Writing and Document Design
Lecture 6
Typography

Last week
We looked at Kress and van Leeuwen’s work on composition/layout and considered its usefulness as both an analytic tool (a way of analysing and talking about the meanings of different layouts) and for the practise of document design.

1. Definition

‘Typography is the art and technique of using type in the composition of printed matter.’ (AGPS Style Guide 1994: 230)

‘Typography is the art or skill of designing communication by means of the printed word.’ (Mclean 1980: 8)

2. Writing, typography and communication

According to traditional theories of writing, the written sign takes its signification from the spoken sign that it represents. Thus, the written word ‘daffodil’ is assumed to have a meaning that responds to and is determined by the corresponding word in spoken English—so that reading is a matter of extracting the verbal meaning from the marks displayed on a page.

Problem: The problem with this view is that it leaves no room for the possibility that the written form itself contributes anything to what the written sign signifies.

e.g. The choice of Gothic lettering in the store sign in the example below is part of the written message. It has meaning. It is not just decorative or stylistic.
In other words, *type can function simultaneously as written sign and pictorial sign.* This is not surprising given the history of the development of writing out of early pictographs. But perhaps is more easily forgotten in cultures such as ours that use alphabetic forms of writing.

And, given the visual dimension of the written form, it is not surprising that *type and layout work closely together to create meaning.*

Schriver (1997: 250) provides a list of the ways typography and layout can work together to create meaning. For example, by:

- Creating a certain mood, look or feel (e.g. formal/informal, modern/old-fashioned).
- Making the structure of a document clear (e.g. by creating heading hierarchies, structural hierarchies between parts, chapters and sections).
- Creating reading paths and navigational structures.
- Providing clues about the genre or type of document.
- Cueing how to interpret and use the document.
- Revealing what the designer considers important.

Some examples follow which demonstrate the contribution of the written form to meaning.

Source unknown: Megafilms video store, New Port Ritchie, FL.—the choice of typeface creates an unintended meaning.
In this advertisement the typeface creates an intended ambiguity
From: Harris (1995) Signs of Writing, Routledge, London, plate 1 (from medieval manuscript)
Some examples of how the choice of type and the layout work together to create meaning:

**AND A LONG TALE**

‘Fury said to a mouse, That he met in the house,
"Let us both go to law: I will prosecute you. — Come, I'll take no denial; We must have a trial: For really this morning I've nothing to do."

Said the mouse to the cur, "Such a trial, dear Sir, With no jury or judge, would be wasting our breath."

"I'LL be Judge, I'LL be Jury,"

Said cunning old Fury; "I'LL try the whole case, and continue you to death."

---

The Mouse’s Tale from *Alice in Wonderland* by Lewis Carroll
Free-Netting

The might not expect the electronic transfer to run through the Florida Panhandle. But as many as 3,000 Leon County residents log onto the Tallahassee Free-Net each day to check community calendars, pursue the proposed state budget, access the Internet, post updates of the new downtown parking plan, and even get an update on the activities of Senator Neil Volz of Tallahassee, "the city manager just resigned today, and I'm sure it's all over the Free-Net," said Tallahassee Free-Net co-founder Wilbert Lewis. The Tallahassee Free-Net — with 19,596 registered users in a county with a population of 280,468 — is a thriving example of this fast-growing system of open-access community computing. Rather than cater to the already-wired, Free-Net aims to reflect and inform the populations of the cities and towns in which they are based. That local focus brings to people who might never otherwise surf the Net.

"We're basically here to provide the community for their role in the coming National Information Infrastructure," Lewis says, noting that 300 people attend Free-Net's beginner's workshops each month.

Free-Nets were born in 1984, when Tom Goodwin, now-president of the National Public Telecomputing Network but then working at Case Western Reserve University's Department of Family Medicine, used his Apple II Plus to connect several clinics around Cleveland. But employees soon began begging so in hopes their doctors would access their medical records. "What if we developed a system that could reflect the whole community, and the hospital was just one building in that community?" Goodwin wondered. His question later led to the creation of the Cleveland-Free-Net Community Computer System, which now handles some 15,000 logins a day. "Here in Cleveland, middle class, blue-collar people are not going to get online to search the catalog at the University of Ohio, but they will go online to see what's happening with the Cleveland Browns," says Goodwin. "These systems are not run like radio and television stations, where somebody somewhere is deciding what you're going to see and hear. They're designed by the community to fit the needs of that community."

The National Public Telecomputing Network is the hub of the Free-Net system, connecting the 34 affiliated Free-Nets already online and 100 organizing committees at work in 30 states and 6 countries. But the nonprofit, grant-supported group cannot fulfill the country's Free-Net needs, Goodwin said. So the network is pushing for legislation to establish a government-funded, independently non-organizational system similar to the Corporation for Public Broadcasting. This "corporation for community computing" would help build and support Free-Net-style services around the country, much as the Corporation for Public Broadcasting supports public TV and radio.

Established in 1988 to spread the Free-Net gospel, the National Public Telecomputing Network now offers a variety of "cybercasting" services to its affiliates and has begun a rural outreach program to overcome structural obstacles to establishing Free-Nets in smaller communities. But the basic service remains local interest and wide access.

To learn more about the National Public Telecomputing Network, establishing a Free-Net in your community, or logging onto one that already exists, send to multi-tel@i3tele.org or log in to the i3 website (http://i3.org) and join the conversation.


-- Jack Brown; jbdx12-o@lsl.ohio.com.
3. **Readability vs legibility**

Many authors on typography distinguish between legibility and readability.

- **legibility** refers to visibility or how “seeable” text is.

- **readability** refers to how easily a text is read or what Schriver (1997) calls rhetorical appropriateness i.e. the relationship between the typeface, the purpose of the document, its genre, the situation and the audience.

There are a number of different theories about why some typefaces read better than others and many of the rules of typography have little research to back them up.

Most researchers feel that because we are creatures of habit, we are more comfortable with familiar typefaces and so read them more quickly and efficiently.

Schriver pp. 274-277 provides examples of findings of some of the research on typography especially in relation to legibility and some useful criticisms. She also provides a case study of some of her own work on the relationship between typography and readability (research on genre and typography) pp. 288–303.

[You will find her work in this area very useful for the evaluation of your brochures and in your redesign.]

4. **Categorising type**

**History**

The earliest books were produced in the early 15th century. They were printed using wooden blocks and the printed pages were glued back to back and then bound together—a very laborious process.

Johannes Gutenberg is usually regarded as the inventor of moveable type. There is strong evidence, however, that moveable type was being used by the Chinese from the 11th century. And, even in Europe, experiments with moveable type were occurring from around 1440.

Gutenberg produced his first book in about 1455—the 42-line bible.

Much of the terminology of typography [which we will discuss in this lecture] is associated with this history.

**Today** there is an almost infinite number of typefaces to choose from. And for this reason, many books on design carry warnings like the one below for the prospective designer:

> The designer must exercise restraint and discipline in order to prevent [type] design from becoming an end in itself, to the detriment of the message being conveyed. (AGPS Style Guide 1994)
It is useful to be familiar with some of the terminology of typography. Here is a brief overview of key terminology.

**Classification of type**
The classification system for type is hierarchical—race, family, font.

**Race**—or ‘group’ is a broad typographical categorisation comprising many different families that share common characteristics e.g. Roman, Gothic, Sanserif are all different races.

**Family**—Races are further divided into families. For example, the Roman race includes the families Times New Roman and Modern. A family refers to a specific typeface and all of its variations (point sizes, weights, etc.). Other examples of families of typeface include: **Helvetica, Palatino, Garamond**. [In computer word processing and desktop publishing programs these are sometimes “wrongly” (according to the purists) called fonts.]

**Font**—is the complete assortment of letters, numerals, punctuation marks, symbols etc. of a specific family *at a given point size* e.g. 12-point Times New Roman
5. Type Anatomy

All typefaces share a common anatomy. You will need to have a basic understanding of type anatomy in order to distinguish typefaces. The following is a list of key terms:

**baseline**—imaginary line that the letters sit on

**cap height**—the height of the uppercase letters

**x-height**—the height of the lowercase letters; typefaces with large x-heights look bigger than faces with small ones even when set in same point size.

**mean line**—imaginary line that runs parallel to the baseline that the top of the lowercase letters touch

**descenders**—the vertical part of lowercase letters that extend below the baseline (g, y, p, j)

**ascenders**—the vertical part of lowercase letters that extend above the mean line (b, d, l, t)

**counter**—the hollow/enclosed or partially enclosed spaces in letters (g, e, B, P, a)

**stem**—any full-length diagonal or vertical stroke of a letter

---

Serifs vs Sans Serifs:
There are two distinct types of typefaces: those with serifs and those without. Serifs have been used since Roman times. A serif is the beginning or finishing stroke across the stem of a letter (the little feet on the bottom of the letter ‘A’).

There are different serifs, e.g.:
- hairline serif—a thin serif e.g. Modern
- slab serif—a square-cornered serif e.g. Rockwell
- bracketed serif—the curved or diagonal serif e.g. Garamond, Times New Roman, Goudy

A sans serif typeface is a typeface without serifs e.g. Helvetica. [sans—is French for ‘without’].

For example, compare the serif typeface Palatino with the sans serif typeface Helvetica.

Sans serif typefaces were introduced by William Caslon IV in England 1816. They were originally called Gothic or Grotesque—they were thought of as primitive or barbarous.

They gained popularity with the Bauhaus school of design around 1920s.

Some say that the sans serifs take on the cold, machined feel of the Industrial Revolution because the uniform width of the letter stroke (few exceptions e.g. Optima, Bell Gothic) points to the ‘sameness’ often associated with the Industrial Revolution.

They are more geometric because they have no serifs to break the geometric shape of the letterform. They tend to have a rounder B, C, O; a more rectangular H, N and a more triangular V, A. [Compare to Times New Roman]. They have a clean, modern look but are also considered more austere. They tend to have good contrast between plain and bold versions of their letterform—and so may make visual distinctions/hierarchies in the text clearer (Schriver). For this reason they are often used in headings.

Many designers use both serifs and sans serifs in a document. A serif typeface is more commonly used for body text and a sans serif typeface for headings. There are
different arguments for why this occurs. Some say it is simply habit—i.e. it is based on what people get used to reading, while others say that serifs are more readable because they have more variation in the letterform i.e. more typographic variation. Sans serif body text tends to appear flatter, more monotonous. In Europe, however, sans serifs are usual for body type.

In 1926 research by the British Medical Council found that the absence of serifs caused ‘irradiation’, ‘an optical effect in which space between the lines of type intruded into the letters, setting up a form of light vibration, which militated against comfortable reading.’ (Wheildon 1996: 56). According to the research, the use of a serif typeface prevented this.

6. Type measurement

Printing has two basic units of measurement: point and pica. Type size and leading are measured in points. Column width is generally measured in picas.

point—the point is the standard unit of measure for type size. A point is 0.35mm (0.0138 inches), there are 72 points to the inch. Type size is measured from slightly above the top of the highest ascender to slightly below the bottom of the lowest descender.

pica—there are 12 points to the pica and 6 picas to the inch.

Type measurement systems from Whitbread, D. (2001)
The Design Manual, UNSW Press, Sydney, p.183
7. Type spacing

There are two types of spacing: line spacing (leading) and letter spacing (kerning, tracking).

**Leading**

Leading is the amount of space you allot between lines of type. The name is derived from the times when type was handset—when printers would literally insert strips of metal (lead) between the lines of types. Each of these strips was one point in size.

Leading is measured in points from base line to base line.

**Leading is important for legibility**

Research has found:

- Leading has the optical effect of altering the colour values of text. Increased amounts of leading makes type appear lighter. Decreased amounts appear to darken the texture of the page.

- Insufficient leading creates a claustrophic effect. Lines appear jammed together and uninviting to the reader.

- Too much leading tires the reader since it makes the eye jump from line to line.

**Most typographers/designers adjust leading from typeface to typeface**

Leading is generally, adjusted according to:

- The line length—long lines of text require more leading.

- The x-height—typefaces with larger x-heights (e.g. san serifs) generally occur more leading.

**Types of leading**

- Auto-leading—the default setting in word processing and desktop publishing software—generally 20%. For example, if your work is in 10 point, the auto-leading would be 12 point (expressed as 10/12) so you would in effect have 2 points of space added between the cap line of one row and the descenders of the row of text immediately above.

- Set solid—no leading.

- Negative leading—when leading is smaller than the type size (e.g. 12/11), often used for headings that contain all caps or that have no ascenders.

- Extreme leading—when a line space or more is left between lines (e.g. 10/24). Can be used to insert other text through the line spacing.
The left is set 10/12, the middle is set solid (10/10) and the right is set with negative leading (10/8)

**Kerning**
Kerning is a way of adjusting the spacing between letters in a word to compensate for uneven letter spacing, especially in headlines. Kerning is done because the spacing appears uneven when some combinations of letters occur e.g. in some typefaces O and E will fit differently when paired compared to T and E. The OE combination takes up more space and the gap between the ‘O’ and the ‘E’ appears too large. For example:

\[
\begin{array}{c}
OE \\
TE
\end{array}
\]

Other problem letters are T, A, V, W and L. Kerning generally is only necessary in headings set in caps. For example, compare the letter combination below before and after kerning:

Without kerning:  \( AV \)

With kerning:  \( AV \)

**Tracking**
Tracking alters the space between each letter in a whole word, heading or text block (i.e. not individually per letter pair, as kerning does).