

Functional Programming

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BrisFunctional

brisfunctional.github.com

Project Euler

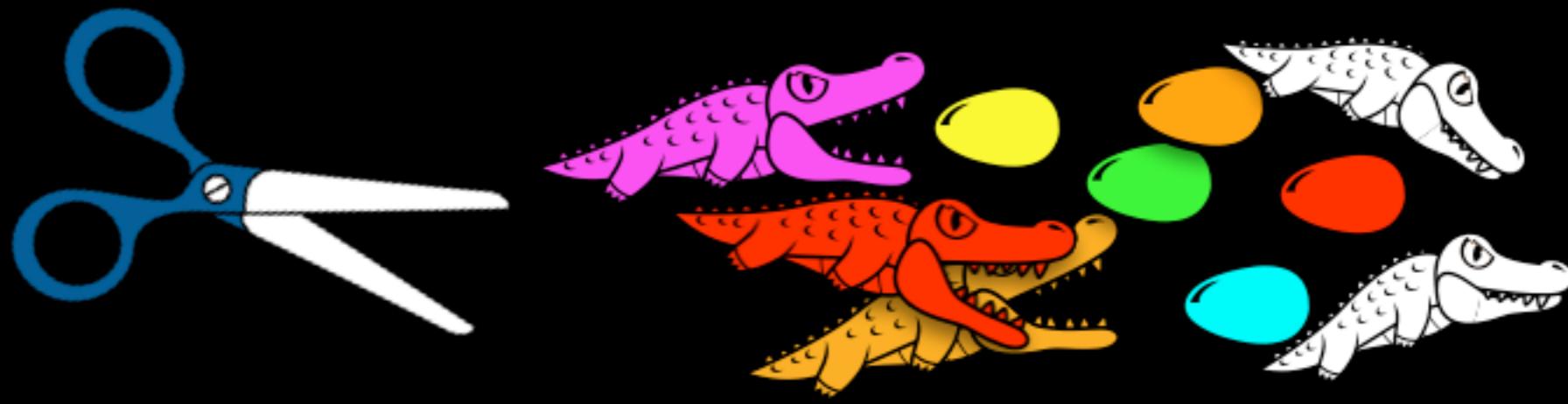
JSON parser

Noughts and Crosses

AI



http://www.flickr.com/photos/dippy_duck/7210706592/



Alligator Eggs





<http://www.flickr.com/photos/14591708@N00/6878586390/>

What is Functional Programming?

Functional



Disfunctional

Functional



Disfunctional

Functional



C#

Disfunctional

Functional



Disfunctional

Functional



C# →

Haskell

Disfunctional

Functional



C# →

Haskell

Javascript

Disfunctional

Functional



C# →

Haskell

Javascript

C

Disfunctional

Functional



C# →

Haskell

Pascal

Javascript

C

Disfunctional

Java

Functional



C# →

Haskell

Pascal

Javascript

C

Disfunctional

Java

Functional



C# →

Haskell

Pascal

Javascript

C

Erlang

Disfunctional

Java

Functional



C# →

Haskell

Pascal

Javascript

Clojure

C

Erlang

Disfunctional

Java

SQL

Functional



C# →

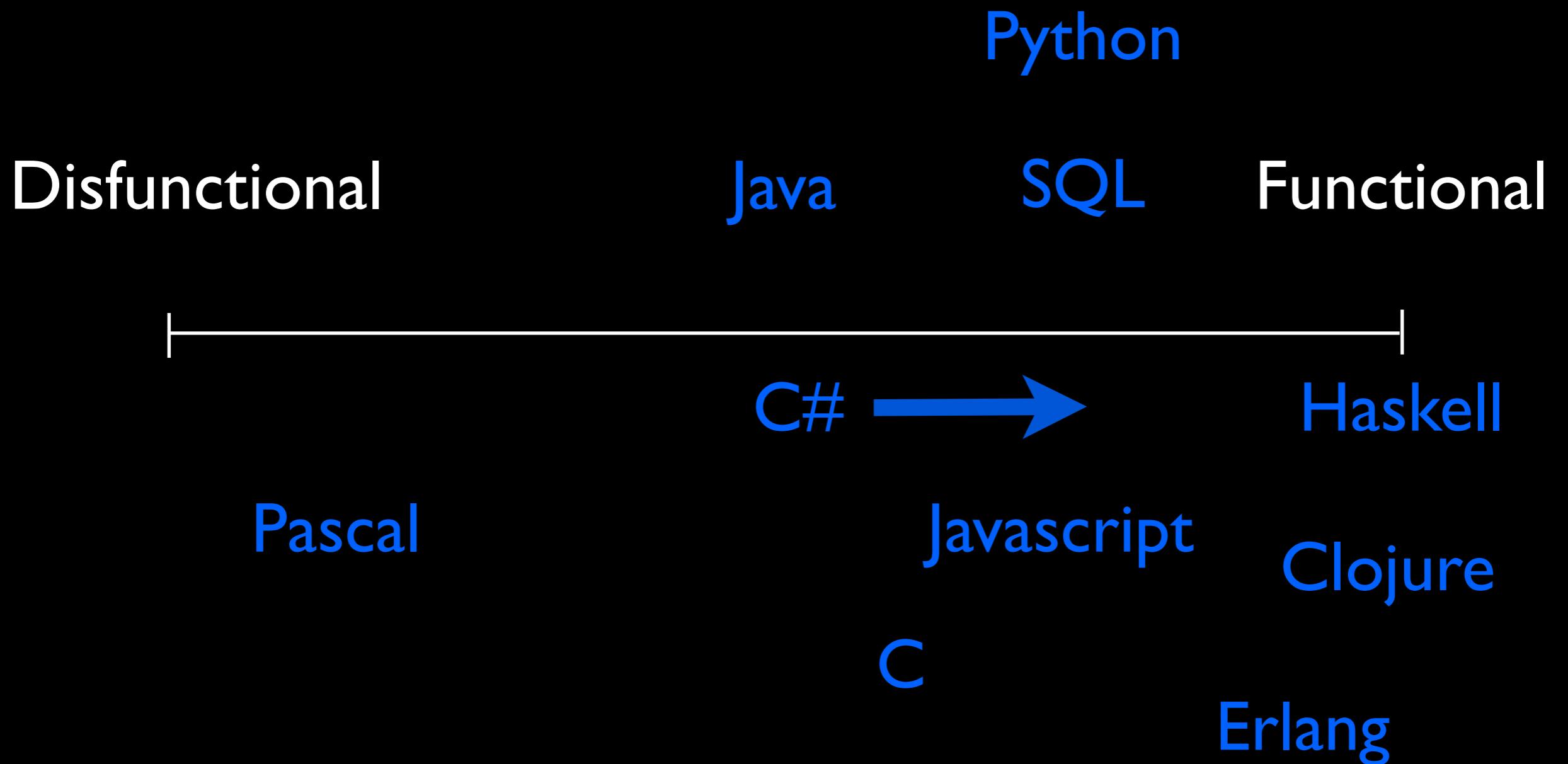
Pascal

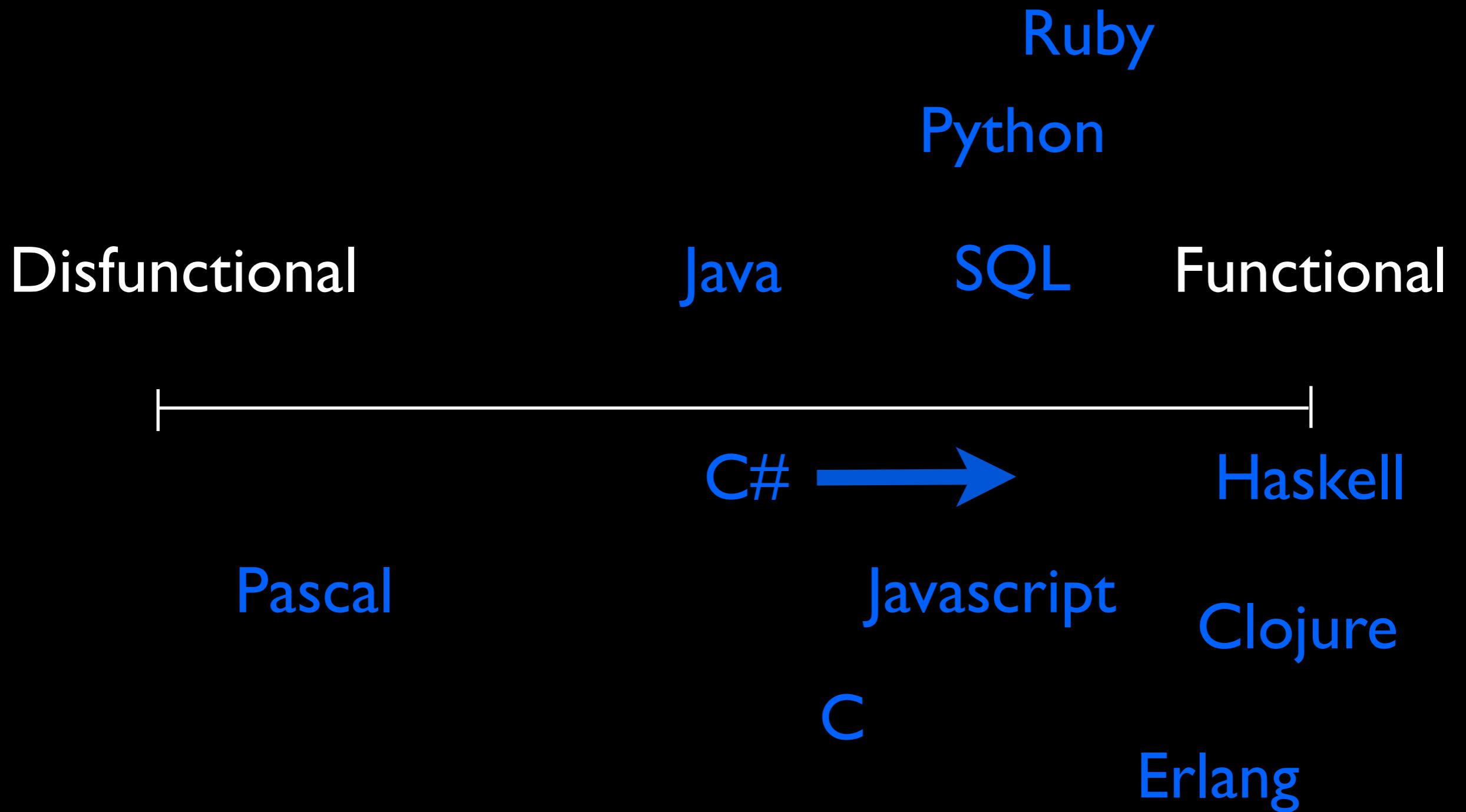
Javascript

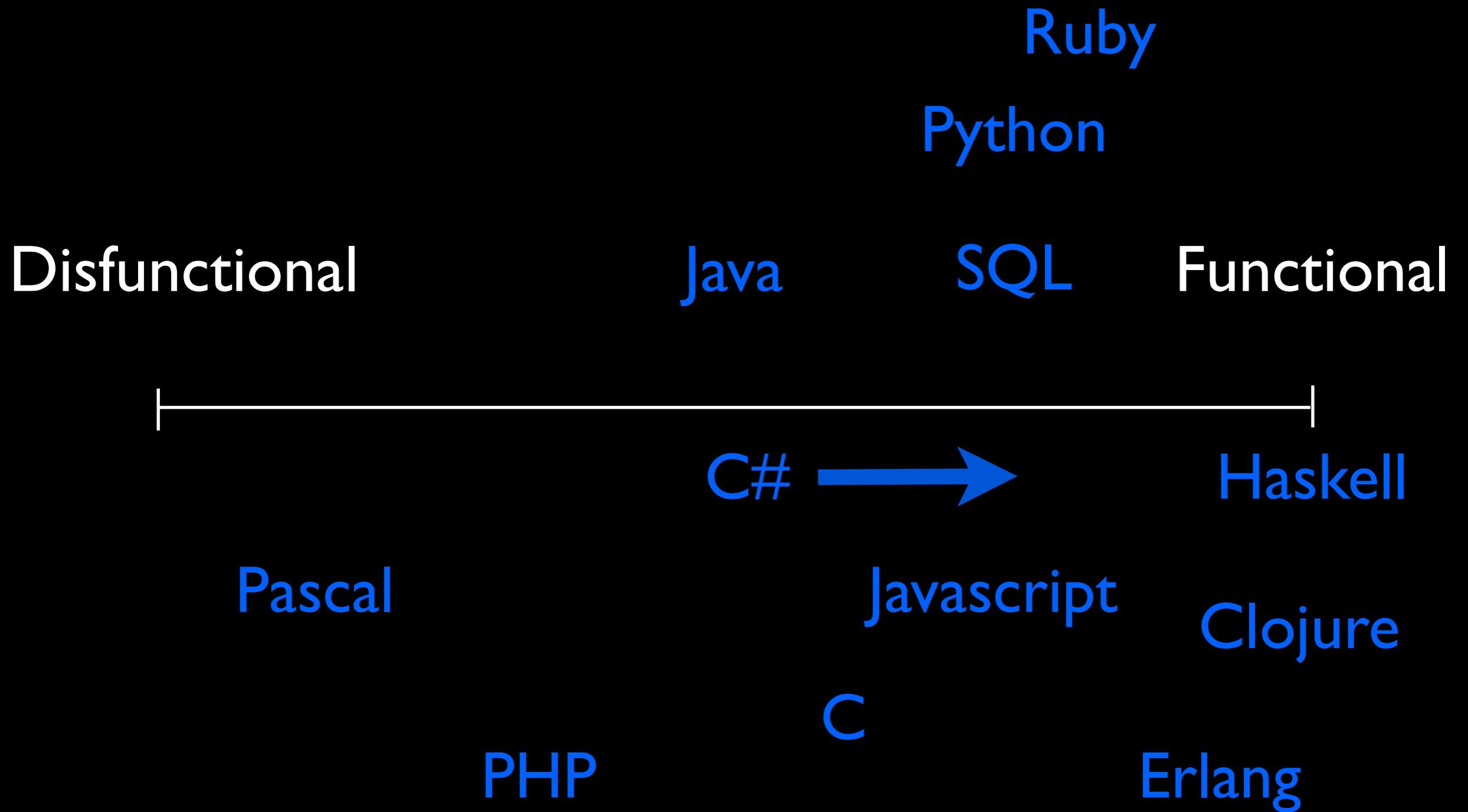
Haskell

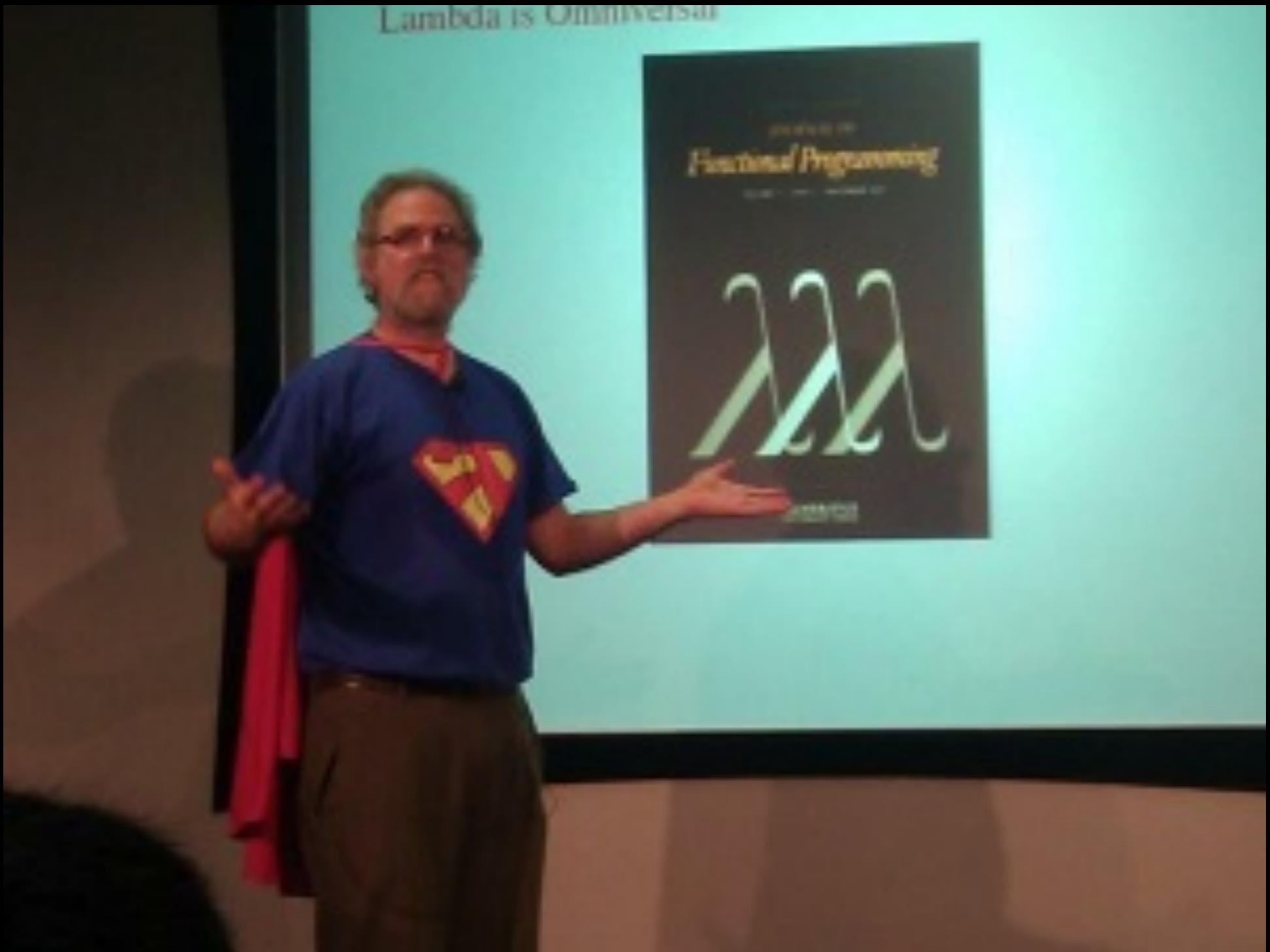
C

Erlang
Clojure









<http://alblue.bandlem.com/2012/03/qcon-day-3.html>

First Class Functions

Immutability





```
1 public class Mutable {  
2     private List<Sheep> herd;  
3  
4     public List<Sheep> getHerd() {  
5         return herd;  
6     }  
7 }
```

```
1 public class Mutable {  
2     private final List<Sheep> herd;  
3  
4     public List<Sheep> getHerd() {  
5         return Collections.unmodifiableList(herd);  
6     }  
7  
8 }
```

Referential Transparency



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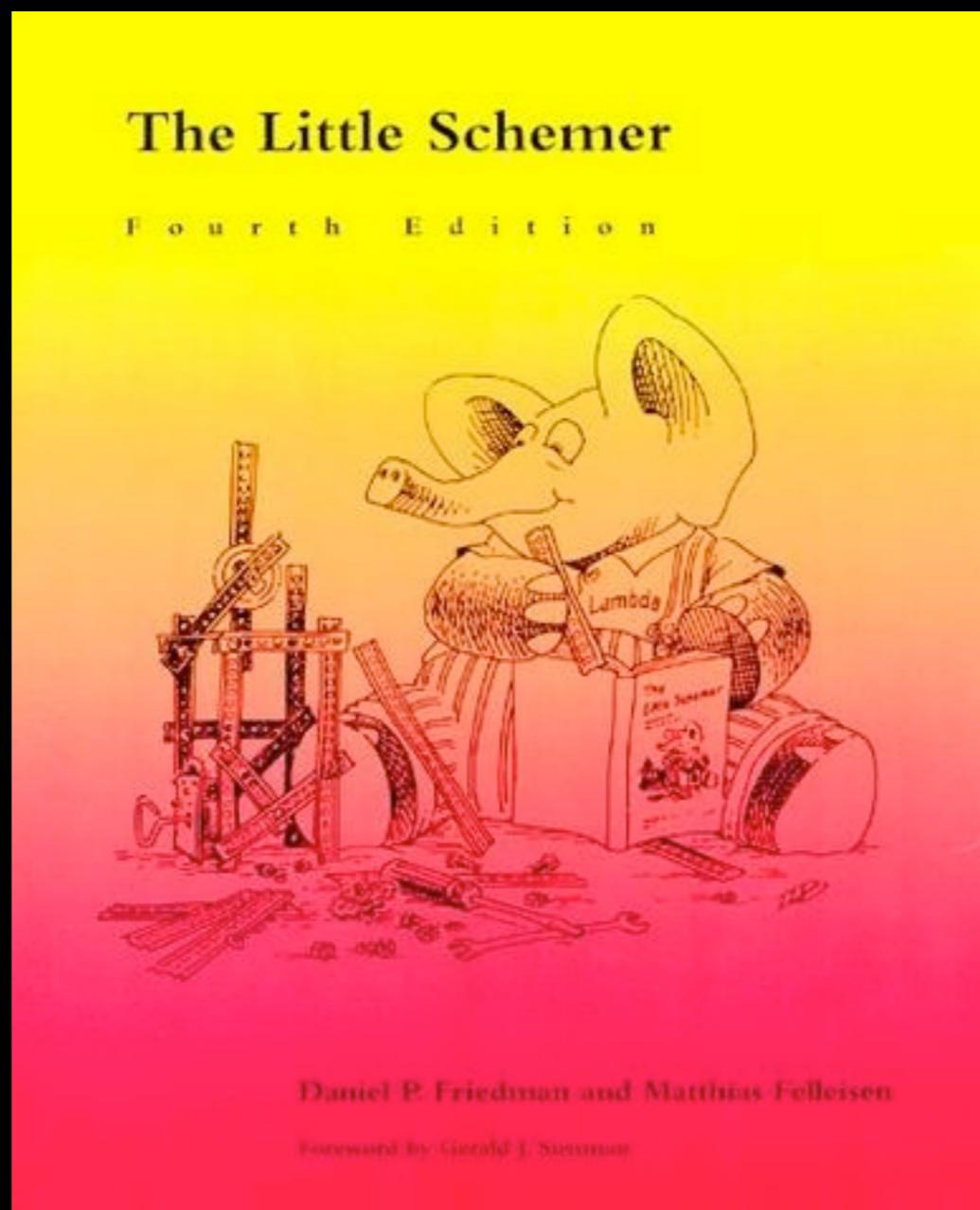
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Recommended Reading



Daniel P. Friedman and Matthias Felleisen

Foreword by Gerald J. Sussman