

Introduction to Markup



Christopher Ohge

christopher.ohge@sas.ac.uk

This lecture

- What is Markup and why should you care?
- How markup languages have changed.
- A Markdown primer for web display.
- Markdown > HTML and CSS.
- What is HTML and CSS?

What is Markup?

Well... it means two things for us (*OED*):

Bibliographical (instructions to the compositor using abbreviations or signs):

“The process or result of marking corrections on copy or proofs in preparation for printing” (2b).

Computational (instructions to the computer using tags):

“The process of embedding tags in an electronic text so as to distinguish the text’s logical, syntactic, or structural components; the tags so embedded” (2c).

What is Markup?

Markup is essential to many activities, from data storage, information management, data structuring, metadata preservation and delivery, and Web publishing.

- Markup is a way of making our knowledge or understanding about a text explicit
- Markup makes strives to make explicit (to a machine) what is implicit (to a person)
- Markup assists us in facilitating re-use of the same material:
 - in different formats
 - in different contexts
 - by different sorts of users

A brief history of markup

1967: “Generic coding,” a text tagging system by William Tunncliffe and the Graphic Communication Association’s (GCA) Composition Committee, was presented at a conference for the Canadian Government Printing Office.

1969/1973: Charles Goldfarb and a team at IBM developed Generalized Markup language (GML).

1986: Goldfarb released the Standard Generalized Markup Language (SGML).

1991: Sir Tim Berners-Lee released a document called “HTML tags,” which proposed 18 tags based on the SGML language for authoring web pages. Thus the HyperText Markup Language was born.

1994: First official specification of HTML 2.0, published by the Internet Engineering Task Force (IETF).

1999: World Wide Web Consortium (W3C) superseded the IETF, published the HTML 4 standards.

Early 2000s: Schism between XHTML and HTML.

2006: Berners-Lee wrote a blog post that stated the HTML to XML transition had not worked. Changes to web standards need to be incremental.

Present: most of us still see (and use) HTML5. XHTML still used, though (epub, for example).

Kinds of Markup

Procedural Markup (e.g. troff, TeX, and PostScript):

```
RED INK ON; print "-£1000"; RED INK OFF
```

Presentational Markup (e.g. css, html):

```
\textcolor{red}{-£1000}
```

Descriptive Markup (html, sgml, xml):

```
<measure unit=" pounds" value=" -1000 ">
```

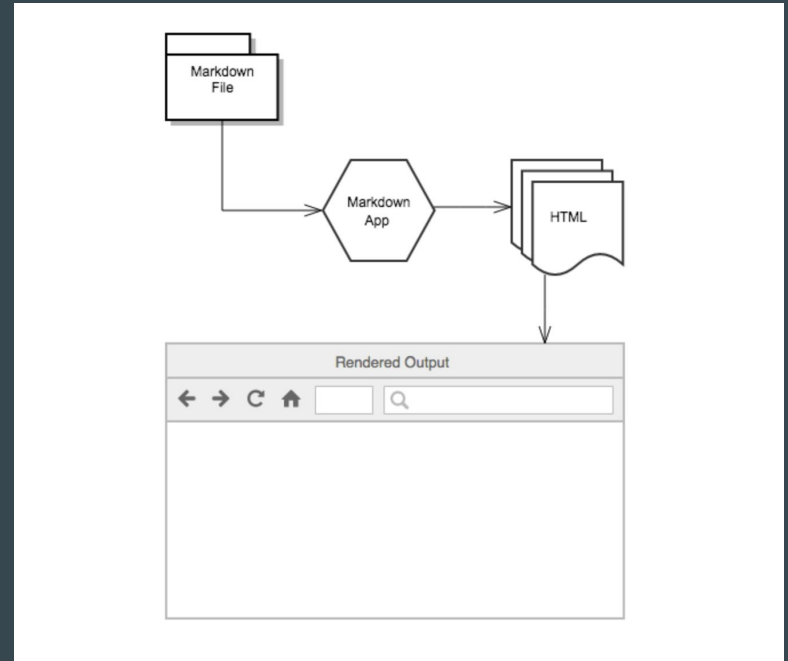
```
One thousand pounds in debt</measure>
```

Descriptive Markup

- It is usually more useful to mark up what we think the elements of data represent rather than what they look like.
- Descriptive markup enables us to make explicit distinctions for processing a string of characters
- It gives us a way of naming, characterising, and annotating textual data in a formalised way and recording this for re-use

Kinds of Markup

- Whereas presentational markup concerns the appearance of a text, descriptive markup is a metalanguage that deals with the meaning of the text (what it is).
- An encoded source file is not immediately processed, so that makes sharing much easier and improves workflow.
- Take this simple example of a Markdown file workflow:



Markdown

- The computer scientist John Gruber conjured the idea of a simple markup language in 2004 after becoming frustrated by writing tedious HTML tags to properly format his content.
- Markdown is a text-to-HTML conversion tool for web writers. It is an easy-to-use syntax for quickly styling and structuring all forms of writing on the web. It is often used on GitHub's README files, but it is also usable on other blog services like WordPress. It easily converts to .html, .pdf, and .docx with Pandoc.
- It is *not* a “what-you-see-is-what-you-get” (often abbreviated to **WYSIWYG**) text editor like Microsoft Word, in which you click on buttons and format the document immediately: with Markdown you enter in the syntax in-text to instruct the computer how a document should look.
- Basically, Markdown is just regular text with a few non-alphabetic characters thrown in, like # or *. So *The Tempest* is rendered as *The Tempest*. If we put # in front of *The Tempest*, it becomes a first-level header.
- Why write a file in Markdown (.md)?

Markdown continued.

The importance structure and of workflow: not only writing flow, but the flow of a computational pipeline. It is also good for documenting and demoing code.

Using the Atom text editor (and other text editors), you can preview your markdown for readability. In Atom, you enter Markdown preview by entering control+shft+m. An example—take some plain text:

In a Station of the Metro

By Ezra Pound, 1885 - 1972

The apparition of these faces in the crowd;

Petals on a wet, black bough.

(Source: Poets.org, <https://www.poets.org/poetsorg/poem/station-metro>)

Markdown structure

```
# *In a Station of the Metro*
```

```
## By Ezra Pound, 1885 - 1972
```

```
The apparition of these faces in the crowd;
```

```
Petals on a wet, black bough.
```

```
(**Source:**
```

```
[Poets.org(https://www.poets.org/poetsorg/poem/station-metro)])
```

Markdown preview

In a Station of the Metro

By Ezra Pound, 1885 - 1972

The apparition of these faces in the crowd;

Petals on a wet, black bough.

(****Source:****

[Poets.org](https://www.poets.org/poetsorg/poem/station-metro))

In a Station of the Metro

By Ezra Pound, 1885 - 1972

The apparition of these faces in the crowd;

Petals on a wet, black bough.

Source: [Poets.org](https://www.poets.org/poetsorg/poem/station-metro)

Markdown preview enhanced

In a Station of the Metro^{[Source: [Poets.org](https://www.poets.org/poetsorg/poem/station-metro)]}

By Ezra Pound^[Ezra Pound (1885 - 1972) was an American poet...]

The apparition of these faces in the crowd;

Petals on a wet, black bough.

[*Note:* you may need to install a preview package that creates the automatic footnotes. In Atom, it is markdown-preview-enhanced. (Go to Preferences > Install and enter “markdown-preview-enhanced”.)]

In a Station of the Metro^[1]

By Ezra Pound^[2]

The apparition of these faces in the crowd;

Petals on a wet, black bough.

-
1. Source: [Poets.org](#) ↩
 2. Ezra Pound (1885 - 1972) was an American poet... ↩

The Philosophy of Markdown.

To quote John Gruber, the creator of Markdown (<https://daringfireball.net/projects/markdown/>):

> The idea for Markdown is to make it easy to read, write, and edit prose. HTML is a **publishing** format; Markdown is a **writing** format. Thus, Markdown's formatting syntax only addresses issues that can be conveyed in plain text.



The Philosophy of Markdown.

To quote John Gruber, the creator of Markdown:

The idea for Markdown is to make it easy to read, write, and edit prose. HTML is a *publishing* format; Markdown is a *writing* format. Thus, Markdown's formatting syntax only addresses issues that can be conveyed in plain text.

html to Markdown?

- What if you already have an html file?
- Use Aaron Aaron Swartz 's text2html tool:

<http://www.aaronsw.com/2002/html2text/>

- The last word on markdown: Ultimately, we write content in markdown or html because it is both easily shareable data and it is non-proprietary.

Some Markdown authoring and editing applications

- Mac: iA Writer, Ulysses, Marked, or MacDown
- iOS / Android: iA Writer or Ulysses (iOS only)
- Windows: MarkdownPad
- Web: Dillinger or StackEdit
- Looking to self-publish a book? One good option is Leanpub, which converts Markdown files into an electronic book (PDF, EPUB, and MOBI file format).
- You can also incorporate code into Markdown (R Markdown, e.g.).

Example of Markdown > HTML: Our GitHub page

The screenshot displays a web browser window with a GitHub page. The left pane shows the rendered content, and the right pane shows the underlying HTML code.

Textual Editing in the Digital Age

A 5-day training event organised by Animating Texts Newcastle University and the Institute of English Studies, University of London

Welcome to the repo for the "Textual Editing in the Digital Age" training event (1-5 April 2019) at Newcastle University.

The sessions will be convened by James Cummings (Newcastle, Text Encoding Initiative) [JC], Tiago Sousa Garcia (Newcastle) [TSG], and Christopher Ohge (London) [CO], with guest tutors Charlotte Tupman (Exeter) [CT] and Francesca Benatti (Open U) [FB]. The training will consist of alternating lectures and practical workshop sessions on textual editing with XML technologies, including a thorough grounding in TEI as well as introductions to XPath searching and TEI publication tools. Also planned are presentations of case studies, a visit to Newcastle Library's Special Collections (to hear about their interesting digital editing projects). There may also be unofficial social visits to the pub some evenings.

Registration is open to all students and staff, but preference will be given to MA and PhD students and early career staff from Northern England, Northern Ireland, and Scotland. There will be no charge for the workshop.

Applications for this workshop are now closed.

If you have any questions, please don't hesitate to contact us at animating.text@newcastle.ac.uk.

Venue

The workshop will take place at Newcastle University, at the Armstrong Building room 2.96. A map of its location and a selection of nearby places to eat lunch is available [here](#).

```
<!doctype html>
<html lang="en">
<head>...</head>
<body class="logged-out env-production emoji-size-boost page-blob">
  <div class="position-relative js-header-wrapper">...</div>
  <div id="start-of-content" class="show-on-focus"></div>
  <div id="js-flash-container">
  </div>
  <div class="application-main " data-commit-hovercards-enabled">
    <div itemscope itemtype="http://schema.org/SoftwareSourceCode" class>
      <main id="js-repo-pjax-container" data-pjax-container>
        <div class="pagehead repohead instapaper_ignore readability-menu experiment-repo-nav ">...
        </div>
        <div class="container new-discussion-timeline experiment-repo-nav ">
          ::before
          <div class="repository-content ">
            <a class="d-none js-permalink-shortcut" data-hotkey="y" href="/atnu-ies/digital-editing-2019/blob/13e430e52e34461ac05a6957a7eeb89bb342c3a8/README.md">Permalink</a>
            <!-- blob contrib key: blob_contributors:v21:86db389c5dc66ad4c6aa1215e930d377 -->
            <div class="signup-prompt-bg rounded-1">...</div>
            <div class="d-flex flex-shrink-0 flex-items-center mb-3">...</div>
            <div class="Box Box--condensed d-flex flex-column flex-shrink-0">...</div>
            <div class="Box mt-3 position-relative">
              <div class="Box-header py-2 d-flex flex-justify-between flex-items-center">
                <div class="text-mono f6">...</div>
                <div class="d-flex">...</div>
            </div>
          </div>
        </div>
      </main>
    </div>
  </div>
</body>
</html>
```

Tentative Schedule

69
70
71 | Time | Mon 1 April | Tue 2 April | Wed 3 April | Thu 4 April | Fri 5 April |
72 |-----|-----|-----|-----|-----|
73 |-----|-----|-----|-----|-----|
74 |-----|-----|-----|-----|-----|
75 |-----|-----|-----|-----|-----|
76 |-----|-----|-----|-----|-----|
77 |**09:00 - 09:30** | *Registration* | | | | |
78 |**09:30 - 10:30** | Welcome; Introduction to Workshop; Textual Scholarship
79 | Survey [CO] | Introduction to TEI Text Structure [TSG] | Names, People, and
80 | Places [CO] | Introduction to Manuscript and Object Description [JC] | TEI
81 | Customisation [TSG] |
82 |**10:30 - 11:00** | Group Work: How would you edit this text? | Exercise:
83 | Structure a TEI Document | Exercise: Marking Up Named Entities | Exercise:
84 | Manuscript Description | Exercise: TEI Customisation |
85 |**11:00 - 11:15** | *Break* | *Break* | *Break* | *Break* | *Break* |
86 |**11:15 - 12:15** | Introduction to Markup for Display: HTML, CSS, Markdown
87 | [CO] | The TEI Core Module [TSG] | TEI for Transcription [TSG] | Introduction
88 | to XPath [CO] | TEI Publication Tools [TSG] |
89 |**12:15 - 12:45** | Exercise on Markup for Display | Exercise: Adding More
90 | Markup | Exercise: TEI for Transcription | Exercise: XPath Searching in oXygen
91 | | Exercise: Publication Tools |
92 |**12:45 - 13:45** | *Lunch Break* | *Lunch Break* | *Lunch Break* | *Lunch
93 | Break* | *Lunch Break* |
94 |**13:45 - 14:45** | Introduction to XML and TEI [JC] | TEI Metadata [JC] |
95 | TEI for Critical Editions [JC] | Markup for Correspondence [CO] | Transforming
96 | TEI [JC] |
97 |**14:45 - 15:15** | Exercise: XML Markup | Exercise: Enrich Your TEI Header |
98 | Exercise: Critical Apparatus Markup | Exercise: Correspondence Markup |
99 | Exercise: Transform Your TEI |
100 |**15:15 - 15:30** | *Break* | *Break* | *Break* | *Break* | *Break* |
101 |**15:30 - 16:30** | Case Study: Mark Twain, April Fool: TEI Correspondence,
102 | Personography, and Network Graphs [CO] | Case Study: Encoding Ancient

```
<h2 id="tentative-schedule">Tentative Schedule</h2>  
<table>  
<thead>  
<tr class="header">  
<th>Time</th>  
<th>Mon 1 April</th>  
<th>Tue 2 April</th>  
<th>Wed 3 April</th>  
<th>Thu 4 April</th>  
<th>Fri 5 April</th>  
</tr>  
</thead>  
<tbody>  
<tr class="odd">  
<td><strong>09:00 - 09:30</strong></td>  
<td><em>Registration</em></td>  
<td></td>  
<td></td>  
<td></td>  
<td></td>  
</tr>  
<tr class="even">  
<td><strong>09:30 - 10:30</strong></td>  
<td>Welcome; Introduction to Workshop; Textual Scholarship Survey [CO]</td>  
<td>Introduction to TEI Text Structure [TSG]</td>  
<td>Names, People, and Places [CO]</td>  
<td>Introduction to Manuscript and Object Description [JC]</td>  
<td>TEI Customisation [TSG]</td>  
</tr>  
<tr class="odd">  
<td><strong>10:30 - 11:00</strong></td>  
<td>Group Work: How would you edit this text?</td>  
<td>Exercise: Structure a TEI Document</td>  
<td>Exercise: Marking Up Named Entities</td>
```

Markdown



HTML

& CSS

The screenshot shows a web browser displaying a 'Tentative Schedule' table. The table has 6 columns representing days from Monday to Friday and 14 rows representing time slots. The content of the table is as follows:

Time	Mon 1 April	Tue 2 April	Wed 3 April	Thu 4 April	Fri 5 April
09:00 - 09:30	Registration				
09:30 - 10:30	Welcome; Introduction to Workshop; Textual Scholarship Survey [CO]	Introduction to TEI Text Structure [TSG]	Names, People, and Places [CO]	Introduction to Manuscript and Object Description [JC]	TEI Customisation [TSG]
10:30 - 11:00	Group Work: How would you edit this text?	Exercise: Structure a TEI Document	Exercise: Marking Up Named Entities	Exercise: Manuscript Description	Exercise: TEI Customisation
11:00 - 11:15	Break	Break	Break	Break	Break
11:15 - 12:15	Introduction to Markup for Display: HTML, CSS, Markdown [CO]	The TEI Core Module [TSG]	TEI for Transcription [TSG]	Introduction to XPath [CO]	TEI Publication Tools [TSG]
12:15 - 12:45	Exercise on Markup for Display	Exercise: Adding More Markup	Exercise: TEI for Transcription	Exercise: XPath Searching in oXygen	Exercise: Publication Tools
12:45 - 13:45	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break
13:45 - 14:45	Introduction to XML and TEI [JC]	TEI Metadata [JC]	TEI for Critical Editions [JC]	Markup for Correspondence [CO]	Transforming TEI [JC]
14:45 - 15:15	Exercise: XML Markup	Exercise: Enrich Your TEI Header	Exercise: Critical Apparatus Markup	Exercise: Correspondence Markup	Exercise: Transform Your TEI

The developer console on the right shows the HTML structure of the table, including the header and body sections, and the CSS rules applied to the table and its cells. The HTML code is as follows:

```
<table>
  <thead>
    <tr>
      <th>Time</th>
      <th>Mon 1 April</th>
      <th>Tue 2 April</th>
      <th>Wed 3 April</th>
      <th>Thu 4 April</th>
      <th>Fri 5 April</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td><strong>09:00 - 09:30</strong></td>
      <td><em>Registration</em></td>
      <td></td>
      <td></td>
      <td></td>
      <td></td>
    </tr>
    <tr>
      <td></td>
      <td>Welcome; Introduction to Workshop; Textual Scholarship Survey [CO]</td>
      <td>Introduction to TEI Text Structure [TSG]</td>
      <td>Names, People, and Places [CO]</td>
      <td>Introduction to Manuscript and Object Description [JC]</td>
      <td>TEI Customisation [TSG]</td>
    </tr>
    <tr>
      <td></td>
      <td>Group Work: How would you edit this text?</td>
      <td>Exercise: Structure a TEI Document</td>
      <td>Exercise: Marking Up Named Entities</td>
      <td>Exercise: Manuscript Description</td>
      <td>Exercise: TEI Customisation</td>
    </tr>
    <tr>
      <td></td>
      <td>Break</td>
      <td>Break</td>
      <td>Break</td>
      <td>Break</td>
      <td>Break</td>
    </tr>
    <tr>
      <td></td>
      <td>Introduction to Markup for Display: HTML, CSS, Markdown [CO]</td>
      <td>The TEI Core Module [TSG]</td>
      <td>TEI for Transcription [TSG]</td>
      <td>Introduction to XPath [CO]</td>
      <td>TEI Publication Tools [TSG]</td>
    </tr>
    <tr>
      <td></td>
      <td>Exercise on Markup for Display</td>
      <td>Exercise: Adding More Markup</td>
      <td>Exercise: TEI for Transcription</td>
      <td>Exercise: XPath Searching in oXygen</td>
      <td>Exercise: Publication Tools</td>
    </tr>
    <tr>
      <td></td>
      <td>Lunch Break</td>
      <td>Lunch Break</td>
      <td>Lunch Break</td>
      <td>Lunch Break</td>
      <td>Lunch Break</td>
    </tr>
    <tr>
      <td></td>
      <td>Introduction to XML and TEI [JC]</td>
      <td>TEI Metadata [JC]</td>
      <td>TEI for Critical Editions [JC]</td>
      <td>Markup for Correspondence [CO]</td>
      <td>Transforming TEI [JC]</td>
    </tr>
    <tr>
      <td></td>
      <td>Exercise: XML Markup</td>
      <td>Exercise: Enrich Your TEI Header</td>
      <td>Exercise: Critical Apparatus Markup</td>
      <td>Exercise: Correspondence Markup</td>
      <td>Exercise: Transform Your TEI</td>
    </tr>
  </tbody>
</table>
```

The CSS rules shown in the console include:

```
.readme {
  word-wrap: break-word;
}

.markdown-body {
  font-family: -apple-system, BlinkMacSystemFont, UI, Helvetica, Arial, sans-serif, Apple Color Emoji, Segoe UI Emoji, Segoe UI Symbol;
  font-size: 16px;
  line-height: 1.5;
  word-wrap: break-word;
}

.p-5 {
  padding: 32px !important;
}

article, aside, details, figcaption, figure, footer, header, main, menu, nav, section {
  display: block;
}

* {
  box-sizing: border-box;
}

article, footer, header, hgroup, main, nav, section {
  display: block;
}
```

Markdown



HTML

& CSS

The image shows a browser window displaying a 'Tentative Schedule' table. The table has columns for days of the week (Mon 1 April to Fri 5 April) and rows for time slots (09:00 to 15:15). A red box highlights the header row, and another red box highlights a row of content. The developer tools on the right show the HTML structure of the table, with red boxes highlighting the header and a content row. The CSS styles for the table are also visible on the right.

Time	Mon 1 April	Tue 2 April	Wed 3 April	Thu 4 April	Fri 5 April
09:00 - 09:30	Registration				
09:30 - 10:30	Welcome; Introduction to Workshop; Textual Scholarship Survey [CO]	Introduction to TEI Text Structure [TSG]	Names, People, and Places [CO]	Introduction to Manuscript and Object Description [JC]	TEI Customisation [TSG]
10:30 - 11:00	Group Work: How would you edit this text?	Exercise: Structure a TEI Document	Exercise: Marking Up Named Entities	Exercise: Manuscript Description	Exercise: TEI Customisation
11:00 - 11:15	Break	Break	Break	Break	Break
11:15 - 12:15	Introduction to Markup for Display: HTML, CSS, Markdown [CO]	The TEI Core Module [TSG]	TEI for Transcription [TSG]	Introduction to XPath [CO]	TEI Publication Tools [TSG]
12:15 - 12:45	Exercise on Markup for Display	Exercise: Adding More Markup	Exercise: TEI for Transcription	Exercise: XPath Searching in oXygen	Exercise: Publication Tools
12:45 - 13:45	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break
13:45 - 14:45	Introduction to XML and TEI [JC]	TEI Metadata [JC]	TEI for Critical Editions [JC]	Markup for Correspondence [CO]	Transforming TEI [JC]
14:45 - 15:15	Exercise: XML Markup	Exercise: Enrich Your TEI Header	Exercise: Critical Apparatus Markup	Exercise: Correspondence Markup	Exercise: Transform Your TEI

```
<table>
  <thead>
    <tr>
      <th>Time</th>
      <th>Mon 1 April</th>
      <th>Tue 2 April</th>
      <th>Wed 3 April</th>
      <th>Thu 4 April</th>
      <th>Fri 5 April</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>09:00 - 09:30</td>
      <td>Registration</td>
      <td></td>
      <td></td>
      <td></td>
      <td></td>
    </tr>
    <tr>
      <td>09:30 - 10:30</td>
      <td>Welcome; Introduction to Workshop; Textual Scholarship Survey [CO]</td>
      <td>Introduction to TEI Text Structure [TSG]</td>
      <td>Names, People, and Places [CO]</td>
      <td>Introduction to Manuscript and Object Description [JC]</td>
      <td>TEI Customisation [TSG]</td>
    </tr>
    <tr>
      <td>10:30 - 11:00</td>
      <td>Group Work: How would you edit this text?</td>
      <td>Exercise: Structure a TEI Document</td>
      <td>Exercise: Marking Up Named Entities</td>
      <td>Exercise: Manuscript Description</td>
      <td>Exercise: TEI Customisation</td>
    </tr>
    <tr>
      <td>11:00 - 11:15</td>
      <td>Break</td>
      <td>Break</td>
      <td>Break</td>
      <td>Break</td>
      <td>Break</td>
    </tr>
    <tr>
      <td>11:15 - 12:15</td>
      <td>Introduction to Markup for Display: HTML, CSS, Markdown [CO]</td>
      <td>The TEI Core Module [TSG]</td>
      <td>TEI for Transcription [TSG]</td>
      <td>Introduction to XPath [CO]</td>
      <td>TEI Publication Tools [TSG]</td>
    </tr>
    <tr>
      <td>12:15 - 12:45</td>
      <td>Exercise on Markup for Display</td>
      <td>Exercise: Adding More Markup</td>
      <td>Exercise: TEI for Transcription</td>
      <td>Exercise: XPath Searching in oXygen</td>
      <td>Exercise: Publication Tools</td>
    </tr>
    <tr>
      <td>12:45 - 13:45</td>
      <td>Lunch Break</td>
      <td>Lunch Break</td>
      <td>Lunch Break</td>
      <td>Lunch Break</td>
      <td>Lunch Break</td>
    </tr>
    <tr>
      <td>13:45 - 14:45</td>
      <td>Introduction to XML and TEI [JC]</td>
      <td>TEI Metadata [JC]</td>
      <td>TEI for Critical Editions [JC]</td>
      <td>Markup for Correspondence [CO]</td>
      <td>Transforming TEI [JC]</td>
    </tr>
    <tr>
      <td>14:45 - 15:15</td>
      <td>Exercise: XML Markup</td>
      <td>Exercise: Enrich Your TEI Header</td>
      <td>Exercise: Critical Apparatus Markup</td>
      <td>Exercise: Correspondence Markup</td>
      <td>Exercise: Transform Your TEI</td>
    </tr>
  </tbody>
</table>
```

```
.readme {
  .markdown-body,
  .readme .plain {
    word-wrap: break-word;
  }
}

.markdown-body {
  font-family: -apple-system, BlinkMacSystemFont, UI, Helvetica, Arial, sans-serif, Apple Color Emoji, Segoe UI Emoji, Segoe UI Symbol;
  font-size: 16px;
  line-height: 1.5;
  word-wrap: break-word;
}

.p-5 {
  padding: 32px !important;
}
```

HTML v. CSS

HTML is the tag set that **describes** the text elements. In other words, the **content** and **structure** of the page.

CSS stands for Cascading Style Sheets. In other words, the **style** and **design** of the page. CSS tells the web browser how the final product should look (margins, font styles, font sizes, colors, padding, visual effects). It is both a compliment and complement to HTML: it makes your HTML output look better; and, you can use CSS in an HTML or XML file, but you cannot use HTML or XML in a CSS file.

CSS saves a lot of work because it can set the layout of multiple web pages all at once.

HTML v. CSS

Stylesheets are typically saved as external `.css` files, but sometimes you might want to input CSS directly into XML (especially if you are working on diplomatic editing) or in XSLT processing instructions. Or you may use an internal stylesheet (say, if you're only working on a single file).

There are still good reasons to try to keep your HTML as semantic as possible. To wit:

- Controls layouts
- Better for interoperability
- Better for search engine optimisation.

HTML and CSS basic syntax

`<tag>Content</tag>`

HTML

Start tag **End tag**
`<h1>Moby-Dick</h1>`

Start tag **End tag**
`<p>Call me Ishmael. ...</p>`

`Selector {property:value}`

CSS

Selector		Declaration;
<code>h1</code>		<code>{</code>
property:	<code>→</code>	<code>color:black; ←</code>
value;		
		<code>font-size:24px;</code>
		<code>text-align:center;</code>
		<code>}</code>
<code>p</code>		<code>{</code>
		<code>font-size:14px;</code>
		<code>margin-left:4px;</code>
		<code>}</code>

How to link your CSS?

Simple! Just include the following line in your HTML or Markdown file.

```
<html>
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head> ...
</html>
```

```
1 <head>
2 <link rel="stylesheet" type="text/css" href="mystyle.css">
3 </head>
4
5 # Moby-Dick
6
7 ## By Herman Melville
8
9 ## Chapter 1
10
11 Call me Ishamel.
12
```

Moby-Dick

By Herman Melville

Chapter 1

Call me Ishamel.

mystyle.css

```
1  body {
2    background-color: lightblue;
3    padding: 50px;
4    border-width: 50px;
5  }
6
7  h1 {
8    text-align: center;
9    font-size: 24px;
10   font-style: italic;
11   font-family: cursive;
12 }
13
14 h2 {
15   text-align: center;
16   font-size: 18px;
17   font-family: serif;
18 }
19
20 p {
21   font-size: 14px;
22   font-family: serif;
23   margin-top: 100px;
24   margin-bottom: 100px;
25   margin-right: 150px;
26   margin-left: 80px;
27 }
28
```

Moby-Dick

By Herman Melville

Chapter 1

Call me Ishamel.

What CSS can't do

- Move elements to new locations
- Transform element content to create new content

Learn more

Markdown: <https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet>

HTML: <https://www.w3schools.com/html/default.asp>

CSS: <https://www.w3schools.com/css/default.asp>

Let's practice!