

Enhancing a Web Site with Advanced CSS

Designing for Special Effects, Print Media, and the Mobile Web

- Kevin Whitmore is the founder of Tree and Book, a social networking Web site for people interested in documenting their family histories, creating online photo albums, and posting stories and information about members of their extended families.
- He has come to you for help in upgrading the site's design. Kevin wants to take advantage of some of the CSS styles that can be used to add interesting visual effects to his Web pages and to create styles for printed and mobile output.

View Kevin's page

- In your text editor, open **treebooktxt.htm** from the tutorial.08\tutorial folder. Enter ***your name*** and ***the date*** in the comment section of the file. Save the file as **treebook.htm**.
- Review the file in your text editor to become familiar with its content and structure.
- Open **treebook.htm** in your Web browser .



The Dubcek Family

Stanislav (1903 - 1981)

Irena (1910 - 2005)

Peter (1931 - 2002)

Nadine (1932 - 2009)

Robert (1934 -)

Vera (1936 -)

Karen (1939 - 2001)

Jan (1944 -)

[Family Album](#)

[Family Tree](#)

[Galleries](#)

[Archival Records](#)

[Timeline](#)

[Articles](#)

[Story Book](#)

[Message Board](#)

[Extended Family](#)

[Links](#)

Stanislav Dubcek (1903 - 1981)



Stanislav and Irena (1929)



Born	February 3, 1903 (Hnatince, Bohemia)
Died	September 20, 1981 (Rochester, MN)
Married	Irena (Torbia); June 2, 1929
Children	Peter, Nadine, Robert, Vera, Karen, Jan

At work (1947)

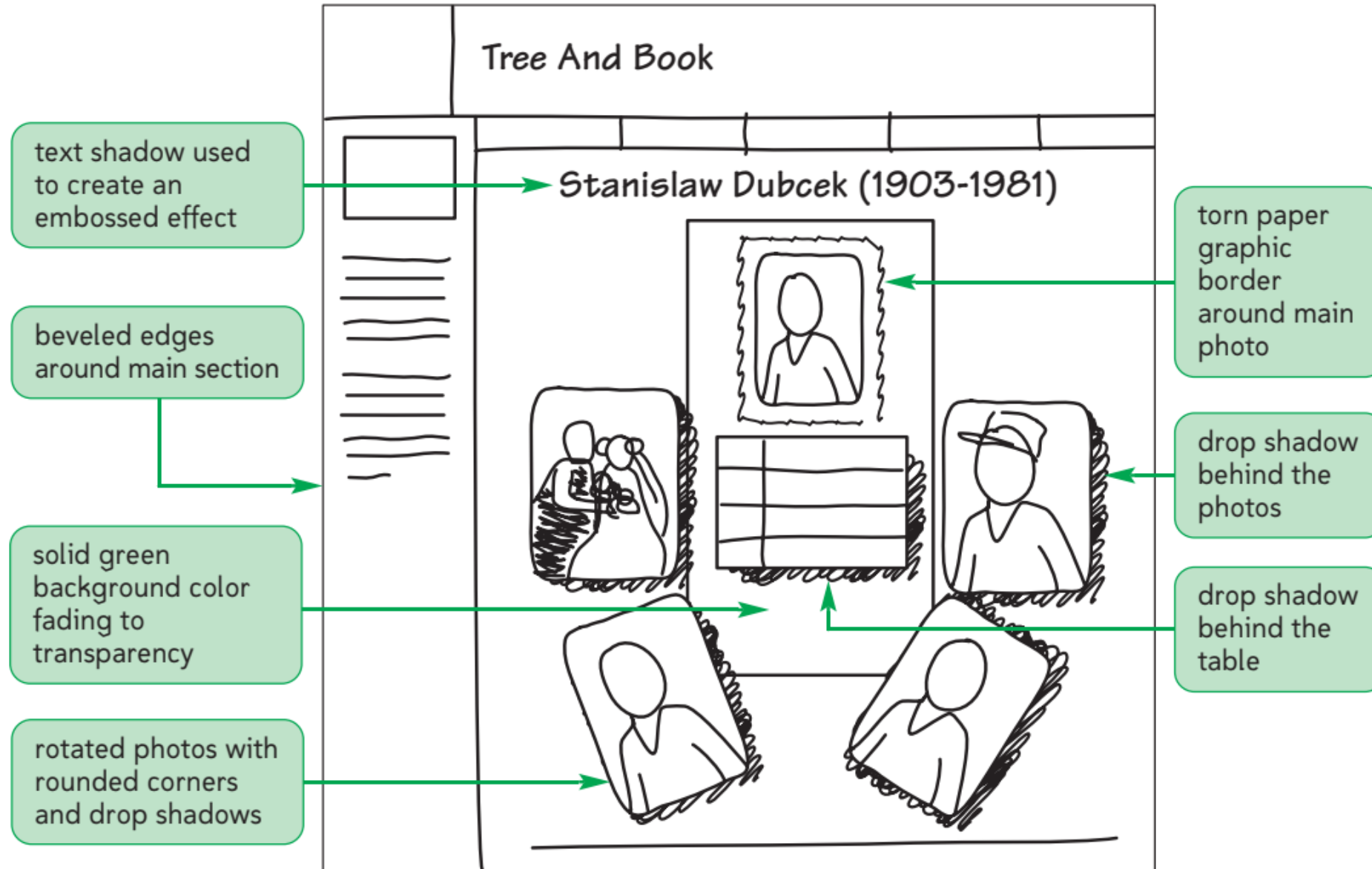


Family portrait (1918)



Family portrait (1953)

Kevin's proposed design changes



Examples of text shadows



TREE

text-shadow: rgb(211,
211, 211) 4px 6px 5px;



BOOK

color: rgb(150, 187, 60);
text-shadow: black
-4px -3px 5px;



TREE

color: white;text-shadow:
black 0px 0px 1px;




BOOK

color: white;text-shadow:
rgb(90, 127, 0) 0px
0px 25px;



TREE

color: white;text-shadow:
black 0px 0px 3px,
green 4px 4px 4px,
blue 0px 0px 55px;



BOOK

background-color: rgb(110,
137, 20);color: rgb(90, 127, 0);
text-shadow:
black 1px 1px 1px,
white 0px -2px 0px;

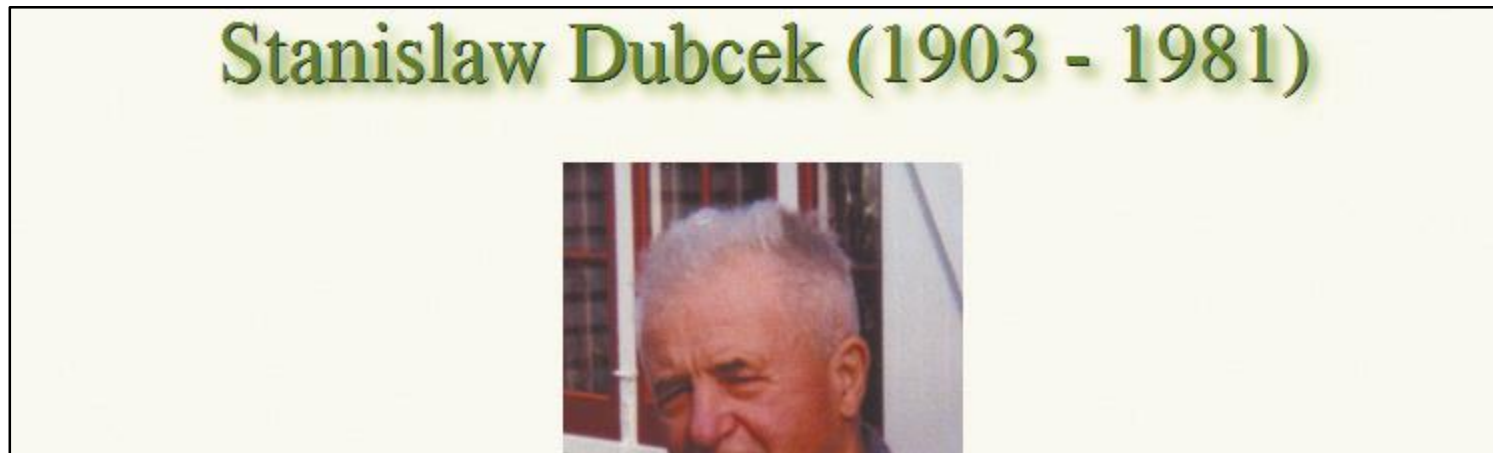
Apply the text-shadow style

- In your text editor, open the **effectstxt.css** file from the tutorial.08/tutorial folder. Enter ***your name*** and ***the date*** in the comment section of the file. Save the file as **effects.css**.
- Below the comment section, enter the following style rule.

```
section#main h1 {  
    color: rgb(90, 127, 0);  
    text-shadow: black 1px 1px 0px,  
                 rgba(90, 127, 0, 0.7) 5px 5px 10px;  
}
```
- Save your changes to the file.
- Return to the **treebook.htm** file in your text editor. Directly below the link element for the *layout.css* style sheet, insert another link element that links the document to the **effects.css** style sheet file

Heading text with an embossed effect

- Save your changes, and then reopen the **treebook.htm** file in a non Internet Explorer browser that supports CSS3. Figure 8-5 shows the current appearance of the page heading in the Google Chrome browser.



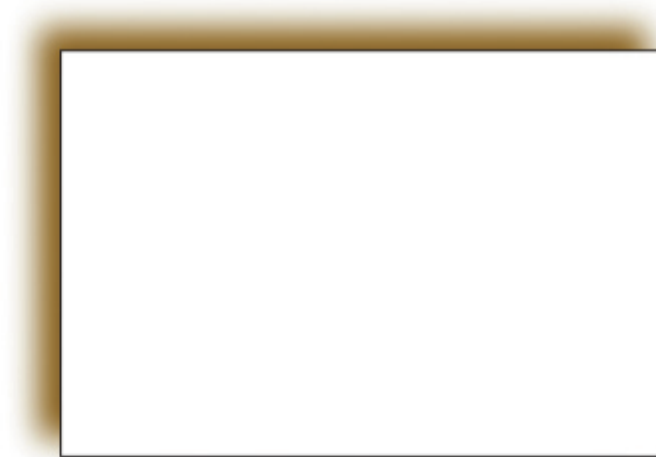
Creating a Box Shadow

- `box-shadow: [inset] color offsetX offsetY blur [spread];`

where *color*, *offsetX*, *offsetY*, and *blur* have the same meanings as they do for text shadows



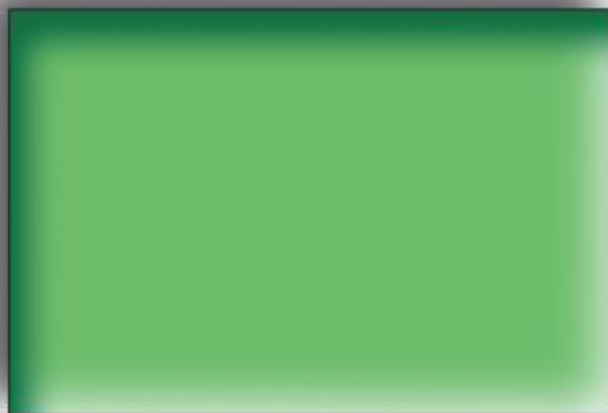
`box-shadow: 15px 15px;`



`box-shadow: rgb(127, 90, 0)
-10px -10px 15px;`



```
background-color: rgb(90, 141, 191);  
box-shadow: inset rgb(0, 51, 101)  
-10px -15px 15px,  
inset white 5px 5px 5px;
```



```
background-color: rgb(101, 191, 101);  
box-shadow: inset rgb(0, 101, 51)  
10px 15px 15px,  
inset white -5px -5px 25px,  
rgb(51, 51, 51) -10px -10px 20px;
```

Add box shadows to the page elements

- Return to the **effects.css** file in your text editor.
- At the bottom of the file, insert the following style rule to create rounded corners and drop shadows for every inline image within a figure box:

```
/* Box shadow styles */
figure img {
    -moz-border-radius: 25px;
    -webkit-border-radius: 25px;
    border-radius: 25px;
    -moz-box-shadow: rgba(0, 0, 0, 0.6) 10px 10px 15px;
    -webkit-box-shadow: rgba(0, 0, 0, 0.6) 10px 10px 15px;
    box-shadow: rgba(0, 0, 0, 0.6) 10px 10px 15px;
}
```

- Add the following style rule to create an interior beveled border for the entire main section element:

```
section#main {  
    -moz-box-shadow: inset rgba(0, 0, 0, 0.3) -5px -5px 10px;  
    -webkit-box-shadow: inset rgba(0, 0, 0, 0.3) -5px -5px 10px;  
    box-shadow: inset rgba(0, 0, 0, 0.3) -5px -5px 10px;  
}
```

- Finally, add the following style rule to apply a drop shadow to the Web table nested within the main section. Figure 8-7 highlights the revised code in the style sheet.

```
section#main table {  
    -moz-box-shadow: black 5px 5px 5px;  
    -webkit-box-shadow: black 5px 5px 5px;  
    box-shadow: black 5px 5px 5px;  
}
```

- Save your changes to the file, and then reload the **treebook.htm** file in your Web browser. Figure 8-8 displays the current appearance of the main section of the page

adds rounded borders to images within figure boxes

adds a semi-transparent black shadow to the lower-right corner of the figure with a blur radius of 15 pixels

adds an interior drop shadow to the lower-right corner of the main section with a blur radius of 10 pixels

adds a black shadow to the lower-right corner of the table within the main section

```
/* Box shadow styles */
```

```
figure img {
```

```
    -moz-border-radius: 25px;
```

```
    -webkit-border-radius: 25px;
```

```
    border-radius: 25px;
```

```
    -moz-box-shadow: rgba(0, 0, 0, 0.6) 10px 10px 15px;
```

```
    -webkit-box-shadow: rgba(0, 0, 0, 0.6) 10px 10px 15px;
```

```
    box-shadow: rgba(0, 0, 0, 0.6) 10px 10px 15px;
```

```
}
```

```
section#main {
```

```
    -moz-box-shadow: inset rgba(0, 0, 0, 0.3) -5px -5px 10px;
```

```
    -webkit-box-shadow: inset rgba(0, 0, 0, 0.3) -5px -5px 10px;
```

```
    box-shadow: inset rgba(0, 0, 0, 0.3) -5px -5px 10px;
```

```
}
```

```
section#main table {
```

```
    -moz-box-shadow: black 5px 5px 5px;
```

```
    -webkit-box-shadow: black 5px 5px 5px;
```

```
    box-shadow: black 5px 5px 5px;
```

```
}
```

Box shadows in the *Tree and Book* page

Stanislaw Dubcek (1903 - 1981)

Stanislaw and Irena (1929)

At work (1947)

Born	February 3, 1903 (Hnatince, Bohemia)
Died	September 20, 1981 (Rochester, MN)
Married	Irena (Torbja); June 2, 1929
Children	Peter, Nadine, Robert, Vera, Karen, Jan

Family portrait (1918)

Family portrait (1953)

dark shadow added to Web table

rounded corners added to images within figure boxes

interior shadow creates a bevel effect on the main section

blurred shadow added to images within figure boxes

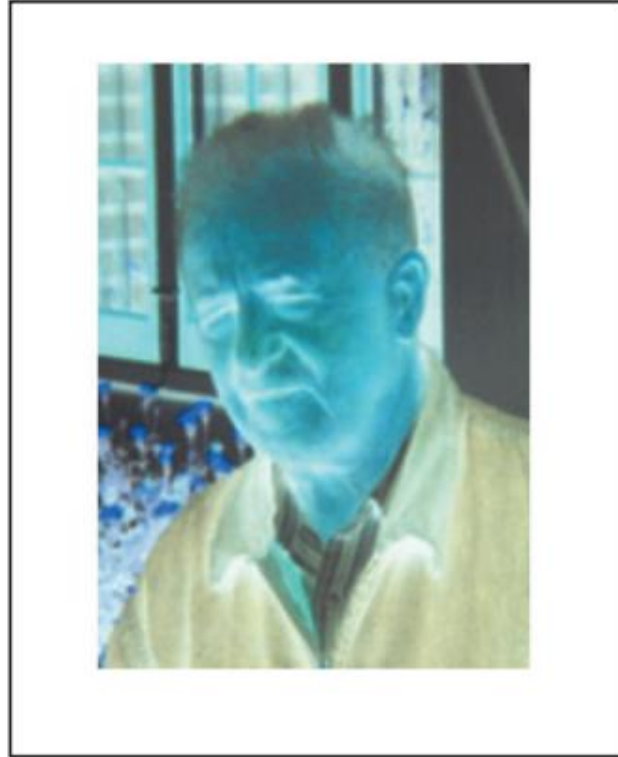
Tree and Book © 2014 English (US)

[About](#) [Developers](#) [Privacy](#) [Terms](#) [Help](#)

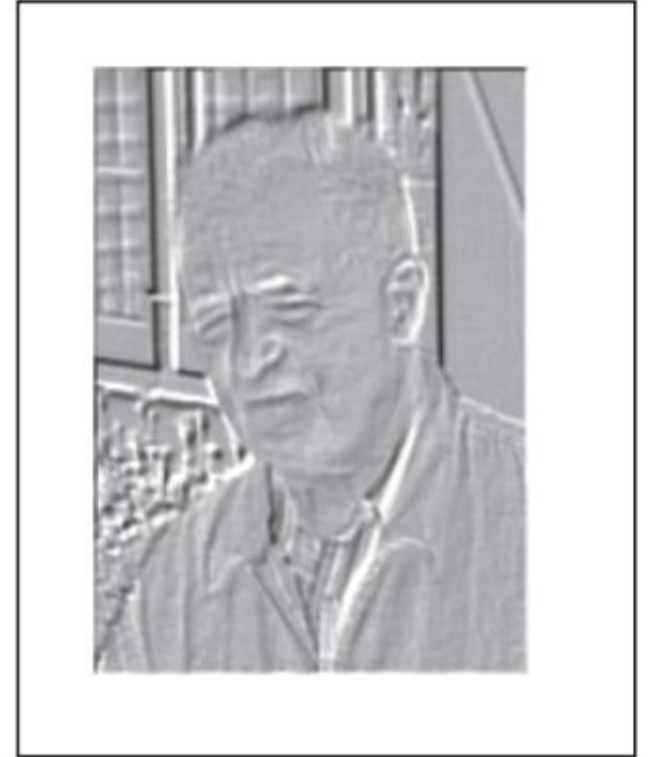
Introducing Internet Explorer Filters



Alpha(style=2)



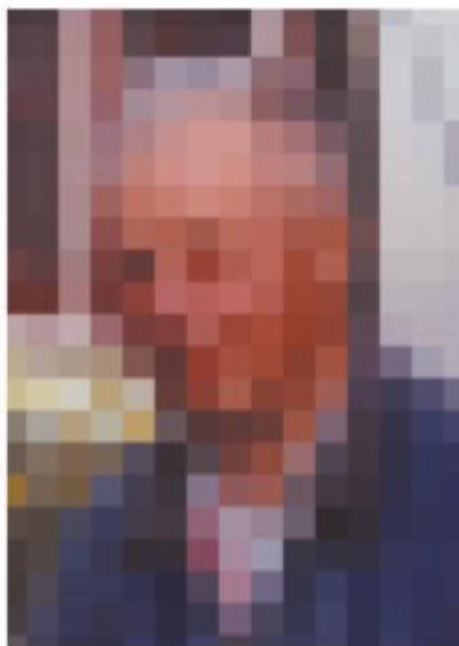
BasicImage(invert=1)



Emboss()



Engrave()

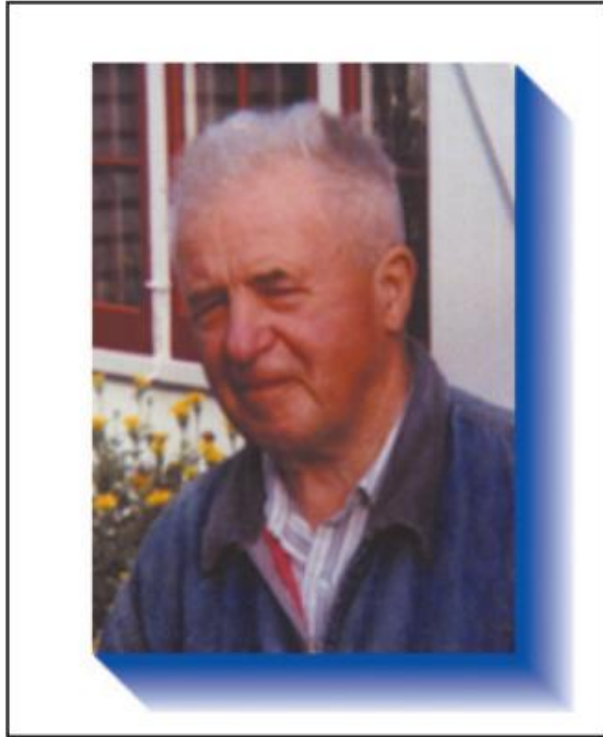


Pixelate(maxSquare=10)



Wave(freq=3, strength=10)

Applying the shadow and Dropshadow ie filters

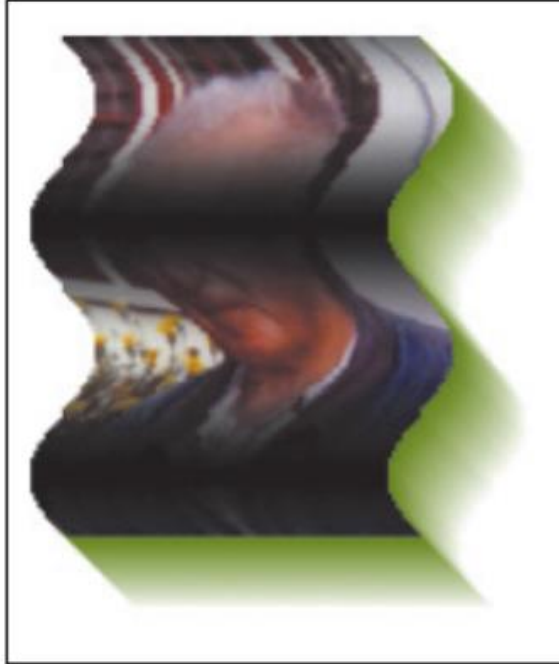


filter:
progid:DXImageTransform.
Microsoft.Shadow
(direction=135,
strength=20,
color=#0000FF);



filter:
progid:DXImageTransform.
Microsoft.DropShadow
(color=#0000FF, offX=-10,
offY=-10);

Combining two ie filters

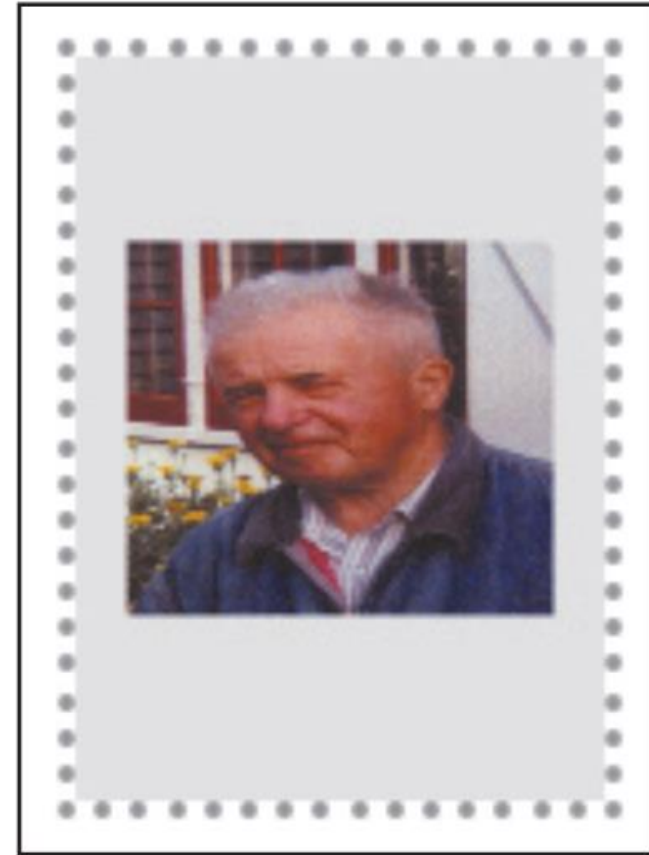


```
filter: progid:DXImageTransform.Microsoft.Wave(freq=2,strength=10),  
        progid:DXImageTransform.Microsoft.Shadow(direction=135, strength=20,  
        color=#5A7F00);
```

Examples of css3 transformation functions



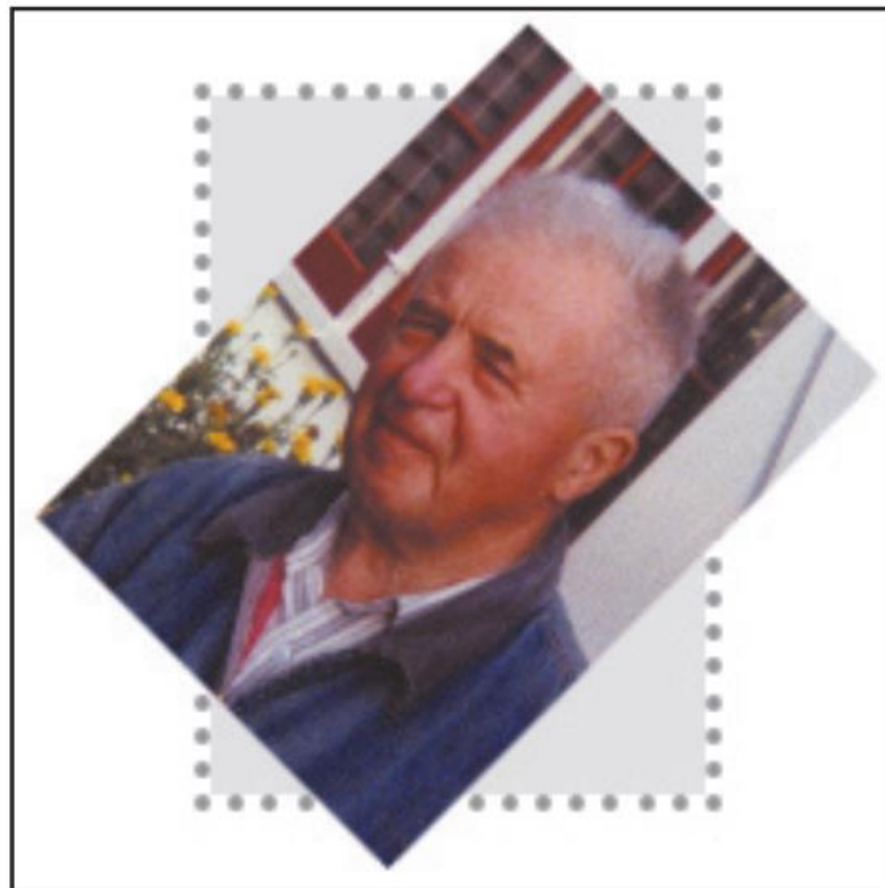
`transform: translate(10px, -15px);`



`transform: scale(0.8, 0.5);`



transform: skew(25deg, -10deg);



transform: rotate(45deg);

Rotate a page object

- Return to the **effect**
- At the bottom of the file, insert the following style rule to rotate the figure box for the lower-left photo 30° counter-clockwise:

```
/* Rotate styles */  
figure#photo4 {  
    -o-transform: rotate(-30deg);  
    -moz-transform: rotate(-30deg);  
    -webkit-transform: rotate(-30deg);  
    -ms-transform: rotate(-30deg);  
    transform: rotate(-30deg);  
}
```

- Add the following style rule to rotate the figure box for the lower-right photo 30° clockwise:

```
figure#photo5 {  
    -o-transform: rotate(30deg);  
    -moz-transform: rotate(30deg);  
    -webkit-transform: rotate(30deg);  
    -ms-transform: rotate(30deg);  
    transform: rotate(30deg);  
}
```

Save your changes to the file, and then reload **treebook.htm** in your Web browser.

Rotated photos



Born	February 3, 1903 (Hnatince, Bohemia)
Died	September 20, 1981 (Rochester, MN)
Married	Irena (Torbja); June 2, 1929
Children	Peter, Nadine, Robert, Vera, Karen, Jan



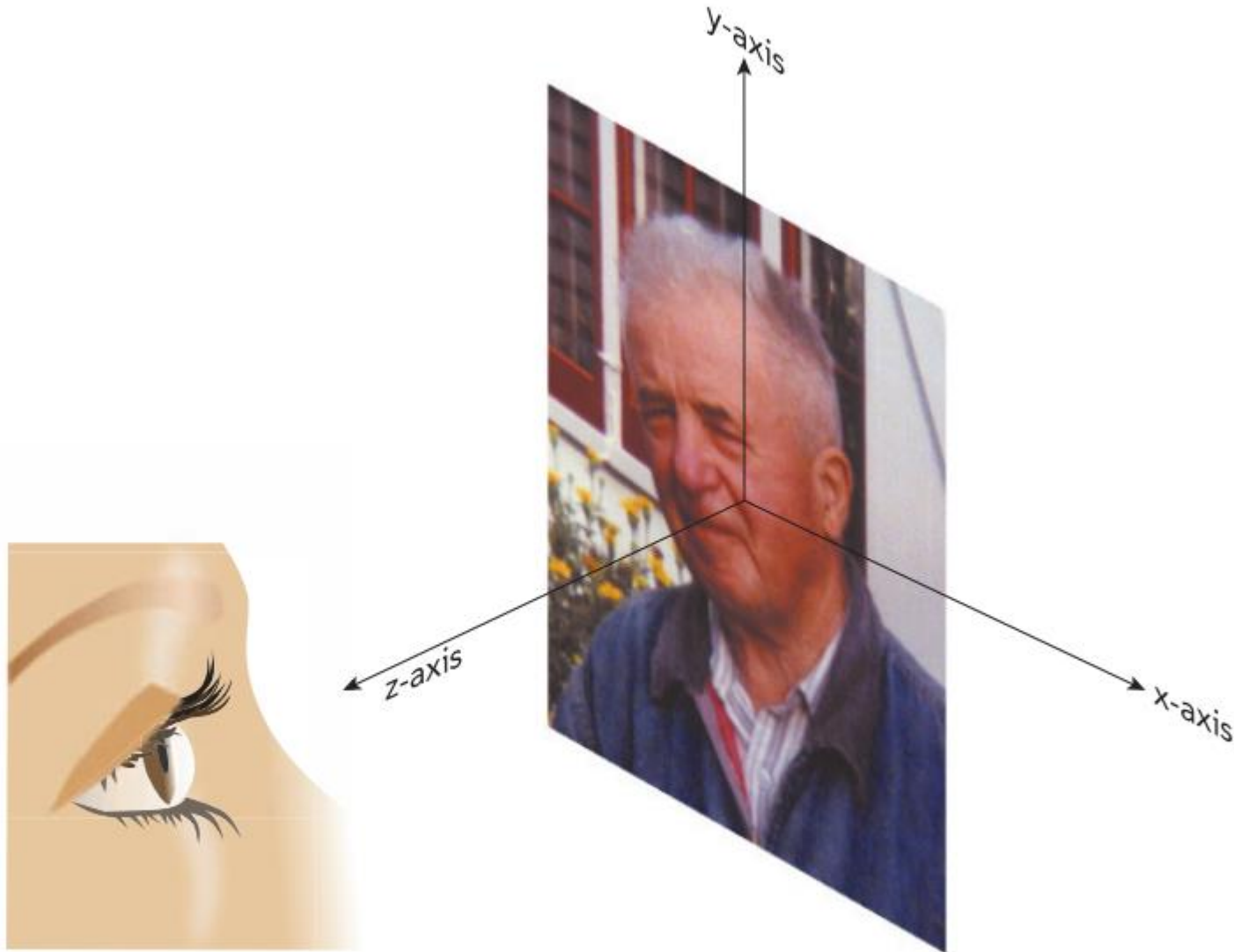


Family portrait (1918)



Family portrait (1953)

Transformations in Three Dimensions



To create a linear gradient

- Return to the **effects.css** file in your text editor. At the bottom of the file, insert the following style rule.

```
/* Style rule to add a dark green vertical gradient to the  
background of the article element */
```

```
article {  
    background: -o-linear-gradient(black, rgb(51,101,51) 20%, white 80%);  
    background: -ms-linear-gradient(black, rgb(51,101,51) 20%, white 80%);  
    background: -moz-linear-gradient(black, rgb(51,101,51) 20%, white 80%);  
    background: -webkit-linear-gradient(black, rgb(51,101,51) 20%, white 80%);  
    background: linear-gradient(black, rgb(51,101,51) 20%, white 80%);  
}
```

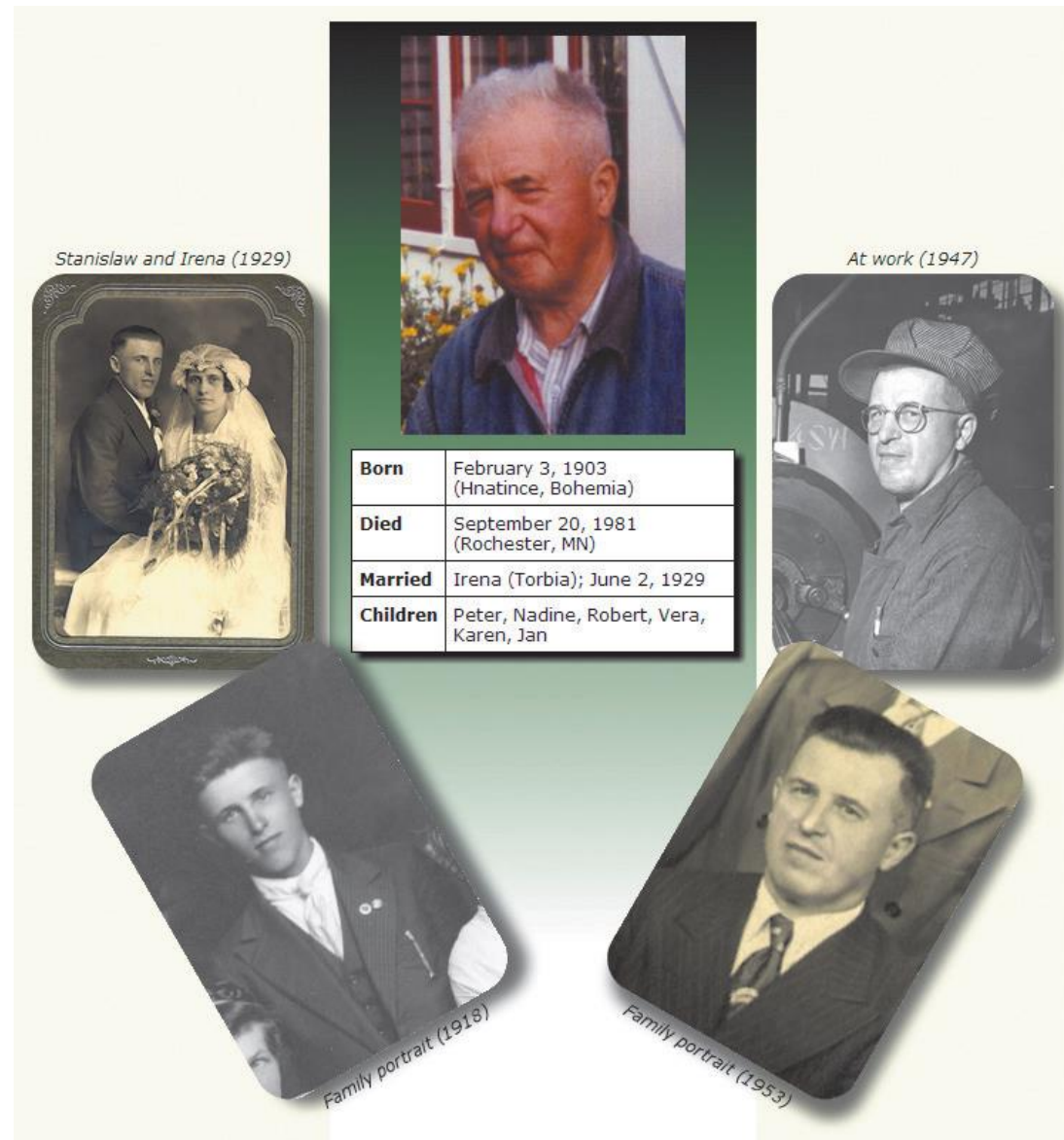
- Save your changes to the file, and then reopen the **treebook.htm** file in your browser.

vertical linear gradient starting with the color black, placing dark green 20% down the gradient, and ending with white 80% down the gradient

```
/* Style rule to add a dark green vertical gradient to the
   background of the article element */

article {
  background: -o-linear-gradient(black, rgb(51,101,51) 20%, white 80%);
  background: -ms-linear-gradient(black, rgb(51,101,51) 20%, white 80%);
  background: -moz-linear-gradient(black, rgb(51,101,51) 20%, white 80%);
  background: -webkit-linear-gradient(black, rgb(51,101,51) 20%, white 80%);
  background: linear-gradient(black, rgb(51,101,51) 20%, white 80%);
}
```

Linear gradient applied to the article element



DESIGNING FOR PRINTED MEDIA

The diagram illustrates the application of CSS page-break properties to a printed document. It features a central image of a couple, Stanislaw and Irena, from 1929, set within a decorative frame. A red arrow points from the top left corner of the page to the image, indicating the start of the page layout. To the right of the image, two circular diagrams illustrate the effect of different CSS properties. The top diagram, labeled '1)', shows a vertical line representing a page break before the image, with a red arrow pointing to the left. Below this diagram is a code block:

```
figure {  
  page-break-before: always;  
}
```

. A green arrow points from this code block to the top diagram. The bottom diagram shows a vertical line representing a page break within the image, with a red arrow pointing to the left. Below this diagram is a code block:

```
figure {  
  page-break-avoid: always;  
}
```

. A green arrow points from this code block to the bottom diagram. A green box with text explains the properties: 'The page-break-before property defines whether or not to manually insert a page break before an object.' and 'The page-break-avoid property defines whether or not to manually insert a page break within an object.' The page number 'Page 2 of 5' is visible at the bottom right of the page.

Stanislaw and Irena (1929)

1)

```
figure {  
  page-break-before: always;  
}
```

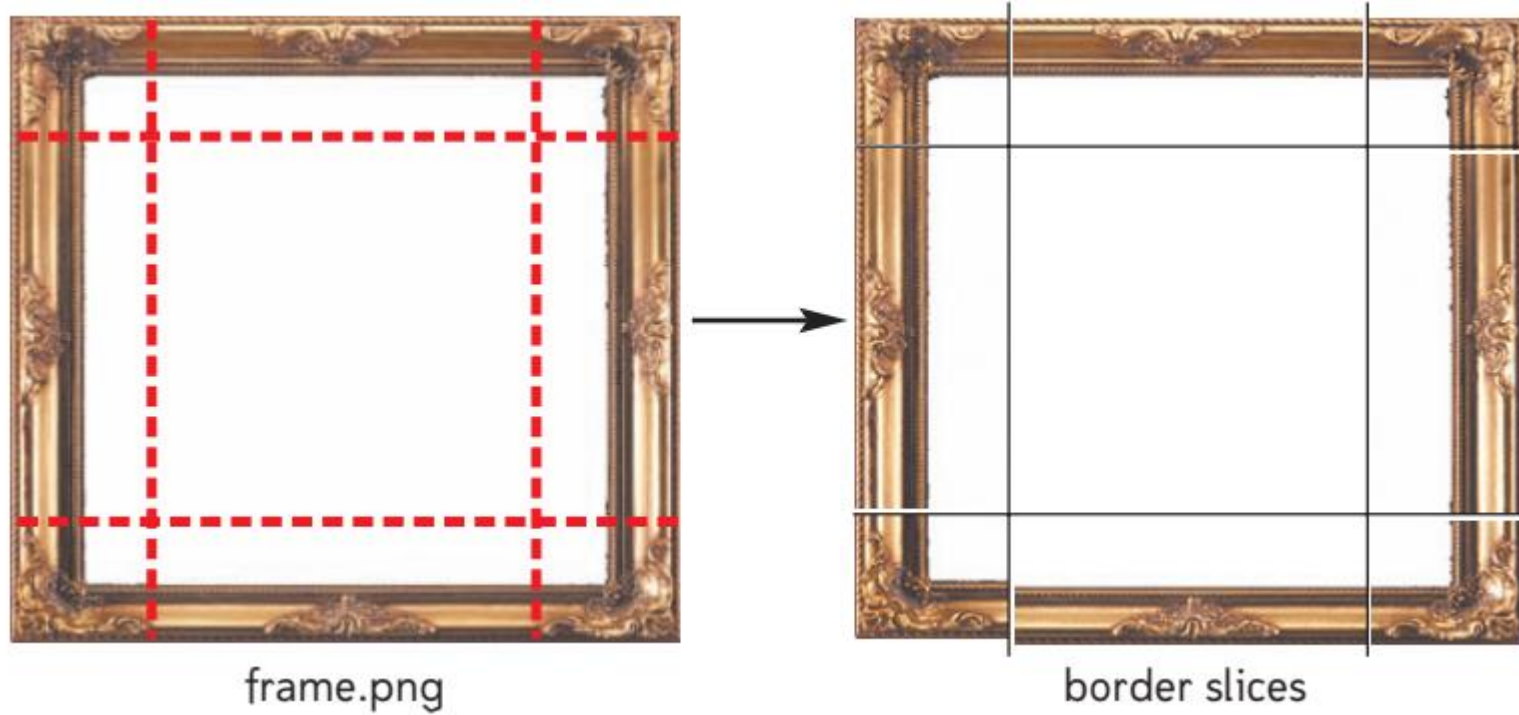
The `page-break-before` property defines whether or not to manually insert a page break before an object.

```
figure {  
  page-break-avoid: always;  
}
```

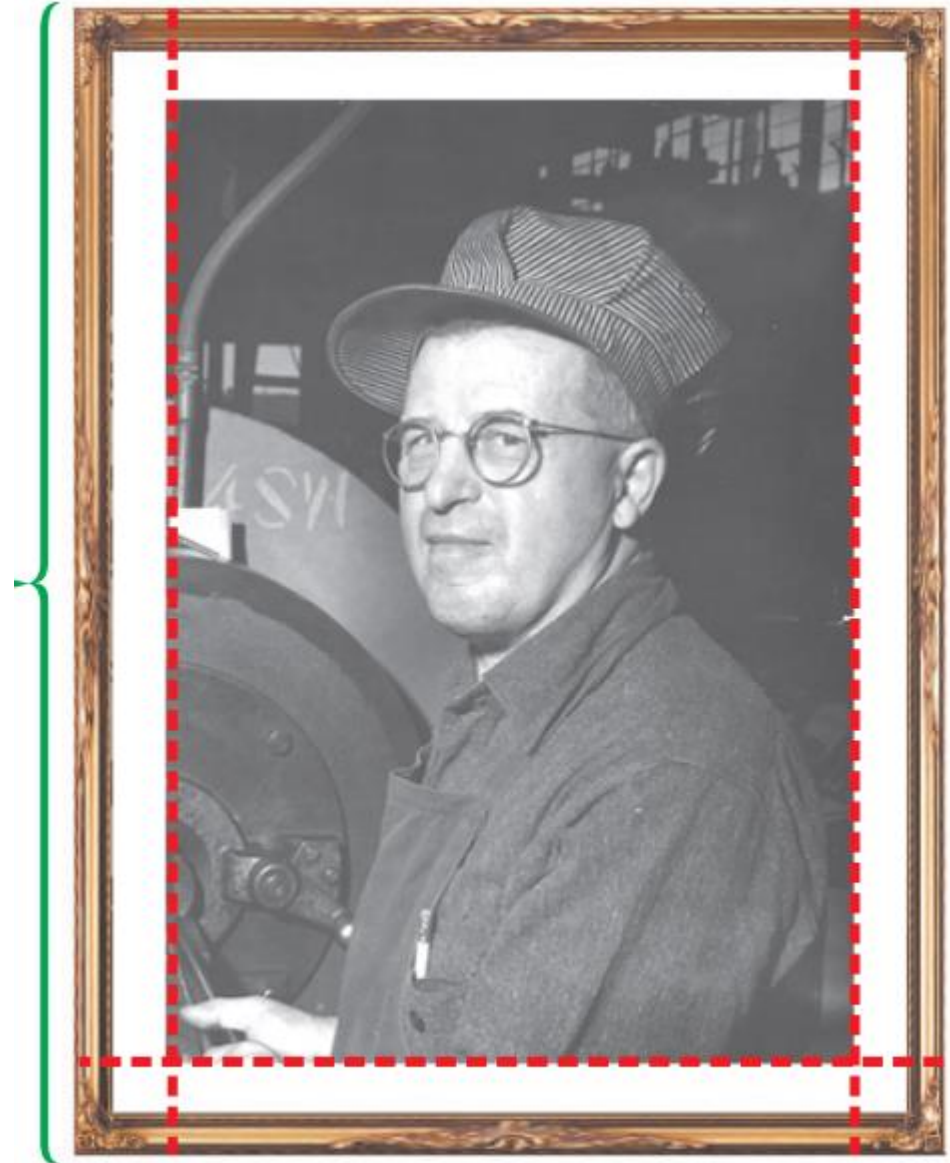
The `page-break-avoid` property defines whether or not to manually insert a page break within an object.

Page 2 of 5

Applying a Border Image



- border-image: url(url) slice repeat;



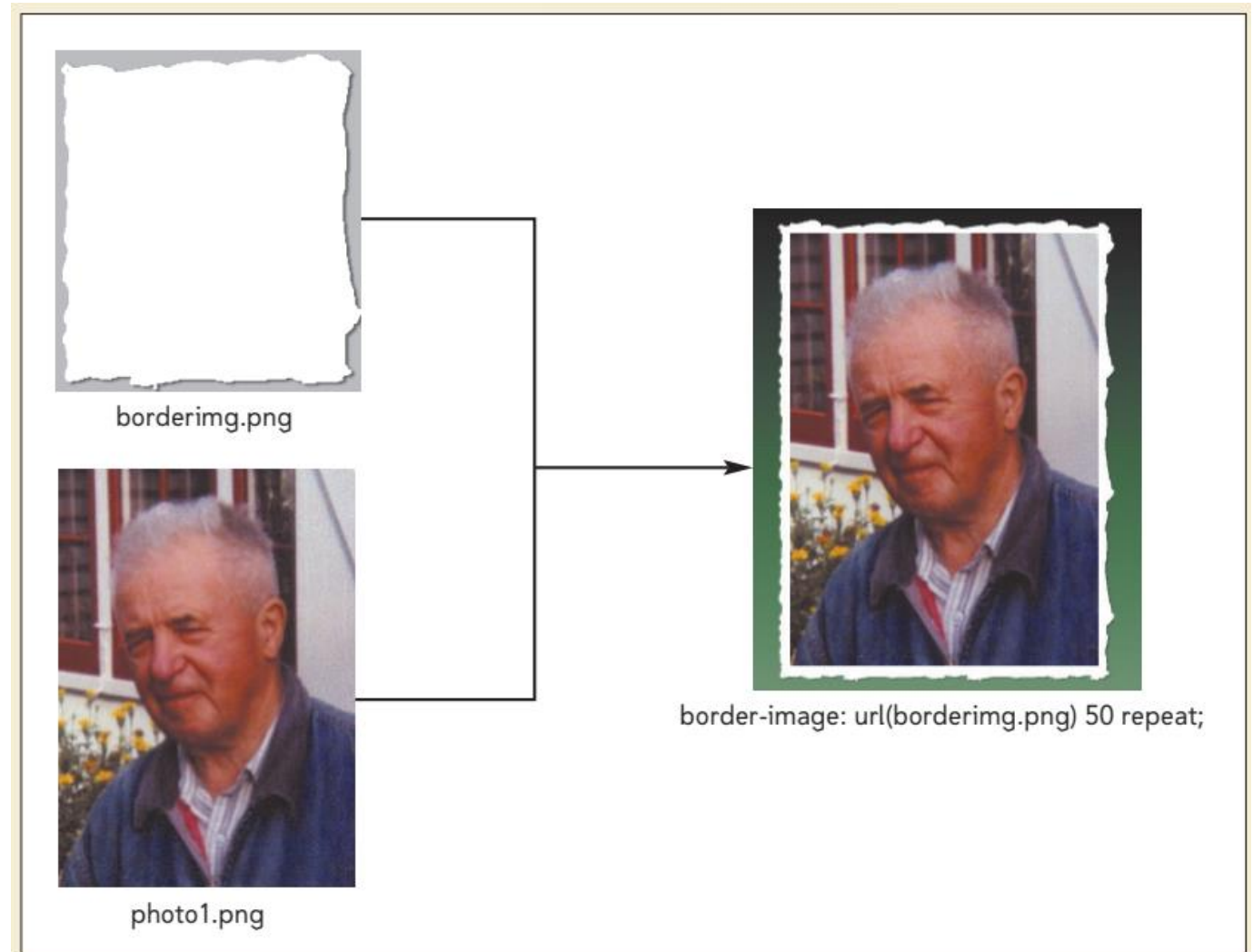
border-image: url(frame.png) 20 stretch;

Add the border image

- Return to the **effects.css** file in your text editor .
- At the bottom of the file, insert the following style rule .

```
/* Border image style */  
article img {  
    border-width: 10px;  
    -o-border-image: url("borderimg.png") 50 repeat;  
    -moz-border-image: url("borderimg.png") 50 repeat;  
    -webkit-border-image: url("borderimg.png") 50 repeat;  
    border-image: url("borderimg.png") 50 repeat;  
}
```


- Save your changes to the file.
- Reload **treebook.htm** in your Web browser.



Set the opacity of the photos

- Return to the **effects.css** file in your text editor.
- At the bottom of the file, insert the following style rule.

```
/* Styles for semi-transparent images */
```

```
figure#photo4, figure#photo5 {
```

```
    opacity: 0.7;
```

```
}
```

- Save your changes to the file, and then reload **treebook.htm** in your Web browser.



TREE AND BOOK

[HOME](#)[MY FAMILY](#)[GENEALOGY FAQ](#)[DIRECTORY](#)[SEARCH](#)[Cover Page](#)[Biography](#)[Stories](#)[Photos](#)[Clippings](#)

The Dubcek Family

Stanislaw (1903 - 1981)

Irena (1910 - 2005)

Peter (1931 - 2002)

Nadine (1932 - 2009)

Robert (1934 -)

Vera (1936 -)

Karen (1939 - 2001)

Jan (1944 -)

[Family Album](#)[Family Tree](#)[Galleries](#)[Archival Records](#)[Timeline](#)[Articles](#)[Story Book](#)[Message Board](#)[Extended Family](#)[Links](#)

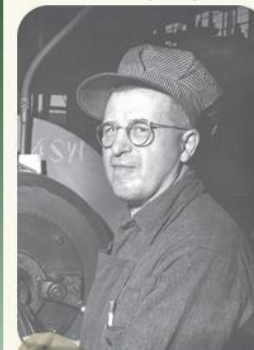
Stanislaw Dubcek (1903 - 1981)

Stanislaw and Irena (1929)



Born	February 3, 1903 (Hnatince, Bohemia)
Died	September 20, 1981 (Rochester, MN)
Married	Irena (Torbia); June 2, 1929
Children	Peter, Nadine, Robert, Vera, Karen, Jan

At work (1947)



Family portrait (1918)



Family portrait (1953)

Create a style sheet for print media

- Use your text editor to open the **printtxt.css** style sheet from the tutorial.08\tutorial folder included with your Data Files. Enter ***your name*** and ***the date*** in the comment section of the file.
- Save the file as **print.css** in the same folder.

Apply the media attribute

- Return to the **treebook.htm** file in your text editor.
- Add the attribute **media="screen"** to the link elements for the *layout.css* and *effects.css* style sheets.
- Directly below the link element for the *effects.css* style sheet, add the following link element:
<link href="print.css" rel="stylesheet" media="print" />

```
<title>Tree and Book</title>
<script src="modernizr-1.5.js"></script>

<link href="base.css" rel="stylesheet" />
<link href="layout.css" rel="stylesheet" media="screen" />
<link href="effects.css" rel="stylesheet" media="screen" />
<link href="print.css" rel="stylesheet" media="print" />
```

- Save your changes to the file, and then reload the **treebook.htm** file in your Web browser. Confirm that the appearance of the page has not changed. It should not change because your Web browser is treated as screen media, and you haven't changed the style sheet for that media type.

Hide the page header, navigation lists, and page footer:

- Return to the **print.css** file in your text editor.
- Add the following style rule:

```
/* Hide page elements that will not be printed */
header, nav, footer {
    display: none;
}
```
- Save your changes to the file, and then reload **treebook.htm** in your Web browser. Verify that the appearance of the page as displayed on your screen has not changed.
- Either print the Web page from within your browser, or use your browser's Print Preview command to preview the printed version of the page. Figure 8-39 shows how the initial page appears when printed

Stanislaw Dubcek (1903 - 1981)



Born	February 3, 1903 (Hnatince, Bohemia)
Died	September 20, 1981 (Rochester, MN)
Married	Irena (Tonbia); June 2, 1929
Children	Peter, Nadine, Robert, Vera, Karen, Jan

Stanislaw and Irena (1929)

Set the style of the printed page

- Return to the **print.css** file in your text editor.
- Add the following rule at the top of the style sheet, directly after the initial comments:

```
@page {  
    size: 8.5in 11in portrait;  
    margin: 0.5in;  
}
```

- Save your changes to the file

Control the placement of page breaks in the document

- At the bottom of the *print.css* style sheet, insert the following style rule .

```
/* Setting the page breaks in the document */
article {
    display: block;
    page-break-after: always;
    page-break-inside: avoid;
}
```

- Save your changes to the style sheet

Format the contents of the first page

- At the bottom of the style sheet, insert the following style rule for the h1 heading:

```
h1 {  
    font-size: 28pt;  
    text-align: center;  
    width: 100%;  
}
```

- Next, insert the following style rule for the main photo:

```
#photo1 {  
    display: block;  
    margin: 0in auto;  
    width: 4in;  
}
```

- Save your changes to the file.

Create styles for the figure boxes

- At the bottom of the style sheet, add the following style rule to place each figure box on its own page.

```
/* Styles for the figure boxes */  
figure {  
    display: block;  
    text-align: center;  
    page-break-after: always;  
    page-break-inside: avoid;  
}
```

- Add the following style rules to set the width of figure box images to 5 inches and the font size of captions to 20 points:

```
figure img {  
    width: 5in;  
}  
figure figcaption {  
    font-size: 20pt;  
}
```

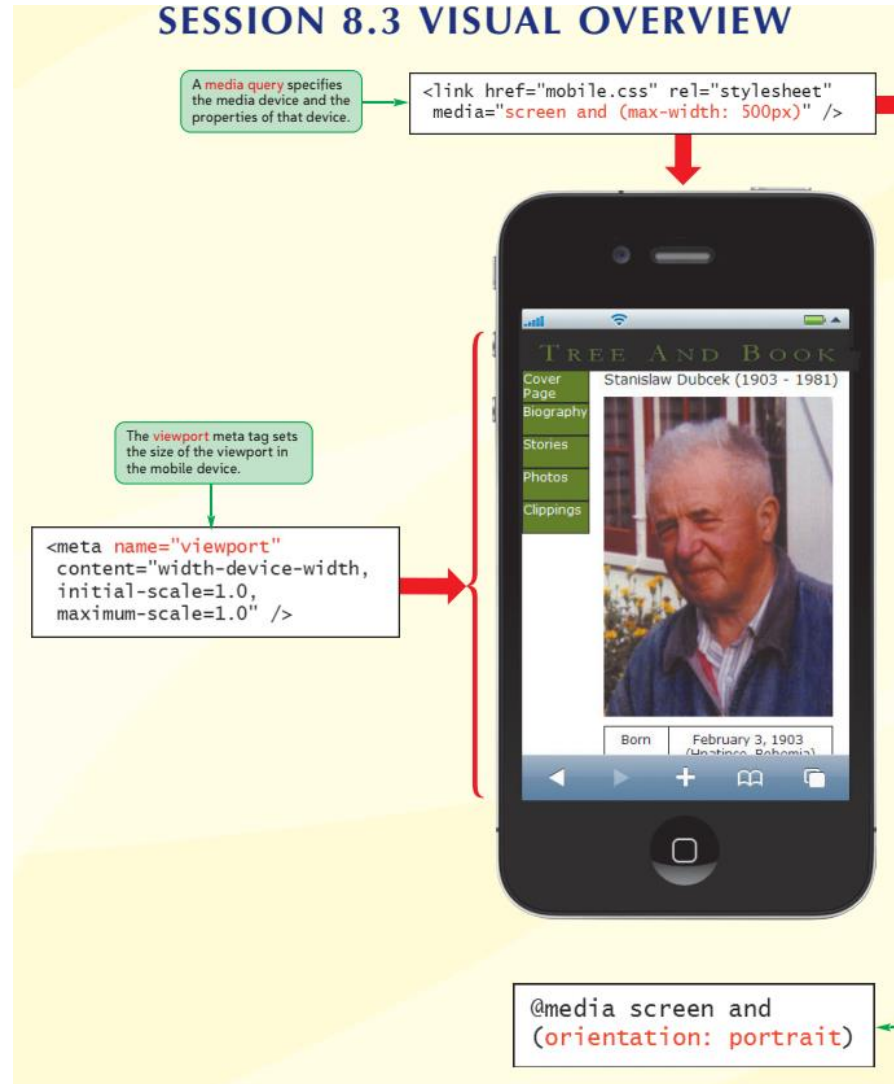
- Finally, add the following style rule to avoid adding a page break after the last figure box

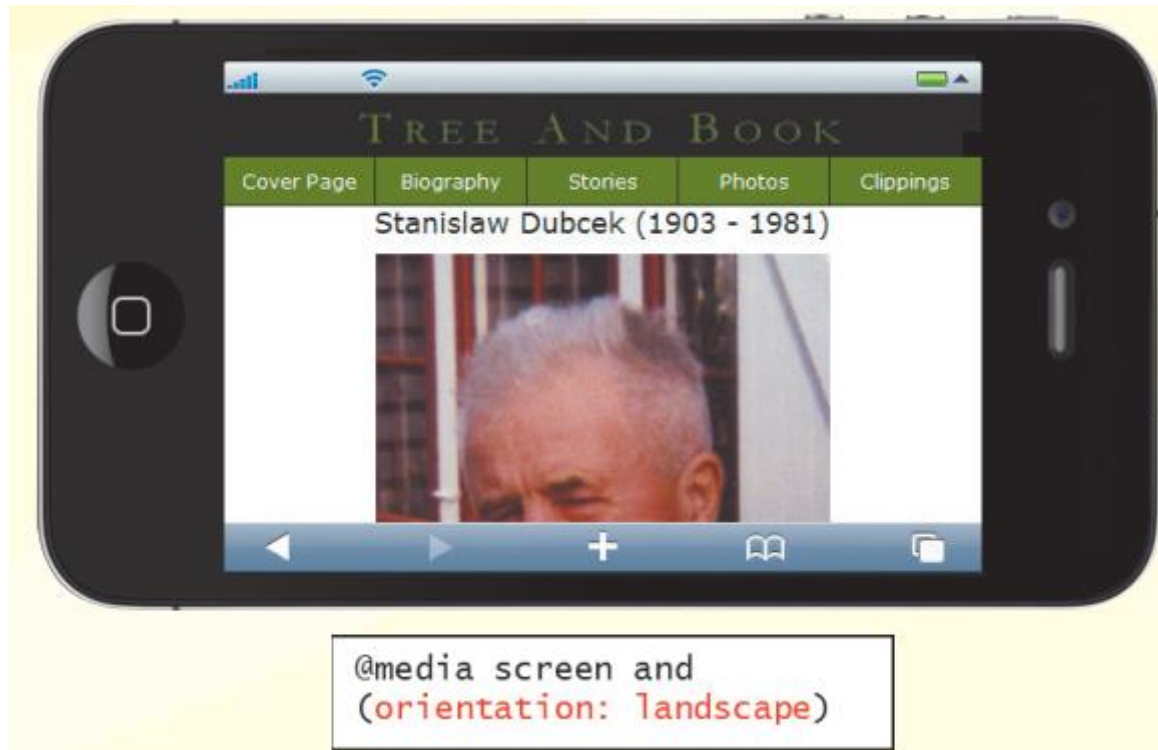
```
figure:last-of-type {  
    page-break-after: avoid;  
}
```

- Save your changes to the style sheet file.
- Reload the **treebook.htm** file in your Web browser, and then either print the file or view the file in a Print Preview window



Designing for the mobile web

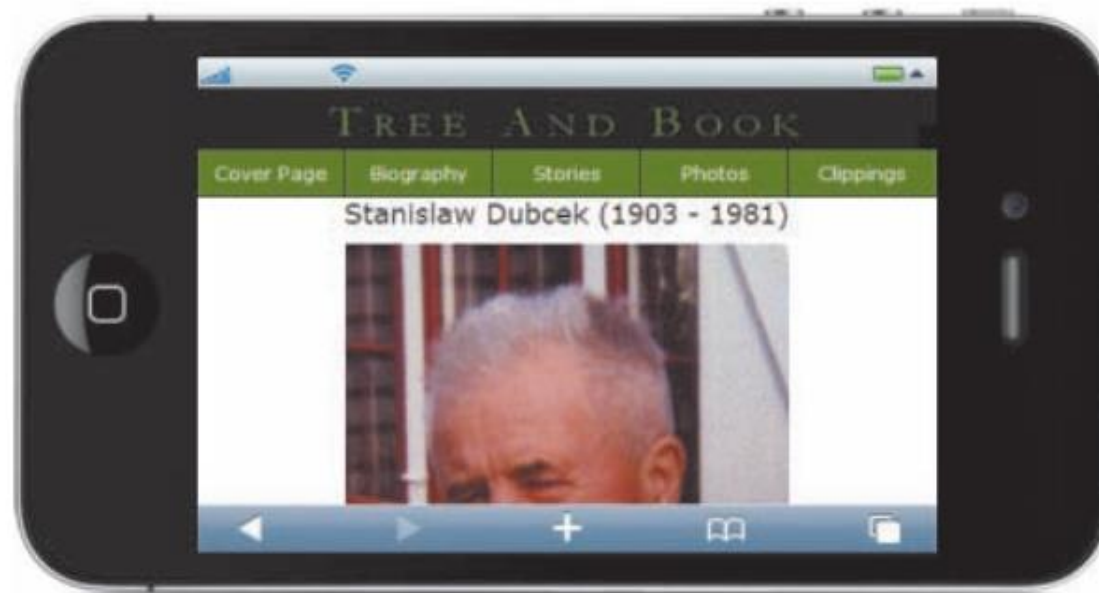




Preview of Kevin's proposed mobile design

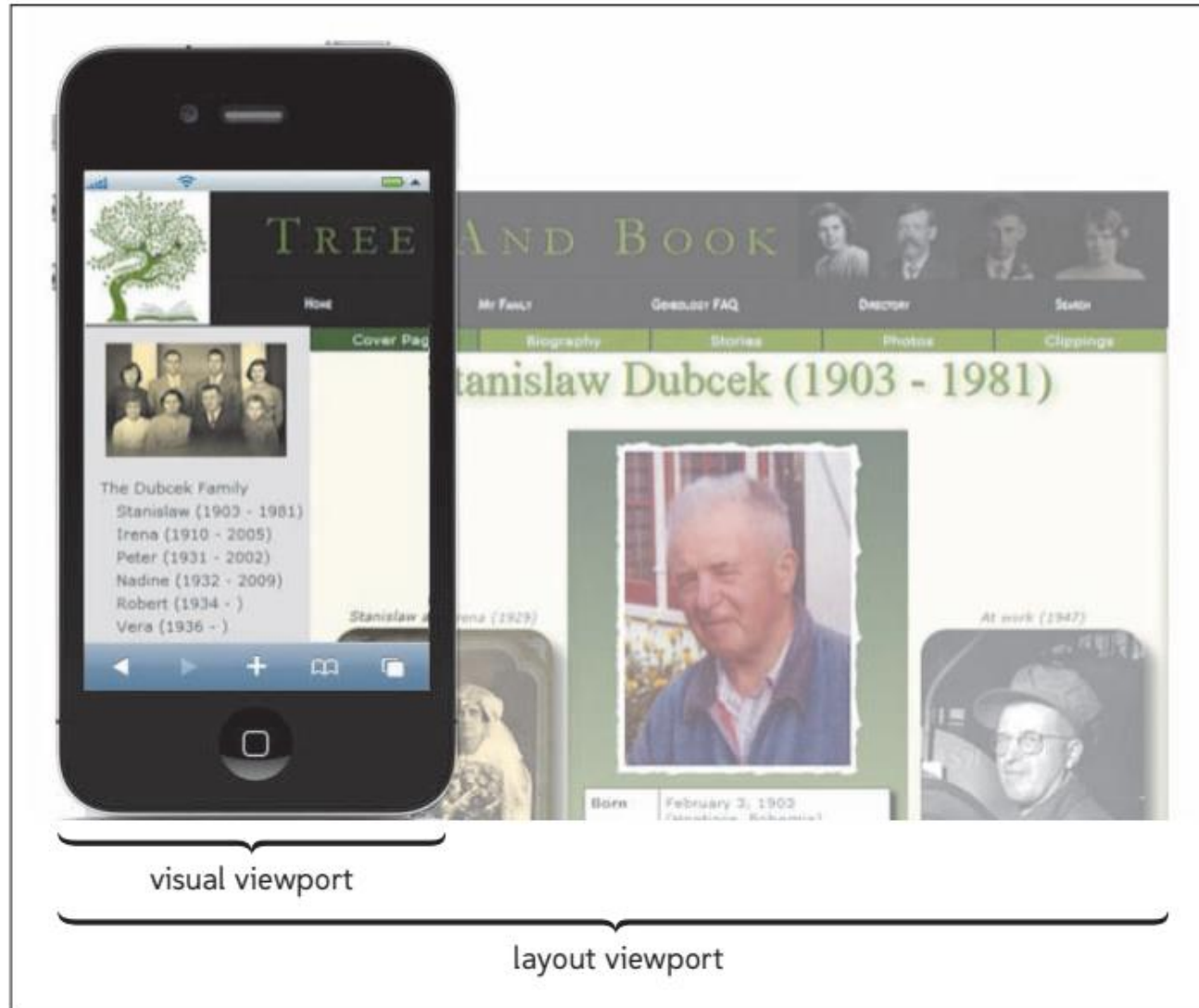


portrait orientation



landscape orientation

The visual and layout viewports



To add the viewport meta element

- Return to the **treebook.htm** file in your text editor.
- Directly below the meta element that defines the character set, add the following element

```
<meta name="viewport" content="width=device-width,  
                                initial-scale=1.0, maximum-scale=1.0" />
```

- Save your changes to the file

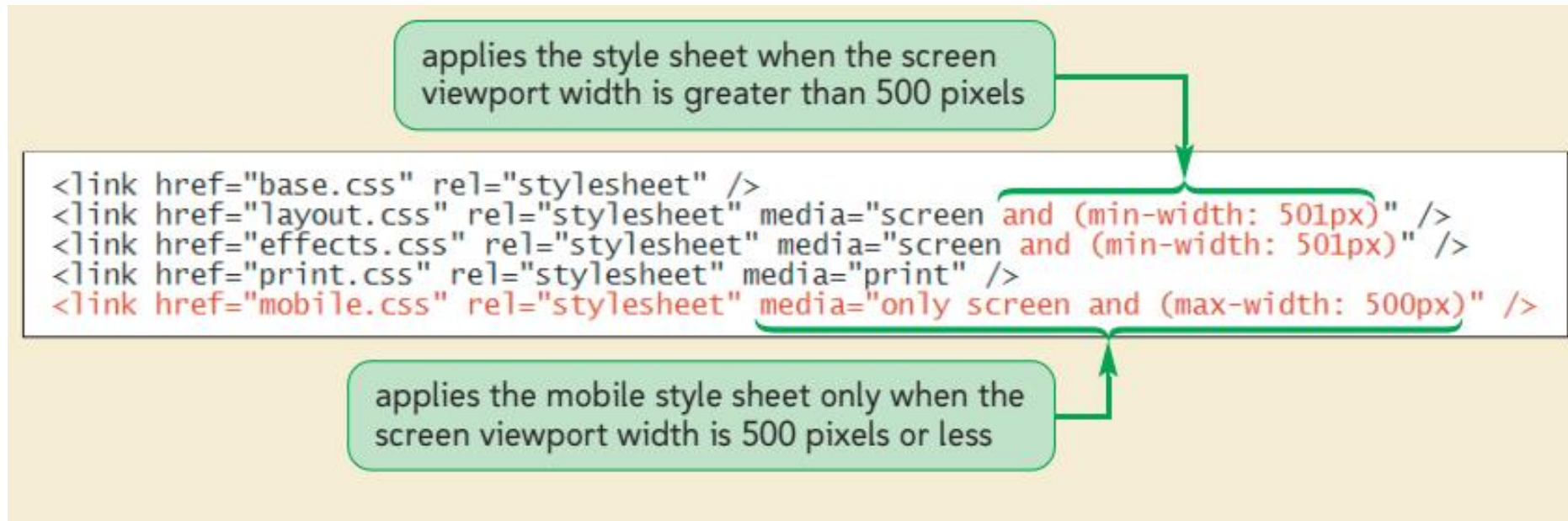
```
<meta charset="UTF-8" />  
<meta name="viewport" content="width=device-width,  
                                initial-scale=1.0, maximum-scale=1.0" />  
  
<title>Tree and Book</title>  
<script src="modernizr-1.5.js"></script>
```

Create the mobile style sheet

- Use your text editor to open the **mobiletxt.css** file from the tutorial.08/tutorial folder. Enter ***your name*** and ***the date*** in the comment section of the file
- Save the file as **mobile.css**

Create a media query for the mobile style sheet

- Return to the **treeboo**
- Within the link elements for the *layout.css* and *effects.css* files, add the media query **and (min-width: 501px)** to the value of the media attribute. **k.htm** file in your text editor.
- Directly above the closing `</head>` tag, insert the following link element:
`<link href="mobile.css" rel="stylesheet" media="only screen and (max-width: 500px)" />`



Place the link elements for Internet Explorer

- Directly below the link element for the *effects.css* style sheet, insert following

<!-- Style sheet links for Internet Explorer prior to version 9 -->

<!--[if lt IE 9]>

<link href="layout.css" rel="stylesheet" media="screen" />

<link href="effects.css" rel="stylesheet" media="screen" />

<![endif]-->owing code.

```
<link href="base.css" rel="stylesheet" />
<link href="layout.css" rel="stylesheet" media="screen and (min-width: 501px)" />
<link href="effects.css" rel="stylesheet" media="screen and (min-width: 501px)" />
```

```
<!-- Style sheet links for Internet Explorer prior to Version 9 -->
```

```
<!--[if lt IE 9]>
```

```
    <link href="layout.css" rel="stylesheet" media="screen" />
```

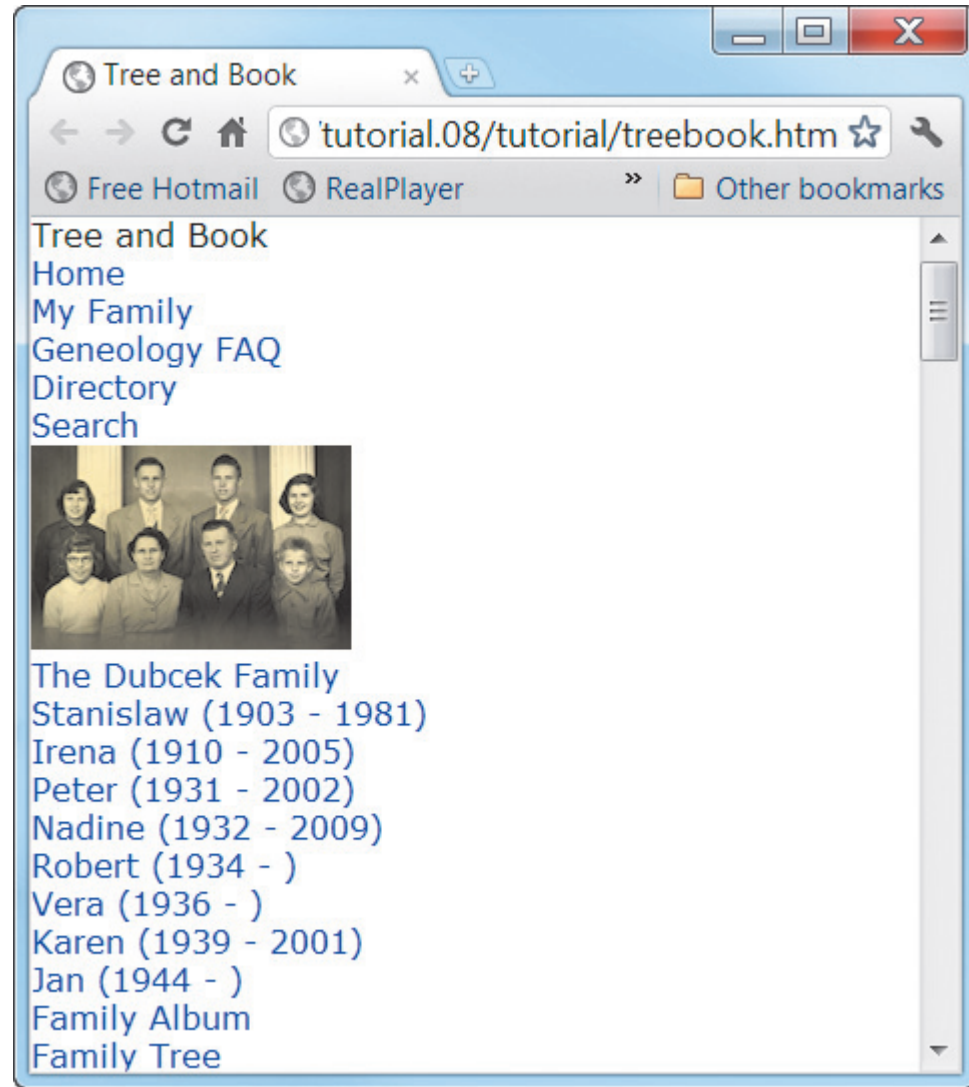
```
    <link href="effects.css" rel="stylesheet" media="screen" />
```

```
<![endif]-->
```

```
<link href="print.css" rel="stylesheet" media="print" />
```

```
<link href="mobile.css" rel="stylesheet" media="only screen and (max-width: 500px)" />
```

- Save your changes to the file and then reload **treebook.htm** in your Web browser. Verify that the appearance of the page has not changed.
- You can test the effect of the media query without having access to a mobile device by changing the width of the browser window. Reduce the browser window now and verify that when the width is less than or equal to 500 pixels, the Web page is displayed using only the current mobile style sheet



Begin designing the mobile style sheet

- Return to the mobile.css file in your text editor. At the bottom of the file, insert the following style rule:

```
/* Hide page elements that will not be displayed */  
header h1, header nav, section nav.vertical, footer {  
    display: none;  
}
```

- Add the following style rule to format the appearance of the header banner.

```
/* Header styles */
```

```
header {
```

```
    background: rgb(18, 15, 12) url(tblogo_sm.png) center center  
    no-repeat;
```

```
    -o-background-size: contain;
```

```
    -moz-background-size: contain;
```

```
    -webkit-background-size: contain;
```

```
    background-size: contain;
```

```
    height: 50px;
```

```
    width: 100%;
```

```
}
```

- Add the following style rule for the figure box captions.

```
/* Figure box caption styles */  
figure figcaption {  
    font-size: 12px;  
    text-align: center;  
}
```

- Save your changes to the file, and then reload the **treebook.htm** file in either your resized Web browser window or a mobile device.

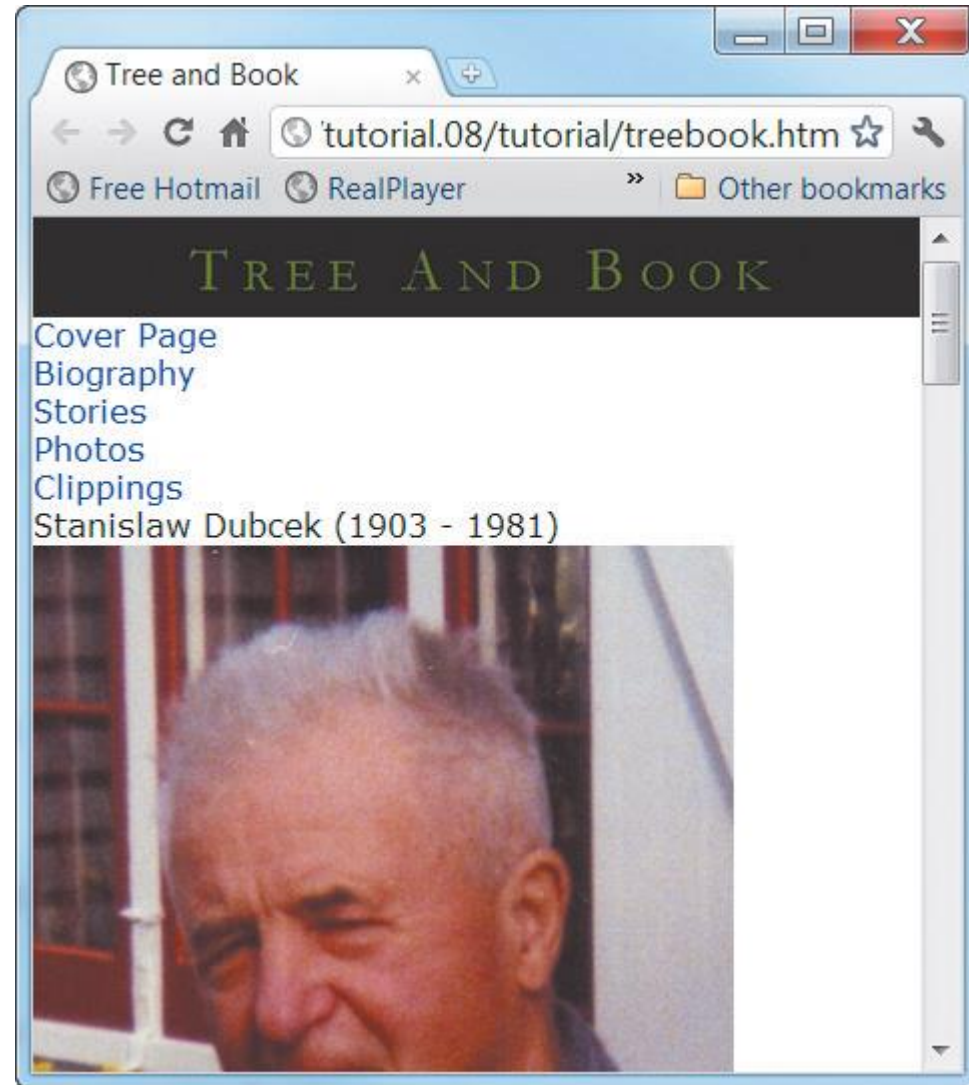
```
/* Hide page elements that will not be displayed */
header h1, header nav, section nav.vertical, footer {
    display: none;
}

/* Header styles */
header {
    background: rgb(18, 15, 12) url(tblogo_sm.png) center center no-repeat;

    -o-background-size: contain;
    -moz-background-size: contain;
    -webkit-background-size: contain;
    background-size: contain;

    height: 50px;
    width: 100%;
}

/* Figure box caption styles */
figure figcaption {
    font-size: 12px;
    text-align: center;
}
```

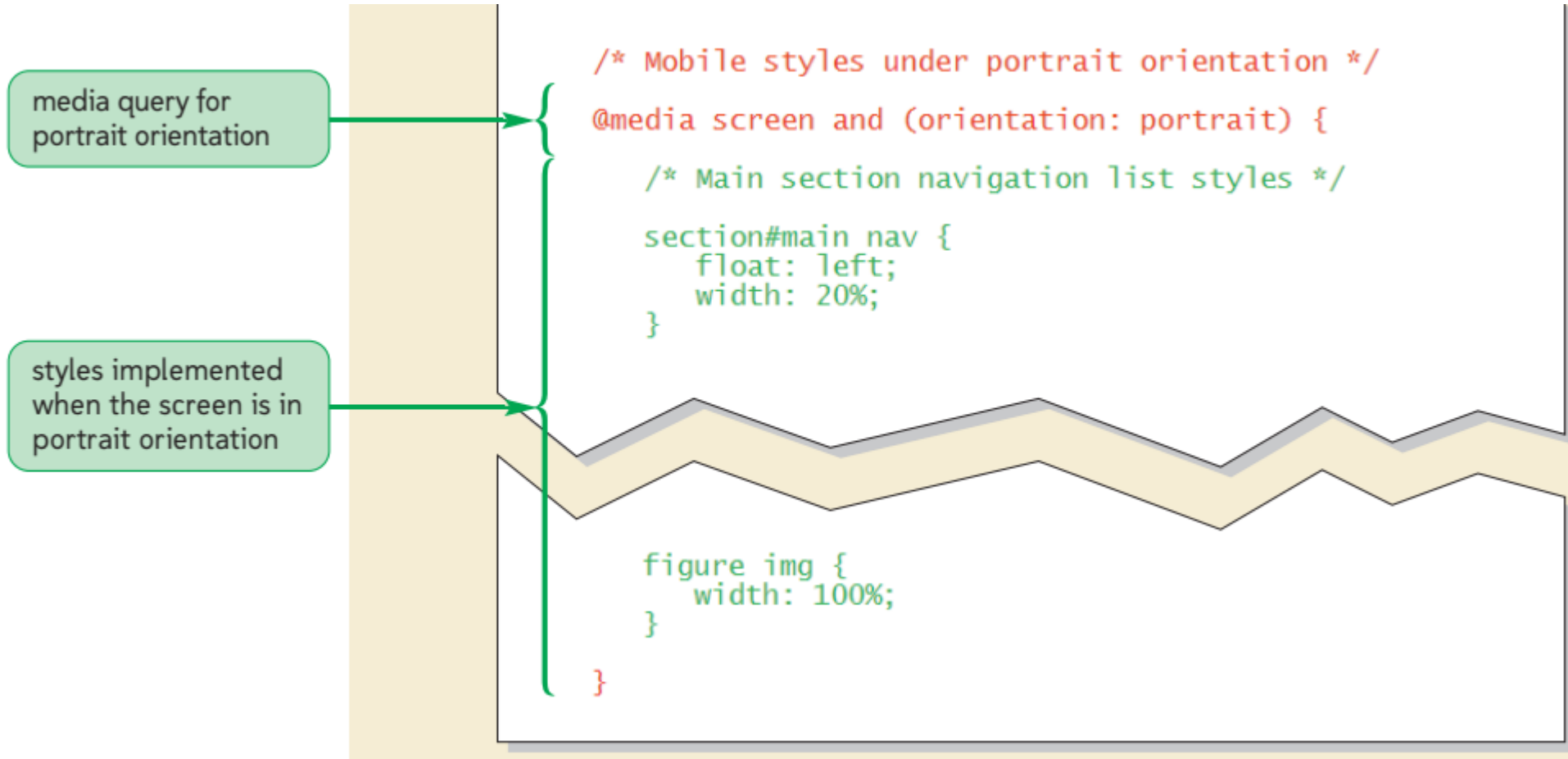


Create an @media rule for portrait orientation

- Return to the **mobile.css** file in your text editor.
- Enter the following code at the bottom of the file:

```
/* Mobile styles under portrait orientation */  
@media screen and (orientation: portrait) {  
}
```

- To avoid needing to type all of the style rules that apply under portrait orientation, they have been saved for you in a text file. Open the **portrait.txt** file now in your text editor, and then copy and paste the code from that file within the curly braces of the @media rule you just created in the mobile style sheet .



- Save your changes to the **mobile.css** style sheet file, and then reopen the **treebook.htm** file in your browser window or mobile device. To place your browser window in portrait mode, resize the window so that it is longer than it is wide with a maximum width of 500 pixels.

Tree and Book


/tutorial.08/tutorial/treebook.htm

Free Hotmail RealPlayer Other bookmarks

TREE AND BOOK

- Cover Page
- Biography
- Stories
- Photos
- Clippings

Stanislaw Dubcek (1903 - 1981)




Born February 3, 1903
(Hnatince, Bohemia)

Died September 20, 1981
(Rochester, MN)

Married Irena (Torbja); June 2, 1929

Children Peter, Nadine, Robert, Vera,
Karen, Jan

Stanislaw and Irena (1929)



Create the landscape style rules:

- Return to the **mobile.css** file in your text editor. At the end of the file, insert the following code:

```
/* Mobile styles under landscape orientation */  
@media screen and (orientation: landscape) {  
  
}
```

- Save your changes to the file
- Copy the code from the **landscape.txt** file and paste it within the @media rule for landscape orientation .
- Save your changes to the file, and then reload **treebook.htm** in your browser window or mobile device. Resize the browser window so that its width is 500 pixels or less, and the width of the browser window is greater than the height. If you are using a mobile device or emulator, flip the device into landscape orientation .

media query for
landscape
orientation

styles implemented
when the screen is
in landscape
orientation

```
/* Mobile styles under landscape orientation */
```

```
@media screen and (orientation: landscape) {
```

```
/* Main section navigation list styles */
```

```
section#main nav {  
  width: 100%;  
}
```

```
figure img {  
  width: 100%;  
}
```

```
}
```

