CSS3 for responsive web design

With your host Andrew Clarke

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BUDDING WEB DESIGN
by Andy Clarke
Special thanks to
@sarasoueidan
Today’s schedule

**Modern layout foundations**
Flexible Boxes (Flexbox) and table display properties

**Modules and content components**
Advanced Flexbox for content and functionality

**Responsive typography**
Units, columns, shapes and masks

**Responsive design details**
Border images, filters and blends
What we won’t cover

**CSS Grid Layout Module**
Grid by Example simple usage examples by Rachel Andrew

http://gridbyexample.com
Somewhere in the universe there must be something better than man. In a matter of time, an astronaut will wing through the centuries and find the answer. He may find the most terrifying one of all on the planet where apes are the rulers and man the beast.

An unusual and important motion picture from the author of “the Bridge on the River Kwai”!

20th Century-Fox presents

CHARLTON HESTON

PLANET OF THE APES

PANAVISION® Colour by DE LUXE

RODDY McDOWALL · MAURICE EVANS · KIM HUNTER · JAMES WHITMORE · JAMES DALY · LINDA HARRISON

Produced by APJAC PRODUCTIONS · Associate Producer MORT ARMBRANS · Directed by FRANKLIN J. SCHAFFNER · Screenplay by MICHAEL WILSON and ROBERT SERLING · Music by JERRY GOLDSMITH · Based on a novel by Pierre Boileau
First Planet of the Apes. Then Beneath the Planet of the Apes. And now...

MEET BABY MILO WHO HAS WASHINGTON TERRIFIED

ESCAPE FROM THE PLANET OF THE APES

20TH CENTURY FOX PRESENTS
AN ARTHUR P. JACOBS PRODUCTION
ESCAPE FROM THE PLANET OF THE APES starring RODDY MCDOWALL/KIM HUNTER/BRADFORD DILLMAN / NATALIE TRUNDY/ERIC BRAEDEN WILLIAM WINDOM/SAL MINEO and RICARDO MONTALBAN as Armando/ produced by APJAC Productions/directed by DON TAYLOR/written by PAUL DEHN based on characters created by PIERRE BOULLE/music by JERRY GOLDSMITH/PANAVISION®/COLOR BY DE LUXE®
Before there were men, there were ‘Apes in Space’

WHO WERE THE APES?

CORNELIUS ACTION FIGURE
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.

ZIRA ACTION FIGURE
Dr. Zira was a chimpanzee psychologist and veterinarian, who specialised in the study of humans, in the movie series Planet of the Apes. Unique among the Apes characters, Zira had hazel eyes.

DR. MILO ACTION FIGURE
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor’s ship and restored it. The three apes flew the ship and followed Taylor’s path in reverse, leading them back to his time.
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including numerous non-human primates, so that scientists could investigate the biological effects of space travel. The United States launched flights containing primate cargo primarily between 1948-1961 with one flight in 1969 and one in 1985.

France launched two monkey-carrying flights in 1967. The Soviet Union and Russia launched monkeys between 1983 and 1996. Most primates were anaesthetised before lift-off. Overall thirty-two monkeys flew in the space program; none flew more than once. Numerous back-up monkeys also went through the programs but never flew. Monkeys and apes from several species were used, including rhesus monkeys, cynomolgus monkeys, squirrel monkeys, pig-tailed macaques, and chimpanzees.

See also

- Laika
- Gordo (space monkey)
- Soviet space dogs
- Animals in space
- Space exploration
- Captain Simian & the Space Monkeys
- Ham the Chimp
- Space Chimps

Ham the Astrochimp
Today's browser

Just kidding
Get Chrome ready

Navigate to **chrome://flags**
Enable **Experimental Web Platform features**
Restart Chrome
Part one

Modern layout foundations

CSS3 for responsive web design

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Three ingredients for responsive web design

A flexible grid
Flexible images and media
CSS3 media queries
Three ingredients for responsive web design

A flexible grid
Flexible images and media
CSS3 media queries
And a whole lot more
Modern layout is about proportions, not pixels

<table>
<thead>
<tr>
<th>Hecton</th>
<th>1.73205</th>
<th>Penton</th>
<th>1.27201</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golden</td>
<td>1.61803</td>
<td>Biauron</td>
<td>1.23606</td>
</tr>
<tr>
<td>Hemiolon</td>
<td>1.5</td>
<td>Quadriagon</td>
<td>1.2071</td>
</tr>
<tr>
<td>Bipenton</td>
<td>1.458</td>
<td>Trion</td>
<td>1.1547</td>
</tr>
<tr>
<td>Diagon</td>
<td>1.41421</td>
<td>Hermidiagon</td>
<td>1.11803</td>
</tr>
</tbody>
</table>

Source: Gridset
Drawbacks of traditional CSS layout

- Complicated maths
- Vertical centering
- Float drops
- Float clearing
- Same height columns
- Shrink-to-fit containers
- Source order dependence
Before there were men, there were ‘Apes in Space’

WHO WERE THE APES?
ZAIUS ACTION FIGURE

Zaius was an orangutan statesman who lived in the East Coast Ape City during the latter half of the 40th century. He was a leading member of the Ape National Assembly, and served a dual role in Ape society, as Minister of Science in charge of advancing ape knowledge, and also as Chief Defender of the Faith.

ADD TO CART

DR. MILO ACTION FIGURE

Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor’s ship and restored it.

ADD TO CART
CORNELIUS ACTION FIGURE
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.

ADD TO CART

ZIRA ACTION FIGURE
Dr. Zira was a chimpanzee psychologist and veterinarian, who specialised in the study of humans, in the movie series Planet of the Apes. Unique among the Apes characters, Zira had hazel eyes. In the first movie, Zira met American astronaut George Taylor, who was shot in the throat when he was captured by gorillas, and could not speak, just as the native humans of her world could not. She tended to his throat wound, discovered Taylor had intelligence beyond any human she'd seen, and paired him with Nova, also intelligent, hoping the two will breed.

ADD TO CART

DR. MILO ACTION FIGURE
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor's ship and restored it.

ADD TO CART
Source order dependence, helped by Flexbox

DR. MILO ACTION FIGURE
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor's ship and restored it. The three apes flew the ship and followed Taylor's path in reverse, leading them back to his time.

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ADD TO CART
Flexible boxes

Modern layout foundations

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Advantages of Flexbox

More flexible layouts
Visual content reordering
Column height matching
Apply flex to a container

.container {
    display: flex;
    // display: inline-flex;
}
Set the flex direction

.container {
  display: flex;
  flex-direction: row; /* default */
}

// row, row-reverse, column, column-reverse
Horizontal layout

Flexible Box Layout

row

row-reverse

row
Vertical layout

Flexible Box Layout

column

column-reverse
Main & cross axis

Flexible Box Layout

main axis

cross axis
Rows and columns

.container {
  display: flex;
  flex-direction: row;
  flex-wrap: nowrap; /* default */
}

Flexible Box Layout
Wrapping flex items

Flexible Box Layout
Rows and columns

.container {
  display: flex;
  flex-flow: row nowrap;
}

Flexible Box Layout
<body class="layout-flex-2col">
<div class="container">
<header role="banner" class="flex-banner">...
</header>
<div class="main">...
</div>
<aside class="aside-1">...
</aside>
<footer role="contentinfo">...
</footer>

</div>
</body>
Two-column Flexbox layout

.container {
  display: flex;
}

[role="banner"], [role="contentinfo"], aside {
/* All children have equal size inside a container */
flex-grow: 1;
/* The default size before any remaining space is distributed */
flex-basis: 100%;
}
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including monkeys and apes, to see what would happen.
Two-column Flexbox layout

@media (min-width: 48em) {

.main {
  /* Take three times the available space as other siblings */
  flex: 3;
  /* The default size before any remaining space is distributed */
  flex-basis: 1px;
}

aside {
  /* Take one unit of available space */
  flex: 1;
  /* The default size before any remaining space is distributed */
  flex-basis: 1px;
}
}
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including numerous non-human primates, so that scientists could investigate the biological effects of space travel. The United States launched flights containing primate cargo primarily between 1948-1961 with one flight in 1969 and one in 1985.

France launched two monkey-carrying flights in 1967. The Soviet Union and Russia launched monkeys between 1983 and 1996. Most primates were anaesthetised before lift-off. Overall thirty-two monkeys flew in the space program; none flew more than once. Numerous back-up monkeys also went through the programs but never flew. Monkeys and apes from several species were used, including rhesus monkeys, cynomolgus monkeys, squirrel monkeys, pig-tailed macaques, and chimpanzees.

See also
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- Soviet space dogs
- Animals in space
- Space exploration
- Captain Simian & the Space Monkeys
- Ham the Chimp
- Space Chimps

Ham the Astrochimp
Flex-grow

.box--one {
  flex : 1;
}

.box--two {
  flex : 1;
}

.box--three {
  flex : 1;
}

.box {
  /* All children have equal size */
  flex : 1;
}
The ability for a flex item to grow if necessary and dictates the amount of available space an item should take.
Flex-grow

.box--one {
    flex: 1;
}

.box--two {
    /* Take twice the available space as other siblings */
    flex: 2;
}

.box--three {
    flex: 1;
}

Flexible Box Layout
The ability for a flex item to grow if necessary and dictates the amount of available space an item should take.
Flex-basis

.container {
  width: 700px;
}

.box--one {
  flex-grow: 1;
  flex-basis: 200px; /* 33px added */
}

.box--two {
  flex-grow: 1;
  flex-basis: 200px; /* 33px added */
}

.box--three {
  flex-grow: 1;
  flex-basis: 200px; /* 33px added */
}
Flex-basis

.flexible-box-layout

.container {
  width: 700px;
}

.box--one {
  flex-grow: 1;
  flex-basis: 200px; /* 25px added */
}

.box--two {
  flex-grow: 2;
  flex-basis: 200px; /* 50px added */
}

.box--three {
  flex-grow: 1;
  flex-basis: 200px; /* 25px added */
}
```css
.container {
  width: 700px;
}

.box--one {
  flex: 1 200px; /* 25px added */
}

.box--two {
  flex: 2 200px; /* 50px added */
}

.box--three {
  flex: 1 200px; /* 25px added */
}
```
CORNELIUS ACTION FIGURE
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.

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Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor's ship and restored it. The three apes flew the ship and followed Taylor's path in reverse, leading them back to his time.

ADD TO CART
Three-column Flexbox layout

<body class="layout-flex-3col">
<div class="container">
<header role="banner" class="flex-banner">...
</header>
<div class="main">...
</div>
<aside class="aside-1">...
</aside>
<aside class="aside-2">...
</aside>
<footer role="contentinfo">...
</footer>
</div>
</body>
Escape from the Planet of the Apes

Escape from the Planet of the Apes begins by establishing that three apes—Cornelius, Zira, and Dr. Milo—escaped the Earth’s destruction by salvaging and repairing Taylor’s spaceship and piloting it through the shock wave of Earth’s destruction, sending the ship through a time warp.

The apes arrive on Earth in 1973, splashing down off the Pacific coast of the United States. They are transported to a secluded ward of the Los Angeles Zoo, under the observation of scientists Stephanie Branton and Lewis Dixon. The apes begin to communicate with each other, and eventually with humans. They communicate their wish to return to their homeworld on the moon, which leads to a series of events that ultimately lead to the return of the apes to the moon.

Cast
Roddy McDowall as Cornelius
Kim Hunter as Zira
Bradford Dillman as Dr. Lewis Dixon
Natalie Trundy as Dr. Stephanie Branton
Eric Braeden as Dr. Otto Hasslein
William Windom as President
Sal Mineo as Dr. Milo

Roddy McDowall
In this film, actor Roddy McDowall returns to the character of Cornelius which he played in the first film but not in the second. A new character of Dr. Milo is introduced played by actor Sal Mineo, who hoped his career would gain from the new project much as McDowall’s career had from participating in the first film.
Order

Flexible Box Layout

Controls the order in which items appear visually in a flex container.
Flex-direction

DR. MILO ACTION FIGURE
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ADD TO CART

Right to left in ltr layouts, left to right in rtl layouts.
Order

Flexible Box Layout

ZIRA ACTION FIGURE
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ADD TO CART

Controls the order in which items appear visually in a flex container.
Three-column Flexbox layout

<body class="layout-flex-3col-variant">
    <div class="container">
        <header role="banner" class="flex-banner">...</header>
        <div class="main">...</div>
        <aside class="aside-1">...</aside>
        <aside class="aside-2">...</aside>
        <footer role="contentinfo">...</footer>
    </div>
</body>
Escape from the Planet of the Apes

Escape from the Planet of the Apes begins by establishing that three apes—Cornelius, Zira, and Dr. Milo—escaped the Earth’s destruction by salvaging and repairing Taylor’s spaceship and piloting it through the shock wave of Earth’s destruction, sending the ship through a time warp.

The apes arrive on Earth in 1973, splashing down off the Pacific coast of the United States. They are transported to a secluded ward of the Los Angeles Zoo, under the observation of scientists Stephanie Branton and Lewis Dixon. The apes adjust to life in the ward and begin to mate and reproduce. They also come to believe that they are not just citizens of Earth, but a species that has the right to rule it. They begin to show aggression towards the humans they encounter, and tensions rise between the two species. The apes are eventually released back into the wild, and they adapt to their new environment, continuing to fight for their rights and尊严.
Three-column Flexbox layout

[role="banner"]/ {
    order: 1;
}

.main {
    order: 3;
}

.aside--1 {
    order: 2;
}

.aside--2 {
    order: 4;
}

[role="contentinfo"]/ {  
    order: 5;
}
Escape from the Planet of the Apes begins by establishing that three apes—Cornelius, Zira, and Dr. Milo—escaped the Earth's destruction by salvaging and repairing Taylor's spaceship and piloting it through the shock wave of Earth's destruction, sending the ship through a time warp.

The apes arrive on Earth in 1973, splashing down off the Pacific coast of the United States. They are transported to a secluded ward of the Los Angeles Zoo, under the observation of scientists Stephanie Branton and Lewis Dixon. The apes lose their ability to communicate with each other and with humans. They are eventually part of a government project where they are trained to function as a new species for human use in space exploration.

Roddy McDowall returns to the role of Cornelius, which he played in the first film but not in the second. A new character of Dr. Milo is introduced, played by actor Sal Mineo, who hoped his career would gain from the new project much as McDowall's career had from participating in the first film.
Three-column Flexbox layout

[role="banner"] {
  order : 1;
}

.main {
  order : 4;
}

.aside--1 {
  order : 3;
}

.aside--2 {
  order : 2;
}

[role="contentinfo"] {
  order : 5;
}
Escape from the Planet of the Apes

Escape from the Planet of the Apes begins by establishing that three apes—Cornelius, Zira, and Dr. Milo—escaped the Earth’s destruction by salvaging and repairing Taylor’s spaceship and piloting it through the shock wave of Earth’s destruction, sending the ship through a time warp.

The apes arrive on Earth in 1973, splashing down off the Pacific coast of the United States. They are transported to a secluded ward of the Los Angeles Zoo, under the observation of scientists Stephanie Branton and Lewis Dixon. The apes then become the zoo’s newest attraction and soon begin attracting a great deal of public attention.
In this film, actor Roddy McDowall returns to the character of Cornelius which he played in the first film but not in the second. A new character of Dr. Milo is introduced played by actor Sal Mineo, who hoped his career would gain from the new project much as McDowall's career had from participating in the first film.
Escape from the Planet of the Apes
Apes in Space
Film star gorillas
Monkeys in orbit
Movie primates

Apes In Space examples by Stuff and Nonsense. Licensed under Apache License, Version 2.0
When is Flexbox appropriate?

Flexible Box Layout

1. Supported with -webkit- prefix
Legacy browser implementations

- **10**
  - 2012 syntax with -ms- prefix

- **5.1**
  - Old syntax with -webkit- prefix

- **4.4**
  - Old syntax with -webkit- prefix

- **7**
  - Old syntax with -webkit- prefix
Legacy Flexbox syntax

```css
.container {
  display : -webkit-box;
  display : -moz-box;
  display : -ms-flexbox;
  display : -webkit-flex;
  display : flex;
}
```

Flexible Box Layout

```css
.container {
  display : -webkit-flex;
  display : flex;
}
```
@mixin flexbox() {
  display: -webkit-box;
  display: -moz-box;
  display: -ms-flexbox;
  display: -webkit-flex;
  display: flex;
}

.container {
  @include flexbox();
}

@mixin flex($values) {
  -webkit-box-flex: $values;
  -moz-box-flex: $values;
  -webkit-flex: $values;
  -ms-flex: $values;
  flex: $values;
}

.box {
  @include flex(1 200px);
}
Parse CSS and add vendor prefixes to rules by Can I Use [https://twitter.com/autoprefixer](https://twitter.com/autoprefixer)

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
<th>Author</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>benchmark</td>
<td>Clean up Compass benchmark code</td>
<td>ai</td>
<td>2 months ago</td>
</tr>
<tr>
<td>test</td>
<td>Use new API</td>
<td></td>
<td>2 months ago</td>
</tr>
<tr>
<td>.gitignore</td>
<td>Remove core to autoprefixer-core</td>
<td></td>
<td>2 months ago</td>
</tr>
<tr>
<td>.npmignore</td>
<td>Remove core to autoprefixer-core</td>
<td></td>
<td>2 months ago</td>
</tr>
<tr>
<td>.travis.yml</td>
<td>Remove node.js 0.8 from test</td>
<td></td>
<td>6 months ago</td>
</tr>
<tr>
<td>ChangeLog.md</td>
<td>Add missing feature author to ChangeLog.md</td>
<td></td>
<td>17 days ago</td>
</tr>
<tr>
<td>LICENSE</td>
<td>Change license to MIT</td>
<td></td>
<td>10 months ago</td>
</tr>
<tr>
<td>README.md</td>
<td>Use postcss-loader in webpack example</td>
<td></td>
<td>8 hours ago</td>
</tr>
<tr>
<td>autoprefixer</td>
<td>Remove core to autoprefixer-core</td>
<td></td>
<td>2 months ago</td>
</tr>
<tr>
<td>binary.js</td>
<td>fix typo in quick help message</td>
<td></td>
<td>a month ago</td>
</tr>
<tr>
<td>enable-es6.js</td>
<td>Remove core to autoprefixer-core</td>
<td></td>
<td>2 months ago</td>
</tr>
<tr>
<td>gulpfile.js</td>
<td>Faster bench task</td>
<td></td>
<td>2 months ago</td>
</tr>
<tr>
<td>index.js</td>
<td>Remove core to autoprefixer-core</td>
<td></td>
<td>2 months ago</td>
</tr>
<tr>
<td>logo.svg</td>
<td>Logo SVG: remove useless attributes</td>
<td></td>
<td>a year ago</td>
</tr>
<tr>
<td>package.json</td>
<td>Release 3.1 version</td>
<td></td>
<td>17 days ago</td>
</tr>
</tbody>
</table>

**GitHub Repository:**
- **945 commits**
- **2 branches**
- **21 releases**
- **55 contributors**

**Code Details:**
- **Issues:** 6
- **Pull Requests:** 0

**HTTPS clone URL:**
[https://github.com/postcss/autoprefixer](https://github.com/postcss/autoprefixer)

You can clone with HTTPS or Subversion.

**Clone in Desktop:**
[Clone in Desktop](https://github.com/postcss/autoprefixer)
Modernizr Flexbox

Isolate Flexbox compatible and non-compatible files

Modernizr adds flexbox, no-flexbox, and flexboxlegacy classes

```
.no-flexbox .container {
  /* styles */
}
```
When is Flexbox appropriate?

CSS performance test: Flexbox v CSS Table

Display table
Navigation first

<body class="table-1">
<header role="banner" class="flex-banner">...</header>
<nav role="navigation" class="banner__nav">...</nav>
<div class="content">...</div>
<footer role="contentinfo">...</footer>
</body>
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including several gorillas and monkeys, to test their response to microgravity.
Content first

<body class="table-1">
<header role="banner" class="flex-banner">...
</header>
<div class="content">...
</div>
<nav role="navigation" class="banner__nav">...
</nav>
<footer role="contentinfo">...
</footer>
</body>
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including numerous non-human primates, so that...
Animals in space
Space exploration
Captain Simian & the Space Monkeys
Ham the Chimp
Space Chimps
Table properties

**display : table**
Defines element as a block-level table

**display : table-caption**
Treats element as a caption for the table
(caption-side : top | bottom | inherit)

**display : table-row**
An element represents a row of cells

**display : table-cell**
An element represents a table cell
Table properties

**display : table-header-group**
A row group always displayed before all other rows and row groups and after any top captions

**display : table-footer-group**
A row group always displayed after all other rows and row groups and after any bottom captions

**display : table-row-group**
One or more rows of cells
**table-row**
An ‘anonymous’ box created by applying display:table-row to an element

**display : table**
An ‘anonymous’ box created by applying display:table to an element
<body class="table-1">
<header role="banner" class="flex-banner">...
</header>
<div class="content-group">
<div class="content">...
</div>
<nav role="navigation">...
</nav>
</div>
<footer role="contentinfo">...
</footer>
</body>
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including numerous non-human primates, so that...
Content first

@media (min-width : 48em) {

.content {

display : table-footer-group;
}

[role="navigation"] {

display : table-header-group;
}

}
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including numerous non-human primates, so that scientists could investigate the biological effects of space travel. The United States launched flights containing primate cargo primarily between 1948-1961 with one flight in 1969 and one in 1985.

France launched two monkey-carrying flights in 1967. The Soviet Union and Russia launched monkeys between 1983 and 1996. Most primates were anaesthetised before lift-off. Overall thirty-two monkeys flew in the space program; none flew more than once. Numerous back-up monkeys also went through the programs but never flew. Monkeys and apes from several species were used, including rhesus monkeys, cynomolgus monkeys, squirrel monkeys, pig-tailed macaques, and chimpanzees.

See also

Laika
Gordo (space monkey)
Soviet space dogs
Animals in space
Space exploration
Captain Simian & the Space Monkeys
Ham the Chimp
Space Chimps

Ham the Astrochimp

Ham, also known as Ham the Chimp and Ham the Astrochimp, was a chimpanzee and the first Hominidae launched into space, on 31 January 1961, as part of America’s space program. Upon his successful return to earth. This was reportedly because officials did not want the bad press that would come from the death of a ‘named’ chimpanzee if the mission were a
<body class="table-1">
<a href="#navigation">Menu</a>
<header role="banner" class="flex-banner">...</header>
<div class="content-group">
<div class="content">...</div>
<nav role="navigation" id="navigation">...</nav>
</div>
<footer role="contentinfo">...</footer>
</body>
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including numerous non-human primates, so that...
a[href="#navigation"] {
  display: block;
}

@media (min-width: 48em) {
  a[href="#navigation"] {
    display: none;
  }
}
Two-column display-table layout

<body class="table-2">
<header role="banner" class="flex-banner">...
</header>
<div class="content-group">
<div class="content">
<div class="main">...
</div>
<aside class="aside-1">...</aside>
</div>
</div>
<footer role="contentinfo">...
</footer>
</body>
Two-column display-table layout

@media (min-width: 62em) {
  .content, .aside-1 {
    display: table-cell;
  }

  .main { width: 65%; }
  .aside-1 { width: 35%; }
}
Apes (and monkeys) in space

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CORNELIUS ACTION FIGURE
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes.

ADD TO CART

ZIRA ACTION FIGURE
Dr. Zira was a chimpanzee psychologist and veterinarian, who specialised in the study of humans, in the movie series Planet of the Apes. Unique among the Apes characters, Zira had hazel eyes.

ADD TO CART

DR. MILO ACTION FIGURE
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor’s ship and restored it.

ADD TO CART
Creating columns

@media (min-width : 62em {

.commerce-item {
    float : left;
    width : 33%; }

}
**Creating columns**

**Display table layout**

---

**CORNELIUS ACTION FIGURE**
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**ADD TO CART**

---

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**ADD TO CART**

---

**DR. MILO ACTION FIGURE**
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor's ship and restored it. The three Apes test-flew the ship at the moment the Alpha-Omega Bomb detonated and followed Taylor's path in reverse, leading them back to his time. Milo was perhaps the leader of the group and forbade them from talking to the humans until they had judged the situation. Shortly after their arrival Milo was killed by a primitive gorilla while being held in the city zoo. Zira and Cornelius named their child "Milo", though his name was changed by Armando to protect his identity.

**ADD TO CART**
Creating columns

@media (min-width: 62em) {

  .commerce-item {
    display: table-cell;
    width: 33%;
  }

}
Creating columns

Display table layout

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ADD TO CART
Flexbox recap

Modern layout foundations

© Stuff & Nonsense 2014
**Align-items**

CORNELIUS ACTION FIGURE
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.

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ADD TO CART

DR. MILO ACTION FIGURE
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered wreckage of Taylor's ship and restored it.

ADD TO CART

flex-start: Items placed on the cross axis start line

**Flexible Box Layout**
.content {
    align-items: flex-start;
}

flex-start: Items placed on the cross axis start line
**Align-items**

**Flexible Box Layout**

**main axis**

**cross axis**

**CORNELIUS ACTION FIGURE**
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**DR. MILO ACTION FIGURE**
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered wreckage of Taylor’s ship and restored it.

**flex-end:** Items placed on the cross axis end line
.content {
    align-items: flex-end;
}

flex-end: Items placed on the cross axis end line
Align-items

Flexible Box Layout

main axis

cross axis

CORNELIUS ACTION FIGURE
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ADD TO CART

DR. MILO ACTION FIGURE
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered wreckage of Taylor’s ship and restored it.

ADD TO CART

center: items centered in the cross axis
.content {
  align-items: center;
}

center: items centered in the cross axis
Align-items

Flexible Box Layout

main axis

cross axis

CORNELIUS ACTION FIGURE
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.

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Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered wreckage of Taylor’s ship and restored it.

ADD TO CART

stretch (default): items stretch to fill container height
.content {
  
  align-items: stretch; /* default value */

}
Align-items

Flexible Box Layout

main axis

cross axis

Starts on baseline
Starts on baseline
Starts on baseline

baseline: items aligned so that their baselines match
baseline: items aligned so that their baselines match
Additional Flexbox properties

Justify-content
Align-content
Align-self
Justify-content

Flexible Box Layout

CORNELIUS ACTION FIGURE
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Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor's ship and restored it. The three apes flew the ship and followed Taylor’s path in reverse, leading them back to his time.

ADD TO CART

flex-start: Items placed on the main axis start line

cross axis

main axis
.content {
    justify-content: flex-start;
}

flex-start: Items placed on the main axis start line
Justify-content

Flexible Box Layout

**Main Axis**

- **Cornelius Action Figure**
  Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.

- **Zira Action Figure**
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- **Dr. Milo Action Figure**
  Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor's ship and restored it. The three apes flew the ship and followed Taylor's path in reverse, leading them back to his time.

**Cross Axis**

`flex-end`: Items placed on the main axis end line.
.content {
  justify-content: flex-end;
}

flex-end: Items placed on the main axis end line
Justify-content

Flexible Box Layout

cross axis

main axis

center: Items centered in the main axis

CORNELIUS ACTION FIGURE
Cornelius was a male chimpanzee from the films Planet of the Apes. Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.

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ADD TO CART
```css
.content {
    justify-content: center;
}
```
Justify-content

Flexible Box Layout

space-between: Items distributed in the line; first item on the start line, last on the end
justify-content: space-between;

space-between: Items distributed in the line; first item on the start line, last on the end
Justify-content

Flexible Box Layout

CORNELIUS ACTION FIGURE
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ADD TO CART

space-around: Items distributed in the line with equal space around them
.content {
  justify-content: space-around;
}

space-around: Items distributed in the line with equal space around them
Align-content

Flexible Box Layout

main axis

cross axis

flex-start: lines placed at the start of the container
.content {
  align-content : flex-start;
}

flex-start: lines placed at the start of the container
Align-content

Flexible Box Layout

main axis

cross axis

flex-end: lines placed at the end of the container
.content {
  align-content: flex-end;
}

flex-end: lines placed at the end of the container
center: lines placed at the center of the container
.content {
  align-content: center;
}

center: lines placed at the center of the container
Align-content

Flexible Box Layout

- **main axis**
  - **cross axis**

*stretch (default): lines stretch to fill container height*
.content {
  align-content: stretch; /* default value */
}

stretch (default): lines stretch to fill container height
Align-content

Flexible Box Layout

main axis

cross axis

space-between: Lines distributed in the container; first item on the start line, last on the end
.content {
  align-content: space-between;
}

space-between: Lines distributed in the container; first item on the start line, last on the end
Align-content

Flexible Box Layout

main axis

cross axis

space-around: Lines distributed in the container with equal space around them
Align-content

.content {
  align-content: space-around;
}

space-around: Lines distributed in the container with equal space around them
Align-self: Overrides for individual flex items

**CORNELIUS ACTION FIGURE**
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. An archeological scientist, Cornelius was reluctantly supportive of Zira's theories and views. He really would have preferred the quiet life with less controversy but deeply loved Zira and stood by her, though he did try to smooth over the confrontation with the orangutan elders and the gorilla soldiers.

**ADD TO CART**

**DR. MILO ACTION FIGURE**
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—the wreckage of Taylor's ship and restored it. The three Apes test-flew the ship at the moment the Alpha-Omega Bomb detonated and followed Taylor's path in reverse, leading them back to his time. Milo was perhaps the leader of the group and forbade them from talking to the humans until they had judged the situation.

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**ADD TO CART**
.content {
  /* auto | flex-start | flex-end | center | baseline | stretch */
  align-self: flex-end;
}

align-self: Overrides for individual flex items
Cornelius

“Beware the beast Man, for he is the Devil’s pawn. Alone among God’s primates, he kills for sport or lust or greed. Yea, he will murder his brother to possess his brother’s land. Let him not breed in great numbers, for he will make a desert of his home and yours. Shun him; drive him back into his jungle lair, for he is the harbinger of death.”

Posted on 20th November 2014 at 9:00am

Aldo

“The only thing that counts in the end is power! Naked merciless force!”

Posted on 20th November 2014 at 10:00am

Zaius

“You are right, I have always known about man. From the evidence, I believe his wisdom must walk hand and hand with his idiocy. His emotions must rule his brain. He must be a warlike creature who gives battle to everything around him, even himself.”

Posted on 20th November 2014 at 11:00am
<div class="flex-media">

<div class="flex-media__figure">
<img src="media_img.png" alt=""/>
</div>

<div class="flex-media__content">
<p>...</p>
</div>

</div>
Media modules

```css
.flex-media {
  display: flex;
}

.flex-media__figure {
  margin-right: 22px;
}

.flex-media__content {
  flex: 1;
}
```
Media modules

.flex-media {
  display: flex;
}

.flex-media__figure {
  margin-right: 22px;
}

.flex-media__content {
  flex: 1;
}

Use the Web Inspector to add: .media--reverse, .media--center and .media--bottom to .flex-media
Media modules

Cornelius

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Posted on 20th November 2014 at 11:00am
Store items

Modules and components

© Stuff & Nonsense 2014
Store items

**ZAIUS ACTION FIGURE**
Zaius was an orangutan statesman who lived in the East Coast Ape City during the latter half of the 40th century. He was a leading member of the Ape National Assembly, and served a dual role in Ape society, as Minister of Science in charge of advancing ape knowledge, and also as Chief Defender of the Faith.

**GENERAL URSUS ACTION FIGURE**
General Ursus was an ape military commander who lived in the East Coast Ape City during the latter half of the 40th century.
<div class="flex-commerce-media-items">

<div class="commerce-media-item">...</div>

<div class="commerce-media-item">...</div>

</div>
Store items

.flex-commerce-media-items {
  display: flex;
}

.commerce-media-item {
  flex: 1;
}
Store items

```
<div class="commerce-media-item">
<div class="flex-media__figure">...
</div>
<div class="flex-media__content">...
</div>
</div>
```
.flex-commerce-media-items {
  display: flex;
}

.commerce-media-item {
  flex: 1;
}

Use the Web Inspector to add: .media--reverse, .media--center and .media--bottom to .flex-media
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ADD TO CART

GENERAL URSUS ACTION FIGURE
General Ursus was an ape military commander who lived in the East Coast Ape City during the latter half of the 40th century.

ADD TO CART
.flex-self-alt {
  align-self: flex-end;
}
Use the Web Inspector to add `align-items: flex-end;` to the `flex-media__figure` element.
Pinning buttons

Modules and components

© Stuff & Nonsense 2014
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**ADD TO CART**

---

**GENERAL URSUS ACTION FIGURE**

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**ADD TO CART**
Pinning buttons

<div class="flex-commerce-media-items">

<div class="commerce-media-item">...</div>
<div class="commerce-media-item">...</div>
<div class="commerce-media-item">...</div>
</div>
<div class="commerce-media-item">

<div class="flex-media__figure">...
</div>

<div class="flex-media__content">
<h3 class="item__header">...
</h3>

<p>...
</p>

<a href="" class="item__button">Buy now</a>
</div>

</div>
Pinning buttons

```
.flex-commerce-media-items {
    display : flex;
    flex-wrap : wrap;
}

.commerce-media-item {
    flex : 1;
}

.flex-media__content {
    display : flex;
    flex-direction : column;
}

.item__button {
    margin-top : auto;
}
```
Pinning buttons

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Zaius was an orangutan statesman who lived in the East Coast Ape City during the latter half of the 40th century. He was a leading member of the Ape National Assembly, and served a dual role in Ape society, as Minister of Science in charge of advancing ape knowledge, and also as Chief Defender of the Faith.

ADD TO CART

GENERAL URSUS ACTION FIGURE
General Ursus was an ape military commander who lived in the East Coast Ape City during the latter half of the 40th century. Eventually rising to the rank of General, Ursus became the highest ranking military official answering only to the Minister of Science, Dr. Zaius, and was possessed of an insane vision of conquest.

ADD TO CART
Figures & captions

Modules and components

© Stuff & Nonsense 2014
After his death in 1983, Ham’s body was turned over to the Armed Forces Institute of Pathology for necropsy. Following the necropsy, the plan was to have him stuffed and placed on display at the Smithsonian, following Soviet precedent with pioneering space dogs Belka and Strelka.
<figure class="flex-figure">
<img src="16x9.png" alt="">
<figcaption>...</figcaption>
</figure>
@media (min-width : 64em) {

.flex-figure {
  display: flex;
}

.flex-figure img {
  flex: 2 0 320px;
}

.flex-figure figcaption {
  flex: 1;
}
}

Use the Web Inspector to add: .figure--reverse, .figure--center, .figure--bottom and figure--alt to .flex-figure
After his death in 1983, Ham’s body was turned over to the Armed Forces Institute of Pathology for necropsy. Following the necropsy, the plan was to have him stuffed and placed on display at the Smithsonian, following Soviet precedent with pioneering space dogs Belka and Strelka.

Use the Web Inspector to add: .figure--reverse, .figure--center, .figure--bottom and figure--alt to .flex-figure
Before there were men, there were ‘Apes in Space’

WHO WERE THE APES?

CORNELIUS ACTION FIGURE
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<div class="flex-hero">
<div class="hero_inner">
<p class="hero_lead">...</p>
<a href="" class="hero_action">...</a>
</div>
</div>

</div>
@media (min-width: 37.5em) {

.flex-hero {

display: flex;
align-items: center;
justify-content: center;
height: auto;
min-height: 24em;
}
}

Use the Web Inspector to add .hero--top and .hero--bottom to .flex-hero
Before there were men, there were ‘Apes in Space’

WHO WERE THE APES?

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DR. MILO ACTION FIGURE
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor's ship and restored it. The three apes flew the ship and followed Taylor's path in reverse, leading them back to his time.
Before there were men, there were ‘Apes in Space’

WHO WERE THE APES?

CORNELIUS ACTION FIGURE
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the

ZIRA ACTION FIGURE
Dr. Zira was a chimpanzee psychologist and veterinarian, who specialised in the study of humans, in the movie series Planet of the Apes. Unique among the

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Use the Web Inspector to add: .hero--top and .hero--bottom to .flex-hero
Before there were men, there were ‘Apes in Space’

Use the Web Inspector to add: .hero--top and .hero--bottom to .flex-hero
Centered banner

Modules and components

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Before there were men, there were ‘Apes in Space’

WHO WERE THE APES?

**CORNELIUS ACTION FIGURE**
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.

**ZIRA ACTION FIGURE**
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<header role="banner" class="flex-banner">
  <div class="banner__logo">
    <img src="banner_logo.png" alt=""/>
  </div>
  <nav role="navigation">
    <ul class="banner__list">...
  </nav>
</header>
.banner__logo {
  text-align: center;
}

@media (min-width: 37.5em) {
  .banner__list {
    display: flex;
    justify-content: space-between;
  }
}
@media (min-width: 48em) {

.banner_list {
    transform: translateY(-130px);
}

#link-one { margin-right: 22px; }
#link-three { margin-left: auto; }
#link-four { margin-left: 22px; }
}
Before there were men, there were ‘Apes in Space’
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WHO WERE THE APES?

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Flexbox pagination

Modules and components

© Stuff & Nonsense 2014
Flexbox pagination

Medium screens without Flexbox

Medium screens display: flex;

ZAIUS

Zaius was an orangutan statesman who lived in the East Coast Ape City during the latter half of the 40th century.
<ul class="flex-pagination">
    <li><a href="">Previous</a></li>
    <li><a href="">1</a></li>
    <li><a href="">2</a></li>
    <li><a href="">3</a></li>
    <li><a href="">4</a></li>
    <li><a href="">5</a></li>
    <li><a href="">6</a></li>
    <li><a href="">Next</a></li>
</ul>
Flexbox pagination

```css
.flex-pagination {
  display: flex;
  flex-wrap: wrap;
  justify-content: space-between;
}

.flex-pagination li {
  order: 2;
  display: inline-block;
}
```
Flexbox pagination

.flex-pagination li:first-child {
  order: 0;
  width: 50%;
  text-align: left;
}

.flex-pagination li:last-child {
  order: 1;
  width: 50%;
  text-align: right;
}
Flexbox pagination

Medium screens without Flexbox

Medium screens display: flex;

Large screens display: flex;
Flexbox pagination

@media (min-width : 48em) {

.flex-pagination li { order : 0; }

.flex-pagination li:first-child {
  order : 0;
  width : auto;
  text-align : center; }

.flex-pagination li:last-child {
  order : 0;
  width : auto;
  text-align : center; }
}
Flexible forms

Modules and components

© Stuff & Nonsense 2014
Leave a comment for Apes in Space

Name

www

Email

.com

Go

LEAVE A COMMENT
Flexible forms

```html
<div class="flex-form">
  <span class="flex-form__item">Name</span>
  <input class="flex-form__input">
</div>

<div class="flex-form">
  <input class="flex-form__input">
  <a class="flex-form__item">Go</a>
</div>
```
<div class="flex-form">
<span class="flex-form__item">www</span>
<input class="flex-form__input"/>
<select class="flex-form__item">
  <option>.com</option>
  <option>.co.uk</option>
  <option>.uk</option>
</select>
</div>
.flex-form {
    display: flex;
    flex-wrap: wrap;
    justify-content: space-between;
}

.flex-form_input {
    flex: 1;
}
Leave a comment for Apes in Space

Name | www
--- | ---
Email | .com

LEAVE A COMMENT
<div class="flex-form-stretch">
<label>A long label that keeps expanding</label>
<input type="text">
<button>Search</button>
</div>
.flex-form-stretch {
  display: flex;
}

.flex-form-stretch input {
  flex: 1;
}
Example showing stretch flexbox forms variations
Part three

Responsive typography

CSS3 for responsive web design

© Stuff & Nonsense 2014
**Viewport width units**

- **vw**
  Equal to 1% of the width of the viewport

- **vh**
  Equal to 1% of the height of the viewport

- **vmin**
  Equal to either vw or vh, whichever is smaller

- **vmax**
  Opposite behaviour to vmin
Viewport width units

h1 {
    font-size: 32px;
    font-size: 3.2rem;
    font-size: 5.4vw;
}
Sticky Flexbox footer

Responsive typography

© Stuff & Nonsense 2014
Zaius

“You are right, I have always known about man. From the evidence, I believe his wisdom must walk hand and hand with his idiocy. His emotions must rule his brain. He must be a warlike creature who gives battle to everything around him, even himself.”

Posted on 20th November 2014 at 11:00am
Sticky footer

<body class="layout-full">

<div class="container">...
</div>

<footer role="contentinfo">...
</footer>

</body>
Sticky footer

.layout-full {
  display: flex;
  min-height: 100vh;
  flex-direction: column;
}

.layout-full .container {
  flex: 1;
}
Multiple column layout

Responsive typography

© Stuff & Nonsense 2014
Multiple column layout support

1. Supported with `-webkit-` prefix
2. Supported with `-moz-` prefix
CSS column advantages

Improves readability
Manages the measure
Reduces purely presentational markup
Apes (and monkeys) in space

Before humans went into space, several animals were launched into space, including numerous non-human primates, so that scientists could investigate the biological effects of space travel.

The United States launched flights containing primate cargo primarily between 1948-1961 with one flight in 1969 and one in 1985. France launched two monkey-carrying flights in 1967. The Soviet Union and Russia launched monkeys between 1983 and 1996. Most primates were anaesthetised before lift-off. Overall thirty-two monkeys flew in the space program; none flew more than once. Numerous back-up monkeys also went through the programs but never flew. Monkeys and apes from several species were used, including rhesus monkeys, cynomolgus monkeys, squirrel monkeys, pig-tailed macaques, and chimpanzees.

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Ham was born in July 1956 in Cameroon, captured by animal trappers and sent to Rare bird Farm in Miami, Florida. He was purchased by the United States Air Force and brought to Holloman Air Force Base in 1959. There were originally 40 chimpanzee flight candidates at Holloman. After evaluation the number of candidates was reduced to 18, then to 6, including Ham. Officially, Ham was known as No. 65 before his flight, and only renamed ‘Ham’ upon his successful return to Earth.
<div class="content-cols">
<div class="column column--one">...</div>
<div class="column column--two">...</div>
</div>
Column properties

Column count
Column width
Column span
Break after

Column gap
Column rule
Break before
<div class="content-cols">
  <figure>...</figure>
  <p>...</p>
</div>
@media (min-width : 48em) {

.content-cols {
-webkit-column-width : 24em;
-moz-column-width : 24em;
column-width : 24em;
}

}
Column count

@media (min-width : 48em) {
  .content-cols {
    -webkit-column-count : 2;
    -moz-column-count : 2;
    column-count : 2;
  }
}

}
Columns

@media (min-width : 48em) { 

.content-cols {
  -webkit-columns: 2 24em;
  -moz-columns: 2 24em;
  columns: 2 24em;
}

}
Apes (and monkeys) in space

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@media (min-width : 48em) {

.content-cols {
-webkit-column-gap : 44px;
-moz-column-gap : 44px;

**column-gap : 44px**;
}

}
Column rule

@media (min-width : 48em) {

.content-cols {

column-rule-width : 3px;
column-rule-style : double;
column-rule-color : #e3e2e0;
}

-moz- and -webkit- prefixes are also required
Apes (and monkeys) in space

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See also
Laika
Gordo (space monkey)
Soviet space dogs
Animals in space
Space exploration
Captain Simian & the Space Monkeys
Ham the Chimp
Space Chimps
Columnised lists

@media (min-width : 37.5em) {

.sidebar ul {
  column-count : 2;
  column-gap : 48px;
}
}

@media (min-width : 48em) {

.sidebar ul {
  column-count : 1;
}
}
"You’re so damned ugly."

Posted on 20th November 2014 at 12:00am

See also

Laika
Gordo (space monkey)
Soviet space dogs
Animals in space
Space exploration
Captain Simian & the Space Monkeys
Ham the Chimp
Space Chimps

Apes In Space examples by Stuff and Nonsense.
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Columnised captions

@media (min-width : 37.5em) {
  .cols-figure figcaption {
    column-count : 2;
    column-gap : 44px;
  }
}
Spanning columns

```html
<div class="columns">
  <p>...</p>
  <figure class="column_span">...</figure>
  <p>...</p>
  <h2 class="column_span">Ape-o-nauts?</h2>
  ...
</div>
```

Column-span is not supported in Firefox
Spanning columns

@media (min-width: 64em) {
  .cols_span {
    column-span: all;
  }
}

Multiple column layout
Apes (and monkeys) in space

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Ham the Astrochimp

Ham, also known as Ham the Chimp and Ham the Astrochimp, was a chimpanzee and the first Hominidae launched into space, on 31 January 1961, as part of America's space program. Ham's name is an acronym for the lab which prepared him for his historic mission — the Holloman Aerospace Medical Center, located at Holloman Air Force Base in New Mexico.

Ham was born in July 1956 in Cameroon, captured by animal trappers and sent to Rare bird Farm in Miami, Florida. He was purchased by the United States Air Force and brought to Holloman Air Force Base in 1959. There were originally 40 chimpanzee flight candidates at Holloman. After evaluation the number of candidates was reduced to 18, then to 6, including Ham. Officially, Ham was known as No. 65 before his flight, and only renamed 'Ham' upon his successful return to earth. This was reportedly because officials did not want the bad press that would come from the death of a 'named' chimpanzee if the mission were a failure. Among his handlers, No.65 had been known as Chop Chop Chang.

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.columns h2 {
  break-before: column;
  break-after: avoid-column;
}

Spanning breaks

Multiple column layout
CSS shapes

Responsive typography

© Stuff & Nonsense 2014
CSS shapes

Responsive design details

1Supported with -webkit- prefix
CSS shapes

```
.shapes_circle {
/* Content will wrap around a shape */
shape-outside : circle ( );
}
```

```
.shapes_circle {
/* Content contained within a shape. May not be implemented */
shape-inside : circle ( );
}
```
CSS shapes

- circle()
- ellipse()
- inset()
- polygon()

Each shape is defined by a set of points.
**Floated left or right**
A shapes element must be floated to enable content to wrap around it.

**Intrinsic size**
Intrinsic size (height and width dimensions) needed to establish a coordinate system on the element; the system will be used to position the shape functions’ points on the element.

The intrinsic size doesn’t have to be set using absolute values (e.g. pixels), you can use percentages, which means that the shaped element can be fully responsive.
CSS shapes

.shapes_circle {
  float: left;
  height: 200px;
  width: 200px;
  shape-outside: circle();
}

Responsive design details
Escape from the Planet of the Apes

Escape from the Planet of the Apes begins by establishing that three apes—Cornelius, Zira, and Dr. Milo—escaped the Earth's destruction by salvaging and repairing Taylor's spaceship and piloting it through the shock wave of Earth's destruction, sending the ship through a time warp.

The apes arrive on Earth in 1973, splashing down off the Pacific coast of the United States. They are transported to a secluded ward of the Los Angeles Zoo, under the observation of scientists Stephanie Branton and Lewis Dixon. The apes decide not to let the humans know that they can speak. They also agree not to let them know that Earth will be destroyed because of the Ape War. Later, the apes' power of speech is revealed when Zira becomes impatient during an experiment. Soon after, Milo is killed by a zoo gorilla who becomes agitated during an argument amongst the three chimpanzees. Lewis tries to communicate with the apes that he is peaceful and he wishes to treat them as equals, and Cornelius and Zira form a friendship with him and Dr. Branton.

A Presidential Commission is formed to investigate the return of Taylor's spaceship and determine how atypically intelligent apes came to be aboard it. The apes are brought before the Commission, where they publicly reveal their ability to speak. The council asks them about Taylor, but Cornelius and Zira tell them that they know nothing about him. They reveal that they came from the future and escaped Earth when war broke out.
.shapes_circle {
  float: left;
  height: 200px;
  width: 200px;
  shape-outside: circle ( );
  shape-margin: 22px;
}

The content-box and padding-box keywords are optional
CSS shapes

```css
.shapes_ellipse {
  float: left;
  height: 250px;
  width: 200px;
  shape-outside: ellipse();
}
```
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In this film, actor Roddy McDowall returns to the character of Cornelius which he played in the first film but not in the second. A new character of Dr. Milo is introduced played by actor Sal Mineo, who hoped his career would gain from the new project much as McDowall’s career had from participating in the first film.
Inset shape

```css
.shapes_inset {
  float: left;
  height: 200px;
  width: 300px;

  shape-outside: inset();
}
```
Escape from the Planet of the Apes

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.shapes_polygon {
    float: left;
    height: 200px;
    width: 250px;
    background: url(polygon.png) 100% 100%;
    clip-path: polygon(99.67px -3.00px, 117.08px 19.87px,...);
    shape-outside: polygon(99.67px -3.00px, 117.08px 19.87px...); }
}
Escape from the Planet of the Apes

Escape from the Planet of the Apes begins by establishing that three apes—Cornelius, Zira, and Dr. Milo—escaped the Earth's destruction by salvaging and repairing Taylor's spaceship and piloting it through the shock wave of Earth's destruction, sending the ship through a time warp.

The apes arrive on Earth in 1973, splashing down off the Pacific coast of the United States. They are transported to a secluded ward of the Los Angeles Zoo, under the observation of scientists Stephanie Branton and Lewis Dixon. The apes decide not to let the humans know that they can speak. They also agree not to let them know that Earth will be destroyed because of the Ape War. Later, the apes' power of speech is revealed when Zira becomes impatient during an experiment. Soon after, Milo is killed by a zoo gorilla who becomes agitated during an argument amongst the three chimpanzees. Lewis tries to communicate with the apes that he is peaceful and he wishes to treat them as equals, and Cornelius and Zira form a friendship with him and Dr. Branton.

A Presidential Commission is formed to investigate the return of Taylor's spaceship and determine how atypically intelligent apes came to be aboard it. The apes are brought before the Commission, where they publicly reveal their ability to speak. The council asks them about Taylor, but Cornelius and Zira tell them that they know nothing about him. They reveal that they came from the future and escaped Earth when war broke out.
Clip path property

Responsive design details

1 Supported with -webkit- prefix
Image shape

Browser uses the alpha channel of an image to extract a shape.

Shape is computed to be the path that encloses the area where the opacity of the specified image is greater than the ‘shape-image-threshold’ value.

When shape-image-threshold is not specified, the initial value to be considered is 0.5.
An image should be CORS (Cross-Origin Resource Sharing.)

Image has to be an image with an alpha channel, not a luminance channel. Luminance masks/images won’t be used and will have no effect.
.shapes_img {
  float: left;
  height: 200px;
  width: 250px;
  background: url(ship.png);
  shape-outside: url(ship-mask.png);
  shape-image-threshold: .5;
}
}
Escape from the Planet of the Apes

Escape from the Planet of the Apes begins by establishing that three apes—Cornelius, Zira, and Dr. Milo—escaped the Earth’s destruction by salvaging and repairing Taylor’s spaceship and piloting it through the shock wave of Earth’s destruction, sending the ship through a time warp.

The apes arrive on Earth in 1973, splashing down off the Pacific coast of the United States. They are transported to a secluded ward of the Los Angeles Zoo, under the observation of scientists Stephanie Branton and Lewis Dixon. The apes decide not to let the humans know that they can speak. They also agree not to let them know that Earth will be destroyed because of the Ape War. Later, the apes’ power of speech is revealed when Zira becomes impatient during an experiment. Soon after, Milo is killed by a zoo gorilla who becomes agitated during an argument amongst the three chimpanzees. Lewis tries to communicate with the apes that he is peaceful and he wishes to treat them as equals, and Cornelius and Zira form a friendship with him and Dr. Branton.

A Presidential Commission is formed to investigate the return of Taylor’s spaceship and determine how atypically intelligent apes came to be aboard it. The apes are brought before the Commission, where they publicly reveal their ability to speak. The council asks them about Taylor, but Cornelius and Zira tell them that they know nothing about him. They reveal that they came from the future and escaped Earth when war broke out.
Good-Looking Shapes Gallery

Posted on May 13, 2014 by hmuller

As a modern consumer of media, you rarely crack open a magazine or a pamphlet or anything that would be characterized as “printed”. Let me suggest that you take a walk on the wild side. The next time you are in a doctor’s office, or a supermarket checkout lane, or a library, thumb though a magazine. Most of the layouts you’ll find inside can also be found on the web, but not all of them. Layouts where content hugs the boundaries of illustrations are common in print and rare on the web. One of the reasons non-rectangular contour-hugging layouts are uncommon on the web is that they are difficult to produce.

They are not difficult to produce anymore.

The CSS Shapes specification is now in the final stages of standardization. This feature enables flowing content around geometric shapes (like circles and polygons), as well as around shapes defined by an image’s alpha channel. Shapes make it easy to produce the kinds of layouts you can find in print today, with all the added flexibility and power that
CSS Shapes Polyfill

Posted on May 12, 2014 by bear

The CSS Shapes feature is coming soon to a browser near you. The specification has reached Candidate Recommendation and implementations are maturing in the experimental builds of WebKit and Blink. In addition to brushing up on CSS Shapes over at A List Apart or here on the Adobe Web Platform Blog, you may also want to start thinking about browser compatibility. Even after these features become available in release versions of Chrome and Safari (fingers crossed for soon), they will not yet be available in other browsers.

The CSS Shapes Polyfill is one method of achieving consistent behavior across browsers. It is a bit of JavaScript that checks to see if a browser supports CSS Shapes; if not, it approximates the behavior with a series of floats. There are simpler approaches to compatibility, such as gracefully falling back to old float behavior, or using feature detection like Modernizr to tweak styles based on shapes support. However, the polyfill allows you to use shapes, even in non-supporting browsers, and utilizes native implementations where possible.
Responsive images

Responsive typography

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.banner_logo {
    background-image : url(assets/banner_logo.png);
    background-image :
     -webkit-image-set (url(banner_logo.png)  1x,
                          url(banner_logo@2x.png) 2x);
}
<img src="ursus.png" 
srcset=" Ursus@1.5x.png 1.5x, /* 300px */
ursus@2x.png 2x, /* 400px */
ursus@3x.png 3x" /* 600px */
width="200px"
alt="General Ursus">
Sizes attribute

```html
<img src="ursus.png"
srcset="
ursus-small.png 200w,
ursus-medium.png 400w,
ursus-large.png 600w"

sizes="(max-width : 30em) 100vw,
       (max-width : 48em) 50vw"

alt="General Ursus">
```
Resolution switching

```
<img src="ursus.png"
srcset="
  ursus-small.png 200w,
  ursus-medium.png 400w,
  ursus-large.png 600w,
  ursus@2x.png 200w 2x"
sizes="(max-width : 30em) 100vw,
       (max-width : 48em) 50vw"
alt="General Ursus">
```
Source set

Responsive images

1 Not enabled by default but can be enabled in about:config
The **picture element** and associated features are W3C standard HTML features that allow web developers to deliver an appropriate image to every user depending on a variety of conditions like screen size, viewport size, screen resolution, and more. Picturefill is a JavaScript file (or a polyfill to be more specific) that enables support for the **picture** element and associated features in browsers that do not yet support them, so you can start using them today!

Picturefill is developed and maintained by [filament group](https://filament.group), with help from the members of the Responsive Images Community Group and the developer community at large. For Picturefill version 2, a special thanks goes to [Shawn Jansepar](https://github.com/shawnjansepar) for all his work on polyfilling the new spec.

**Contributing, Bug Reports, and More Information**

For more information on the development of Picturefill, and how you can file bugs or contribute fixes, check out the the code project site on Github: [Picturefill on Github](https://github.com/fg sacrano/picturefill).

---

**Downloading Picturefill**

**Picturefill Version 2.1.0**

For native **picture** element support, you’ll want Picturefill version 2. These downloads include the [matchMedia polyfill](https://github.com/istvanpapp/match-media) for browsers that need it (like IE9).

- [picturefill.js](https://github.com/fg sacrano/picturefill) (development version, unminified code)
- [picturefill.min.js](https://github.com/fg sacrano/picturefill) (production version, minified code)
Part four
Responsive design details

CSS3 for responsive web design

© Stuff & Nonsense 2014
Border images

Responsive design details

© Stuff & Nonsense 2014
Border images

Supported with -webkit- prefix
Before there were men, there were ‘Apes in Space’

Who were the Apes?

Cornelius Action Figure

Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the name Caesar.
Before there were men, there were ‘Apes in Space’

Who were the Apes?

Cornelius Action Figure
Cornelius was a male chimpanzee from the films Planet of the Apes, Beneath the Planet of the Apes and Escape from the Planet of the Apes. He was the husband of Zira and the eventual father of Milo, who would grow up to take the place of Cornelius as the leader of the Apes. Unique among the Apes characters, Zira had hazel eyes.

Zira Action Figure
Dr. Zira was a chimpanzee psychologist and veterinarian, who specialised in the study of humans, in the movie series Planet of the Apes. Unique among the Apes characters, Zira had hazel eyes.

Dr. Milo Action Figure
Milo was an old friend of Zira and Cornelius who—on an expedition in the Forbidden Zone—discovered the wreckage of Taylor’s ship and restored it. The three apes flew the ship and followed Taylor’s path in reverse, leading them to a new planet where they encountered other apes and began a new society.
.border-image-slice: 33 43 33 43;
.border-image-source: url(hero_image.png);

.border-image: url(hero_image.png) 33 43 33 43;

.border-image: url(hero_image.png) 33 43;
.border-width: 33px 43px;
.html {
    border-image-repeat:
    repeat /* top */
    repeat /* right */
    repeat /* bottom */
    repeat /* left */
}

Border images

**Stretch**
Stretches slice areas to fill horizontally or vertically

**Repeat**
Repeats slice areas to fill horizontally or vertically

**Round**
Resizes a slice so that only whole pieces fit when repeating

**Space**
Repeats whole slice pieces and adds space to fill a border evenly
Border images

border-width: 33px;

border-width: 66px;

border-width: 99px;
Background blends

Responsive design details

© Stuff & Nonsense 2014
Background blends

Responsive design details
Mix blend mode
Specifies how an element will mix its colors with those of others it overlaps in the ‘background.’

Mixing and the isolation property

Background blend mode
Specifies how an element will mix the colour of its own background image and background color.
Mix blend mode

ZAIUS ACTION FIGURE
Zaius was an orangutan statesman who lived in the East Coast Ape City during the latter half of the 40th century. He was a leading member of the Ape National Assembly, and served a dual role in Ape society, as Minister of Science in charge of advancing ape knowledge, and also as Chief Defender of the Faith.

mix-blend-mode: normal
Mix blend mode

.flex-media_figure {
  mix-blend-mode: normal;
}

Responsive design details
Mix blend mode

Responsive design details

- normal
- color
- color-burn
- color-dodge
- difference
- exclusion
- hard-light
- hue
Mix blend mode

normal  color  lighten  luminosity

multiply  overlay  saturation  screen
Mix blend mode

.hero {
    background-color: #fbd996;
    
    mix-blend-mode: difference;

}
Before there were men, there were ‘Apes in Space’
Mix blend mode

.hero {
  position: relative;
}

.hero:before {
  content: "";
  position: absolute;
  top: 0; right: 0;
  bottom: 0; left: 0;
  background-color: #fbd996;
  mix-blend-mode: difference;
}
Before there were men, there were ‘Apes in Space’
Background blend mode

.hero_lead {
  mix-blend-mode: exclusion;
}

.hero_action {
  mix-blend-mode: hard-light;
}
.hero_inner {
  isolation: isolate;
}

Background blend mode

Responsive design details
Use the Web Inspector to change the mix-blend-mode property:

color  difference  lighten  saturation
color-burn  exclusion  luminosity  soft-light
color-dodge  hard-light  multiply  screen
darken  hue  overlay
.blend {
  background-color : #396d7f;
  background-image :
    url(bg-waves-front.png),
    url(bg-ship.png),
    url(bg-waves-back.png),
    url(bg-sky.png);

  background-blend-mode : difference;
}

Responsive design details
Use the Web Inspector to change the background-blend-mode property:

<table>
<thead>
<tr>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>color</td>
</tr>
<tr>
<td>color-burn</td>
</tr>
<tr>
<td>color-dodge</td>
</tr>
<tr>
<td>darken</td>
</tr>
<tr>
<td>difference</td>
</tr>
<tr>
<td>exclusion</td>
</tr>
<tr>
<td>hard-light</td>
</tr>
<tr>
<td>hue</td>
</tr>
<tr>
<td>lighten</td>
</tr>
<tr>
<td>luminosity</td>
</tr>
<tr>
<td>multiply</td>
</tr>
<tr>
<td>overlay</td>
</tr>
<tr>
<td>saturation</td>
</tr>
<tr>
<td>soft-light</td>
</tr>
<tr>
<td>screen</td>
</tr>
</tbody>
</table>
Use the Web Inspector to change the `background-blend-mode` property:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Mode</th>
<th>Mode</th>
<th>Mode</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>color</td>
<td>difference</td>
<td>lighten</td>
<td>saturation</td>
<td></td>
</tr>
<tr>
<td>color-burn</td>
<td>exclusion</td>
<td>luminosity</td>
<td>soft-light</td>
<td></td>
</tr>
<tr>
<td>color-dodge</td>
<td>hard-light</td>
<td>multiply</td>
<td>screen</td>
<td></td>
</tr>
<tr>
<td>darken</td>
<td>hue</td>
<td>overlay</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Use the Web Inspector to change the background-blend-mode property:

- color
- **color-burn**
- color-dodge
- darken
- difference
- exclusion
- hard-light
- hue
- lighten
- luminosity
- multiply
- overlay
- saturation
- soft-light
- screen
Use the Web Inspector to change the background-blend-mode property:

<table>
<thead>
<tr>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>color</td>
</tr>
<tr>
<td>color-burn</td>
</tr>
<tr>
<td><strong>color-dodge</strong></td>
</tr>
<tr>
<td>darken</td>
</tr>
<tr>
<td>difference</td>
</tr>
<tr>
<td>exclusion</td>
</tr>
<tr>
<td>hard-light</td>
</tr>
<tr>
<td>hue</td>
</tr>
<tr>
<td>lighten</td>
</tr>
<tr>
<td>luminosity</td>
</tr>
<tr>
<td>multiply</td>
</tr>
<tr>
<td>overlay</td>
</tr>
<tr>
<td>saturation</td>
</tr>
<tr>
<td>soft-light</td>
</tr>
<tr>
<td>screen</td>
</tr>
</tbody>
</table>
Use the Web Inspector to change the background-blend-mode property:

color
color-burn
color-dodge
darken
difference
  exclusion
  hard-light
  hue
lighten
luminosity
multiply
overlay
saturation
soft-light
screen
Use the Web Inspector to change the background-blend-mode property:

- color
- color-burn
- color-dodge
- darken
- difference
- exclusion
- hard-light
- hue
- lighten
- luminosity
- multiply
- overlay
- saturation
- soft-light
- screen
Use the Web Inspector to change the background-blend-mode property:

<table>
<thead>
<tr>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>color</td>
</tr>
<tr>
<td>color-burn</td>
</tr>
<tr>
<td>color-dodge</td>
</tr>
<tr>
<td>darken</td>
</tr>
<tr>
<td>difference</td>
</tr>
<tr>
<td>exclusion</td>
</tr>
<tr>
<td>hard-light</td>
</tr>
<tr>
<td>hue</td>
</tr>
<tr>
<td>lighten</td>
</tr>
<tr>
<td>luminosity</td>
</tr>
<tr>
<td>multiply</td>
</tr>
<tr>
<td>overlay</td>
</tr>
<tr>
<td>saturation</td>
</tr>
<tr>
<td>soft-light</td>
</tr>
<tr>
<td>screen</td>
</tr>
</tbody>
</table>
.blend {
    background-color : #396d7f;
    background-image :
        url(bg-waves-front.png),
        url(bg-ship.png),
        url(bg-waves-back.png),
        url(bg-sky.png);
    background-blend-mode : difference;
}
background-blend-mode: normal, normal, normal, luminosity;
Use the Web Inspector to change the background-blend-mode property:

color
color-burn
color-dodge
darken
difference
darken
darken
exclusion
hard-light
hue
lighten
luminosity
multiply
overlay
saturation
soft-light
screen
Background blend mode

.blend {
  background-image:
  url(bg-waves-front.png),
  url(bg-ship.png),
  url(bg-waves-back.png),
  -webkit-linear-gradient(...),
  url(bg-sky.png);

  ...
}

.blend {
  background-position: 5% 200px, 100% 20px, 2% 140px, 0px 0px, 100% -200px;
}

---

Responsive design details

---

Background blend mode
.blend {
  background-repeat:
  no-repeat,
  no-repeat,
  no-repeat,
  no-repeat,
  repeat-x,
  no-repeat;
}

Background blend mode

Responsive design details
background-blend-mode:

.normal,
.normal,
.normal,
.normal,
.normal,
.normal,
.color-dodge,
.screen;
}
Use the Web Inspector to change the background-blend-mode property:

- color
- color-burn
- color-dodge
- darken
- difference
- exclusion
- hard-light
- hue
- lighten
- luminosity
- multiply
- overlay
- saturation
- soft-light
- screen
Filter effects

Responsive design details

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Filter effects support

Responsive design details

1. Supported with -webkit- prefix
2. Support from Firefox 35 (January 2015)
<table>
<thead>
<tr>
<th>Filter properties</th>
<th>Responsive design details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blur</td>
<td>Invert</td>
</tr>
<tr>
<td>Drop-shadow</td>
<td>Saturate</td>
</tr>
<tr>
<td>Opacity</td>
<td>Grayscale</td>
</tr>
<tr>
<td>Brightness</td>
<td>Sepia</td>
</tr>
<tr>
<td>Contrast</td>
<td></td>
</tr>
<tr>
<td>Hue-rotate</td>
<td></td>
</tr>
</tbody>
</table>
.donthatetimvandamme {
  -webkit-filter: blur(5px);
  filter: blur(5px);
}
.donthatetimvandamme {
  -webkit-filter: opacity(.5);
  filter: opacity(.5), *
}
.donthatetimvandamme {
-webkit-filter: brightness(150%);
filter: brightness(150%); *
}
.donthatetimvandamme {
  -webkit-filter : contrast(150%);
  filter : contrast(150%); *
}
contrast(0);
contrast(25%);
contrast(50%);

Unfiltered – 100%
contrast(200%);
contrast(800%);
.donthatetimvandamme {
  -webkit-filter: hue-rotate(90deg);
  filter: hue-rotate(90deg); *
}
.donthatetimvandamme {
-webkit-filter : invert(100%);
filter : invert(100%); *
}
.donthatetimvandamme {
-webkit-filter: saturate(50%);
filter: saturate(50%); *
}
Unfiltered - 0

saturate(25%);

saturate(50%);

saturate(200%);

saturate(400%);

saturate(800%);
.donthatetimvandamme {
  -webkit-filter : grayscale(100%);
  filter : grayscale(100%); *
}
Combining filters

.donthatetimvandamme {
  -webkit-filter:
  contrast(1.5)
  drop-shadow(20px 20px 20px black);
  filter:
  contrast(1.5)
  drop-shadow(20px 20px 20px black);
}
CSS3 for responsive web design
Anything we missed?
Thank you
@malarkey
Bonus

Some more things

CSS3 for responsive web design

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Transforms

Some more things

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Transform support

supported with -webkit-prefix
Transforms

**Scale**
Stretches slice areas to fill horizontally or vertically

**Translate**
Moves an element horizontally and vertically

**Rotate**
Rotates an element

**Skew**
Distorts an element horizontally and vertically
.donthatetimvandamme {
    transform: scaleX(1.5);
}
.donthatetimvandamme {
  transform: scaleY(1.5);
}
.donthatetimvandamme {
  transform: scale(1.5);
}
.donthatetimvandamme {
  transform : translateX(50px);
}
.donthatetimvandamme {
transform: translateY(50px);}

.donthatetimvandamme {
    transform : translateY(-50%);
}
.donthatetimvandamme {
  transform: translate(50px -50px);
}
‘Escape from the Planet of the Apes’ is a 1971 science fiction film starring Roddy McDowall, Kim Hunter and Ricardo Montalbán. It’s the third of five films in the original Planet of the Apes series. The film was well received, getting the best reviews of the four Planet of the Apes sequels. Despite ‘Beneath the Planet of the Apes’ ending in it prevented the series from moving on, 20th Century Fox wanted a sequel, so producer Arthur P. Jacobs sent screenwriter Paul Dehn a telegram that read “Apes exist, Sequel required.” Production was rushed due to its low budget and was filmed in only six weeks. ‘Escape from the Planet of the Apes’ begins by establishing that three apes; Cornelius, Zira and Dr. Milo, escaped Earth’s destruction by salvaging and repairing the astronaut Taylor’s spaceship.
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‘Escape from the Planet of the Apes’ begins by establishing that three apes; Cornelius, Zira and Dr. Milo, escaped Earth’s destruction by salvaging and repairing the astronaut Taylor’s spaceship.
.donthatetimvandamme {
  transform: scale(1.5)
  translate(50px -50px)
  rotate(-90deg)
}
.donthatetimvandamme {
  transform-origin: 0 0; *
}
.donthatetimvandamme {
  transform-origin: 50% 0;  *
}
.donthatetimvandamme {
  transform-origin: 100% 0; *
}
.donthatetimvandamme {
  transform-origin: 0 100%; *
}
.donthatetimvandamme {
  transform-origin : 100% 100%; *
}
Transitions

Some more things

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Transition support

Some more things

1. Supported with -webkit- prefix
.donthatetimvandamme {
    transition-property : opacity; }

Transition property

Some more things
Transition properties

Backgrounds
Borders
Colours
Dimensions

Fonts
Opacity
Positions
Transforms

Some more things
.donthatetimvandamme {
  transition-property : opacity, color; }

.donthatetimvandamme {
  transition-property : all; }
Transition duration

```
.donthatetimvandamme {
  transition-duration : .15s; }
```
Transition delay

donthatetimvandamme {
  transition-delay: .1s;
}
Transition timing

donthatetimvandamme {
  transition-timing-function : linear;
}

Some more things
Transition timing

ease (default)
Transition timing

linear
Transition timing

Some more things

ease-out
.donthatetimvandamme {

  transition: opacity .15s .1s linear;
}

Transition shorthand

Some more things