



KOMPPUTILA
LINGV O J
ESTAS
HOM A J
LINGV O L

COMPUTER

LANGAUAGES

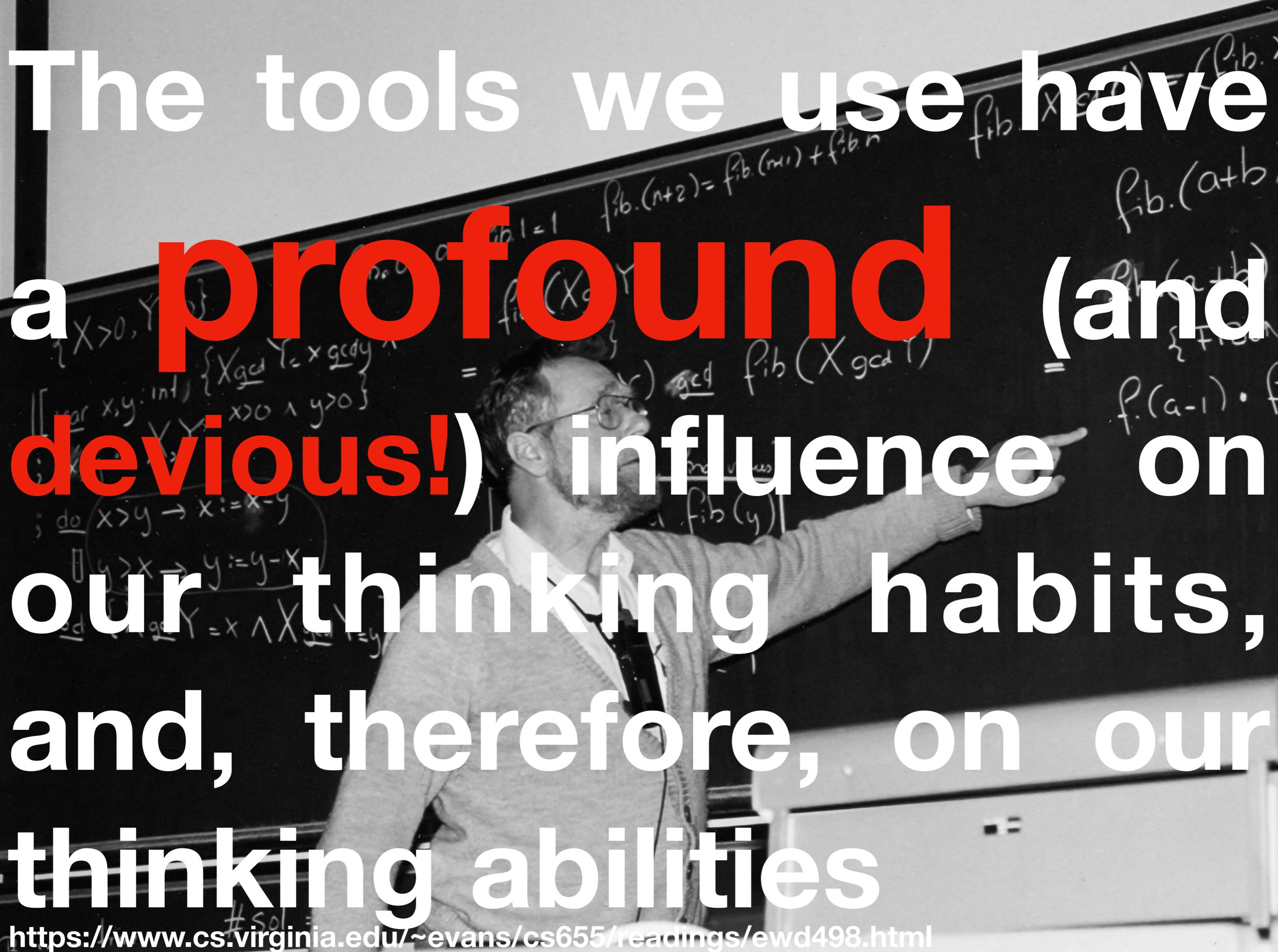
ARE HUMAN

LANGAUAGES

l a n g u a g e

p r e c e d e s

d e s i g n



The tools we use have
a **profound** (and
devious!) influence on
our thinking habits,
and, therefore, on our
thinking abilities



APPLAS

2018



3-7 DEEC

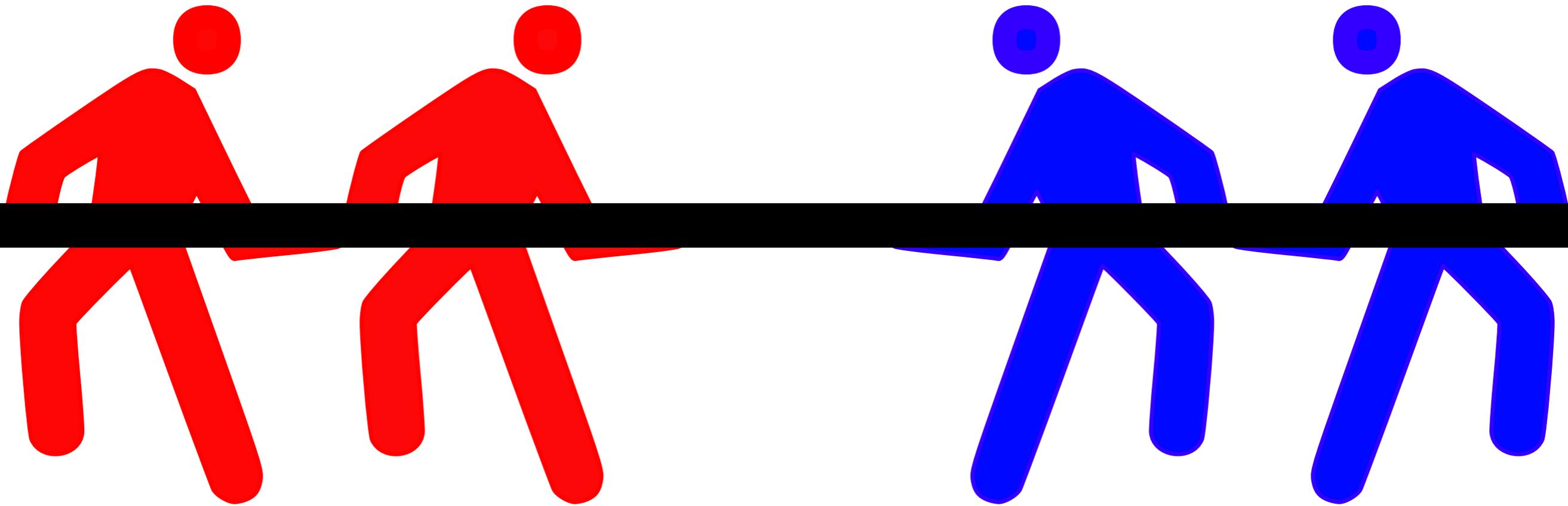
2018

A scenic view of a harbor with many sailboats and a city in the background under a blue sky. The water is a deep blue-green, and the sky is a clear, bright blue. In the background, a city with various buildings and a hillside is visible. The overall atmosphere is peaceful and scenic.

12 June

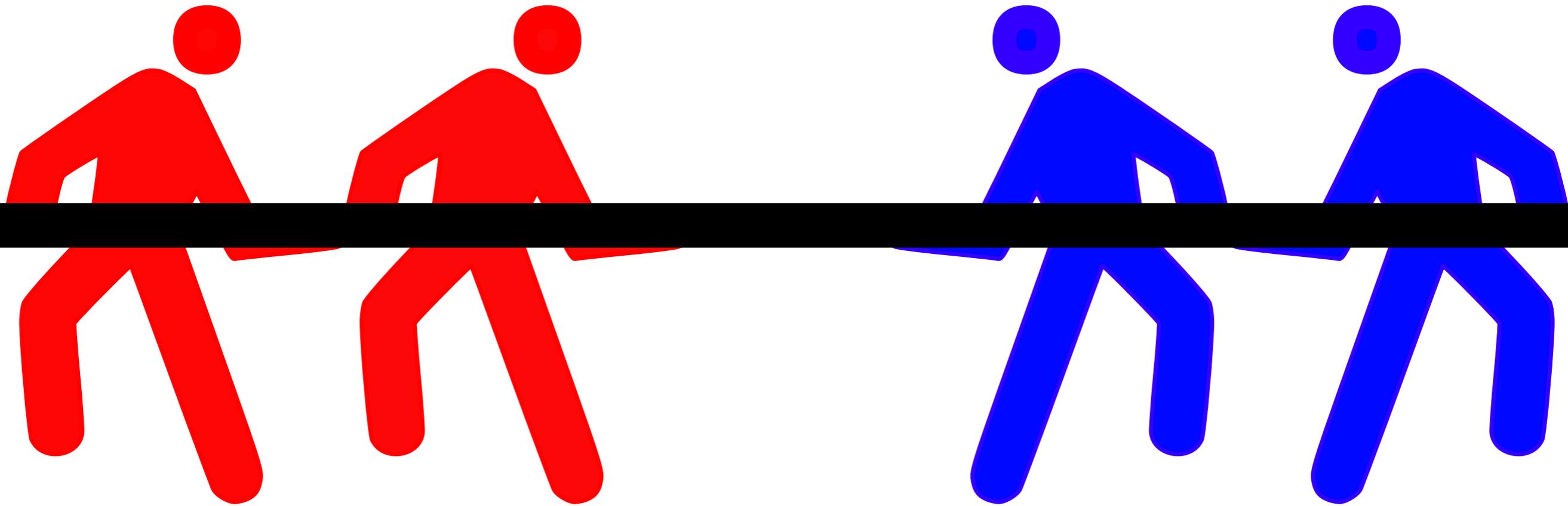
15 June

SPECIFICATION

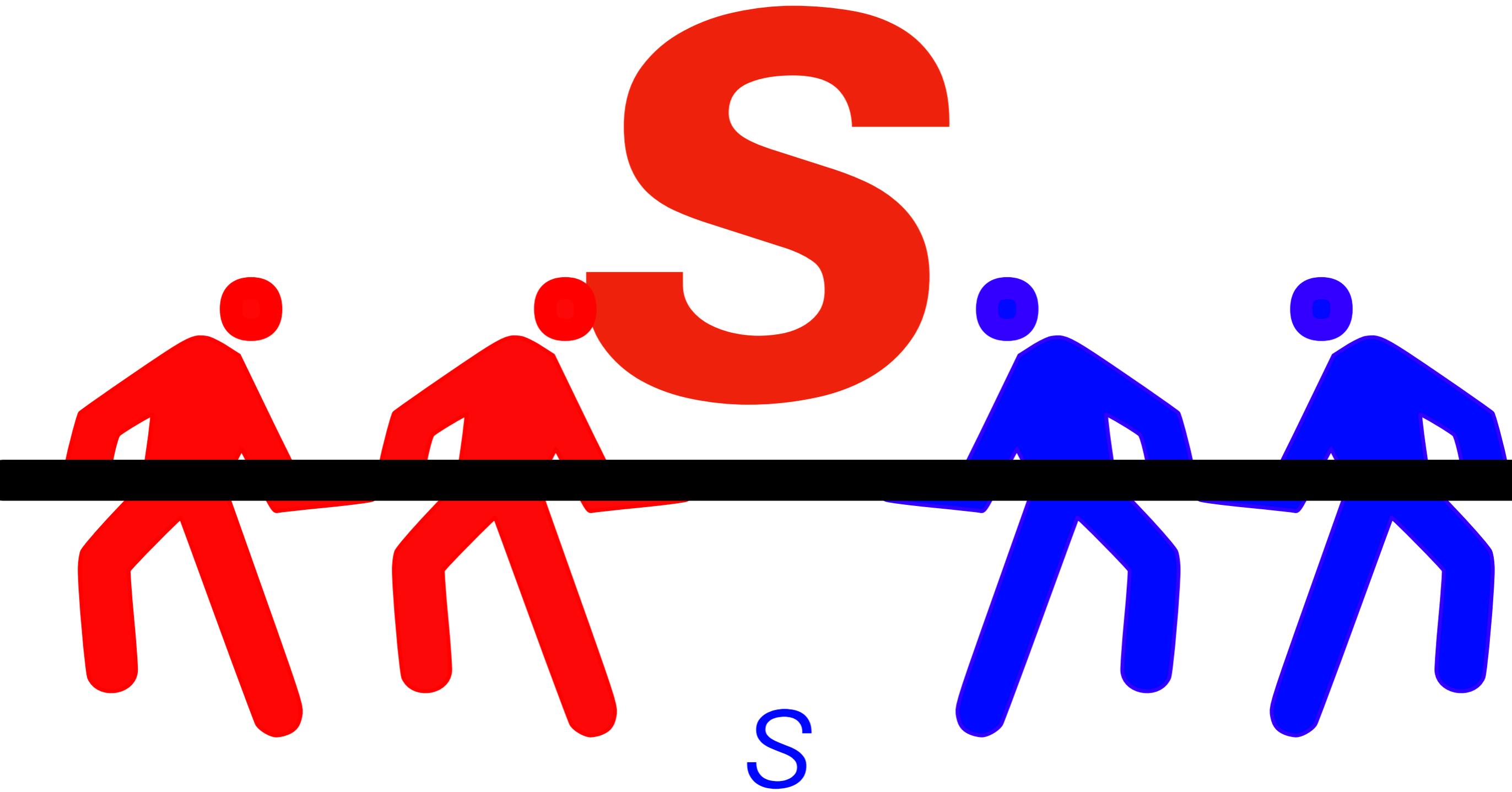


IMPLEMENTATION

IMPLEMENTATION

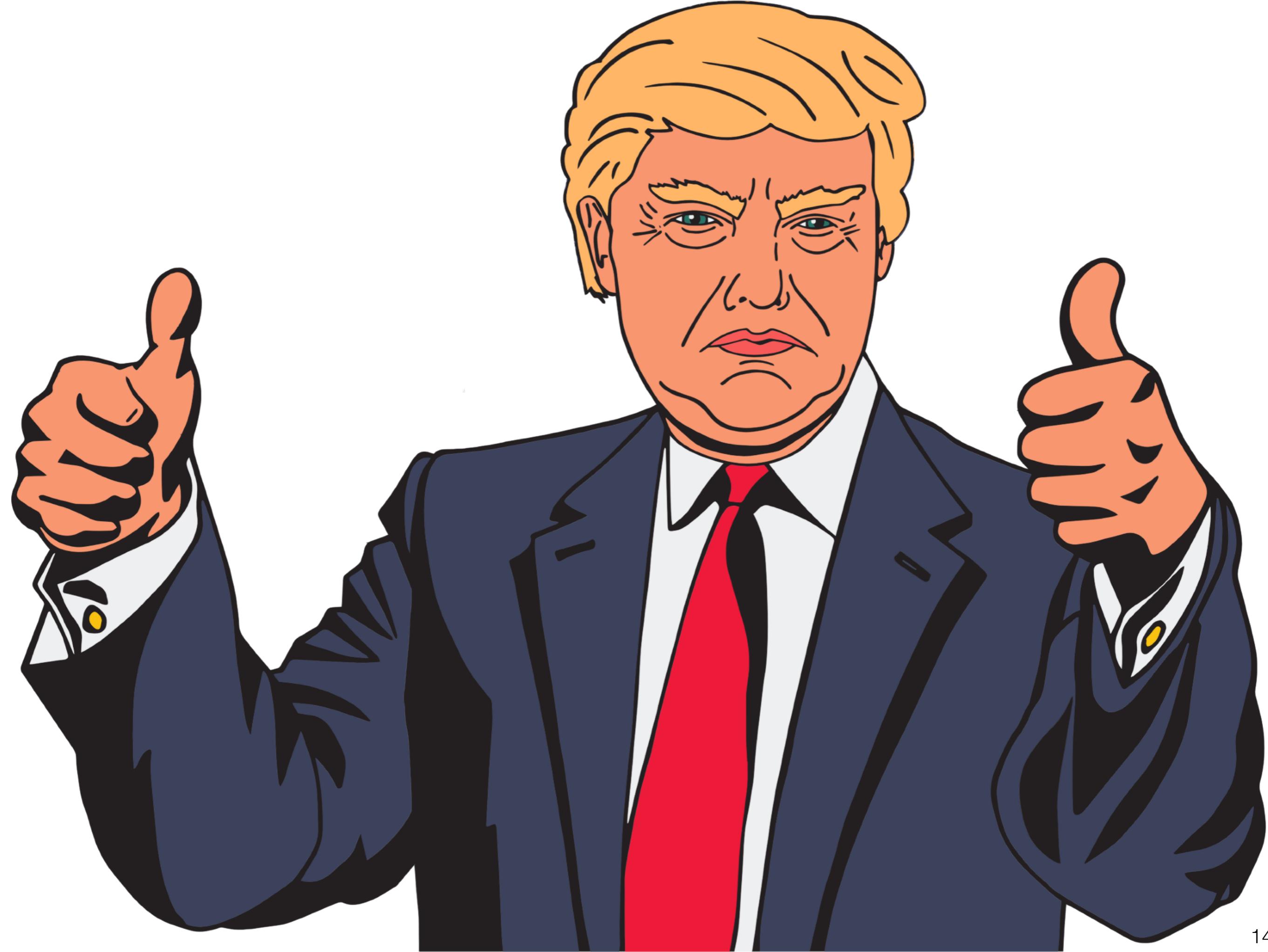


SPECIFICATION











8. Manifest

The parents in **inherit <parent>** and **use <parent>** clauses must be manifest. This means that Grace must be able to determine the shape of the object that is being inherited on a module-by-module basis. In particular,

- 1 the meaning of the parent expressions must not be subject to overriding, and

- 2 the result of the parent expression must be a fresh object whose shape is statically determinable.

types? annotations? arguments? ...

8. Manifest

```
method mixin( parent ) {  
  object {  
    inherit parent  
    method foo { ... }  
    def x = 42  
  }  
}
```

8. Manifest

```
class internalSendNode {  
  inherit sendNode  
  method foo { ... }  
  def x = 42  
}
```

8. Manifest

```
class erikAndGiladsOwnAST {  
  inherit theOneTrueAST  
  class internalSendNode {  
    inherit sendNode  
    method foo { ... }  
    def x = 42  
  }  
}
```

8. Not Manifest

```
def x = match ( randomInt( 3 ) )  
  case { 1 -> "Hello" }  
  case { 2 -> 11 }  
  case { _ -> jsonStream.next }
```

SPLASH

1 August



```
class a {  
    method c is confidential {  
        print "c"  
    }  
    method run {  
        c           // implicit receiver request  
        self.c      // self request  
        def x = self  
        x.c         // explicit receiver request  
    }  
}
```

```
def myouter = object {  
  method run is confidential {  
    print "outer run"  
  }  
  
  def myinner = object {  
    run  
    outer.run  
    method run { print "inner run" }  
  }  
}
```

```
def myouter = object {  
  method run is confidential {  
    print "outer run"  
  }  
  
  def myinner = object {  
    run  
  
    myouter.run  
    method run { print "inner run" }  
  }  
}
```

```
object {  
  def myouter = self  
  method run is confidential {  
    print "outer run"  
  }  
  def myinner = object {  
    run  
    myouter.run  
    method run { print "inner run" }  
  }  
}
```

