Lecture 8: Styling text with CSS

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Font families

➤ Fonts can be specified with the `font-family` property. Because your user may not have the desired font installed, you give a list of fonts separated by commas in the order of desirability. Multiword font names are put in quotes.

➤ Fonts are broken up into families (hence the name).

❑ **Serif**: These fonts have "decorative barbs and hooks on the ends of letters" associated with newspaper print (e.g., Times, Times New Roman, Georgia)

❑ **Sans-serif**: These fonts are "without" serifs and are usually considered more readable on computer screens than serif fonts (e.g., Arial - common on Macs/PCs, **Arial Black**, Gill Sans MT, Geneva – common on Macs, Trebuchet MS, Verdana – common on PCs)

❑ **Monospace**: These fonts have constant-width characters (e.g., W occupies the same width as !), making alignment much easier and are commonly used for displaying code. Examples of this family include `Courier`, `Courier New`, and `Andale Mono`.

❑ **Cursive**: These are decorative fonts that include ones appearing handwritten (e.g., Comic Sans and French Script).

❑ **Fantasy**: These are stylized decorative fonts (e.g., Impact, Webdings 🏛ⓘ✦✦ 🏟✔⬤? 🏔🚢))

➤ Your list of fonts should always contain a family at the end so that a default one from that family can be chosen in the case that none of the other fonts are installed on the user's computer.

❑ Example CSS Rule:
```
body {
    font-family: Verdana, Geneva, Arial, "Trebuchet MS", sans-serif;
}
```

Delivering Web fonts directly

➢ In cases where you really want a user to see text in a specific font, you can store that font on your server as a .woff (web open font family) on your web server and deliver it directly, as you would an image, when needed (http://www.google.com/webfonts is a place you can use to manage fonts; http://www.fontsquirrel.com/ has free fonts).

❑ Other common font formats include TrueType (.ttf), OpenType (.otf), Embedded Open Type (.eot, only supported on Internet Explorer) and Scalable Vector Graphics (.svg). You may want to include these other formats so they can possibly display on older browsers or mobile devices.

➢ To style text using a web font, first you use a CSS directive at the top of the CSS file to bind the font name to the font:

❑ Example: "Emblema One" will now refer to the font at the first URL or the second one (.ttf) format if the .woff format is not supported by the browser (Note that the rule begins with an @):

```
@font-face {
    font-family: "Emblema One";
    src: url("http://wickedlysmart.com/hfhtmlcss/chapter8/journal/EmblemaOne-Regular.woff"),
         url("http://wickedlysmart.com/hfhtmlcss/chapter8/journal/EmblemaOne-Regular.ttf");
}
```

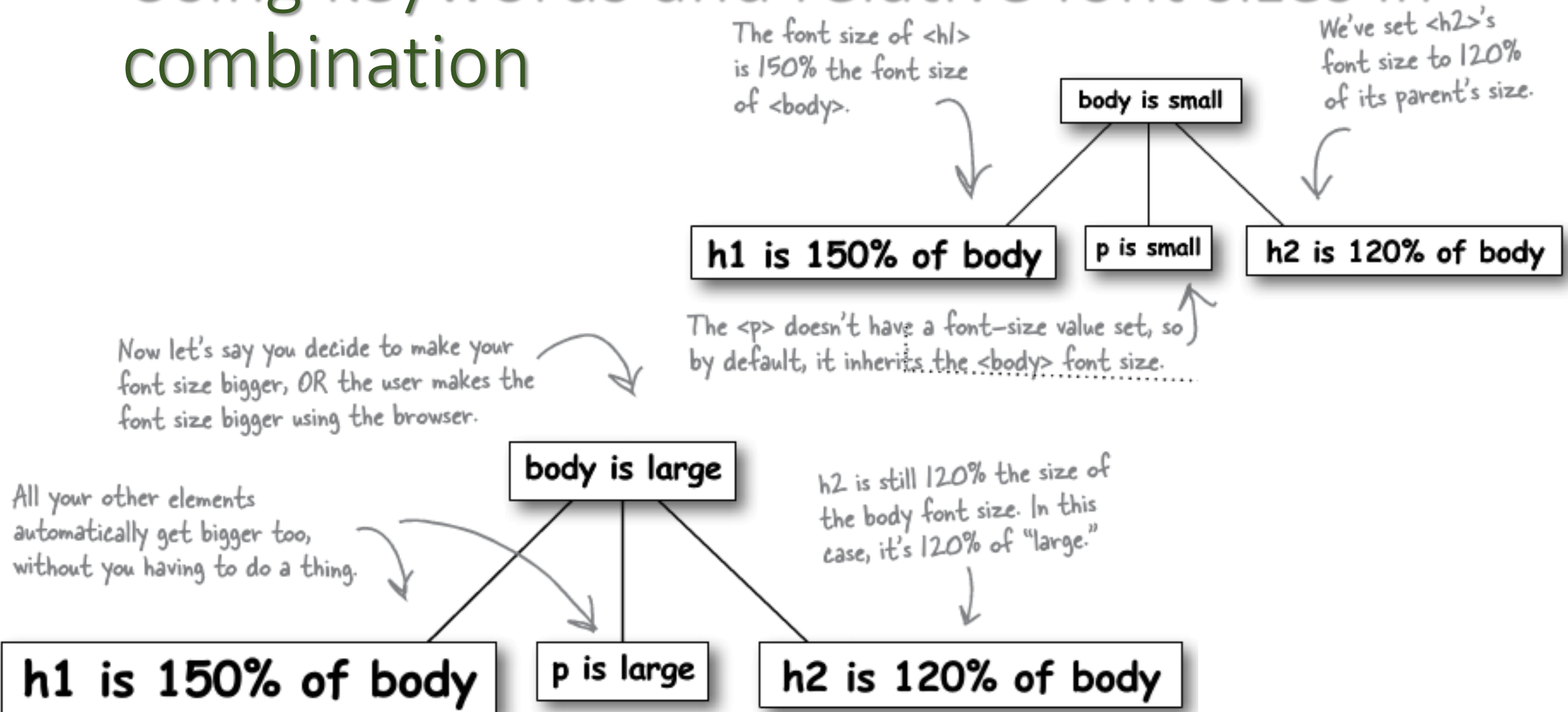➢ You can then use the font as you would any of the others in a CSS rule:

❑ Example:

```
h1 {
    font-family: "Emblema One", sans-serif;
}
```

Specifying font sizes

➢ You can specify font sizes in CSS rules with the `font-size` property. Font sizes can be specified absolutely in CSS pixels* (1/96th of an inch) via the `px` unit or relative to the parent element via `%` or by scaling factor via `em`.

  ❑ Example: `font-size: 12px;` sets the font size of the element(s) to a height of $12 \times \frac{1}{96}$ in $= .125$in, as measured from the lowest to highest point of the letters

  ❑ Example: `font-size: 200%;` sets the font size to double the parent element so if the parent element is 12px or .125 in, then this would make it .25 in.

  ❑ Example: `font-size: 2em;` (twice as big; i.e., same as above)

➢ Font sizes can also be specified using the keywords `xx-small, x-small, small, medium, large, x-large, or xx-large`. Medium, the default body size, is generally 16px, but this is browser-dependent and can be readjusted by the browser user.

➢ For better accessibility (e.g., by visually impaired), you should specify font sizes with the keywords above and/or relative measurements (e.g., % and em). A common technique that makes your page more maintainable is to specify the body font size with a keyword and then use % or em for all other elements. Then to change all the font sizes, you only need to change the keyword for the body font size and all others will automatically adjust in response.

* The CSS pixel standardizes pixel size since this measurement can vary based on e.g., screen resolution.

Using keywords and relative font sizes in combination

The font size of <h1> is 150% the font size of <body>.

We've set <h2>'s font size to 120% of its parent's size.

body is small

h1 is 150% of body   **p is small**   **h2 is 120% of body**

The <p> doesn't have a font-size value set, so by default, it inherits the <body> font size.

Now let's say you decide to make your font size bigger, OR the user makes the font size bigger using the browser.

body is large

h2 is still 120% the size of the body font size. In this case, it's 120% of "large."

All your other elements automatically get bigger too, without you having to do a thing.

h1 is 150% of body   **p is large**   **h2 is 120% of body**

Bold and Italicized Text

➢To make text bold or normal, you can use `font-weight: bold` and `font-weight: normal;` respectively.
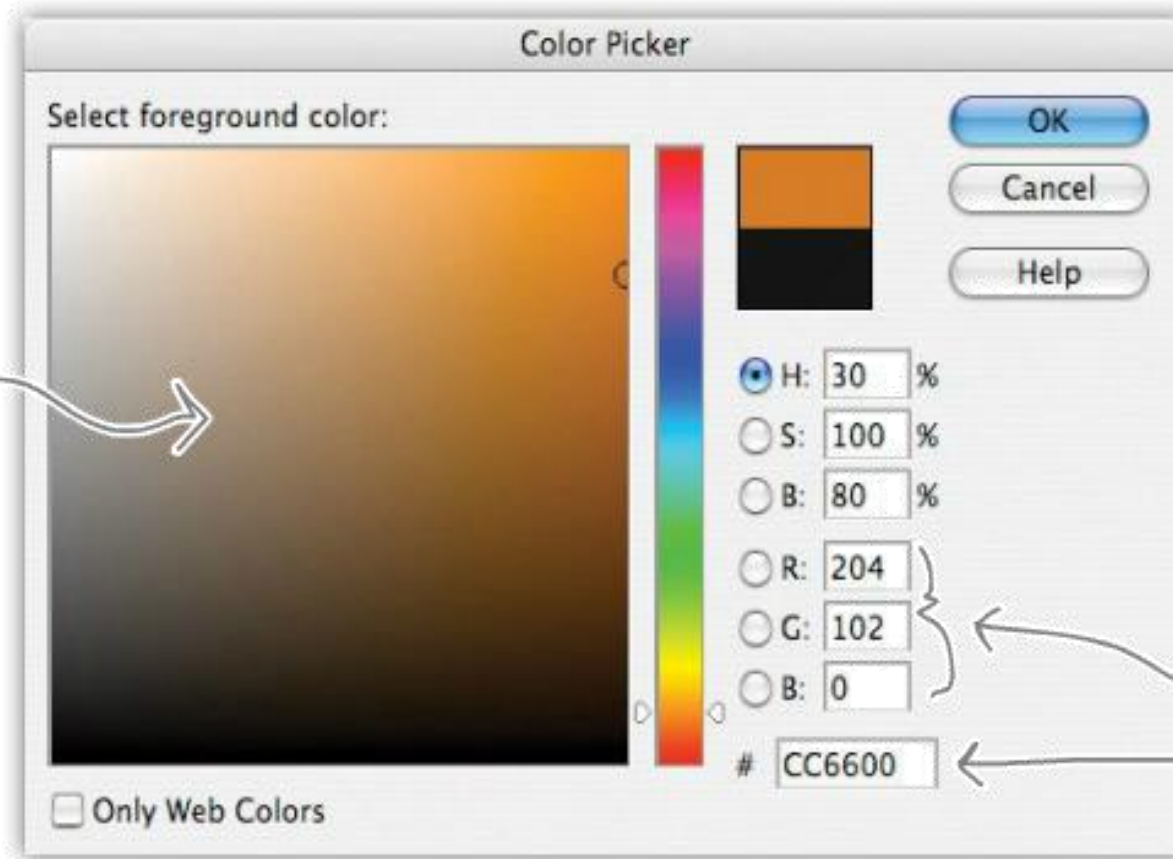
➢To italicize text, you can use `font-style: italic;`

Web colors

➢ Web colors can be expressed in terms of how much red, green, and blue light we "add together". The higher the intensities, the brighter the colors. The red, green, and blue intensities can be expressed as percentages (of 255) or numbers from 0 to 255 in the form `rgb(`*`red, green, blue`*`)` where red, green, and blue are the percentages or numbers. They can also be expressed as an RGB hexadecimal code in the form *#rrggbb* where the pairs of hexadecimal digits *rr, gg, bb* are the two-digit red, green, and blue intensities, respectively.

   ❑ Example: If we set all of them to 0% (`rgb(0%,0%,0%)` or `rgb(0,0,0)`), we'll get black whereas if we set all of the red, green, and blue to 100% (`rgb(100%,100%,100%) or rgb(255,255,255)`), we'll get white. What color do you think we'll get if we set them all to 50%?

   ❑ Example: We can get different shades of red by setting the red to some nonzero percentage and green and blue to 0%; the smaller the red intensity, the darker the color.

   ❑ Example: red:100%, green: 0%, blue:100% yields purple.

➢ You can think of hexadecimal as another language for representing numbers; instead of column values being a factor of 10 apart (ones, tens, hundreds, thousands, etc.), they're a factor of 16 apart (ones, sixteens, two fifty-sixes (16×16), four thousand ninety-sixes (16×256), etc.). In our ordinary decimal system, we never need a digit beyond nine because ten makes one of the next column, but with hexadecimal, we need digits for ten (A), eleven (B), twelve (C), thirteen (D), fourteen (E), and fifteen (F). To convert from hexadecimal to decimal, we multiply the value of each digit with its column value and add them all up. For example, $A1D$, represented in hexadecimal is $10 \times 256 + 1 \times 16 + 13 = 2560 + 16 + 13 = 2589$. You can also use the Programmer mode of the Calculator on Windows to convert between decimal and hexadecimal.

➢ **Exercise**: Express the intensities of the red, green, and blue in the color with hex code #33C0DE in decimal and approximate percentages.

Visualizing web colors

Most photo editing applications provide a color picker that allows you to visually choose your color by using one or more color spectrums.

Color pickers also allow you to select only "web-safe" colors. We'll talk about this in a sec.

Color Picker

Select foreground color:

OK

Cancel

Help

- H: 30 %
- S: 100 %
- B: 80 %

- R: 204
- G: 102
- B: 0

CC6600

☐ Only Web Colors

Once you've picked a color, the color picker will show you the color as both rgb values and a hex code.

➢ You can get color codes on the web (e.g., http://en.wikipedia.org/wiki/Web_colors) or use a professional graphics program like Photoshop. If you don't care about fine-tuning, you can also choose from the approximately 170 colors by name (e.g., gold, teal, etc.). Note, with rgb color codes, you can specify $16^6 = 16,777,216$ (over 16 million!) colors.

➢ Web safe colors are mostly a thing of the past when computer monitors had limited palettes of colors they could display.

Choosing colors, extra tidbits

➤ Generally, for the best readability, you should choose a dark text color and a light background color. There should also be a high contrast between these colors.

➤ Color-coordinating between images and text links them together.

➤ Avoid mixing text and background combinations that can cause weird visual effects (red/green, blue/orange). Also remember that some people are color blind, with a form of red-green color blindness being one of the common types.

➤ If *all* three colors of red, green, and blue have the same pair of digits, you can use an abbreviated form (e.g., #e85 is a shorthand for #ee8855).

➤ Book excerpt: "Color in a book happens by light bouncing off the printed page. On a computer, the light is emitted by the screen, so these colors will look slightly different in your web pages."

Text decorations, Additional text styling

➢ Some values for the `text-decoration` property are `underline`, `overline`, `line-through`, and `none`.

➢ Alternatives that give your HTML more structure for underlining text to insert or crossing out text to delete are `<ins>` and `<del>` tags, respectively (instead of `underline` and `line-through` text decorations in CSS.)

➢ If you want a line to extend beyond the text itself, you can use borders (e.g., `bottom-border: thin solid;`)

Exercises: Revamping Tony's Page

I.   First, fix the page so that it adheres to the HTML5 standard. Remember to use the validator (http://validator.w3.org) *AFTER* your attempt at HTML5 compliance. Then create an external stylesheet called `journal.css` and link it in to the HTML.

II.   Make the web page more screen-readable: Make the entire web page text have a Verdana font; if Verdana's not available, use Geneva; then if Geneva's not available, use Arial; otherwise have the browser use its default sans-serif font.

III.   Bind the Emblema One font to the name "Emblema One" as follows and then create a rule specifying it for use with h1 elements. Specify the browser's default generic sans-serif font for h1 as a fallback:

```
@font-face {
    font-family: "Emblema One";
    src: url("http://wickedlysmart.com/hfhtmlcss/chapter8/journal/EmblemaOne-Regular.woff"),
        url("http://wickedlysmart.com/hfhtmlcss/chapter8/journal/EmblemaOne-Regular.ttf");
}
```

Exercises: Revamping Tony's Page (cont.)

IV. Specify small for the body's font size and then make the `h1` and `h2` elements have relative font sizes of 220% and 130%, respectively. What are the equivalents if you used `em` instead?

V. Remove the boldness of the `h2` content and italicize `blockquote` content. Underline `h1` and `h2` content and make it have a font color given by the hexadecimal rgb code, #cc6600. What are two alternatives using `rgb(__,__,__)`?

VI. Use a dotted bottom gray border instead of an underline text decoration:

(`border-bottom: thin dotted #888888;`)

Notes

❑This is primarily a summary of Chapter 8 of *Head First HTML and CSS*, 2nd Edition by Elisabeth Robson and Eric Freeman, 2012. It contains images, exercises, and code from the book.