

## Section 4: Typography

Typography is the visual design of language. It's an essential component of any media presentation that includes words. As mentioned in the introduction, readers and students of this book are enrolled in a wide variety of academic programs. The communications department I teach in doesn't require students to complete a course in typography. Graphic design students, obviously, will take several typography classes. The exclusion of typography from any program that's even a bit visually oriented is hard for me to understand (although I'm certain it has to do with the number of course units available, a bias toward nonvisual classes, and faculty who aren't aware of typography in their everyday lives).

So this is what I tell all my students: *take at least one typography class*. Go to a junior college or community college, sit in on a university class for no credit, do whatever you have to do to take at least one course in type. Without a knowledge of typography, you'll be left with a basic visual vocabulary for images but not for the design of words. Imagine a day in your life where you never see a printed word (on a screen, on paper, on the highway, on a billboard, or on informational signage). Life as we know it would be drastically different and wholly uninformed without the written word. Surely, we would rely on pictographs, petroglyphs ([FIGURE S4.1](#)), or design some other means of communicating ideas, but isn't it convenient that in the English language we only have to consider 26 letterforms? This section focuses on the intelligent consideration of the design of letterforms with regard to how they appear when printed or on the screen, how the display of text is best planned for the human eye, and how type relates to other design elements.



**FIGURE S4.1** A Pueblo petroglyph (a rock carving, as opposed to a rock painting which would be referred to as a *pictograph*) in Boca Negra Canyon at Petroglyph National Monument in New Mexico. Likely carved by ancestors of today's Pueblo Indians, Puebloans had lived in the Rio Grande Valley since before 500 CE.

There are many resources for learning typography. My favorite books include Ellen Lupton's *Thinking with Type*, which is accompanied by an outstanding website full of tools for students and educators alike; John Kane's *A Type Primer*; Erik Spiekermann's *Stop Stealing Sheep & Find Out How Type Works*; and Emil Ruder's *Typographie: A Manual of Design*.

## Letterforms

Letterforms are designed by typographers who manipulate the shapes of common glyphs (letterforms, numbers, and other communicative symbols). Typographers place a special emphasis on the relationships between thin and thick lines, positive and negative space, the space that a glyph occupies, and more. While you won't be

designing new letters in the exercises in this section, you'll begin to notice the differences among typefaces. Each font has its own personality. Your choice of a typeface for a project should be informed by its style and the message you intend to communicate in your project. Toward this end, you'll learn some basic anatomical definitions and historical classifications that will help you make informed decisions.

The movable type developed by the German blacksmith Johannes Gutenberg revolutionized European cultures in the 15th century (**FIGURE S4.2**). Ideas could be transmitted via printed matter with a new ease, much as the invention of the internet transformed communication in the latter part of the 20th century. The way in which type is disseminated, however, has changed in the last 500 years. Glyphs were once physical objects, carved into metal or wood, and then inked and pressed onto paper, vellum, or other materials. Printers in the predigital era faced the same design issues (such as alignment and spacing) that you'll tackle with digital tools. Just as Photoshop's Burn and Dodge tools are direct descendants of dark-room techniques (discussed in [Chapter 7](#)), the leading and kerning you'll learn about in this section are descendants of movable type.



**FIGURE S4.2** Johannes Gutenberg (and his craftsmen), *Gutenberg Bible* opened to the beginning of the *Gospel of Luke*, 1454 or 1455. Courtesy of the Library of Congress [LC-USZ62-110333]. From the Library of Congress website: “The Gutenberg Bible is composed of 1,282 pages. Each page measures 17 × 12 inches. The type is set in two columns, forty-two lines each, from which it has become known as the ‘forty-two-line Bible,’ or ‘B42.’” Today’s viewers have greater difficulty reading this text because the style of the typeface—Blackletter—is uncommon in body copy.

## Link

See the Library of Congress’s interactive *Gutenberg Bible* exhibit at <http://myloc.gov/Exhibitions/Bibles/Interactives/html/gutenberg/index.html>.

## What's in a Letter?

A traditional typography course would cover the many parts of a

letter in depth. I've limited the following list of definitions to those you'll need for a basic conversation about type in a work of design or digital art. **FIGURE S4.3** showcases a letter's baseline, x-height, cap height, serif, ascender, and descender. The baseline is the invisible line that a letter, word, or sentence sits on: it's the implied line that keeps typography moving in one direction. The x-height is the distance from the baseline to the top part of a lowercase letter in any font, while the cap height is the distance from the baseline to the top of an uppercase letter. Since typefaces can have enormous or tiny x-heights, the size of this part of the letterform influences the amount of space the letter takes up in a composition and the viewer's perception of the size of the type. The serif is a small detail that hangs off the end of some of the strokes defining a letterform. Ascenders and descenders are parts of the letter that escape above the x-height or below the baseline, respectively.



**FIGURE S4.3** A diagram showing selected elements of a letter-form. Serifs are rendered in magenta. For a more robust directory, visit the Letter Anatomy page on Ellen Lupton's *Thinking with Type* website at <http://thinkingwithtype.com/contents/letter/#Anatomy>.

## Classifications of Type

John Kane identifies classes of type on a historic timeline in his book *A Type Primer* in **TABLE 7.1**.

HISTORIC TIMELINE OF CLASSES OF TYPE		
CLASS/DATE	EXAMPLE	
Blackletter 1450	X	Designed to emulate handwriting styles of monks and scribes in northern Europe
Oldstyle 1475	X	Oldstyle was "based upon the lowercase forms used by Italian humanist scholars for book copying (themselves based upon the ninth-century Caroline minuscule)" [47].
Italic 1500	X	Although developed as a new classification of type, italic is now a common style addition to typeface families.
Script 1550	X	Meant to emulate engravings and are still used today in casual and formal typographic messages
Transitional 1750	X	Revision of Oldstyle to further define the contrast between thick and thin strokes
Modern 1775	X	Extreme contrast is achieved in Modern typefaces such as Bodoni and Didot
Square Serif 1825	X	Includes a new modification specifically to the serif, which appears blockish and heavy (sometimes referred to as <i>Egyptian</i> or <i>slab</i> )
Sans Serif Developed in 1816 by William Caslon but not used widely until the 1900s	X	The serif was eliminated completely so the letterforms appear even more geometric. Variations on the sans serif form include humanist, geometric, and calligraphic forms.

TABLE 7.1

Though developed as a new classification of type, italic is now a common style addition to typeface families ([FIGURE S4.4](#)). Kane suggests that square serifs, for instance, were a response to the advertising industry's need for bold, heavy, commercial type ([FIGURE S4.5](#)). Martin Majoor (designer of the Scala and Nexus typefaces, among others) coined the Nexus Principle [1], whereby multiple typefaces including both sans serif and serif letters are created based on one form.

*Although it's not a good idea to set too much body copy in italic, you will notice the shortened line length when letterforms are slanted with decreased kerning.*

Although it's not a good idea to set too much body copy in italic, you will notice the shortened line length when letterforms are slanted with decreased kerning.

**FIGURE S4.4** Italic is now a common type style or variation. The same sentence appears here in Calson 10/12 point (read as “10 over

12 points," meaning the size of the font is 10 points and the leading, or space between the lines, is 12 points). The top sentence is rendered in italic, and the bottom is in regular style. Notice how the italic style occupies less space on the page than the regular variation of the same typeface.

THE LARGEST, BEST AND MOST CENTRAL OFFICE---NO. 2 SPRING LANE

**GREAT REDUCTION**  
IN PRICES OF  
**JOB PRINTING**

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**SHOP BILLS OF THIS SIZE,**

Same quality of paper, and any amount of reading which can conveniently be put upon this size, we will print for

**90 Cts.**

**PER THOUSAND !!!**

And all other JOB PRINTING at equally Low Rates!

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**CARD PRINTING!**

We can do CARDS ~~more~~ CHEAPER ~~than~~ than any other Establishment in the United States!

In this Branch WE do Defy ~~all~~ ALL Competition !!!

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**J. E. FARWELL & CO'S,**  
STEAM JOB PRINTING OFFICE,  
**No. 2 SPRING LANE,**  
Corner Washington,  
Opposite School Street,

BOSTON

J. E. FARWELL & CO'S BOSTON MAMMOTH STEAM PRINTING HOUSE!

**FIGURE S4.5** *An American Time Capsule: Three Centuries of Broadsides and Other Printed Ephemera*, the fourth of six advertisements of Boston Printing, 1860. Library of Congress, Rare Book and Special Collections Division. In this advertisement: bold, commercial type includes serifs, sans serifs, slabs, and more!

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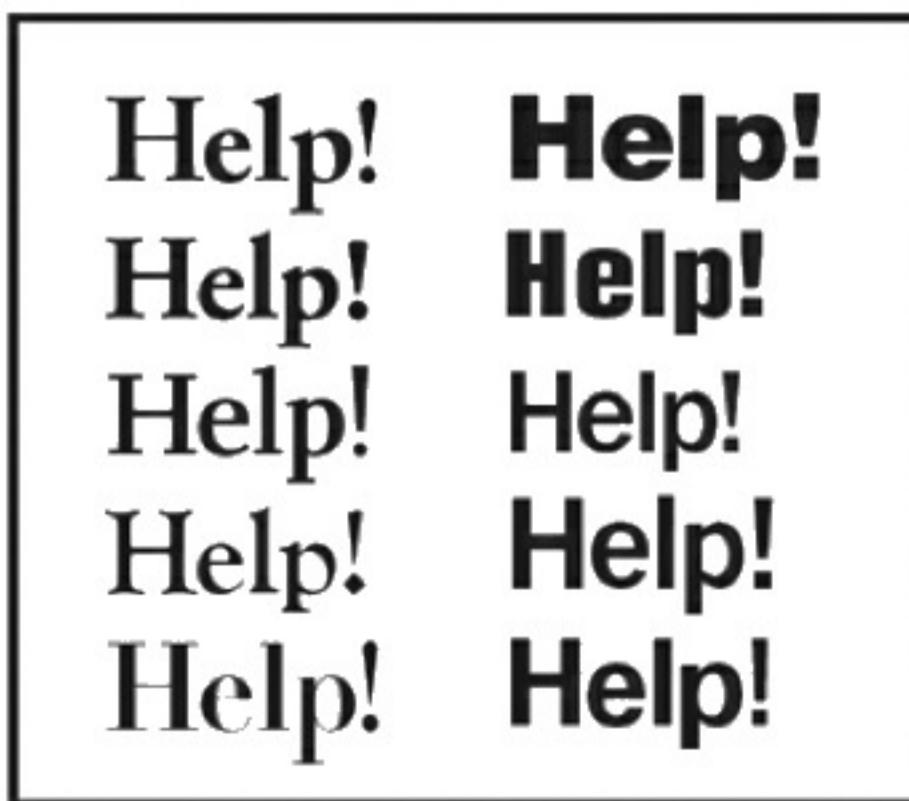
### Reference [1]

See [www.scalafont.com/story](http://www.scalafont.com/story) to read more about Majoor's Nexus Principle.

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### Serif vs. Sans Serif

It's important for digital artists and designers to be able to distinguish the difference between a serif and sans serif typeface (**FIGURE S4.6**). Legibility is one of a typographer's key concerns, and the differences between these two typeface styles can greatly influence the legibility of the text in particular situations. A serif typeface is easier to read in the body copy (paragraph text, for instance) of printed documents, such as newspapers, magazines, pamphlets, and brochures. The serifs offer contrast between the paper and ink that aids reading in this situation, where light is reflected from the paper to the reader's eye.



**FIGURE S4.6** In the left column, the word “help!” is set in several **SERIF** typefaces: Adobe Caslon Bold, Adobe Garamond Bold, FF Scala Bold, Goudy Old Style Bold, and Didot Bold. On the right side, the **SANS SERIF** typefaces used are Helvetica Black, Akzidenz Grotesk Extra Bold, Franklin Gothic Medium, News Gothic Bold, and Univers 65 Bold.

### Examples of Serif and Sans Serif Typefaces

Serif typefaces include Caslon, Sabon, Garamond, Palatino, Baskerville, Bodoni, and more. On the web, you might commonly see Georgia or Times New Roman, among others.

Sans serif typefaces include Akzidenz Grotesk, Helvetica, Gill Sans, Franklin Gothic, Futura, Univers, and more. On the web, you might commonly see Verdana or Arial, among others.

Sans serif typefaces are easier to read in body copy that appears on a screen, such as websites, mobile apps, and videos. Since light is being projected from the screen to the reader’s eye, the tiny serifs at the edges of the letterform become an annoyance that hinder legibility while the crisp edges of the sans serif form are simpler to perceive.

The 2007 movie *Helvetica* includes interviews with an international group of typographers and graphic artists who, for the most part, have strong opinions about the typeface Helvetica [2]. This ubiquitous font, designed by Max Miedinger in 1957, has been used in commercial advertising, corporate logos, information graphics, and so on for more than 50 years. Some designers view this modern, geometric typeface as a stifling indicator of a homogenous corporate culture. Others find beauty in the letterform’s chameleon-like flexibility. This particular font and Gary Hustwit’s movie provide an opportunity for reflection on the physical and symbolic differences

between Roman typefaces (old style, transitional, and modern) and sans serif letterforms.

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### Reference [2]

You can see clips from the movie on the Helvetica website, [www.helveticafilm.com/clips.html](http://www.helveticafilm.com/clips.html).

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## Type and Image

Philip Meggs's 1989 book *Type and Image* remains one of my favorite resources for articulating the relationship between two visual elements that could be read as graphic and abstract, dominant and symbolic, or signs and pictures. Meggs quotes French critic and philosopher Roland Barthes in an observation of the way in which the word became subservient to the image as society's pace quickened in the 20th century, "Formerly, the image illustrated the text (made it clearer); today the text loads the image, burdening it with a culture, a moral, an imagination" [3]. Typography can be rendered as an image form (see the Google Doodle note in this section). Text can alter the meaning of an image or direct the viewer toward an interpretation. As type and image are juxtaposed, their relationship dictates a layer of meaning to the viewer. Conventionally, type is isolated from images (for instance, in the way this book is designed). Juxtaposing text and image in surprising ways can result in a powerful message. Meggs suggests, "Frequent use is made of type that surprints or overprints an image and type that reverses or drops out from the image...to create strong visual hierarchy and effective communication" [4]. In the exercises in this chapter, you'll overprint big, bold text on the collage you created in [Chapter 8](#). The type will become a new graphic element in the composition, and its vector format will contrast with the photographic texture of the collage.

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### Reference [3]

Philip B. Meggs, *Type and Image: The Language of Graphic Design* (New York: Van Nostrand

Reinhold, 1989). pg. 41.

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## Reference [4]

Ibid., pg. 45.

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In [Chapter 10](#), you'll add type to the collage you created by completing the [Chapter 8](#) exercises for Luis Buñuel and Salvador Dalí's film *Un Chien Andalou*.

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Google Doodles are short animations that transform the Google type-based logoform into a themed motion graphic. View the whole collection at [www.google.com/doodles/finder/2013/All%20doodles](http://www.google.com/doodles/finder/2013/All%20doodles).

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## Contrast and Hierarchy on the Grid

Typefaces are designed in sets known as *families*, which include a variety of styles and point sizes. A display font may have a limited family (or none at all), while a typeface revised and redesigned for different type factories will include a lush set of varieties ([FIGURE S4.7](#)). While you may need only one version of a typeface for a headline (where you might use a display font), it's important to choose a large family for variations made in body copy. Using a single type family for the body copy in a layout will help keep the composition unified. However, using multiple varieties of that family will let you create typographic contrast. These two elements, unity and contrast, are used to direct the reader's gaze as she scans a layout. To organize the layout, a simple (invisible) grid is established, and type is limited to alignment along its horizontal or vertical guides. Contrast is introduced through the usage of multiple guides. Hierarchy is established through contrast and the perception of isolation or a shift in the ratio between negative and positive space. Different parts of the

text (headings, body copy, image captions, and so on) play different roles in the composition—each corresponds to a different level of hierarchy and should be treated visually as such.



**FIGURE S4.7** The lengthy list on the left shows variations for the typeface Helvetica Neue. The display typefaces listed on the right include few or no variations.

In [Chapter 11, \*The Grid\*](#), you'll use a grid to organize a typographic layout. You'll create contrast and hierarchy through space, size, and typographic varieties.

## Which Application Should I Use?

While you're already familiar with Adobe Illustrator, there are good reasons to use Illustrator and equally good reasons for using Adobe InDesign. Illustrator has all the tools you need to produce posters, identity materials (business cards, letterhead, logo designs), and other one-page items. InDesign has additional tools and panels useful for controlling the design of multipage layouts, not to mention its recent additions for the development of electronic books and mobile applications.

In [Chapter 12, \*Continuity\*](#), you'll develop a multipage PDF portfolio using InDesign. Since the PDF is meant to be viewed on the screen, you'll use a

sans serif typeface throughout the document.

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I recommend that students create a straightforward PDF of their portfolios for email correspondence with human resources staff or internship supervisors. This can be accomplished using multiple artboards in Illustrator. I've documented the process in an article on Peachpit.com [5], for anyone who doesn't want (or have the time) to learn a new application.

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### **Reference [5]**

xtine burrough, *Create A PDF Portfolio Using Adobe Illustrator*, October, 2010, [www.peachpit.com/articles/article.aspx?p=1636981](http://www.peachpit.com/articles/article.aspx?p=1636981).

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## Chapter 10. Type and Image

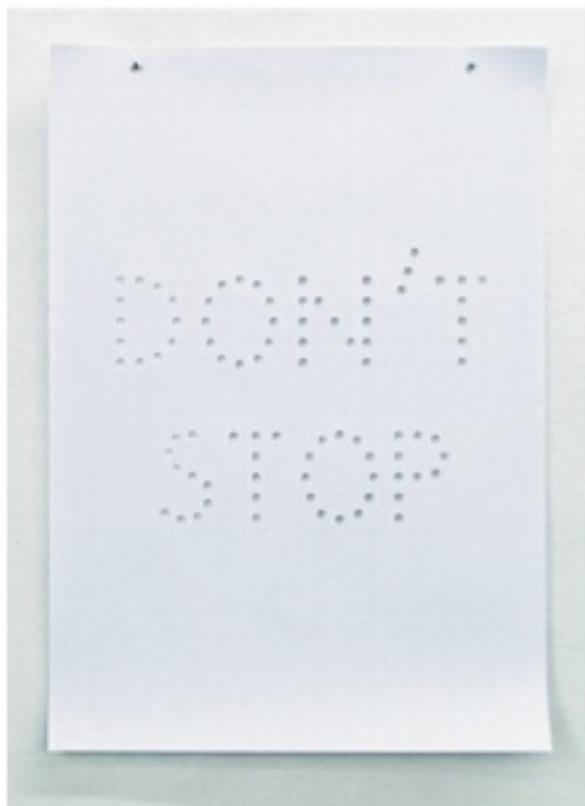


The exercises in this chapter will provide technical and aesthetic lessons in the juxtaposition of type and image. In these exercises, you'll finalize the *Un Chien Andalou* poster that you started as a collage in [Chapter 8, Select, Copy, Paste, Collage](#). You'll also place your Adobe Photoshop collage file into Adobe Illustrator in order to set the type and create a PDF document for viewing or printing.

### Contrast and Rhythm

Contrast and rhythm are essential principles to keep in mind when designing with type. In Gestalten TV's interview with Erik Spiekermann, the Berlin-based typographer compared type design to musical composition. The silence between notes in music is equivalent to the positive and negative spatial relationships in typographic design ([FIGURE 10.1](#)). Spiekermann says,

resulting drilled posters display text written by participants. Letters are formed of repetitive circles, drilled at a uniform speed. Drilled holes in the paper create contrast between presence and absence (of the paper or the letterform, depending on how you think of it). The effect is reminiscent of 0s and 1s or the on and off nature of digital technologies. The similarity of the letterforms and the speed with which they're created contribute to the rhythm of the work.



**FIGURE 10.2** Top: Jürg Lehni and Alex Rich, *Things to Say*, Kunst Halle Sankt Gallen, 2009. Furniture by Martino Gamper. Bottom: Jürg Lehni and Alex Rich, *Empty Words*, 2008.

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## Reference [2]

See video documentation of Jürg Lehni and Alex Rich's 2008 *Empty Words* on Vimeo at <https://vimeo.com/16379809> or play with the interactive simulation of this project at <http://thingstosay.org/empty-words/>.

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When an image is introduced into the graphic equation, it's important to establish contrast and rhythm between the image and the type. But when text is overprinted or superimposed on an image, contrast must be extreme.

Legibility relies on contrast, which can be adjusted as a relationship between two or more elements in terms of size, hue, value, shape/form, amount of negative space, and so on (**FIGURE 10.3**). In the following exercises, you'll mesh typography with the collage created in [Chapter 8](#). Philip Meggs writes, “*Simultaneity* means fusing unlike forms so that they exist or occur at the same time. Borrowing a visual technique from their contemporaries, the cubist painters in Paris, futurist artists also used it to mean fusing more than one view of an object into one image” [3]. The following exercise relies on this notion of simultaneity for the viewer to understand the fusion of the type and image in the visual communication. Specifically, you'll create a single block of large type, left aligned on a single margin, and superimposed over the organic composition defined by the collage. The rectangular shape of the type and its crisp, vector shapes contrast with the photographic, irregular shapes in the image. You'll repeat the image of the moon (covering Dalí's eye) as a substitution for the letter *o* in the word *Andalou*.



**FIGURE 10.3** Sagmeister & Walsh for Aizone: an advertising campaign for a luxury department store in the Middle East. The legibility of this composition relies on the stark contrast between the typography and the body in value (black and white) and movement (horizontal type across a vertical body). Rhythm unifies the message because the size of the type is nearly as large as the body on the page. The organic flow of the hand-drawn letterforms feels as personal and intimate as the naked form.

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### Reference [3]

Philip Meggs, *Type and Image: The Language of Graphic Design* (New York: Van Nostrand Reinhold, 1989). pg. 56.

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### Sagmeister Team for Aizone

Creative Director: Stefan Sagmeister; Art Director/Designer: Jessica Walsh; Photographer: Henry Hargreaves; Body Painter: Anastasia Durasova;

Creative Retoucher: Erik Johansson; Hair Stylist: Gregory Alan; Producer: Ben Nabors, Group Therapy; Production Designers: John Furgason, Andy Eklund.

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## Text Boxes

In Adobe applications such as Illustrator and Photoshop, you can use the Type tool in two main ways to set type on the page. You can click with it one time anywhere on the page and create a single, long line of type. This is a great way to add a headline or display type to the page. Alternatively, you can click with it and drag to create a text box. (In Adobe InDesign, this action creates a text frame.) This establishes the width of a column of text. The type you add conforms to the size of the box (which can always be modified). When you know you're setting body copy, columns of text, or text that should appear on multiple lines to fit a certain space, plan to create a text box or text frame with the Type tool. In the following exercises, you'll create a single text box. In the next chapters, you'll explore both methods of working with the Type tool.

## Text Adjustments: Kerning and Leading

Once you place copy in a text box, you'll likely need to modify its formatting. You can set character elements such as the typeface, size, variation or style, and more, as well as paragraph elements such as alignment, indents, and hyphenation. These are all decisions you'll make based on an informed view of the typography with which you're working. The *informed nature* of your view is what you'll be crafting throughout all the exercises in this section. There are many pieces of the typographic puzzle to keep in mind at once, so you'll learn small, central elements of typographic design in each chapter.

Three typographic spacing issues specific to a block of text include *kerning*, or the horizontal space between the letters in a single word; *tracking* (sometimes called *letter spacing*), or the evenly distributed

horizontal space between letters in a line of type; and *leading*, or the vertical space (or distance) between each line of text. You will explore all of these throughout Chapters 10, 11, and 12. In the following exercises, you will modify the kerning of the large text in order to adjust the contrast and repetition of the typeface as it relates to the image beneath it.

The key commands to adjust kerning, tracking, and leading are easier to use than the Adobe panels, and they're simple to remember: press the Option key in combination with the Left, Right, Up, or Down Arrow key. If you're adjusting kerning, as you will in the following exercises, place your Type tool cursor between two letters (that is, nothing is selected) and then Option-← (to tighten the space between the letters) or Option-→ (to separate the letters). You can adjust tracking by selecting a line of type and using the same key commands, and you can adjust leading by selecting one or more lines of type and using the same key commands (substituting the ↑ and ↓).

In the following exercise, you'll pay particular attention to contrast and the repetition of space between letters. When there's too much space between letters, the reader will notice the negative space (likely the white space) and lose focus on the letterforms (the positive space). If there's not enough space between letters, the shapes seem to run together, and the viewer has a hard time differentiating letters, resulting in poor legibility (**FIGURE 10.4**). Since the type will be on top of the image in the following exercises, tight kerning between letterforms will help the viewer see and read the block of type as one, legible, unavoidable visual group. However, you'll be sensitive to creating large enough rhythmic gaps between the letters for the viewer to be able to discern the words *Un Chien Andalou*.



**FIGURE 10.4** In the composition on the left, the overprinted type is kerned too tightly. Letters nearly run into each other, resulting in poor legibility. The composition on the right displays equally poor legibility for the opposite reason: the kerning is too loose. The gaps between the letters draw too much attention.

Finally, to make this even more difficult, true, even spacing between the letters (that is, if you literally measure the space between the letters and make them all exactly the same) will not result in an optically harmonic typographic layout ([FIGURE 10.5](#)). There are some situations where you'll pull two letters closer together (for instance, watch for this between slim and round letters such as the letters *l* and *o* or *o* and *u*) or push them farther apart (such as an *A* and *n* where the uppercase *A* requires more space, even though the overall amount of white space between the letters seems full).



**FIGURE 10.5** The type on the left is kerned with precisely the same amount of space between each letterform. Notice the uneven spacing between the resulting text block, especially between, for instance, the *A* and *n* or *l* and *O* in *Andalou*. The type on the right is kerned to create optical harmony.

If you're using a Macintosh computer, you can press **⌘-Tab** to scroll (keep pressing Tab) through open applications.

## Chapter 11. The Grid

# text.

'raesent ac laoreet tortor. Integer  
orem nisl, condimentum et commodo  
on, ultricies sit amet neque. Curabitur  
haretra tincidunt est, ac suscipit elit  
ulputate et. Quisque vehicula turpis a

The exercises in this chapter will provide technical lessons and aesthetic exercises in using a grid to align a typographic layout. Following the Swiss International Style of typographic composition, the final layout includes hierarchies of type that readers can consume with an economy of eye movements. You'll continue to use tools learned throughout chapters in this section, with an emphasis on Adobe Illustrator's Type tools. In the next chapter, you'll create a typographic layout using Adobe InDesign, where your knowledge and familiarity with Illustrator tools will assist you in learning a new application.

The grid is essentially a tool that helps artists and designers organize and align a composition. As a utilitarian device, the grid has been used in urban planning since the Indus Valley civilization (present-day Pakistan) and ancient Rome. The simple organization of vertical and horizontal lines is also used in sketching electrical circuit diagrams. Engineering draftsman Harry Beck revitalized cartography with his grid-based 1931 redesign of the London Underground map, which used only 45- and 90-degree angles [1].

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### Reference [1]

The Real Underground Morphing Map (seen in [Figure 11.1](#)) is best demonstrated at [www.fourth-way.co.uk/realunderground](http://www.fourth-way.co.uk/realunderground).



**FIGURE 11.1** The map of London’s Underground, based on Harry Beck’s electrical grid-inspired design, contrasts with London’s actual landscape.

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His version became a beloved work of design, although there was one major rivalry between form and function: because the map displayed equal space between stations, it in no way reflected the actual London landscape (**FIGURE 11.1**). This story of how the grid can abstract reality is a reminder of its cold and schematic nature. While the grid is an essential device for organization, it’s also devoid of the complexities and nuances inherent in the human condition. So the grid and its emphasis in the Swiss International Style have come to connote design that is efficient, organized, and legible, but also unfeeling, nonemotive, and machine-oriented.

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## Link

You may also enjoy the articles “Mr. Vignelli’s Map” at <http://observatory.designob-server.com/feature/mr-vignellis-map/2647> and “The London Tube Map, Redesigned for a Multiscreen World” (featuring Mark Noad’s redesign of Harry Beck’s map for interactive screens) at [www.fastcodesign.com/1664662/the-london-tube-map-redesigned-for-a-multiscreen-world](http://www.fastcodesign.com/1664662/the-london-tube-map-redesigned-for-a-multiscreen-world).

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Ellen Lupton and J. Abbott Miller explain the grid as a “structural form pervading Bauhaus art and design, [that] articulates space according to a pattern of oppositions” [2]. The obvious oppositions are the vertical and horizontal structures inherent to a grid, which you’ll create with guides. Positive and negative space, implied lines of never-ending continuity and abrupt spatial impositions, rhythms formed by repetition and then challenged by a lack of repetition, and geometric and organic forms are all possible dyads when placed in a relationship on a grid.

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## Reference [2]

Ellen Lupton and J. Abbott Miller, eds., *The ABCs of ▲■●, the Bauhaus and Design Theory* (Princeton Architectural Press, 1991). pg. 28.

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## Gestalt

The Bauhaus school was in operation from 1919 to 1933. Coincidentally, new Gestalt (the German word for “shape”) psychological studies in perception were developed in Berlin from the 1920s to the 1940s. The primary concept of Gestalt is the commonly stated truism, “The whole is greater than the sum of its parts.” Indeed, readers, viewers, and users will classify and organize whole structures (layouts, grids, symbols, forms, and so on) before recognizing the minor parts used to compose them. This regular, simple, symmetric, and orderly way of perceiving is known as the *Law of Prägnanz*, one of the eight Gestalt laws.

Max Wertheimer, Kurt Koffka, and Wolfgang Köhler founded Gestalt psychology. Many students of art theory and visual communication today refer to writings by Wertheimer and his student, Rudolf Arnheim.

Understanding as many of the Gestalt properties and laws as you can will help you anticipate how your viewer will experience the visual works you create. Since these properties and laws relate to the split between the whole and its parts, understanding Gestalt will fine-tune your ability to create visual unity. When relating design elements to one another (and the page or viewing space) on the grid, you should be purposefully orchestrating visual unity and its opposite, discontinuity.

### Eight Gestalt Laws You Can’t Live Without

The Wikipedia page for Gestalt Psychology is an excellent resource as it has brief descriptions and images for each law and property ([http://en.wikipedia.org/wiki/Gestalt\\_psychology](http://en.wikipedia.org/wiki/Gestalt_psychology)). Here's a quick list of laws you can draw on when creating visual unity:

- 1. Proximity:** Elements near one another are united.
- 2. Similarity:** Elements like one another (in shape, color, or value, or so on) are united.
- 3. Closure:** Elements missing minor visual details will be united into a functioning form in the mind of the viewer. (For example, even if you never see a cartoon character's toenail, you still assume the character has feet and toes.)
- 4. Symmetry:** Elements balanced on or around a center point are united.
- 5. Common Fate:** Elements moving in the same direction are united.
- 6. Continuity:** Elements aligned on an implied guide are united.
- 7. Good Gestalt:** Elements that are repetitive, simple, and orderly are united. This is sometimes referred to as the *Law of Prägnanz*.
- 8. Past Experience:** Elements encountered in the past will affect how new, similar elements are perceived and united.

Ellen Lupton reiterates the importance of negative space in *Thinking with Type*, writing, “Designers focus much of their energy on margins, edges, and empty spaces, elements that oscillate between

present and absent, visible and invisible” [3]. As mentioned in [Chapter 1](#), [\*The Dot, the Path, and the Pixel\*](#), the Gestalt property of multi-stability indicates that the relationship between the visible and invisible is unpredictable. While developing the grid for exercises in this chapter, be attentive to margins, edges, and empty spaces.

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### Reference [3]

Ellen Lupton, *Thinking with Type* (Princeton, NJ: Princeton Architectural Press, 2004). pg. 115.

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## Swiss International Style

In *Thinking with Type*, Lupton writes, “Swiss designers in the 1940s and 1950s created design’s first total methodology by rationalizing the grid. Their work, which introduced programmatic thinking to a field governed by taste and convention, remains profoundly relevant to the systematic thinking required when designing for multimedia” [4]. This emphasis on systematic logic directly correlates the motives of mid-20th century Swiss designers with those of today’s digital artists. As this is a foundational text, it focuses on the language and tools common to typography with the grid-based Swiss International Style as a guide. The style that has become associated with Swiss designers emerged in Russia, Germany, and the Netherlands in the 1920s. It was made famous by works and texts that urged a novel approach to typography, such as Jan Tschichold’s *The New Typography* (1928) and Josef Müller-Brockmann’s *Grid Systems in Graphic Design* (1961). As Diogo Terror writes for *Smashing Magazine*, “Keen attention to detail, precision, craft skills, system of education and technical training, a high standard of printing as well as a clear refined and inventive lettering and typography laid out a foundation for a new movement that has been exported worldwide in [the] 1960s to become an international style” [5].

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### Reference [4]

Ibid., pg. 8.

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## Reference [5]

See [www.smashingmagazine.com/2009/07/17/lessons-from-swiss-style-graphic-design](http://www.smashingmagazine.com/2009/07/17/lessons-from-swiss-style-graphic-design).

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### Link

Explore the exhibition *The New Typography* (December 23, 2009–July 25, 2010) at the Museum of Modern Art at [www.moma.org/visit/calendar/exhibitions/1015](http://www.moma.org/visit/calendar/exhibitions/1015) and be sure to click the “View the exhibition checklist” link to see examples from this time period.

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### Link

Explore the Swiss Poster Collection in the Carnegie Mellon University Libraries at <http://luna.library.cmu.edu/luna/servlet/CMUccm~3~3>.

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Lessons from the Swiss International Style include seemingly simple tenets that are much more difficult to execute on your first try than they are to memorize. (I've noticed many students who can memorize and produce this list on a quiz, but struggle to demonstrate the aesthetic principles in their homework.) What follows is a modified version of Tschichold's principles, outlined in *The New Typography*. A typographic layout should contain:

- Imbalanced asymmetry
- Active negative space
- Minimal use of illustrations or decorations
- Color for the purpose of navigation
- Extreme groupings of contrasting elements

In this chapter, the typographic layout will be simple. You'll work

with just two guides that you'll understand as implied lines demonstrating the Gestalt Law of Continuity. Then, in [Chapter 12, \*Continuity\*](#), you'll design a more complicated (or flexible) grid and revisit lessons associated with the Swiss International Style and the Gestalt laws.

## Sentences and Paragraphs

When assembling type into sentences and paragraphs, there are a number of design issues to consider, including alignment, line length, and spacing. Each of these relate to legibility in as much as they relate to the overall composition. There are basic principles of legibility, of which most people are unaware. So if you show your work to others and it includes typography, you may have to educate your audience.

## Line Length and Saccadic Movements

English readers move their eyes from left to right across the page or screen, following the length of the line. This is a simple truth. New to you might be the saccadic movements that the eyes follow when reading or seeing in general. The eyes don't focus in one location. Instead, they move back and forth rapidly. When reading, the eyes move "in little hops—called 'saccades'—and come to brief stops, about 250 milliseconds each—called 'fixations.'" (Follow the link provided to Peter Orton's article.) It's during this fixation time that the eyes see and read multiple words. Then the gaze regresses into a backward movement before hopping forward again. At the end of the line, the eyes sweep back to the beginning of the next line of type and proceed again.

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### Link

For more on saccadic movements, see "Computer Text Line Lengths Affect Reading and Learning" by Peter Orton, PhD, of the IBM Center for Advanced Learning at <http://edlab.tc.columbia.edu/files/eye->

## [tracking%20article.pdf.](#)

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Once you know how the eye moves during reading, you can design typography for the best possible reading conditions ([FIGURE 11.2](#)). Most readers will be able to read a line length of nearly five inches before having to cycle through a regressive phase. In *The Elements of Typographic Style*, Robert Bringhurst suggests that the line length for body copy be limited to 45–75 characters or three to five inches. This is a wide range that's meant to allow for multiple columns on a page (where you would use a shorter length). In *Typographie*, Emil Ruder suggests an optimal length of 50 to 60 characters (including spaces). Others offer an equation of 1.5 to 2.5 times the size of a lowercase alphabet set in whichever typeface and size you're using.

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**FIGURE 11.2** These two views of Lorem Ipsum text show the contrast between the easy reading of a suitable line length (right) and the difficulty in staying with a long line length (above).

## Alignment: Left, Right, Centered, Justified

Alignment is not just the button you press to align a paragraph to the left, center, right, or in a justified block ([FIGURE 11.3](#)). Alignment can also be used within a typographic design to signify hierarchy. Indentations or negative spaces can be combined with an invisible line of continuation to help readers make associations between

blocks of text through their alignment. You'll see how to arrange for this in the following exercises.



FIGURE 11.3 In this seven-column layout of a 1902 edition of the

*Washington Times*, several varieties of alignment are used to create contrast and hierarchy in a unified grid.

## Spacing: Kerning and Leading

Contrast and rhythm are essential design principles that affect how the viewer understands a typographic layout. Rhythm is understood through regular repetitions and interruptions. Contrast is understood through differences once similarities have been established. The rhythm of text can be controlled by two types of spacing:

- The space between letters: *kerning* between individual letters or *tracking (letter spacing)* across whole sentences, paragraphs, or documents
- The space between lines of type: *leading* (line spacing)

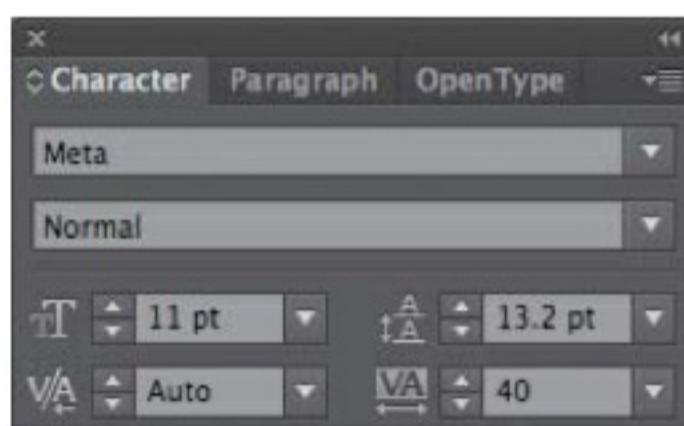
You'll learn more about how to adjust these basic typographic elements throughout the exercises in this section ([\*\*FIGURES 11.4 AND 11.5\*\*](#)). Squint your eyes and view all three paragraphs in [Figures 11.4](#) and [11.5](#). The gray value that you see in your squinted view of the text block is created by the combination of text and whiteness on the page. The top paragraph reads as a dark gray, the middle paragraph translates to a medium gray, and the bottom paragraph is light gray. The text is easiest to read when the gray is close to a medium or medium-dark value.



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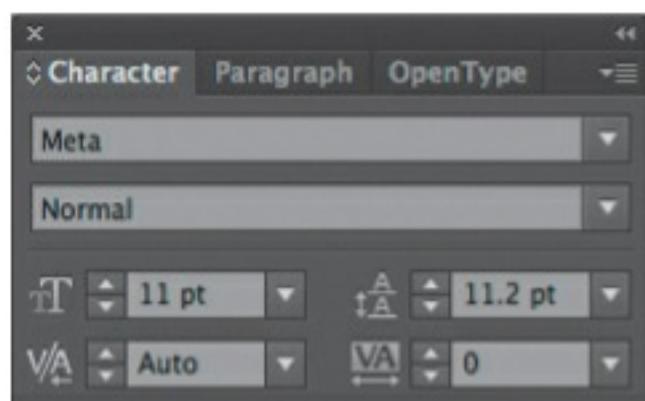


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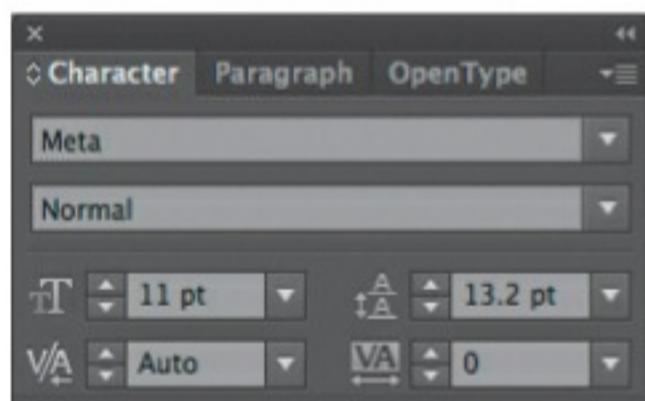


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**FIGURE 11.4** The tracking in the top paragraph is tight—notice the setting of -40 in the Character panel. The middle paragraph is unadjusted. The bottom paragraph tracking is set to +40 in the Character panel. The type is set loosely, with too much space between the letters.



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vehicula lacinia, diam dolor  
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Lorem ipsum dolor sit amet,  
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accumsan dolor, id auctor  
nulla libero et risus. In ut eros  
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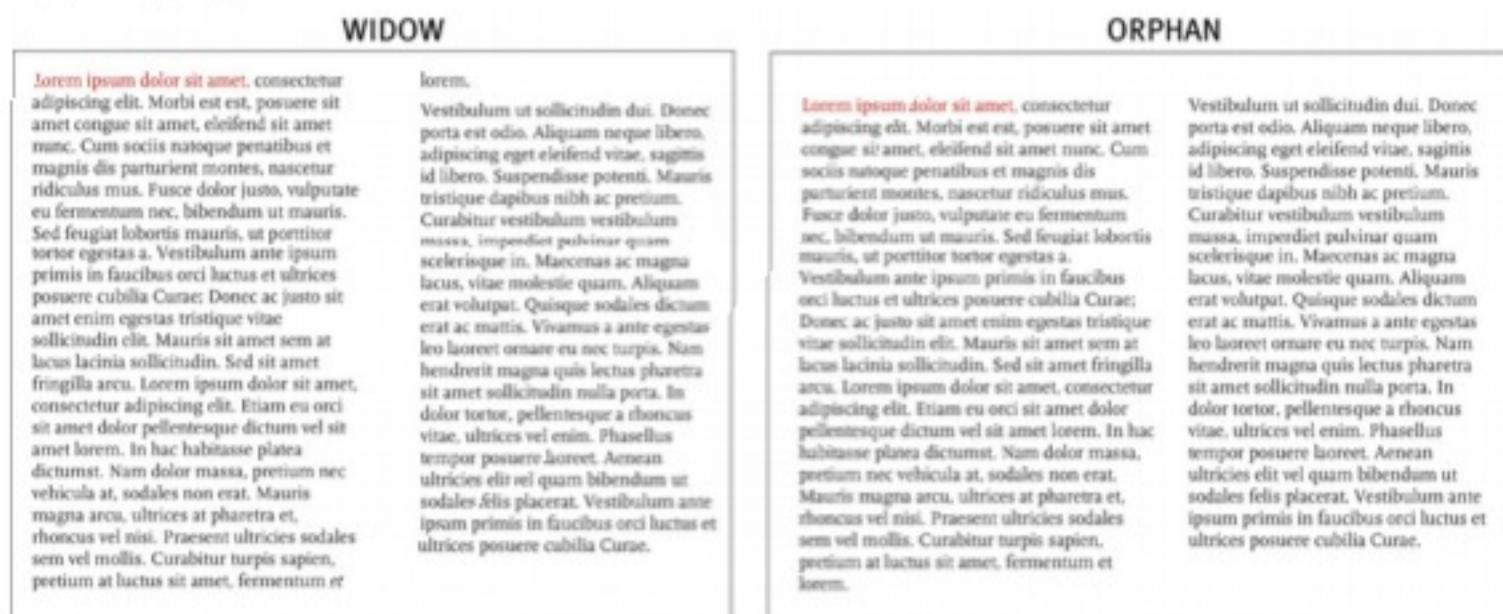
Lorem ipsum dolor sit amet,  
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accumsan dolor, id auctor  
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**FIGURE 11.5** The leading in the top paragraph is tight—notice the setting of 11.2 in the Character panel. Also notice that the type size is 11 points. This combination of point size and leading is articulated as 11/11.2. The middle paragraph is unaltered at 11/13.2. The bottom paragraph is light because of the increased leading of 11/17.2.

## Widows and Orphans

Typographically speaking, widows and orphans break the rhythm of

a block of text (**FIGURE 11.6**). The *Chicago Manual of Style* defines an orphan as a dangling word or sentence fragment that appears at the end of a paragraph or column. A widow is a dangling word or sentence fragment (the last sentence or word in a paragraph) that appears at the start of a new column. There's no universal agreement about these definitions (and which is which), but both are to be avoided. If you notice dangling text, adjust the leading, type box (or line length), margins, or letter spacing (for the whole block), or force a paragraph break.



**FIGURE 11.6** The word *lorem* is both a widow and an orphan in this example: it dangles at the top of the first paragraph in the right column (left) and at the bottom of the last paragraph in the left column (right).

## What You'll Need

It's not necessary to download files to complete the exercises in this chapter.

- ✓ I used the Helvetica type family, which is installed on most computers, so you should be able to follow my steps without installing new fonts on your system. If you don't have Helvetica, use another sans serif type family.

You'll benefit from seeing how the grid aids alignment in a typographic layout design. The law of