# Teaching Text Design

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A growing body of literature defines a rhetoric of visible text based on page layout, typography, and the various design features afforded by page composition tools built into word processors and page design programs. Little has been written, however, about what a writer needs to know about design and in what order. This article describes and demonstrates a scope and sequence of learning that encourages writers to develop their skills as text designers. It introduces relevant literature that is helpful for such learning and it does so in an evolving format that displays visually what the essay discusses verbally.

Since the introduction of personal publishing tools first made available through the coupling of the personal computer and the laser printer, we have found ourselves in possession of the means for not merely typing essays but designing text. In recognition of the power and possibilities of these tools, the fields of rhetoric and technical communication have begun to construct a rhetoric based on the design of texts that display their meanings through visual/verbal integration. In all corners of our culture, visually informative texts are on the ascendancy, and it is crucial that we continue to map the principles of visual design and that we pursue principled methods for learning to become text designers. In this essay, we suggest a scope and sequence of text design skills and knowledge as a contribution toward a curriculum that helps writers become text designers. In a spirit of playfulness that is true to our subject, we attempt to create an object lesson here that demonstrates through display. We will struggle throughout to not only *tell* but *show* the principles we are discussing, beginning with our "student essay" text on the next two pages—then to a designed text.

Designing Text

We will begin this article with a visual
distinction between designed, rhetorically active
text, and the texts that our students are most
familiar with: essays.

Students of technical and professional writing
often come directly from introductory composition
classes, where they may have been expected to do very
little work with text design.  The prevailing
composition aesthetic is a strict, almost puritanical
functionalism, meant not for readers but for the
teacher who will annotate the text.  Students are
taught to create pages with flat surfaces: long,
double-spaced paragraphs punctuated only by the
occasional half-inch or five-space indent; generously
wide and symmetrical, one-inch margins all around; and
a simply-typed page number in the upper right corner
of following pages.

Writers would begin to understand the rhetorical
design principles of professional documents, as well
as increase their software skills, if they were to
immediately jettison this clunky design.  Changing our

perception of the page as a *writing* space to the page as a *design* space propels us to think beyond the confines of the semantic and lexical constructions of words alone and toward the shape of text and our authorial control over its useful readability.

The contrast of these two "school essay" pages with the rest of this journal suggests how much information is communicated through a few simple design elements. The page grid on these facing pages says little except "block of text." The consistent double spacing, desired presumably for interlinear annotation, wastes the potential of white space to convey meaning in active ways. The white space is spread passively, indiscriminately, between every line. Similarly, the monospaced one-inch-all-around margins cause the writer to miss opportunities for using indentation for meaningful effects. In general, there is little in the design that reflects an understanding of the crucial distinction between *active* and *passive* white space.

Headings that would signal text divisions are conspicuous only in their absence, and the particularly unattractive and tiring Courier font make

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for pages with little appeal.
     Understanding that text is a surface, layered in
its meaning, and most successful when its design is
both helpful and intuitive to the reader are important
starting places for writers as they begin to exercise
control over rhetorical design.
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We began making a few simple but significant changes at the page break. We reintroduced the facing pages headers that identify us as authors on the left (with a somewhat redundant acronym TCQ) and identify the journal on the right with the page numbers on the outside margins where they are most useful. More obviously, we went to single-spaced paragraphs, using space breaks between paragraphs, instead of double spacing every line. Interparagraph space breaks are not the practice in this journal, but it is a style that makes sense for many kinds of memos, reports, and correspondence. The space breaks start to divide the piece into meaningful units instead of spreading ink uniformly across the page.

We then switched fonts to a 10 point Palatino. This change is significant, since it increases the typeset quality by substituting for the monospaced Courier font (where each letter gets the same space, whether an i or an m) a proportional font (where letters take different widths depending on their shape). Since proportional fonts carry intersentential spacing with them (a little extra space break after a period), we went from double-spacing between a period and capital letter to single-spacing (not an easy adjustment for those of us drilled in touch typing). We adjusted the paragraph indents from a one-half inch tab to a one-quarter inch, in keeping with the more modern look of the journal. Finally, we allowed ourselves to introduce a heading on the next page (in a larger, bold, sans-serif font) to begin to further segment the text into meaningful subsections and to provide signposts to busy readers.

Each of these adjustments reflects small but significant changes brought about by the transition from typewriter to desktop tools for producing paper texts. To summarize our changes as design guidelines:

- See the page as a grid.
- Use active white space.
- Use text structures to guide the reader.
- Create a typeset look through appropriate use of proportional fonts and spacing.
- Control the document through features such as style definitions.

We will take up each of these principles in the following sections,

moving in each section from basic understandings toward the more sophisticated. These guidelines are simple enough to be learned in any class, whether composition or technical writing, whether in English or in the disciplines. Writers can work to gradually to refine and advance their understanding of text design and their competence with the tools.

# See the Page as a Grid

A first principle of page design is to think of the page as a grid that organizes communicative elements. Lay shows how grids create unity, balance and proportion in documents (Lay 73). Others have pointed out that page design cues various gestalts: groupings, progressions, beginnings and endings, digressions (Bernhardt, Moore and Fitz). We can think of grids as ways of organizing the space of a page. Readers need to know where they are in a document, where they are going, and how they can get there. They need to know what sort of information is in what predictable place. Grids bring predictability; readers use the grid to know how to read the page.

Pages are spaces comprised of defined areas and boundaries. When a grid overlays a page, text and graphic elements are placed in the resulting rectangular spaces. Page design software and more sophisticated word processors provide grids that are variable in granularity and visible on screen, although they are non-printing. The alignment of textual and visual elements to a grid insures consistency between parallel text elements, and creates a defined and recognizable look. In highly functional documents, such as computer documentation, a grid helps define and separate explanation, from cautions, from steps in a procedure, from tips for experts. In other documents, such as ads or brochures, a grid contributes to a balanced, aesthetically pleasing page design. Grids are a powerful design tool.

The *TCQ* grid is fairly simple: 4.5" x 7.5" blocks of print. Headers and the (first page only) footers break out of the block, and the headings are outdented from the block. Lists and extended quotations are block indented an extra quarter inch. The narrow page width leads to a readable line length (about 65 characters) for a publication that is meant to be read seriously.

We can easily imagine other grids that might inform other texts, page designs derived from making intentional choices of layout for given communicative tasks. A play-script layout, with one-third/two-third vertical columns, as on the following pages, proves to be highly pleasing and useful for a wide variety of publications.
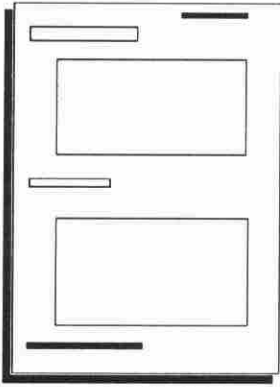
The TCQ Grid

*Many publications use a "play script" format, with a one-third, two-thirds grid. It is a flexible design that allows marginalia— commentary, headings, graphic elements—to float beside the text.*
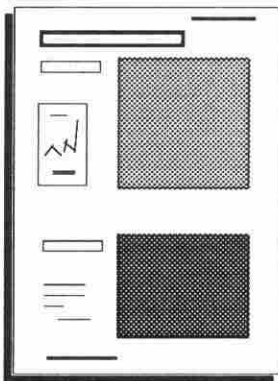
A One-Third/Two-Thirds Grid

We have seen grant proposals in this format that were simply beautiful, with call-outs, highlight points, and compelling graphs and data displays fitting nicely into the left column. The design prevents long, hard-to-scan lines, and uses plenty of white space to create an open look. Visuals can occupy any of the thirds, spanning the columns to take two-thirds or the whole width of the page.

Grids make great planning tools, as publications can be roughed out with pencil and paper as thumbnails or storyboards before executing the actual design and investing time at the computer. Books on desktop publishing have much to say about designing with grids, and they provide great examples from both popular media and from serious graphic design artists. Some good sources include Shushan and Wright, Brown, Bivins and Ryan, Parker, and White. Planning on the grid also encourages the designer to consider facing pages as the unit of composition, rather than single pages.

As in any art, grids provide stability and constraint. Once in place, the artist can violate the grid, break the frame, work on the bias. The temptation for beginning page designers is to imagine grid spaces as symmetrical, rectangular and right angled to the page orientation. While such thinking makes a good starting point, most designers love to play with the grid, break its constraints, and layer objects across and on top of the spaces of the grid.

An activity that gets writers thinking about grids is to produce a simple essay or review in two-column format. A writer might
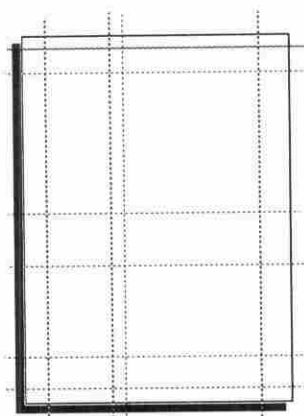
An Empty Page Grid

# Use Active White Space

*"Any discussion of the rhetoric of practical documents must encompass the language of visual design"*—Kostelnick

A Filled Page Grid

prepare a movie review to look exactly as it would if it appeared in the feature pages of the local paper, complete with headline, teaser, and mug shot. A more complicated task would be to set up a resumé on two different, contrasting grids, perhaps with one purposefully over-designed. Such experiments help a writer learn to contrast serious grids with playful ones and so gain control over the rhetoric of design.

Designers begin to use white space actively when they start to see both the positive (ink-filled) and negative (white) spaces on the page. White space conveys a lot about a document: what type it is, how it should be approached, and what must be read and what can be skipped.

White space can be either active or passive: passive white space is defined incidentally by the space left over as the text takes shape. Active white space, in contrast, intentionally defines the shape, organization, progression, and readability of the text itself. Passive is accidental; active is intentional.
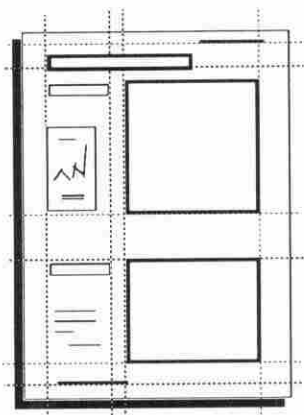
We recognize a memo by its heading, perhaps a company logo or letterhead, the arrangement of its To-From-Date-Subject introduction, and its block style text body and signature. Our recognition is largely a case of recognizing a form as it is defined by the shape of the text. The text shape, in turn, is defined by the page space around it, or its (sometimes not white) white space.

On the following page, the text is set to conform fully to the *TCQ* format, with an indent to mark paragraphs and no space break between paragraphs. To aid readability and signal organization, we

might choose to separate paragraphs in a memo with a space break because it makes the paragraphs easier to read as specific points or makes those points distinct from other content and easy to reference. *TCQ* also uses two spaces after a period.

White space can also act as a stylistic tool (Kostelnick 26). The arrangement and style of textual elements on a page can either inhibit or invite readers into a document. An inviting document tends to be open and expansive, with text defined into blocks by white space, headings that are separated by spacing, text that is set with a little extra space between each line, and visual elements that are bordered by white space. Many readers avoid intimidating, dense texts. In a journal such as this, readers are present on their own volition, out of a sense of intellectual curiosity, with plenty of motivation to read pages, even if they are a bit dense (the pages, not the readers) in their ink to white space ratio.

Designers tend to see blocks of text as shapes in space, not necessarily as something to be read. Page design programs frequently provide mumbo-jumbo filler text in a meaningless "Greek" filler (lorum ipsit), so the designer can concentrate on shape and not be distracted by meaning. Text blocks become design elements in balance and juxta-position with other graphic elements.

In many kinds of text, there really is no need to cover the page with ink. Much designed text has an ink to space ratio of less than 50%. As writers develop their design styles, they can become more aware of white and black as defining elements of the page and begin to use white space actively to structure their ideas, invite readers into the text, and show them how it can be read. Writers need to recognize the truth in the huckster's maxim, "If you don't get 'em into the tent, they ain't going to see the show." A visual style, with plenty of white space on an attractive grid, is the ticket.

# Use Text Structures to Guide the Reader

Design is functional insofar as it shows readers how to read a text: what the structure and progression is, what can be read or skipped, what is more important or less important. Page composition programs provide a wide range of tools to help writers show structures. Such displayed structures ideally complement the internal, logic-semantic meanings created within the text.

# Margins, Justification, and Indentation

The use of white space for margins, justification, and indentation deserves special consideration. The one-third/two-thirds grid that organized the previous facing pages can be thought of as providing a wide left margin, but a special sort of margin that can include visual and textual elements. Some texts, especially those being bound, benefit from a wide, empty inner margin. Other texts benefit from a wide right margin, especially those that will be annotated. Functional design challenges the default settings: one inch all around and a half-inch indent on each paragraph.

Business writing classes have traditionally experimented with block styles, with and without indentation, some with full justification, some with left justification.

This text is **flush left**.

<div align="right">This text is <strong>flush right</strong>.</div>

<div align="center">This text is <strong>centered</strong></div>

We have set this page to full justify to show the effect. The journal carries a "ragged right" margin, meaning that the text is not flush to the right margin. This is consistent with some marginally compelling research on readability that suggests that readers use the ragged right to track the text and keep their place. It also helps avoid "rivers" of white space that result when the extra word spacings of full justification form noticeable alignments–rivers–of white space that run down the page. Tight hyphenation zones can help control such accidental effects, though for most texts, it is best to keep the hyphenation off or set loose so not too many words are broken at line ends.

Some texts look better and work better in full justified block paragraphs, without any paragraph indent, especially texts with small column width: brochures, newspaper-style columns, and some flyers. Narrow columns of print just cannot support the indentation without the overall look being ragged. Sometimes the design decisions are motivated more by aesthetics than strict criteria of legibility or readability. There's no good reason, for example, to indent a paragraph following a heading; such following paragraphs actually look better without the indent.

Understanding and controlling left, right, center, and full justification is by no means intuitive. Particularly with right justification, writers need to experiment to see how it works, what happens when lines wrap, and how text lines up on a return. A little time might well be spent investigating the ruler bar, which typically offers easy control of margins and indents. Some of the settings are hard for many to grasp; for example, the two little triangles that control the left indents on the first and following lines of paragraphs. Distinguishing and

manipulating decimal, center, and right tabs can be hard for others to understand. Many relatively advanced users of a program like Word have not necessarily discovered the control of details afforded by the ruler bar. For example, double-clicking on a tab allows the user to set the tab to carry leader dots (as in a table of contents) or a leader line (useful for drawing a rule across a page). The ruler bar from Microsoft Word for Macintosh shown below is the type of tool writers need to develop a skilled awareness of:
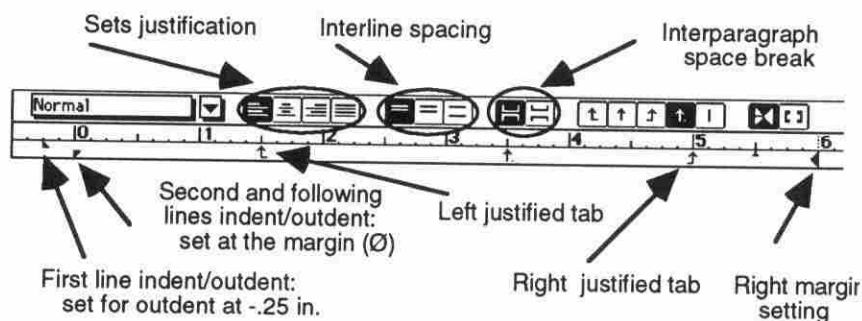


In many kinds of technical texts, the really important information conveyed by indentation is not paragraph breaks, but structural levels in the document hierarchy.

Two or three levels of subordination can be signaled by text that is block indented from the left.

The levels of indent correspond to the patterns of indent in a traditional outline.

Any indent pattern that goes beyond two levels of indent is probably useless to readers.

They are likely to lose track across pages of the level they are on.

A structural cue that is understood by the author and that confuses or is unnoticed by readers is no structural cue at all.

Writers, especially technical writers, need a good understanding of how left block indents signal document structure, and how white space can be used in general to signal divisions and hierarchies.

## Tabs and Columns

Nothing is more frustrating than working with a highly formatted document that someone has produced using the space bar and forced returns instead of tabs. Tabs are related to tables, of course, and

controlling information in a multiple-columned format is made possible through some combination of tab settings and a page that is set up either in columns or as a table. Tabs, tables, and columns allow the designer to place and manipulate text within the space of the page, rather than simply having text appear within the preset margins.

Every working writer needs to know how to design simple tables for text and data. Doing so is made increasingly simple by word processing software that automates table formatting. Formatting tables still requires that one pay attention to internal margins in the table cells and to the use of borders on cells, and that one understand how a right tab works to keep text or data flush right. There is no excuse for formatting with spaces and forced returns, and as one quickly discovers, with proportional fonts, it is impossible to get text to line up vertically using the space bar. The text may look accurately aligned on the screen, because most fonts display in monospacing, but when the text prints proportionally, columns lined up with the space bar will be all off.

Learning to work with text in columns is an important layout skill. Page composition programs (like PageMaker or Quark or Framemaker) are designed to treat text and graphics as independent blocks; objects that can be moved around and placed on the page. Tabs, margins, and indents can be set independently within the different text blocks that compose the page. Word processors treat text a bit differently and require more finagling with the text to work in columns. Word processors handle columns just fine in newspaper style, when continuous text snakes from the bottom of one column to the top of the next. When the page design requires independent columns of text, as in our one-third/two-thirds pages, a word processor works best when the text is placed inside a table, which is what we did. The two facing pages of our play script format are actually two tables, each with two columns and one row per page and no borders on the cells. We had to futz with the layout a lot to get it to fill the pages and break in the right places, but we were able to do it. Setting tabs is useful any time one needs to line up information in opposing columns of print; creating a table is useful when the text in columns is a bit complicated or when the columns do not correspond line by line.

The ability to handle text (and graphics) as an object that can be placed in a window on a page and moved about is the real advantage of composition programs as opposed to word processors. But the differences are disappearing as programs like Word for Windows 6.0 or WordPerfect 6.0 for Windows incorporate most page composition features, including grids and snap to grid. In such programs, the writer can place text in a box that can be moved and dropped into place, even over other text or graphic objects. The text can also be made to flow around the frames of graphic objects.

# Headers and Footers

Most printed texts use page tops and bottoms for orienting information called *headers* and *footers*. Page numbers, author names, publication information (volume and issue), dates and titles are often found in these areas of the page. These lines of text are separate contextually from the body, riding above and below the running content of the pages themselves, and act as quick reference points, always in the same place, and always saying the same thing in the same way.

*TCQ* uses alternating headers at the top left and top right of facing pages. The left header has the page number outdented, followed by TCQ: Author Name. The right header spells out Technical Communication Quarterly, followed by a page number that is flush with the right page margin. Both headers are in 9 pt. Helvetica to distinguish them from the body text. Outdenting the even page header follows the *TCQ* grid of outdenting headings from the page margin. Odd page headers are flush right. A footer on the initial page of an article, outdented again, identifies the year, volume, volume number and pages of the article, convenient for keeping track of the source document for photocopies.

We used a different header design on these two pages, placing the page numbers in a footer with alternating author and title lines. The headers have been moved to the inside margins, and the footers to the outside, with the even pages outdented to follow our grid. Whether or not this makes a significant difference is a matter of reading habit. We are used to page numbers in the upper left and right in this type of journal. Many magazines place page numbers, if at all, in the footer, often on the inside margins where they are difficult to find. The headers and footers frame the text on the diagonal. Such framing effects are enhanced in some texts by the addition of a rule (a straight printing line in a variable point width) either above or below the header, or by boxing the header and printing the header in inverse (white type on black background) or with a screen (some ink proportion less than 100% to give a shaded effect). These are small details, but depending on the document and the audience a writer is designing text for, they could become important.

Word processing programs like Microsoft Word and WordPerfect will create headers and footers in separate windows, and then place them in a document in defined areas, automatically appearing on and numbering each page. Content is linked in these text structures, so that changes made to a single header or footer will change all headers and footers on all pages, hence the terms "running head" and "running footer." This is a control feature that allows this part of a text to be set up

once, and then essentially ignored, while it adds important orientation to the reader. Students have always been expected to put at least a page number on all following pages of a document. It is good practice to learn to think about information in headers and footers and to make good use of this navigational area of the page.

# Headings

Headings break up continuous text into visually coherent parts. They cue the reader to content structure without disrupting the flow of reading, and they partially eliminate the need for paragraph-level transitions. Headings make promises about the content of subsections, and they allow busy readers to find information quickly and to scan documents for information.

When written to be highly specific and directive, headings can carry much more information than paragraph indentations or space breaks. This section is about headings, as indicated by its sub-heading **Headings.** Our entire section on text structures is comprised of a single heading and five sub-heads. Our headings state topics, but in other documents, headings might ask or answer questions, identify actions, or list steps in a process. Careful attention to heading wording and design can make a document navigable and efficient for readers who come to a text to complete a specific task. Readers can approach the text with varied reading strategies, either to read from beginning to end, or to reference specific points in almost the same way they would look at indexed subjects in a catalogue, reference volume, or hypertext book. Headers are an easy and powerful way to do make text less linear and to improve its rhetorical flexibility.

Designers know that headings need to be made visually distinct through some combination of typeface and style features. *TCQ* changes typeface (to Helvetica from their body type Goudy), point size (to 14 point for a top-level heading in the text and to 12 point for a sub-heading), and type style, going to bold to contrast with the normal body type. Readers have a hard time distinguishing a single point difference in type, but they can usually distinguish a two-point difference, and can certainly do so when the point shift is coupled with other changes (as in normal to bold). The *TCQ* designers add extra spacing around the headings, more before than after, to logically and visually structure the heading with what follows rather than with what came before. The articles don't go below a sub-heading, so there are two levels of descension in the hierarchy. Readers might have trouble with a system of greater subtlety.

In headings, designers achieve a lovely melding of form and function, with variables of size, weight, and space signaling the logical

hierarchy of the text. A text with problems of global coherence can often be mended with some attention to the structure of sections and their headings. Headings force writer-designers to make promises they actually keep as the document finds a working organization.

## Lists

Lists are highly visual and ordered text structures. When buried list structures are extracted from sentences and paragraphs and re-presented in an indented list, spaced from the body text and numbered or bulleted, they become instantly accessible to the reader. What headers do for whole sections of text, lists do for specific points in a text: they organize parallel ideas into easily referenced and readable forms. We make lists everyday for various purposes, and are accostomed to reading information in list form:

Milk

Olives

**Toilet Paper!**

soap

It is hard not to imply precedence through a visual list . Our grocery list has several items, but the user need not purchase milk first, then olives, then toilet paper (though the more obsessive among us order our shopping lists this way, imagining the store layout). The hierarchical arrangement, though, forces the impression of order of importance.

Some lists reflect chronology:

1.  lower the blade guard
2.  unlatch the blade lock
3.  engage the blade with the clutch lever

Visual cues like numbers make the order of the sequence in this list unquestionable.

We used a carefully formatted bulleted list in this article, indenting our bullets one-quarter inch and tabbing the list items another one-quarter inch:

*   See the page as a grid.
*   Use active white space.
*   Use text structures to guide the reader.
*   Create a typeset look through appropriate use of proportional fonts and spacing.
*   Control the document through features such as style tags, templates, and links.

To keep the look clean, when a bulleted item wrapped at the end of a line, we lined up the following line on the left indent of the first. This list mirrors the order of both first mention of each of these topics in our introduction and the sequence of discussion that structures the whole text. Each item from this initial list became its own section heading.

We indulge a brief confession here. When we first wrote the introductory section where this list of design principles appears, the individual items were buried inside paragraphs and spread across a page. Our design instincts recognized a list buried in the linear prose structure and urged us to pull the separate points out into a vertical list, bullet them, and bring them into parallel verb/complement structures. Once we had done so, we saw them as the structure that could hold the whole essay together and so created section headings from the list. The design of the whole grew from a local design principle: if information is list-like, make it a visible list. This is a liberating moment for writers: when they recognize a list that is buried in a paragraph and decide to make the logical structure visible.

# Create a Typeset Look

Typography as a design concept includes the selection of typefaces: family, size, and spacing on a page (Shushan and Wright 14). The writer facing the blank page must be able to make decisions about what sort of typographic design is appropriate given a specific rhetorical situation. Decisions can be based on what type is best suited to the purpose and audience, what is most readable, what styles best cue the content, and what type offers the most aesthetic face without sacrificing legibility.

Type in its simplest clothing is a graphic element comprised of widths and lengths, spacing and subtle shapes, its meaning displayed by the precise application of ink in strokes and lines. To ignore the visual value of a typeface is to ignore the single most important feature affecting the readability and design of a text.

Page design software and sophisticated word processors grant authorial control over text size, shape, style, color, spacing, width and proportion. Type treatments such as bold, italics, and underline provide additional levels of meaning to a font without changing its family, an important consideration: font changes in documents should be used to signal new content through structures like headings and call outs. By using different type families and type styles, writers can create multiple levels of meaning and visual cues in a document while contributing to its readability.

# Controlling Line Length, Leading, and Kerning

Line length, called *measure*, is a factor in text readability. Generally, shorter lines mean easier tracking for the reader and fewer instances of losing one's place. A rule of thumb that is frequently violated is that lines should be about 1 1/2 to 2 alphabets long (≈40-60 characters). A good actual line length for a specific text is dependent on how closely spaced the font is and how large the point size is. With larger point type, lines can be made longer.

*Leading* (pronounced "ledding" after the name of the metal slugs that separated lines of set type) provides interlinear space. Type can be set tight or open, with very little space from the bottom of the characters on one line to the top of the characters on the next or with extra space to open up the text. All word processors provide gross adjustments to leading through single, space-and-a-half, or double-spaced line settings, a system inherited from the typewriter. Sophisticated word processors allow the type designer to control leading more exactly. This paragraph is set as 10 point Palatino on 14 point leading, a little open.

Leading is measured in points (a point is approximately 1/72 of an inch; 12 points = 1 pica; 6 picas ≈ 1 inch). The leading of a text is described in terms of point size of type on leading. This paragraph is set in Avant Garde 12/20, giving a very open look that might work for ad copy, marketing information, or highly designed annual reports. TCQ sets its body type as Goudy 11 point type on 11.5 point leading (expressed "11 on 11.5"). This is a bit tight. Setting the leading to **AUTO** would generally result in 9-point text set 9/11, or 10-point as 10/12, with about two extra points of leading, spread proportionally above and below the line of type. With larger font sizes, less leading is needed. Leading can also be set negatively, so lines of type actually touch or overlap. Shushan and Wright, and Brown both provide technical discussions of these issues and provide good examples.

*Kerning* is an advanced design tool that allows the typesetter to adjust for the spacing between letters to approximate a hand-set look. Kerning refers to the space between letters, which can be open or tight. All proportional fonts do some automatic kerning, so an A and a V would be set a little tight to accommodate their shapes, which are not strictly rectangular but oblique. A little kerning with the eye on a display text, like a poster or flyer, can make a difference in the professional look. A series of lines beginning with capital letters, for example, will not line up to the eye on the left margin because of the different letter shapes, but can be kerned into an alignment that pleases the eye.

Line length (or measure), leading, and kerning are design tools that allow for careful copy-fitting. While controlling these features is not necessary in many ordinary texts, they can provide for special effects or contribute to the design of texts that must be highly readable.

## Understanding the Face of Type

Writers accustomed to writing essays with flat text surfaces and undistinguished type find themselves loose in a candy store when they discover the typographic variation available today on most word processing systems. Our network at NMSU offers a choice of well over 200 fonts in various styles and the invitation to experiment is irresistible. Any number of fonts may end up in a document as students begin to explore the possibilities of playing with type:

**• Now Available •**

T Y P O g r A p h y

**Hundreds of styles**

I n s t a n t   A c c e s s   to

**Voice** *Tone* **Expre***ss***ion**

**All at your FINGERTIPS**✌

*You've Never Seen*

**Anything Like This!!**

While writers discover how to use software to manipulate type features, they also develop awareness of typography's role as both an aesthetic and structural element. As they learn to talk type on its own terms, they gain respect for its influence on the page.

For our sample "essay" pages, we chose Courier, a particularly rigid

and under-designed font that is associated with typewritten text. Courier lacks variability in both letter width (it is monospaced, with no kerning) and stroke: the lines that form the characters are of uniform thickness. Courier does have the virtue of being robust under abuse: it can be repeatedly photocopied or faxed and hold its defining shapes well. Courier is a sturdy but boring font.

Typographers have a whole language for talking about type, some of which is displayed in this diagram:
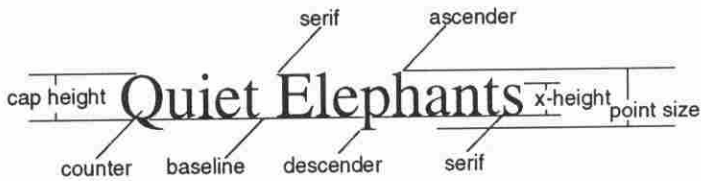


adapted from Shushman and Wright, 1991

A typeface is a graphical image, its details highly refined and carefully designed to be unique from font to font. It is a conditioned habit to look right through the typeface to the words of the text, and not see type as a graphically rich design element. While modern type does not have the graphic texture derived from being stamped onto a page by a small, letter shaped brick attached to a levered arm, the ink or toner *is* spread precisely as if brushed, and meaning is created by the combination of intricate graphic details forming identifiable design characteristics.

The differences in many of the features indicated in our display of Quiet Elephants (below) are what define different type families. A type family is the sum of all the variations of a single typeface (Shushan and Wright, 21). These variations include widths, *slant*, and styles like **bold**, regular, <u>underline</u>, and light. The most identifiable changes in type families occur in serifs, x-height, and counters. Our Quiet Elephants take on different appearances on these subtle levels when the typeface is changed:

| | |
|---|---|
| Quiet Elephants | 14pt. Palatino |
| Quiet Elephants | 14pt. Times |
| Quiet Elephants | 14pt. Bookman |
| Quiet Elephants | 14pt. Caslon 540 |

These four lines are all set in 14 point type, but vary widely in measure. Bookman has a large counter (the open space in closed letter

forms like a, o, p, g and q) and requires significantly more line length per word. Its x-height is also compressed as opposed to Palatino or Caslon 540, so its counters are horizontally oval rather than round. Font designers find pleasure in adding high detail to certain letters: the Q is highly unique in these faces. (While we are on the subject of Qs, allow yourself to linger on the gorgeous Q on the cover of this journal. There is a fine example of type as a design element.)

Lines in Bookman appear almost squashed from above as they stretch across a page; our article would be several pages longer in this font. Bookman is also considerably heavier in stroke than Palatino or Times. Large text bodies like those in this article would not be difficult to read, but the space consumed by this heavy, open font makes it a poor choice for an academic article. It remains a favorite of children's book designers.

Times has a taller x-height than Bookman, but is more compressed, or tighter, on its baseline than Bookman, Palatino, and Caslon. It is a highly efficient typeface for columns and grids that require a great deal of compressed text. Newspapers make excellent use of Times, and some of the many variants of this font family are at use in all sorts of academic texts. Our article would be significantly shorter in this font, but not as easily read. Times is an extremely popular body font, available on all laser printers, and always a good choice for serious text. These four fonts are also called serif or Roman fonts; each point on each letter has a flourishing stroke.

Often, the only way to decipher a type's readability and appropriateness is to see it in action. It is very difficult to distinguish immediately between typefaces like Palatino and Caslon 540: Palatino is slightly rounder in counter and taller in x-height. In a large body text, it would win out over Caslon in readability. Setting the same text in different typefaces and then discussing the effects is a good way to start to pay attention to type design. A writer might first print a memo in Courier, then in Palatino. Seeing the very obvious differences will begin to train the designer to make sense of the candy store options. Try for a moment to distinguish between *TCQ*'s use of Goudy in this journal, and our use of Palatino. Another useful exercise is to print samples of a variety of fonts and discuss people's impressions about which fonts would be suitable for what types of documents (party invitations, newspapers, lab reports, computer documentation, and so on).

# Invitation Party brochure banner

## Newspaper screen document

# Poster

## Type Styling

Type can be styled to add meaning without changing the font family. Styles can include **bold**, *italic*, CAPS, SMALL CAPS, <u>underlined</u>, <u>double-underlined</u>, ALL shadow , ~~strikethru~~, and hidden.

Both of the following sentences are in 12 point Helvetica. The second has style treatments that add important dimensions to its meaning and effectiveness:

Press the red button prior to initiating the grinding roller.

Press the **red** button <u>PRIOR</u> to initiating the grinding roller.

Writing instructions using one or two fonts are good style assignments. Writers increase their rhetorical skills by using style, instead of point size and different type families, to guide the reader carefully through a text that *could* have serious consequences if not read correctly: like not pressing the **red** button.

The threat of these styles is that novice designers sometimes end up producing texts that look like ransom notes. A careful book designer decides on a specific use for each type style: for example, **bold** for action steps, *italic* for emphasized words, single quotes for words as linguistic examples, <u>underline</u> for titles of published works, and SMALL CAPS for glossary terms. Carefully defined functions for each style and resisting the temptation to overuse the styles leads to effective use.

## Choosing for Function: display/body/legibility

Most students would not have trouble discerning which of the two memorandums following would be the more effective document:

| TTL, INC. | TTL, INC. |
|---|---|
| to: Cheryl Nibs | to:    Cheryl Nibs |
| from: Branson Jr. | from:  Branson Jr. |
| re: Plated Nibs | re:    Plated Nibs |
| We need those plated nibs today, or the line will shut down. | We need those plated nibs today, or the line will shut down. |
| *Thank you* | Thank you |
| *cc: Branson Sr.* | cc: Branson Sr. |

The first memo uses a display font, Castellar MT, for both the memo's heading and its body, Courier for its introduction, and a script font, Zapf Chancery, for its signature line. It is nearly impossible to get a sense of tone or professionalism from its content, and it is difficult to read. The second memo uses a sans serif font for both heading and body, and is successful because of its short length. A larger body would have warranted a serif font like Palatino.

It is important to recognize that some font families were designed for screen displays only and never meant to be printed. Apple Computer created fonts and assigned city names (Geneva, Chicago, Monaco) that would look very large and distinct and readable on screen. But they do not make good choices for printed documents. Within the last couple of years, we have seen the development of font families that erase the distinction between screen font and printer font. The older font families had separate files for each point size and for both screen and printer. The new scalable typefaces are vector-defined, so the whole range of point size is defined mathematically. The newer fonts go by names like TrueType on the Macintosh and ATM (Adobe Type Manager) within Windows.

Sans serif, or Swiss/Gothic typefaces, are uniform and do not have finishing strokes at the end of each form. Common sans serif fonts include the standard Helvetica as well as Univers, Futura and Ariel. Some of the these fonts, like the Avant Garde of this paragraph, are so round that they make better display fonts, or at best detract from the "serious" look of a text. Avant Garde usually makes a poor choice for body text.

**The bold styles of Helvetica are a favorite of many designers for headings, as is the case in this journal. Nobody, however, would want to read much body text in a bold Helvetica. It is a matter of debate whether sans serif fonts slow readers down. It may just be a matter of our being used to seeing body text set in serif.**

The absolute default setting in current practice favors a bold Helvetica font for headings and a Times-Roman font for body type (a look similar to this journal). Such a pairing is undoubtedly conservative, but never wrong. It represents a starting point and type can be designed from there, with various and subtle effects.

# Some Fine Points on Type

Gaining control of a few typographic details can lend an element of professional design to a document:

- Since proportional fonts build in extra spacing after end punctuation, it is not necessary to space twice after periods,

exclamation points, question marks, and colons. Though not extinct, double spacing is a holdover from the typewriter era.

- Quotation marks and apostrophes are designed elements of a type family (called *typographer's quotes* or *smart quotes*). Some software has a setting to turn on typographer's quotes; in other software combination keystroke commands will display them. They look much better than the all-purpose variety ("these" vs. "these").

- Dashes and hyphens are distinguishable in typeset text. Dashes are available through certain keystroke combinations or through special character maps. Picky people can further distinguish n-dashes from the slightly longer m-dashes (named for their width, which corresponds to the letters *n* and *m*).

- Advanced word processors have equation editors for writing formulas. Students of science, math, and engineering in particular appreciate learning how to insert $\sqrt{\frac{1}{5}} \geq \bar{x}$.

- Character maps or key caps provide special characters that can be quite useful, beginning with bullets, but also symbols such as ©, ø, ∧, ✔, and ❻. Where these symbols reside and how they are inserted in documents varies, but they are not difficult to master.

# Control the Document

A final design skill involves using the advanced tools of the word processor or composition program to insure consistency in the elements of layout and typography discussed above. Everything we have discussed here can be done "on the fly" with text marked up and formatted as one composes. Indeed, we had to do a lot of formatting on the fly, since we have tried to demonstrate so many variables of layout and typography. For most documents, however, *style sheets* allow for much better design control than designing on the fly. Style sheets (sometimes called *style formats* or *style tags*) allow the text designer to define and tag each structural element of the composition. Style sheets are a sort of mark-up language, similar to SGML (Standardized General Markup Language) used in many kinds of technical publications or HTML (Hypertext Markup Language) used to format hypertexts.

A style sheet for a document defines the various elements of composition. In this text, we have defined our heading levels, headers, body paragraphs, bulleted lists, and bibliographic entries within the style sheet of the word processor. Our style definition for the top level heading in this article stipulates:

Normal + Font: B Helvetica Bold 18 Point, Indent: Left -0.25 in
First 0 in. Space Before 24 pt After 12 pt, Keep With Next

The definition inherits the defining features of Normal (the definition of
our body paragraph), but changes the font, indents it negatively
(outdents), provides 24 points of white space before the heading (to drop
in away from the last line of the previous body paragraph), inserts 12
points of white space below the heading, and keeps the heading with the
following paragraph (so as not to widow the heading at the bottom of a
page). Not evident in the definition is its singular association with the
heading text; after typing it and pressing return, the next paragraph is
defined as normal (body text). Any formatting element (tabs, indents,
spacing, type style, justification) can be embedded in the style definition.

Style sheets can be created for different types of documents: memos,
proposals, personal letters, forms, lab reports. Then a new file can be
opened with the template that is governed by the appropriate style sheet.
Style sheets can also be used to govern the "look" of a company's
documents, so that people working on different projects will produce
documents that have a similar corporate identity.

Once defined, any change to a style definition ripples through a
document and all the elements with that tag change consistently. Thus,
if the designer decides to open up the body paragraph by introducing a
little extra leading, going say from 12 auto to 12/14, the change would
take place on every other body paragraph in the text. Further, if other
elements in the style sheet are "based on" the definition of the body
paragraph, those would change, too. So if the designer wanted to change
the font from Palatino to Times, and all style definitions were based on
the body paragraph definition, then all the definitions would change
based on a single change to the font for body paragraph.

Many word processors provide additional tools for document
control. Some allow one to avoid leaving widows (the first line or two of
a paragraph or a header that is left behind as a page break) and orphans
(a line that is pushed to the next page at the break). Others allow for
flexible hyphenation zones. Some allow text to be defined so that it is
not separated from what follows, or so that a group of lines stays
together, or so it always starts at the top of a column or the beginning of
a new page. All such features begin to automate document design and
control the design from the top level, so decisions are not made locally.

It is hard to convey why this high level document control is
important until one starts working with long and complexly formatted
documents. But as documents grow longer and as formatting grows
more complex and subtle, keeping the formatting decisions consistent
across the text becomes increasingly difficult. Style sheets provide
extremely powerful and reliable tools for doing so. Learning to use style
sheets in a word processor also prepares one for using them in other

applications: in composition programs, in hypertext authoring languages, or in scripting languages.

# Designing Documents

All of the elements discussed above are brought into play as writers design working documents. Writers can begin by thinking of the page as a grid and seeing the space as divisible into areas of ink and white space. The white space itself can be considered an active design element, used to separate content, to open up the page, and to cue the reader to the progress of the document. Areas of the page can be designed to contain orienting information in the form of headers and footers, and the logical organization of the text can be cued through headings that signal the hierarchy and content.

An attractive and readable design can be further encouraged by controlling line length and leading, making sure these elements are in balance with the appropriate font. The font can be chosen and sized with regard for the function of the document and its audience. Internally, the designer can choose body fonts for readability and display fonts for headings. All the elements can be defined and controlled through style sheets, with the careful definitions evolving into templates or master pages for certain documents that are produced more than once.

We have touched on some basics of text design in this article. Any of these elements can be extended, their subtleties played upon, the use of typographic tools developed and refined. We have discussed primarily text, but beyond text lies the important areas of designing and incorporating visuals (Tufte) and architecting whole publications. Developing control over the elements of layout and typographic design leads one naturally to begin thinking about designing documents with multiple pages. The challenge of design becomes an issue of how to lead readers into documents and how to direct their reading processes once the document has their attention. Facing pages can be designed as single design units, information can be emphasized or de-emphasized, and the page can gain texture from elements that are central or peripheral, verbal or visual.

Some may object that the kinds of learning we are describing here are superficial, launching the old challenge that we are modern sophistics, more concerned with form than context, with display over truth. But we think not. Seeing is thinking (Arnheim, Horowitz). Thinking about design is thinking about structure, function, and aesthetics. Making decisions about layout and text structures is one powerful way a writer brings organization and coherence to a text. Controlling documents with the sophisticated tools of word processing

and page composition is no simple matter, but goes directly to the issue of capable control over hardware and software, a skill increasingly critical for all those of us who are surrounded by machines. Seeing a text at the top level and watching the many design decisions filter down through the actual printing of the text–being in control of the software and the text–grants a powerful feeling of mastery of language and machine. These kinds of learning are worth developing, through the classes we teach and take, and through our personal struggles to control the tools well enough to design the texts we envision.

# Works Cited

Arnheim, Rudolf. *Art and Visual Perception.* Berkley: University of California P, 1954.

—. *Visual Thinking.* Berkeley and Los Angeles: University of California P, 1969.

Bernhardt, Stephen A. "Seeing the Text." *College Composition and Communication* 37 (1986): 66-78.

Bivins, Thomas, and William E. Ryan. *How to Produce Creative Publications: Traditional Techniques and Computer Applications.* Lincolnwood, IL: NTC Business Books, 1991.

Brown, Alex. *inPrint.* New York, NY: Watson-Guptill Publications, 1989.

Horowitz, Mardi Jon. *Image Formation and Cognition.* New York: Appleton-Centry-Crofts, 1970.

Kostelnick, Charles. "Visual Rhetoric: A Reader-Oriented Approach to Graphics and Design." *The Technical Writing Teacher* 16 (1989): 77-88.

Lay, Mary. "The Non-Rhetorical Elements of Design." *Technical Writing, Theory and Practice.* New York: MLA, 1989.

Moore, Patrick, and Chad Fitz. "Using Gestalt Theory to Teach Document Design and Graphics." *Technical Communication Quarterly* 2.4 (1993): 389-413.

Parker, Roger. *The Makeover Book: 101 Design Solutions for Desktop Publishing.* Chapel Hill, NC: Ventana P, 1989.

Shushan and Wright. *Desktop Publishing by Design, 2nd Edition.* Redmond, WA: Microsoft P, 1991.

Tufte, Edward R. *Envisioning Information.* Connecticut: Graphics P, 1990.

White, Jan V. *Graphic Design for the Electronic Age.* New York: Watson-Guptill Publications, 1988.

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## Call for Papers

The Association of Teachers of Technical Writing and Ablex Press are preparing a new series on scientific and technical communication with M. Jimmie Killingsworth as the series editor.

A volume on science writing is in the planning stages; thus, proposals for articles to be included in this volume are now being solicited. Topics may cover a broad range of analytical scholarship on popular science and/or scientific writing, including, but not limited to, linguistic, historical, rhetorical, and literary-critical approaches.

Send a one- to two-page proposal by 1 May 1996 to the address below. Please include an e-mail address with your submission.

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