.com/watch?v=2jTwX8jz-44

References

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  - MAS 962: Digital Typography
- Records of digital typographic development
  - Microsoft typography research group
- Digital typography programs
  - Font-Lab
- Publications on digital typography
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