Styling React Components

How to Escape from Selector Hell

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“My only beef with CSS is the entire idea of ‘selectors’. If we could get rid of those, [CSS would be] much more predictable [and] easy.”

- Pete Hunt, React Guru

Selectors

“Patterns used to select the element(s) you want to style.”

Selector:

```
div { ... }
```

Applies to:

```
<div>
    ...
</div>
```

Selector:

```
div p { ... }
```

Applies to:

```
<div>
    <p>
        ...
    </p>
</div>
```

“Wow, selectors seem really cool!”

Selectors: Extended

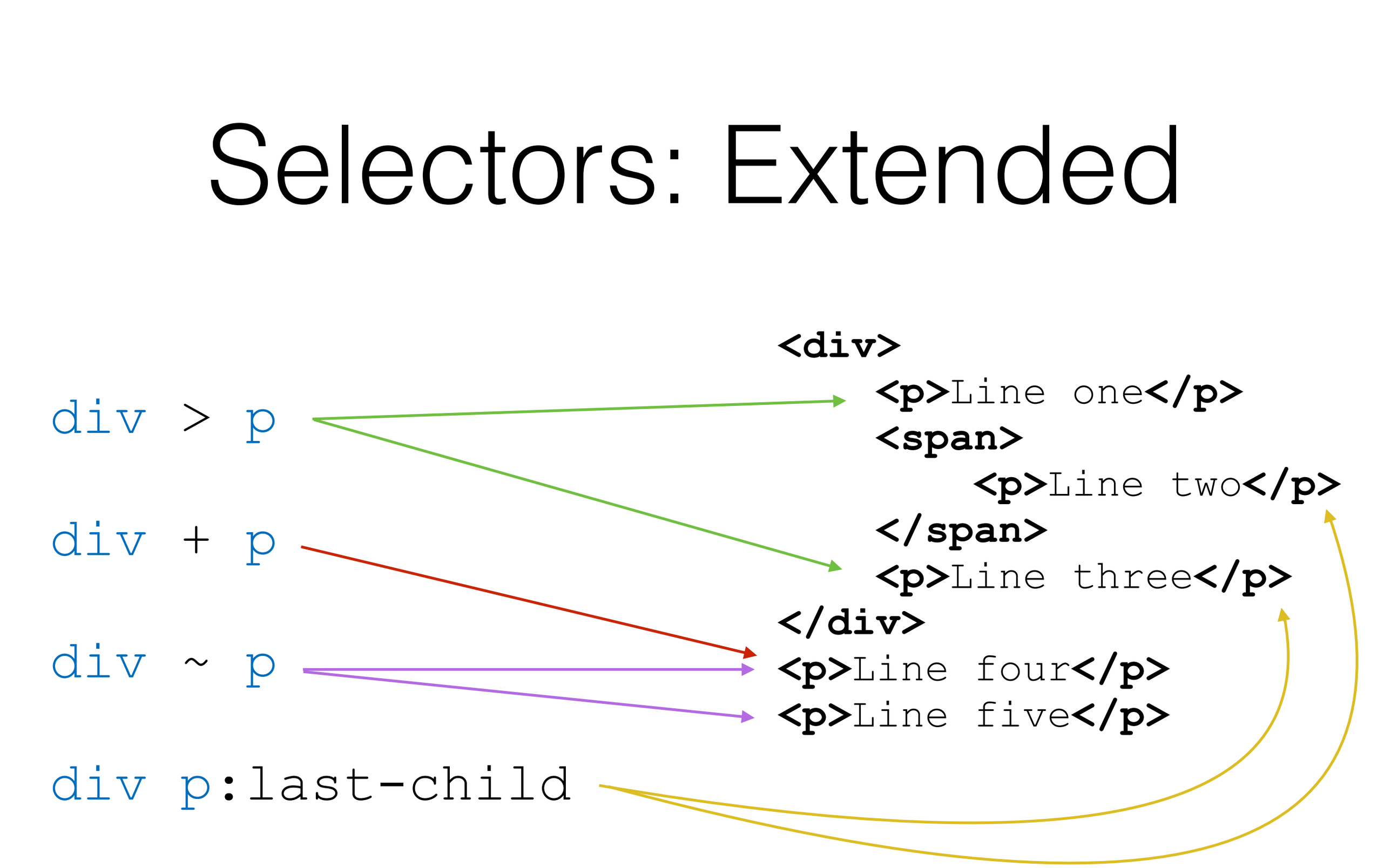
```
div > p

div + p

div ~ p

div p:last-child
```

```
<div>
    <p>Line one</p>
    <span>
        <p>Line two</p>
    </span>
    <p>Line three</p>
</div>
<p>Line four</p>
<p>Line five</p>
```



```
div.foo ~ div.bar:after > span:last-of-type + a:visited
```

“But Charlie, no one *really* does that!”

“But Charlie, no one I *work with* really does that!”

Selectors @ KA

```
.framework-thing .paragraph > ul:not(.thing-widget-radio)
```

```
input[type="radio"]:checked + span:before
```

```
.thing-content > .container .thing-content-view-root > .content-pane-inner .main-header > .topic-info > .topic-icon
```

1. *You don't know what will happen when…*
   you actually load your webpage.

2. *You don't know what will happen when…*
   you change **anything** in the DOM.

3. *You don't know what will happen when…*
   you change **anything** in your stylesheet.

Result:

Selectors make it very, very difficult to refactor.

Preprocessors

- Preprocessors *do* make CSS easier
  - Solve the “unpredictable cascading” problem
- What do they do wrong?

```
#main {
   width: 97%;

   p, div {
      font-size: 2em;
      a { font-weight: bold; }
   }

   pre { font-size: 3em; }
}
```

```
body {
    div.container {
        div.content {
            div.articles {
                & > div.post {
                    div.title {
                        h1  {
                            a  {
                            }
                        }
                    }
                }
```

“Wow, this is a mess! What can we do?”

- Audience member

Back to React

- Aiming for:
  - Modularity
  - Composability
  - Maintainability
- Stylesheets and selectors can poison your components

Solution #1: Stylesheets as Dependencies

- **Goal**: Make React component <—> stylesheet relationship explicit

```
// Applying a stylesheet
var css = require("style!css!./file.css");

// Chaining loaders
var css = require("style!css!less!./file.less");
```

- Implemented in Webpack (Browserify alternative)

Solution #2: Inlining

- **Goal**: Put *all* styling in your JavaScript file

```
var styles = $styleSheet.create({
  base: {
    width: 38,
    height: 38
  }
});
```

```
<span style={styles.base} />
```

Solution #3: RCSS

- **Goal**: Convert JS style objects into CSS classes

```
var button = {
  padding: '6px 12px',
};

// Add class to HTML page
RCSS.createClass(button);
```

```
<button className={button.className}>
```

Progress

- Joel moved react-components over to RCSS
- Charlie moved three Perseus widgets (+ some miscellaneous components) over to RCSS
- Scattered development taking place on our own fork (Khan/RCSS)

LESSons

1. Don’t be afraid to style from *within* your JavaScript file

2. Avoid adding deeply nested selectors (follow the *Inception Rule*)

3. Avoid mimicking the DOM

Result:

React components as they’re meant to be.