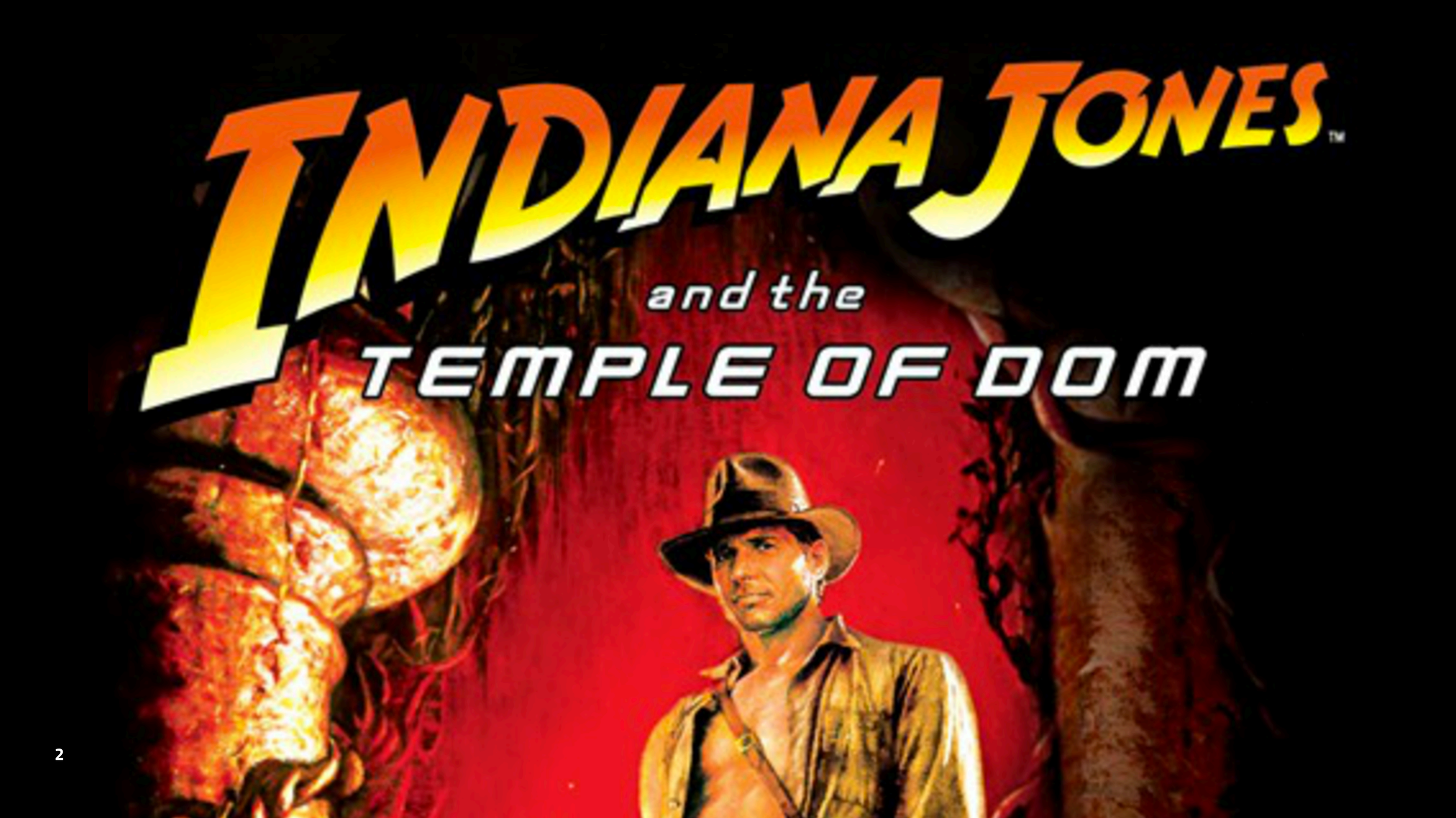
DOM Events

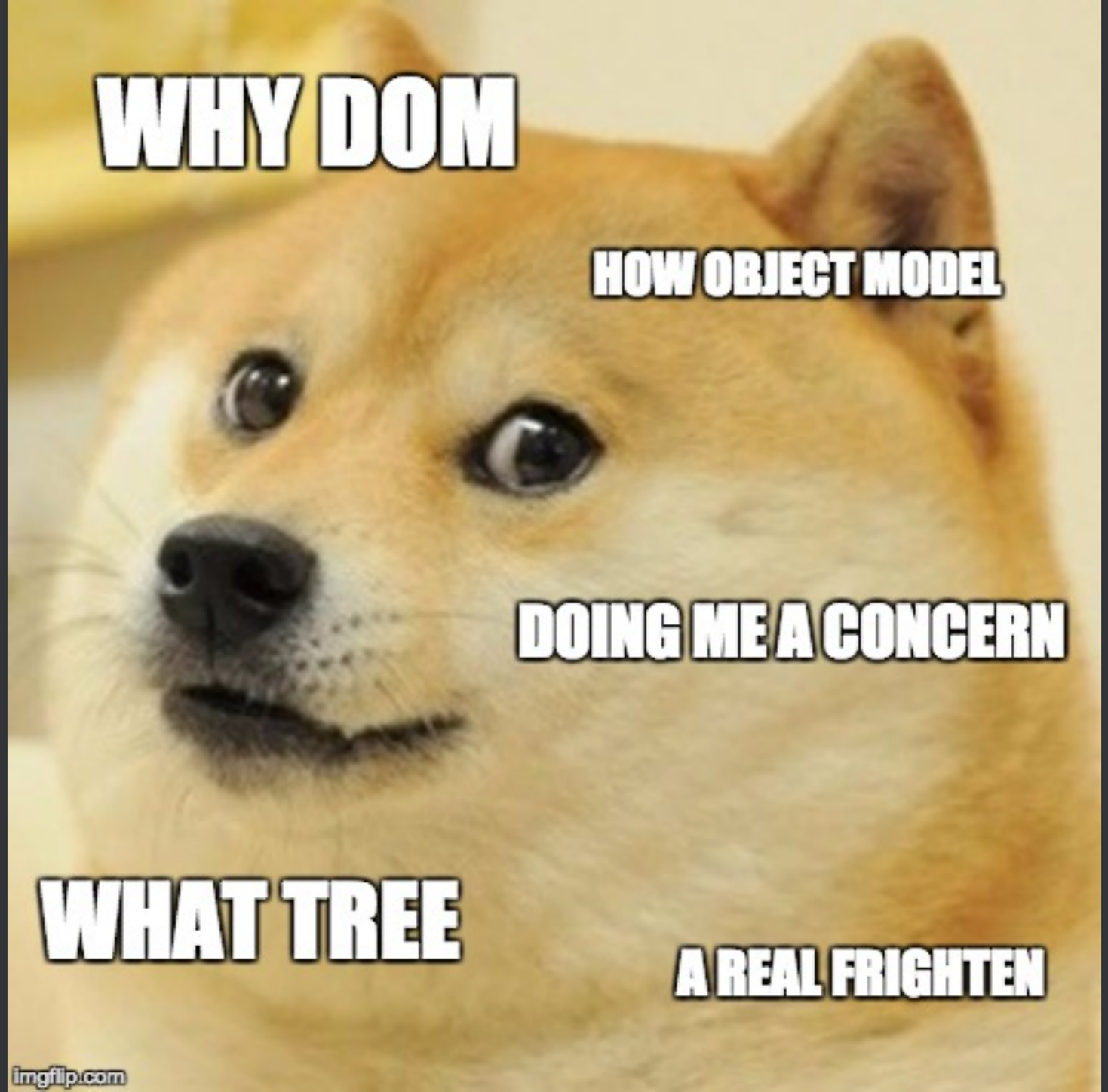
featuring...


INDIANA JONES™
and the
TEMPLE OF DOOM

Objectives

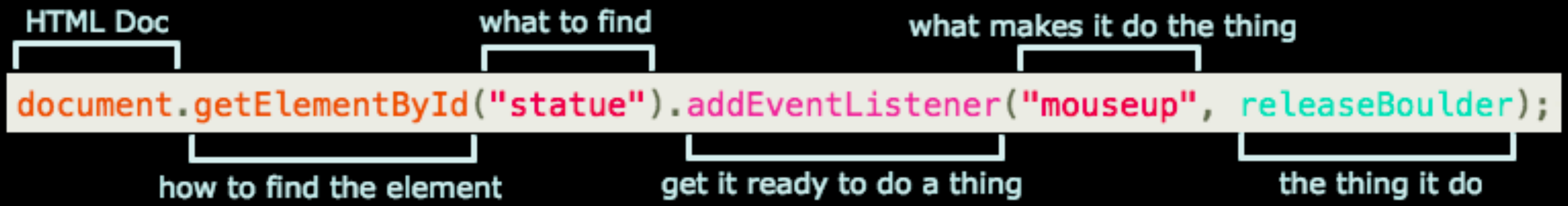
By the end of this lesson you should be able to:

- Identify event *targets*, event *listeners*, and event *callbacks*
- Attach *event listeners* to DOM elements
- Use *callbacks* with methods like *addEventListener()*
- Explain event bubbling
- Explain the difference between *this* and *event.target* in callbacks


WHY DOM
HOW OBJECT MODEL
DOING ME A CONCERN
WHAT TREE
A REAL FRIGHTEN
imgflip.com

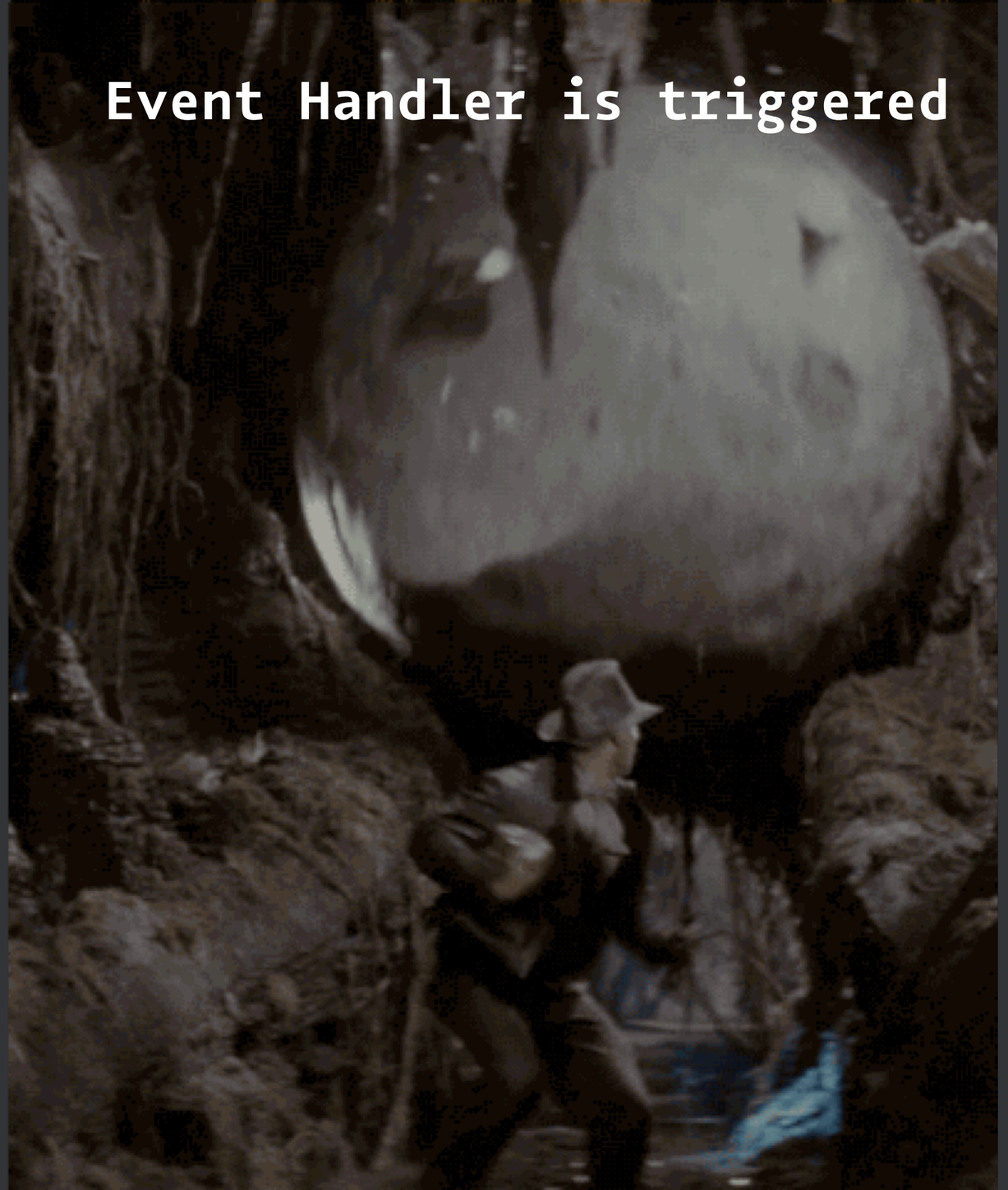
Rather than thinking about the DOM as an abstract concept where things happen inexplicably in some invisible place, think of it as setting booby traps in your fortress of HTML/JS solitude.

Setting the Trap




Event Listener -->


DOM Event-->


Event Handler is triggered

```
document.getElementById("gun")
```

```
document.getElementById(“tile”).addEventListener(“click”, shootArrow)
```

Every DOM element also has its own **`addEventListener()`** method, that can listen for common events

Event Types

- Mouse Events
- Keyboard Events
- Drag and Drop Events
- Focus Events

Paired research: Event types

How to add/remove

```
// doStuff is a "callback"
var doStuff = function() {
  alert("PARTY TIME");
}
myElement.addEventListener("click", doStuff);

// Or just anonymous function
myElement.addEventListener("click", function(){
  alert("COWABUNGA")
});

myElement.removeEventListener("click");
// Clicky no more worky
```


Hey Girl,
I wish I were an
Event Listener...
...so you would give me a callback

Event Object

Callback functions can take an *event object* as a parameter. This object represents most everything we need to know about the event that occured. For example we can find out the *target* of the event (the DOM element that triggered the event)

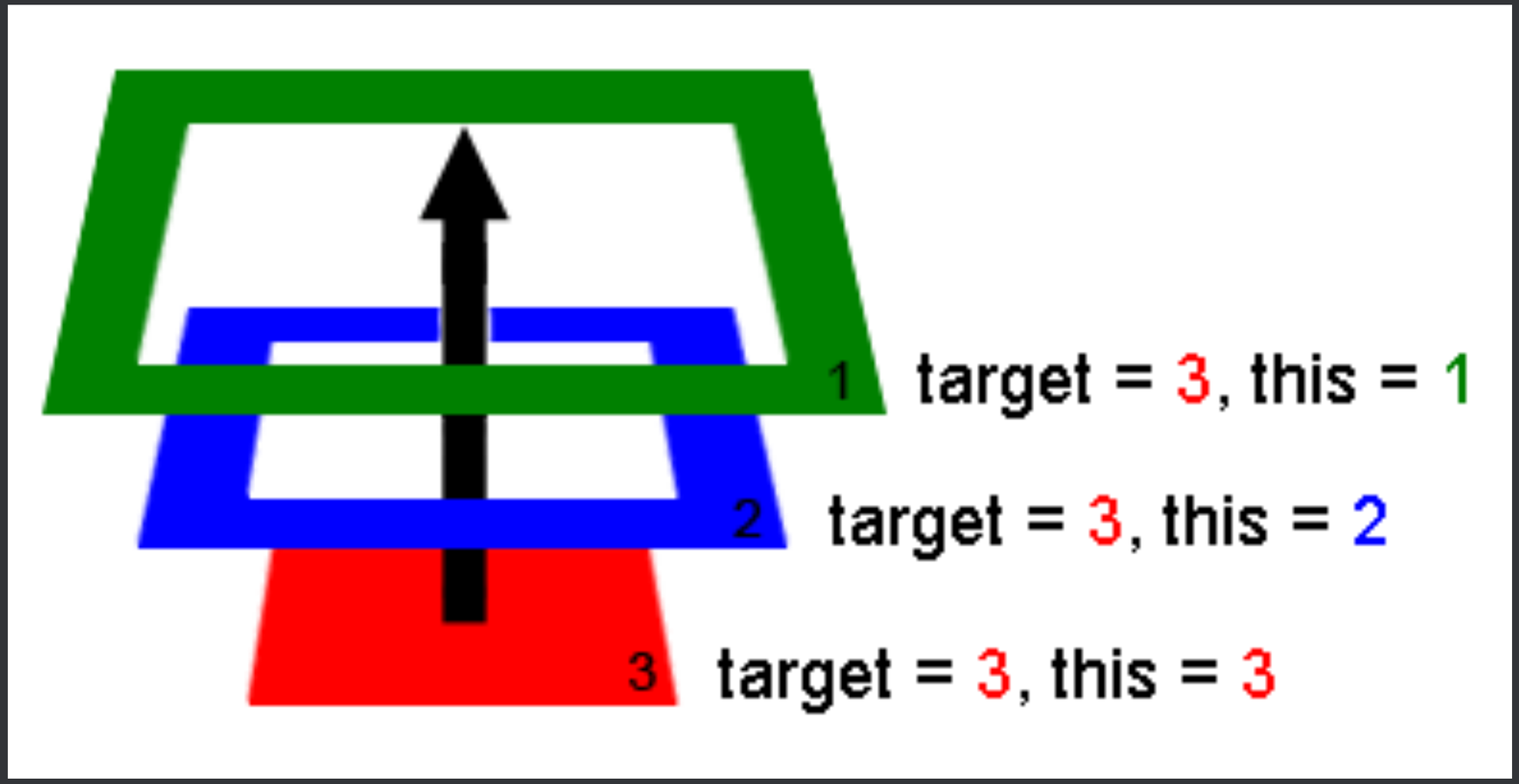
```
var logTarget = function(event) {
  console.log(event.target);  // Log it
}

var ele = document.getElementById("someElement"); // Grab my element
ele.addEventListener("click", logTarget); // Add listener/callback
```

Event Bubbling

We can place an event listener on a parent element that captures the events from all the children. The event "bubbles up" from the child (*event.target*) to the parent with the attached listener (*this*).

Codepen example

Event Bubbling



Best Practice: Wait for the DOM to finish loading

The DOMContentLoaded hook is itself implemented with an event listener. Ensure you place *ALL* your javascript within this block, including your various event listeners.

```
document.addEventListener("DOMContentLoaded", function() {
  // ALL JS IN HERE
  var img = document.querySelector('img');
  img.addEventListener('mouseover', imgLog);
});
```

Review Objectives

- Identify event *targets*, event *listeners*, and event *callbacks*
- Attach *event listeners* to DOM elements
- Use *callbacks* with methods like *addEventListener()*
- Explain event bubbling
- Explain the difference between *this* and *event.target* in callbacks