Navigating the Wild
Seas of ES6 Modules
August 2015

There be dragons!

The Node Dragon

Sonnet 130

The Dragon of Syntax

The Browser Dragon

The Dragon of Syntax

Creating a module

```
export function doIt() {}

export var meaningOfLife = 42;

function doThat() {}
```

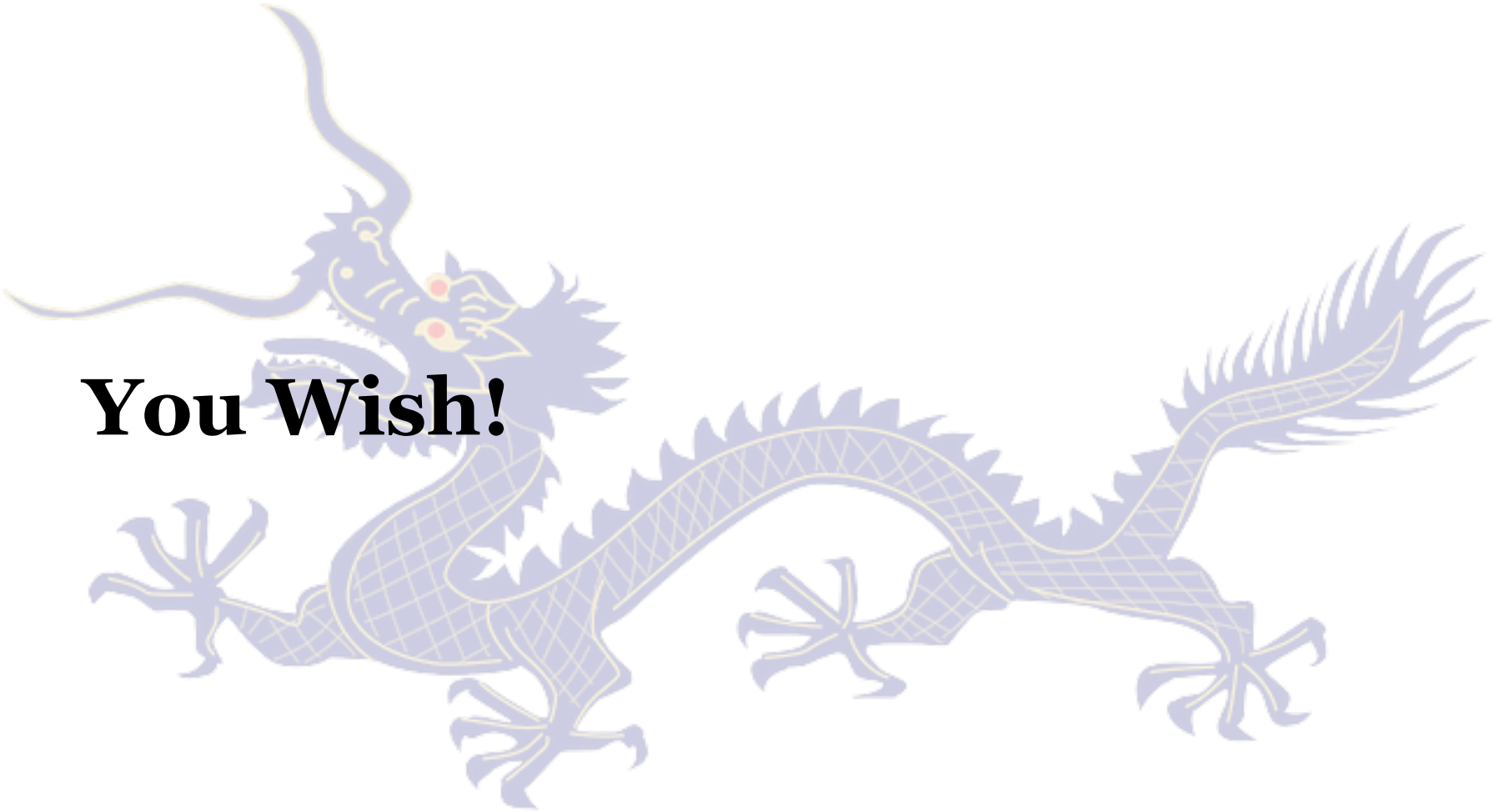
Using a module

a-module.js

```
export function doIt() {}

r meaningOfLife = 42

tion doThat() {}
```

Simple, right?

```
import {d          aningOfLife}
        from 'a-module';
```



You Wish!

TIMTOWTDI

There Is More Than One Way To Do It

```
function doIt() {}
var aVar = 42;
function doThat() {...}

export {doIt,
        aVar as meaningOfLife};
```

There Is More Than One Way To Do It

```
import * as lib from 'a-module';


lib.doIt();
lib.meaningOfLife;
```

AAAAARRRGGGGGHHH!!!

The dreaded `default`

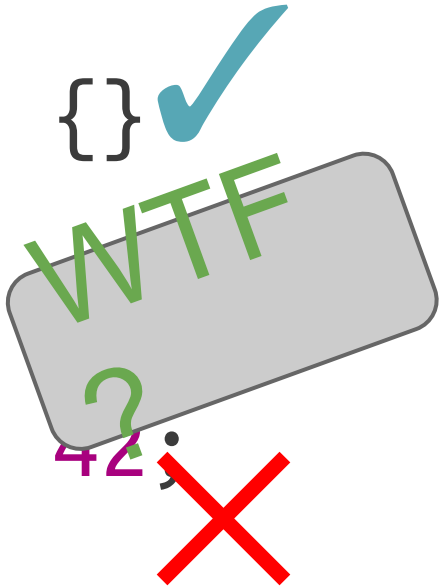
a-module.js

```
export default 42;
```

```
import meaningOfLife
        from 'a-module';
```

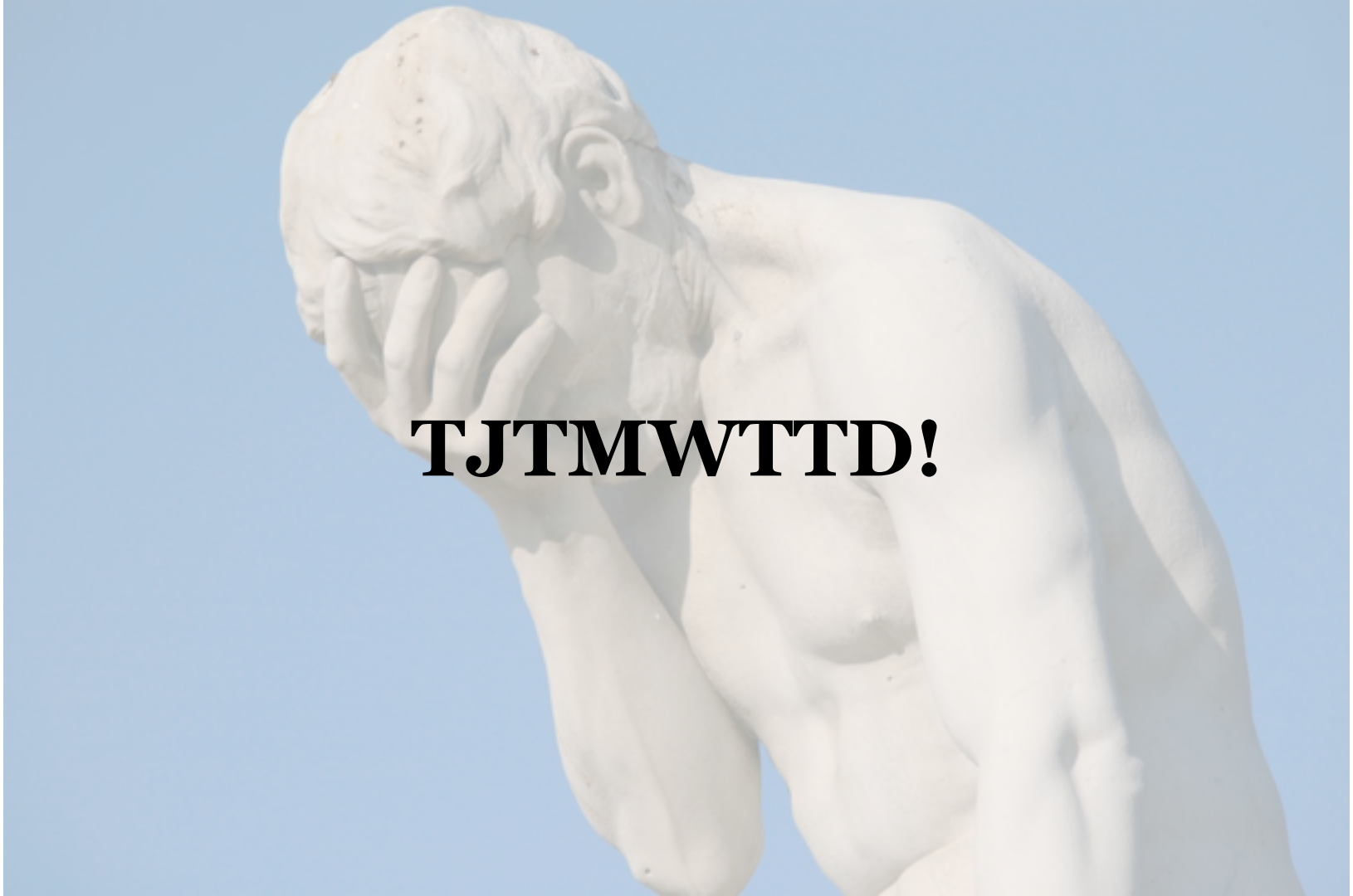
Confusion will be my epitaph

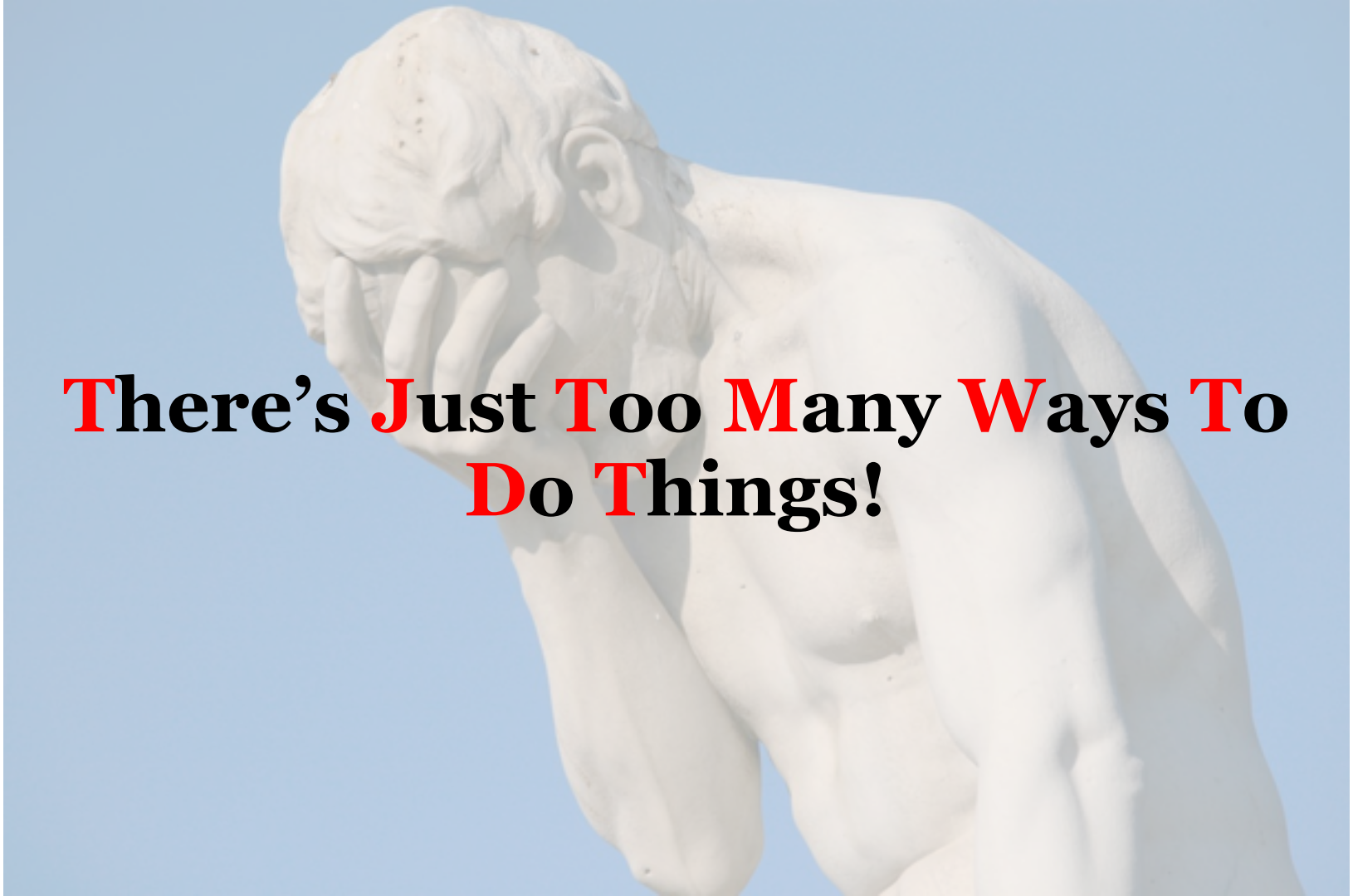
```
export default
       function doIt() {}

export default var
       meaningOfLife = 42;
```



`default` is just another import

```
import orOther, {something}
          from 'a-module';
import {something}, orOther
          from 'a-module';
import {something, default as orOther}
          from 'a-module';
```


TJTMWTTD!


There's Just Too Many Ways To
Do Things!

Why Did This Happen?

"A camel is a horse designed by a committee."

So?

Do we abandon ship?

No!

Prefer `default` over specific exports

```
export default function
            factory() {}
```

or...

```
export default {
    doIt() {}
    meaningOfLife: 42
}
```

Prefer `const` var bindings

```
export const meaningOfLife = 42;
```

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How do we use ES6 modules in Node?

Why would we do that?

Node has a *really* good module system

Node module

a-module.js

```
exports.doIt = function() {}
exports.meaningOfLife = 42;
```

So Why?

```
const {doIt, meaningOfLife} =
        require('a-module');
```

Two words: isomorphic code

So How?

Native ES6 modules: ongoing work

Till then…

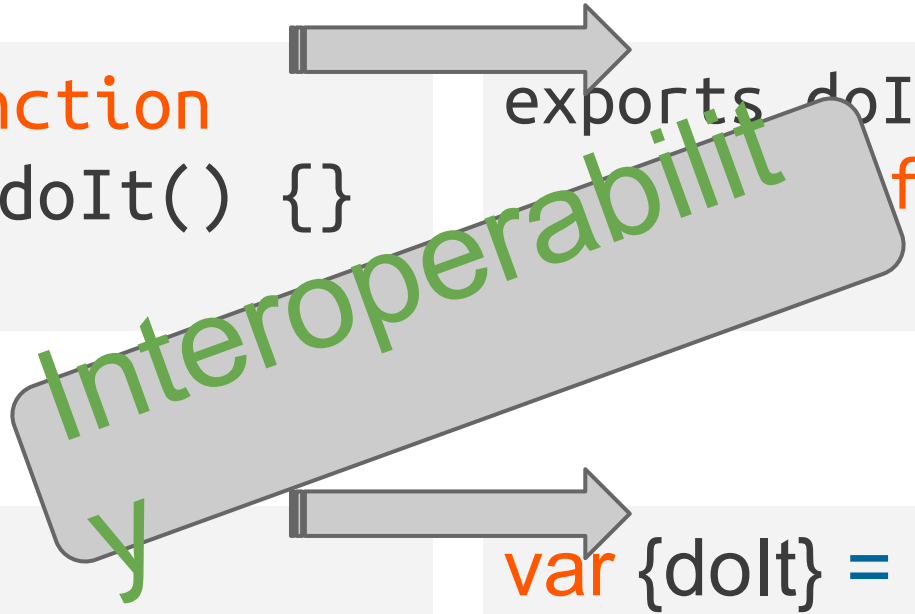
Babel!

```
require("babel/register");
```

Babel!

```
export function
          doIt() {}
```

```
exports doIt =
          function()
```



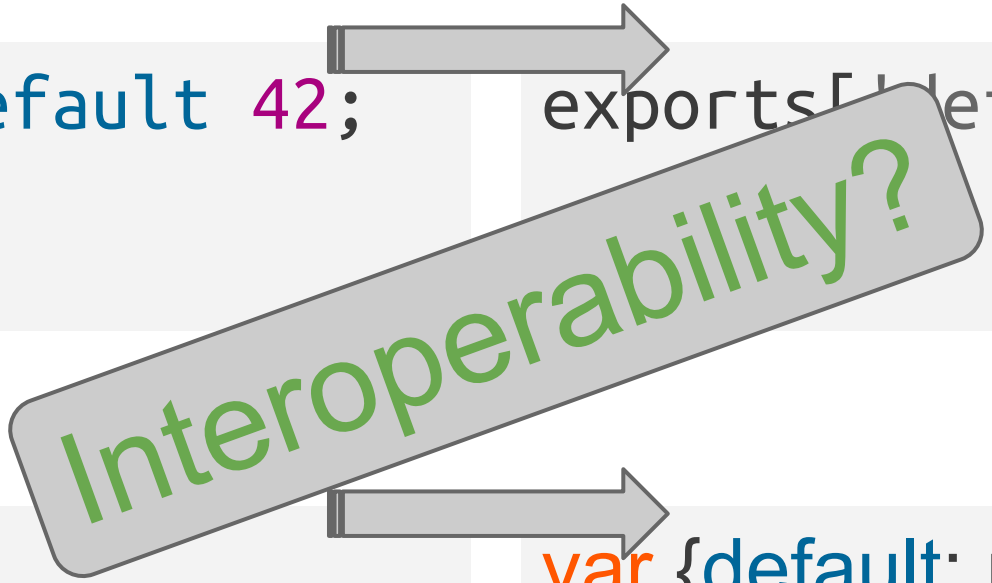

```
import {doIt}
          from 'a-
module'
```

```
var {doIt} =
 require('a-module')
```

default

```
export default 42;
```

```
exports['default'] =
```




```
import mol
                from 'a-
module'
```

```
var {default: mol} =
 require('a-module')
```

And this?

```
var aModule =
process.arch === 'wi32' ?
        requir dule-win32') :
        requir module')

//...
```

Huh? No dynamic loading of modules?

There is!

```
var moduleName =
      process.arch === 'win32' ?
            'a-module-win32' : 'a-module’

System.import(‘a-module-win32’).then(
          aModule => { /* ... */})
```

But it's async!

the node people and ES6 people are currently discussing how to resolve this

So?

Do we abandon ship?

No!

Do this

- Use `import`/`export` when you can
- Fall back to `require` if you must

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The fiercest dragon of them all

A whole talk unto itself

But maybe a glimpse?

This is illegal

```
<script>
    import {doIt} from 'a-module';
  // …
</script>
```

You have to do this

```
<script>
    System.import('a-module').then(
        ({doIt}) =>
            // ...
    );
</script>
```

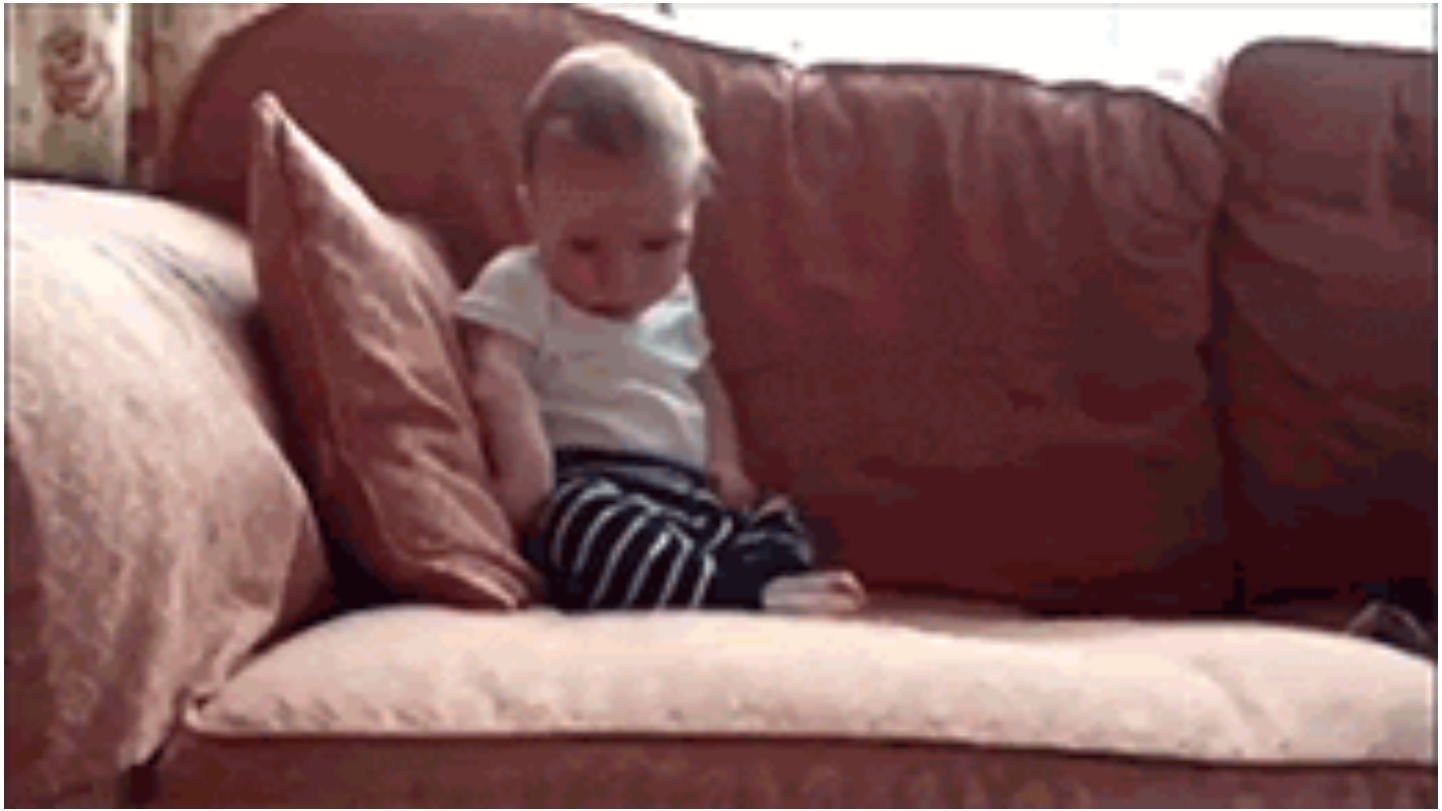
Or…

```
<script type=module>
    import {doIt} from 'a-module';
  // …
</script>
```

Or maybe…

```
<module>
    import {doIt} from 'a-module';
  // …
</module>
```

Who knows? The spec hasn’t been updated in 10 months!



Extra! Extra! Read all about it!

Modules have their own scope

So forget about this

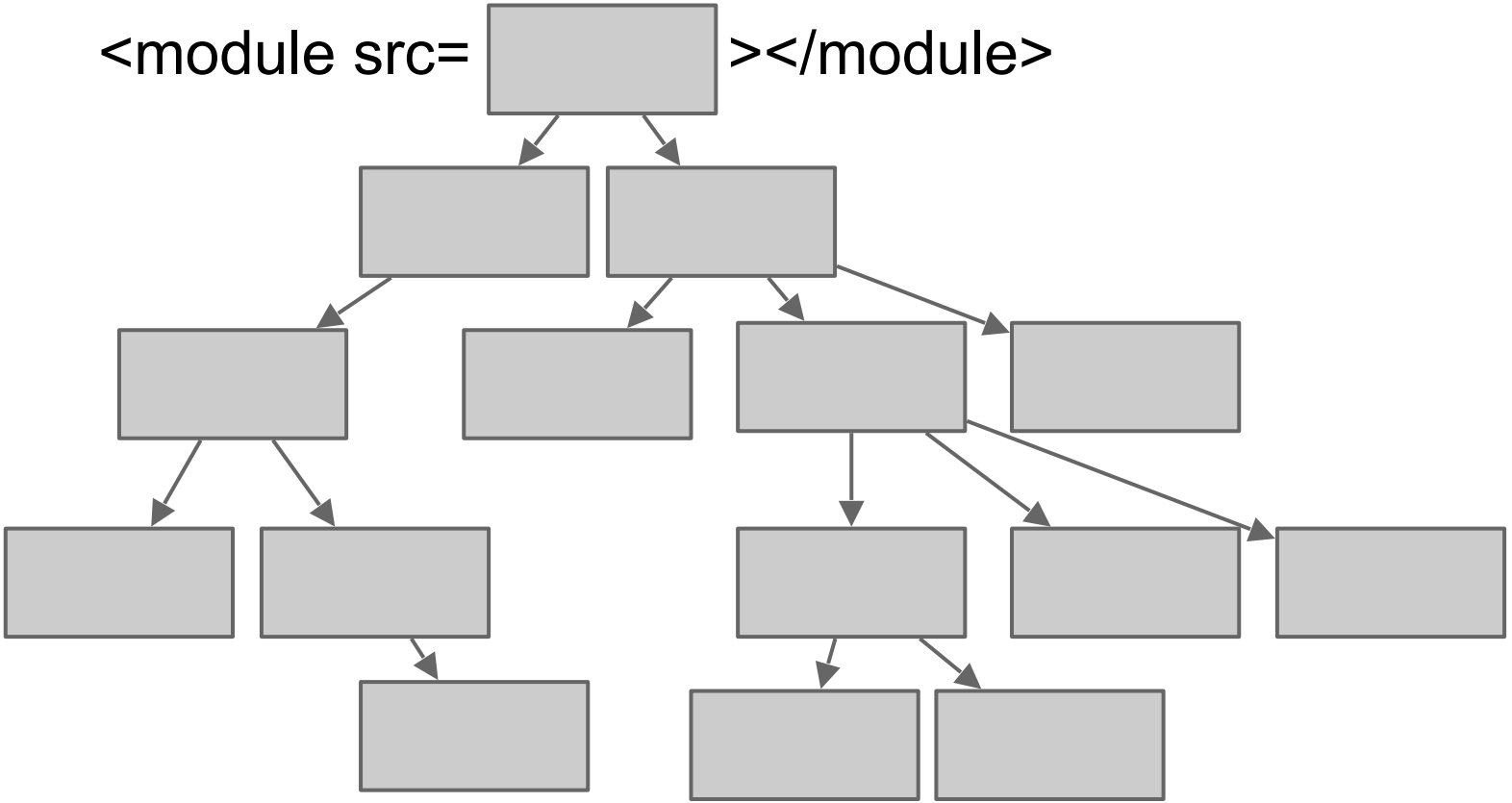
```
<module>
     import {doIt} from 'a-module';
   // …
</module>
<div onclick=doit>...</div>
```

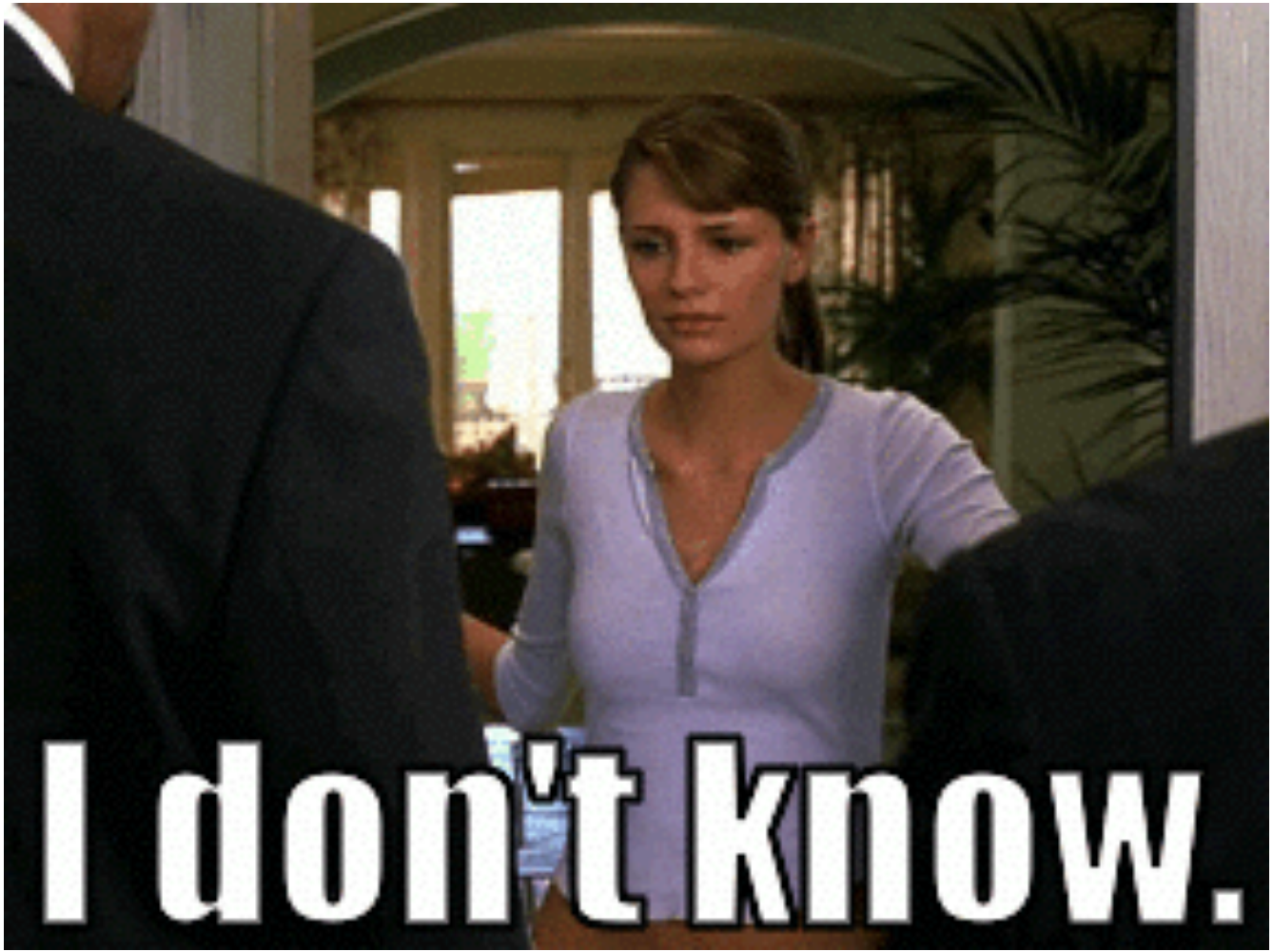
Interoperability with AMD

- e.g. RequireJS?

- Maybe. There's *another* spec, the Loader spec, which is dealing with this
- Work in progress. Not yet close to ready.
- And has interoperability problems with Node

And how would this work efficiently?




I don't know.

So?

Do we abandon ship?

No!

The One-Two Punch

Punch #1

We've already seen it (Babel)

```
export function
       doIt() {}
```

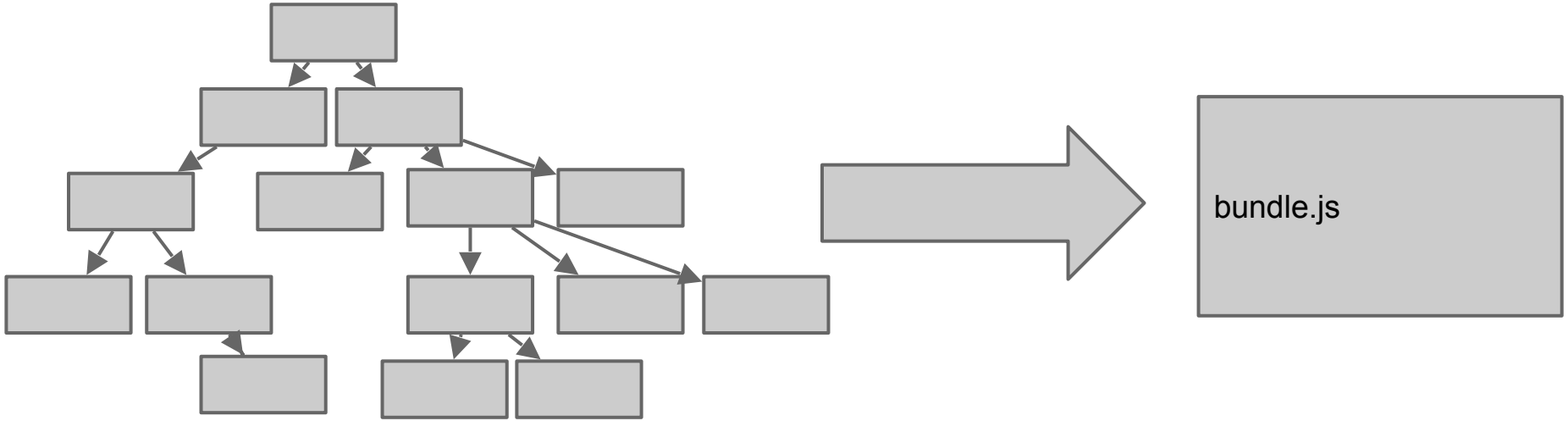
```
exports.doIt =
     function() {}
```

```
import {doIt}
    from 'a-module'
```

```
var {doIt} =
 require('a-module')
```

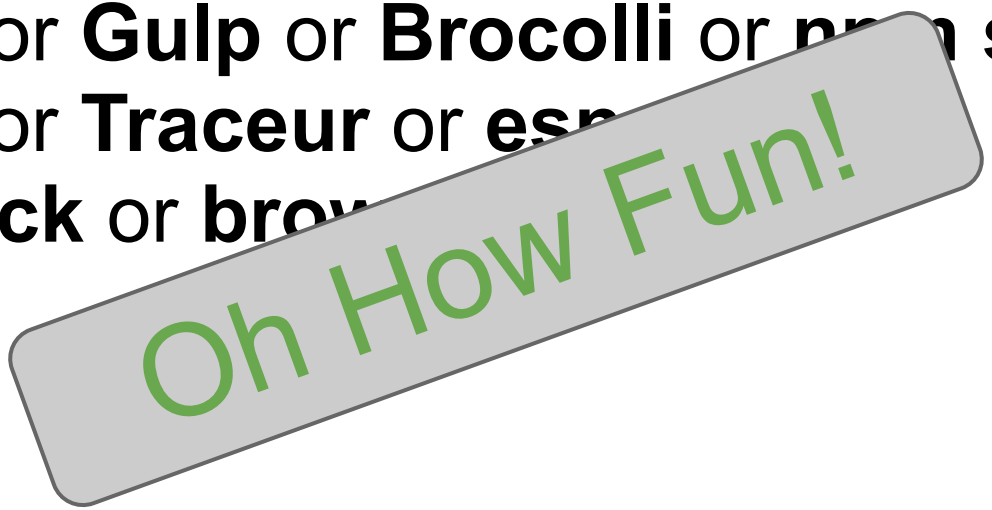
Punch #2

Bundling CommonJS modules



Use…

- **Grunt** or **Gulp** or **Brocolli** or **npm scripts**
- **Babel** or **Traceur** or **esp**
- **webpack** or **brow**



But if you do all this, you get a very sweet carrot

Isomorphic code between Node and the Browser

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Sonnet 130

My mistress' eyes are nothing like the sun;
Coral is far more red than her lips' red;
If snow be white, why then her breasts are dun;
If hairs be wires, black wires grow on her head.
I have seen roses damasked, red and white,
But no such roses see I in her cheeks;
And in some perfumes is there more delight
Than in the breath that from my mistress reeks.
I love to hear her speak, yet well I know
That music hath a far more pleasing sound;
I grant I never saw a goddess go;
My mistress when she walks treads on the ground.
And yet, by heaven, I think my love as rare
As any she belied with false compare.

So Go…

...and love ES6 modules like you love your beloved:

it’s never perfect,
but it’s still wonderful,
and it gets better over time

Thank You

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