



# DEVOPS FOOLS, TOOLS AND OTHER SMART THINGS

Patrick Debois

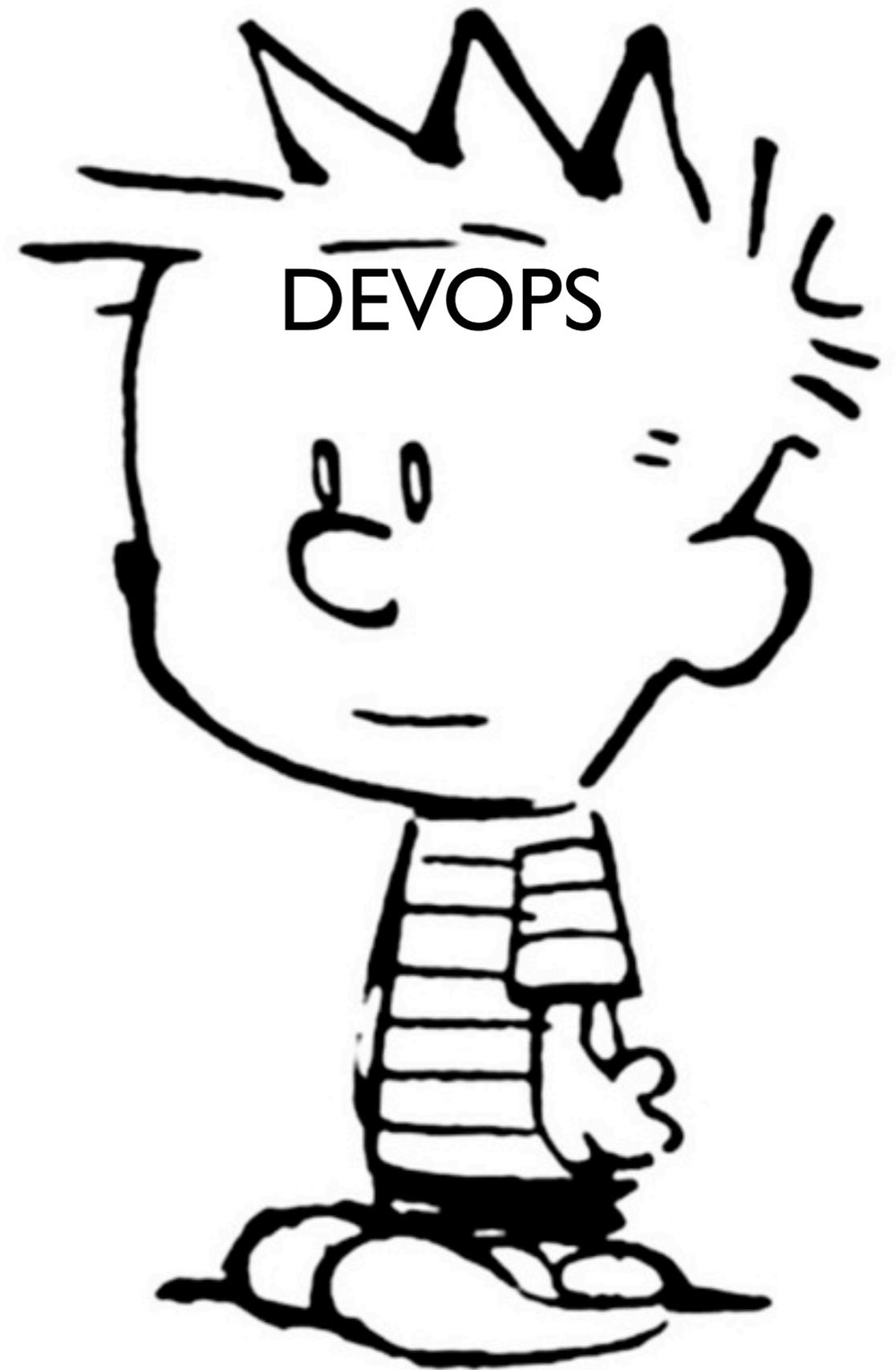
INTERNATIONAL  
SOFTWARE DEVELOPMENT  
CONFERENCE



[gotocon.com](http://gotocon.com)

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<http://jedi.be/blog>  
<http://devopsdays.org>



[http://4.bp.blogspot.com/\\_6FlgoSN3h9s/TJq7\\_7yoGOI/AAAAAAAAAa0/GLQ-uI7-2xk/s1600/Calvin+and+hobbes+\(8\).jpg](http://4.bp.blogspot.com/_6FlgoSN3h9s/TJq7_7yoGOI/AAAAAAAAAa0/GLQ-uI7-2xk/s1600/Calvin+and+hobbes+(8).jpg)

Hey you know what?



These new  
**DEVOPS tools**  
are pretty  
**COOL!**



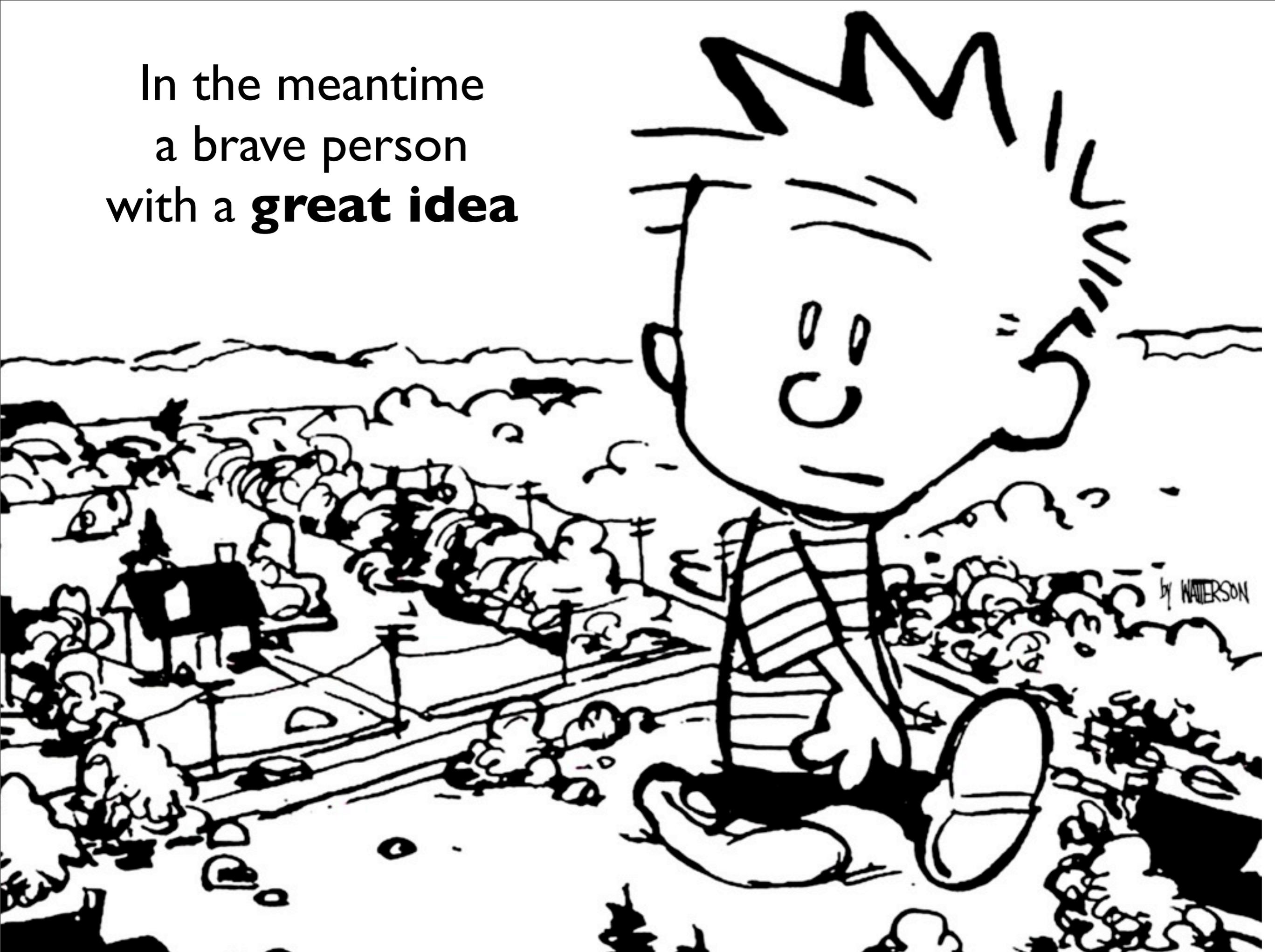
[http://www.scenicreflections.com/files/Calvin\\_and\\_Hobbes\\_Washing\\_Hobbes\\_Wallpaper\\_qmx4o.jpg](http://www.scenicreflections.com/files/Calvin_and_Hobbes_Washing_Hobbes_Wallpaper_qmx4o.jpg)

**YOU FOOL!**

**It's not about the tools, it's about the CULTURE!!!!**



In the meantime  
a brave person  
with a **great idea**



You buy this **DEVOPS** tool  
and all your problems go away



<http://stylishcorpse.files.wordpress.com/2009/04/calvin-transmog.jpg>

**YOU FOOL!**

It's not about the tools, it's about the **CULTURE!**



<http://leandrasmiles.files.wordpress.com/2011/07/argument-cartoon.jpg>



But  
I LIKE  
tools

[http://3.bp.blogspot.com/-aWwP.../AAAAAAAAACM/xaZ4f9r4Osw/s1600/calvin\\_and\\_hobbes\\_001.jpg](http://3.bp.blogspot.com/-aWwP.../AAAAAAAAACM/xaZ4f9r4Osw/s1600/calvin_and_hobbes_001.jpg)

Stay **calm**...



<http://images1.fanpop.com/images/photos/1300000/Hobbes-calvin-and-hobbes-1395518-2000-1503.jpg>



Let's **think**  
this over

aka let me **Google**<sup>™</sup> that for you

**It's not about the tools**

Google Search

I'm Feeling Lucky

Type a question, click a button.

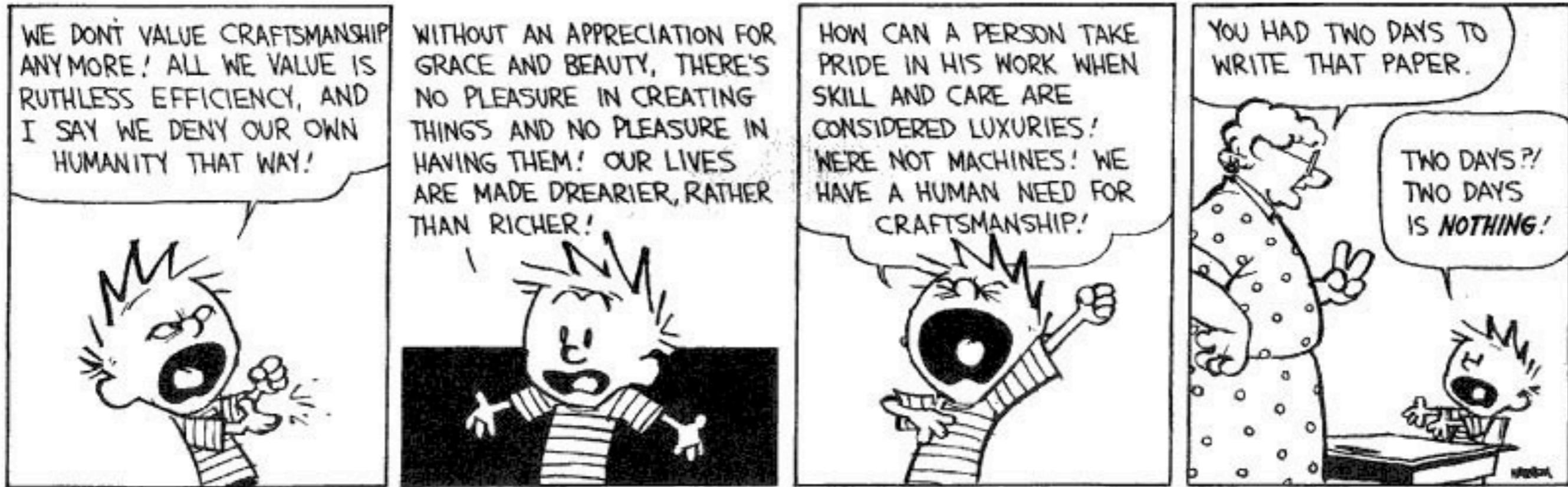
# Animal Laborans vs Homo Faber

humans controlling the environment through tools

[http://en.wikipedia.org/wiki/Homo\\_faber](http://en.wikipedia.org/wiki/Homo_faber)

# Motivation & Passion

# Back to reality



<http://www.wordsinspace.net/wordpress/wp-content/uploads/2011/08/61.jpg>



# A few of the tools from my last mission

Git  
Github

Express  
Npm Nodejs

Python

Chef

Collectd Nagios

Maven

Java Grails

Vagrant

Fog

Esper

Sinatra

EC2 ELB

Rvm Ruby

Mysql

Cucumber

Fpm Ubuntu

Redis

Flume

Mongodb

Jquery

Flot

# ***Automation***

# Craftsman vs **Artist**

Reproducible results

Stradivarius/No more Bob's Directory

# Configuration Management

Repeatable Results  
Faster

# **Ironies of Automation**

aka NOOPS

<http://www.bainbrdg.demon.co.uk/Papers/Ironies.html>

We should **not compete** against the machine...

The way to use a machine is to judge its powers, fashion its uses, **in light of our own limits** rather than the machine's potential.

“A **poor** craftsman  
blames his tools”

Upon donning my new attire and my new bicycle, I will be magically transformed into a cyclist that can hold his own with Lance Armstrong, right?

<http://journal.bitshaker.com/articles/2011/06/10/the-importance-of-good-tools/>

# Novice learners

typically don't plan, monitor, and reflect on their learning  
typically don't generate a number of potential solutions  
engage in 'knowledge telling' vs. 'knowledge transformation'

# Expert learners

use '**multiple** representations'

make **multiple** passes at knowledge

view 'mistakes' as opportunities to **learn**

able to **transfer** learning to other domains

realize '**context**' is important to learning

Tool chain, Tool belt

Learn a few tools, programming language, editors per year

Chef vs. Puppet, Source vs Packaging, Vim vs Emacs

**OPTIONS**

<http://theconstructionzone.wordpress.com/2010/03/03/scaffolding-for-deep-understanding/>

“It’s about the  
**behaviors**  
the tools enable”

Think how cloud, virtualization, nosql , config mgt has changed the way we work/think

[http://www.edweek.org/tm/articles/2011/04/20/tln\\_ferriter\\_igeneration.html](http://www.edweek.org/tm/articles/2011/04/20/tln_ferriter_igeneration.html)

“It’s not about tools.  
It’s about **change**”

# “Effects **with** Technology & Effects **of** Technology”

*Effects with are the changes that take place while one is engaged in intellectual partnership with peers or with a computer tool, as, for example, is the case with the changed quality of problem solving that takes place when individuals work together in a team. On the other hand, effects of are those more lasting changes that take place as a consequence of the intellectual partnership, as when computer-enhanced collaboration teaches students to ask more exact and explicit questions even when not using that system*

<http://theconstructionzone.wordpress.com/2010/03/07/deep-understanding-the-issue-of-transfer/>

“We don’t need  
a **window dressing** solution  
when  
the house needs to be **renovated**”

“It’s not the tools,  
it’s about the  
**Craftsman**”

<http://blog.jayway.com/2009/11/07/the-craftsman-analogy/>

**“We shape our tools  
and afterwards  
our tools shape us”**

*Marshall McLuhan*

<http://blog.jayway.com/2009/11/07/the-craftsman-analogy/>

# Tools as objects to **think with**

Like TDD is not about tests, but think about better design

<http://www.wordsinspace.net/wordpress/wp-content/uploads/2011/08/UMS5-October-13-Lecture-3.jpg>

“Problem Space  
**evolves**  
with the solution”

**Give me API  
or  
Give me death**

**@littleidea**

# ***Collaboration***

“It’s not about the tools, it’s  
about the **relationship**”

**“from activity-centric  
to relationship-centric  
collaboration”**

Vagrant allowed us to share setups across team

<https://communities.cisco.com/community/technology/collaboration/enterprisesocialsoftware/blog/2010/10/15/pushing-the-reset-button-on-how-we-look-at-collaboration>

“Individuals and **interaction**  
over process and tools”

<http://agilemanifesto.org/>

“More interaction  
doesn't mean  
**a better party**”

# of deploys doesn't tell you everything

<http://www.nature.com/news/2010/101013/full/news.2010.538.html>

# Black Hole theory

“Absorbs the light, to see the **effects**  
you need to look at nearby objects”

Complex design problems  
require **more knowledge**  
than any **single person possesses**

because the knowledge relevant to a problem is  
usually distributed among **stakeholders**.

<http://www.mendeley.com/research/barriers-and-enablers-for-creating-shared-understanding-in-codesign-projects/>



**The map is not the territory**

# Tragedy of the commons

“A **dilemma** arising from the situation in which multiple individuals, **acting independently** and rationally consulting their **own self-interest**, will ultimately **deplete** a shared limited **resource**, even when it is clear that it is not in anyone's long-term interest for this to happen.”

[http://en.wikipedia.org/wiki/Tragedy\\_of\\_the\\_commons](http://en.wikipedia.org/wiki/Tragedy_of_the_commons)

**“The clashing point of  
two subjects,two disciplines,  
two cultures ought to  
produce creative chaos”**

**Symmetry of Ignorance**

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.138.5562&rep=rep1&type=pdf>

*Group think is  
especially **harmful**  
if some groups believe that their  
**way of thinking is on top,**  
rather than on tap*

*(Turtle and Papert, 1991).*

“Create spaces and places that serve as  
**boundary objects**

(shared objects to talk about and think with)

where different cultures  
can **meet** and **collaborate**”

Great places to start the conversation  
Deployment, packaging, monitoring, testing, post-mortem

“They have the potential  
to lead to an increase in socially  
**shared cognition and  
practice**”

Transcending the Individual Human Mind—Creating Shared Understanding through Collaborative Design

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.138.5562&rep=rep1&type=pdf>

Boundary objects  
can give way to  
**Toxic Technical Debt**

<http://theagileexecutive.com/2010/07/06/boundary-objects-in-devops/>

# Levels of Interaction

activities	Just Sysadmin or Dev
collectives	Devs/Ops/... interaction
organization	Understanding Business
networks	Interacting outside company (opensource, open recipes, open datacenters)

*Shift to Social*

### *Craftsman Swaps:*

A couple of companies conducted craftsman swaps. This is where 2 companies swap an employee for a week. The employees **learn** the practices of another company and come back and try to **improve** their own environment.

### *Craftsman Journeys:*

Similar to a craftsman swap, this is where you just go to a company for a week and **learn** what they do

Bringing **different** and often **controversial**  
points of view together to create

a **shared understanding**  
among these stakeholders can lead to new  
**insights**, new **ideas**, and new artifacts.

<http://www.mendeley.com/research/barriers-and-enablers-for-creating-shared-understanding-in-codesign-projects/>

# Domain **Shift**

reach across borders - traveling

# Design

“**collaborative** relationships

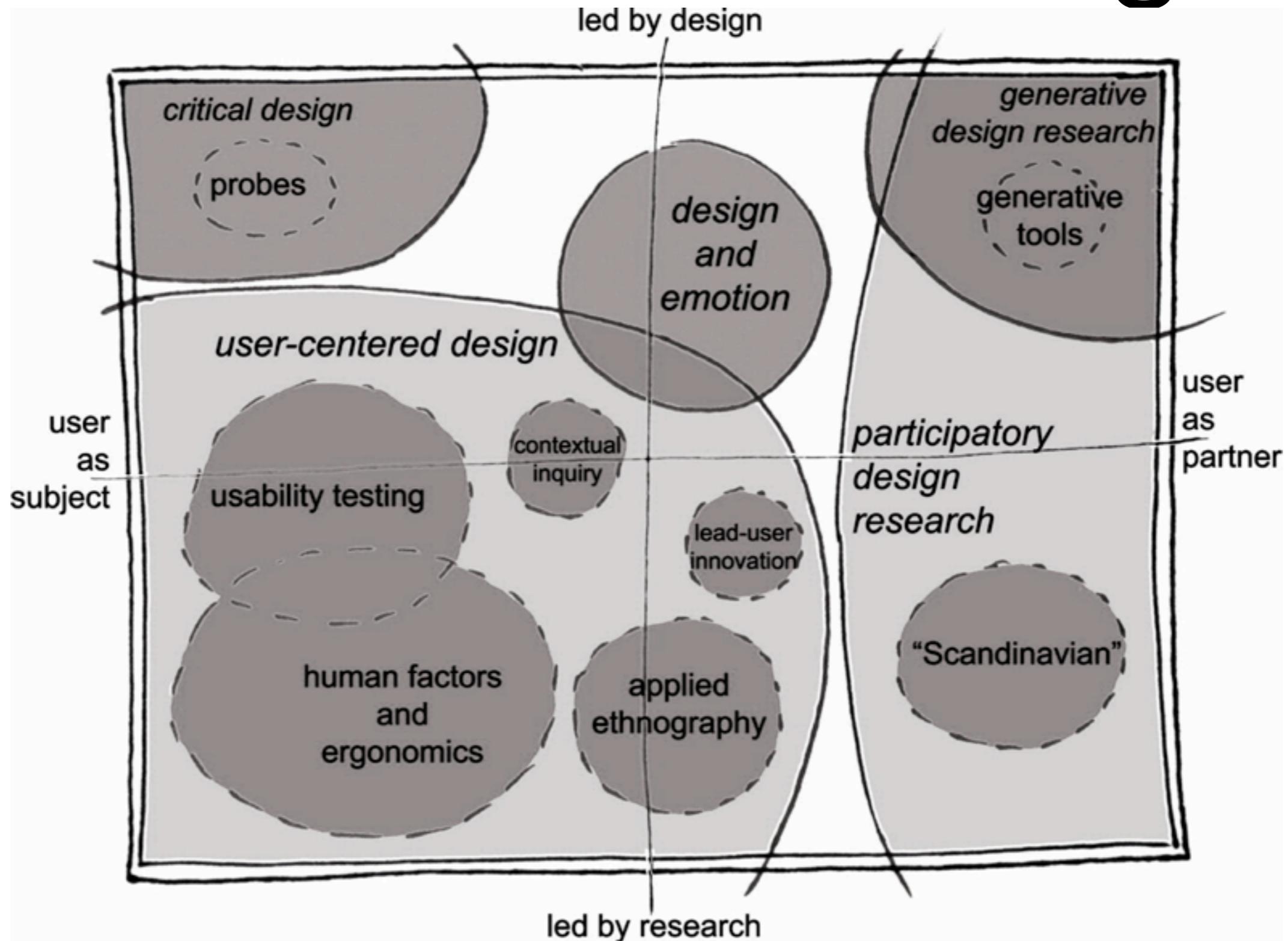
*shifts*

the focus from tools to **design**”

“Design used to be  
**collaborative** activity”

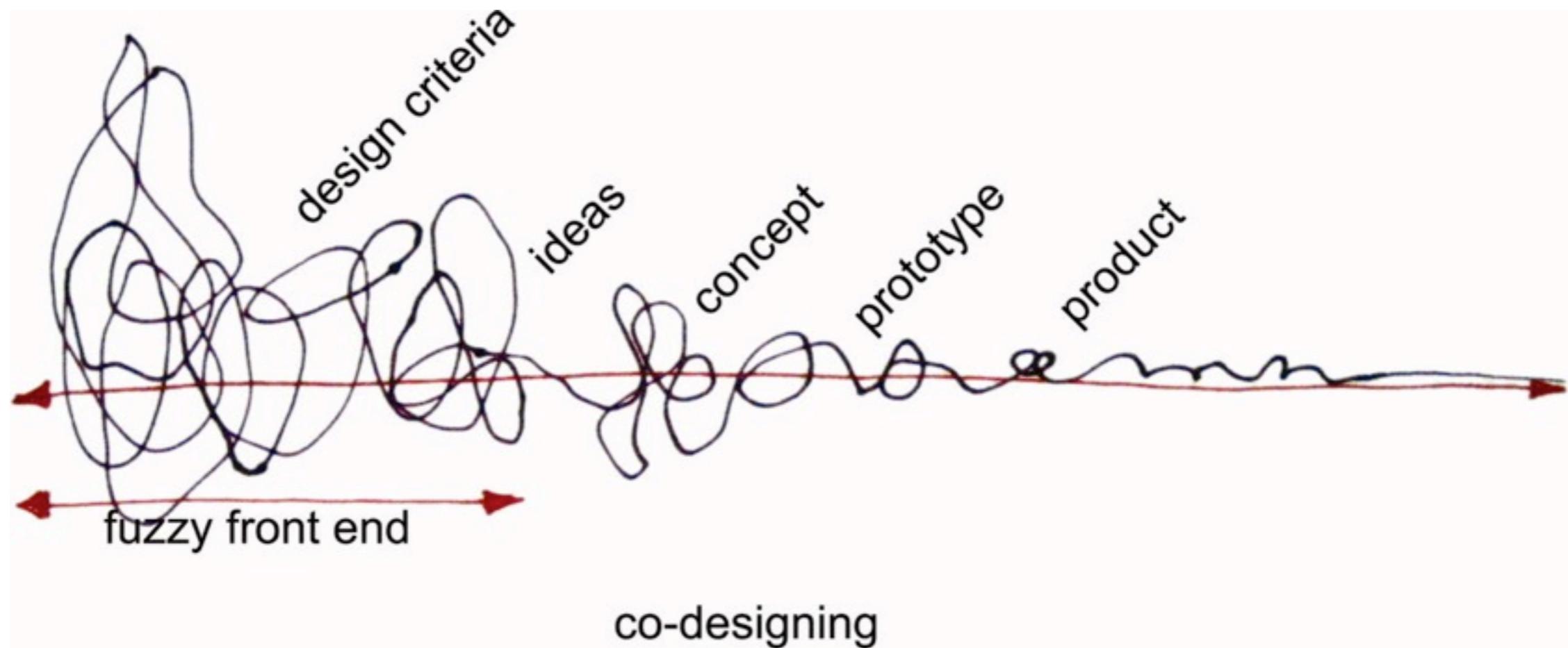
*think guilds*

# Co-creation of design



<http://www.tandfonline.com/doi/full/10.1080/15710880701875068>

# Get back to design



**“Automation  
frees up time  
to do more design”**

# Originality and Operations

You can **try** to perform operational tasks without any ingenuity or creative thought.

Automation of routine work has freed us to **innovate** even more

Ernest Mueller

<http://blog.cutter.com/2011/09/11/originality-and-operations/>

An **“honest architecture,”**  
one in which there is no deceit in its  
construction.

John Ruskin

[http://en.wikipedia.org/wiki/The\\_Seven\\_Lamps\\_of\\_Architecture](http://en.wikipedia.org/wiki/The_Seven_Lamps_of_Architecture)

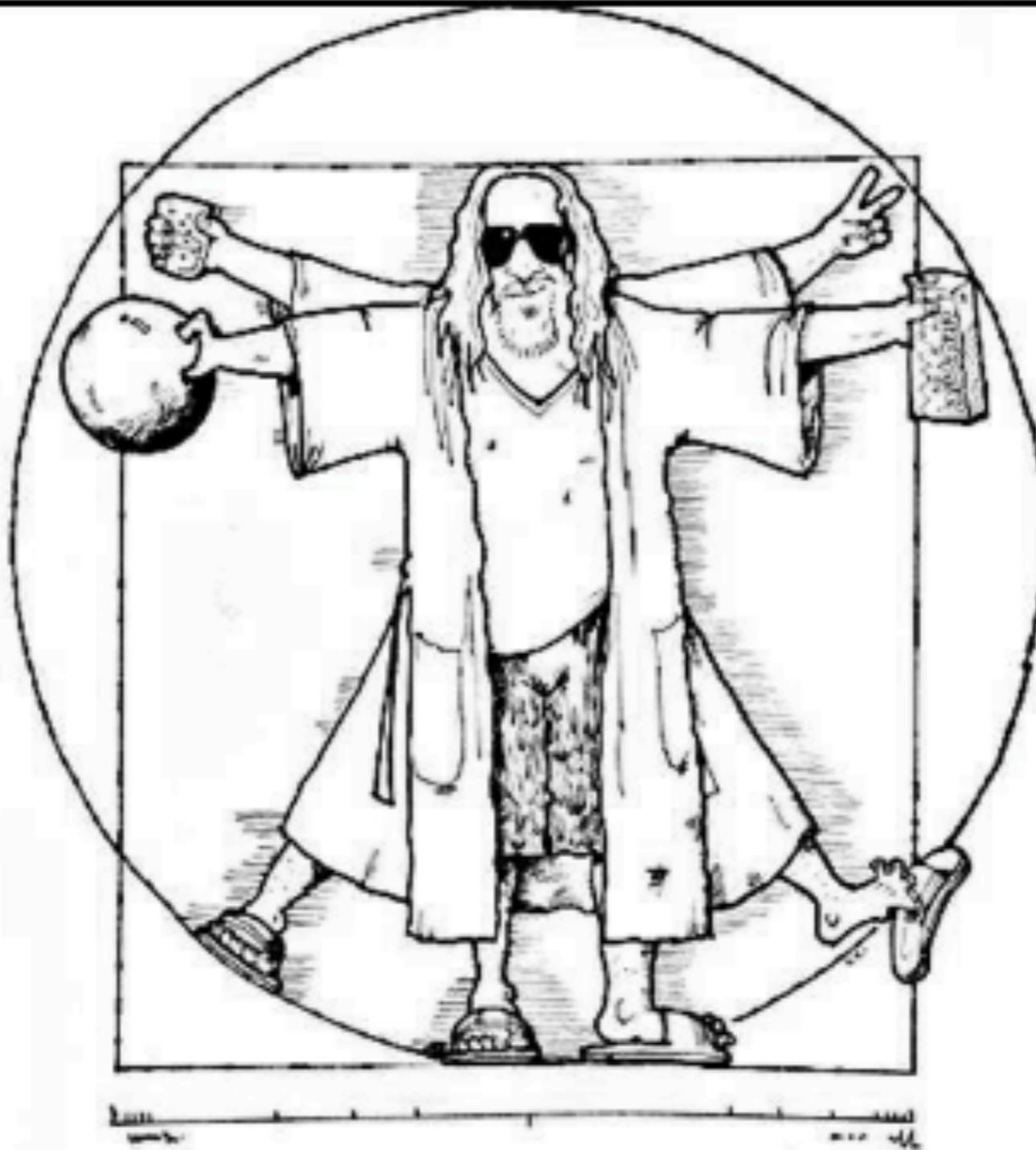
# Abstraction should be based on **experience**

Theory is for everybody, craftsmanship to those trained fast, new tool set (keep up)

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

# Dude's Law: Value = Why / How

$$V = \frac{W}{H}$$



$$V = \frac{W}{H}$$

13

## Architect vs. Master of craft

<http://devjam.com/dudesblog/dudes-law/>

<http://www.slideshare.net/YvesHanouille/the-agilemindset>

When you drive a car, thinking about how the engine works is a **distraction**

When you repair a car, thinking about how the engine works is **essential**

<http://www.cs.princeton.edu/courses/archive/spr98/cs333/lectures/19/sld002.htm>

**repair** or taking things apart and  
understand how they work,  
helps people **rethink**  
how to do things”

Post-Mortem learning  
Sennett

<http://www.bu.edu/cpt/resources/book-reviews/craftsman-by-richard-sennett/>

# Metrics for **learning and feedback**

Difficult tools can  
**challenge** you.

# Path of least **Resistance**

How do we avoid getting  
stuck in group think?”

This includes seeing  
**controversy as an asset**  
rather than as a limitation;

Traveling Craftsman  
conferences - online communities

# **“How do we eliminate sources of exclusion?”**

Not only avoid exclude people,  
but ways of thinking and organizing that make them reluctant to join in.

Scripts Perl Python Capistrano

**“Unlearn & Learn”**

How can we encourage  
individuals to **contribute**  
to the good and progress of all of us?’’

# *Sharing*

**Ideas, Blogs, Tools, Stories**

*DEV*

*TEST*

*PROD*

Virtualbox

VMfusion

Libvirt

EC2

Fog

**Options**

Vagrant

Mccloud

**Share/Reuse**

+

Chef

+

**Share/Reuse**

Configure

Configure

**Share/Reuse**

Recipes

+

+

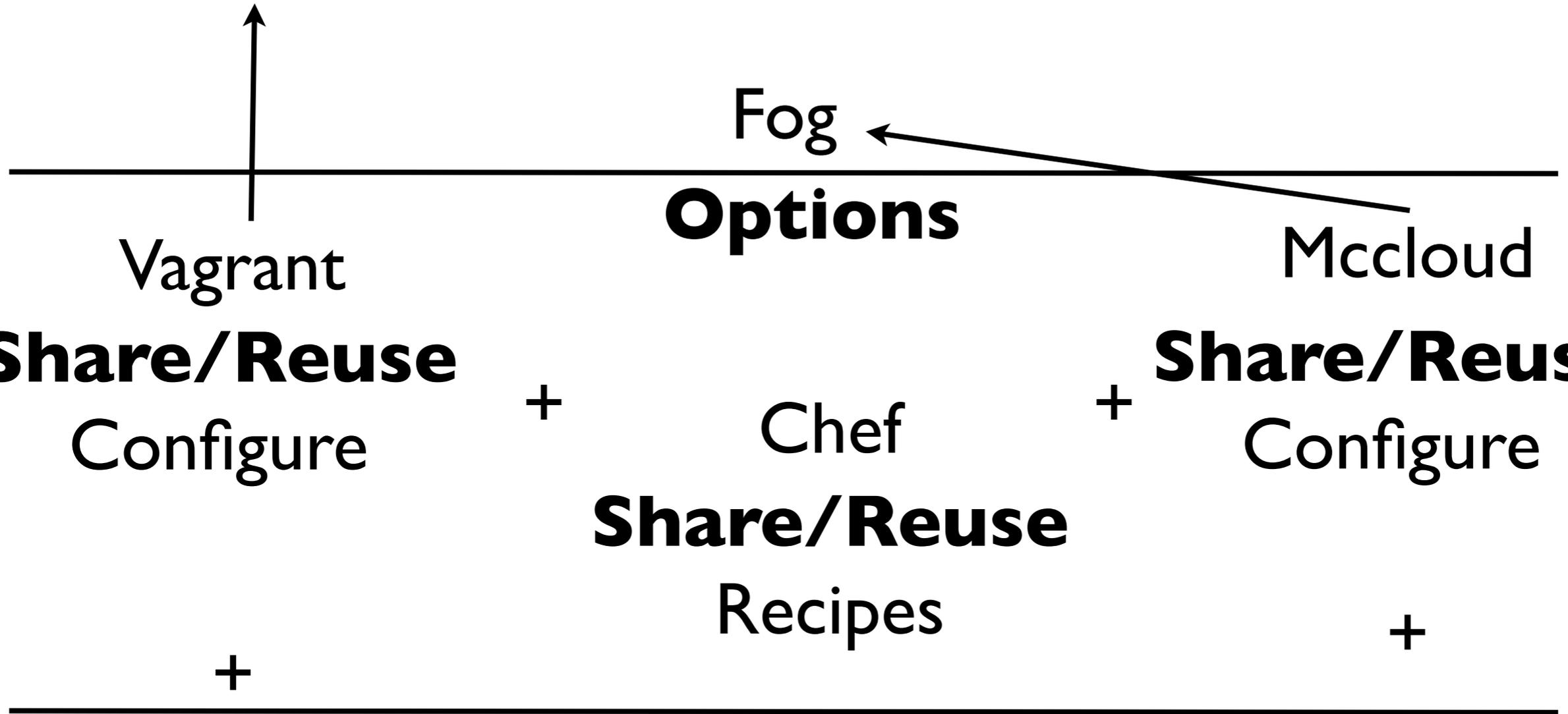
Veewee

AMI

**Share/Reuse**

Creation of

Basebox



# Failsafe

# Great Sources

devops café

devopsdays

devops weekly

#devops

“It’s not about the tool  
- a **naïve** myth”

Peter Skillen

“Tools can connect people so  
we can **share** and **learn**  
from each other and  
**improve**”

<http://www.brandtology.com/blog/social-media-it%E2%80%99s-not-about-the-tools-it%E2%80%99s-about-the-people/>

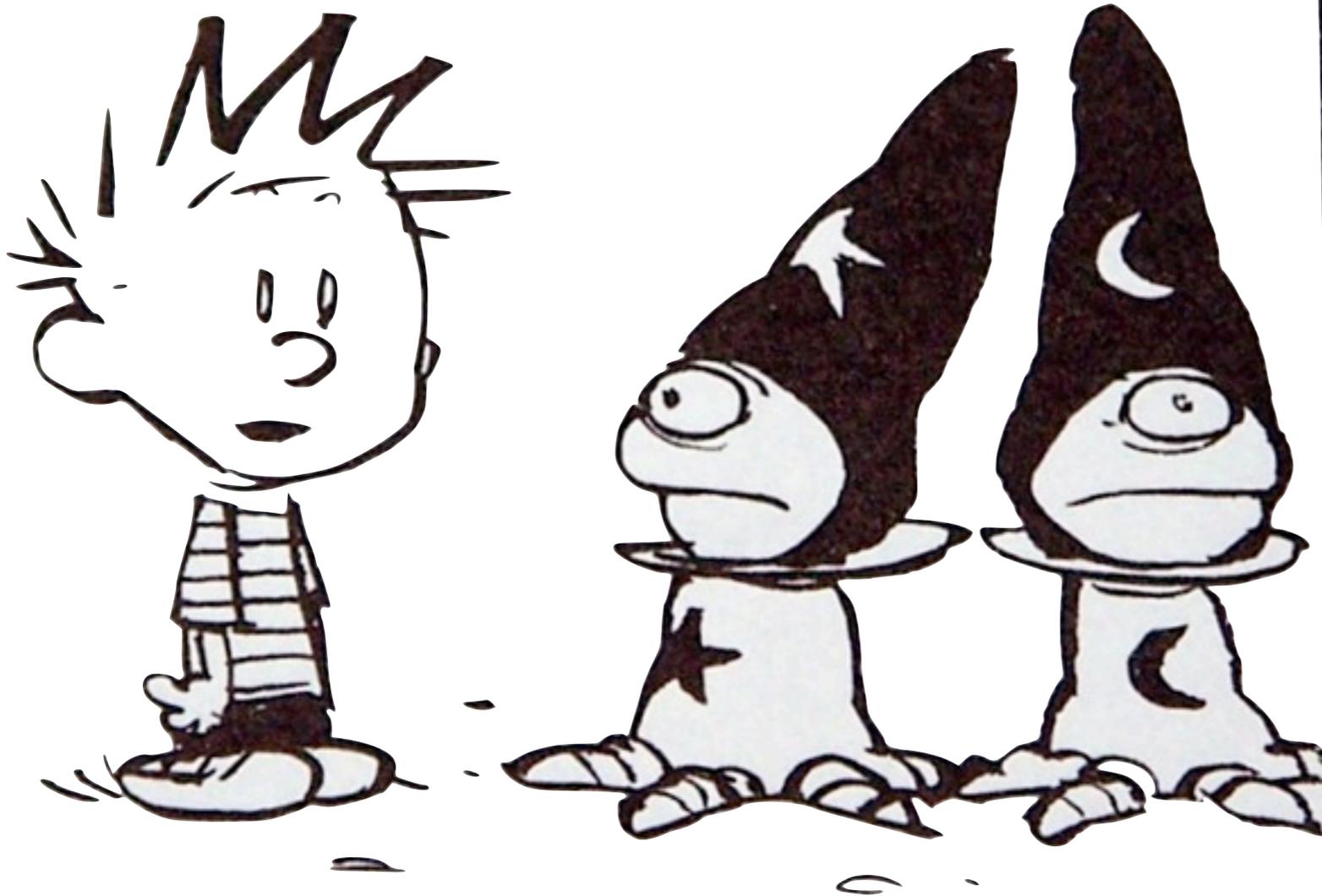
**“Tools can enable  
change in behavior  
and eventually  
change culture”**

I think the importance of tools  
is **under-rated**



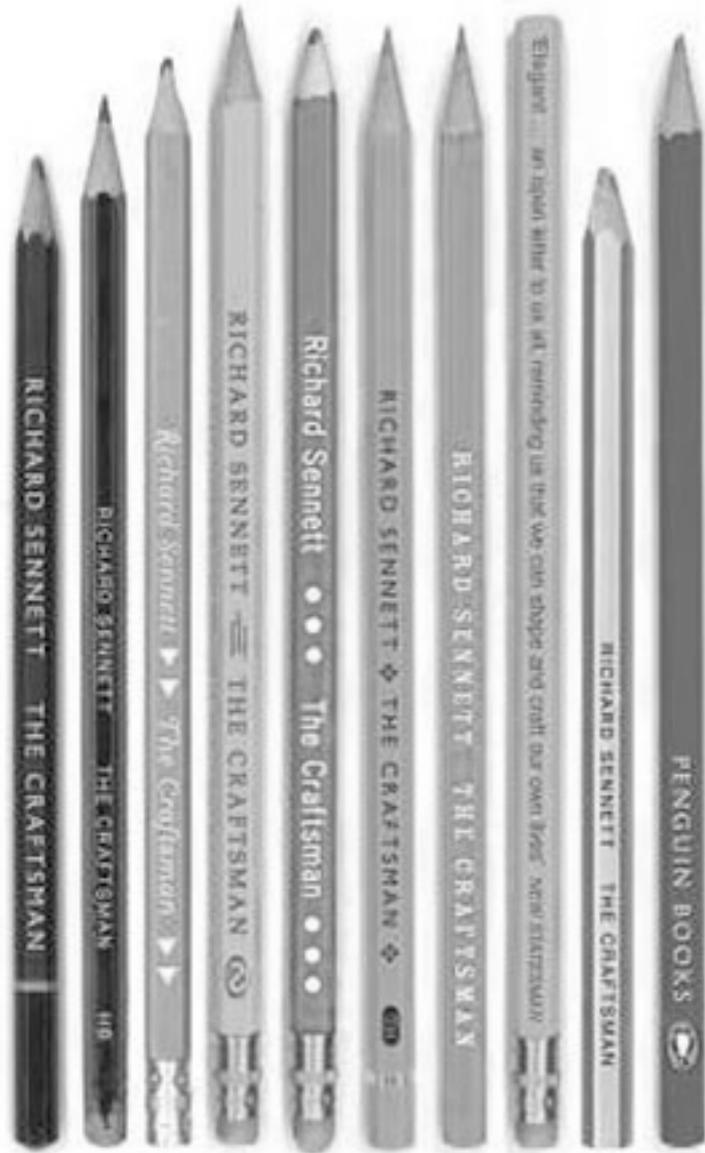
<http://is2.okcupid.com/users/158/676/15967793449584551428/mt119125805.jpg>

UM...  
WELL..

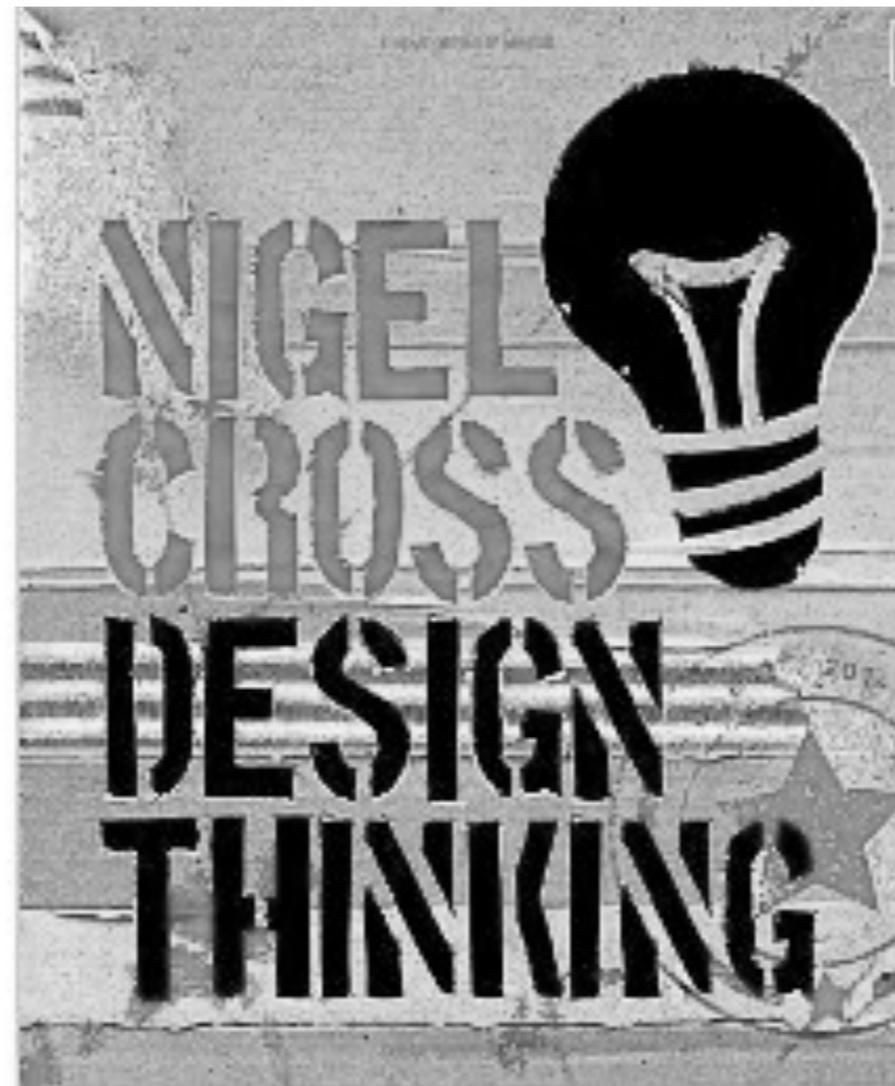


Thoughts?  
Questions?

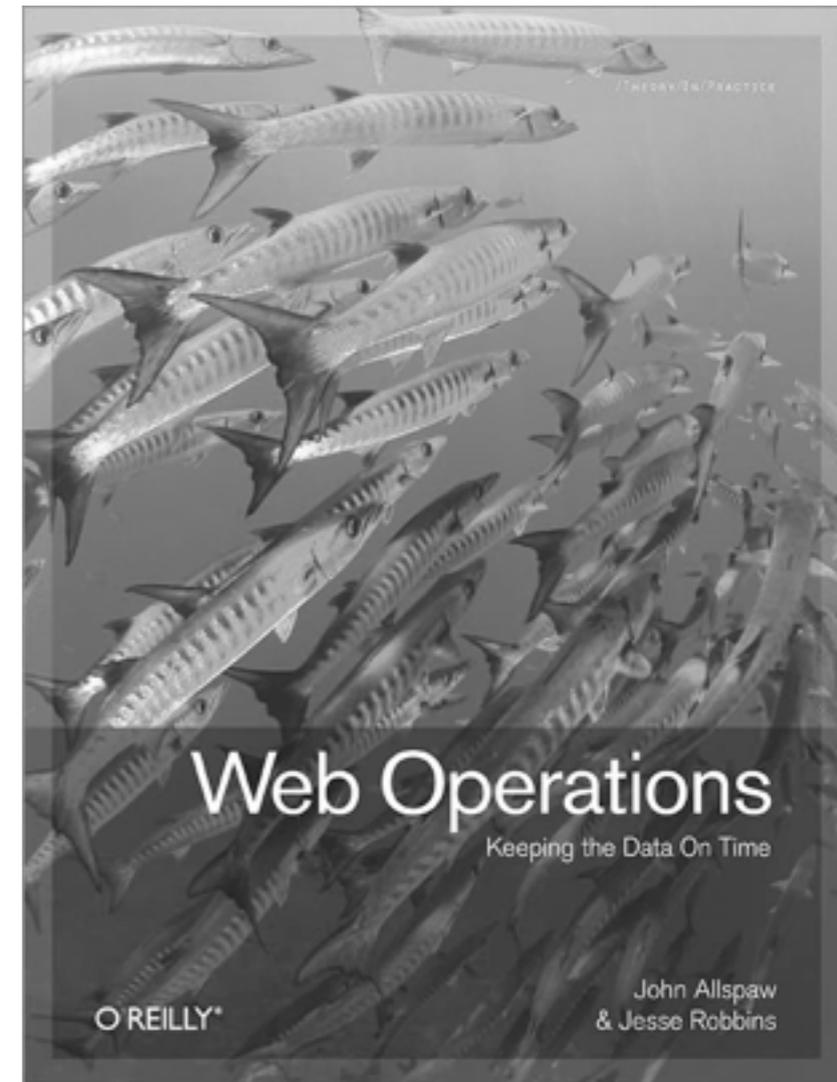
# Some homework



*The craftsman*  
Richard Sennet



*Design Thinking*  
Nigel Cross



*Web operations*  
Allspaw & Robins

Go have **fun**  
with your **tools** now

