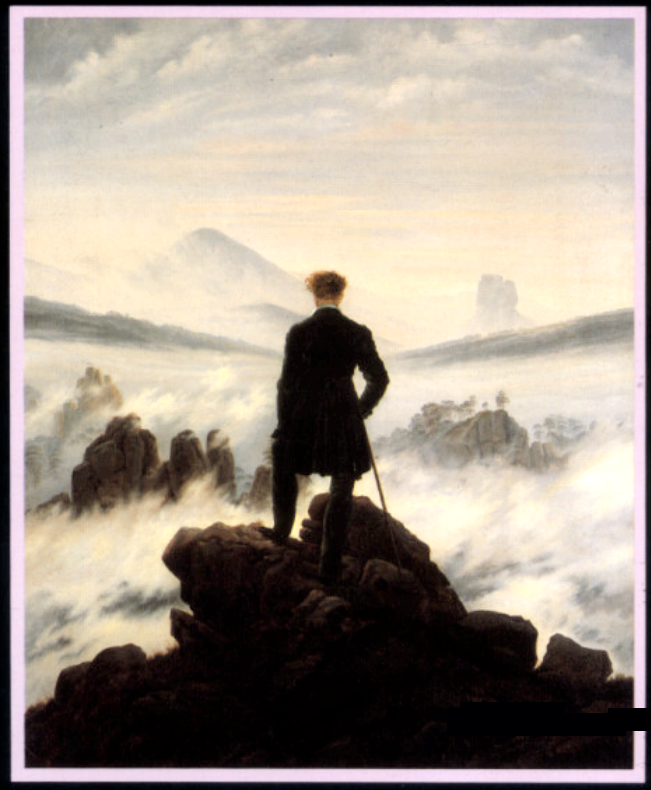
language *aesthetics*

Sam Aaron

INNOVATION FACTORY

THE IDEOLOGY OF THE AESTHETIC



Terry Eagleton

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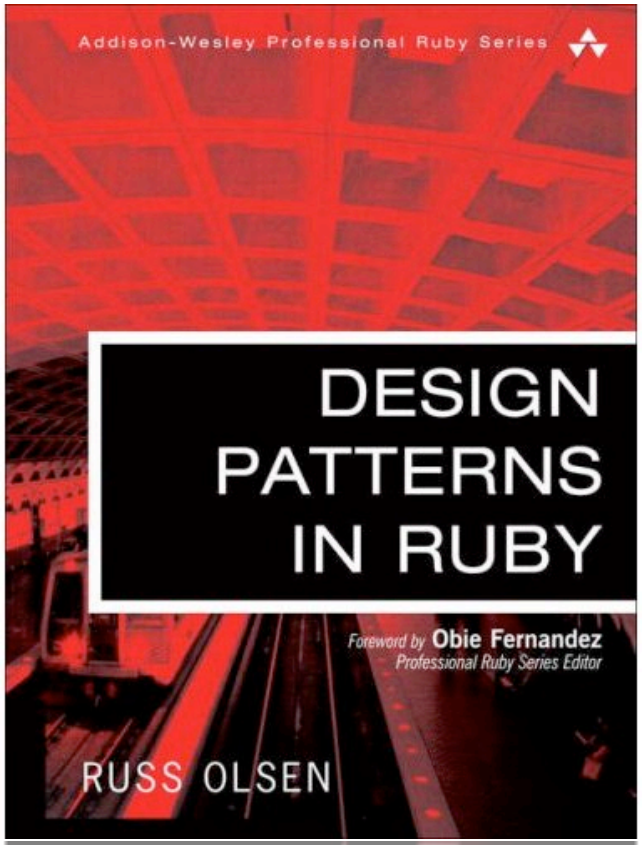
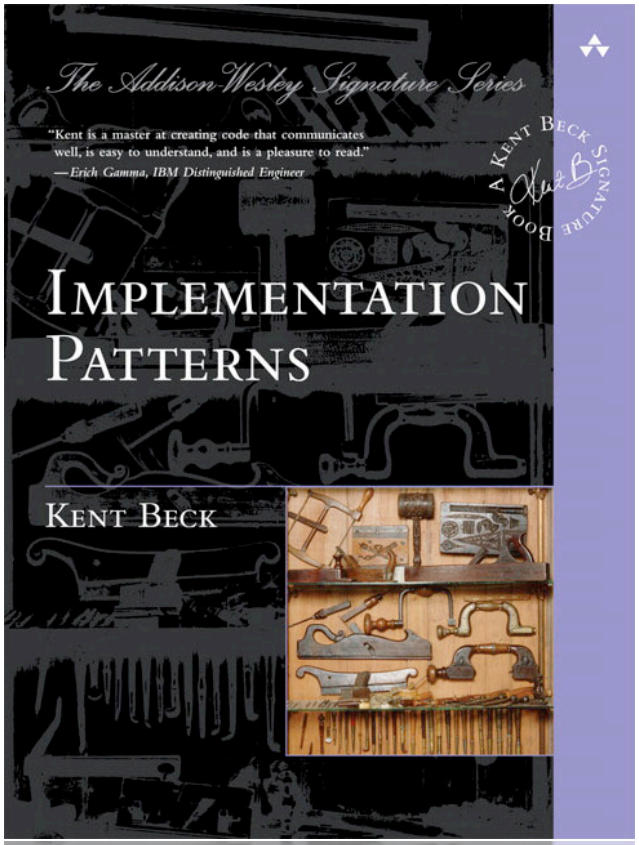
"The aesthetic is at once, as I try to show, the very secret prototype of human subjectivity in early capitalist society, and a vision of human energies as radical ends in themselves which is the implacable enemy of all dominative or instrumentalist thought".

Terry Eagleton


Addison-Wesley Professional Ruby Series
DESIGN PATTERNS IN RUBY
Foreword by Obie Fernandez
Professional Ruby Series Editor
RUSS OLSEN


The Addison Wesley Signature Series
"Kent is a master at creating code that communicates well, is easy to understand, and is a pleasure to read."
—Erich Gamma, IBM Distinguished Engineer
A KENT BECK SIGNATURE BOOK
IMPLEMENTATION PATTERNS
KENT BECK

aes•thet•ic |esˈθetik| (also **es•thet•ic**)

adjective

concerned with beauty or the appreciation of beauty *: the pictures give great aesthetic pleasure.*

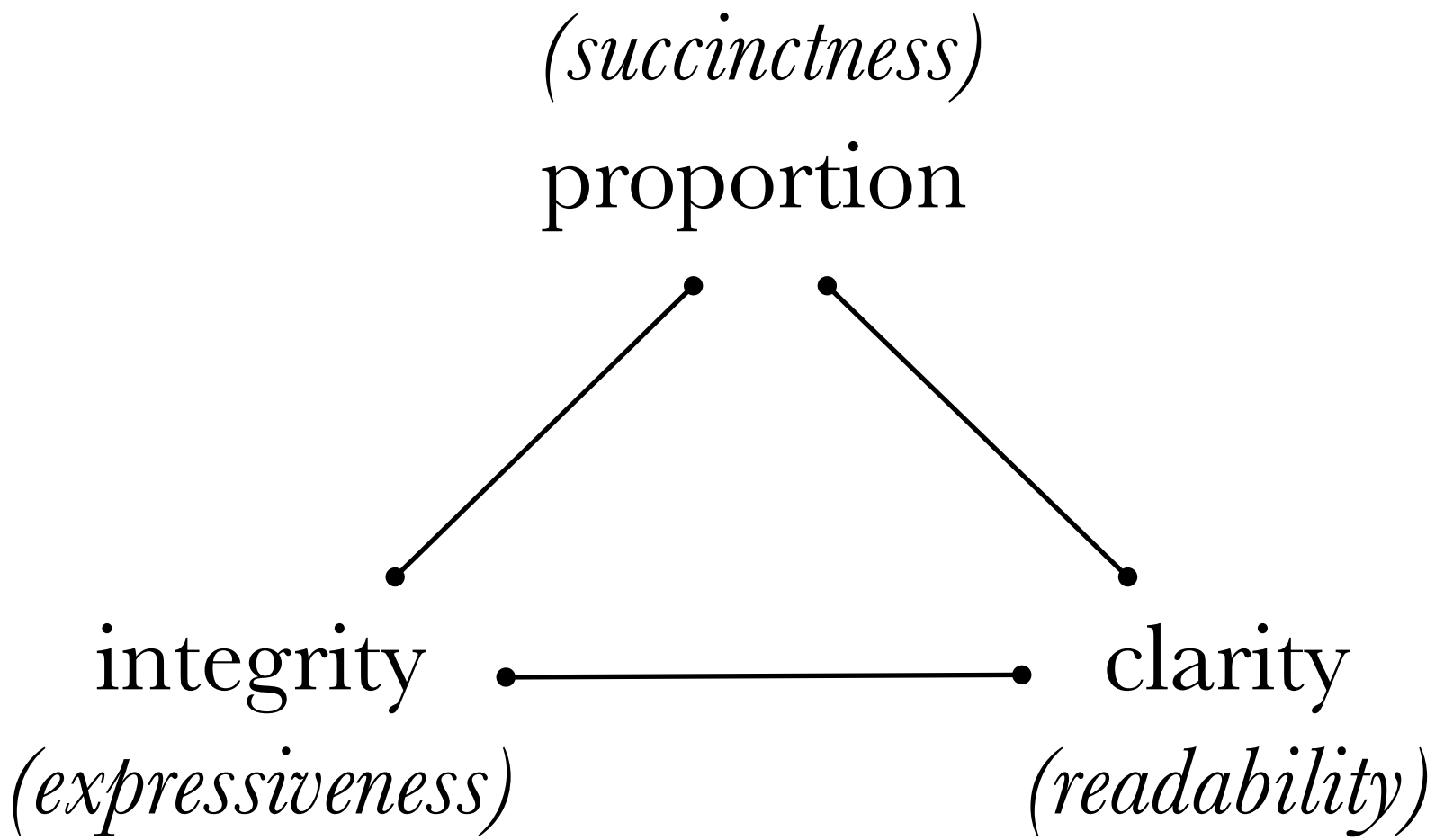
- giving or designed to give pleasure through beauty; of pleasing appearance.

"Good software = beautiful software"

Marcel Molina Jnr

Thomas Aquinas

Thomas Aquinas: *definition of beauty*



```
/\A([\w\.\-\+]+)@((?:[-a-z0-9]+\.)+[a-z]{2,})\z/i
```

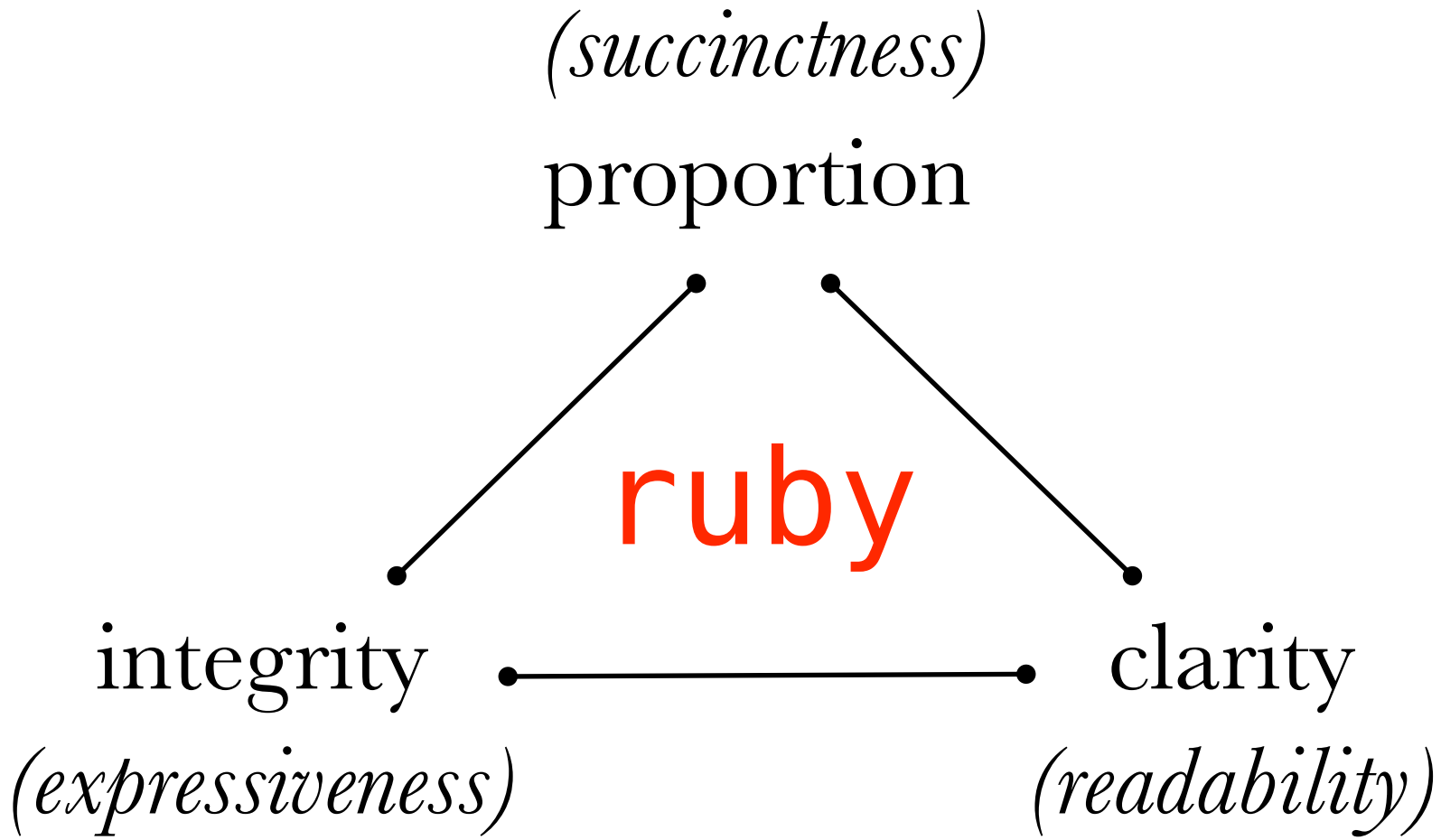
$$x = \frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

```
MULTIPLY B BY B GIVING B-SQUARED.

MULTIPLY 4 BY A GIVING FOUR-A.

MULTIPLY FOUR-A BY C GIVING FOUR-A-C.

SUBTRACT FOUR-A-C FROM B-SQUARED GIVING RESULT-1.

COMPUTE RESULT-2 = RESULT-1 ** .5.

SUBTRACT B FROM RESULT-2 GIVING NUMERATOR.

MULTIPLY 2 BY A GIVING DENOMINATOR.

DIVIDE NUMERATOR BY DENOMINATOR GIVING X.
```

```
tell application "TextEdit"
    get paragraph 1 of document "Read Me"
end tell
```

```
app('TextEdit').documents['Read Me'].paragraphs[1].get
```

Thomas Aquinas: *definition of beauty*



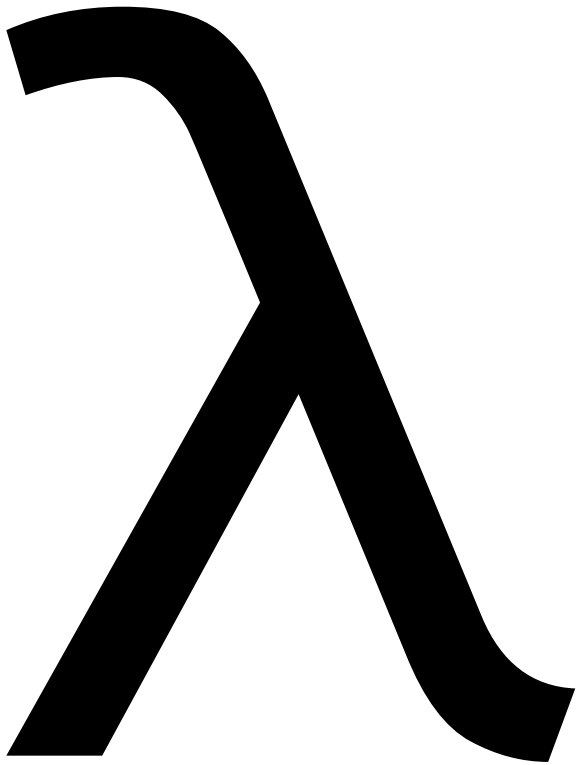
Domain Specific Languages

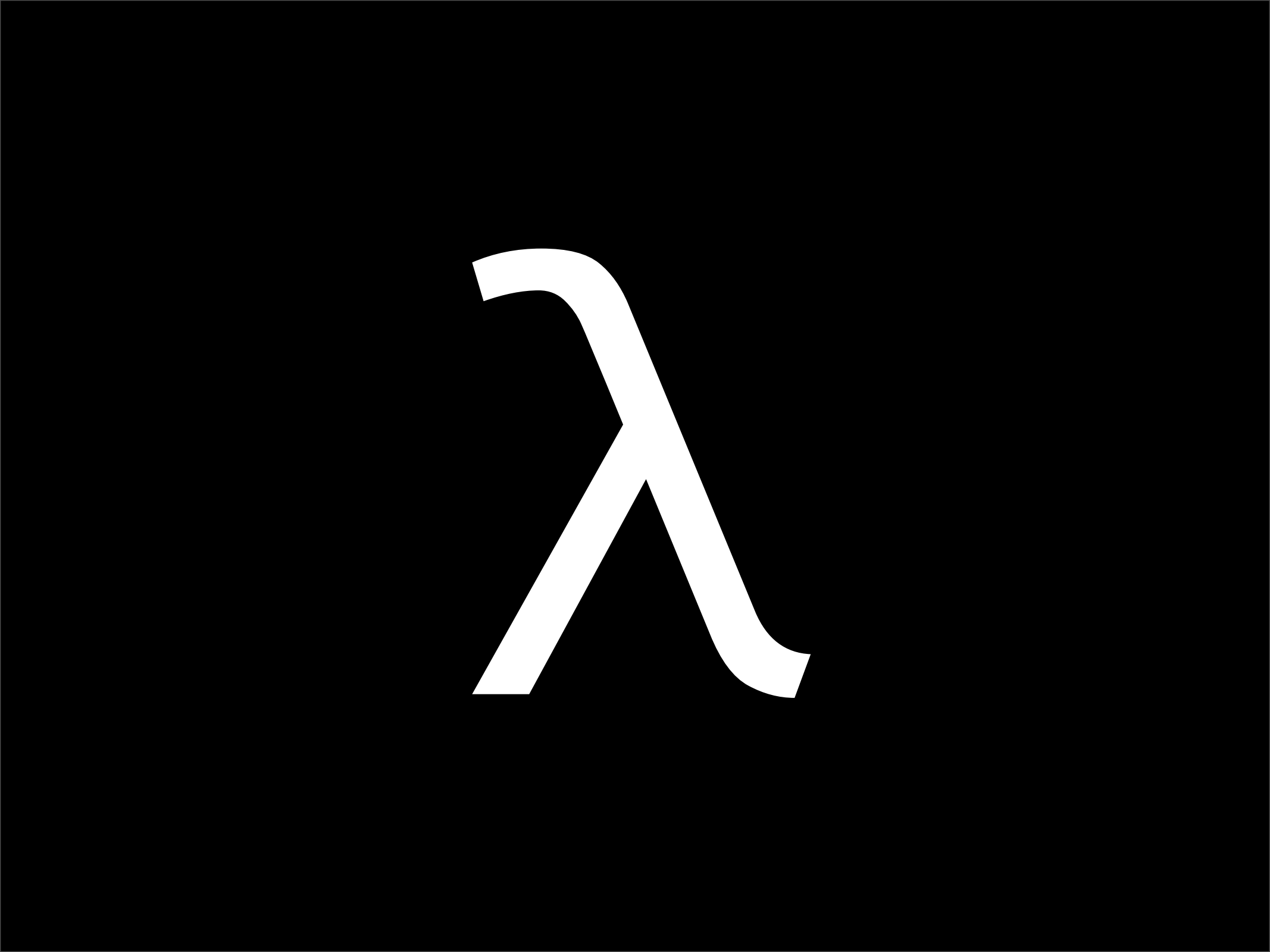
```ruby
class CatalogueSubgroup < ActiveRecord::Base
  has_many :catalogue_groupings
  has_many :items, :through => :catalogue_groupings
  belongs_to :catalogue_group
end
```

```ruby
class GroupingMerger < Merger
  for_model Grouping
  listen_to 'ItemPDBSubgroup'

  primary_key :item_number, :group_code, :subgroup_code

  map 'ItemNo' => :item_number
  map 'PDBGroupCode' => :group_code
  map 'PDBSubgroupCode' => :subgroup_code
  map 'Position' => :position, :type => :integer
  map 'Description' => :description
end
```

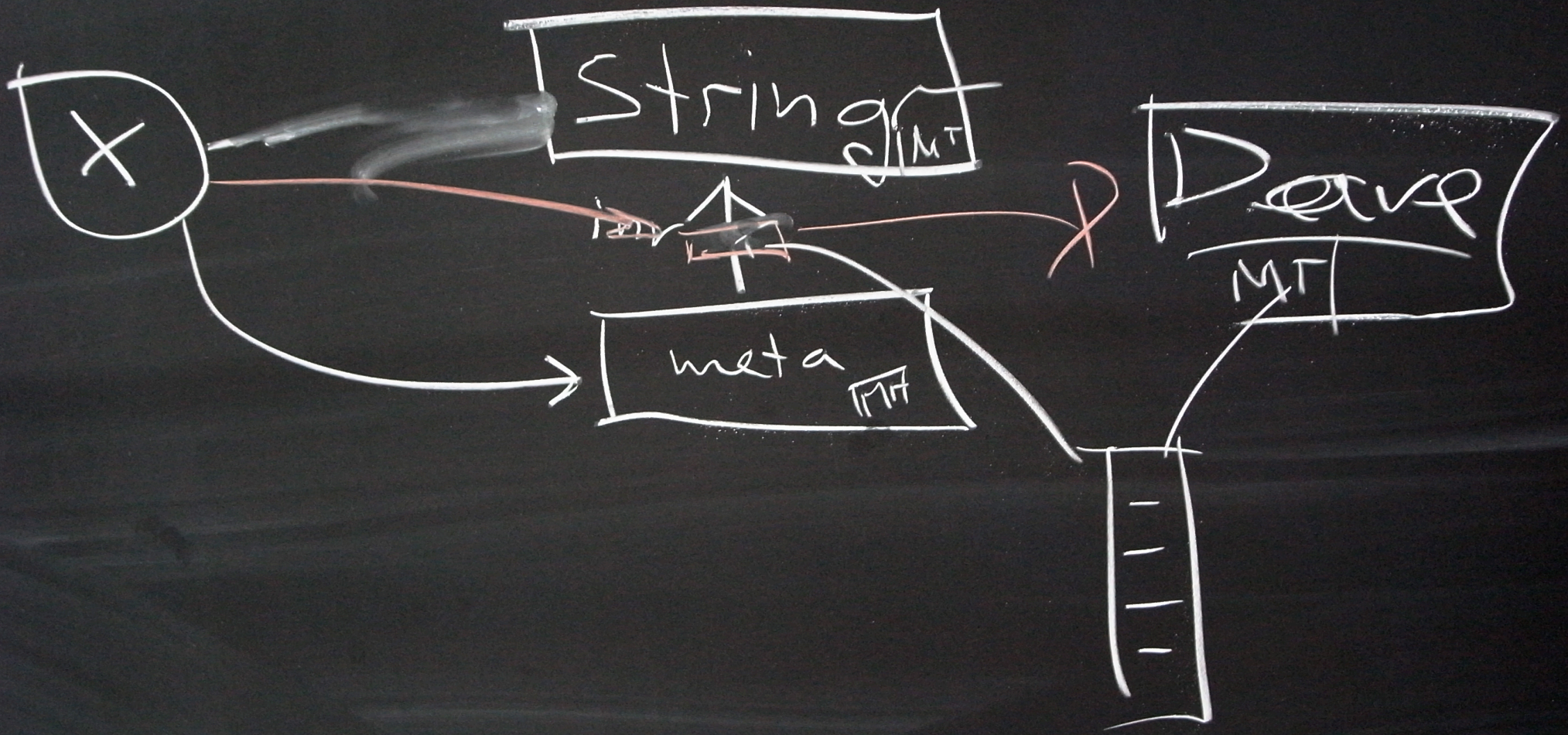
```
it "should put expression tags around a word containing multiple .s " do
  wish = "attribute = 10.next.next"
  post_parse = "(attribute = 12)"
  @interest.parse_interests(wish, "").should == post_parse
end
```

```ruby
class LegacyAssociations < AssociationLinker

  link "user belongs to a contact" do
    from User => :contact_number
    to Contact => :number
  end

  link "favourite belongs to an item" do
    from Favourite => :item_number
    to Item => :number
  end

  link "item_metadata belongs to an item" do
    from ItemMetadata => :item_number
    to   Item => :number
  end

end
```





Eval
Apply


X
String
MT
Deque
MT
meta
MT

disoriented?

why the lucky stiff
is a fledgling freelance professor, one who will die young and make no lasting impression.

except there was that time when i vacuumed all of Greenland for them.

email? here.

Sunday, April 17, 2005

Seeing Metaclasses Clearly

If you're new to metaprogramming in Ruby and you'd like to start using it, perhaps these four methods could give you a bit more vision.

```
class Object
  # The hidden singleton lurks behind everyone
  def metaclass; class << self; self; end; end
  def meta_eval &blk; metaclass.instance_eval &blk; end

  # Adds methods to a metaclass
  def meta_def name, &blk
    meta_eval { define_method name, &blk }
  end

  # Defines an instance method within a class
  def class_def name, &blk
    class_eval { define_method name, &blk }
  end
end
```

Books:
- Why's (Poignant) Guide to Ruby (Blixy Tees)

Blogs:
- quiet
- Hackety Org
- ~~RedHanded~~ COMPLETED!

Stories:
- The Bobby Wolves
- Stunt Runner

Comics:
- Holy Bible: one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen
- The Open Window: one, two, three, four, five, six, seven, eight, nine
- Lost Children, Lost Children, Lost Children, See Such Feverish Castles: one

Incidents: (35) Adventure of the Apple's Mom (34) A Magic Milk (33) The Secret Sandwich (32) A Smart Curtsy (31) The Hand Which Fell Apart (30) Jentle & Pailey (29) The Grieving Boar (28) The Story Life Doesn't Explain (27) The Life Guy (26) The Jump Wanter (25) Kimothy's Mouth (24) Speaking Of Flutes (23) The Advisor (22) Wristwatches (21) The Queen-Sized (20) The Tandem Bicycle (19) The Little Piece of Cloth (18) Milk Powers (17) Javek and the Candle (16) The Skier (15) The Man Who Happened to Have Legs (14) The Man Who Happened

“This is some serious mojo”

Harm Aarts

```
:equiRe 'open-uri'; RequiRe 'rubygems'; RequiRe 'hpricot'
uRl, save_as = *ARGV
KEEPVID = URI(HpRicot(URI("http://keepvid.com/").Read).
                    at("form")['action'])

Net::HTTP.start(KEEPVID.host, KEEPVID.poRt) do |http|
  doc = HpRicot(http.post(KEEPVID.path, "uRl=#{uRl}&site=aa").body)
  uRl = URI((doc/:a).detect{|x| x.next_node.to_s.index("(.flv - Flash")}['hRef'])
end

Net::HTTP.start(uRl.host, uRl.poRt) do |http|
  http.Request_get(uRl.Request_uRi, {'User-Agent' => 'ruby', 'Host' => uRl.host}) do
    |R|
    File.open(save_as, 'wb') do |f|
      len = 0
      R.Read_body do |chunk|
        f.wRite(chunk)
        len += chunk.length
        pRint "%30s / %d of %d / %0.1f%%\r" %
          [save_as, len, R.content_length, ((len * 1.0) / r.content_length) * 100.0]
      end
    end
  end
end
```

haiku.rb

```
$ruby.is_a?(Object){|oriented| language}
```

```
def you are
  false
end

enjoy life while you /can/
```

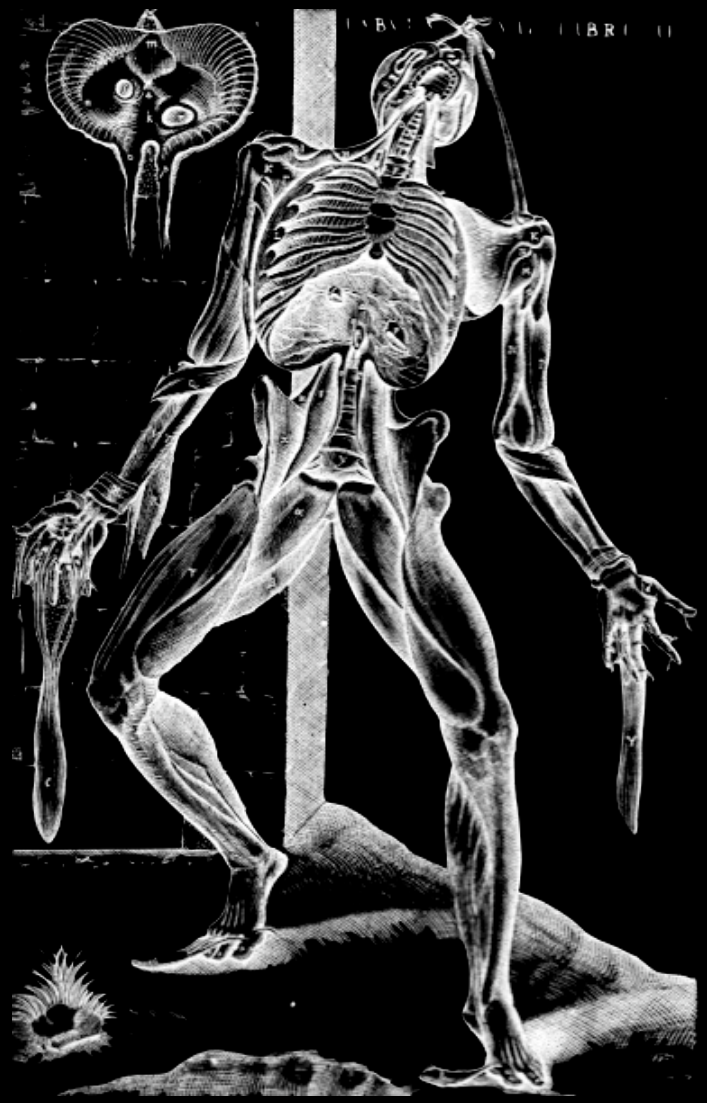
```
"eyes".scan /the_darkness/
catch( :in_the_wind ) { ?a.round; "breath" \
        or "a".slice /of_moon/ }
```

```
%w[tempfile uri].map{|l|require l};class Object;def meta_def m,&b;(class<<self
self end).send:define_method,m,&b end end;module Camping;C=self
S=IO.read(__FILE__)rescue nil;P="<h1>Cam\\ping Problem!</h1><h2>%s</h2>"
class H<Hash
 method_missing m,*a;m.to_s=~/=$/?self[$`]=a[0]:a==[]?self[m.to_s]:super end
alias u merge!;undef id,type;end;module Helpers;def R c,*g
p,h=/\(.+?\)/,g.grep(Hash);g-=h;raise"bad route"unless u=c.urls.find{|x|
break x if x.scan(p).size==g.size&&/^#{x}\/?$/=~(x=g.inject(x){|x,a|
x.sub p,C.escape((a[a.class.primary_key]rescue a))})}
h.any?? u+"?"+h[0].map{|x|x.map{|z|C.escape z}*"="}*"&":u end;def / p
p[/^\//]?@root+p:p end;def URL c='/',*a;c=R(c, *a) if c.respond_to?:urls
c=self/c:c="//"+@env.HTTP_HOST+c if c[/^\//];URI c end end;module Base
attr_accessor:input,:cookies,:env,:headers,:body,:status,:root;Z="\r\n"
 def method_missing *a,&b;a.shift if a[0]==:render;m=Mab.new({},self)
s=m.capture{send(*a,&b)};s=m.capture{send(:layout){s}}if/^_/!~a[0].to_s and
m.respond_to?:layout;s end;def r s,b,h={};@status=s;headers.u(h);@body=b
end;def redirect *a;r 302,'','Location'=>URL(*a)end;def r404 p=env.PATH
r 404,P%"#{p} not found"end;def r500 k,m,x
r 500,P%"#{k}.#{m}"+"<h3>#{x.class} #{x.message}: <ul>#{x.
backtrace.map{|b|"<li>#{b}</li>"}}</ul></h3>"end;def r501 m=@method
  r 501,P%"#{m.upcase} not implemented"end;def to_a
 [status,body,headers]end;def initialize r,e,m;@status,@method,@env,@headers,
@root=200,m,e,H['Content-Type','text/html'],e.SCRIPT_NAME.sub(/\/$/,'')
 @k=C.kp e.HTTP_COOKIE;q=C.qsp e.QUERY_STRING;@in=r;case e.CONTENT_TYPE
 when%r|\Amultipart/form-.*boundary=\"?([^\";,]+)|n
 b=/(?:\r?\n|\A)#{Regexp.quote"--#$1"}(?:--)?\r$/;until@in.eof?;fh=H[]
for l in@in;case l;when Z;break;when/^Content-D.+?: form-data;/
fh.u H[*$'.scan(/(?:\s(\w+)="([^"]+)")/).flatten]
 when/^Content-Type: (.+?)(\r$|\Z)/m: fh.type = $1 end end;fn=fh.name
o=if fh.filename;o=fh.tempfile=Tempfile.new(:C);o.binmode;else;fh="";end;s=8192
k='';l=@in.read(s*2);while l;if(k<<l)=~b;o<<$`.chomp
@in.seek(-$'.size,IO::SEEK_CUR);break end;o<<k.slice!(0...s);l=@in.read(s) end
C.qsp(fn,'&;',fh,q)if fn;fh.tempfile.rewind if fh.is_a?H end;when
 "application/x-www-form-urlencoded": q.u(C.qsp(@in.read))end
@cookies,@input=@k.dup,q.dup end;def service *a;@body=send @method,*a
headers['Set-Cookie']=cookies.map{|k,v|"#{k}=#{C.escape(v)}; path=#{self/
"/"}"if v!=@k[k]}-[nil];self end;def to_s;"Status: #@status#{Z+(headers.inject([
]){|a,o|[*o[1]].map{|v|a<<[o[0],v]*": "if v&&v.to_s.any?};a}*Z)+Z+Z}#@body"end
end;X=module Controllers;@r=[];class<<self;def r;@r end;def R *u;r=@r
Class.new{meta_def(:urls){u};meta_def(:inherited){|x|r<<x}}end
 def D p,m;r.map{|k|k.urls.map{|x|return(k.instance_method(m)rescue nil)?
[k,m,*$~[1..-1]]:[I,'r501',m]if p=~/^#{x}\/?$/}};[I,'r404',p]
end;def M;def M;end;constants.map{|c|k=const_get(c)
k.send:include,C,Base,Helpers,Models;@r=[k]+r if r-[k]==r
k.meta_def(:urls){["/#{c.downcase}"]}if !k.respond_to?:urls}end end;class I<R()
 end;self end;class<<self;def goes m
eval S.gsub(/Camping/,m.to_s),TOPLEVEL_BINDING end;def escape s
s.to_s.gsub(/[^ \w.-]+/n){'%'+($&.unpack('H2'*$&.size)*'%').upcase}.tr' ','+'
 end;def un s;s.tr('+',' ').gsub(/%([\da-f]{2})/in){[$1].pack'H*'}end
def qsp q,d='&;',y=nil,z=H[];m=proc{|_,o,n|o.u(n,&m)rescue([*o]<<n)}
q.to_s.split(/[#{d}]+ */n)-[""]).inject((b,z=z,H[])[0]){|h,p|k,v=un(p).
split'=',2;h.u k.split(/[\]\[]+/).reverse.inject(y||v){|x,i|H[i,x]},&m}end
def kp s;c=qsp s,';','end;def run r=$stdin,e=ENV;X.M;e=H[e.to_hash];k,m,*a=X.D e.
```

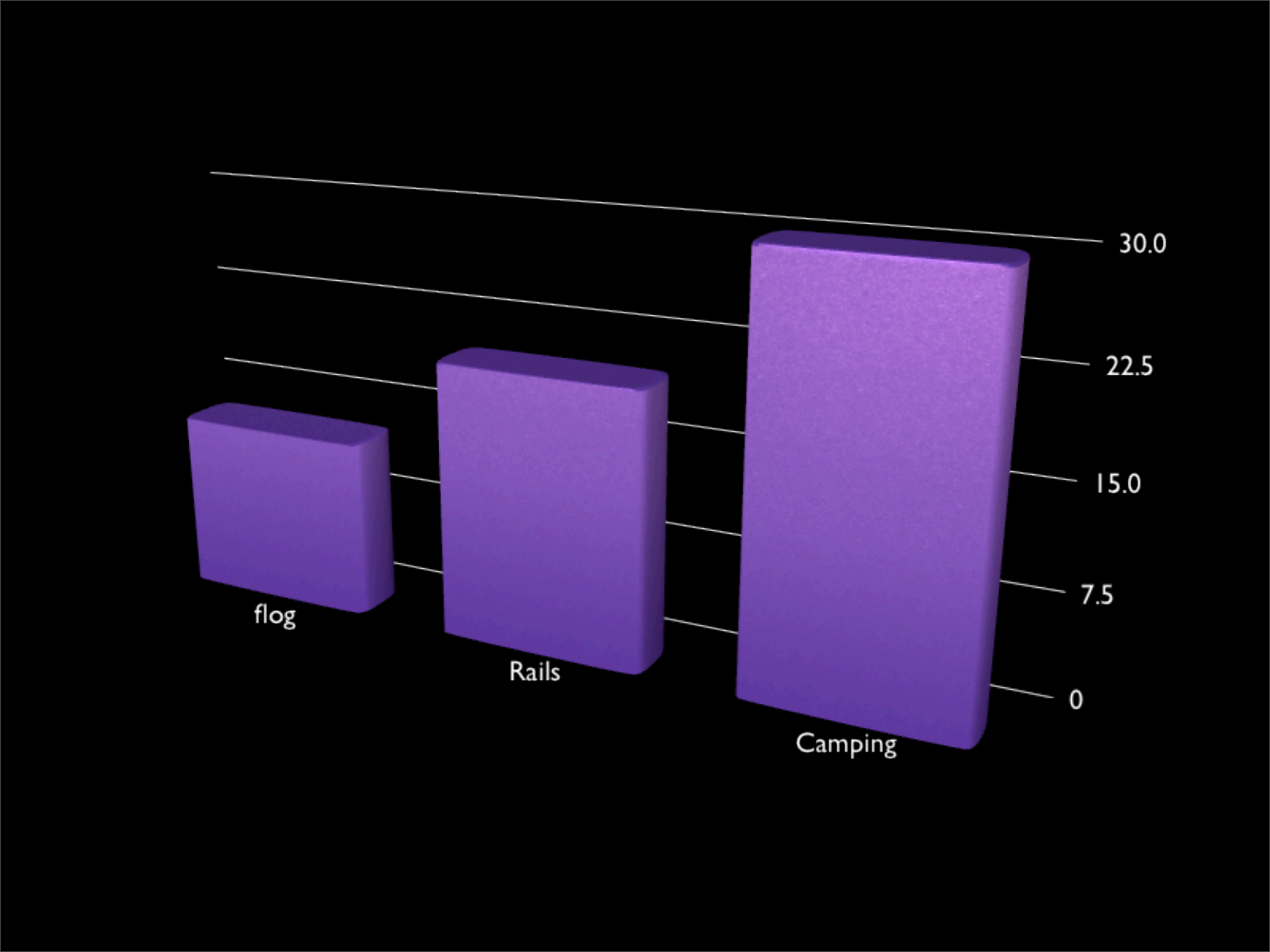
perspective

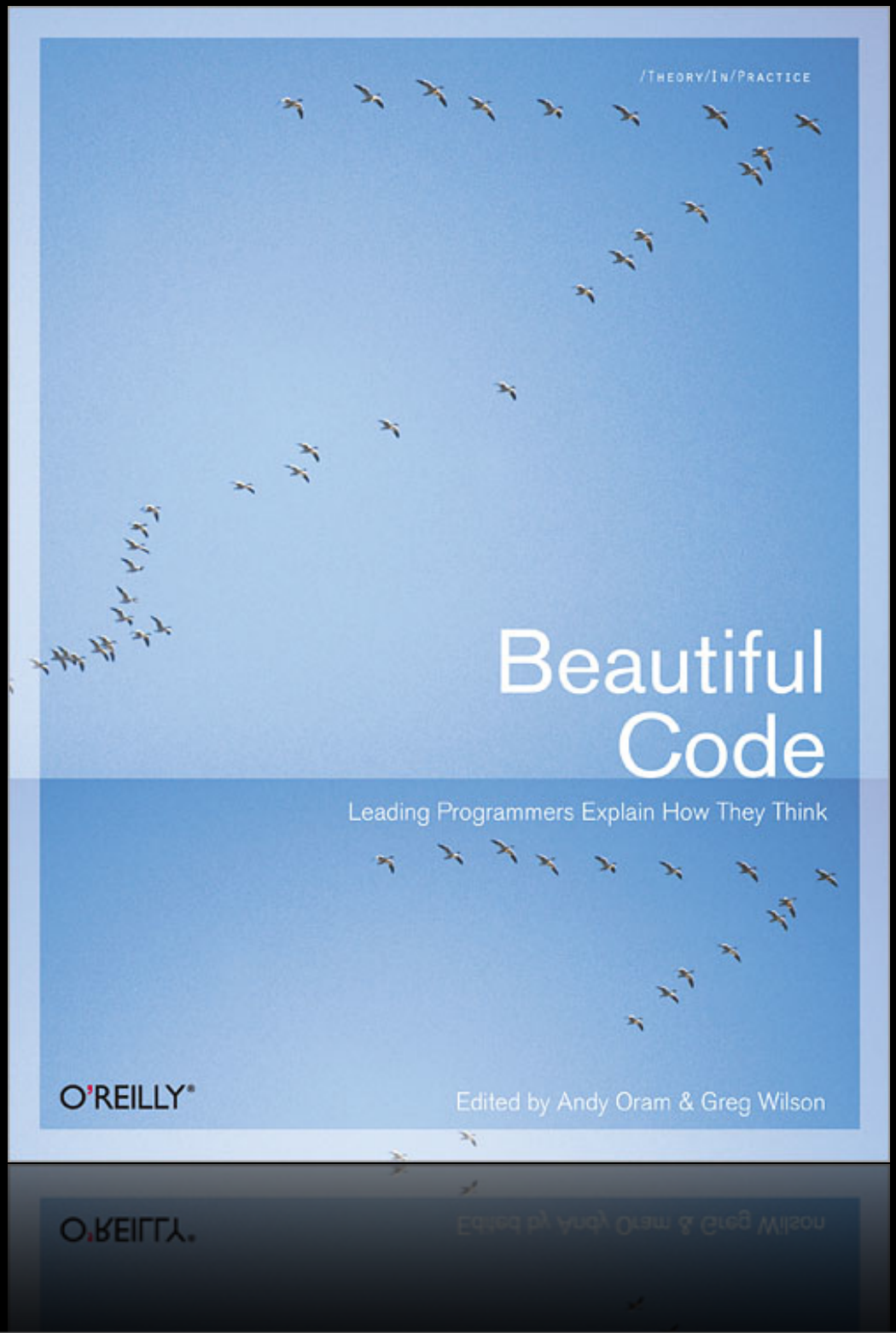
Ruby Sadists

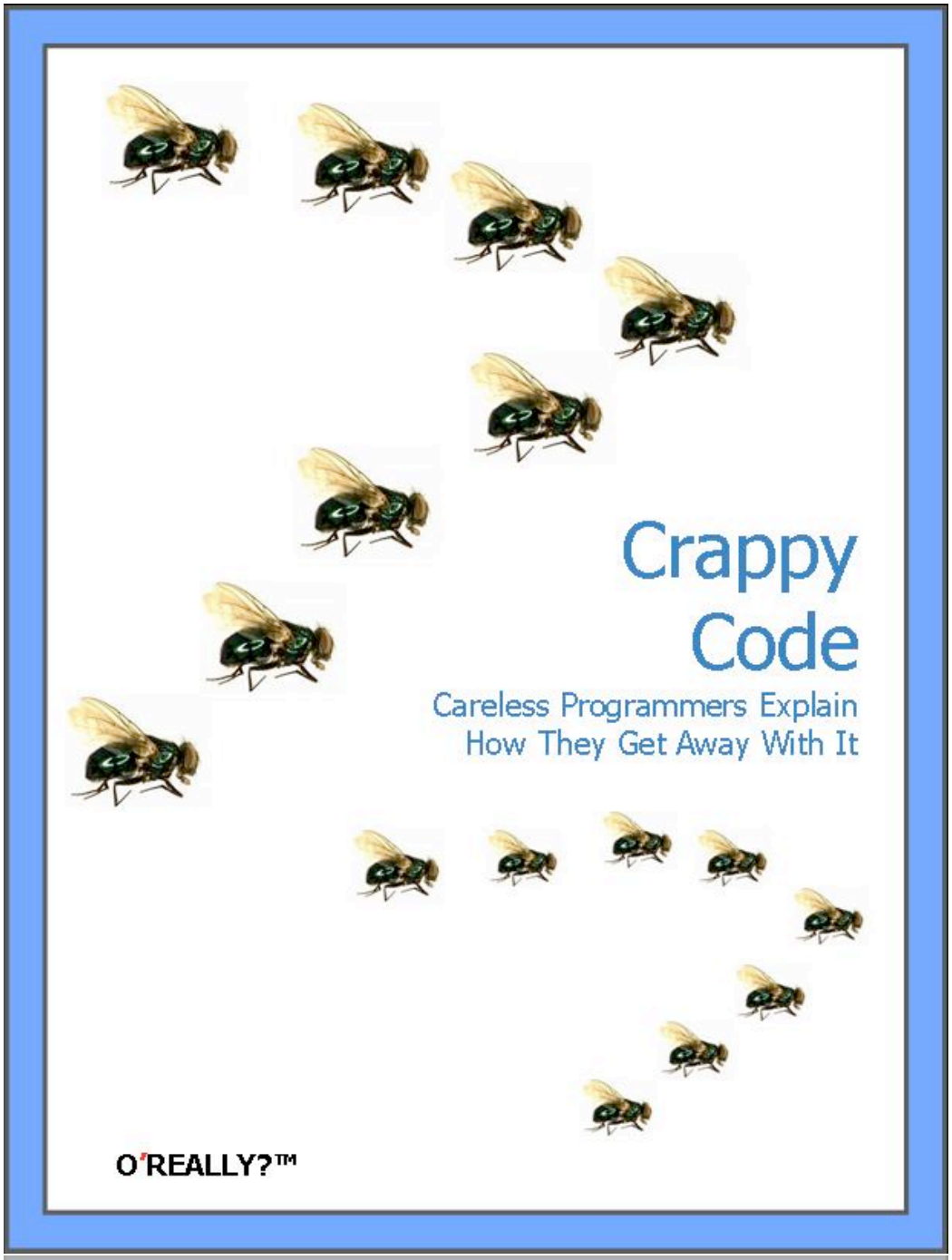
Vlad the Deployer



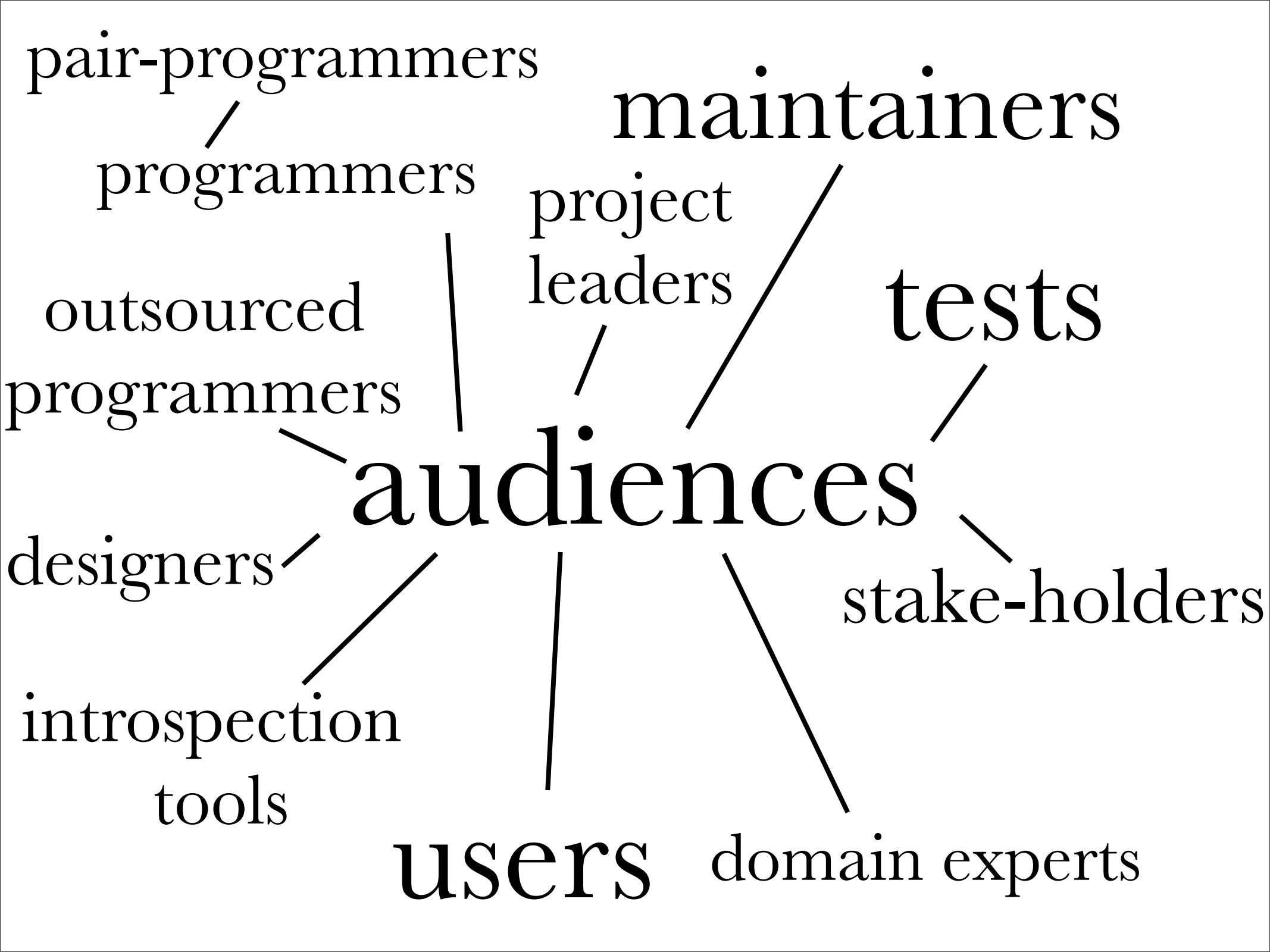
flog


30.0
22.5
15.0
7.5
0
flog
Rails
Camping


/Theory/In/Practice
Beautiful Code
Leading Programmers Explain How They Think
O'REILLY
Edited by Andy Oram & Greg Wilson


Crappy
Code
Careless Programmers Explain
How They Get Away With It
O'REALLY?™

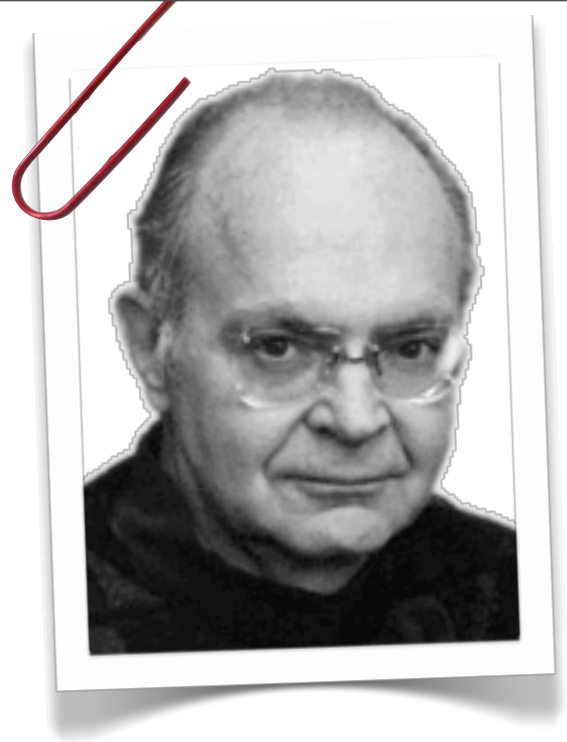
audiences


pair-programmers
programmers
maintainers
project
leaders
outsourced
programmers
tests
audiences
designers
stake-holders
introspection
tools
users
domain experts

ORIGIN late 18th cent. (in the sense [relating to perception by the senses]): from Greek ***aisthētikos***, from ***aisthēta 'perceptible things,'*** from ***aisthesthai 'perceive.'*** The sense [concerned with beauty] was coined in German in the mid 18th cent. and adopted into English in the early 19th cent., but its use was controversial until late in the century.

"Programmers spend so much of their time in their own heads that trying to look at the world from someone else's viewpoint is a big shift"

Kent Beck

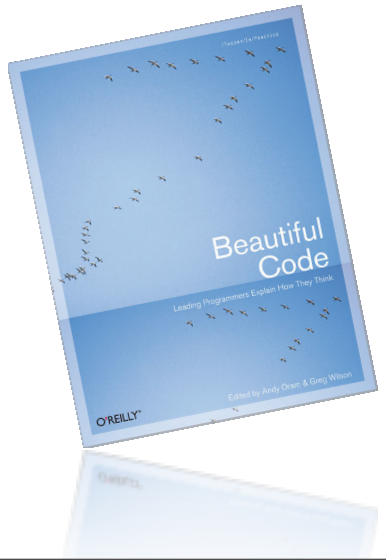


"The main idea is to treat a program as a piece of literature, addressed to human beings rather than to a computer".

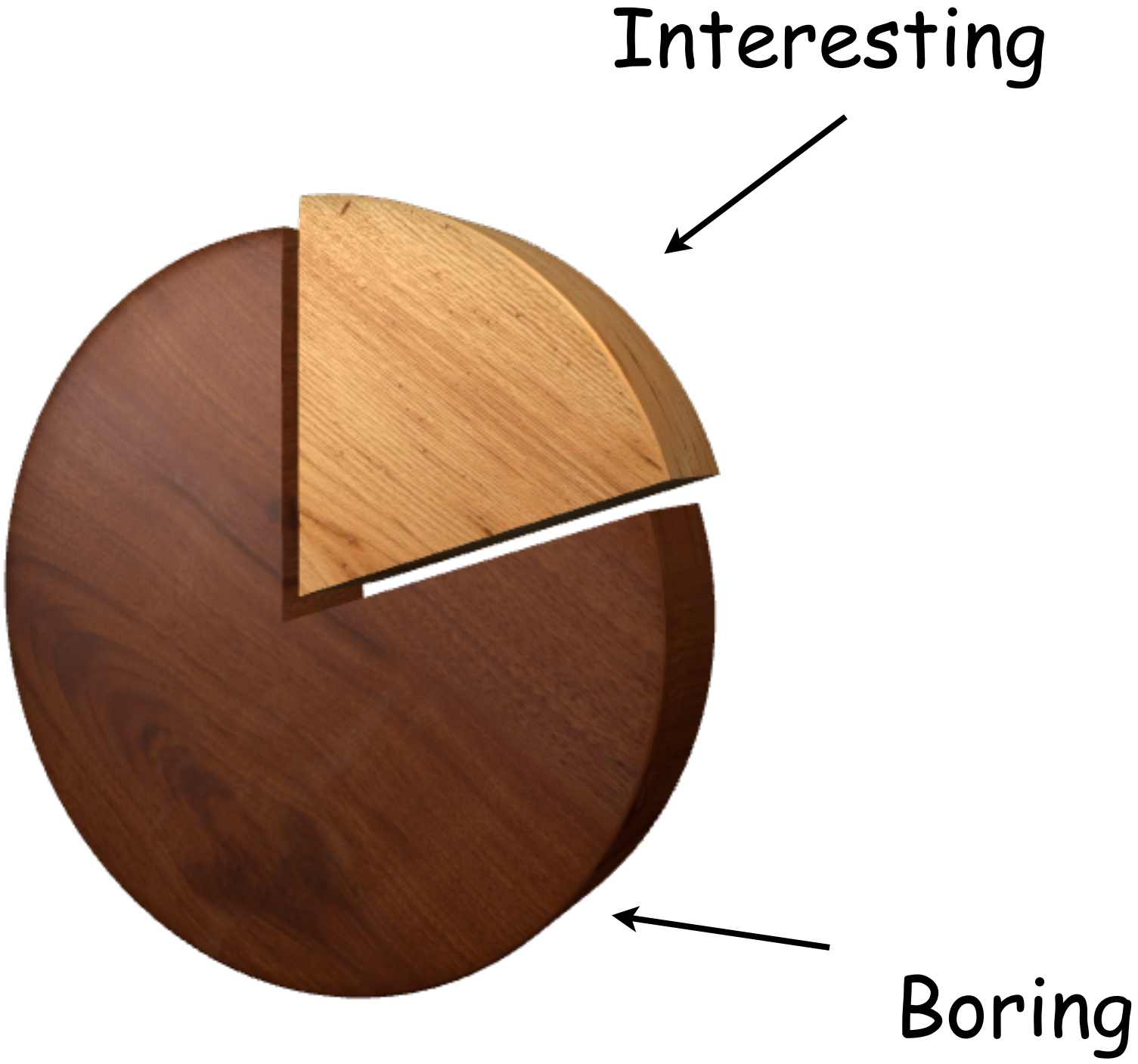
Donald Knuth

"Treating Code as an Essay"

Yukihiro Matsumoto, 松本行弘, Matz

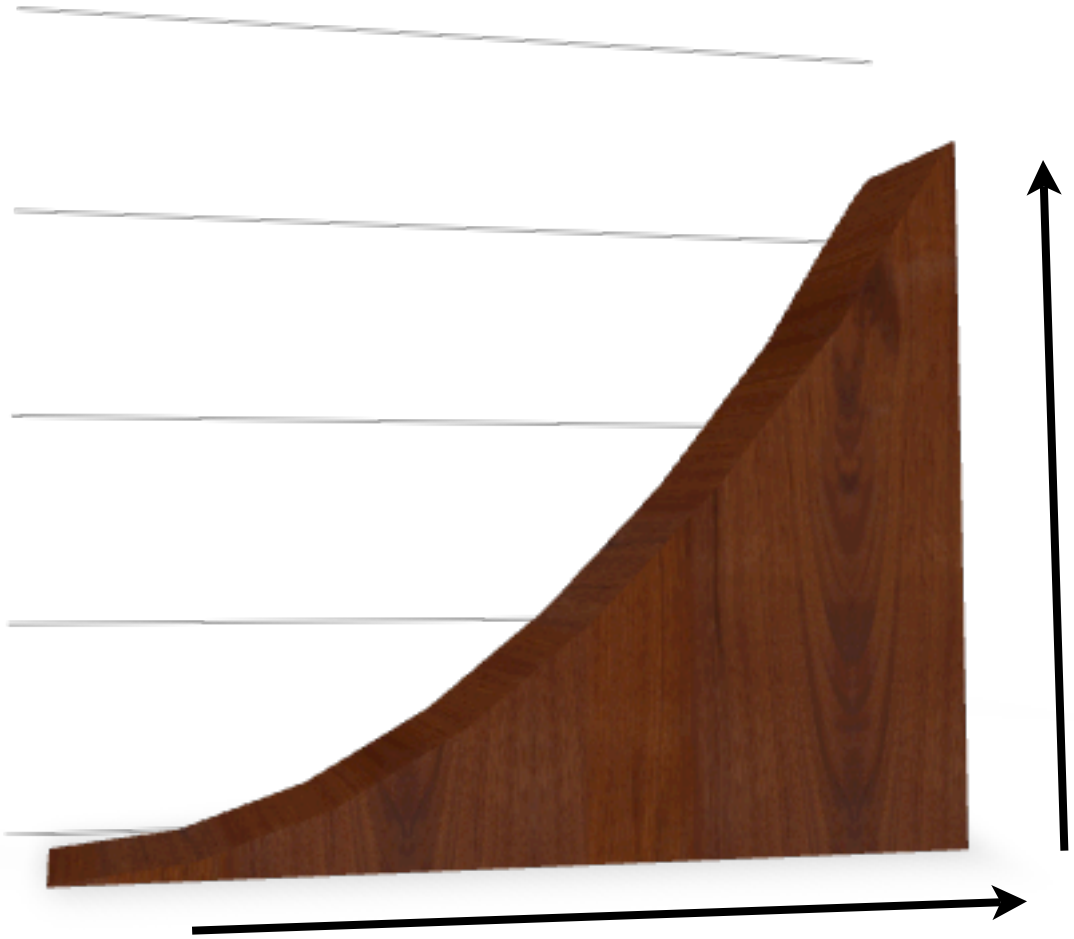


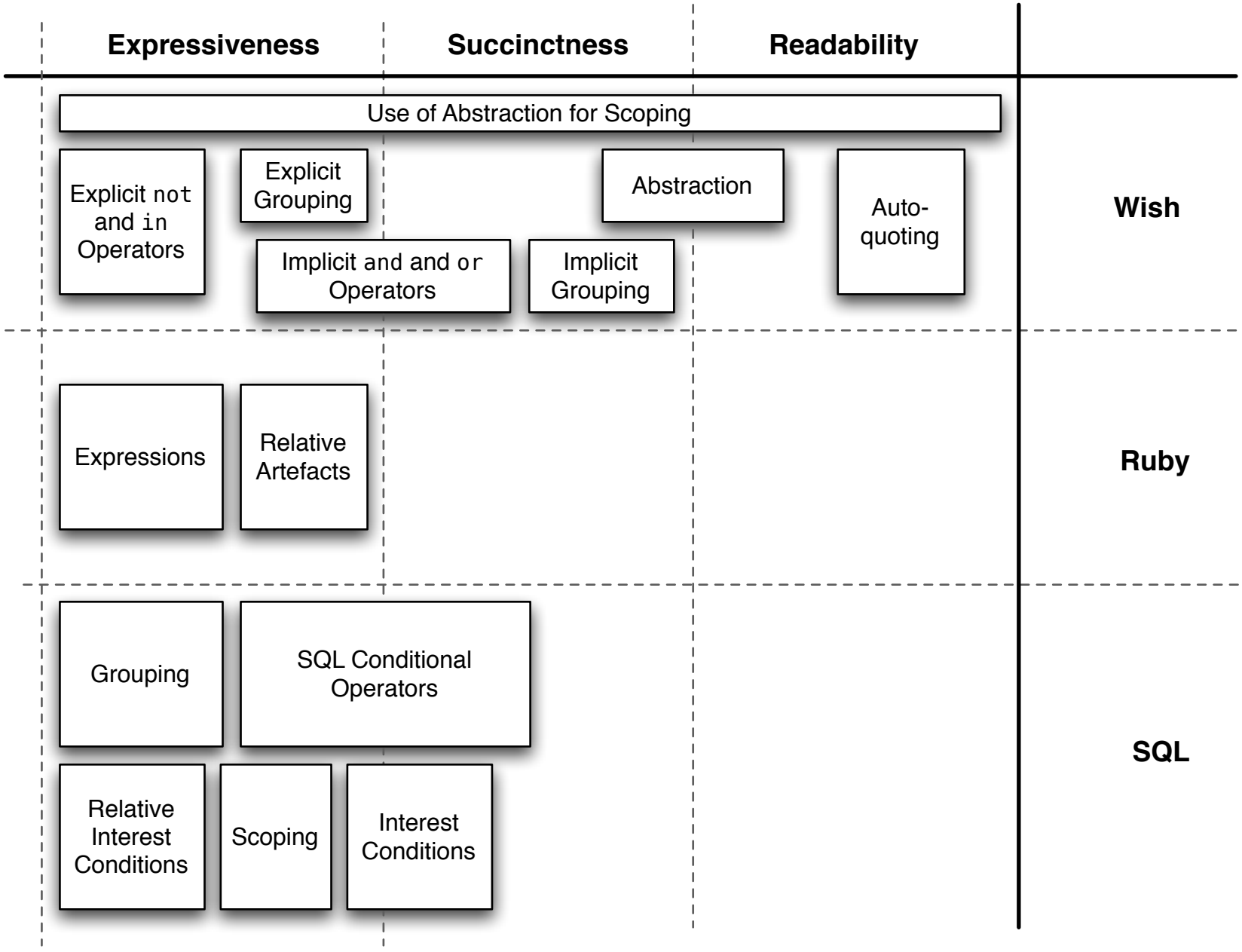
Everything

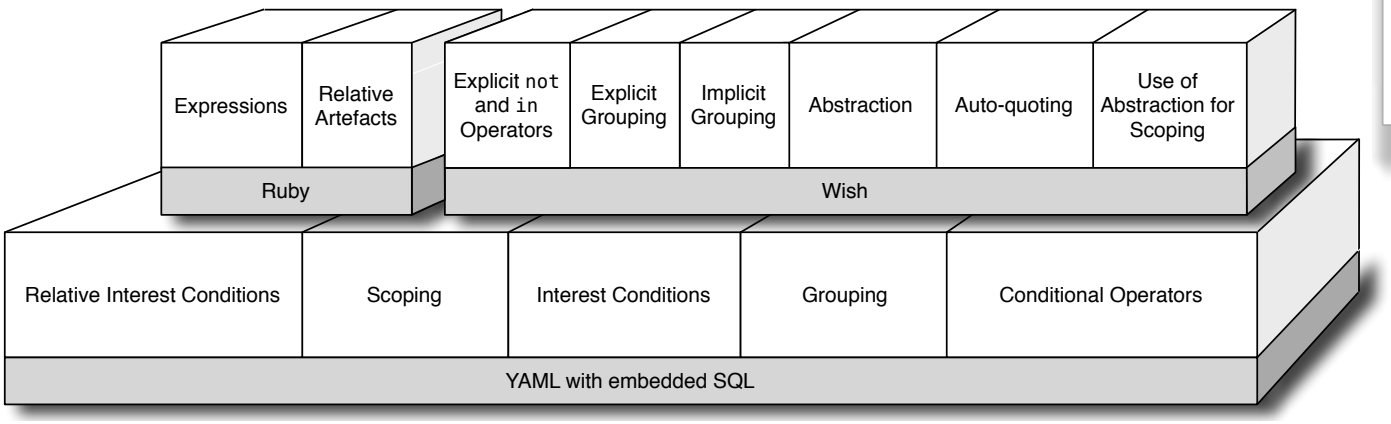

Interesting
Boring

```
select * from artefacts
        where
(colour = 'red')
```

```
select * from artefacts where (virtual = false
and ((colour = 'red') and (category = 'player'
and
((virtual = false and (category = 'player' and
(name in (select name from artefacts where
(((5.0 + radius > sqrt(pow((x_coord - 27.0),
2) + pow((y_coord - 13.0), 2))) and (category
= 'aura'))))))))
and ((9.5 > sqrt(pow((x_coord - 25.0), 2) +
pow((y_coord - 10.0), 2)))))))))
```


Complexity of SQL
Complexity of Interest


Expressiveness
Succinctness
Readability
Use of Abstraction for Scoping
Explicit not and in Operators
Explicit Grouping
Abstraction
Auto-quoting
Implicit and and or Operators
Implicit Grouping
Wish
Expressions
Relative Artefacts
Ruby
Grouping
SQL Conditional Operators
Relative Interest Conditions
Scoping
Interest Conditions
SQL


Expressions
Relative Artefacts
Explicit not and in Operators
Explicit Grouping
Implicit Grouping
Abstraction
Auto-quoting
Use of Abstraction for Scoping
Ruby
Wish
Relative Interest Conditions
Scoping
Interest Conditions
Grouping
Conditional Operators
YAML with embedded SQL

TO CAVE

"Not just *'what will the computer do with this code?'* but *'How can I communicate what I am thinking to people?'"*

Kent Beck