

## Warning/Guarantee:

This is a keynote. It is pretty abstract, and there are lots of slides. Lots. Just look at all of them. And very few words. And, because it's a keynote, it won't make much sense without me (the speaker) standing in front of it (and it may not make a whole lot of sense even then).

So, if you are reading this because you want to get a preview of the keynote, you're just going to be confused. And, it's going to ruin some parts of it that are supposed to be surprising/funny.

If you want a real preview of the keynote, sit and think for a hour or so about what's the most screwed up thing in your organization, and then it will magically appear in the keynote when you least expect it.

Hope you enjoy it.

Neal

# ancient philosophers & blowhard jamborees

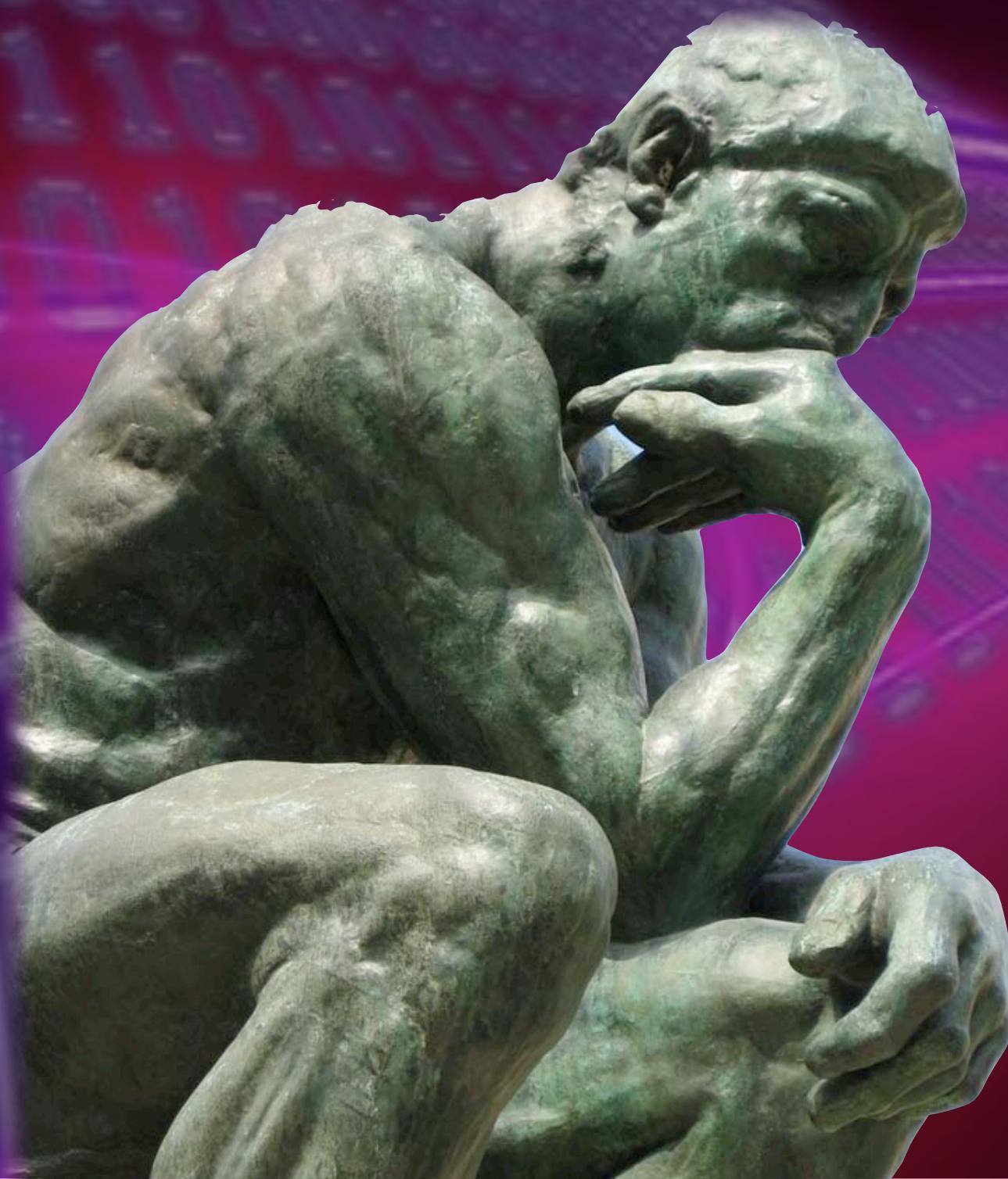
**NEAL FORD** software architect / meme wrangler

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*Those who cannot learn  
from history are doomed  
to repeat it.*

George Santayana



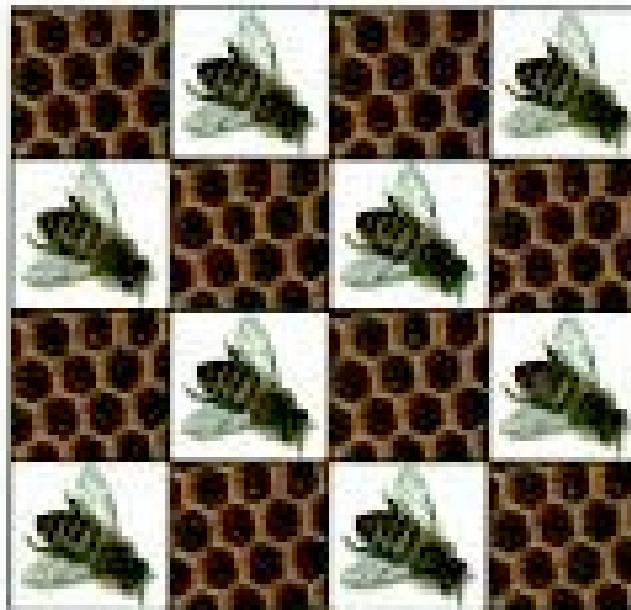


Lisp rocks!

# **SMALLTALK**

## **BEST PRACTICE**

### **PATTERNS**



KENT BECK

ANNIVERSARY EDITION WITH FOUR NEW CHAPTERS



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# THE MYTHICAL MAN-MONTH

FREDERICK P. BROOKS, JR.

# The Pragmatic Programmer



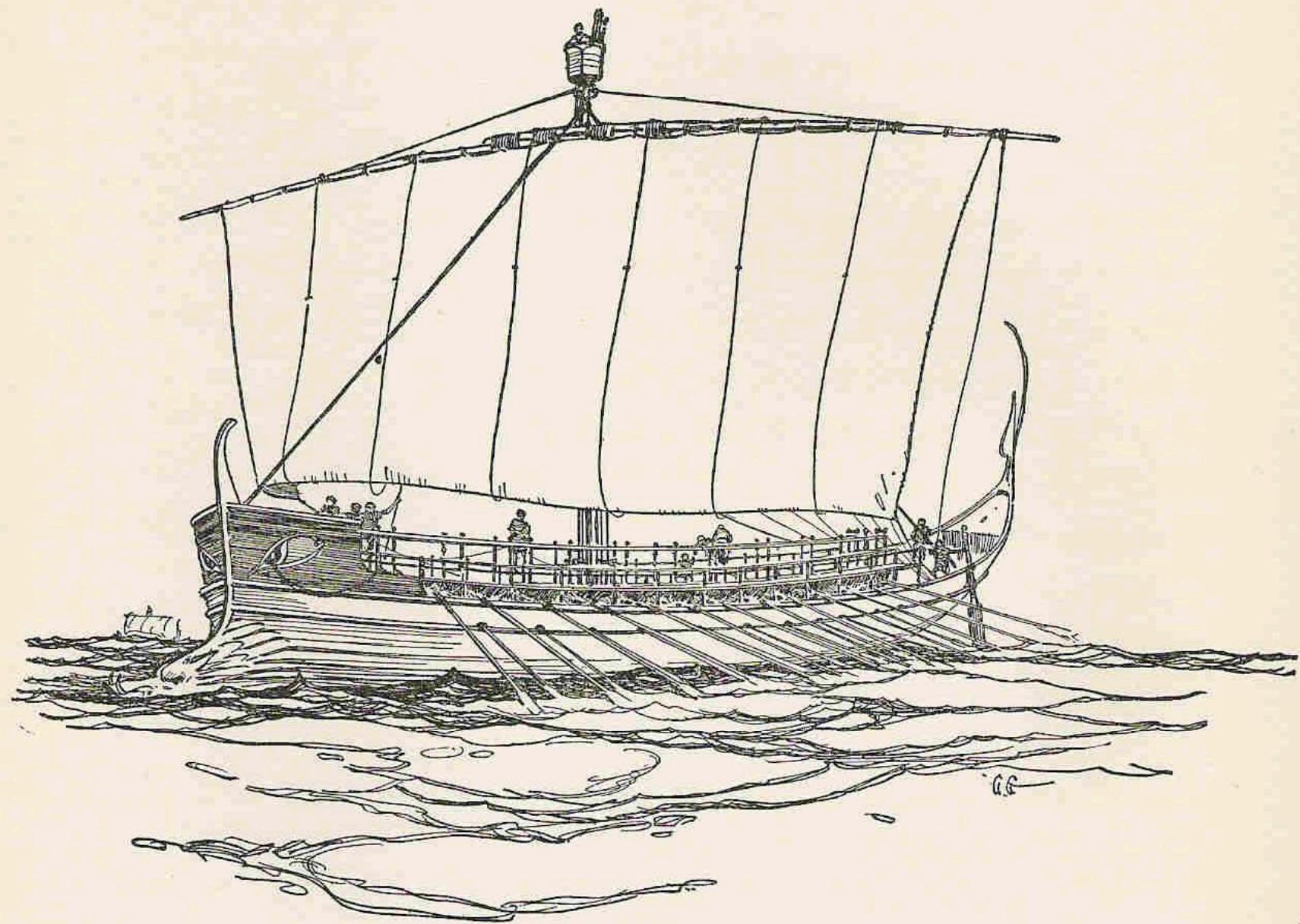
from journeyman  
to master

Andrew Hunt  
David Thomas



Smalltalk  
rules the lyceum!

Plato developed the  
doctrine of *Ideas*







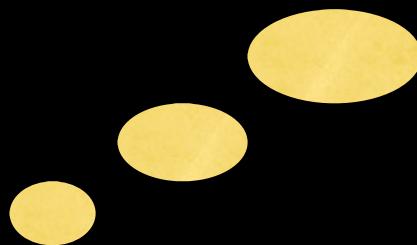
Plato invented object-  
orientation!

classes  
objects

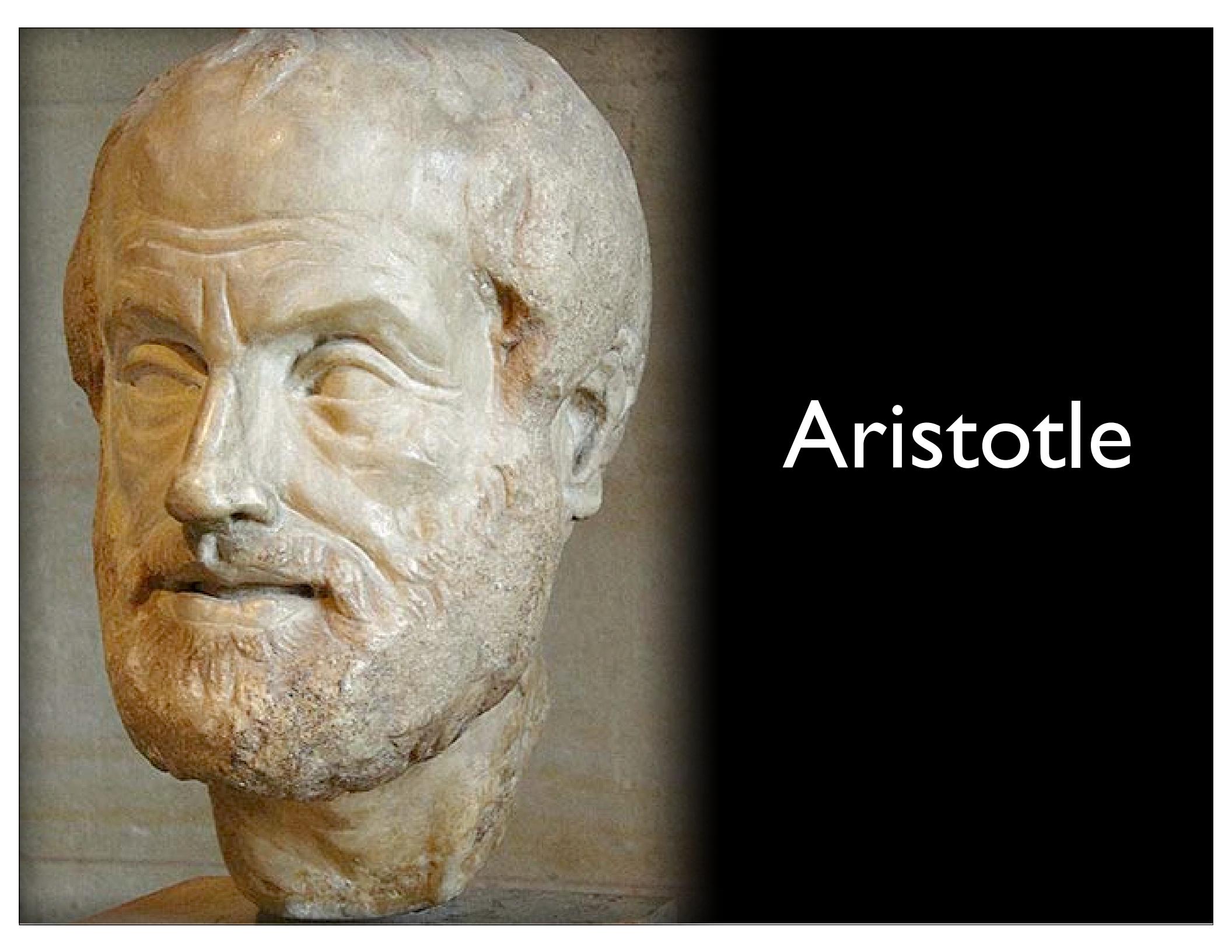
it took us 2300 years  
to incorporate that into  
software



think



Plato would have hated  
JavaScript

A detailed marble bust of the ancient Greek philosopher Aristotle. He is depicted from the chest up, wearing a traditional himation. His head is turned slightly to his left, and he has a thoughtful expression with a slight smile. His eyes are deeply set, and his hair is represented by short, receding lines. The marble is light-colored with some darker, reddish-brown staining, particularly around the mouth and chin.

Aristotle

*The Parts of Animals*

*Metaphysics*

*Poetics*

*Ethics*

*On the Heavens*

*Growth and Decay*

*Posterior Analytics*

*Natural History*

*Sophistical Refutation*

*Physics*

attacked all the

*Organon*

*Rhetoric*

problems of his day

*Politics*

*The Generation of Animals*

*On the Soul*

*Propositions*

*Topics*

*Prior*

*Categories*

*Meteorology*

*The Movements of Animals*

founded many scientific  
disciplines



without equipment!



logic

essential property

accidental property

5 boats

all with sails

the essential property:  
conveyance across  
water

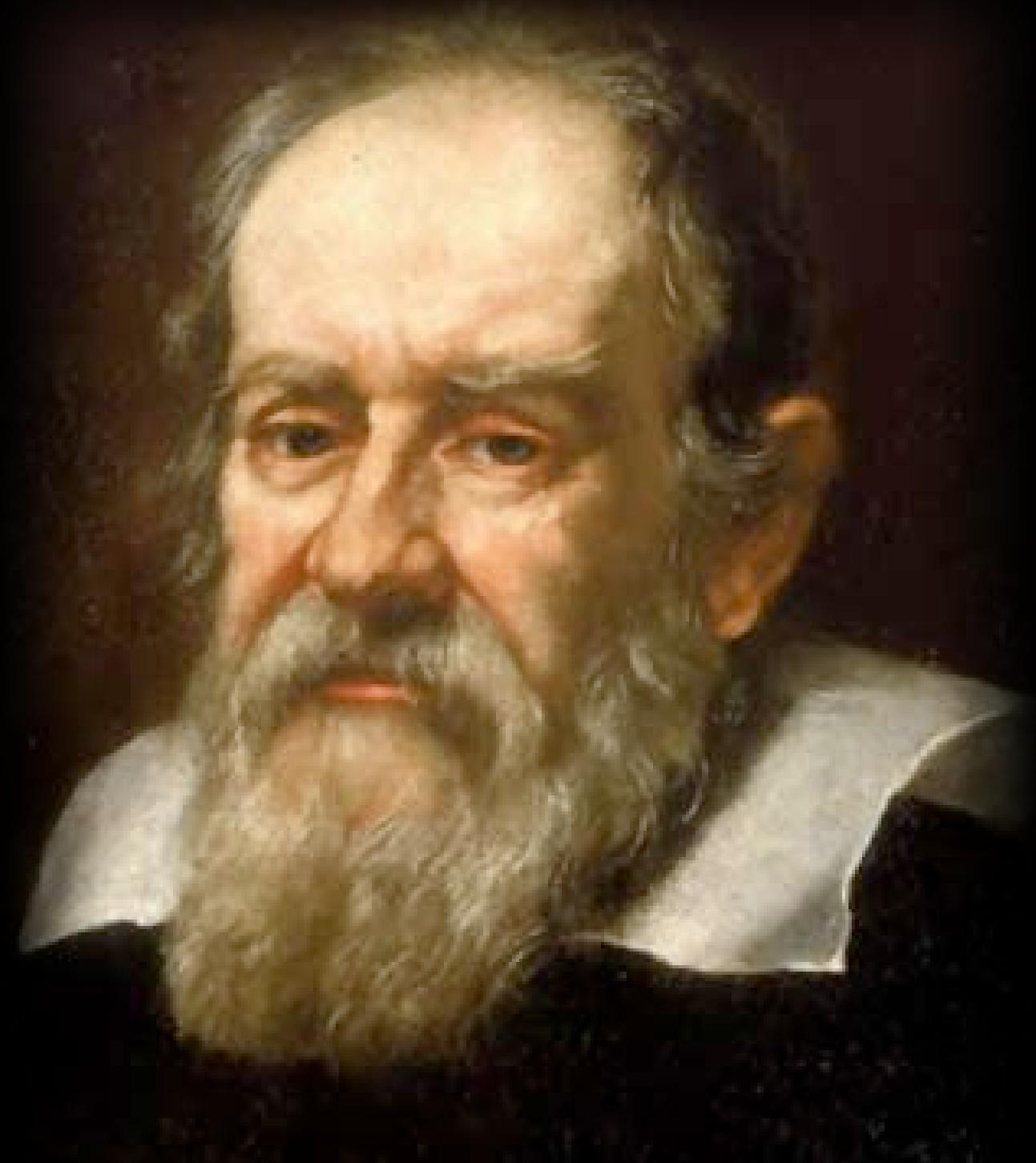
accidental property:  
sails



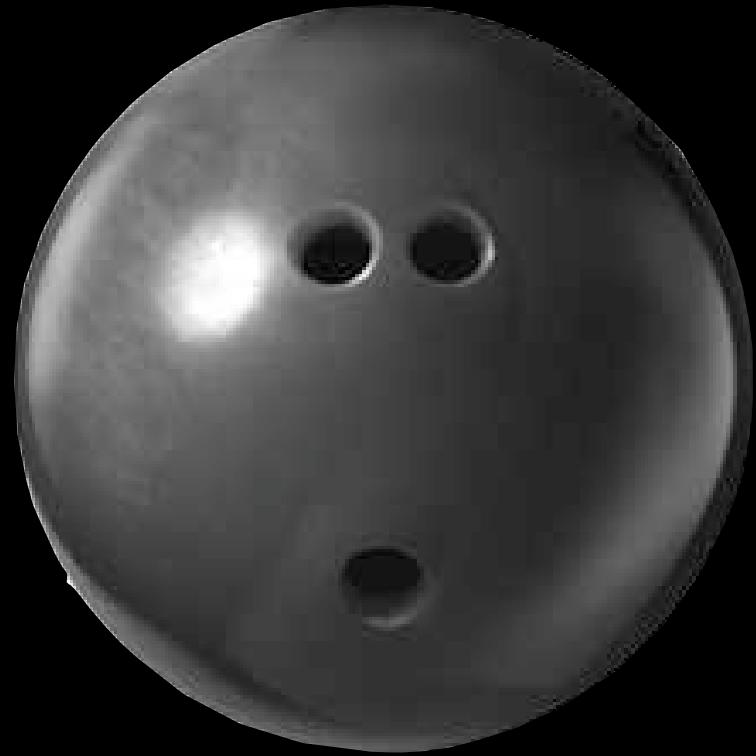
all boats have sails

seems pretty obvious...

...or does it...



Galileo





*counter-intuitive*

non-intuitive things that  
happen in software

# anti-patterns

<http://c2.com/cgi/wiki?AntiPatternsCatalog>

- [NotInventedHere](#)
- [OverUseOfPatterns](#)
- [PathOfLeastResistance](#)
- [PassingNullsToConstructors?](#)
- [PlugCompatibleInterchangeableEngineers](#)
- [PolterGeists](#)
- [ProjectMismanagement?](#)
- [RansomNoteAntiPattern?](#)
- [ReinventTheWheel](#)
- [RollYourOwnDatabase](#)
- [RequirementsTossedOverTheWall](#)
- [RubeGoldbergMachine](#)
- [ScapeGoat](#)
- [SecretSociety](#)
- [ShootTheMessenger](#)
- [SingleFunctionExitPoint](#)
- [SmokeAndMirrors](#)
- [SoftwareMerger](#)
- [SpaghettiCode](#)
- [SpecifyNothing](#)
- [StandingOnTheShouldersOfMidgets](#)
- [StovepipeEnterprise?](#)
- [StovepipeAntiPattern](#)
- [StringWithoutLength](#)
- [SumoMarriage](#)
- [SwissArmyKnife](#)
- [ThatsNotReallyAnIssue](#)
- [TheBlob](#)
- [TheCustomersAreIdiots](#)
- [TheFeud?](#)
- [TheGrandOldDukeOfYork](#)
- [TheyUnderstoodMe](#)
- [ThrownOverTheWall](#)
- [TowerOfVoodoo](#)
- [TrainTheTrainer](#)
- [TrustingSouls?](#)
- [UntestedButFinished](#)
- [VendorLockIn](#)
- [ViewgraphEngineering](#)
- [WalkingThroughaMineField](#)
- [WarmBodies](#)
- [WeAreIdiots](#)
- [WolfTicket](#)
- [WhatAndHow?](#)
- [YetAnotherMeetingWillSolveIt](#)
- [YetAnotherProgrammer](#)
- [ZeroMeansNull](#)

dead end  
(aka “clang bird”)



# give me estimates now





groundhog  
day project

A close-up photograph of a mushroom growing from a piece of wood on sandy ground. The mushroom has a dark, textured cap and a white stem. The wood is dark and weathered. The background is blurred.

# mushroom management

standing on the shoulders of  
dwarves





net negative  
producing programmer

software development  
productivity would  
skyrocket...

...if the least effective  
30% were fired  
tomorrow





A close-up photograph of a blue boat anchor. The anchor is made of metal and has a dark blue paint coating that is heavily worn and peeling, revealing the underlying metal in many places. It is set against a bright red, textured background that appears to be the side of a boat or a large container. The lighting highlights the metallic texture and the contrast between the blue anchor and the red surface.

boat  
anchor



# Death by Planning

# NextGen



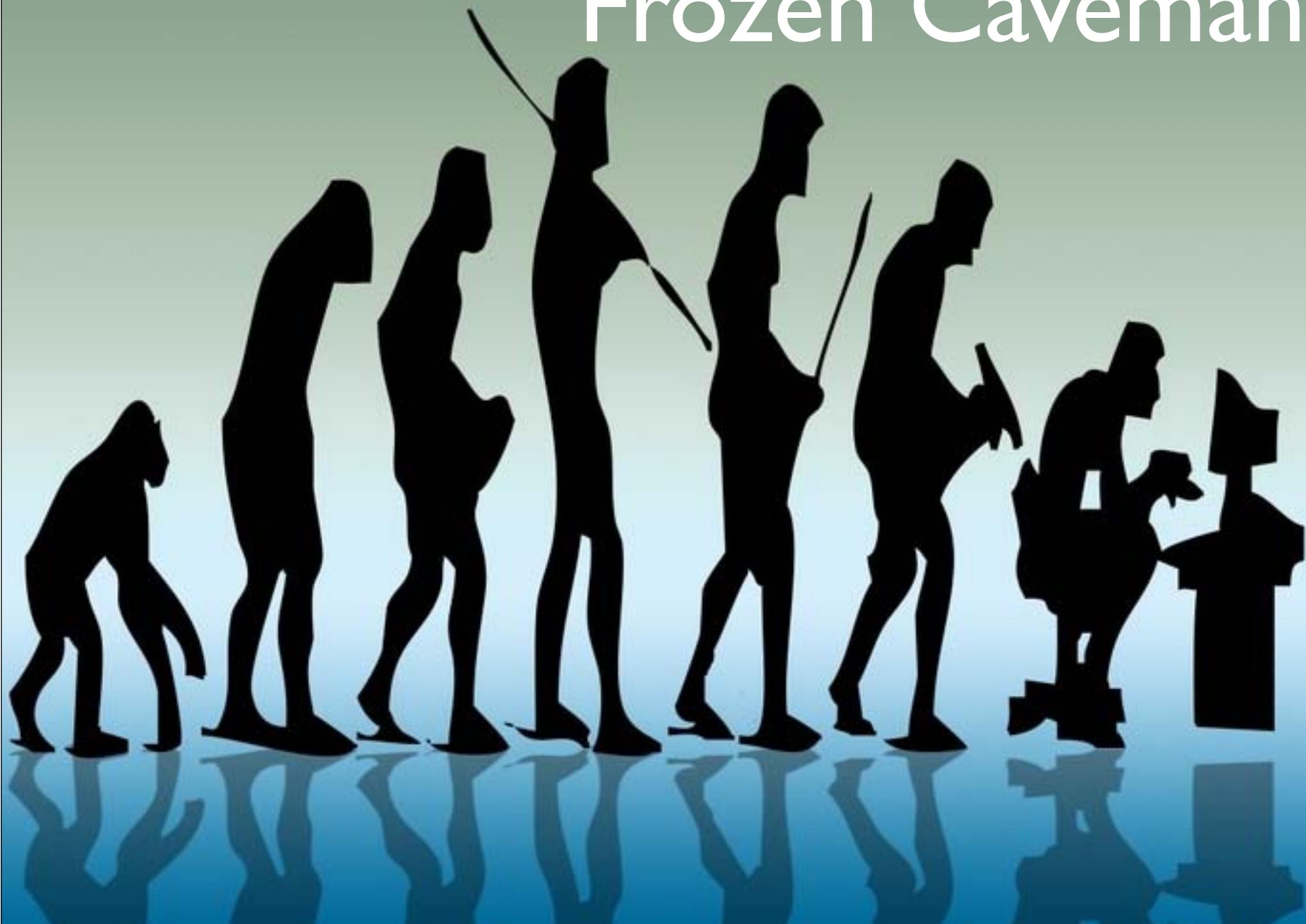
n e w

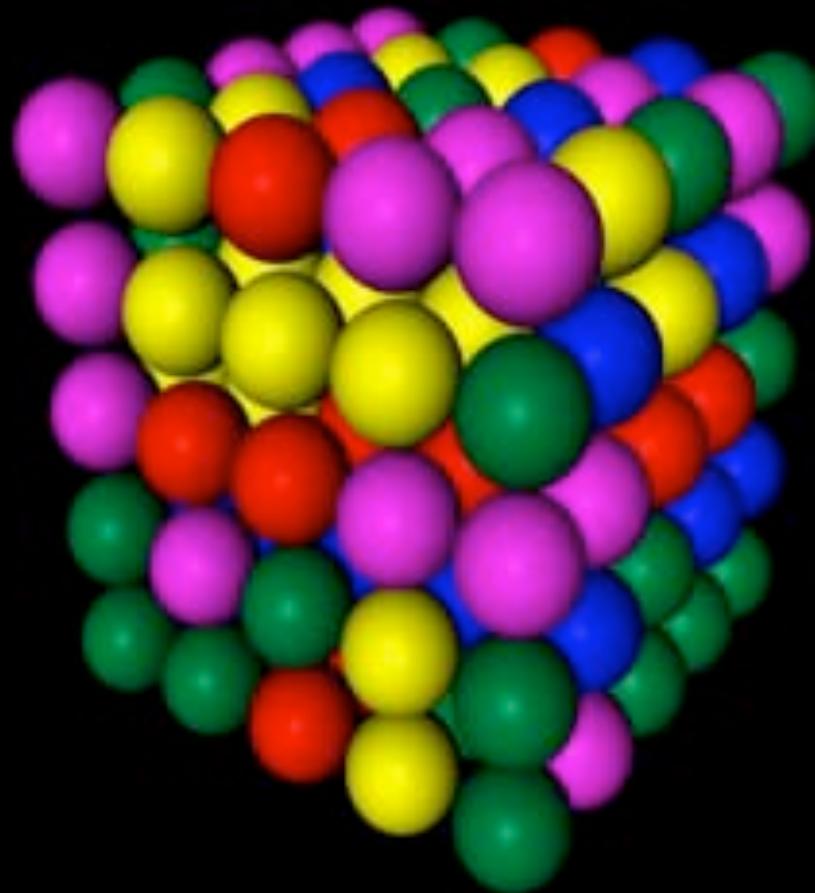
p a t t e r n s



# Chicken Cognition

# Frozen Caveman





# Rubick's Cubicle

*lore* of software

A black and white portrait of William of Occam, a medieval scholastic philosopher and friar. He is shown from the chest up, wearing a simple monk's habit. His hair is short and curly, and he has a thoughtful expression. The background is dark and indistinct.

# Occam's Razor

given a number of  
solutions, the simplest  
is correct

**KISS**

*complexity*

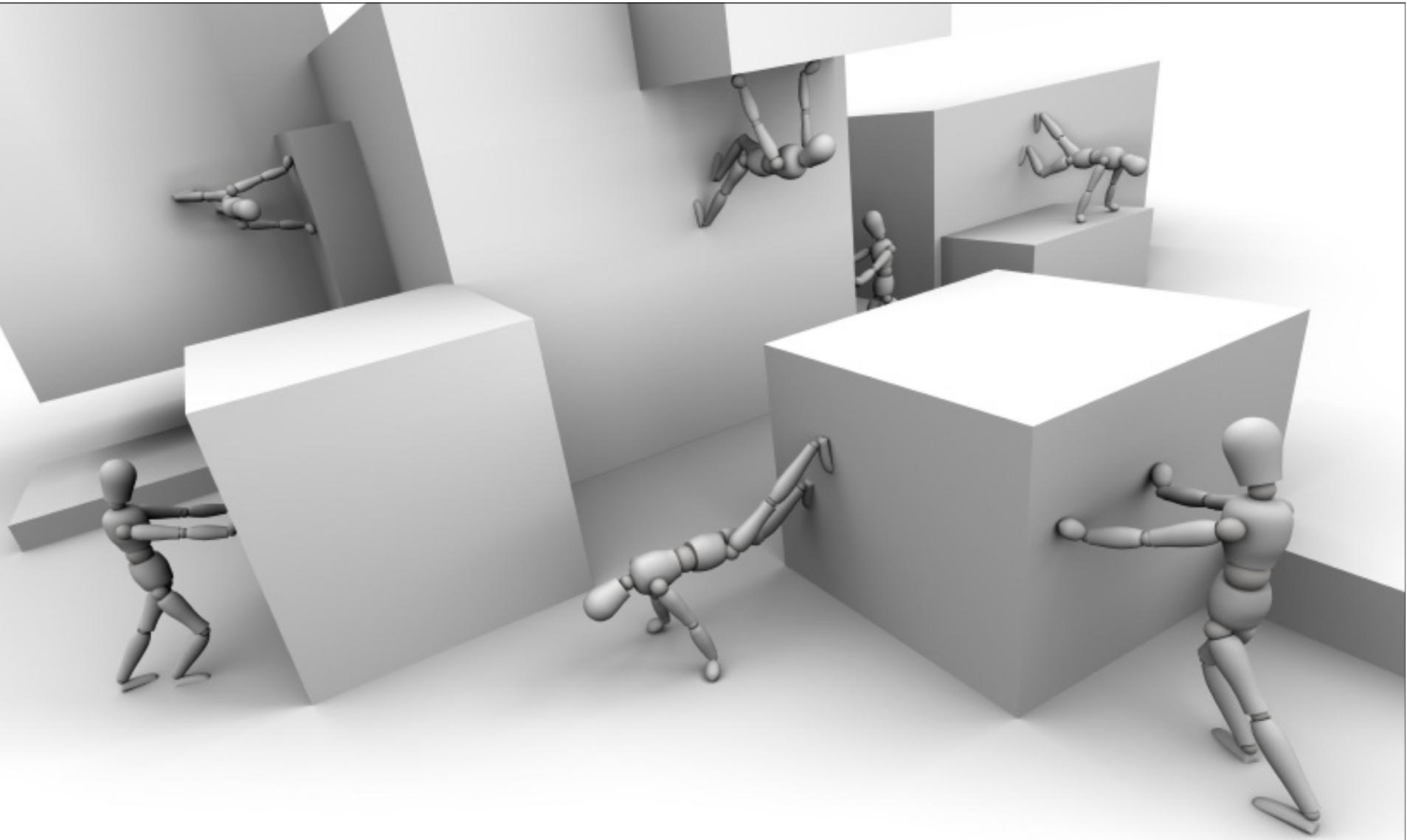
remember Aristotle?

essential / accidental  
properties

# essential complexity



we have a hard problem

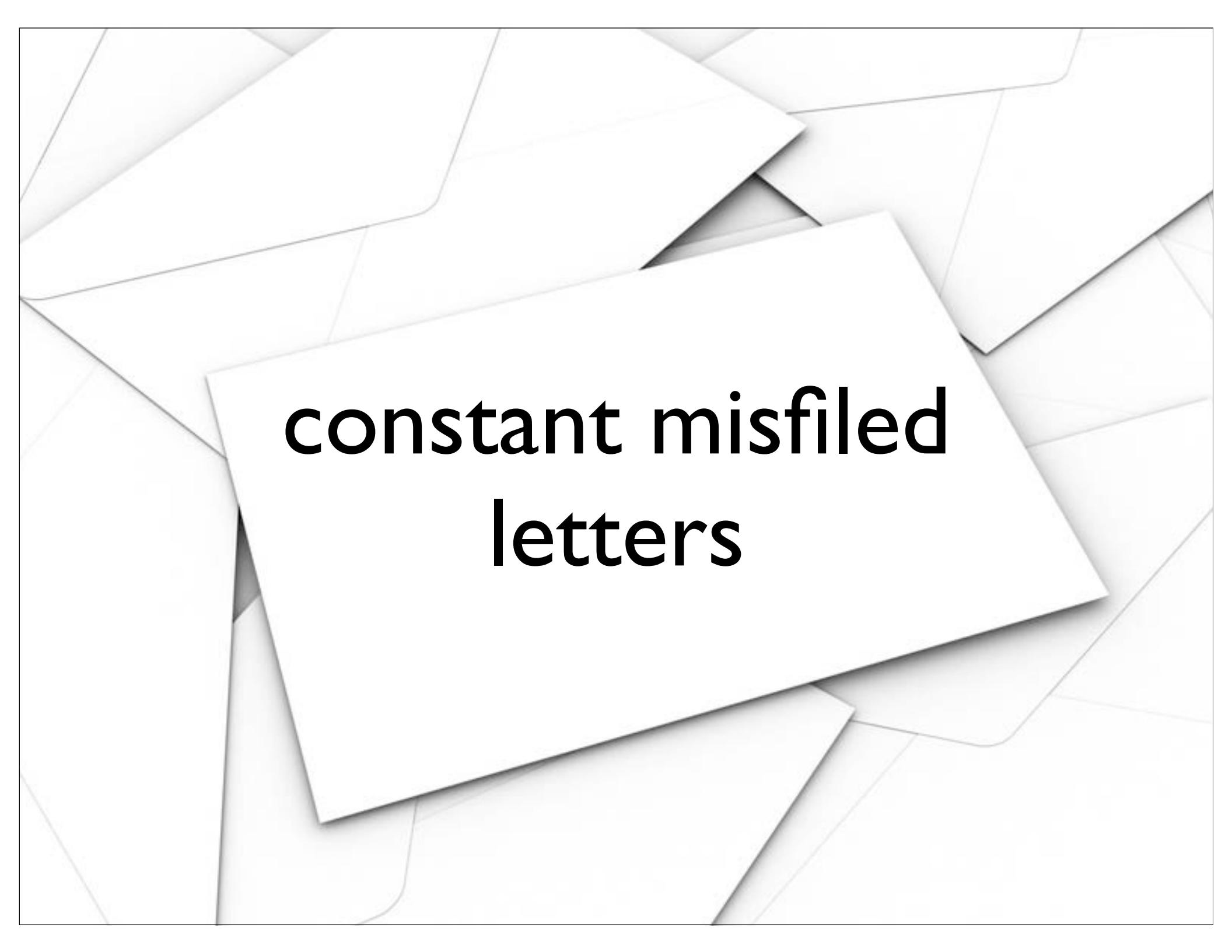


**accidental complexity:  
we've made the problem hard**

A photograph of a man with glasses and a striped shirt speaking into a microphone at a podium. He is gesturing with his right hand. In the foreground, the back of two audience members' heads are visible.

the large  
insurance/  
financial  
services  
company



A black and white photograph showing a stack of several white envelopes. The envelopes are slightly overlapping, creating a sense of depth. They are oriented at various angles, with some facing forward and others angled to the side or back. The lighting highlights the texture of the paper and the shadows between the envelopes.

**constant misfiled  
letters**

solution:  
technology!

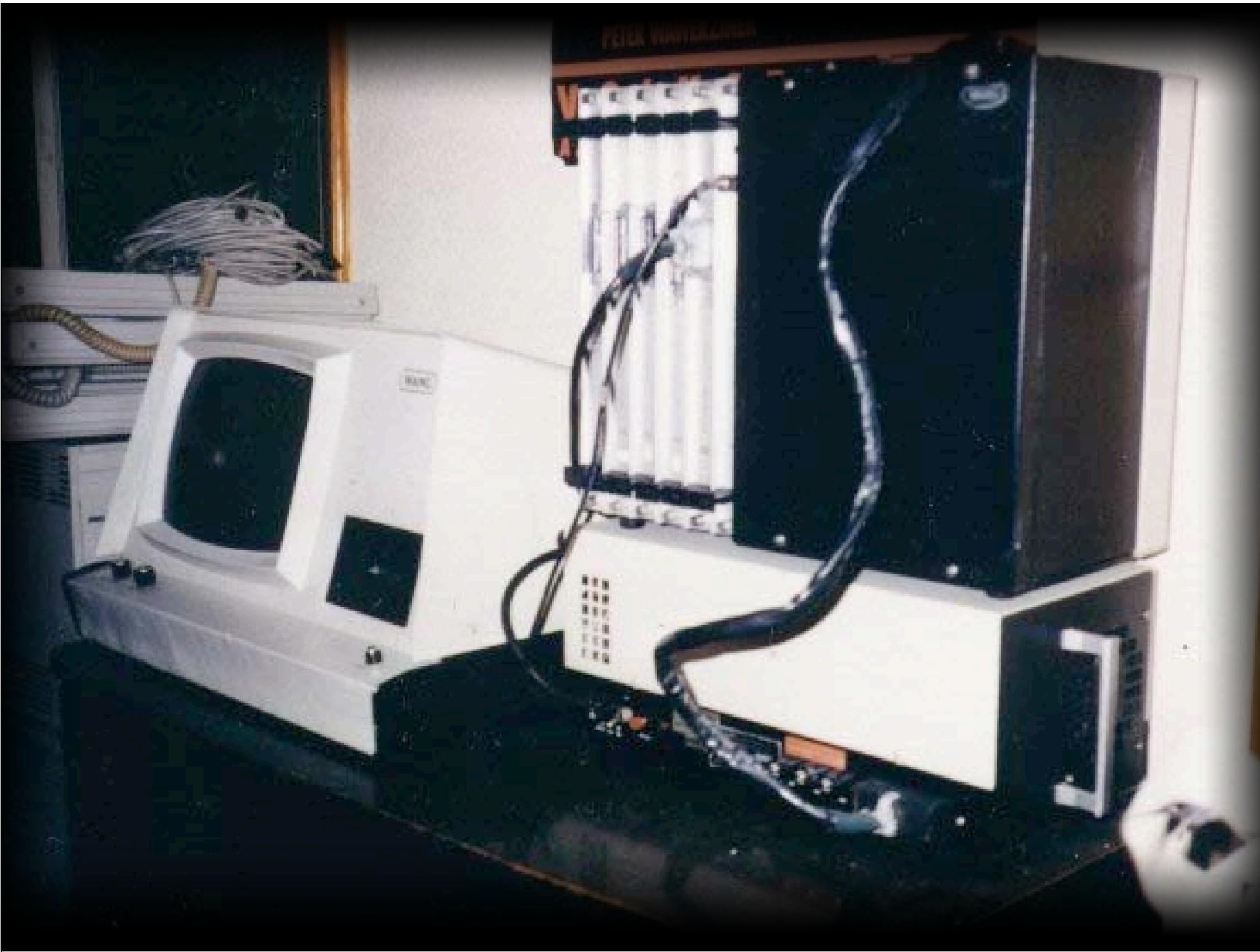






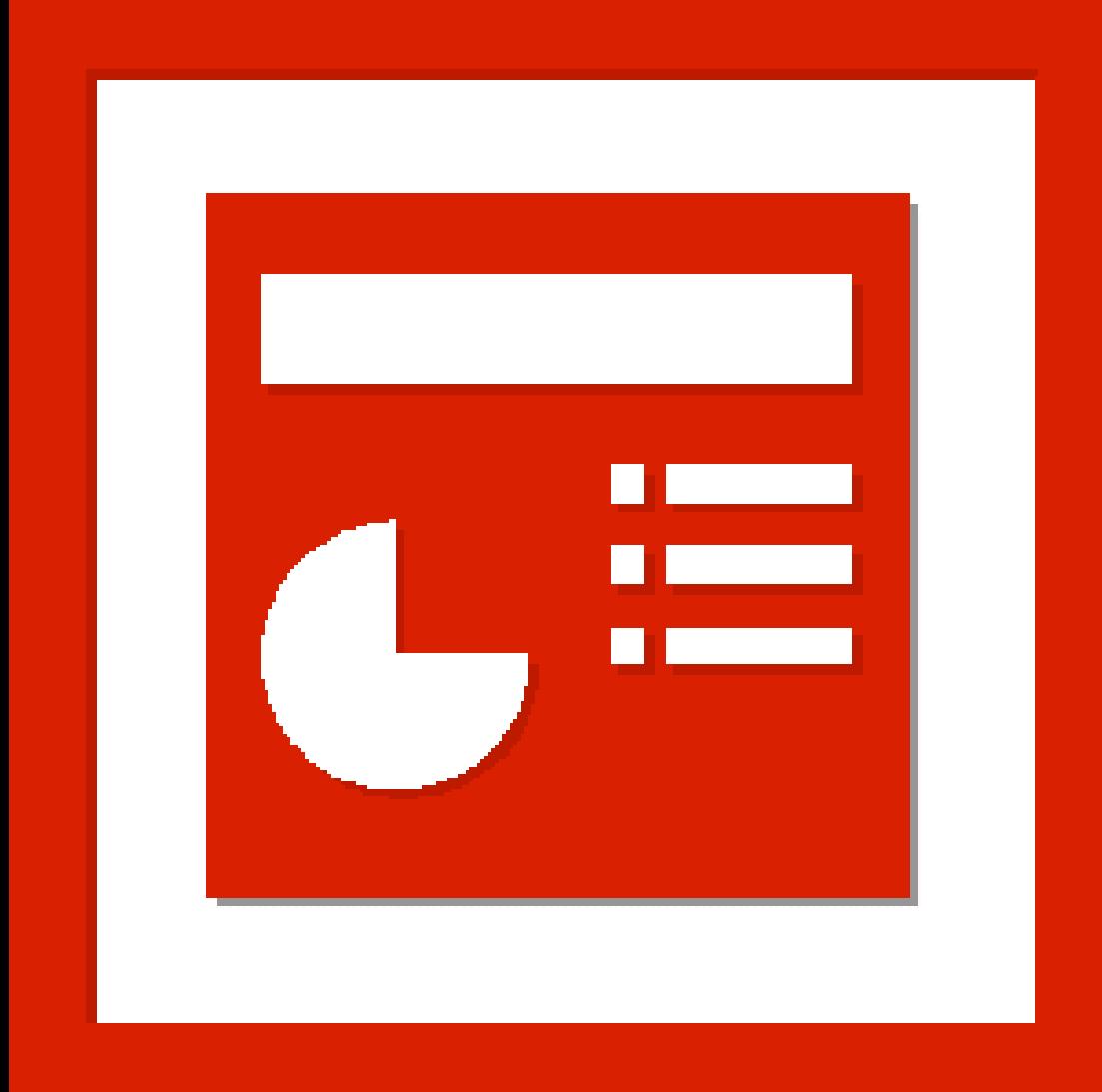
**Service  
Reminder**





accidental  
complexity  
can be  
expensive





\$3 000 000

what causes this?

# blowhard jamboree



how can companies be  
so clueless?



“our problem is harder  
than anyone else's”

palliative



not at your company!

“thars gold in  
them thar hills!”





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TRADE  
MARK

2



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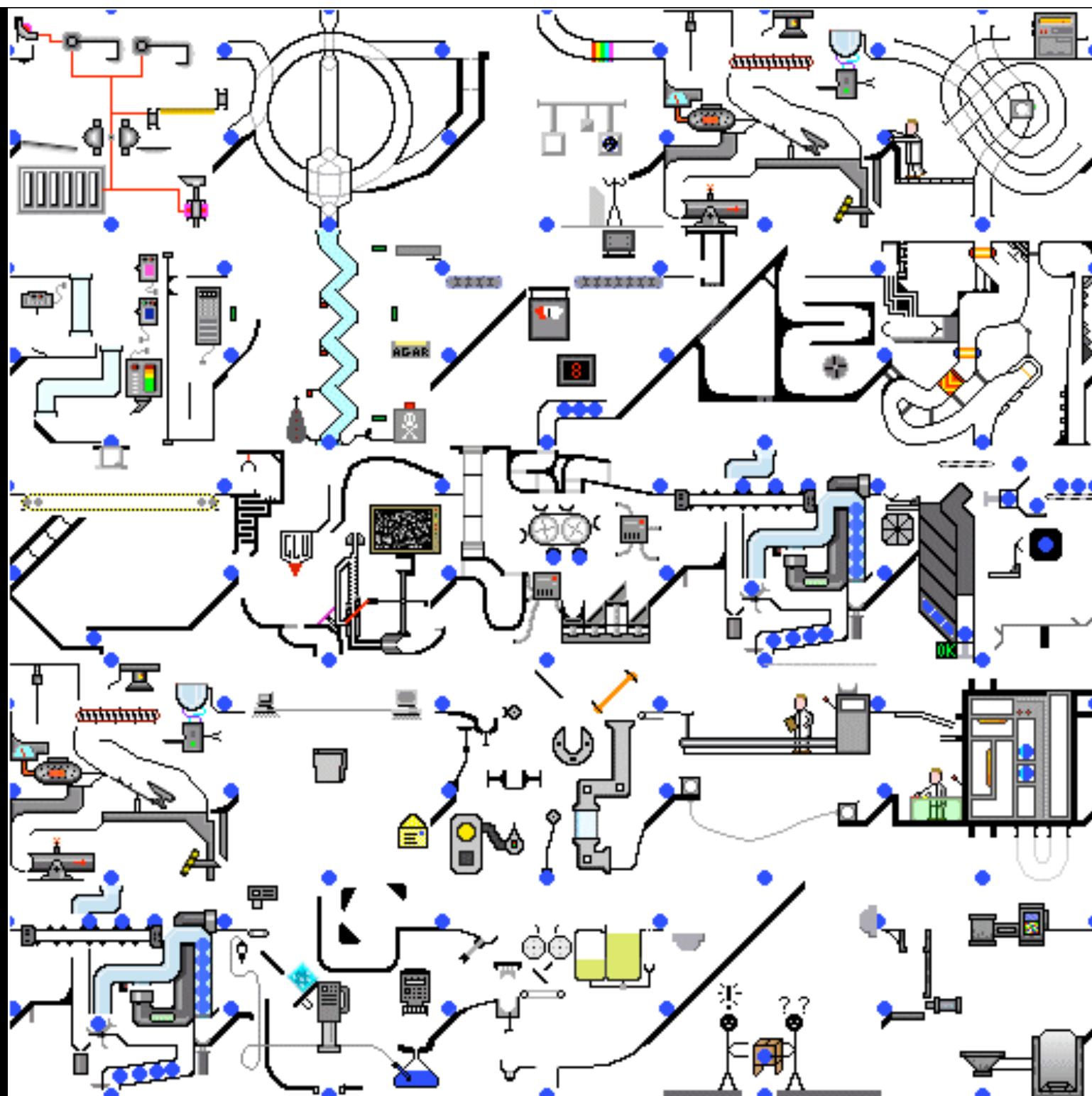
SOA gold rush

vendors are the  
pushers of accidental  
complexity

how many licenses of  
WebSphere would you  
like?

~~what really happens  
inside WebSphere...~~

**SECRET**



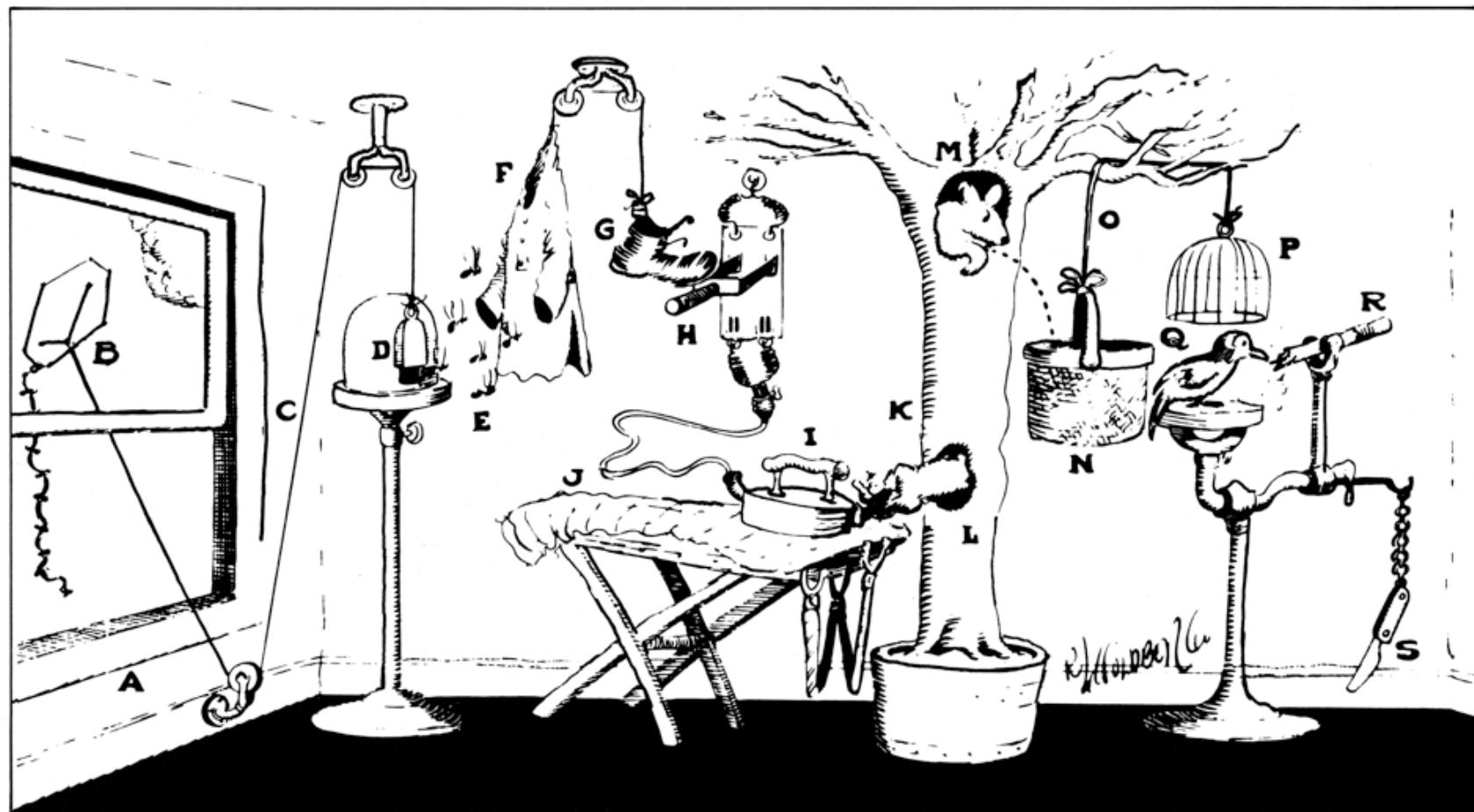


“with great complexity  
comes great power”

name withheld by request

ESB

# Pencil Sharpener



The Professor gets his think-tank working and evolves the simplified pencil sharpener.

Open window (A) and fly kite (B). String (C) lifts small door (D), allowing moths (E) to escape and eat red flannel shirt (F). As weight of shirt becomes less, shoe (G) steps on switch (H) which heats electric iron (I) and burns hole in pants (J).

Smoke (K) enters hole in tree (L), smoking out opossum (M) which jumps into basket (N), pulling rope (O) and lifting cage (P), allowing woodpecker (Q) to chew wood from pencil (R), exposing lead. Emergency knife (S) is always handy in case opossum or the woodpecker gets sick and can't work.

complexitax

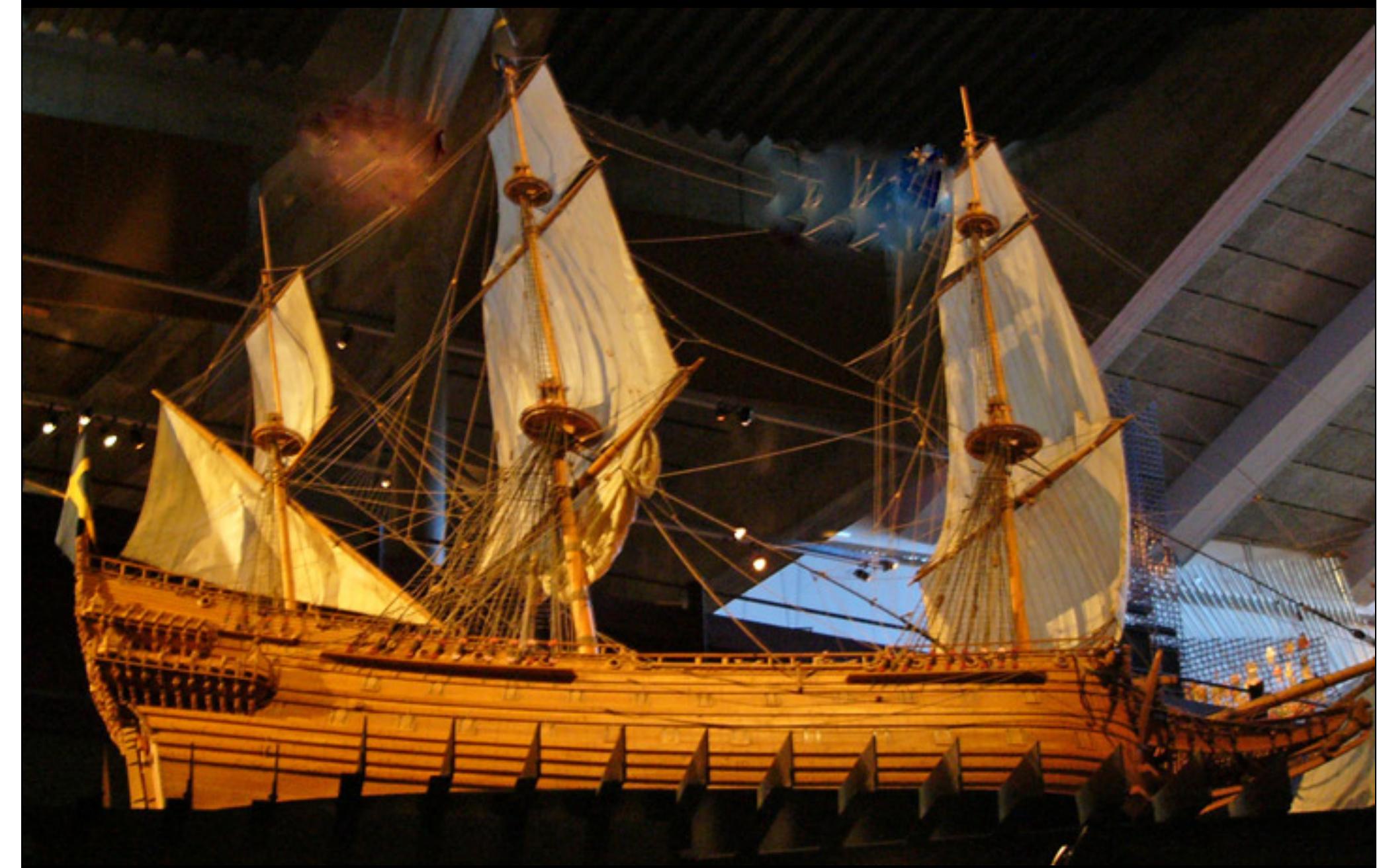
A close-up photograph of several US dollar bills, likely \$100 bills, stacked and slightly fanned out. The focus is on the text and seal on the bills, while the background is dark.

**anyone who's  
using boat anchors  
is paying  
complexitax**

inappropriate use of  
technology

King Gustav II Adolf &  
the good ship Vasa







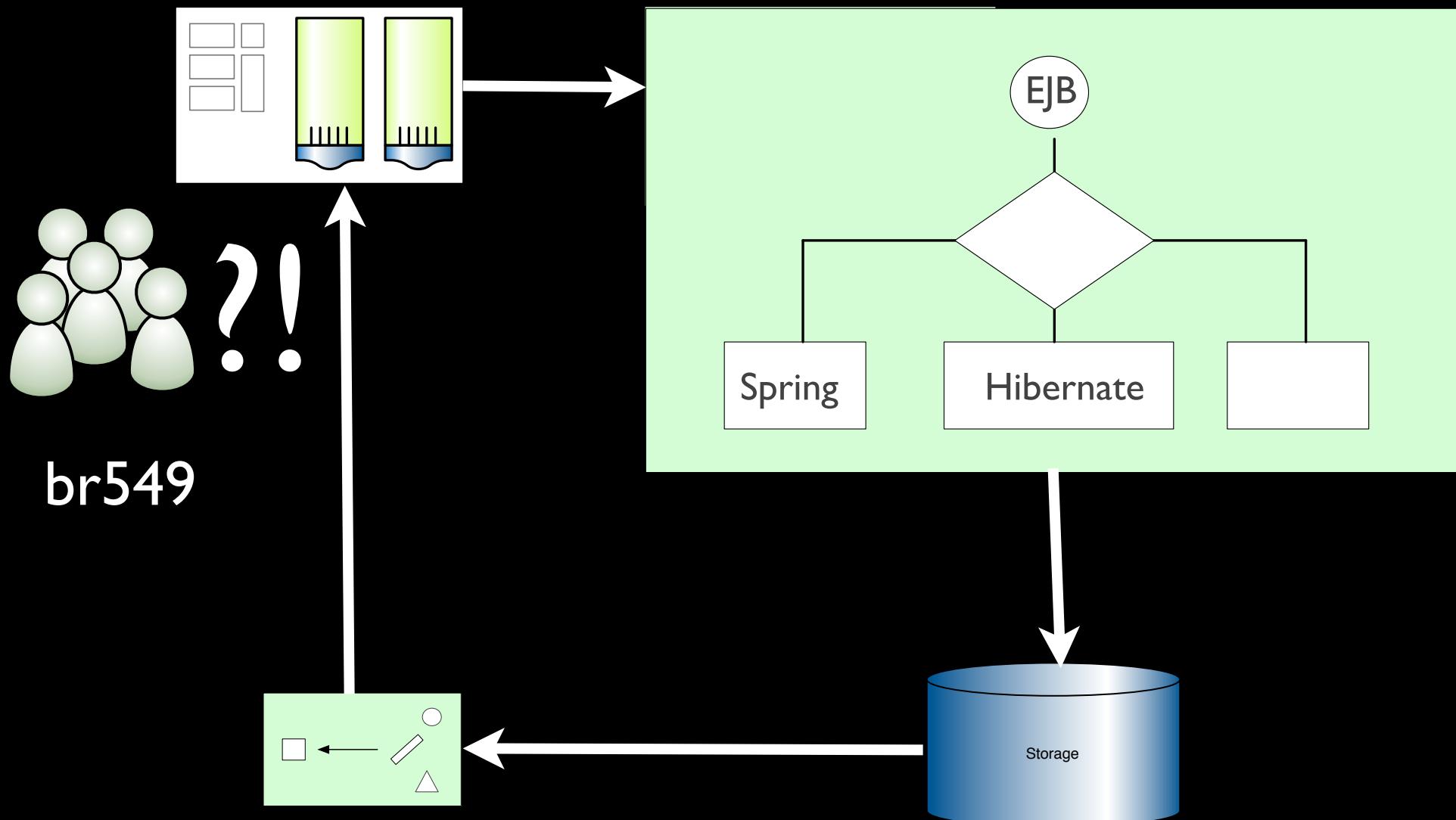
who's fault was it?

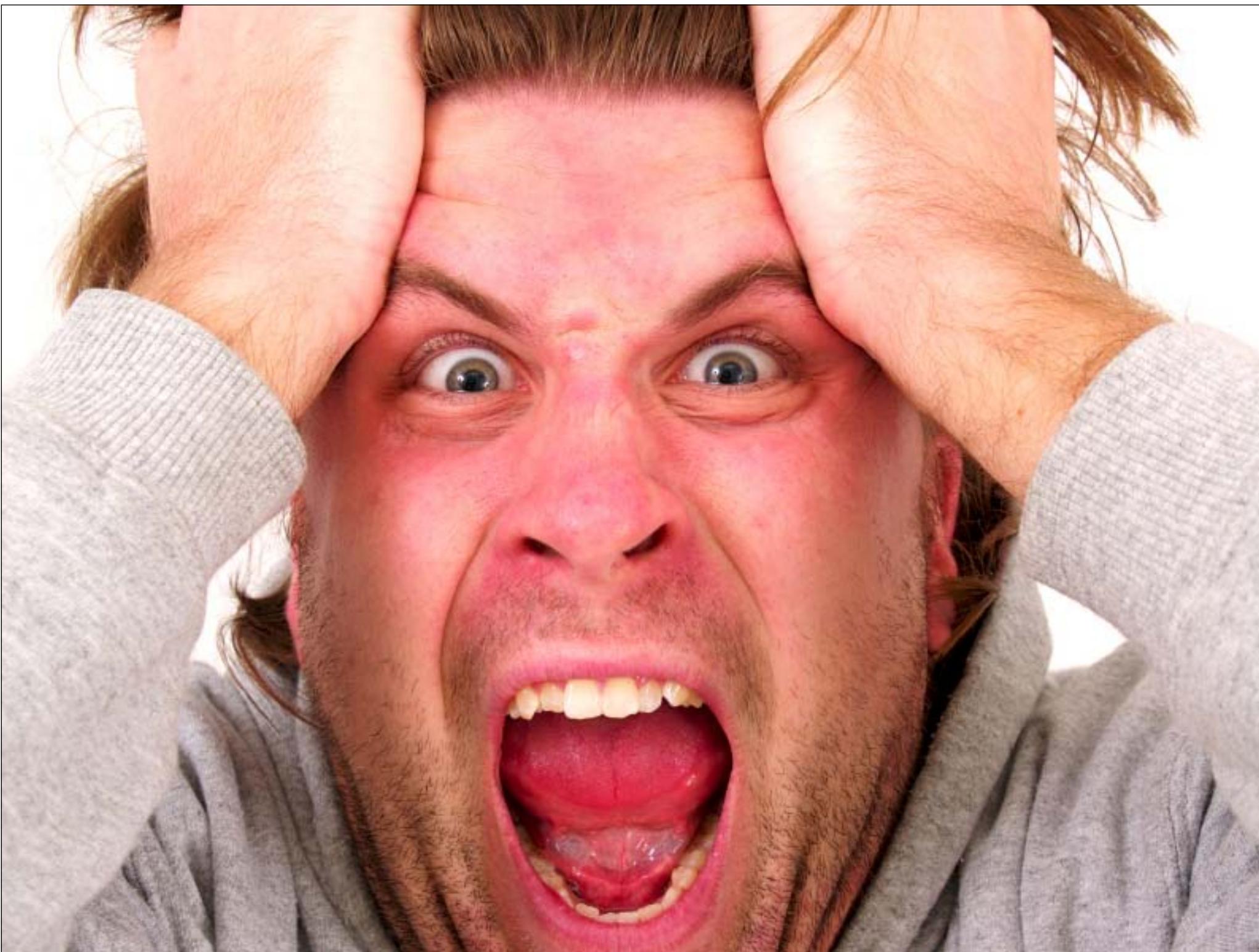
the king?

or the ship builders?

was the king happy at  
the end of the day?

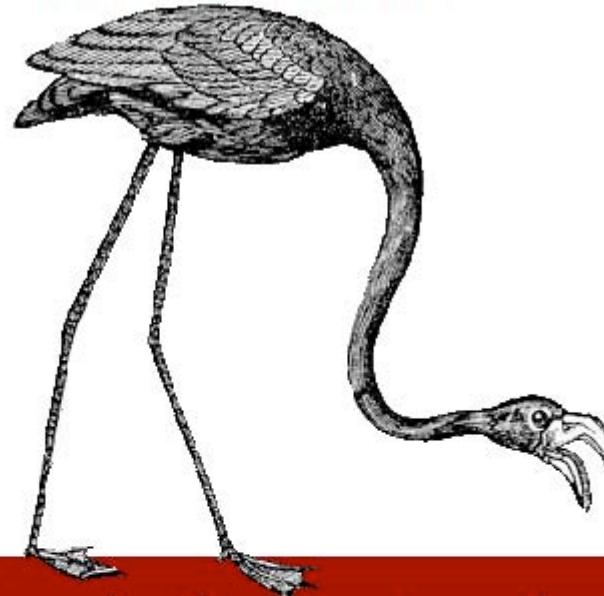
would he have been  
happier with a smaller  
that's flipped?





what if we had books  
about the real world?

*Ensuring Your Job Security*



# Accidental Complexity

*Ceremony Over Essence*

O'REALLY?

*The Enterprise Architecture Team*



what if we can't solve  
this problem?

do you think businesses  
will tolerate this  
forever?

lots of companies make  
money *despite*  
themselves

real competition?





at first, foreign cars  
were cheaper

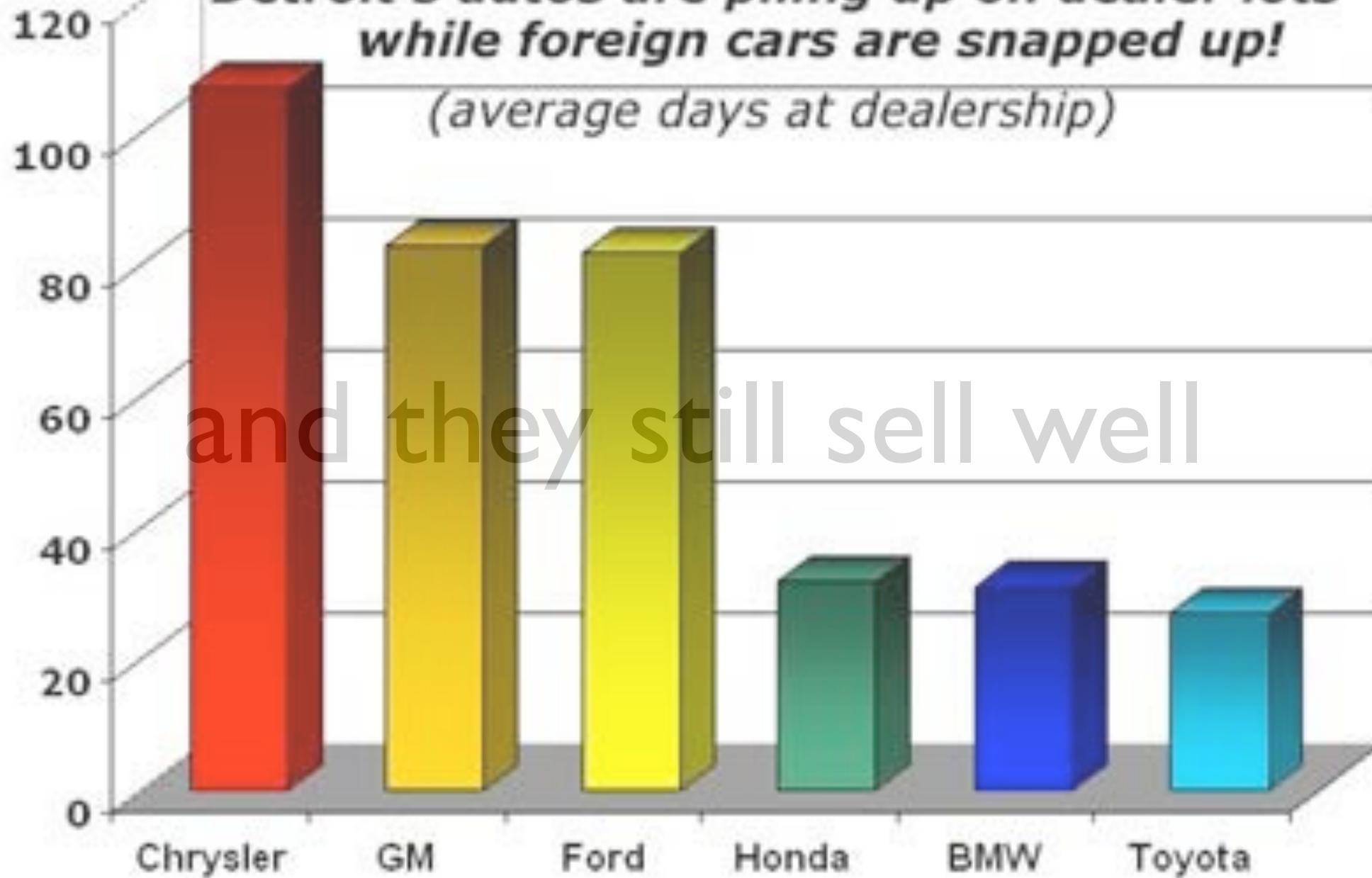
...then higher quality

...then more expensive

*Detroit's autos are piling up on dealer lots  
while foreign cars are snapped up!*

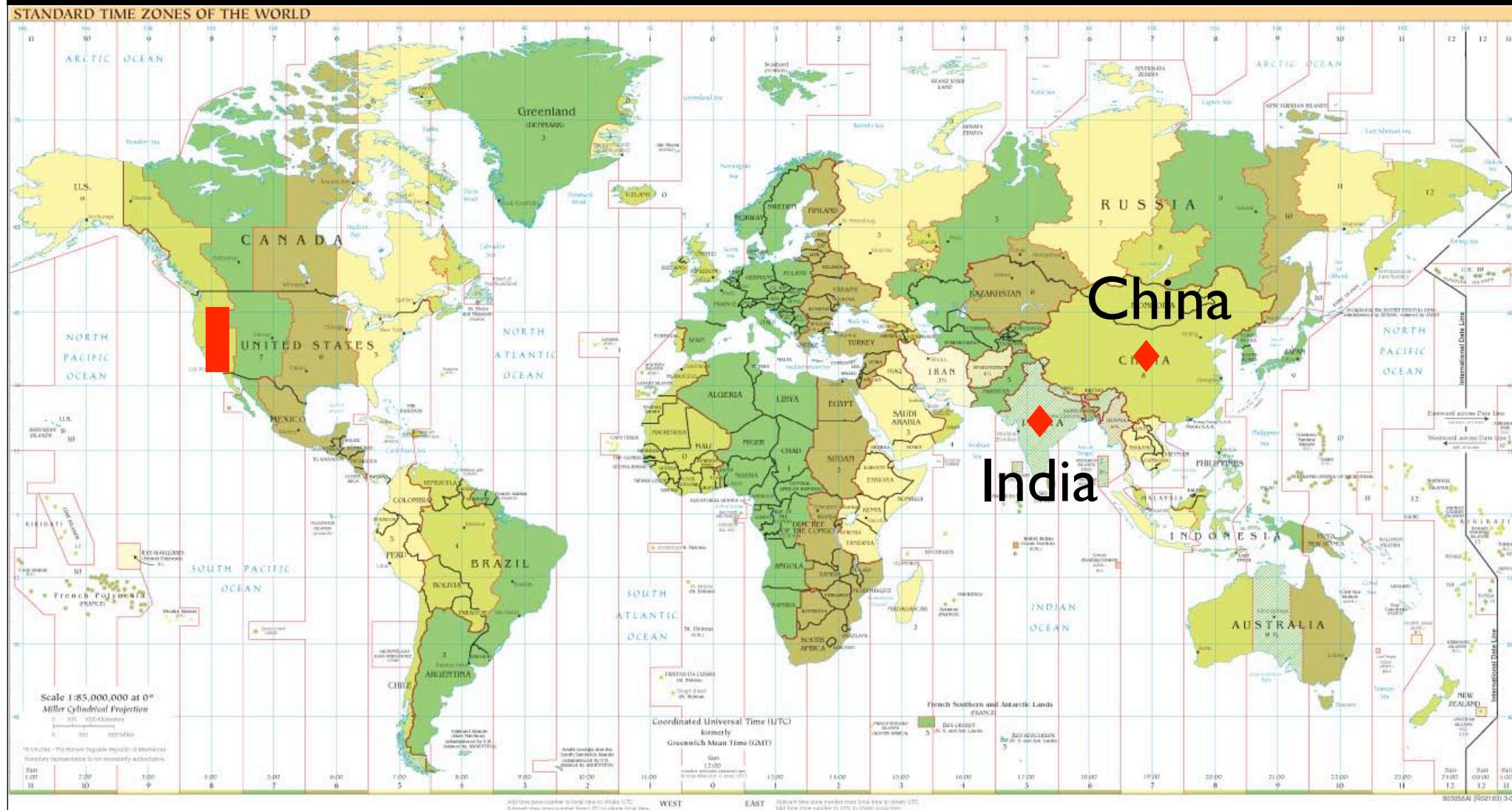
(average days at dealership)

and they still sell well



how will this manifest  
in software  
development?

# Chindia

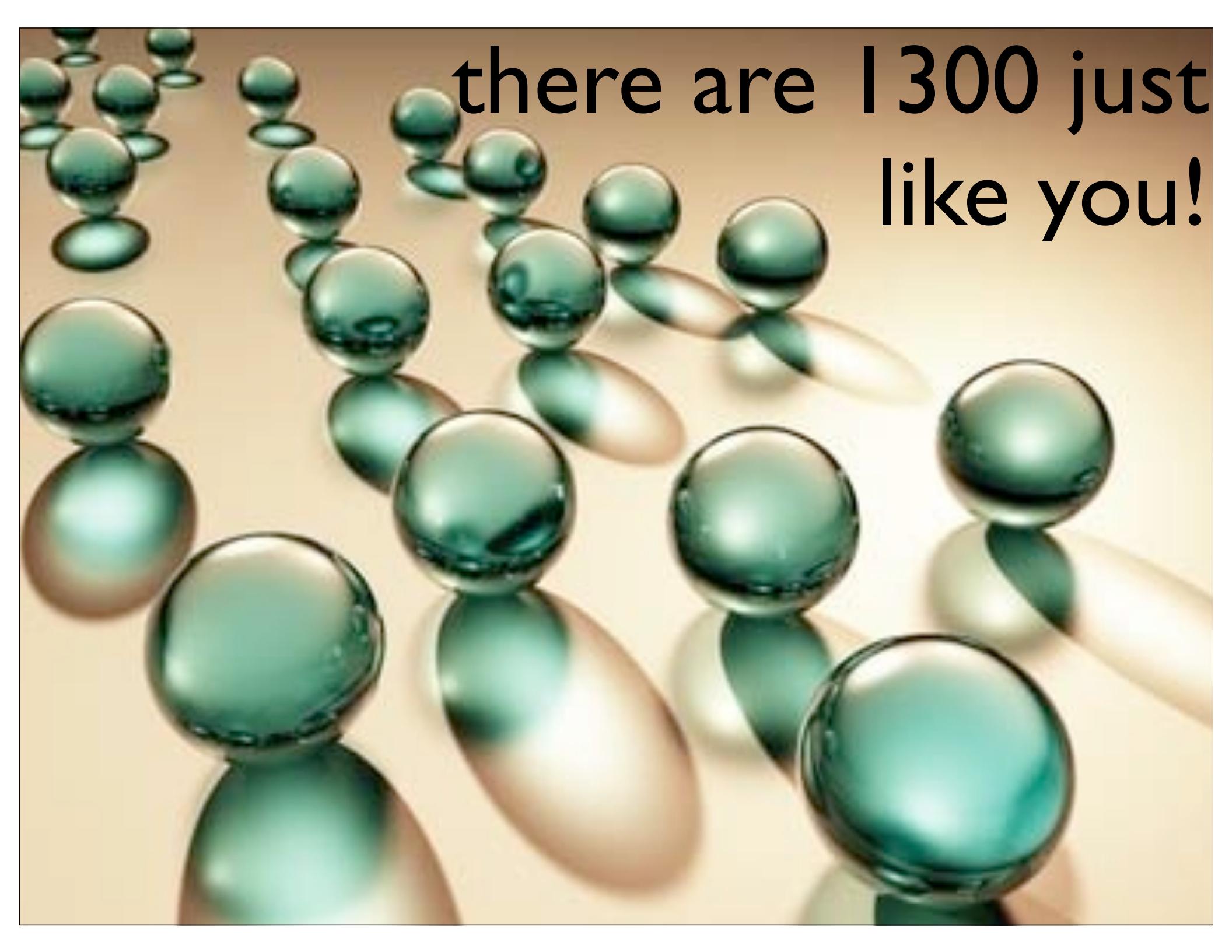


the rise of Chindia

and the second wave of  
outsourcing



if you are  
1 in a  
1,000,000  
in China

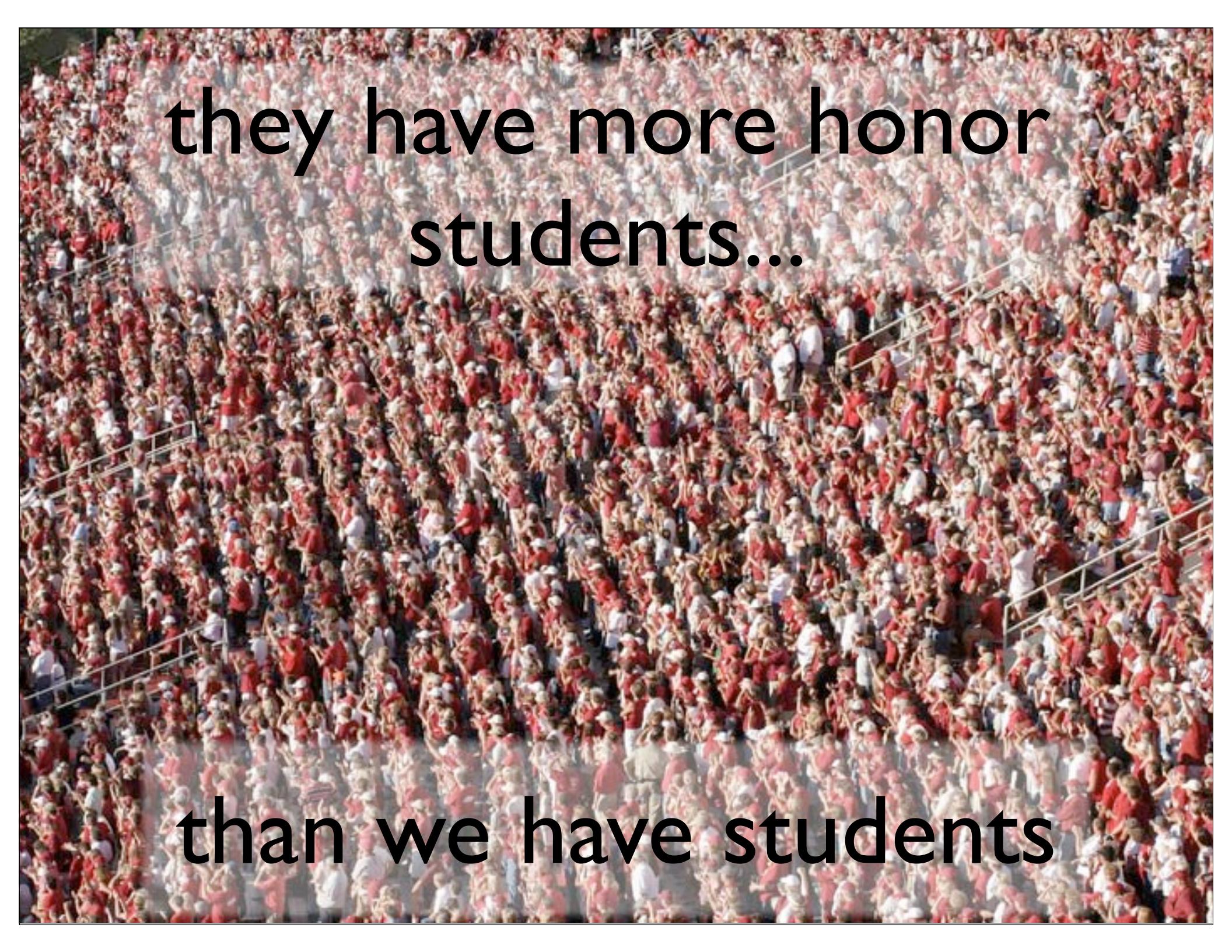


there are 1300 just  
like you!

the 25% of the population of China  
with the highest IQ...



...is greater than the population of the  
United States

A wide-angle photograph of a massive stadium crowd. The spectators are densely packed in tiered seating, with the majority wearing red shirts, creating a sea of red. Some individuals in white shirts are scattered throughout the crowd. The stadium has multiple levels of seating, and metal railings are visible between the tiers.

they have more honor  
students...

than we have students



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### 对技术的执着

想想一个重视技术创新、诚实、积极和热情的工作环境。在这里你有机会做最伟大的事情，和你所认识的最聪明的人一起工作。这里没有那些大公司的政治制度。例如，我们会大力支持你把才华应用于开源项目中。

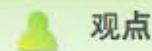
作为经验丰富的咨询公司，ThoughtWorks提供了更多让你展现卓越才华的机会，并鼓励你在新的领域里挑战自我。我们在印度的班加罗尔成立了[ThoughtWorks学院](#)，在这可以磨练你的技术技能，可以认识世界各地有趣的人，可以学到更多的ThoughtWorks文化。[ThoughtWorks的文化](#)。听起来有点意思？你可以去了解更多关于我们使用[敏捷技术](#)的方法，还有我们为[全球1000强客户](#)提供的各种[服务](#)。



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don't take it for  
granted that we'll  
always have the biggest  
software market

- ✓ Richest in the world
- ✓ Largest military
- ✓ Center of world business & finance
- ✓ Strongest education system
- ✓ World center of innovation & invention
- ✓ Highest standard of living

# England...in 1900

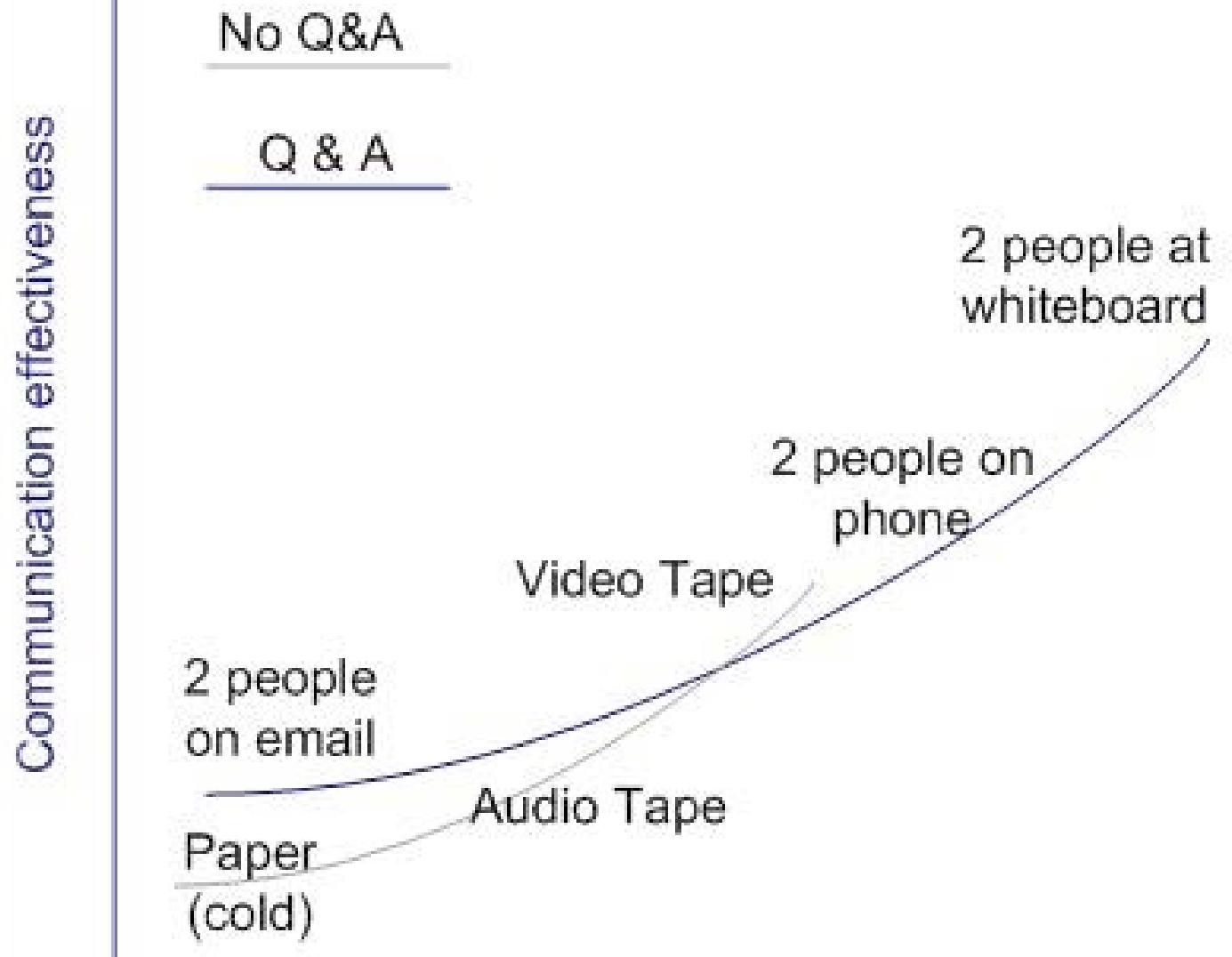




**didn't we dodge the outsourcing thing?**

why is distributed  
development hard?

communication,  
communication,  
communication

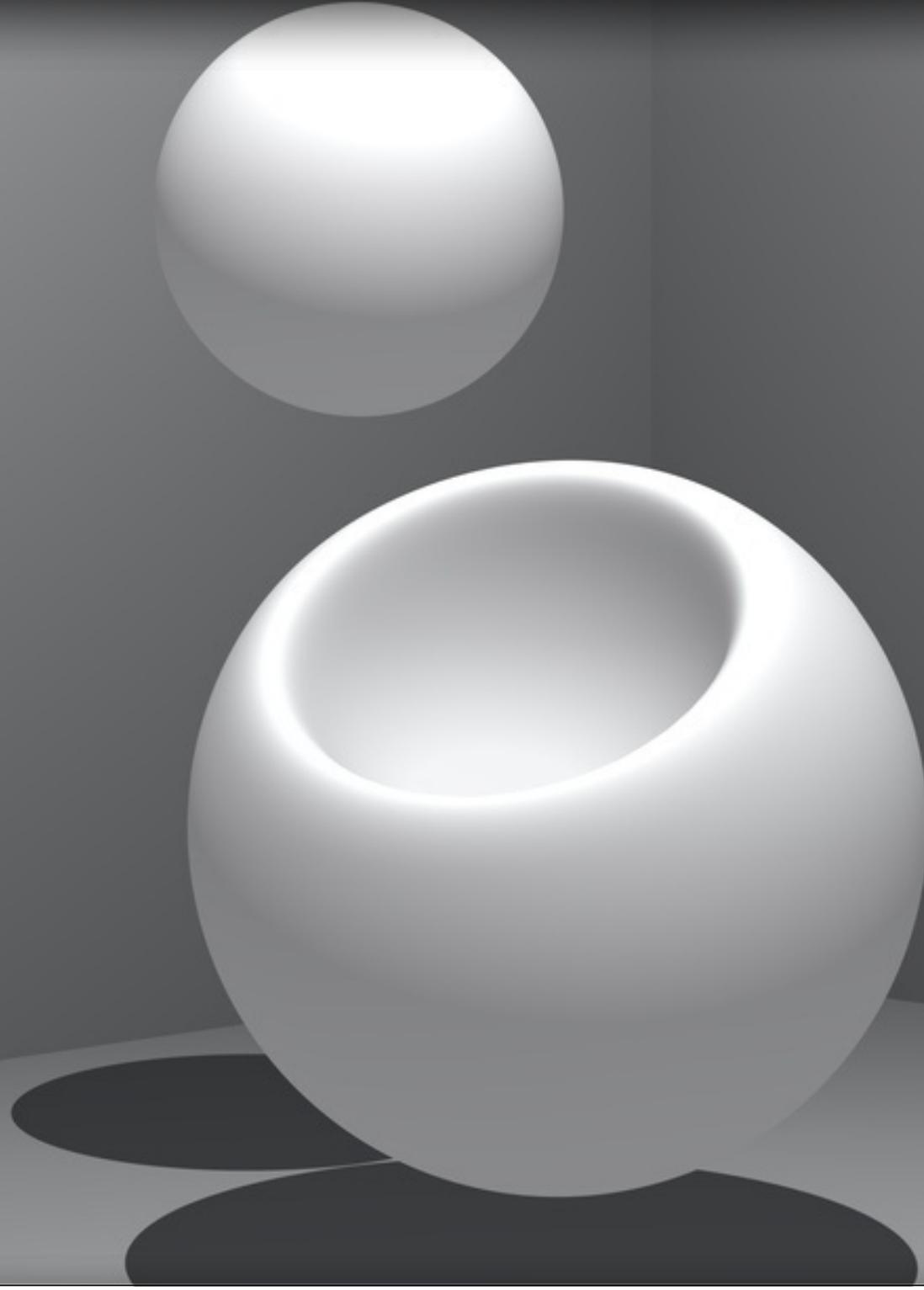


Richness ("temperature") of communications channel

From *Agile Software Development*,  
Cockburn 2002

skype (video + audio)  
fast networks  
VNC / screen  
campfire

context





?



1st wave failures have  
root causes

do you think other  
countries can't figure  
that out?

and fix it?

outsourcing firms  
acquire business savvy  
analysts

millions of computers  
are delivered

software development  
moves to Chindia

permanently

*shift happens*

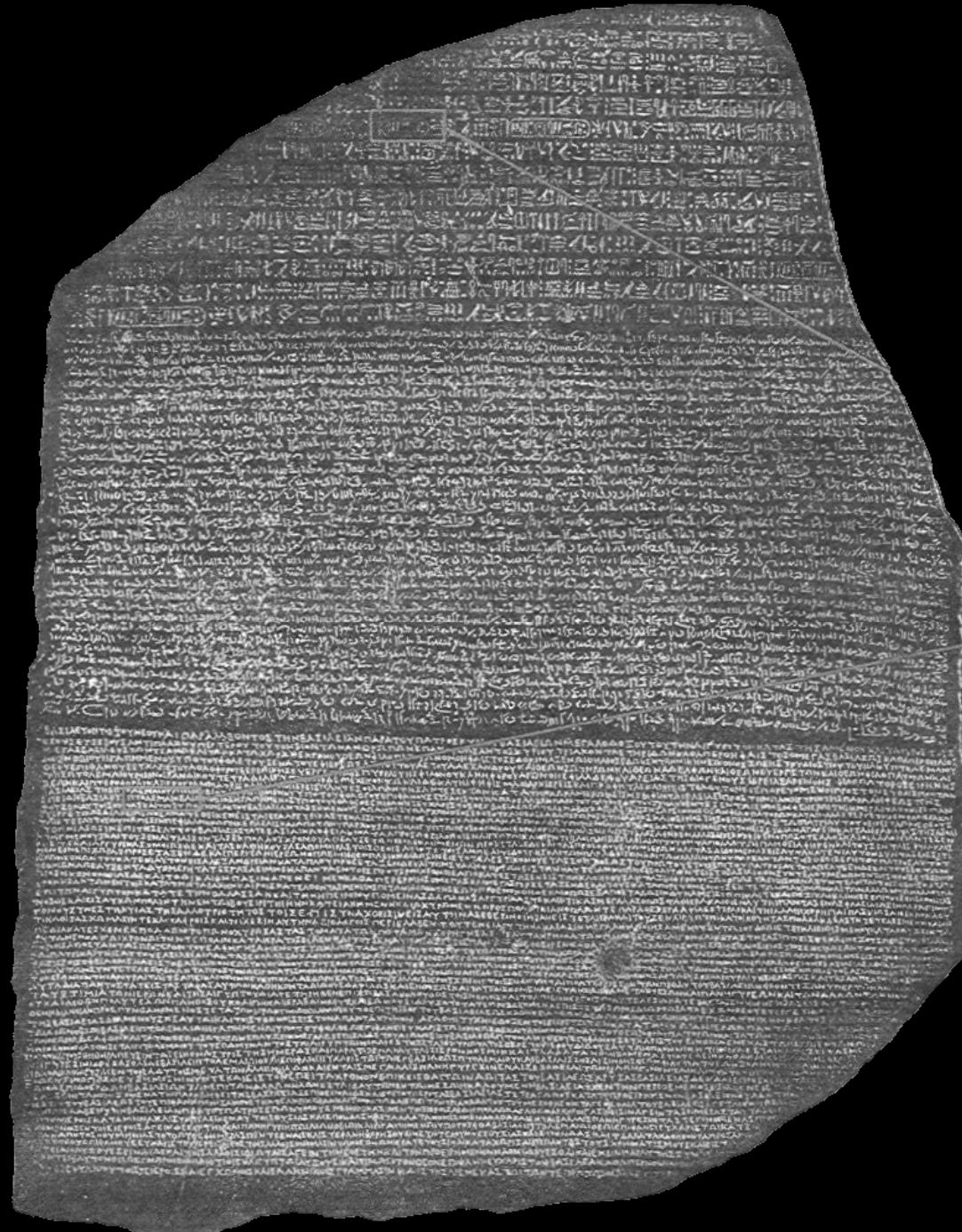


do you want  
fries with  
that?

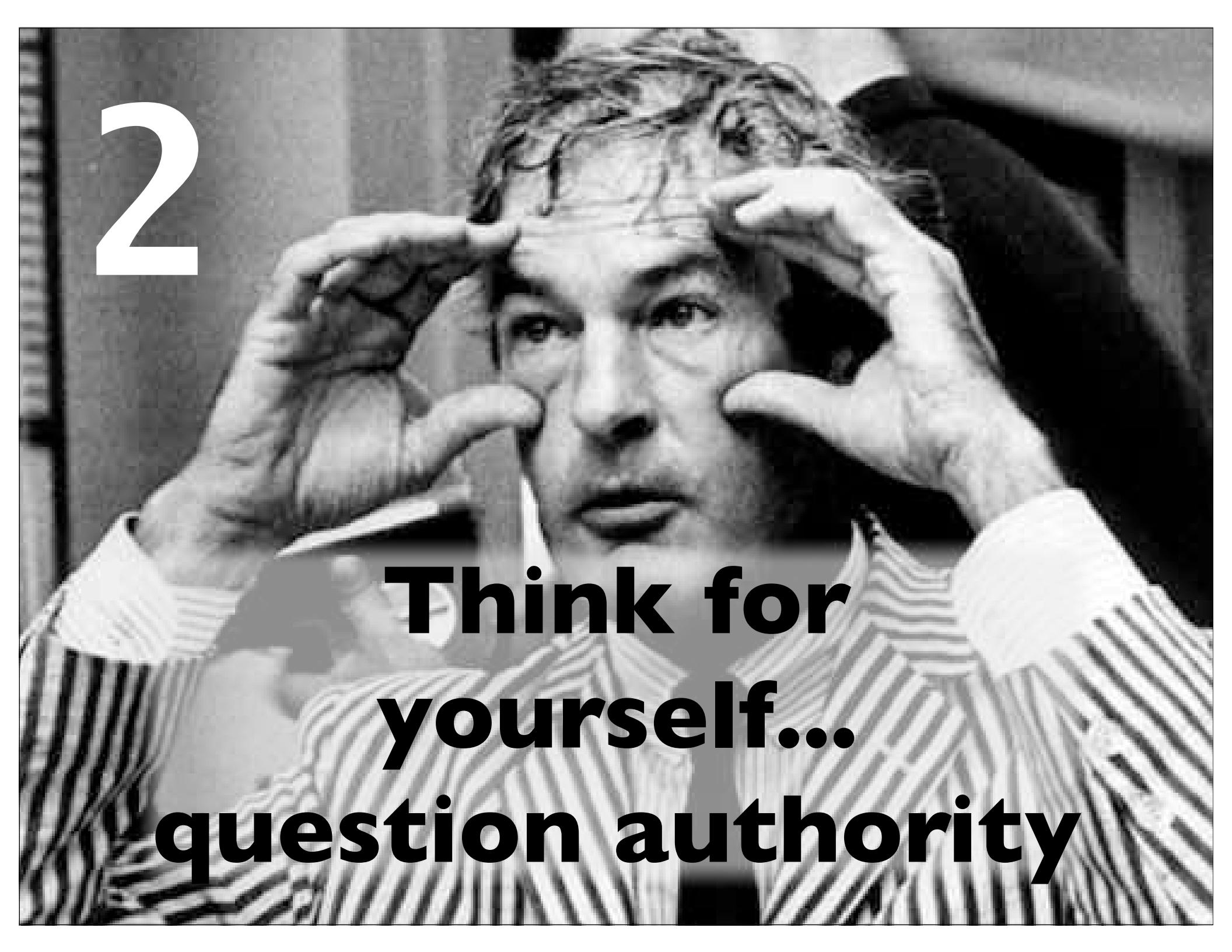
A photograph of a coastal scene. In the foreground, a large, light-colored rock formation with a rough, textured surface is partially submerged in the ocean. The water is a deep blue with white-capped waves crashing against the rocks. A small patch of dark green moss or algae is visible on the lower left. In the background, more rocky outcrops are visible along the coastline under a clear, pale sky.

how do you affect sea  
change?

1



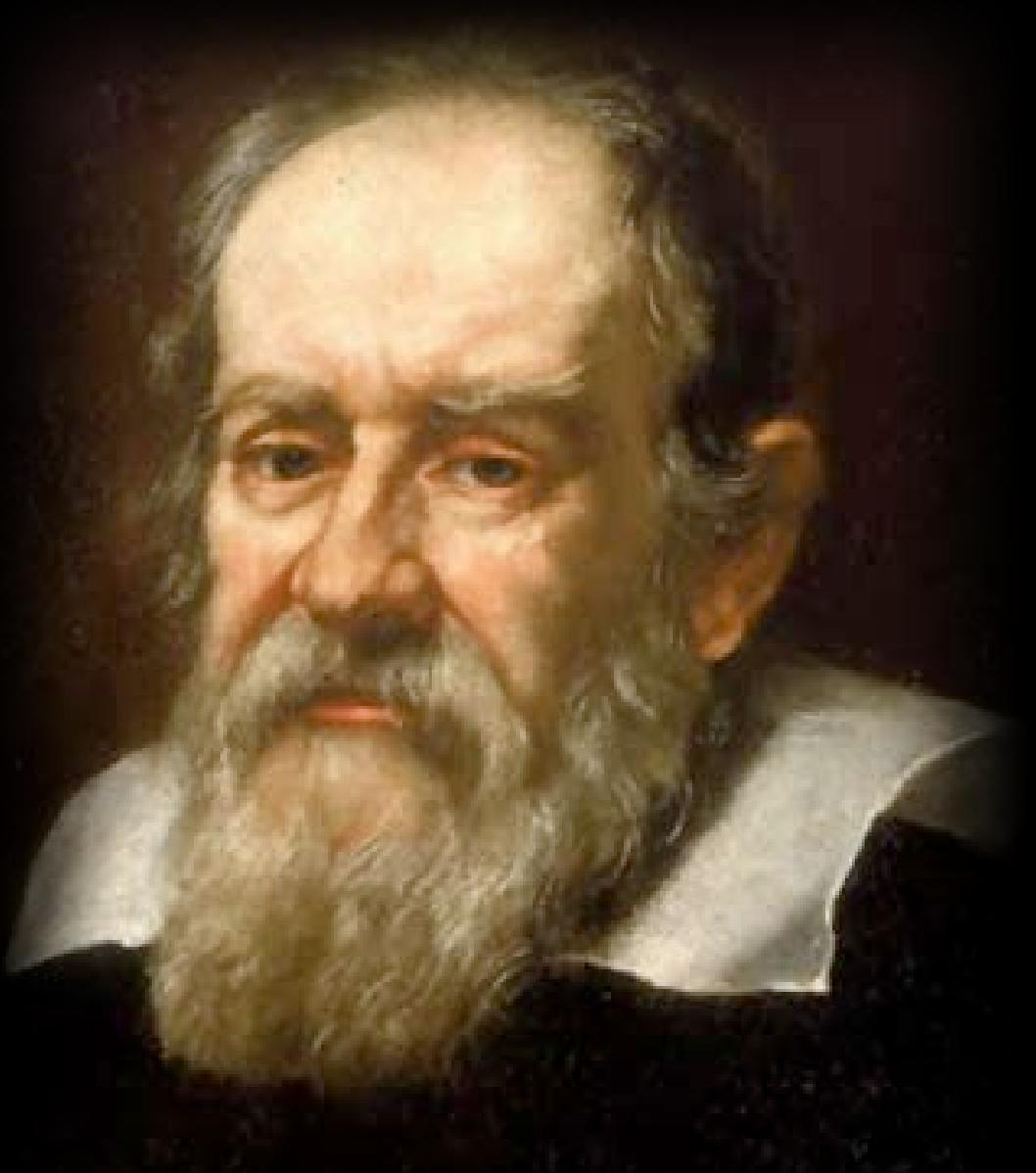
2

A black and white photograph of a man with his hands on his head, looking thoughtful.

**Think for  
yourself...  
question authority**

question authority  
or risk building another  
at the bottom of the  
beautiful ship  
ocean

be like



not



Platonic Approach:  
ivory tower architects

participating in  
blowhard jamborees

Galelian Approach:  
experiment

do what works:  
agility  
testing

3

do what works

# 4 listen to the modern philosophers

# Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it.  
Through this work we have come to value:

Individuals and interactions over processes and tools  
Working software over comprehensive documentation  
Customer collaboration over contract negotiation  
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck  
Mike Beedle  
Arie van Bennekum  
Alistair Cockburn  
Ward Cunningham  
Martin Fowler

James Grenning  
Jim Highsmith  
Andrew Hunt  
Ron Jeffries  
Jon Kern  
Brian Marick

Robert C. Martin  
Steve Mellor  
Ken Schwaber  
Jeff Sutherland  
Dave Thomas

*Our ignorance of history  
causes us to slander our own  
times.*

Gustave Flaubert

if only I could reach the  
thought leaders of the  
development world...



13  
22

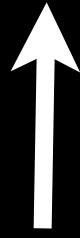
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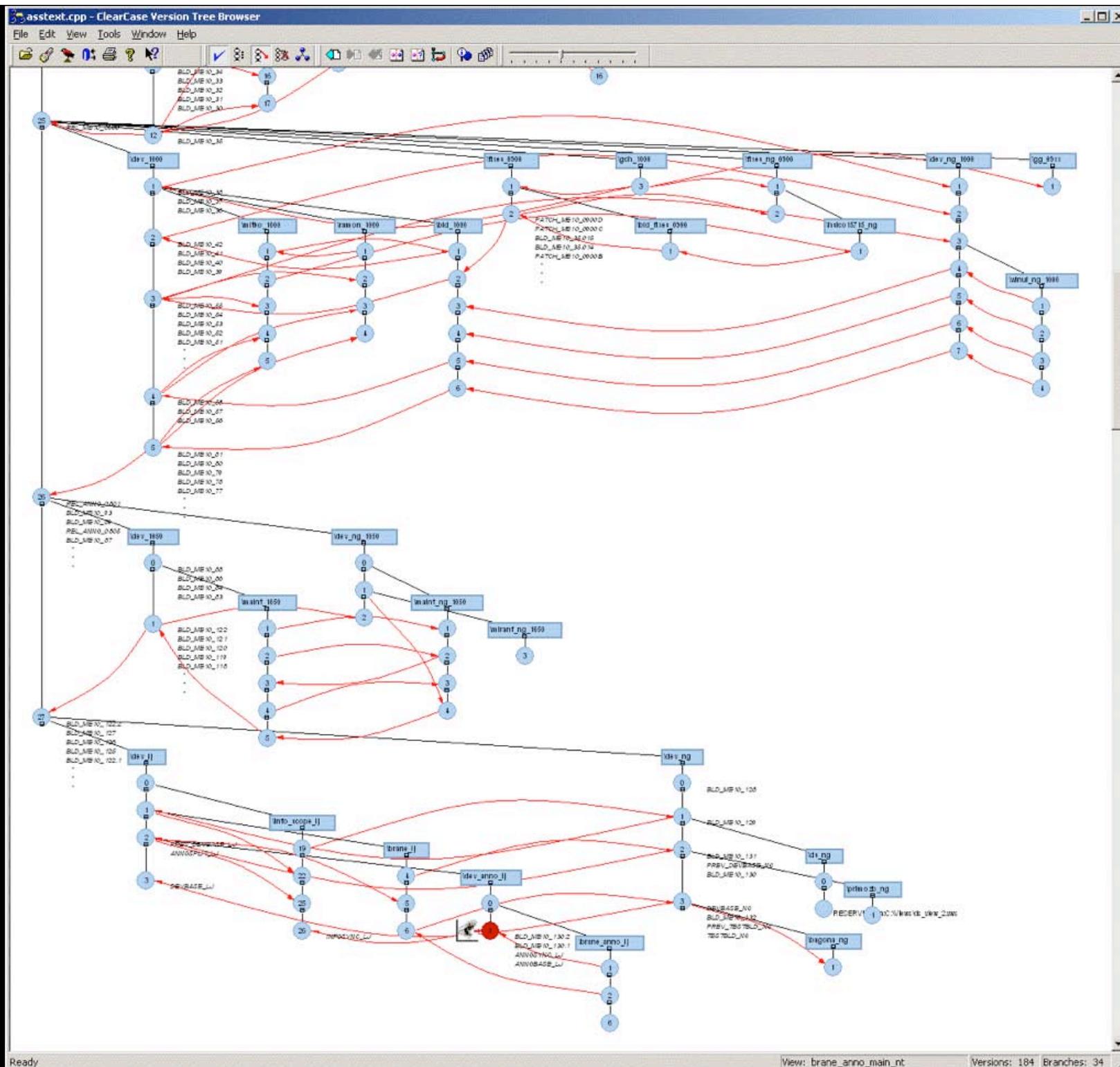
NFJS

*make the king listen*

# Rational ClearCase



*really?*





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Upgrade to a Big  
Product for a Small Price

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or

Rational ClearCase

?

what about  
*none of the above?*

5

use subversion

6

& use *subversion*

use subversion



& SAS

sometimes it's better to  
ask forgiveness than  
permission

if you can't change your culture

7



CHANGE YOUR CULTURE!

*Be the change you want  
to see in the world*

Gandhi

8

essence  
over  
ceremony

leverage lore

9

courage  
over  
status quo

# YOU are the shipbuilders



build the ship the king  
wants...

...but still floats

**10** ...and drag your  
colleagues with you

*If you want to build a ship, don't herd people together to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea.*



*Antoine de Saint-Exupéry*

# thanks for coming

enjoy the rest of the conference

**NEAL FORD** software architect / meme wrangler

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