

The book cover features a blurred background image of a person's face and hands. The title 'type on screen' is prominently displayed in a bright yellow color. The word 'type' is in a large, bold, serif font, while 'on screen' is in a smaller, sans-serif font. The author's name, 'Ellen Lupton, editor', is at the top right. A descriptive subtitle is at the bottom right. The spine of the book is visible on the left, showing a dark grey band with the text 'A DESIGN HANDBOOK'.

Ellen Lupton, editor

# type

on screen

A critical guide  
for designers,  
writers, developers,  
& students

2040

2040-05-21T12:00:00Z/2040-05-11T18:00:00Z

A WORLDS' FAIR  
ON THE EARTH

# MOON

ONWARD & UPWARD

We look from the Milky Way  
into the universe beyond.

Life and time are enriched by science and technology.  
The pearl of our night sky welcomes Earthlings to  
reflect on our past home and prepare us for a future  
of exploration, discovery, and the marvels of space.

IN THE NAME OF  
FRIENDSHIP AND PROSPERITY



- Moon Bounce
- Hall of History
- Crater Lake
- Ion Train Hub
- Intergalactic Library
- The Strat-o-Sphere



LOST WORLDS' FAIRS

## 02 TEXT ON SCREEN

YOUNG SUN COMPTON

So you picked some fonts. Now what? Typography isn't just about choosing typefaces. It's about what you do with them. Once you choose one or two type families that fit the context and content of your project, you are ready to tackle the principles of typographic composition. Designers manipulate size, contrast, weight, color, rhythm, texture, and hierarchy in order to craft pleasing and compelling reading experiences. Good typography often goes unnoticed, melting into the background. Bad typography, on the other hand, jumps out like a scary clown, making a project look amateur, artless, or confusing.

Imagine how your audience will encounter the content. Picture modern users consuming a long-form news article. Reading their phones on the way to work, they may be deeply immersed during a long commute or distractedly killing time while waiting for coffee. If the content is interesting and easy to read, they might go back to reading the piece while at the office, this time on a desktop or laptop, and again at home on a tablet. Strong web typography recognizes and responds to these varied circumstances. Adaptive grid structures and relative measuring units accommodate the diverse life of digital content.

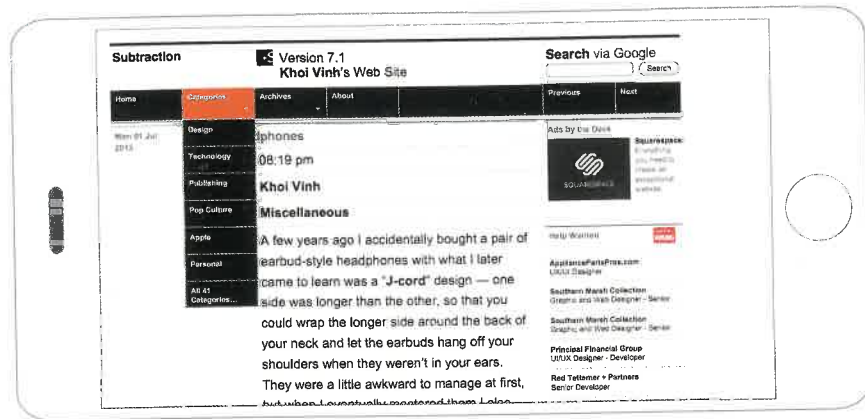
This chapter focuses on shaping the elements of written content that make up the primary body of most websites. Advancements in web standards are making it easier for designers to construct refined typographic systems. While myriad screen sizes and resolutions can rattle the user experience, designers employ a range of techniques to maintain a pleasant reading environment in a future-friendly way.

**RECREATION IN WEB TYPOGRAPHY** The *Lost Worlds' Fairs* was an online publication project in which leading web designers exploited features of the Web Open Font Format (WOFF). The goal was to create beautiful, engaging typography for the screen with an attention to detail that rivaled the domain of print design. The project was initiated by Microsoft and the Friends of Mighty. The webpage shown here, advertising a fictional World's Fair on the Moon, incorporates web fonts and a liquid layout. Design: Jason Santa Maria, "The Moon in 2040," *Lost Worlds' Fair*, 2010, <http://lostworldsfairs.com/moon/>.

## CHOOSING A SCREEN SIZE

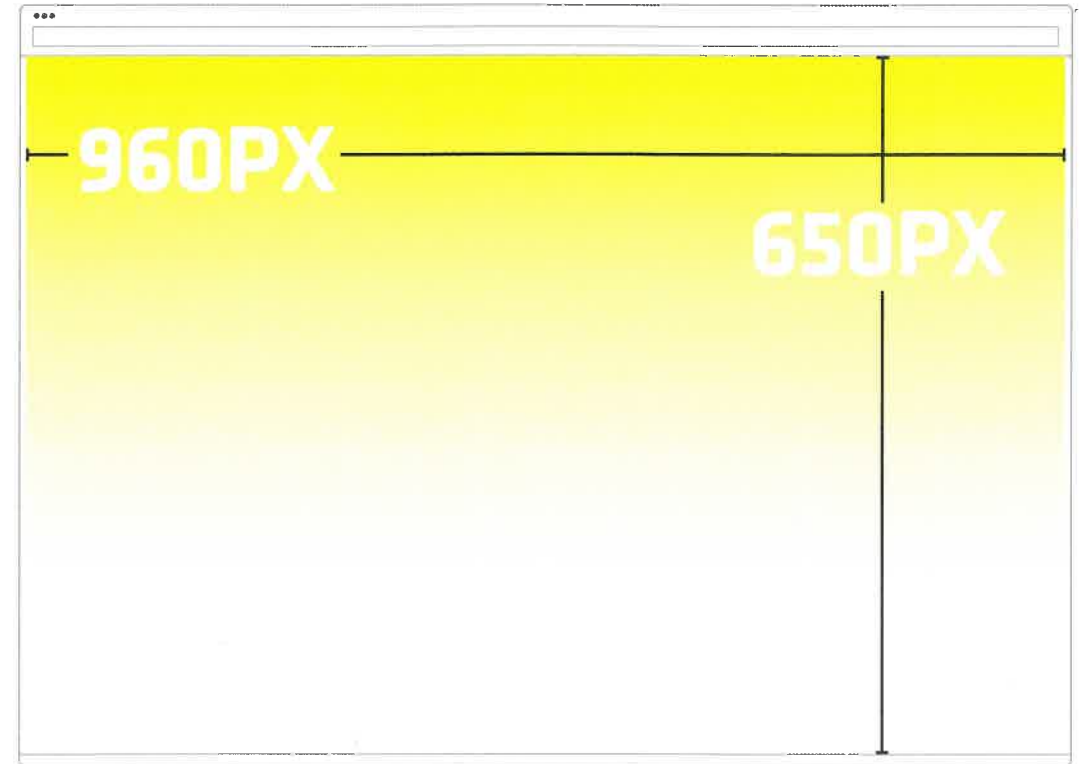
At the beginning of any project, the designer thinks about who its users are and how to best reach them. How will content be delivered, and how much space will it occupy? Until recently resolutions and screen sizes were relatively consistent among users. Now desktop monitors are getting bigger and bigger, while mobile browsing has stolen the lead in accessing the Internet, and tablets hope to replace everything in between. How can designers account for a landscape that won't stop changing?

Even in the fast-moving world of web design, we can work with helpful standards. Influential designer Khoi Vinh, in his comprehensive 2010 book *Ordering Disorder*, recommends a screen size of 1024 × 768 pixels as a starting point for web designers. At that resolution smartphones can keep up while the project is scalable enough for larger displays. In practice 1024 × 768 is the approximate size for the entire screen. A host of interface elements nibble away at the edges of this basic slab of real estate. The designer needs to account for the space occupied by system menus as well as the space needed for the tools, bookmarks, and status bars employed by modern browsers. When all these elements have been subtracted, what is left for the website itself is a modest parcel of about 960 × 650 pixels. Subdividing that space into a rational column grid is the designer's next task.



**SUBTRACTION** Vinh has long advocated for the application of grids to web design. Subtraction.com, a brilliant repository of Vinh's ideas about design and technology, uses a strong grid and elegant black-and-white typography to translate the theory and spirit of Swiss rationalist typography to the fluid, ever-changing world of the web. Design: Khoi Vinh, 2008.

**READ MORE >>** Khoi Vinh, *Ordering Disorder: Grid Principles for Web Design* (San Francisco: Peachpit Press, 2010).

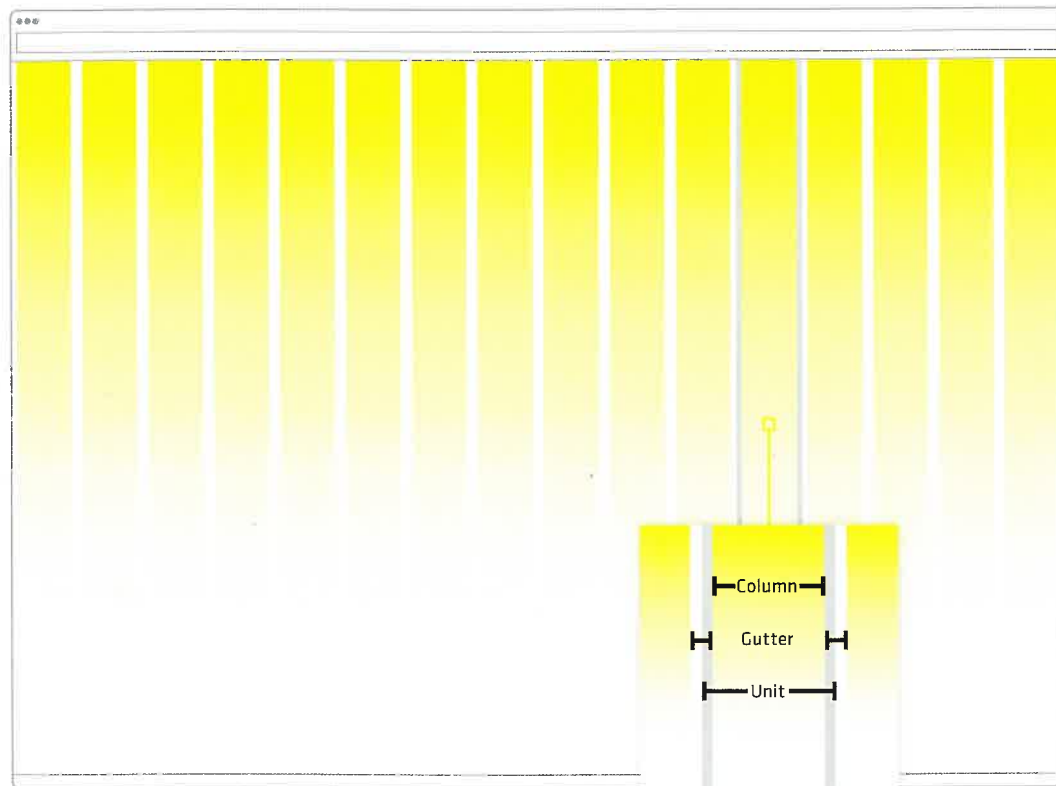


**SEARCHING FOR A STANDARD** A screen dimension of 1024 × 768 offers a useful, though not absolute, standard resolution. In a typical browser, roughly 80 percent of that space is available for the page content, leaving 974 × 650 pixels for the designer to work with. Adding some breathing room to the left and right edges of the content area reduces the active real estate to approximately 960 × 650 pixels. Diagram based on the guidelines established by Vinh in *Ordering Disorder*, 2010.



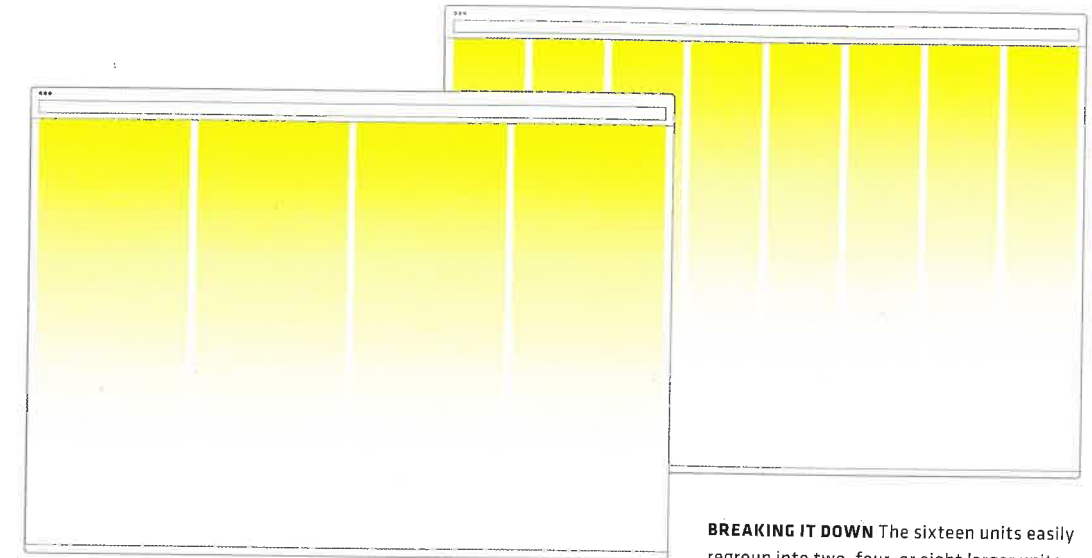
## THE GRID

Since the 1950s print designers have used **grids** to organize the empty void of the page into columns and rows of “white space.” A digital screen consists of thousands of square pixels. Although technological advances have helped pixel elements get smaller and curves appear smoother, the screen’s underlying squareness hasn’t changed. Embracing the innate rectilinear texture of the screen, designers can define robust and flexible grids for arranging content. Even a simple website contains varied parts. A home page doesn’t serve the same purpose as an “about page” or a list of blog posts; a fine-grained grid serves to give these different elements a common structure while offering enough flexibility to support multiple templates.

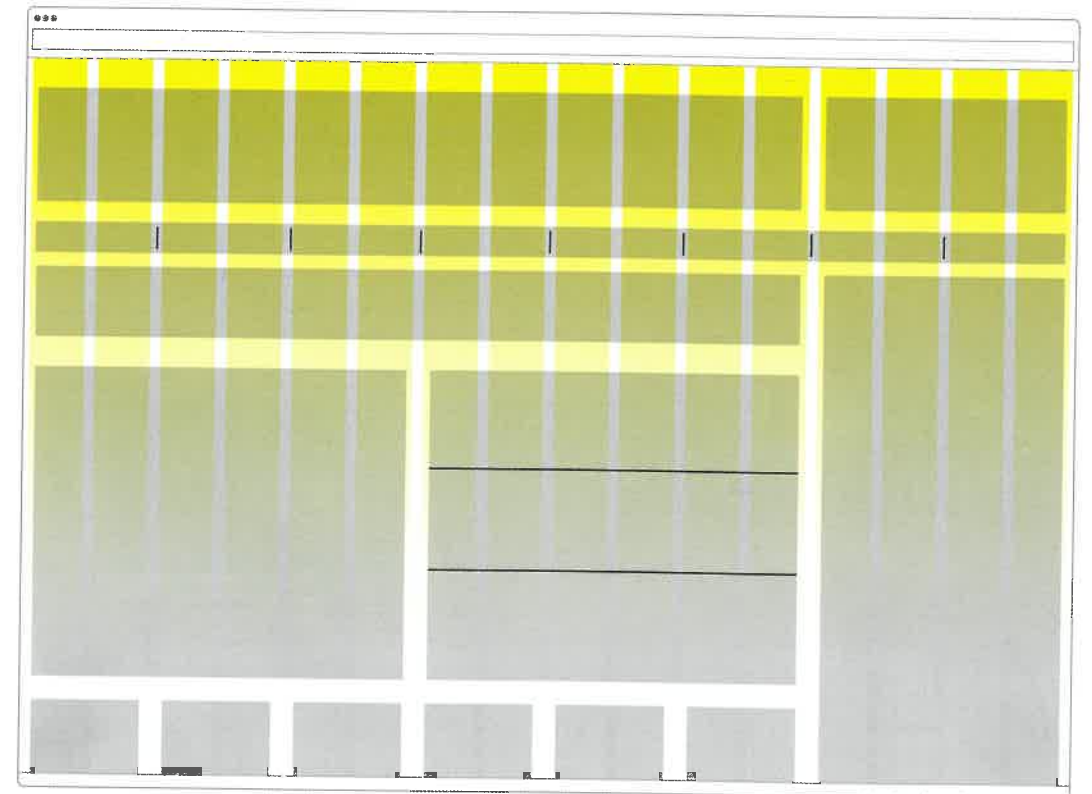


**MAKING THE GRID** Working with 960 pixels of screen width, we have subdivided our real estate into sixteen equal units, establishing the basis for a flexible, adaptable grid system.

Each unit contains a 50-pixel column with a 5-pixel gutter on either side. Principles adapted from Vinh, *Ordering Disorder*, 2010.



**BREAKING IT DOWN** The sixteen units easily regroup into two, four, or eight larger units.



A well-defined grid offers a great deal of flexibility for laying out content.

## VERTICAL AND HORIZONTAL FIELDS

A typographic **grid** consists of text columns separated by gaps or gutters. Johannes Gutenberg used a two-column grid in the famous Bible that launched the typographic revolution in the fifteenth century. Today grids for complex websites or publications consist of multiple columns—sixteen is not unusual, as seen on the previous page.

The use of **modular grids**, made from vertical columns and horizontal fields, was pioneered by Swiss graphic designers in the 1950s. The modernist book designers of that period used grids of boxes to govern nearly every design decision, from the shape of pictures to the placement of text.

Vertical columns predominate in most grids today. A well-designed magazine layout or webpage typically has a strong up-and-down column structure anchored by a few horizontal hanging points.

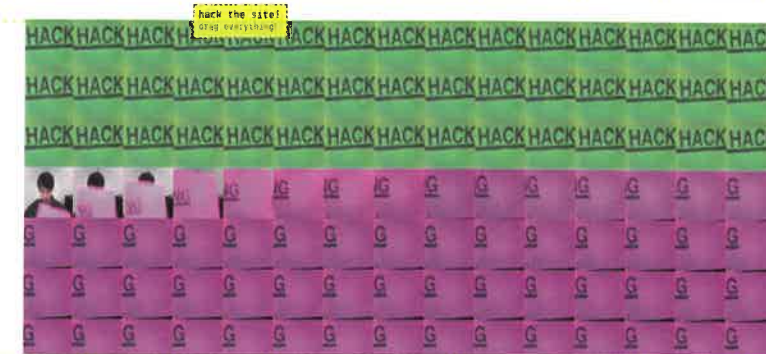


**FLIPBOARD** Calling itself a social magazine, the Flipboard app uses a modular grid to organize content. The table of contents resembles a photo gallery, while the text pages present the first few lines of an article that can be selected and read in full. Design: Marcos Weskamp, 2011.



## GRAPHIC DESIGN HACKING

HOME | BOOK | CONTENTS | EXHIBITION | WRITING



### GRAPHIC DESIGN HACKING

Graphic Design Hacking is the MFA Thesis Project of **Cameron Zotter**. Zotter is the designer, writer and editor of the project.

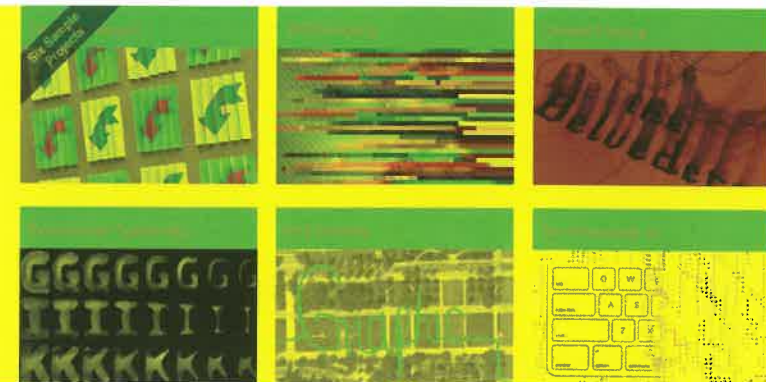
### A BOOK OF PROJECTS

Graphic Design Hacking will feature 30 short project prompts in the areas of art, design, technology and misuse. The prompts are designed to jump start creativity and provide new methods for using materials, tools and design thinking.



### HORIZONTAL FIELDS

While vertical columns are relatively easy to maintain, websites often have varying lengths within a single site. Here the designer created horizontal fields to impose architecture on the page. Design: Cameron Zotter, 2012.



### TWITTER

"Computers are useless. They can only give you answers." -Pablo Picasso 10k days ago

### EMAIL LIST

Enter Your Email  Join

### ABOUT THE AUTHOR

**Cameron Zotter** is a former designer for National Geographic in Washington, D.C. His design work has been published in the Type Directors Club 57th Annual, Peltron's Blog, Under Consideration, Swissmiss and Core 77 among others. Cameron is completing his MFA at the Maryland Institute College of Art in Baltimore, Maryland.

TYPE SIZE

Once you have a well-planned grid in hand, you are ready to place elements within it. Crafting a reading platform on the web begins with finding the right size for your primary type. A size that you love in print will likely look too small on a desktop or laptop screen. People tend to hold a book or magazine fairly close to their faces, while they sit farther away from computer screens. Comfortable reading on a desktop or laptop screen thus demands larger sizes than print. The fuzziness of anti-aliased and backlit characters also calls for larger sizes.

You might be surprised by just how big body text needs to be before it works well in a standard web browser. A good starting point for Georgia is 17pt, which is the default size of most browsers (i.e., 100 percent or 1em). From there you can go up or down, depending on what you are trying to do. This text size might seem extreme if you compare a book and screen side by side at the same distance from your face, but if you look at these type sizes in relation to the reading environment, they start to even out.

There are four units for measuring type on screen. **Pixels** and **points** are absolute elements set by the browser. Employing these units can override users' browser settings, which can have unintended outcomes when users alter their own preferences as well. **Percentages** and **ems** are scalable, nonfixed units, determined in relation to the browser's current point size; these units are preferable because they allow end users to adjust their own browser preferences without breaking the design of the site.

**EM, PIXEL, POINT, OR PERCENT?** Note that an intended scale shift can fail to render when the initial font size is set with absolute units (pixels or points).

**EMS** (em)

The em is a scalable unit that is equal to the browser's font size. If the font size is 14px, 1em is 14px.

**PIXELS** (px)

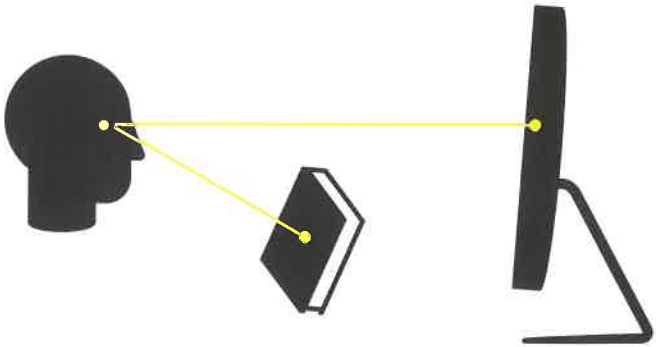
Pixels are fixed units used in screen media. One pixel is equal to one pixel unit on the screen.

**POINTS** (pt)

Points are traditionally used in print media. One point is equal to 1/72 of an inch.

**PERCENT** (%)

The percent unit functions similar to the em unit. If the current font size is 14px, then 100 percent is 14px (and 120 percent is 16.8px).



**COMPARE IN PERSPECTIVE** Computers generally sit farther from the user's face than handheld reading devices such as books or phones. Letterforms appear fuzzy because of low pixel densities and backlighting. Don't compound those issues by making the type too small.



**SMALL SCREENS AFFORD SMALLER TYPE**

Type on mobile devices can be smaller than on a desktop, because users can adjust the distance between the screens and their faces to achieve the best type size for them.

**READ MORE >>** Oliver Reichenstein, "Responsive Typography: The Basics," *Information Architects*, June 1, 2012, <http://ia.net/blog/responsive-typography-the-basics/>.

21 PX

d is not a camera. S  
o see, or, as Anaïs N  
re, we see them as  
  
that our perception  
of what we expect  
Reason is based on  
  
"Up to now it has b  
must conform to th  
whether we do not

11 PX

mediately after the release of the new  
dia rapidly reacted. "Great," "bold," "t  
ne of the initial glowing endorsements  
ot (EJ). However, what has been la  
ch is a masterclass of ambiguity and  
nsequential buzzwords and the stud  
  
he essay "On the Uselessness of Di  
amura alerts readers to the naïveté  
cription was no exception, with Walte  
production" (1936) and Raymond Wi  
ng vaguely invoked and loosely synt  
a quick prop to their argument.  
  
amura also points out the need for d  
ciplines' discourses and especially fr  
set has at least the ambition to situat  
ality to their practice. But they stum  
olate and of questionable relevance.

**HOW SMALL IS TOO SMALL?** The standard size for screen type used to hover around 12px, although even smaller type sizes were not unheard of. Now an increasing number of designers are using larger type, beginning at 14px on up to 18 or even 21px. These larger sizes make reading more pleasant and easy. The type on the right is too small (at 11px) for comfortable reading, a problem for a prominent design blog.

**READ MORE >>** Jan Constantin, "Typographic Design Patterns and Current Practices (2013 Edition)," *Smashing Magazine*, May 17, 2013, <http://www.smashingmagazine.com/2013/05/17/typographic-design-patterns-practices-case-study-2013/>.



## PARAGRAPH BLOCKS

In CSS the **paragraph element** contains the main text and should be the basis for the rest of the layout. Paragraph blocks are defined by their width, alignment, and spacing. Select an appropriate width based on such factors as content type, font choice, type size, the distance of the user from the screen, and the underlying column grid. It is widely accepted that forty-five to seventy-five characters per line makes for a comfortable measure. You don't want the user to get tired by the end of the line or have too little time before jumping down to the next one. Finding this golden width will require trial and error. It often helps to take a break, step back, and ask another set of eyes to test and evaluate your blocks of text.

Paragraphs that are meant to be read in succession should be treated as parts of a whole. Because paragraphs are block elements, HTML automatically inserts extra space after them. Therefore web texts tend to be chopped up with inter-paragraph spacing. Try indenting the first line and removing that pesky extra line space. Indented paragraphs have been classic fare in print typography since the seventeenth century; the efficient and elegant indent saves space and preserves the compact unity of running text.

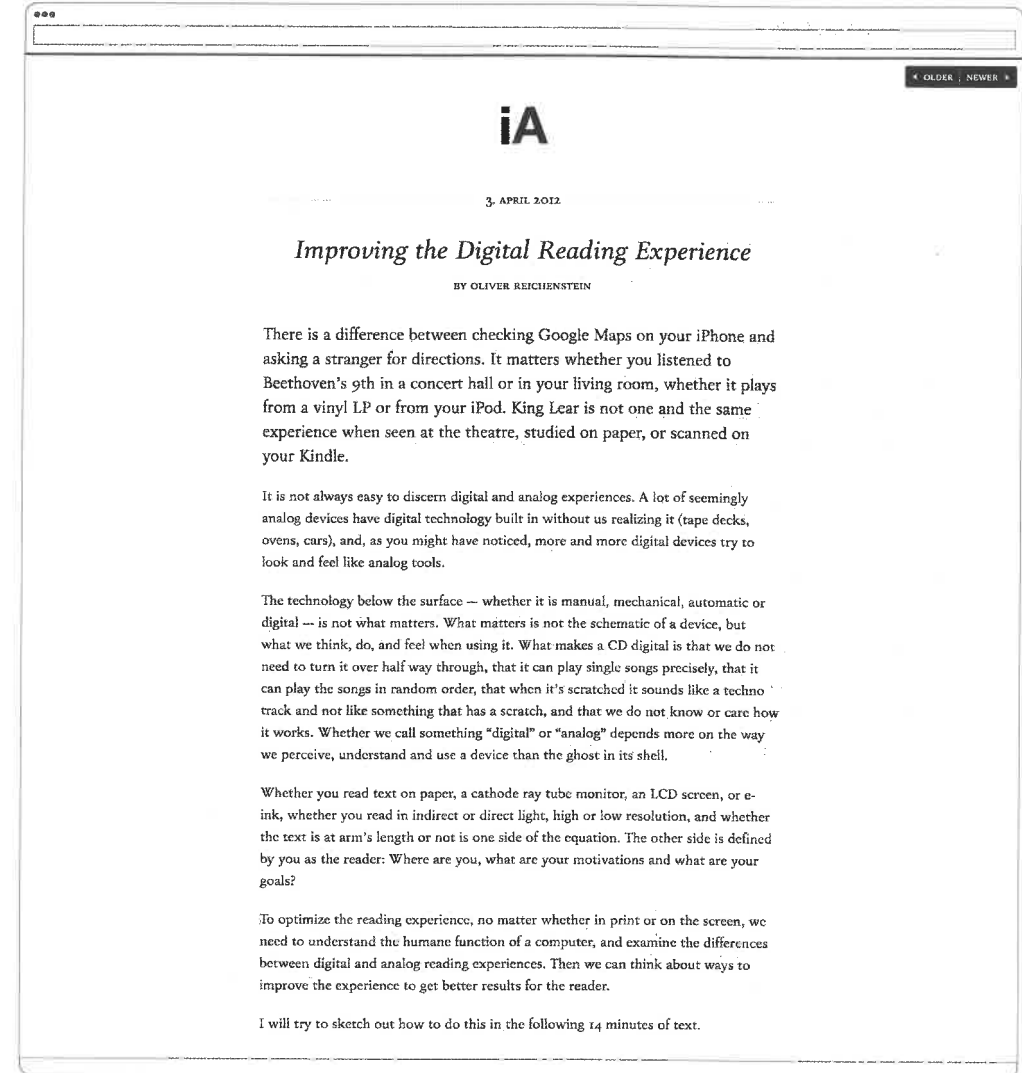
**PARAGRAPH INDENT** Use the text-indent property in CSS to indent the first line of a paragraph. You will also need to remove extra line spacing by setting the top margin to 0. Note that the text-indent property will affect *all* paragraphs. Designers and editors generally prefer to avoid indenting the first paragraph in a document; you can achieve this with a sibling selector (+).

```
p + p {
  text-indent: 1.5em;
  margin-top: 0;
}
```

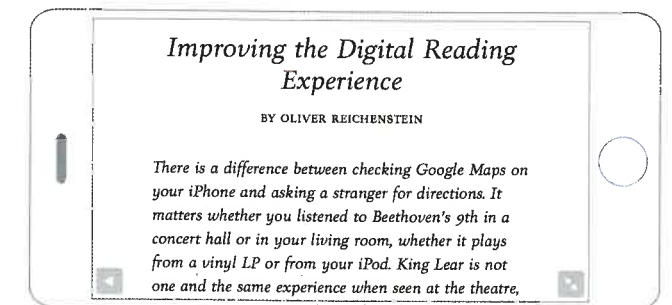
**READ MORE >>** Richard Rutter, Section 2.3.2, in *The Elements of Typographic Style Applied to the Web: A Practical Guide to Web Typography*, [http://webtypography.net/Rhythm\\_and\\_Proportion/Blocks\\_and\\_Paragraphs/2.3.2/](http://webtypography.net/Rhythm_and_Proportion/Blocks_and_Paragraphs/2.3.2/).

*rolling, // Doth glance from heaven  
to earth, from earth to heaven; //  
And, as imagination bodies forth //  
The forms of things unknown, the  
poet's pen // Turns them to shapes,  
and gives to airy nothing // A local  
habitation and a name."*

In the supremacy of our creative imagination let us make empty space, in order that we may therein build up a new universe. Let us wave the wand of our power, so that all created things disappear. There is no world under our feet, no radiant clouds, no blazing sun, no silver moon, nor twinkling stars. We look up, there is no light; down, through immeasurable abysses, there



**FOR GOOD MEASURE** The line lengths on the Information Architects website have been designed for comfortable reading. On a desktop browser, users see around sixty-five characters per line. The type size is reduced on the mobile version to fit roughly fifty-four characters per line. Both numbers fall within the desired range of forty-five to seventy-five characters. Design: Information Architects, 2012.



# COLUMN ALIGNMENT

Aligning text in justified, centered, or ragged columns reflects the basic architecture of typography. Choose an alignment style that suits the structure of your website and the character of the individual content elements. Each mode of alignment comes with advantages and disadvantages. Centered type is graceful and elegant but can appear old-fashioned; in addition, it can be difficult to align with other elements. However, centered type can work well within the bounded, defined space of a button or menu bar. Justified type will have ugly gaps if it's not hyphenated correctly, and hyphenation can be hard to handle online.

Owing to the flexible, customizable character of web text, designers can't spend endless hours adjusting the rag along the edge of a column or creating a justified block with no rivers or holes. Flush-left alignment is therefore the most common text setting on the web (whereas justified remains the dominant setting for text in print). Flush-left text works well in most extended reading environments, especially where columns are quite narrow, as on a news site. The ragged edge opens up space between the columns because most lines fall short of the full measure, resulting in a more spacious overall composition.

**ALIGNMENT** Below are the four basic modes of alignment. The first two, left and justify, are the most common for long reading. Notice the awkward word spaces that occur with justified text in a narrow measure. Right- and center-aligned text should be used sparingly and with purpose.

p {  
text-align: left;  
}

In left-aligned text, the left edge is hard while the right edge is soft. Word spaces do not fluctuate, so there are never big holes inside the lines of text. This format respects the flow of language rather than submitting to the law of the box. It creates a spacious and organic flow.

p {  
text-align: justify;  
}

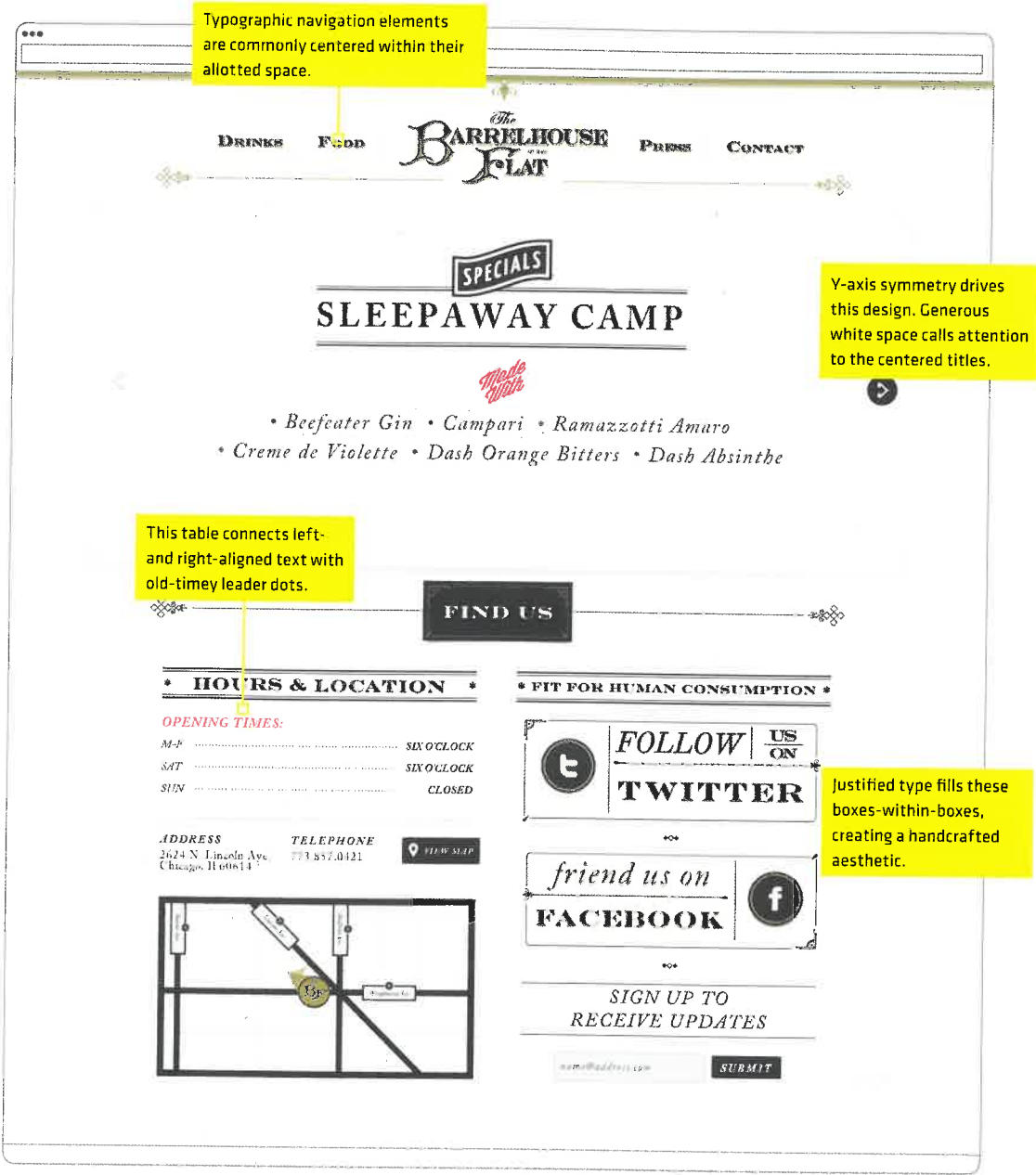
Justified text has even edges on both the left and right sides of the column. It makes efficient use of space and creates a clean, compact shape for your paragraphs. Ugly gaps can occur, however, when the line length is too short in relation to the size of the type used.

p {  
text-align: right;  
}

Right-aligned text follows the logic of the more familiar left alignment. It's commonly believed that text set in this way is difficult to read. Its use can be quite successful in short pieces of text, such as captions or pull quotes, adding an element of motion and surprise to a composition.

p {  
text-align: center;  
}

Centered text is symmetrical, like the facade of a classical building. Centered lines can be broken to emphasize a key phrase or a new thought. Breaking lines in this manner is called breaking for sense.



**ALL AT ONCE** You will not often find occasion to use all four alignment modes in one website, let alone on a single page. This designer has created a lavish typographic style by paying close attention to the balance of the whole as well as to individual elements. Design: We Can't Stop Thinking, 2012, <http://wcst.com/>.



SPACE BETWEEN LINES

Typically websites are built to scroll vertically; the length of each page varies depending on the amount of content on it. **Line spacing**, also called **leading** or **line-height**, shapes the look of individual paragraphs and the page’s overall style and structure. Designers use looser text to create a relaxed and inviting texture; they use tighter spacing to convey a sense of urgency or abundance while maximizing available real estate.

Designers also use vertical spacing to create relationships among heads, subheads, block quotes, and paragraphs. Breaks between elements should be apparent without leaving ugly and wasteful holes. A well-designed webpage should show a balance between white space and denser fields of content. Just as with type size, leading should be set as a percentage, not as an absolute value. Thus, when users change the type size preference in their browsers, the line-height will change, too.

**TYPOGRAPHIC COLOR** The interplay between letterforms and the space around them creates what designers call the “color” of the text. While the default line spacing in print is 120 percent of the cap height, line spacing set at 150 percent or more is common on screen. Notice that at 100 percent the block is too crowded, while at 200 percent the lines of text drift apart.

```
p {
  line-height: 100%
}
```

A typographic hierarchy expresses the organization of content, emphasizing some elements and subordinating others. A visual hierarchy helps readers scan a text, knowing where to enter and exit and how to pick and choose among its offerings. Each level of the hierarchy should be signaled by separate cues, applied consistently across the website. These can be spatial or graphic. Infinite variations are possible.

```
p {
  line-height: 150%
}
```

A typographic hierarchy expresses the organization of content, emphasizing some elements and subordinating others. A visual hierarchy helps readers scan a text, knowing where to enter and exit and how to pick and choose among its offerings. Each level of the hierarchy should be signaled by separate cues, applied consistently across the website. These can be spatial or graphic. Infinite variations are possible.

```
p {
  line-height: 200%
}
```

A typographic hierarchy expresses the organization of content, emphasizing some elements and subordinating others. A visual hierarchy helps readers scan a text, knowing where to enter and exit and how to pick and choose among its offerings. Each level of the hierarchy should be signaled by separate cues, applied consistently across the website.

*Baselines determine the rhythm of a printed page; not so on the web.*

Print-based typography is dominated by the **baseline**, an invisible ledge upon which the characters sit; in print, line spacing is measured from baseline to baseline. Print designers sometimes use a baseline grid to anchor elements such as body, heads, and captions along a common rhythm.

In web design, line-height is created by adding even space above and below the cap height. Web designers often select line-heights that have elegant mathematical relationships to one another, such as nine, eighteen, and twenty-four. Creating a strict baseline grid is daunting enough in print; in web design it is even more difficult. Many well-structured webpages have just a few strong horizontal hanging points.

Headline 24/36px

```
h1 {
  font-size: 24px;
  margin-bottom: 18px;
}
```

Subhead text 16/18px ...  
Transition from head to body

```
h2 {
  font-size: 16px;
  line-height: 18px;
  margin-bottom: 18px;
}
```

Paragraph text 12/18px ...  
On the web, the paragraph is the basic building block of body text. The space between lines consists of space above and below lines of text.

```
p {
  font-size: 12px;
  line-height: 18px;
}
```

**SPACE ABOVE AND BELOW** In CSS, line-height is distributed equally above and below the cap height. Thus a 12px font with 18px line-height will have 3px above and below the characters.

HEADLINES IN ALL CAPS CAN BE SET WITH TIGHTER LINE SPACING

**SET IT SOLID** Designers create compact, dramatic headlines by minimizing the space between lines. Since uppercase letters have no descenders, they don’t require as much breathing space between lines. It is not uncommon to set all-caps headlines “solid” (22px font with 22px line-height). Even negative line spacing can be used for maximum density.

SPACE BETWEEN CHARACTERS

Designers adjust the spaces between characters through kerning, letter-spacing, and word spacing. **Kerning** deals with individual pairs of glyphs. Typeface designers create kerning tables to achieve visually consistent spacing between problematic letter pairs, such as *Ty* and *We*. Most digital fonts have built-in kerning tables, so they shouldn't need manual kerning. You might find exceptions when setting large headers, which magnify poor spacing. There is currently no direct kerning property in HTML or CSS, but its effects can be replicated by utilizing a neutral inline element such as a span.

**Letter spacing** (also called **tracking**) refers to the space between characters in a line or block of text. Designers often open up the letter-spacing in strings of caps or small caps, or when using knocked-out text. Conversely, text in larger sizes may benefit from negative spacing; as type gets bigger, the spaces between letters get larger, too, which can create an overly loose effect.

**Word spacing** refers to the blank character generated by the space bar; this rarely needs adjusting, but designers may fiddle with it at large sizes or with knocked-out text. CSS employs a default word space of .25 em; any additional value is added to that base and does not alter the encoded font file.

**LETTER SPACING AND KERNING** These two modes of inter-character spacing operate quite differently: Letter spacing is global ("well alright"), while kerning is local ("Web Type").

WELL ALRIGHT

```
h1 {
  letter-spacing: 0;
}
```

WELL ALRIGHT

```
h2 {
  letter-spacing: 0.1em;
}
```

Well alright already  
Well alright already

Web Type  
Web Type

```
.kern {
  letter-spacing: -0.1em
}

<span class="kern">W</span>eb
<span class="kern">T</span>ype
```

67 \\ TEXT ON SCREEN

# DON'T FEAR the INTERNET

BASIC HTML & CSS for NON-WEB DESIGNERS

by Jessica Hiscche & Russ Maschmeyer

Are you a print designer, photographer, fine-artist, or general creative person? Do you have a shiny website that you slapped together yourself in Dreamweaver in that ONE web design class that you took in college? Do you not have a site at all because you've been waiting two years for your cousin to put it together for you? Well, we're here to help. We know that you have little to no desire to do web design professionally, but that doesn't mean that you want an ugly cookie-cutter site or to settle for one that hasn't been updated since Houdini was in theaters. Through short tutorial videos, you'll learn how to take a basic Wordpress blog and manipulate the css, html (and even some php!) to match your aesthetic. You'll feel empowered rather than crippled by the internet and worst case scenario you'll at least end up having a better idea of how professional web designers turn your design dreams into a reality on screen.

ABOUT the AUTHORS • LINKS and RESOURCES • RSS • WALLPAPERS

No. 6

## DON'T FEAR SPECIFICITY

TARGETING CONTENT WITH CLASSES & IDs

We'll give you the low-down on Classes and IDs and hone your CSS skills at the same time.

Categorized as CSS, HTML, The Basics

No. 5

## DON'T FEAR STARTING FROM SCRATCH

PART 2: CSS

In the conclusion of this two-part series, we'll show you how to apply and write your own CSS.

Categorized as CSS, The Basics

No. 4

## DON'T FEAR STARTING FROM SCRATCH

PART 1: HTML

In the first video in this two-part series, we'll take you through building a webpage from scratch by using a good text editor.

Categorized as HTML, The Basics

# HRDWRK?

YOU GET UP EARLY IN THE MORNING & YOU WORK ALL DAY THAT'S THE ONLY SECRET

The Benefits of a Sound Apprenticeship

Is this the best kind of originality that which comes after a sound apprenticeship? The answer is the blending of a firm foundation of "useful precedent" and the progressive touch. For let's men be as able & original as the man. He can't afford to discard knowledge of or what is now going on in his own trade and profession.

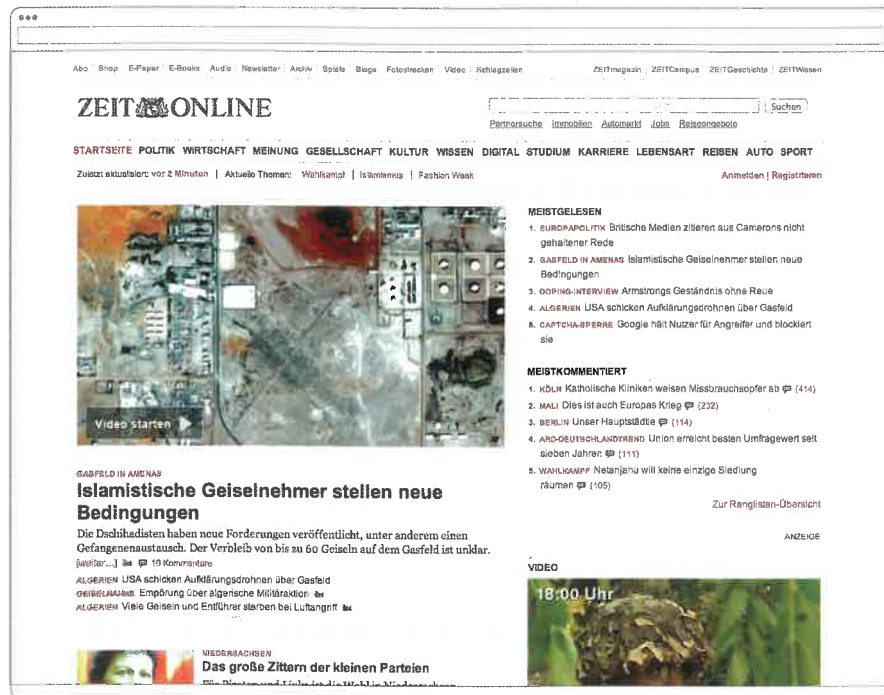
**KERNING HEADLINES**  
Finesse headline text by kerning troublesome pairs. The space between A and Y improves with negative kerning. Design: Josh Brewer, 2011. Image: Library of Congress Prints and Photographs Division.

In order to kern letter pairs in HTML, insert a neutral inline element, such as a span, and then style the letter spacing.

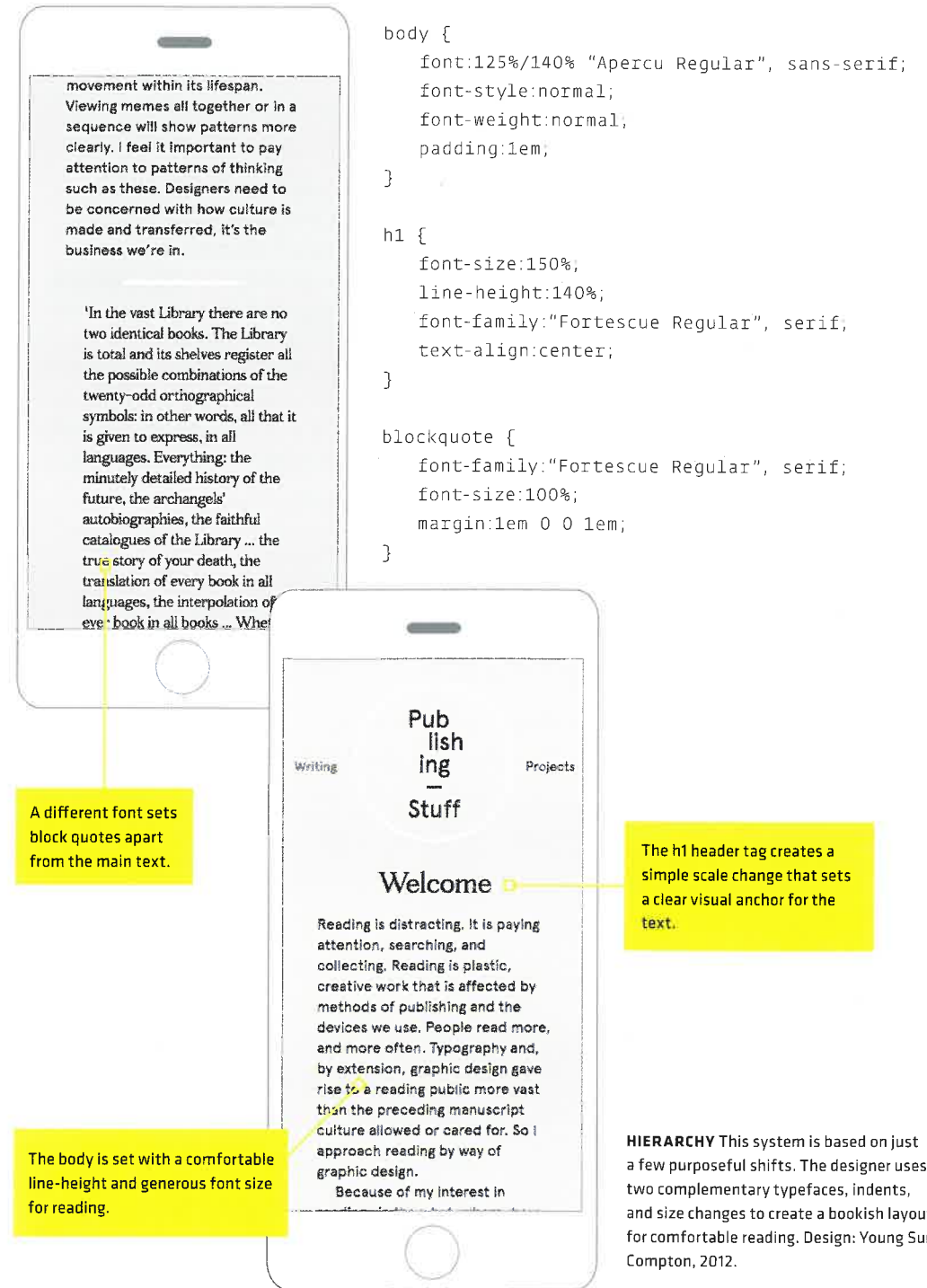
## HIERARCHY

The plasticity of the web calls for a well-planned hierarchical system. Content is often created by multiple users, authors, and editors, making it even more important to emphasize key elements through typographic cues while subordinating others. Shifts in scale, weight, and color, or the use of a complementary font or icon, are ways to express a text's **hierarchy**, the ranked structure of parts within the whole. Each level should be signaled by one or more cues that are applied consistently throughout the site.

Any visual hierarchy should be built in a way that gives nontraditional users equal access. Choose structural elements instead of purely visual ones, using tags such as `<aside>`, `<article>`, and `<caption>` that have more semantic meaning than the generic `<div>`, which describes a container without any structural relationship to the document.



**HEADLINE NEWS** The complex content of this news site is organized through weight, size, and color; it is framed with white space to allow pause and breathing room. Design: Information Architects, 2009.





## SPECIAL CHARACTERS

A refined typographic system consists of more than a well-chosen palette of fonts and reader-friendly structural cues. Many professionally designed typefaces include glyphs that add nuance and refinement to the presentation of text. Browsers are increasingly able to support expanded features that for centuries have been markers of fine typography in print. **Small caps**, whose height matches the body of the lowercase x, look elegant and discreet within a paragraph of text; they are drawn with squarish proportions and a meaty line stroke, which makes them attractive for use as heads, subheads, bylines, and more. **Old-style** or **nonlining numerals** have ascenders and descenders, just like lowercase letters; they have a modest visual footprint within a body of text, whereas conventional **lining numerals** (which have the height of capitals) can sometimes tower over their surroundings. Elements such as small caps and old-style numerals as well as kerning pairs, ligatures, and alternate characters, when used properly, separate the typographer from the typist.

The **OpenType** font format packs all of these desirable features into a single font file. OpenType fonts often have the suffix Pro (Adobe Garamond Pro) or the prefix or suffix OT or OTF (Tisa OT). Access to these elements has been limited for web designers until recently. Now the CSS **font variant** or **font-feature-settings** properties allow designers to make use of the full range of features available with an OpenType font and style their text as carefully on the web as in print.

**KERNING PAIRS AND LIGATURES** Some modern browsers handle kerning pairs and ligatures by using the text-rendering declaration. NOTE: Applying this to large blocks of text can extend load times on slower devices.

first floor

`text-rendering:normal;`

first floor

`text-rendering:optimizeLegibility;`

**SMALL CAPS AND OLD-STYLE NUMERALS** Using the font variant property allows designers to enrich web type with small caps and old-style numerals.

small CAPS

`font-variant:small-caps;`

123 456

`font-variant-numeric:oldstyle-nums;`



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**AN EVOLVING STANDARD** CSS3 includes two new properties that give designers access to the full range of typographic detail available in OpenType fonts. The text above flaunts the bravado of the typographic swash, as seen in the letterforms at the end of each word in "Jason Smith" and "José Scaglione." Such alternate characters can now be used in web text with the help of the font-feature-settings CSS property. Design: Elliot Jay Stocks, 2012.

**COMMON OPENTYPE FEATURES** Below are some OpenType features and their font-feature-settings values:

Common ligatures	"liga"
Discretionary ligatures	"dlig"
Small caps	"smcp"
Lining numerals	"lnum"
Old-style numerals	"onum"

**READ MORE >>** The World Wide Web Consortium, "CSS Fonts Module Level 3," W3C, <http://dev.w3.org/csswg/css-fonts/>.

**FINE TYPOGRAPHIC DETAILS** Small caps, old-style numerals, and ligatures are no longer the exclusive domain of print design. Design: Elliot Jay Stocks, 2012. Headline typeface: Magneta, designed by Neil Summerour, 2009.

Tomorrow's web type  
today: Expert  
subsets  
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**These SMALL CAPS are  
starving!**

**PSEUDO SMALL CAPS** True small caps have the same stroke weight as the upper- and lowercase characters around them. Software creates pseudo small caps by shrinking down normal caps to the approximate x-height; the resulting letters look starved and sickly because their weights don't match that of their brethren.

affluent acting

`font-feature-settings:normal;`

affluent acting

`font-feature-settings:"liga" 1, "dlig" 1;`

## SPECIAL CHARACTERS

For the typographic purist, HTML is a dangerous breeding ground of debauchery. This handy guide will help you keep your on-screen typographics up to snuff with the proper use of **apostrophes**, **quotation marks**, and **dashes**. Such characters are telltale signs of a well-considered composition, whether on screen or in print. Use these HTML entities or their Unicode equivalents in place of the offending characters in your HTML source code.

**APOSTROPHES** signal contraction or possession. To use the proper "curly" ones on a webpage, you need to insert the Unicode character `&#8217;` in place of the apostrophe.

It's a dog's life.    ~~It's a dog's life.~~

`<p>It&#8217;s a dog&#8217;s life</p>`

`<p>It's a dog's life</p>`

**DASHES OR HYPHENS?** Em dashes (—), en dashes (–), and hyphens (-) each serve to connect or separate elements in different circumstances. Em dashes express a break in the

flow of the sentence. En dashes connect two numbers as a range of information. Hyphens connect words or elements (run-of-the-mill).

## Em Dash—A Love Affair

`<p>Em Dash&mdash;A Love Affair</p>`

## En Dash, aged 5–10 years

`<p>En Dash, aged 5&ndash;10 years</p>`