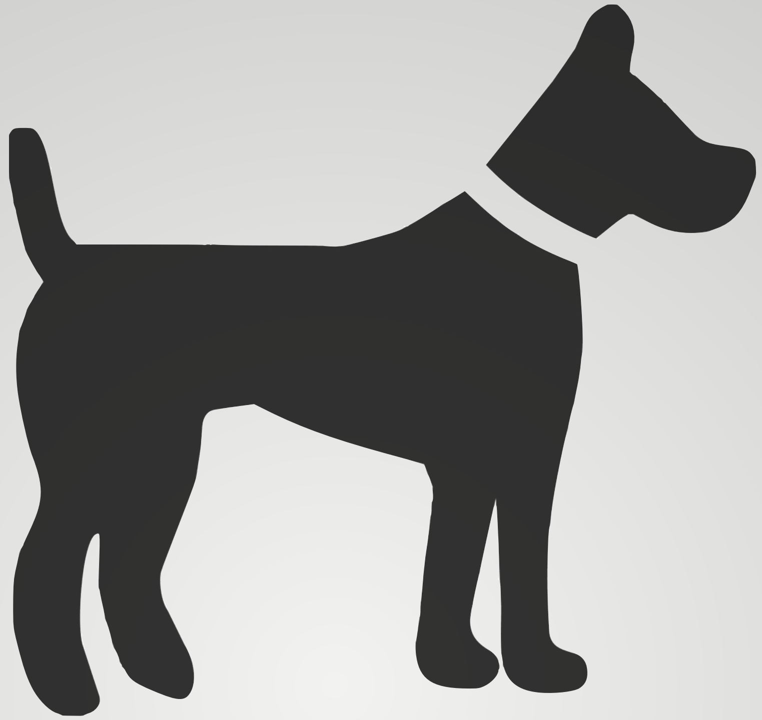
TYRANNOSAURUS

RX



REACTIVE EXTENSIONS

C# ◉ JS ◉ Java ◉

Python ◉
Ruby ◉
C++ ◉
Haskell ◉

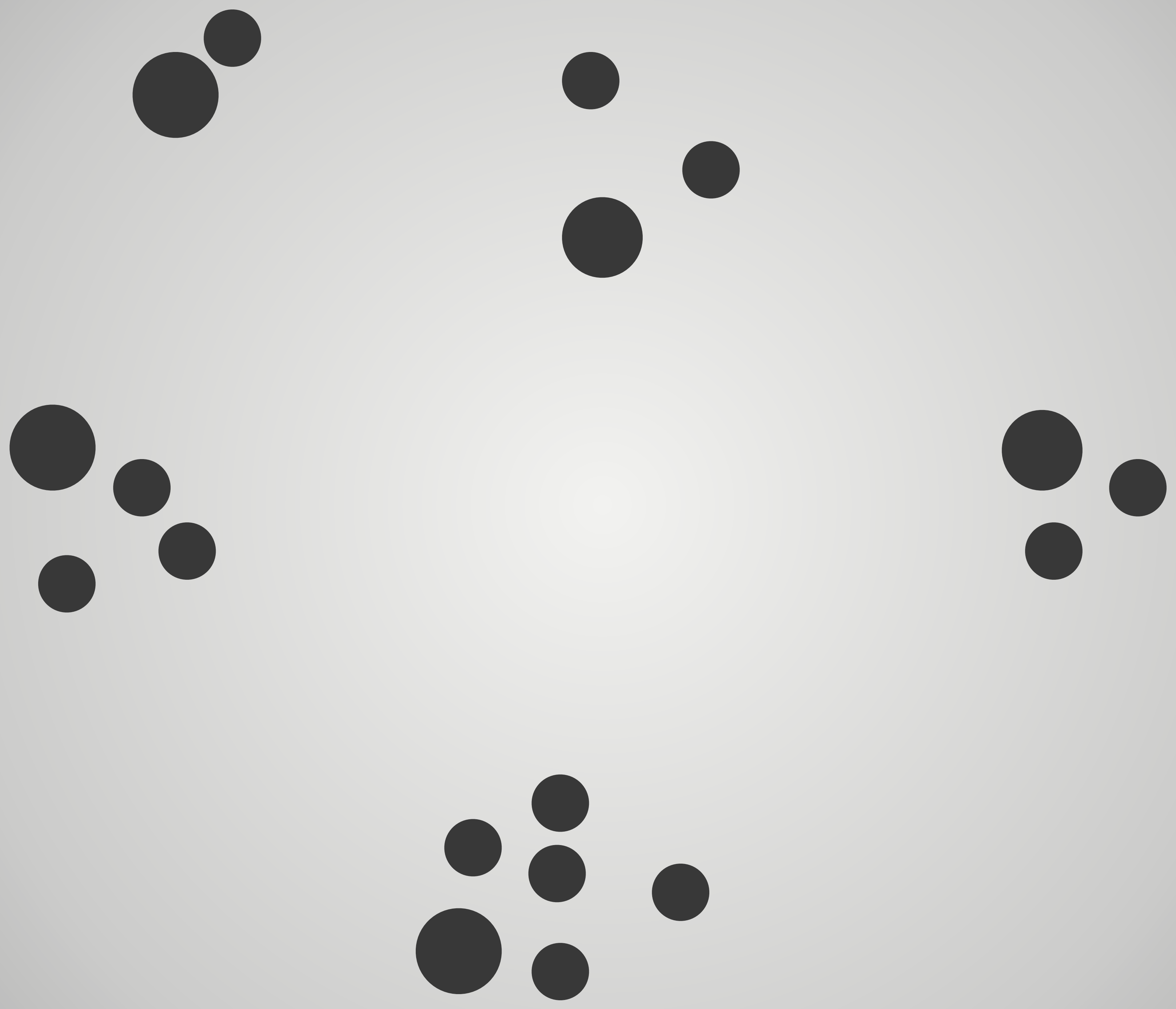
◉ Clojure
◉ Groovy
◉ Scala
◉ Kotlin

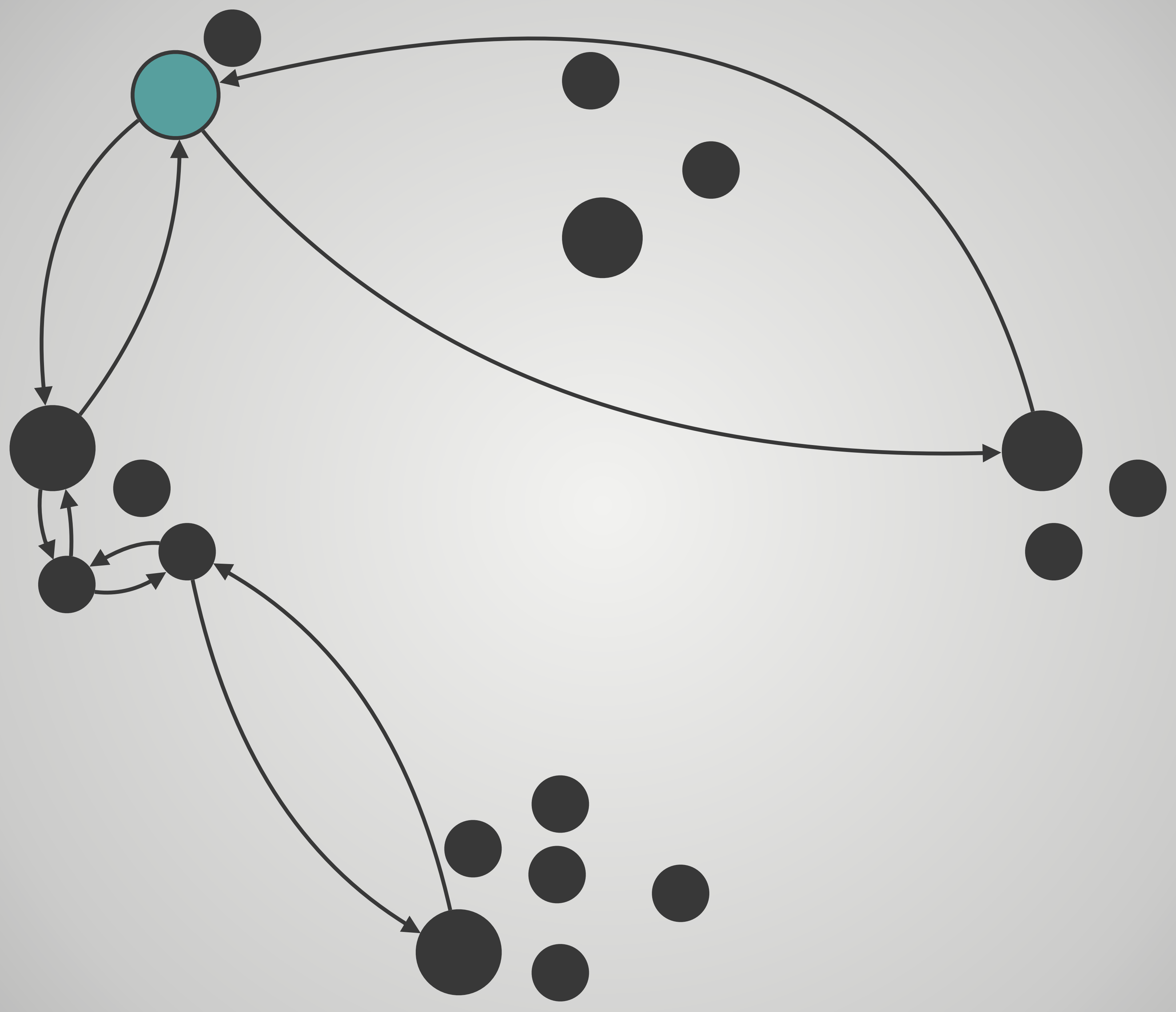
```
var list = [1,2,3,4,5,6,7];

for(var i = 0; i < list.length; i++) {
    console.log(list[i])
}
```

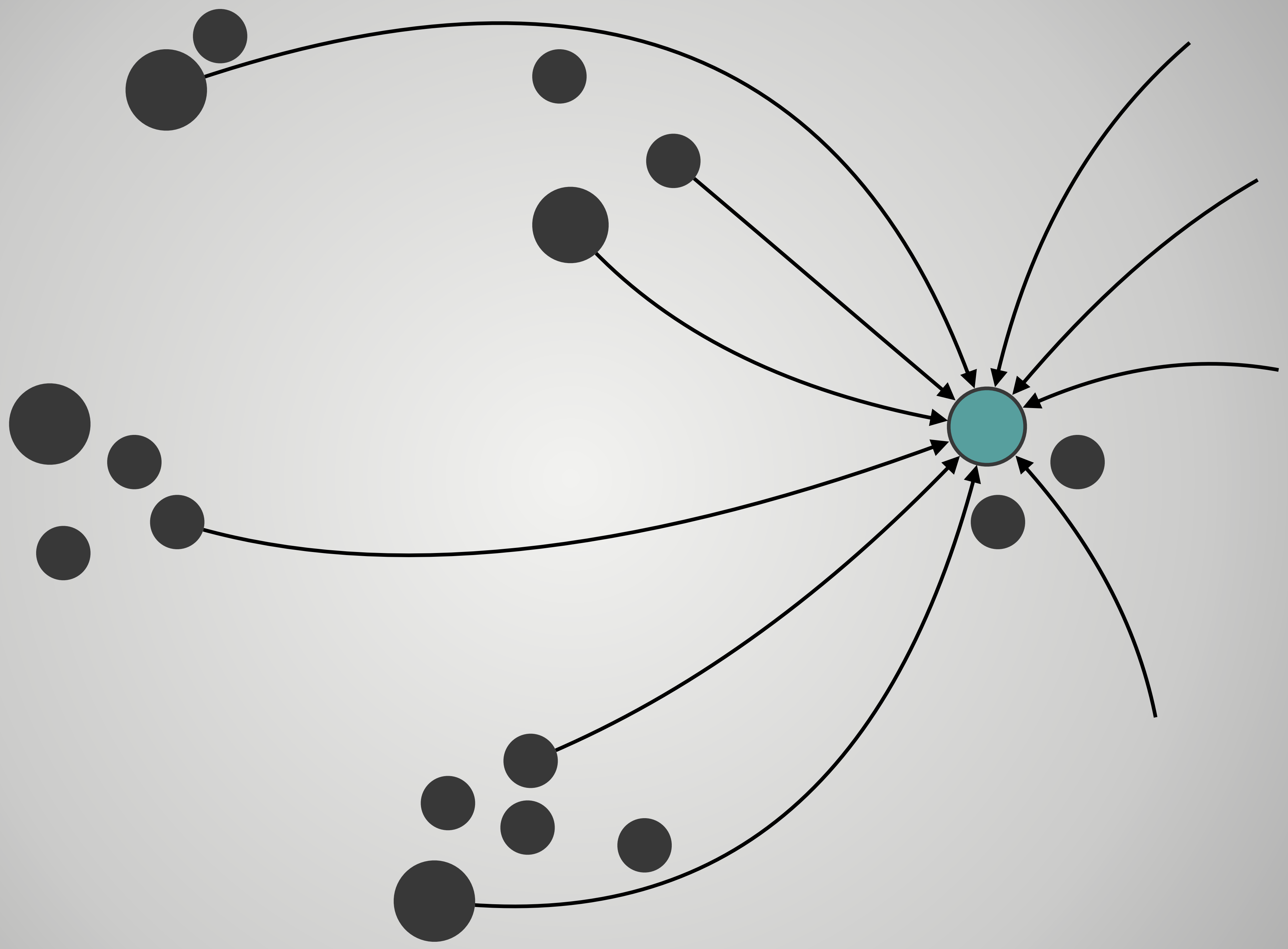
```
var list = [1,2,3,4,5,6,7];

list.forEach(function(item) {
  console.log(list[i])
})
```

```
var list = [Promise(), Promise()…];

list.forEach(function(item) {
  console.log(list[i].get())
})
```

TIME RUINS EVERYTHING







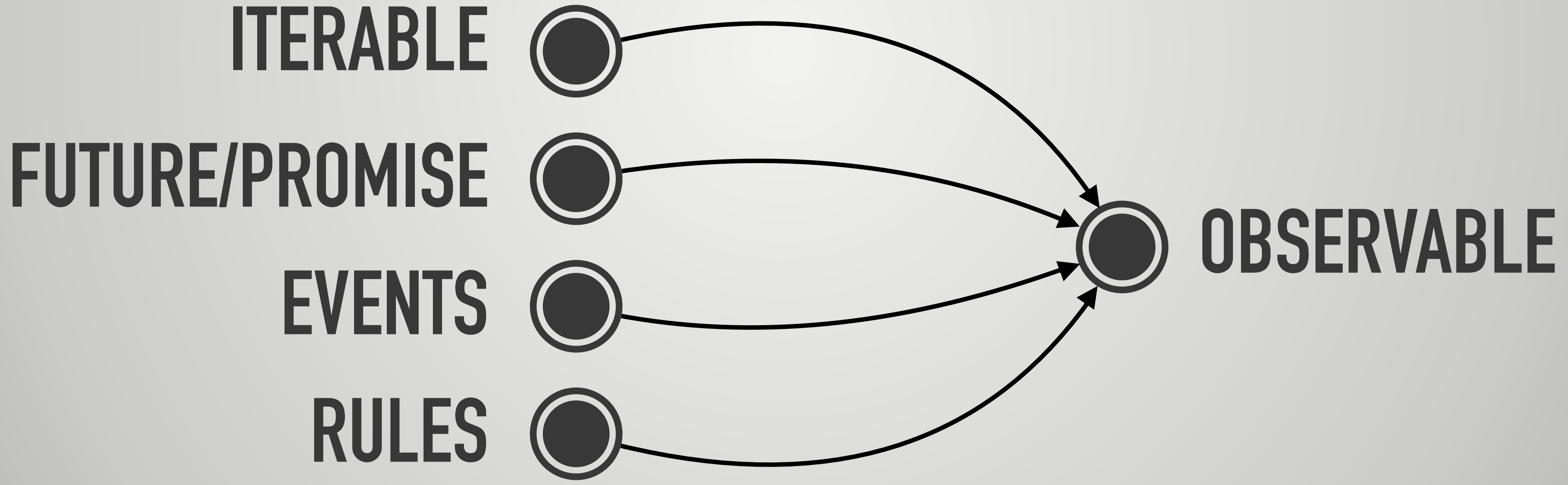
OBSERVABLES

LISTS WITH TIME

REIFIED EVENT STREAM

PUSH BASED

CREATING OBSERVABLES



CREATING OBSERVABLES

```
Observable.from(new String[] {
    ”The Joker”,
    ”The Riddler”,
    ”Penguin”,
    ”Catwoman”})
```

CREATING OBSERVABLES

```
baddies.subscribe((baddie) -> {
    out.println(baddie + “ is bad.”)
})
```

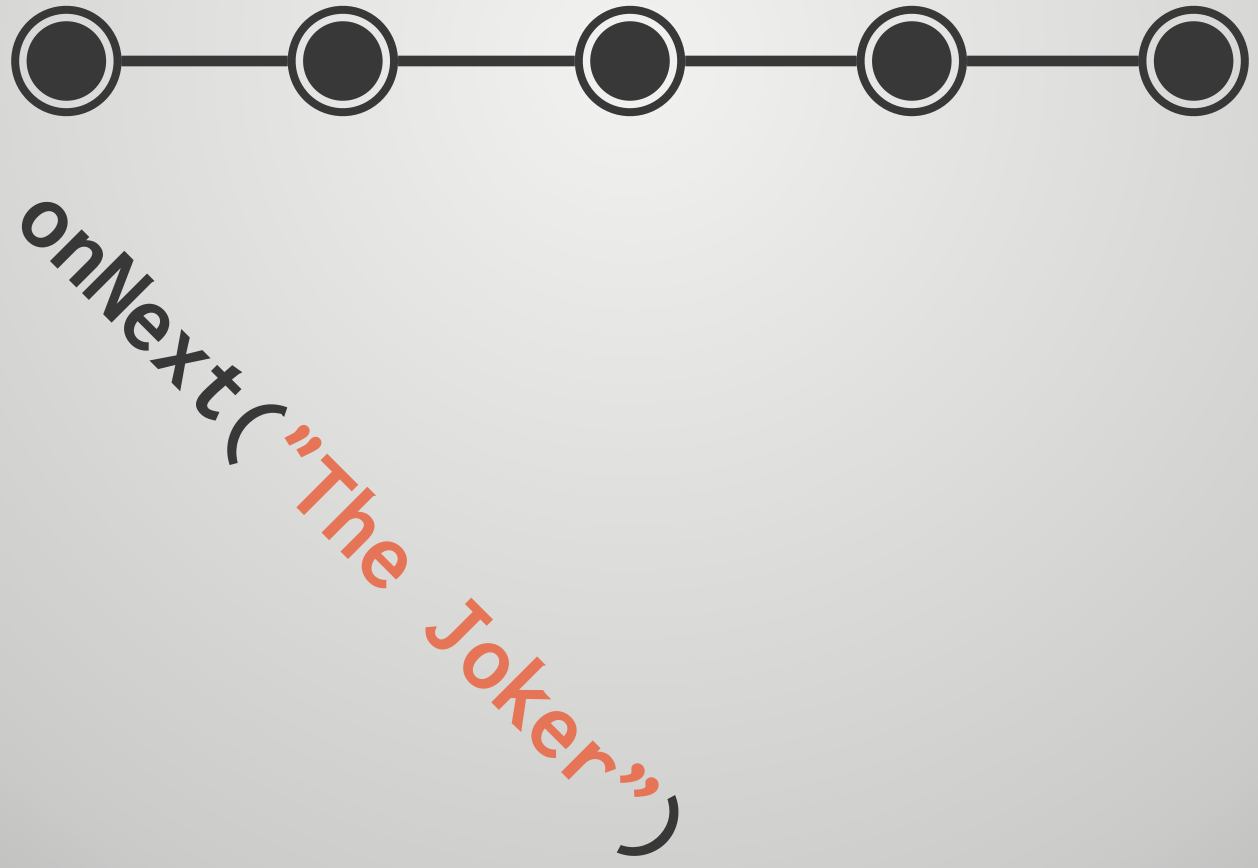
CREATING OBSERVABLES

```
The Joker is bad.
The Riddler is bad.
Penguin is bad.
Catwoman is bad.
```

CREATING OBSERVABLES

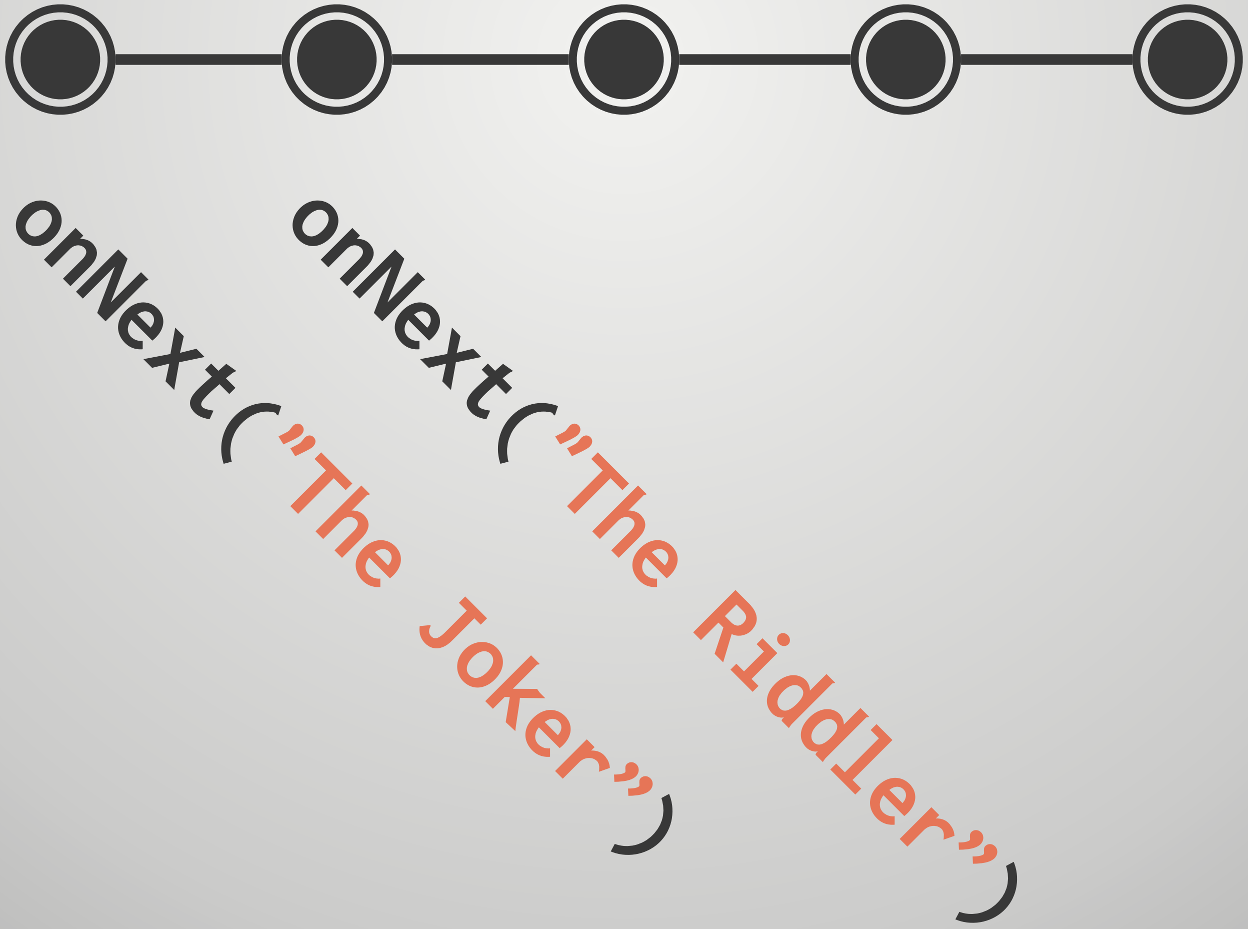
```
class _ extends Subscriber<String> {
  void onCompleted() {}
  void onError(Throwable t) {}
  void onNext(String s){}
}
```

CREATING OBSERVABLES



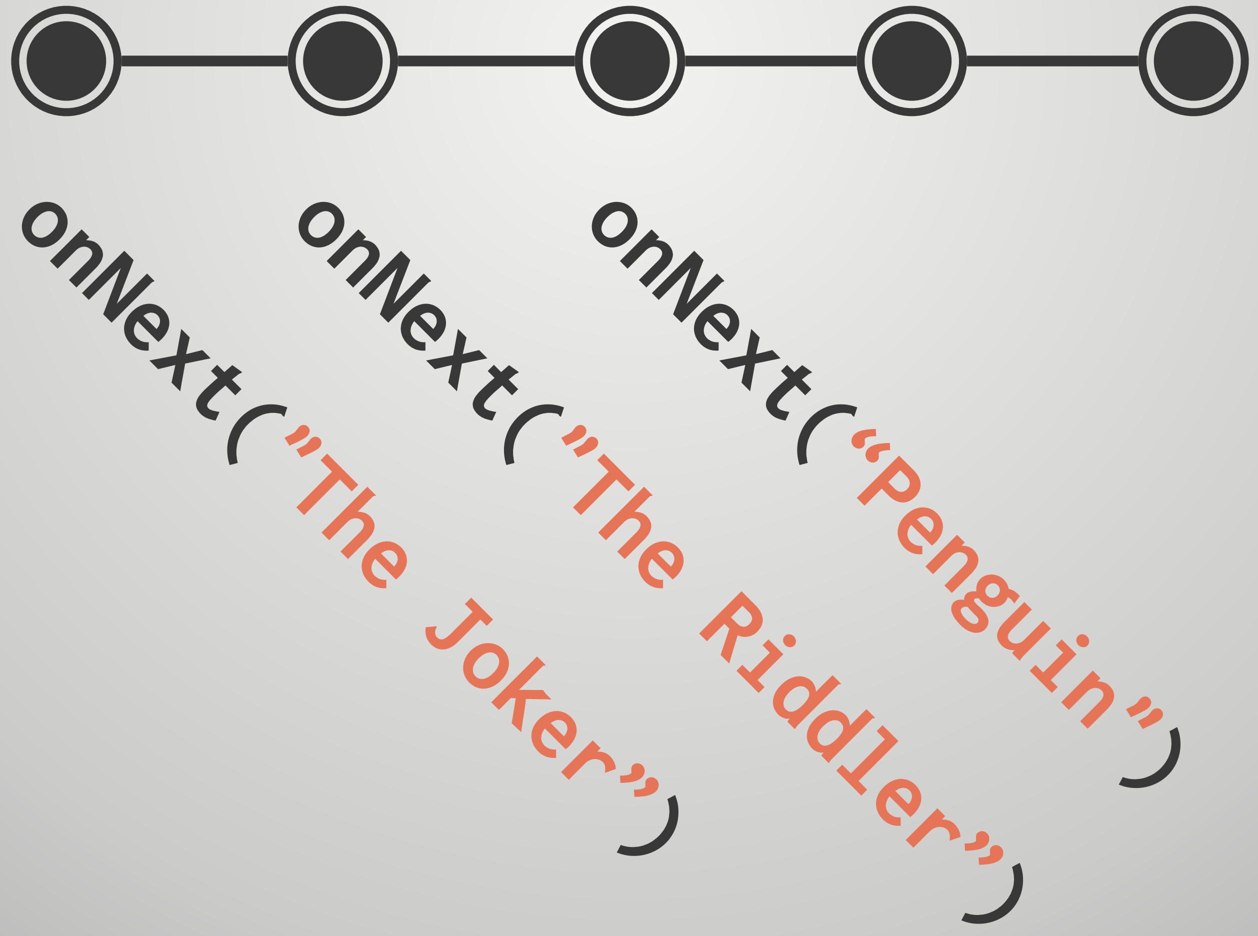
onNext("The Joker")

CREATING OBSERVABLES



```
onNext("The Joker")
onNext("The Riddler")
```

CREATING OBSERVABLES

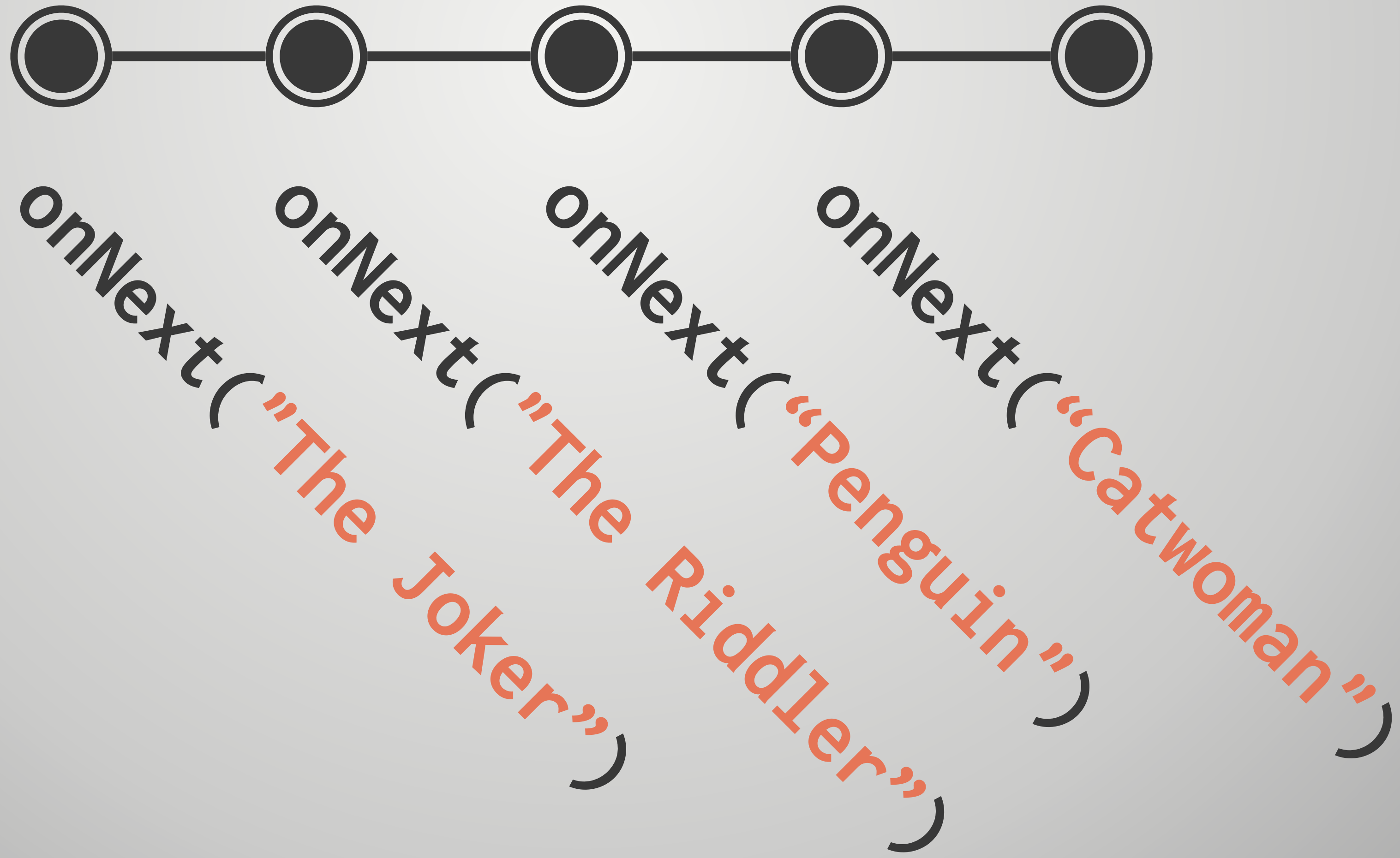


onNext(”The Joker”)

onNext(”The Riddler”)

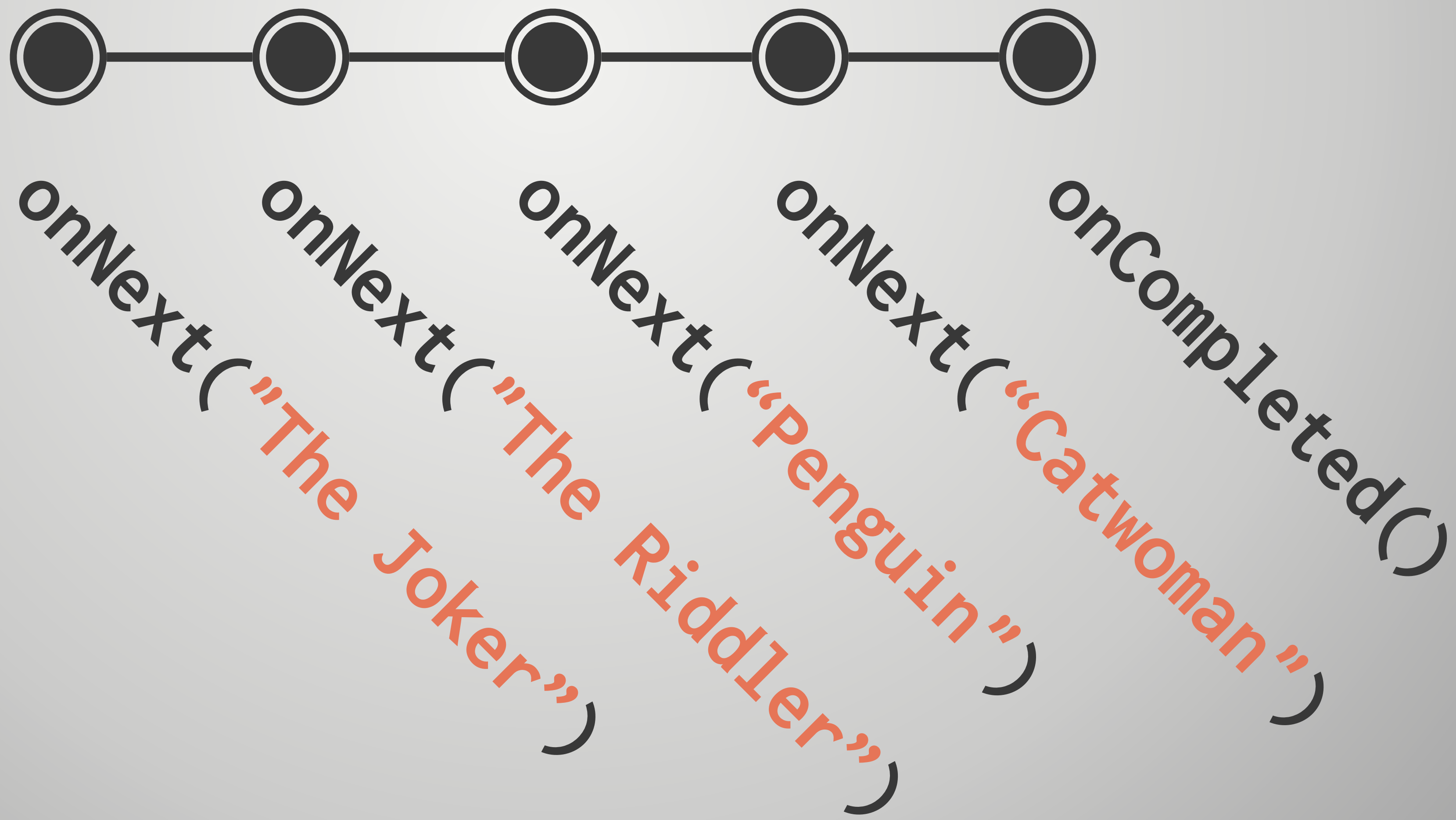
onNext(“Penguin”)

CREATING OBSERVABLES



```
onNext(”The Joker”)
onNext(”The Riddler”)
onNext(“Penguin”)
onNext(“Catwoman”)
```

CREATING OBSERVABLES



onNext("The Joker”)

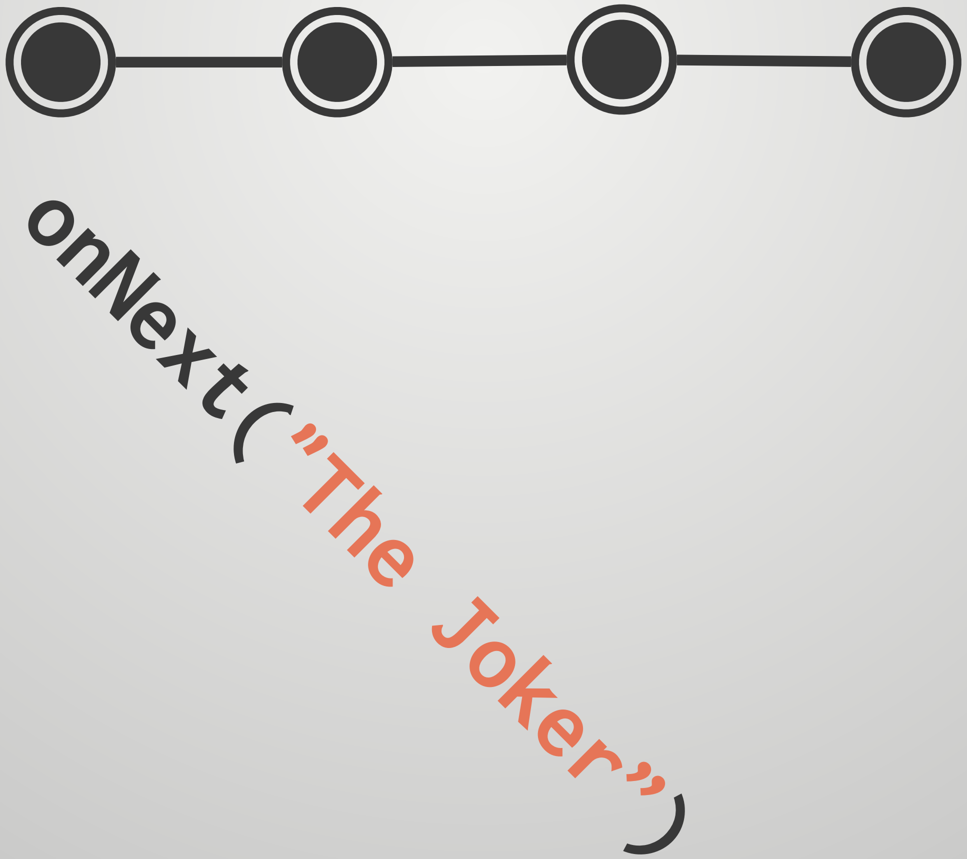
onNext("The Riddler”)

onNext(“Penguin”)

onNext(“Catwoman”)

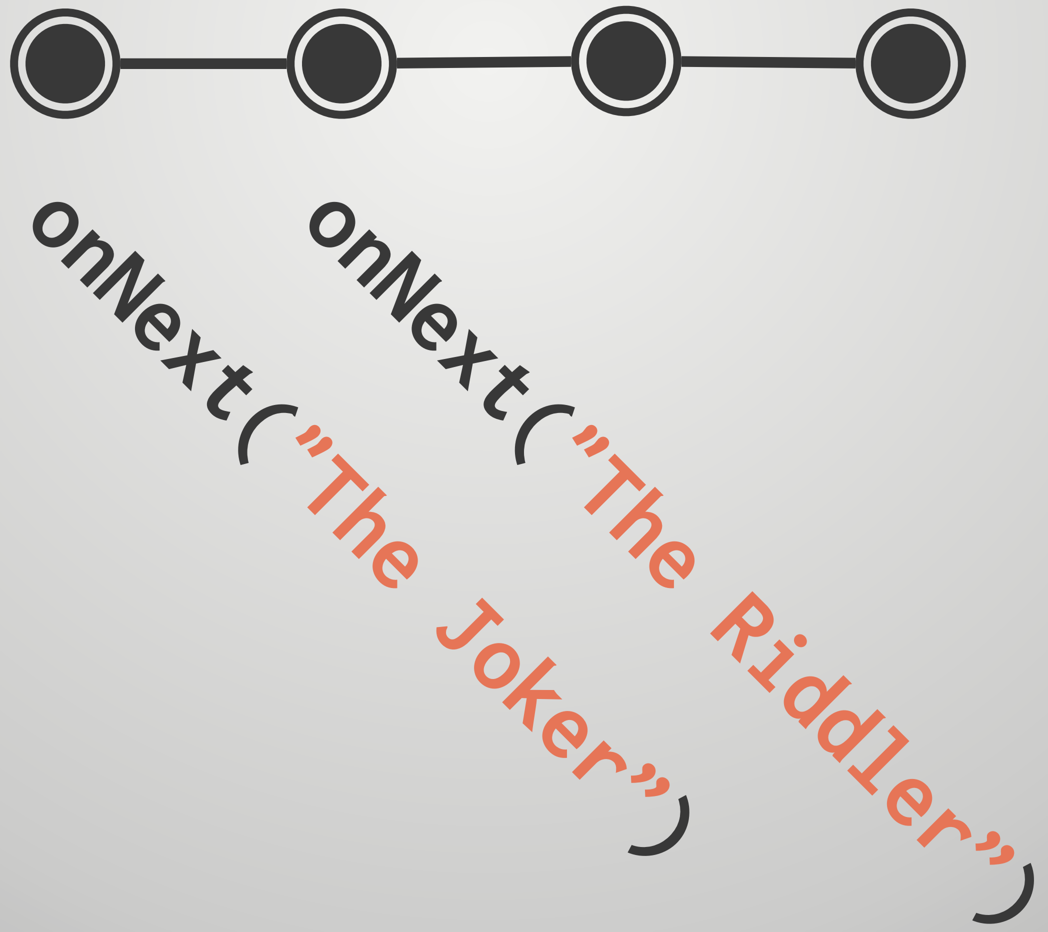
onCompleted()

ERROR HANDLING



onNext("The Joker")

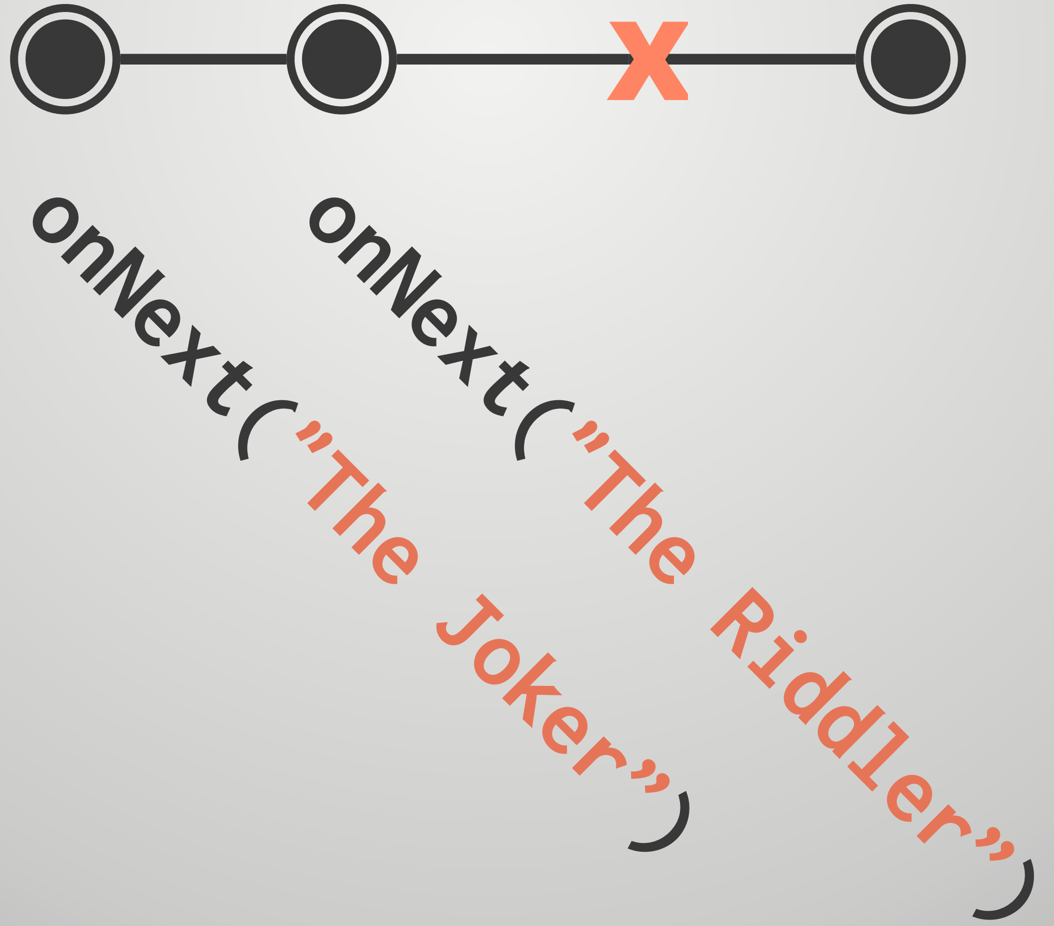
ERROR HANDLING



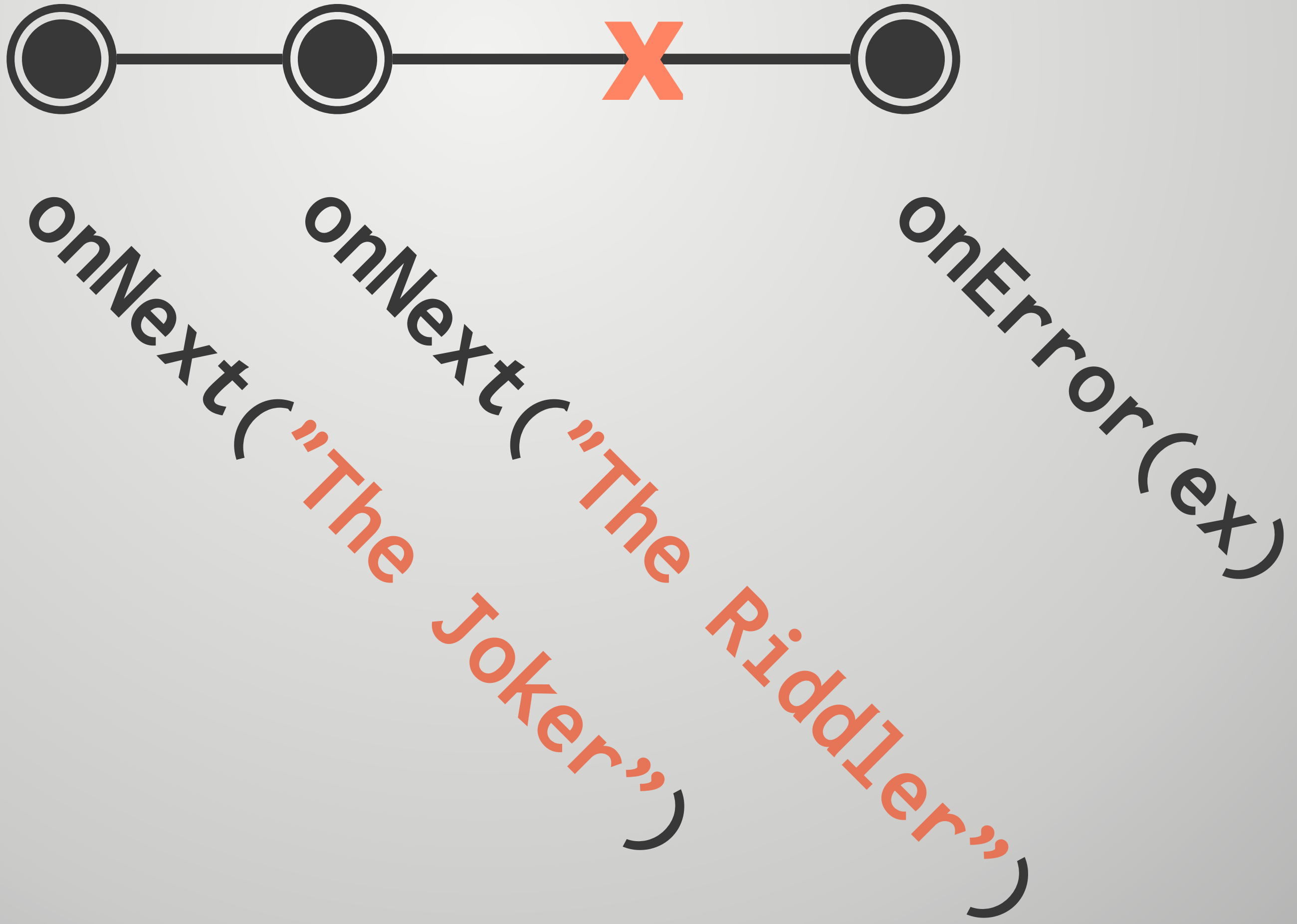
onNext("The Joker")

onNext("The Riddler")

ERROR HANDLING



ERROR HANDLING



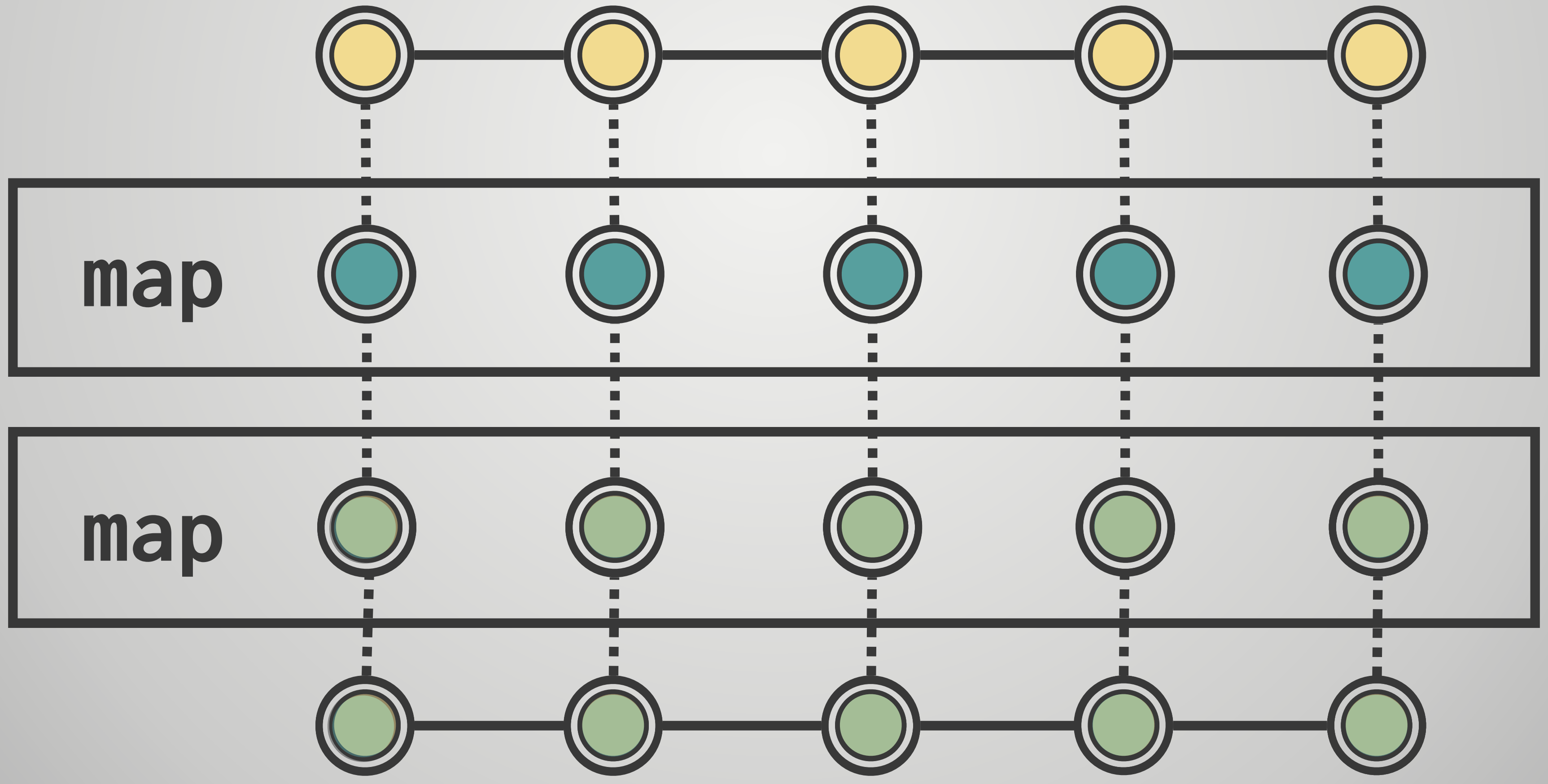
TRANSFORMING OBSERVABLES

TURN AN OBSERVABLE OF ONE
TYPE INTO ANOTHER

TRANSFORMING OBSERVABLES

```
Observable ints = Observable
    .interval(1, SECONDS);

ints.map((i) -> i + 1)
    .map((i) -> i + “ seconds”)
    .subscribe(out::println)
```

TRANSFORMING OBSERVABLES



TRANSFORMING OBSERVABLES

```
1 seconds
2 seconds
3 seconds
4 seconds
...
```

TRANSFORMING OBSERVABLES

`flatMap(), groupBy(),`
`buffer(), window()`

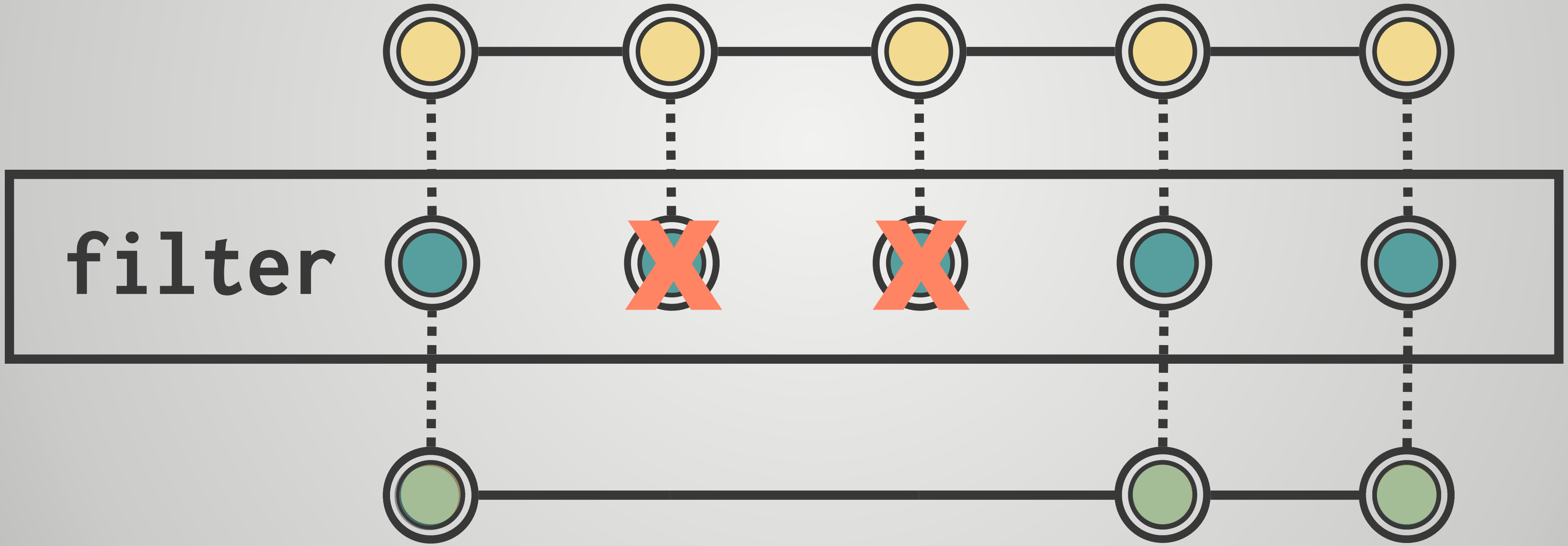
FILTERING OBSERVABLES

SELECT AND REJECT ITEMS
EMITTED BY AN OBSERVABLE

FILTERING OBSERVABLES

```
var keys = Rx.DOM.keypress(el)
var ints = keys.filter(isNumeric)

ints.subscribe(console.log)
```

FILTERING OBSERVABLES



FILTERING OBSERVABLES

`distinct(), timeout(), ignoreElements(), throttleFirst(), debounce(), sample(), first(), last(), take(), skip()`

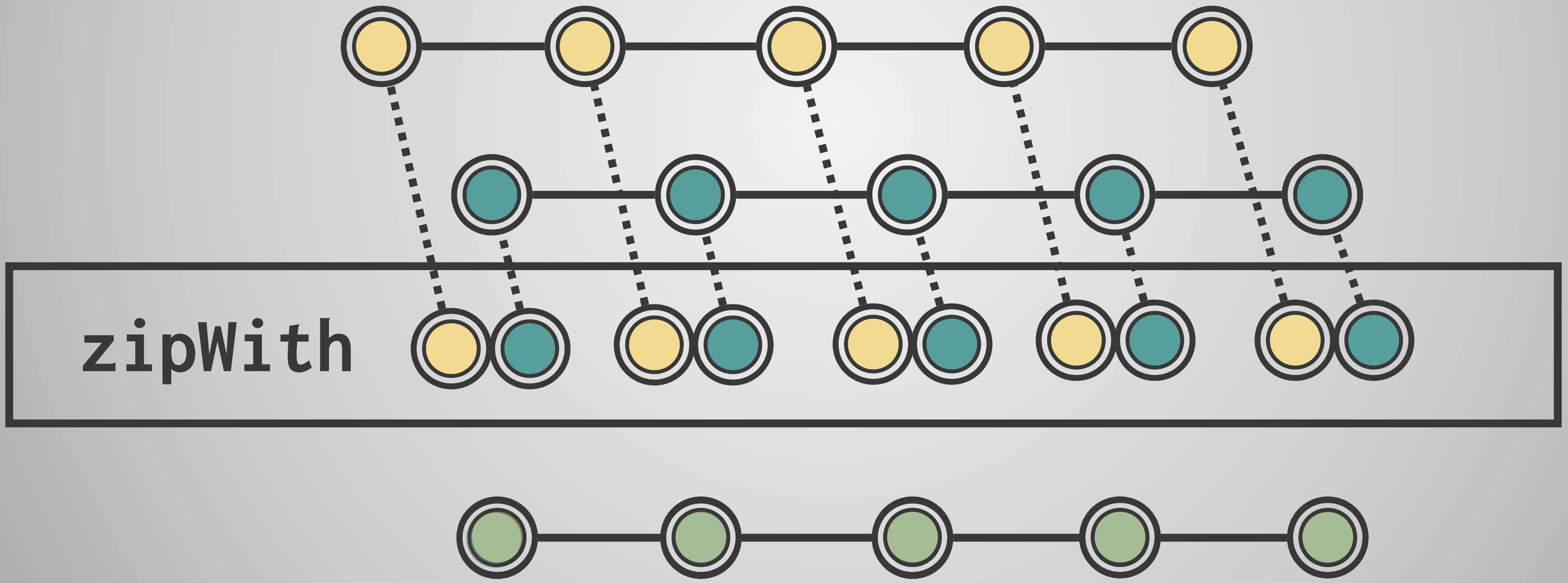
COMBINING OBSERVABLES

COMPOSING MULTIPLE OBSERVABLES INTO A SINGLE OBSERVABLE

COMBINING OBSERVABLES

```
Observable goodies = Observable.from(
    new String[]{
        ”Batman”, ”Robin”,
        ”Alfred”, “Batgirl”});

goodies.zipWith(baddies,
    (g,b) -> g + ” punches ” + b)
```

COMBINING OBSERVABLES

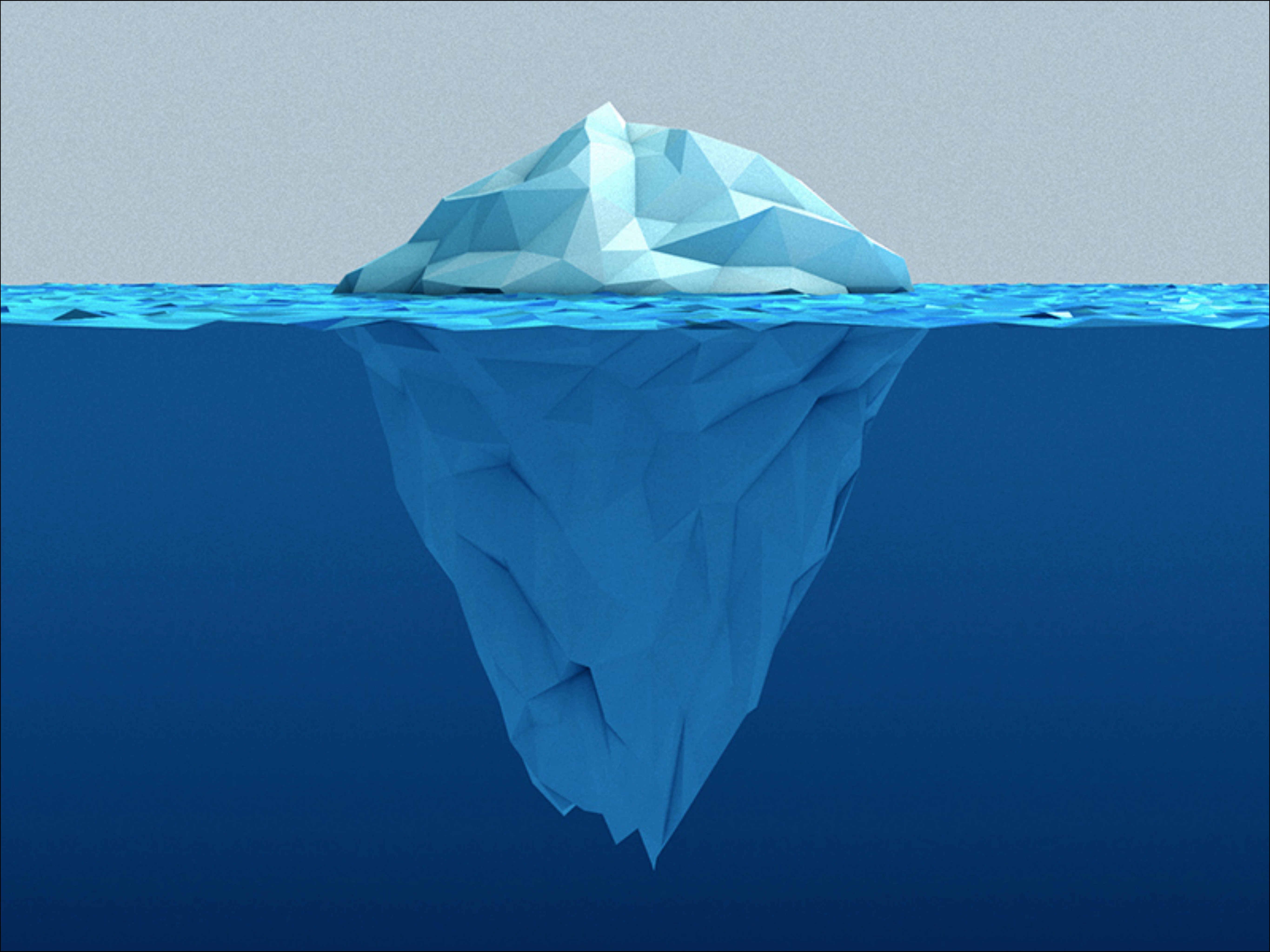


COMBINING OBSERVABLES

```
Batman punches The Joker
Robin punches The Riddler
Alfred punches Penguin
Batgirl punches Catwoman
```

STUFF AND OTHER THINGS

`retry(), delay(), timestamp(),`
`amb(), defaultIfEmpty(),`
`reduce(), count()`



TYRANNOSAURUS

RX