Anatomy of an element

We have already seen that tags are the basis of the markup that allows information and files to be transmitted through the web. The tags designate elements that form part of markup conventions as expressed in a standard, and they do indeed locate and identify what can be termed elements of a document, e.g. <q>…</q> for a short inline quotation; <blockquote>…</blockquote> for a longer quotation; <img>…</img> to allow the insertion of an image. Here is an example with the content of the tag in grey:

```
<p class="discussion">Discussion: this example is inconclusive.</p>
```

An element may, as we can see, contain one or more attributes, as is the case also with the anchor tag, as well as the content proper (shown here again in grey):

Opening tag	+ attribute	Text	Closing tag
<a	href="https://codepen.io">	CodePen	

Note that the attribute is contained within the opening tag. Many elements refer to structural components of a document, as in the examples above; others, like …, which denotes emphasis (usually rendered as italics), are termed 'phrase tags'.

Anatomy of an HTML file

At its simplest, an HTML file consists of the following minimal elements:

```
<html>
   <head>
      <title>Title of the document</title>
   </head>
   <body>
    [the content of the document enclosed in the appropriate
   tags, e.g. <h1>…</h1>, <p>…</p>]
   </body>
</html>
```

The <head> element is a container for all the elements that contain information *about* the document. These elements include the <title> tag, which is required of all documents written in HTML and appears in a tab at the top of the browser when the page is displayed. The <body> element, by contrast, defines the boundaries of the document itself, and contains all of the elements of which it may be composed (e.g. headings, paragraphs, images, tables, lists, block quotations, images, and so on).

Form and content

We also saw that one of the functions of a browser is to retrieve and display the contents of a file retrieved from a remote server. What this means is that the browser is equipped to interpret all of the information about the organization of the file or document contained in the HTML code. At the same time, the encoding of pages makes a distinction between *content* and *form*, with the former being contained in HTML, while the latter is encoded in Cascading Style Sheets. Here, once more, is some content:

```
<h1>Discussion</h1>
```

The role of CSS is to determine in what form the element is to be displayed:

```
h1
{
color: red
}
```

In this code, reference is made to the relevant HTML tag (here h1) and then information is provided as to how this and all other occurrences are to be displayed (though it is also possible to use code to determine how one or some of the occurrences may be rendered).

HTML5

When the web was first developed in CERN, HTML was implemented as the means of preparing documents to be displayed online. Through the World Wide Web Consortium (or W3C), standards were soon adopted to ensure that markup languages and other technologies could respond to the demands of more and more complex material.

The current standard is HTML5. This version of HTML has dedicated tags for multimedia material (`<audio>` and `<video>` respectively). It also includes new semantic tags to represent the structure and outline of a page (e.g. `<article>`, `<header>` and `<footer>`). In particular, the `<section>` tag allows for more transparent and adaptable organization of a document than the simple use of headings and paragraphs. These and other changes that have been introduced since HTML was first developed mean that it is possible to implement consistent coding: semantic precision facilitates the production of pages that are more easily assimilated and read. HTML5 also makes it possible to support more complex forms of interactivity through the web, e.g. on the basis of geolocation, or improved design of forms. It also provides the basis for web applications, like webmail or instant messaging, and facilitates the use of these on mobile devices as well as conventional computers.