

# LECTURE 9: PAGE LAYOUT REVISED

Liquid  
Fixed  
Elastic

# Content of Lecture

- Creating sidebars, links, multi-column page layouts (Liquid layout)
- Liquid/Fixed layout



# LIQUID PAGE LAYOUT

# Create a Multi-Column Floating Layout

- Create multiple **divs**, each with a **float & width** attribute.
- As the columns float, the paragraph following the columns is given a **clear** value to make sure it is placed below the columns

## Float columns to Right - add padding, margins

Beware the Jabberwock, my son! The  
jaws that bite, the claws that catch!

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Integer sit amet diam. Phasellus ultrices  
viverra velit. xxxxxxxxxxxxxxxxxxxx

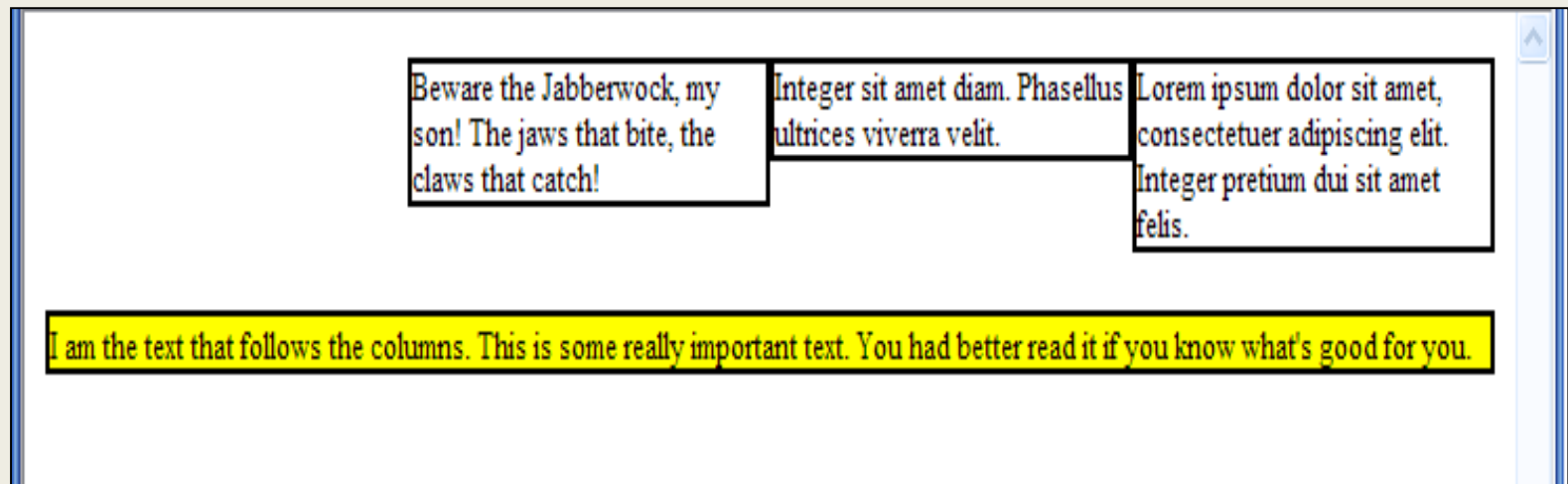
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Lorem ipsum dolor sit amet, consectetur  
adipiscing elit. Integer pretium dui sit  
amet felis. xxxxxxxxxxxxxxxx

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  
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xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx



# Multi-Column Floating Layout



- Important that **any content to follow the columns should clear the previously set float.**
- If not done, the final paragraph in the example will wrap around the floating columns.

# Multi-Column Floating Layout

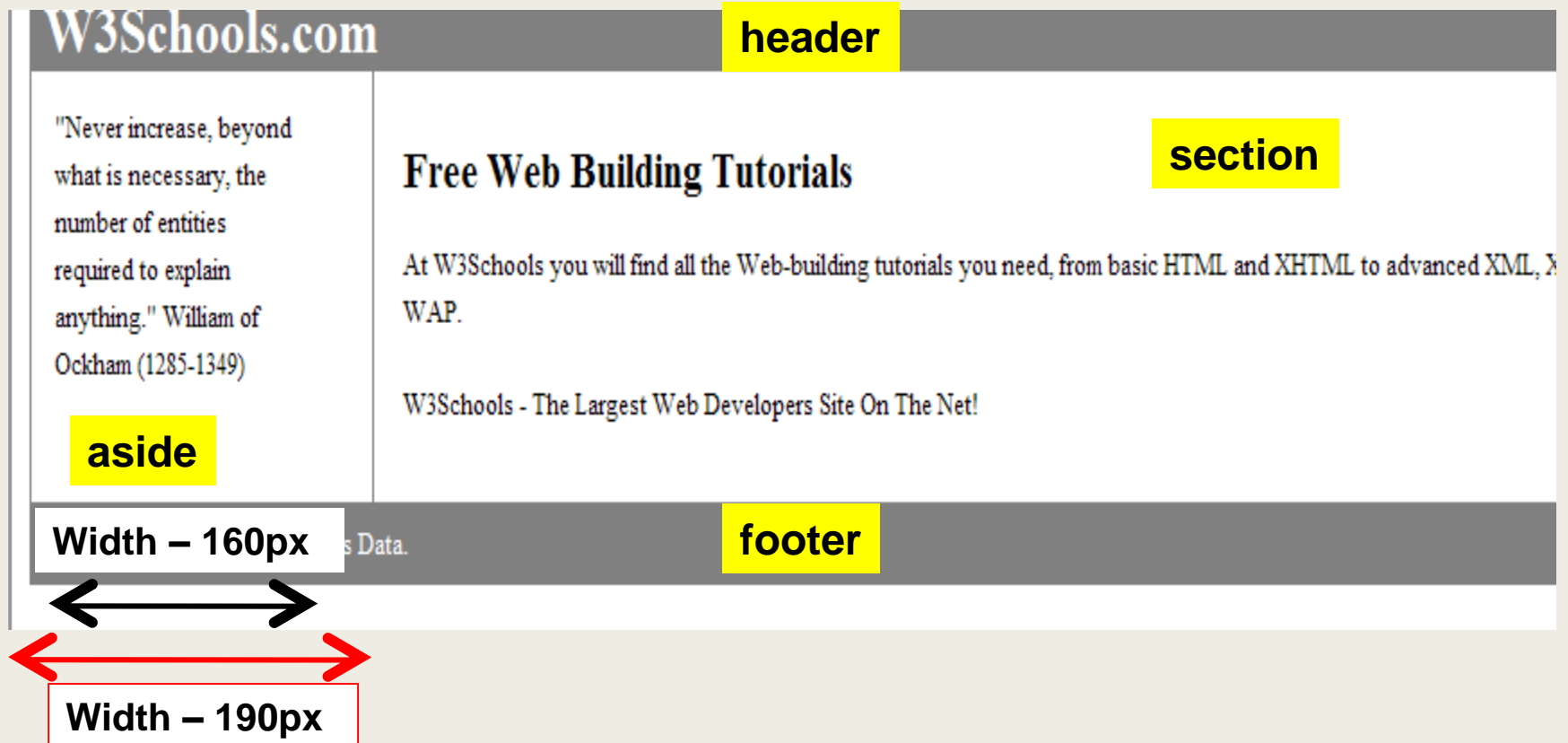
Beware the Jabberwock, my  
son! The jaws that bite, the  
claws that catch!

Integer sit amet diam. Phasellus  
ultrices viverra velit.

Lorem ipsum dolor sit amet,  
consectetuer adipiscing elit.  
Integer pretium dui sit amet  
felis.

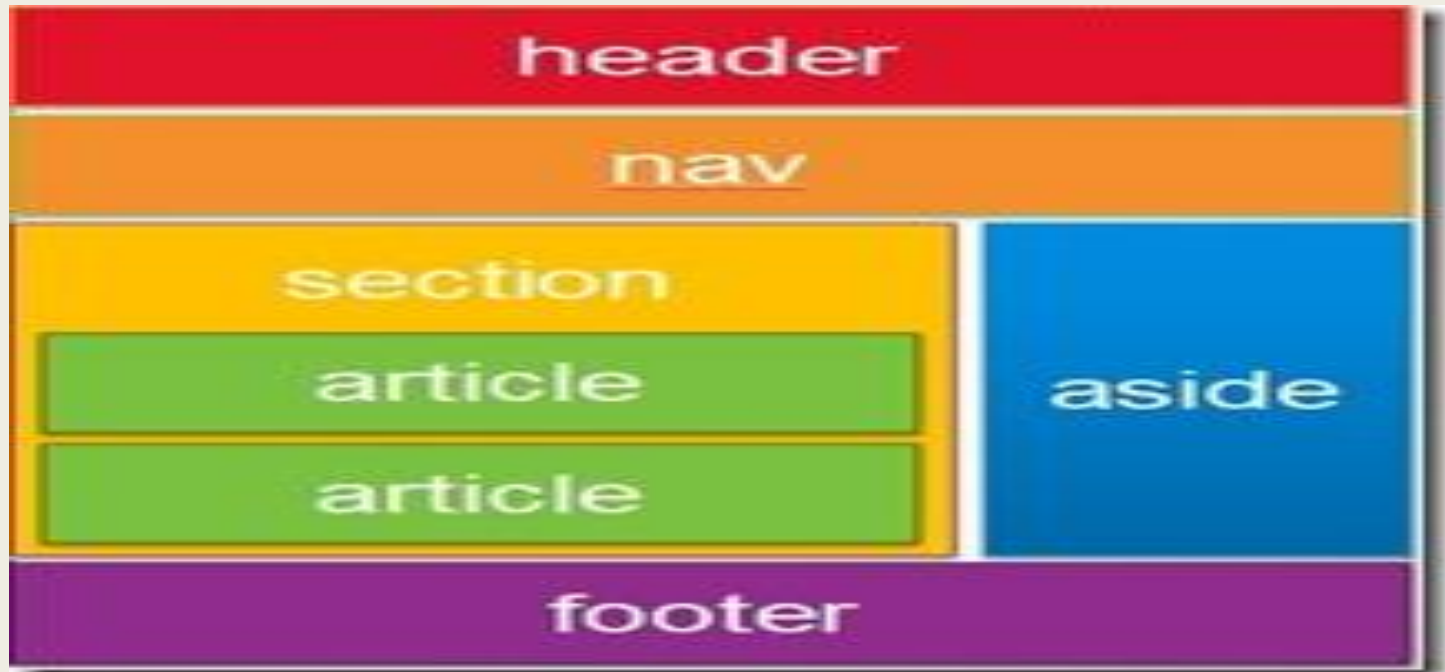
I am the text that follows the columns. This is some really important text. You had better read it if you know what's good for you.

# Using Float – Page Layout





# Recap-HTML5 layout tags



# Using Float – Page Layout (Liquid Layout)

- Use HTML5 tags + divs
  - *Container (or wrapper) div*
  - *Header*
  - *Aside*
    - *Float:left*
  - *Section*
  - *Footer*

# Using Float – Page Layout

```
<body>
<div class="container">
  <header>
    <h1>W3Schools.com</h1>
  </header>
  <aside><p>"Never increase, beyond what is necessary, the
number of entities required to explain anything." William of
Ockham (1285-1349)</p>
  </aside>
  <section>
    <h2>Free Web Building Tutorials</h2>
    <p>At W3Schools you will find all the Web-building tutorials you
need, from basic HTML and XHTML to advanced XML, XSL,
Multimedia and WAP.</p>
    <p>W3Schools - The Largest Web Developers Site On The
Net!</p>
  </section>
  <footer>Copyright 1999-2005 by Refsnes Data.
  </footer>
</div>
</body>
```

# Using Float – Page Layout

## ■ Aside

- *Float it to the left*
- *Width of 160px*
- *No margins, padding all round of 1rem*

## ■ Section

- *Left margin of 190px*
- *Left border of 1px, solid line and grey*
- *Padding all round of 1rem*

## ■ Header & Footer

- *Padding of 0.5rem*
- *Text in white, grey background*
- *Clear the left float*

### Note:

```
<div class =  
“container”>  
</div>
```

This is wrapped  
around  
all the content

# Using Float – Page Layout

```
<style>
.container
{
    width:100%;
    margin:0px;
    border:1px solid gray;
    line-height:150%;
}
header,footer
{
    padding:0.5rem;
    color:white;
    background-color:gray;
    clear:left;
}
```

```
header{
    padding:0;
    margin:0;
}
aside{
    float:left;
    width:160px;
    margin:0;
    padding:1rem;
}
section{
    margin-left:190px;
    border-left:1px solid gray;
    padding:1rem;
}
</style>
```

# Using Float – Page Layout

- Note: previous example: defined the page width as a %
- If we use % for the width of a page, we are creating a LIQUID page layout.
- If you reduce the size of the page, the content wraps around the available space and acquires the shape of the available space.



# HORIZONTAL MENUS

# Use Float – Horizontal Menu

- **Unordered list** of items containing lists created
- List contained within `<nav> </nav>` tags
- All **unwanted spacing and bullets are removed**
- Style `<li>` elements as **inline** elements. **Remove the bullet.**
- Style `<a>` links as **blocks** with padding etc.
- Set the `<a>` link to **float to the left.**
- Each hyperlink in the list has a **width** of **6rem** (6 times the size of the current font).
- Add some colors and borders
- Style for **hover, active, current page** etc.



# Use Float – Horizontal Menu

Link one

Link two

Link three

Link four

```
<nav>
  <ul>
    <li><a href="#">Link one</a></li>
    <li><a href="#">Link two</a></li>
    <li><a href="#">Link three</a></li>
    <li><a href="#">Link four</a></li>
  </ul>
</nav>
```

```
nav ul {
  padding:0;
  margin:0;
}

nav li {
  display:inline;
  list-style-type:none;
}
```

```
nav a {
  display:block ;
  float:left;
  width:6rem;
  text-decoration:none;
  color:white;
  background-color:purple;
  padding:0.2em 0.6em;
  border-right:1px solid white;
}

a:hover {
  background-color:orange;
}
```

# Styling Current Page

- Assign an **id** to page that is the current page

```
<li><a href = " # " id ="current_page">Home</a></li>
```

- Do this for each page, in turn
- In CSS, style the current page so that the link in the navigation bar is a different colour to the other links

```
#current_page{  
    background-colour, font-colour, font-style etc.  
}
```

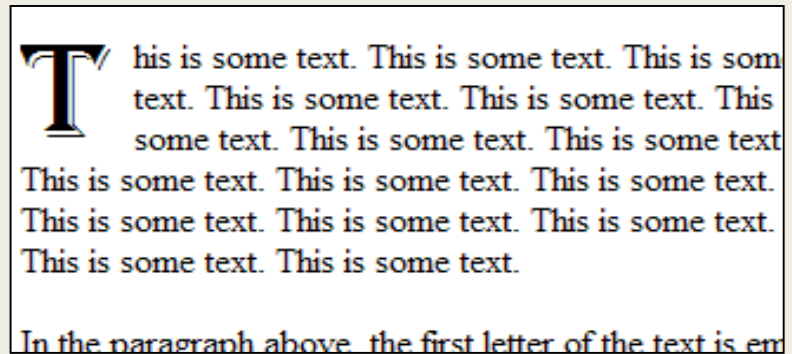
A thick black L-shaped frame is positioned around the central text box. It starts at the top-left, goes right, then down, then right again, forming a partial rectangular border around the text.

# FLOATING A LETTER

# Floating a Letter

- Example:
- First letter of a paragraph float to the left and style the letter
- Embed the first element of the text in a `<span>` element

```
span
{
float:left;
width:0.7em;
font-size:400%;
font-family:algerian,courier;
line-height:80%;
}
```



# Page Layout

## Problem:

- No way of knowing how wide, skinny, tall or short a **user's browser window** will be.
  - *User's set browser window to fill the monitor at a standard screen resolution or*
  - *Set to some comfortable resolution*
  - *Precise size of a given web page is unknown*
- **Text size** - how large or small will it be?

# Page Layout

## Solution

- Three general layout approaches have emerged to deal with these problems:
  1. *Liquid Page Layout*
  2. *Fixed Width Page Layout*
  3. *Elastic Layout*

# 1. Liquid Page Layout

- Also known as *Fluid Layout*
- Created by specifying width in **percentage %** values
- Also, if you do not specify the width at all – width will be set to **auto**, by default
  - *Element will fill the available width of the window or other containing element*

# 1. Liquid /Fluid Layout

```
body{
    font-family: Verdana, Helvetica,
                sans- serif;

    font-size: small;
    line-height: 175%;
}
aside{
    width: 25%;
    float: left;
    background-color: orange;
}
section{
    width: 70%;
    margin-left: 5%;
    float: left;
    background-color: yellow;
}
```

```
<body>
<h1>Lecture 3: Layouts</h1>

<aside>
    <h3>Background</h3>
    .....
</aside>

<section>
    <h3>Excerpt - Episode
1</h3>
    .....
</section>
</body>
```



# 1. Liquid /Fluid Layout

## Background

Ulysses has been labeled dirty, blasphemous, indecent, and obscene. In a famous 1933 court decision, Judge John M. Woolsey declared it an "emetic book"--although he found it sufficiently unobscene to allow its importation into the United States and H. C. Wells was moved to declare it James Joyce's "cloacal obsession." None of these adjectives, however, do the slightest justice to the novel. To this day it remains the modernist masterpiece, in which the author takes both Celtic lyricism and vulgarity to new heights. It is funny, sorrowful, and even (in a close-focus sort of way) suspenseful. And despite the exegetical industry that has sprung up in the last 75 years, Ulysses is

aside

100%

25%

5%

## Excerpt - Episode 1

STATELY, PLUMP BUCK MULLIGAN CAME FROM THE STAIRHEAD, bearing a bowl of lather on which a mirror and a razor lay crossed. A section of the wall, girdled, was sustained gently-behind him by the mild morning air. He held the bowl aloft and intoned an Introibo ad altare Dei. Halted, he peered down the dark winding stairs and called up coarsely: -- Come up, Kinch. Come up, you fearful jesuit. Solemnly he came forward and mounted the round gunrest. He faced about and blessed gravely thrice the tower, the surrounding country and the awaking mountains. Then, catching sight of Stephen, he bent towards him and made rapid crosses in the air, gurgling in his throat and shaking his head. Stephen Dedalus, displeased and sleepy, leaned his arms on the top of the staircase and looked coldly at the shaking gurgling face that blessed him, equine in its length, and at the light untousled hair, grained and hued like pale oak. Buck Mulligan peeped an instant under the mirror and then covered the bowl smartly. -- Back to barracks, he said sternly. He added in a preacher's tone: -- For this, O dearly beloved, is the genuine Christine: body and soul and blood and ouns. Slow music, please shut your eyes, gents. One moment. A little trouble about those white corpuscles. Silence, all. He peered sideways and heard a long low whistle of call, then paused awhile in rapt attention, even white teeth and there with gold points. Chrysostomos. Two strong shrill whistles answered through the calm. -- Thanks, old chap, he cried briskly. That will do nicely. Switch off the current, will you? He skipped off the gunrest and looked gravely at his watcher, gathering about his legs the loose folds of his gown. The plump shadowed face and sullen oval jowl recalled a prelate, patron of arts in the middle ages. A pleasant smile broke quietly over his lips.

section

70%

***Content resizes when the browser is resized***

# 1. Liquid /Fluid Layout

## Background

Ulysses has been labeled dirty, blasphemous, and unreadable. In a famous 1933 court decision, Judge John M. Woolsey declared it an emetic book-- although he found it sufficiently unobscene to allow its importation into the United States.

## Excerpt - Episode 1

STATELY, PLUMP BUCK MULLIGAN CAME FROM THE STAIRHEAD, bearing a bowl of lather on which a mirror and a razor lay crossed. A yellow dressing gown, ungirdled, was sustained gently behind him by the mild morning air. He held the bowl aloft and intoned: -- Introibo ad altare Dei. Halted, he peered down the dark winding stairs and called up coarsely: -- Come up, Kinch. Come up, you fearful jesuit. Solemnly he came forward and mounted the round gunrest. He faced about and blessed gravely thrice the tower, the surrounding country and the awaking mountains. Then, catching sight of Stephen Dedalus, he bent towards him and made rapid crosses in the air, gurgling in his throat and shaking his head. Stephen Dedalus, displeased and sleepy,

*Content resizes when the browser is resized*

# 1. Liquid /Fluid Layout

- NOTE: Page needs margins and padding to be added in order to look well, as the text is too close to the edge of the coloured section.

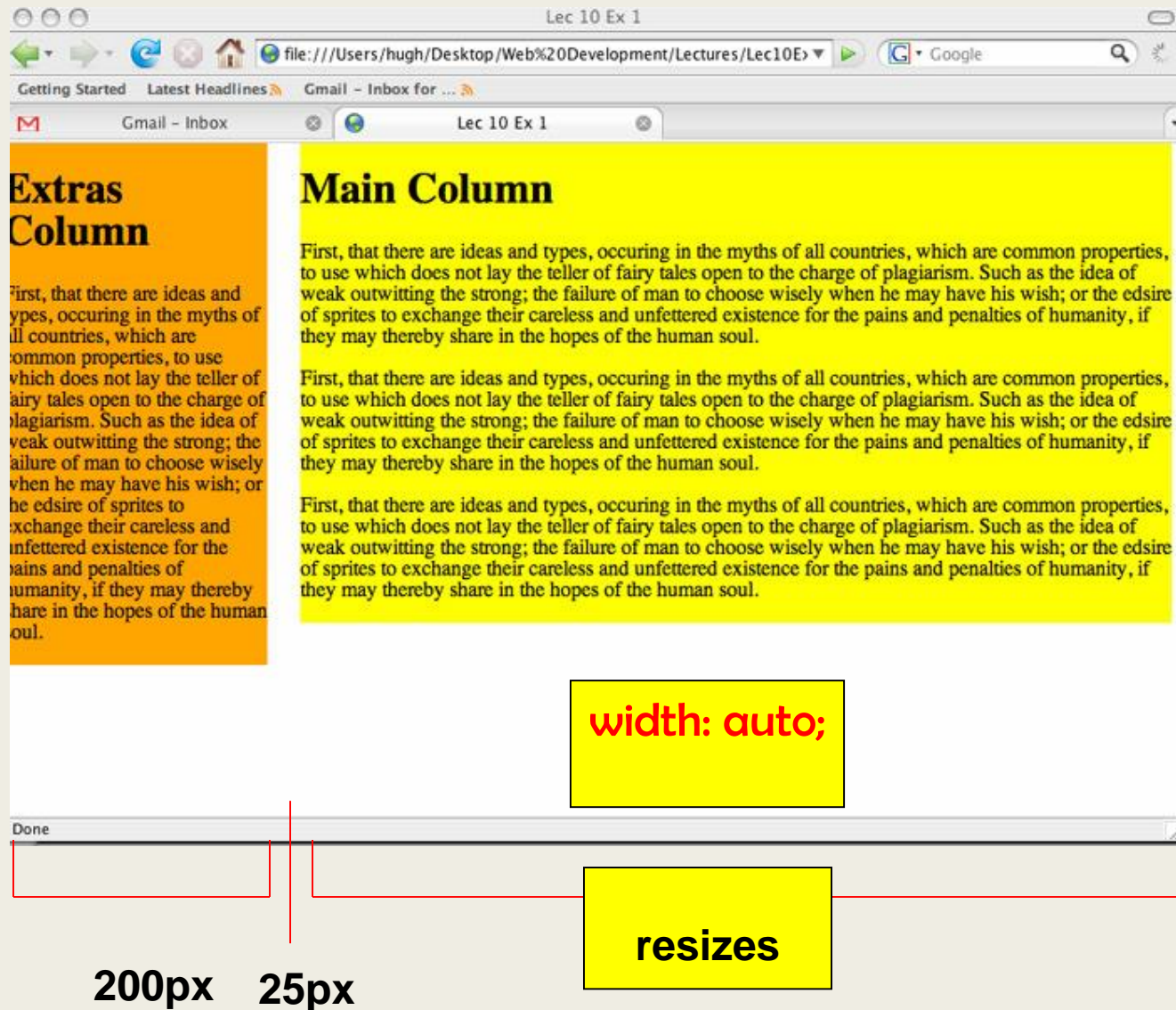
# Liquid Layout – Variation 2

- Variation of Liquid Layout example
- Set **Left-hand** column to a **fixed width** and then set the width of the **main content** column to **auto** so it fills the remaining space

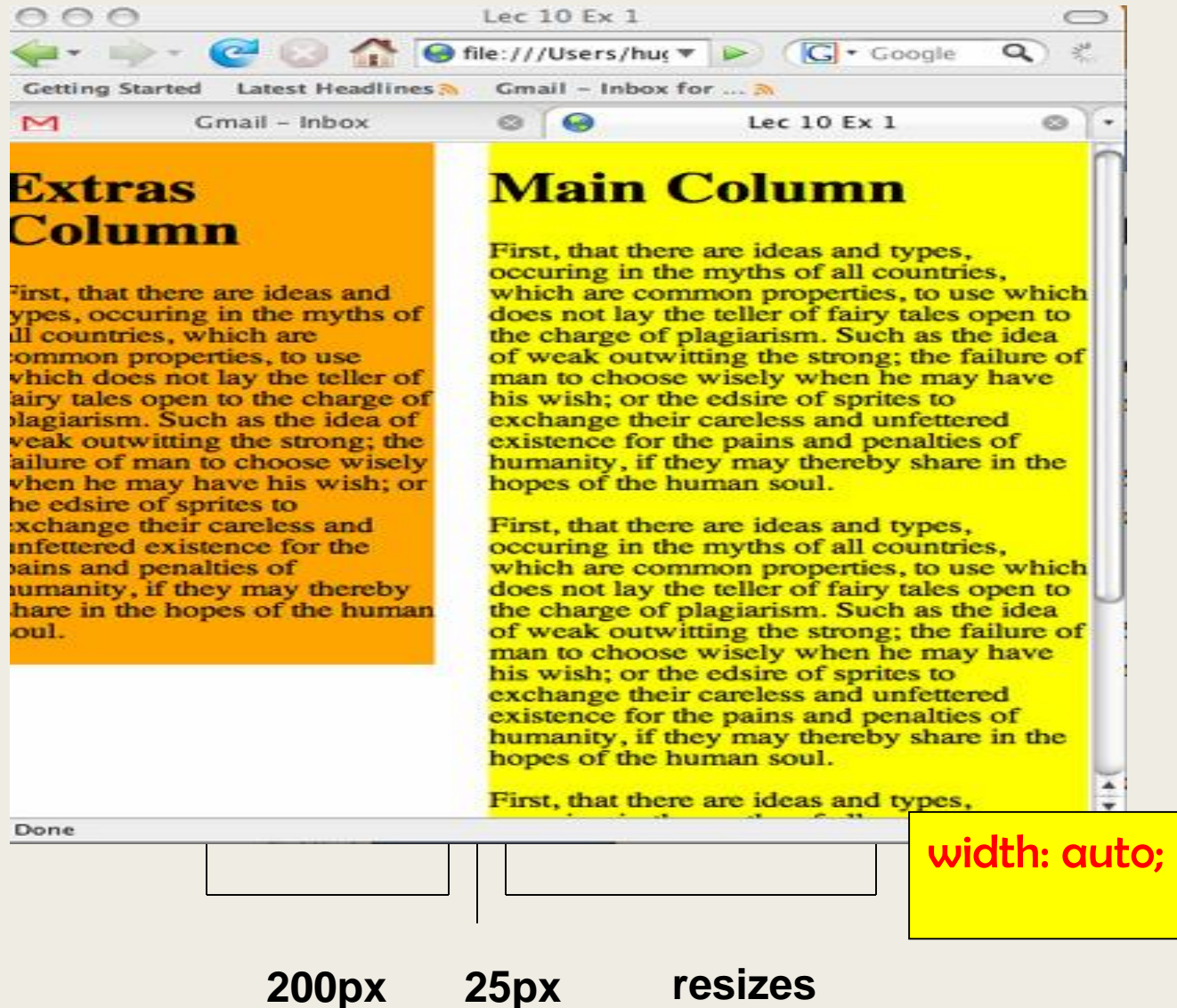
# Liquid Page Design

```
section {  
    width: auto;  
    position: absolute;  
    top: 0;  
    left: 225px;  
    background-color: yellow;  
}  
aside {  
    width: 200px;  
    position: absolute;  
    top: 0;  
    left: 0;  
    background-color: orange;  
}
```

# Liquid Page Design



# Liquid Page Design



## 2. Fixed Layout

- Designer sets a page to **a specific pixel width**
- Based on traditional guiding principles of graphic design e.g. constant grid, relationship of page elements and comfortable line lengths.
- Need to select a page width based on common monitor resolutions
  - *Most designed for **800 X 600 pixel** browser*
  - ***1000 pixel** width becoming more common*



## 2. Fixed Layout

- Need to decide where to **position** the fixed-width layout in the browser window
- **Default position:** **left edge** of browser window (viewport) , with **extra space to the right**
- Some designers **centre the page**, thereby splitting the extra space to the right and left.

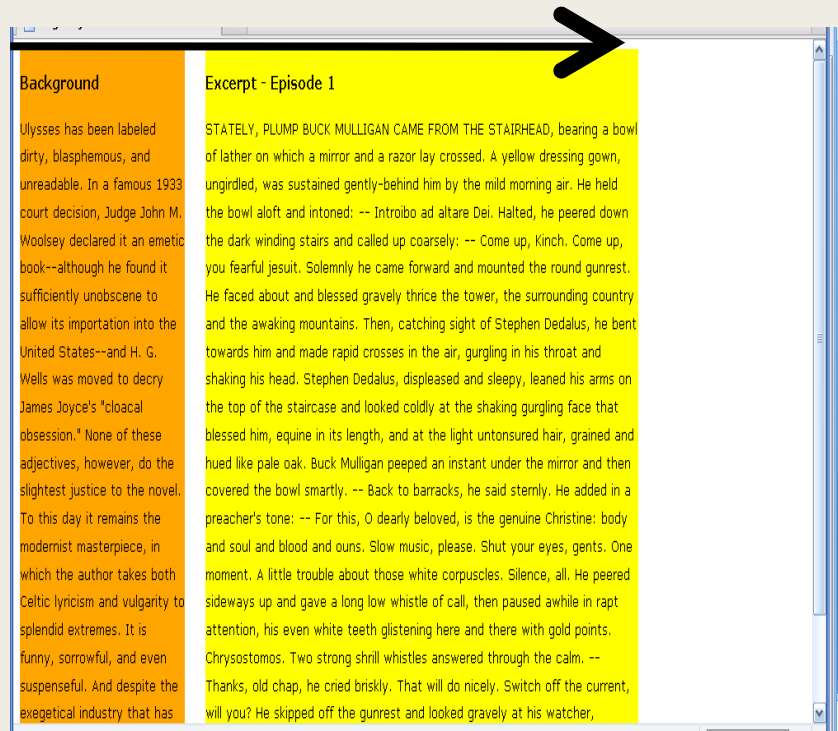
## 2. How to create Fixed Layout

- Content of the entire page is put into a DIV
- DIV is then set to a specific pixel width
- DIV often called “wrapper”, “container”, “content”, or “page”

```
<body>  
  <div id="wrapper">  
  
    <aside>  
      </aside>  
  
    <section>  
      </section>  
  
  </div>  
</body>
```

## 2. How to create Fixed Layout

**WIDTH = 750px**



**225px**

```
#wrapper{  
    width: 750px;  
    position: absolute;  
    padding: 0px;  
}  
aside{  
    position: absolute;  
    top: 0px;  
    left: 0px;  
    width: 200px;  
    background: orange;  
}  
section{  
    position: absolute;  
    margin-left: 225px;  
    background: yellow;  
}
```

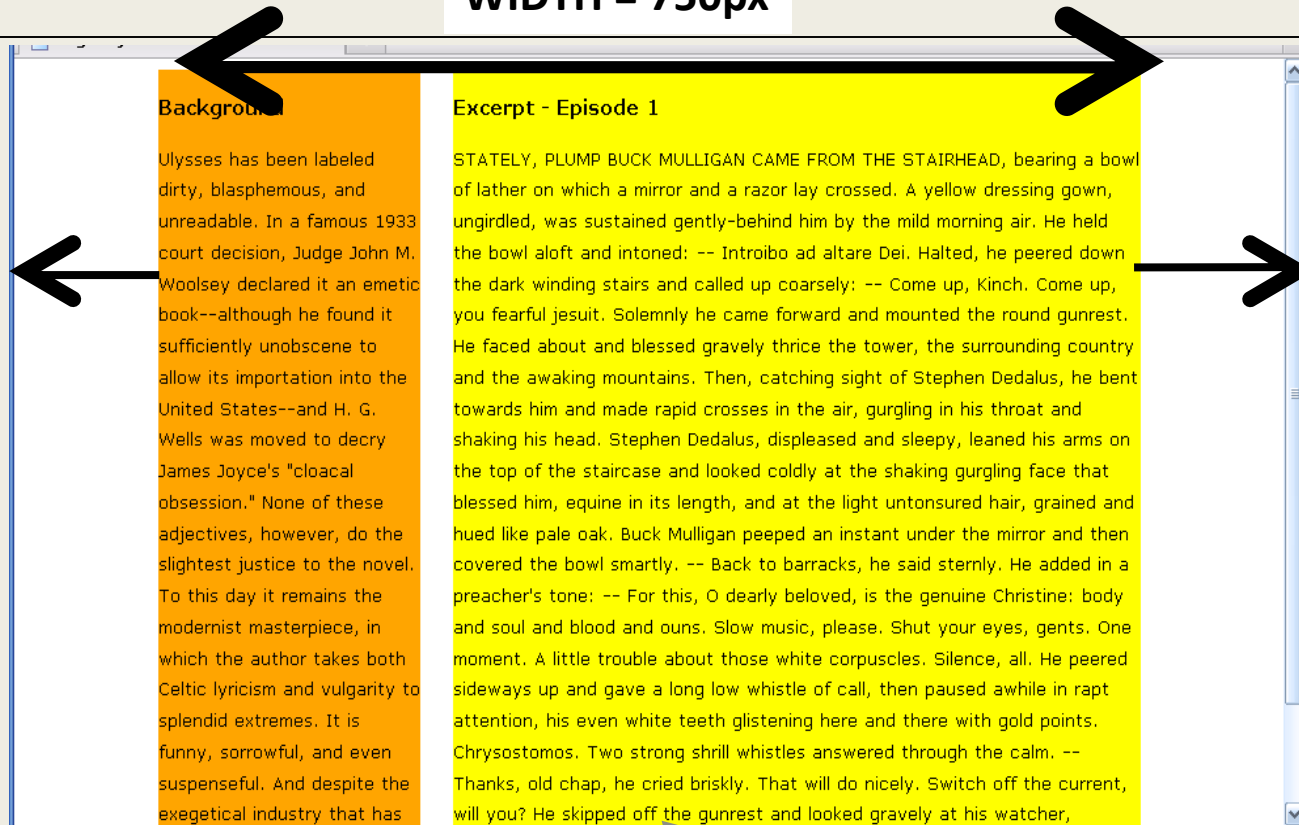
## 2. How to create Fixed Layout

- Centred

- DIV may also be centered in the browser window by setting the
  - *margin-right* and *margin-left* properties to *auto*.
- Position of this outer DIV must be set to
  - **RELATIVE**, in order to centre the contents.

## 2. Fixed Layout – Centred

WIDTH = 750px



## 2. Fixed Layout – Centred

```
<body>
  <div id="wrapper">

    <aside>
      </div>

    <section>
      </div>

  </div>
</body>
```

```
#wrapper{
  width: 750px;
  position: relative;
  padding: 0px;
  margin-right: auto;
  margin-left: auto;
}

aside{
  position: absolute;
  top: 0px;
  left: 0px;
  width: 200px;
  background: orange;
}

section{
  position: absolute;
  margin-left: 225px;
  background: yellow;
}
```

# 3. Elastic Layout

- Elastic layouts **expand or contract with the size of the text**
- Result: Line length ( in terms of words or characters per line) stay the same regardless of text size – predictable line length
- Becoming more popular as an approach

# 3. Elastic Layout

- Advantage over Liquid Layout

- *where line lengths can become too long*

- Advantage over Fixed Layout

- *where large text may cause awkward looking layouts with few words / characters per line*



# 3. How to create Elastic Layout

- Key – Use **em** units of measurement for all dimensions
- Use **ems for the dimensions** of containing elements.
- Em unit is based on the size of the text
- E.g.Element with 12-pixel text; an em is 12 pixels
- Better to **set font sizes in ems** because it allows text to be resized with the **zoom** feature on browsers.

# 3. Elastic Layout – Ems

- Text size set to 76% = 12 pixels on most browsers
- Page set to 40em
- Resulting page = 40em X 12px/em = 480 px
- If the user resizes the text to 24 pixels, the page grows to 960 pixels
  - *Getting close to available canvas space on browsers with 1024 pixel wide monitors*

# 3. How to create Elastic Layouts

```
body{
    font-family: Verdana, Helvetica,
                sans-serif;
    font-size: 80%;
    line-height: 150%;
}
```

```
#wrapper{
    width: 60em;
    position: relative;
    padding: 0px;
    margin-right: auto;
    margin-left: auto;
}
```

```
aside{
    position: absolute;
    top: 0px;
    left: 0px;
    width: 15em;
    background: orange;
}
```

```
section{
    position: absolute;
    margin-left: 18em;
    background: yellow;
}
```

# Elastic Layout



# CSS3 – Create Multiple Columns

## How many columns?

**Note:** Internet Explorer 9, and earlier versions, does not support the column-count property.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exercitation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem

vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta

nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum. Typi non habent claritatem insitam; est usus legentis in iis qui facit eorum claritatem. Investigationes demonstraverunt lectores legere me lius quod ii legunt saepius.

```
<body>

<p><b>Note:</b> Internet Explorer 9,
    and earlier versions, does not
    support the column-count
    property.</p>

<div class="newspaper">
    Lorem ipsum dolor sit
        .....
</div>
</body>
</html>
```

```
.newspaper
{
    -webkit-column-count:3; /*
        Safari and Chrome */
    column-count:3;
}
```

The **column-count** property specifies the number of columns a page should be divided into.

# CSS3 – Multiple columns

## How many columns????

**Note:** Internet Explorer 9, and earlier versions, does not support the column-rule property.

Lorem ipsum dolor  
sit amet,  
consectetur  
adipiscing elit, sed  
diam nonummy nibh  
euismod tincidunt ut  
laoreet dolore magna  
aliquam erat  
volutpat. Ut wisi  
enim ad minim  
veniam, quis nostrud  
exerci tation  
ullamcorper suscipit  
lobortis nisl ut aliquip  
ex ea commodo  
consequat. Duis

autem vel eum iriure  
dolor in hendrerit in  
vulputate velit esse  
molestie consequat,  
vel illum dolore eu  
feugiat nulla facilisis  
at vero eros et  
accumsan et iusto  
odio dignissim qui  
blandit praesent  
luptatum zzril delenit  
augue dui dolore te  
feugait nulla facilisi.  
Nam liber tempor  
cum soluta nobis  
eleifend option

congue nihil  
imperdiet doming id  
quod mazim placerat  
facit possim assum.  
Typi non habent  
claritatem insitam; est  
usus legentis in iis qui  
facit eorum  
claritatem.  
Investigationes  
demonstraverunt  
lectores legere me  
lius quod ii legunt  
saepius.

3 columns  
Gap  
Line

# CSS3 – Multiple columns

```
.newspaper
{
  -webkit-column-count:3; /* Safari and Chrome */
  column-count: 3;
  -webkit-column-gap:40px; /* Safari and Chrome */
  column-gap: 40px;
  -webkit-column-rule:4px outset purple; /* Safari and Chrome */
  column-rule: 4px outset purple;
}
```

The **column-gap** property specifies the gap between the columns

The **column-rule** property sets the **width, style, and color** of the rule between columns – similar to **border** property



# CSS3 – Multiple Column Properties

<b>column_count</b>	Number of columns an element should be divided into
<b>column-gap</b>	Size of gap between the columns
<b>column-rule</b>	Specify the width, style and colour of a line between the columns (like border property)
<b>column-span</b>	No of columns an elements e.g. <h1> can span – 1 or ALL
<b>column-width</b>	Specify the width of the columns
<b>columns</b>	Shorthand for specifying column-width & column-count

# Page Layout

- Many approaches to web page layout
- Approach you choose will be dictated by:
  - *Purpose of web page*
  - *Content*
  - *Intended Audience*
  - *Etc.*
- **Web developers need a toolbox of page layout strategies to apply quickly to see how layout looks**
- Will look at a number of page layout templates
  - *2 /3 columns with footers using floats*
  - *2/3 columns using positioning (liquid)*
  - *3 column with header and footer using positioning (fixed)*

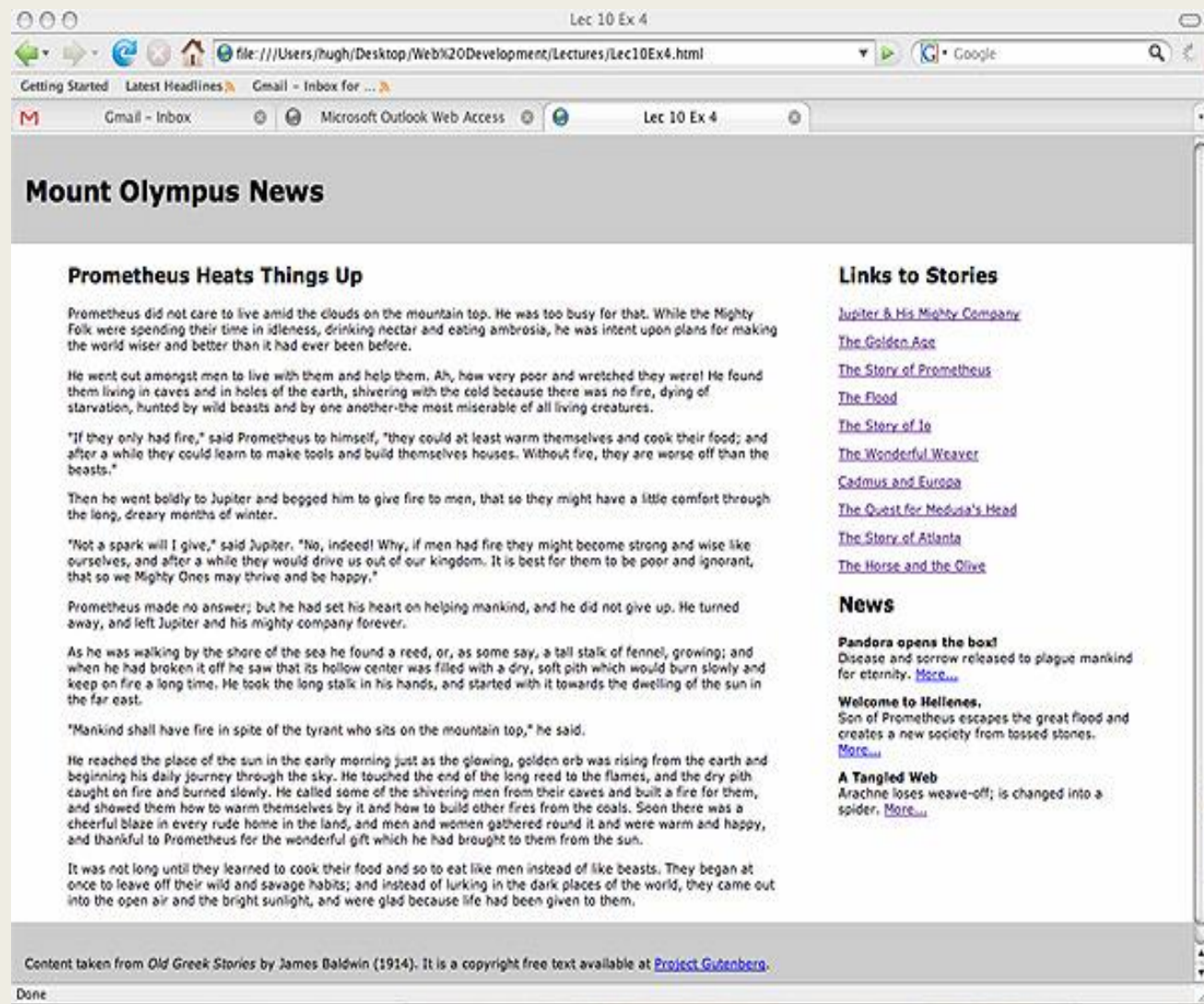
# Page Layout Templates

- The following slides present a series of page layout templates.
- They comprise of a variety of **two** and **three column** layouts that you can use as a basis for your pages.
- Each of these layouts either uses *floats* or *positioning*.
- We will see that both *fixed* and *liquid* layouts are possible in each case.
- Web developer should have templates of various web page layouts at their disposal, so that they can use them, as required

# Multicolumn Layouts Using Floats

- **Template 1**
- **Two Column** with Footer
- Method: **FLOAT**
- Layout: **LIQUID**
- This template creates a classic **two column layout** with a **header** across the top, containing the page title.
- The **left hand column** contains the main text and then the **right hand column** contains a list of links and some news items.
- A **footer** is also provided at the bottom.

# Multicolumn Layouts Using Floats



# Multicolumn Layouts Using Floats

The screenshot shows a web browser window displaying a page titled "Lec 10 Ex 4". The page layout is a multicolumn design using floats. The browser's address bar shows the file path: `file:///Users/hugh/Desktop/Web%20Development/Lectures/Lec10Ex4.html`. The browser's tab bar shows several tabs, including "Getting Started", "Latest Headlines", "Gmail - Inbox for ...", "Gmail - Inbox", "Microsoft Outlook Web Access", and "Lec 10 Ex 4".

The page content is organized into four main sections, each highlighted with a red border:

- header**: A grey bar at the top of the page with the text "Mount Olympus News".
- section**: The main content area on the left, titled "Prometheus Heats Things Up". It contains several paragraphs of text about Prometheus and his quest for fire. The text is justified and includes quotes from Prometheus and Jupiter.
- aside**: A sidebar on the right side of the page. It contains two sections: "Links to Stories" with a list of links to various mythological stories (e.g., "Jupiter & His Mighty Company", "The Golden Age", "The Story of Prometheus", "The Flood", "The Story of Io", "The Wonderful Weaver", "Cadmus and Europa", "The Quest for Medusa's Head", "The Story of Atlanta", "The Horse and the Olive"), and "News" with two short news items: "Pandora opens the box!" and "Welcome to Hellenes".
- footer**: A grey bar at the bottom of the page containing the text: "Content taken from *Old Greek Stories* by James Baldwin (1914). It is a copyright free text available at [Project Gutenberg](#)." Below this text is a "Done" button.

# Multicolumn Layouts Using Floats

```
header {
    background-color: #CCC;
    padding: 15px;}

section {
    float: left;
    width: 60%;
    margin: 0 5%;
    outline: 2px dashed #0053ae; }

aside {
    float: left;
    width: 25%;
    margin: 0 5% 0 0;
    outline: 2px dashed #dd0009;}

footer {
    clear: left; /* starts the footer below the floated content */
    padding: 15px;
    background: #CCC;}
```

**Float section to the left  
Make it 60% of the browser width**

# Multicolumn Layouts Using Floats

- **Template 2**
- **Three Column** with Footer
- Method: **FLOAT**
- Layout: **FIXED**
- This template creates a classic three column layout with a **header** across the top, containing the page title.
- The **left hand column** contains a list of links, the **middle section** contains the main content and then the **right hand column** some news items.
- A **footer** is also provided at the bottom.



# Multicolumn Layouts Using Floats

## Mount Olympus News

### Links to Stories

[Jupiter & His Mighty Company](#)

[The Golden Age](#)

[The Story of Prometheus](#)

[The Flood](#)

[The Story of Io](#)

[The Wonderful Weaver](#)

[Cadmus and Europa](#)

[The Quest for Medusa's Head](#)

[The Story of Atlanta](#)

[The Horse and the Olive](#)

### Prometheus Heats Things Up

Prometheus did not care to live amid the clouds on the mountain top. He was too busy for that. While the Mighty Folk were spending their time in idleness, drinking nectar and eating ambrosia, he was intent upon plans for making the world wiser and better than it had ever been before.

He went out amongst men to live with them and help them. Ah, how very poor and wretched they were! He found them living in caves and in holes of the earth, shivering with the cold because there was no fire, dying of starvation, hunted by wild beasts and by one another-the most miserable of all living creatures.

"If they only had fire," said Prometheus to himself, "they could at least warm themselves and cook their food; and after a while they could learn to make tools and build themselves houses. Without fire, they are worse off than the beasts."

Then he went boldly to Jupiter and begged him to give fire to men, that so they might have a little comfort through the long, dreary months of winter.

"Not a spark will I give," said Jupiter. "No, indeed! Why, if men had fire they might become strong and wise like ourselves, and after a while they would drive us out of our kingdom. It is best for them to be poor and ignorant, that so we Mighty Ones may thrive and be happy."

### News

**Pandora opens the box!**  
Disease and sorrow released to plague mankind for eternity. [More...](#)

**Welcome to Hellenes.**  
Son of Prometheus escapes the great flood and creates a new society from tossed stones. [More...](#)

**A Tangled Web**  
Arachne loses weave-off; is changed into a spider. [More...](#)

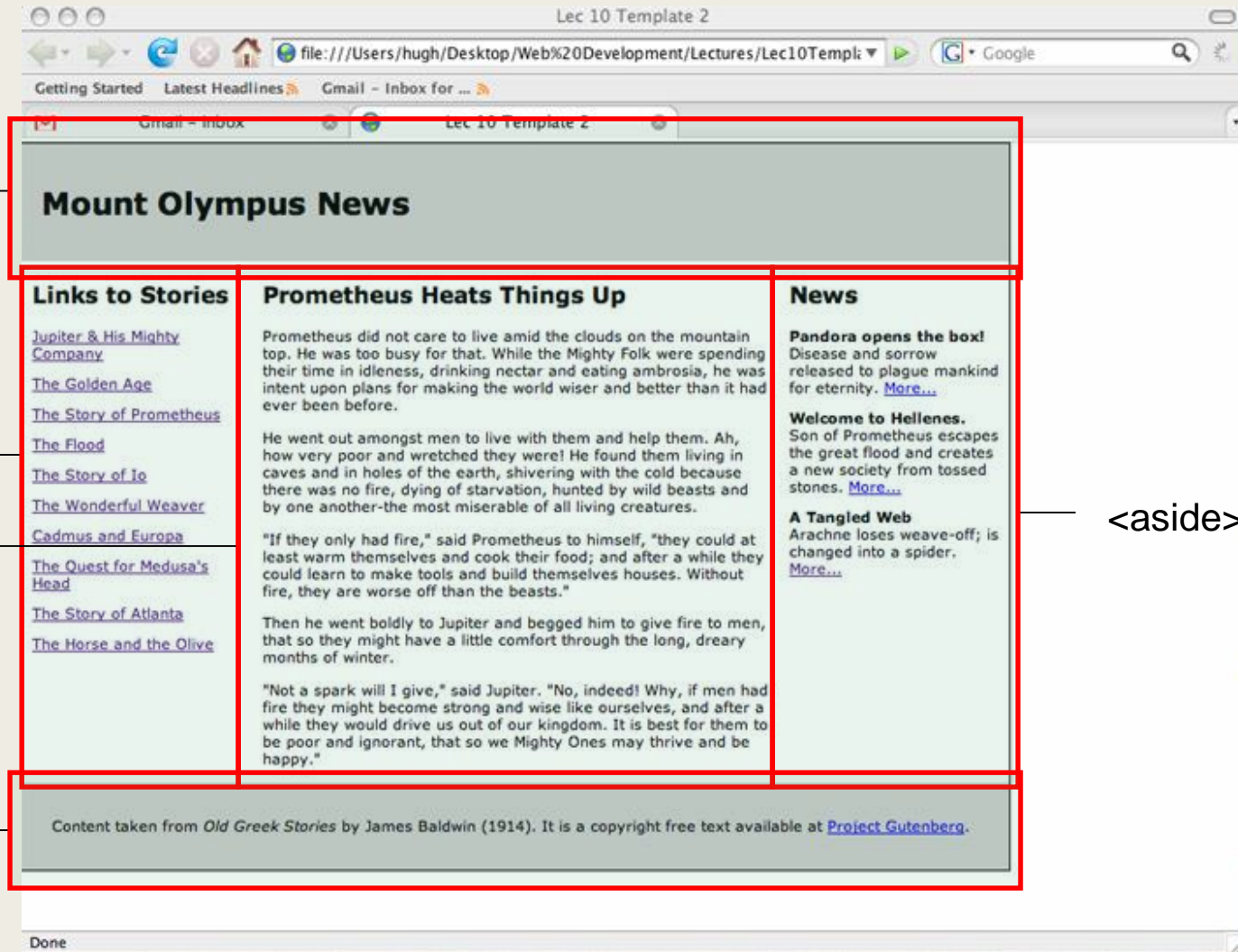
# Multicolumn Layouts Using Floats

header

<nav>

section

footer



# Multicolumn Layouts Using Floats

```
#container {  
    width: 750px;  
    border: solid 1px;  
}  
  
header {  
    background: #CCC;  
    padding: 15px;  
}  
  
nav {  
    float: left;  
    width: 175px;  
}
```

← Entire page is of fixed width of 750 pixels

← Border is optional ...

← Header appears first in source so will be placed at top of page

← Left-hand column floated to left

← Fixed at 175 pixels in width

# Multicolumn Layouts Using Floats

```
section {
```

```
    float: left;
```



Float *section* to the left also

```
    width: 400px;
```



Make it 400 pixels in width

```
}
```

```
aside {
```

```
    float: left;
```



Float *aside* to the left also. Third column.

```
    width: 175px;
```



Make it 175 pixels in width

```
}
```

```
footer {
```



Make sure footer starts below *all* floated elements

```
    clear: both;
```

```
    padding: 15px;
```

```
    background: #CCC;
```

```
}
```

# Multicolumn Layouts Using Floats

- Note that there is no padding, borders or margins on any of the floated elements.
- This is to ensure that the sum of their widths is exactly equal to the width of the container.
- $175 + 400 + 175 = 750$ .
- Space within each part of the webpage is achieved by applying padding to the elements it contains using the following style rule:

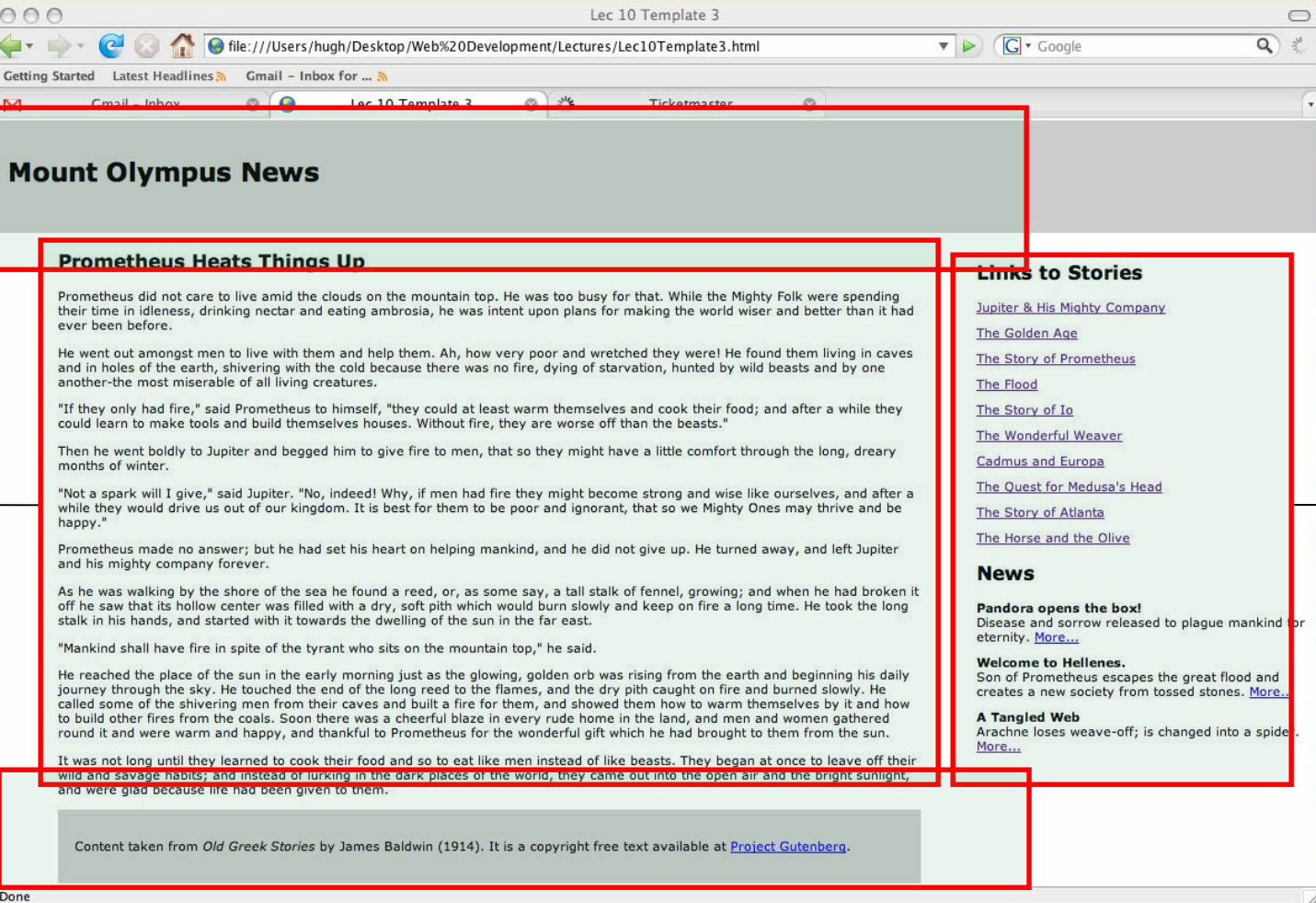
```
h2, ul, p { padding: 0px 8px; }
```

# Multicolumn Layouts Using Floats

- Template 3
  - Two Column with narrow footer
  - Method: POSITIONED
  - Layout: LIQUID
- This is similar to Template 1.
- The differences are that firstly it uses absolute positioning instead of floats, and secondly the footer does not extend all the way across the page.
- Markup is straightforward. It's just four elements - *header*, *section*, *aside* (right hand column) and *footer*.

# Multicolumn Layouts Using Positioning

header



aside

footer

# Multicolumn Layouts Using Floats

```
header {
```

```
    height: 70px;
```

```
    background: #CCC;
```

```
    padding: 15px;
```

```
}
```

```
section {
```

```
    margin-right: 30%;
```

```
    margin-left: 5%;
```

```
}
```

```
aside {
```

```
    position: absolute;
```

```
    top: 100px;
```

```
    right: 0px;
```

```
    width: 25%;
```

```
    padding: 10px;
```

```
}
```

**header** is fixed at a height of 70 pixels  
Total height of header is  $15+70+15 = 100$

**section** div has a right-margin wide enough  
to make space for the `<aside>`

**aside** div is positioned exactly 100 pixels  
from the top, and right up against the  
right side of the page.

Making it 25% the width of the window  
ensures it will fit inside the 30% right  
margin of the *main* div.



# Multicolumn Layouts Using Floats

```
footer {  
    margin-right: 30%;  
    margin-left: 5%;  
    padding: 15px;  
    background: #CCC;  
}
```



***footer* has the same margin as `<section>`  
it slots under it correctly.**

- Giving a 30% right-margin to *footer* also ensures that it will not become overlapped by a very long *<aside>* column (the right-hand one).

# Multicolumn Layouts Using Floats

- **Template 4**
- **Three Column** with narrow footer
- Method: **POSITIONED**
- Layout: **LIQUID**
- In this template both the **left and right columns are absolutely positioned.**
- **Margins** are then applied to **both sides of the middle main content column** to clear space for them.

# Multicolumn Layouts Using Floats

The image shows a web browser window displaying a page titled "Mount Olympus News". The browser's address bar shows the file path: `file:///Users/hugh/Desktop/Web%20Development/Lectures/I`. The page layout is a multicolumn design using floats, with several red boxes highlighting specific sections and labels pointing to them.

**Annotations:**

- header**: Points to the "Mount Olympus News" title bar.
- nav section**: Points to the "Links to Stories" sidebar.
- main content**: Points to the "Prometheus Heats Things Up" article.
- aside**: Points to the "News" sidebar.
- footer**: Points to the copyright notice at the bottom.

**Page Content:**

## Mount Olympus News

### Links to Stories

- [Jupiter & His Mighty Company](#)
- [The Golden Age](#)
- [The Story of Prometheus](#)
- [The Flood](#)
- [The Story of Io](#)
- [The Wonderful Weaver](#)
- [Adamus and Europa](#)
- [The Quest for Medusa's Head](#)
- [The Story of Atlanta](#)
- [The Horse and the Olive](#)

### Prometheus Heats Things Up

Prometheus did not care to live amid the clouds on the mountain top. He was too busy for that. While the Mighty Folk were spending their time in idleness, drinking nectar and eating ambrosia, he was intent upon plans for making the world wiser and better than it had ever been before.

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### News

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Disease and sorrow released to plague mankind for eternity. [More...](#)

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#### A Tangled Web

Arachne loses weave-off; is changed into a spider. [More...](#)

Content taken from *Old Greek Stories* by James Baldwin (1914). It is a copyright free text available at [Project Gutenberg](#).

# Multicolumn Layouts Using Floats

```
header {  
    height: 70px;  
    background: #CCC;  
    padding: 15px;  
}
```

***header* is fixed at a height of 70 pixels**  
**Total height of header is  $15+70+15 = 100$**

```
section {  
    margin-right: 25%;  
    margin-left: 25%;  
}
```

***section* has a right-margin wide enough to make space for the *news* div and a left margin big enough to fit the *links* div.**

```
nav {  
    position: absolute;  
    top: 100px;  
    left: 0px;  
    width: 22%;  
}
```

***nav* is positioned exactly 100 pixels from the top, and right up against the left side of the page.**  
**Making it 22% the width of the window ensures it will fit nicely inside the 25% right margin of the *main* div.**

# Multicolumn Layouts Using Floats

```
aside {  
    position: absolute;  
    top: 100px;  
    right: 0px;  
    width: 22%;  
}
```



Right hand *<aside>* column done in a similar manner to the left hand *links* one.

```
footer {  
    margin-right: 25%;  
    margin-left: 25%;  
    padding: 15px;  
    background: #CCC;  
}
```



*footer* is done the same way as in the last template. 25% is put on both sides so that it fit exactly under the *main* div.

## Multicolumn Layouts Using Floats

- **Template 5**
- Three Column with padding between columns
- Method: POSITIONED
- Layout: FIXED
- Finally let's look at how to do a three column fixed layout using positioning.
- Everything here is precisely positioned so nothing will resize with the browser window.
- No footer in this template!

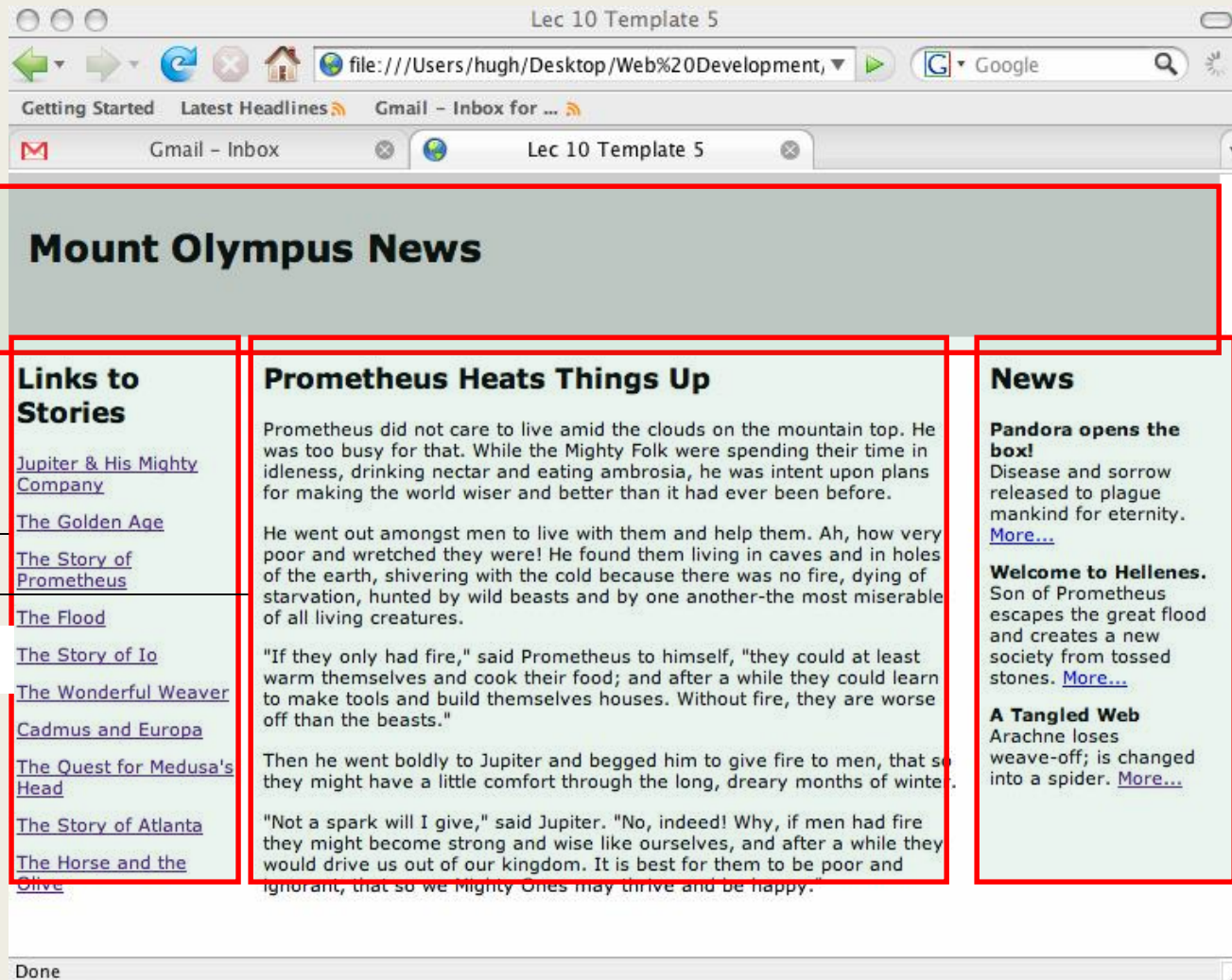
# Multicolumn Layouts Using Floats

header

nav

section

aside



# Centering a Fixed Width Page

- All the templates have been left-aligned.
- Suppose we want one centred?
- There are two ways to do this.
- Firstly, the official CSS way!
- This says that what you do is specify a width for the container **div** element and then **set it's left and right margins to auto.**

```
container {  
    position: relative;  
    width: 750px;  
    margin-right: auto;  
    margin-left: auto; }
```



# Lecture Summary

- Width property
- Float property
- Clear property
- Floating text, images, first letter
- Creating sidebars, links, multi-column page layouts
- Making Floating elements fit
- Problem of floating too late
- Fixed/Liquid