

# digital innovation, reversed semiotics and generative economics

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Tesla

Dell

Alibaba

Uber

Column

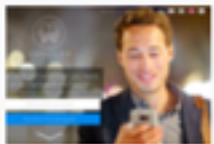
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# The Battle Is For

Posted Mar 3, 2015 by Tom Goodwin

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**Editor's note:** Tom Goodwin is senior vice president of strategy and innovation at Havas Media.

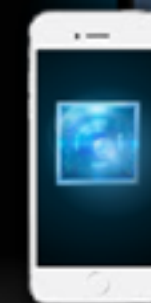
Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate. Something interesting is happening.

Since the Industrial Revolution, the world has developed complex supply chains, from designers to manufacturers, from distributors to importers, wholesalers and retailers, it's what allowed billions of products to be made, shipped, bought

“Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate. Something interesting is happening.” (Tech Crunch, March 3, 2015)

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# 11:12

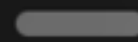
Friday, August 8



**Google** 3m ago

Time to leave for US 3316. Leave by 11:25 AM to arrive at the airport 60 minutes before your flight

slide to view



2.0



what does a firm do?













# **domestication** of materials

# marriage of **form** and **function**



to render **service**

designer's struggle  
with material

value is always  
**co-created**

goods are **carriers** of  
resources

**all goods are**  
service delivery  
platforms

# **three logics of economics**



# 2.1

# **industrial** economics



The image shows a large, complex industrial machine, likely a particle accelerator or a high-energy physics experiment. It features a large, cylindrical, metallic structure with a glass safety enclosure. The machine is surrounded by various cables, pipes, and structural supports. In the foreground, there is a control panel with a monitor and several buttons. The text "the age of physical machine" is overlaid on the image in a large, bold, black font, with "physical machine" in red.

# the age of physical machine



# automation

# capital intensive asset

# managerial challenge

maximizing asset  
utilization



vertical integration  
diversification

**managerial logic**

economy of size and scale

# organizational forms

m-form hierarchy

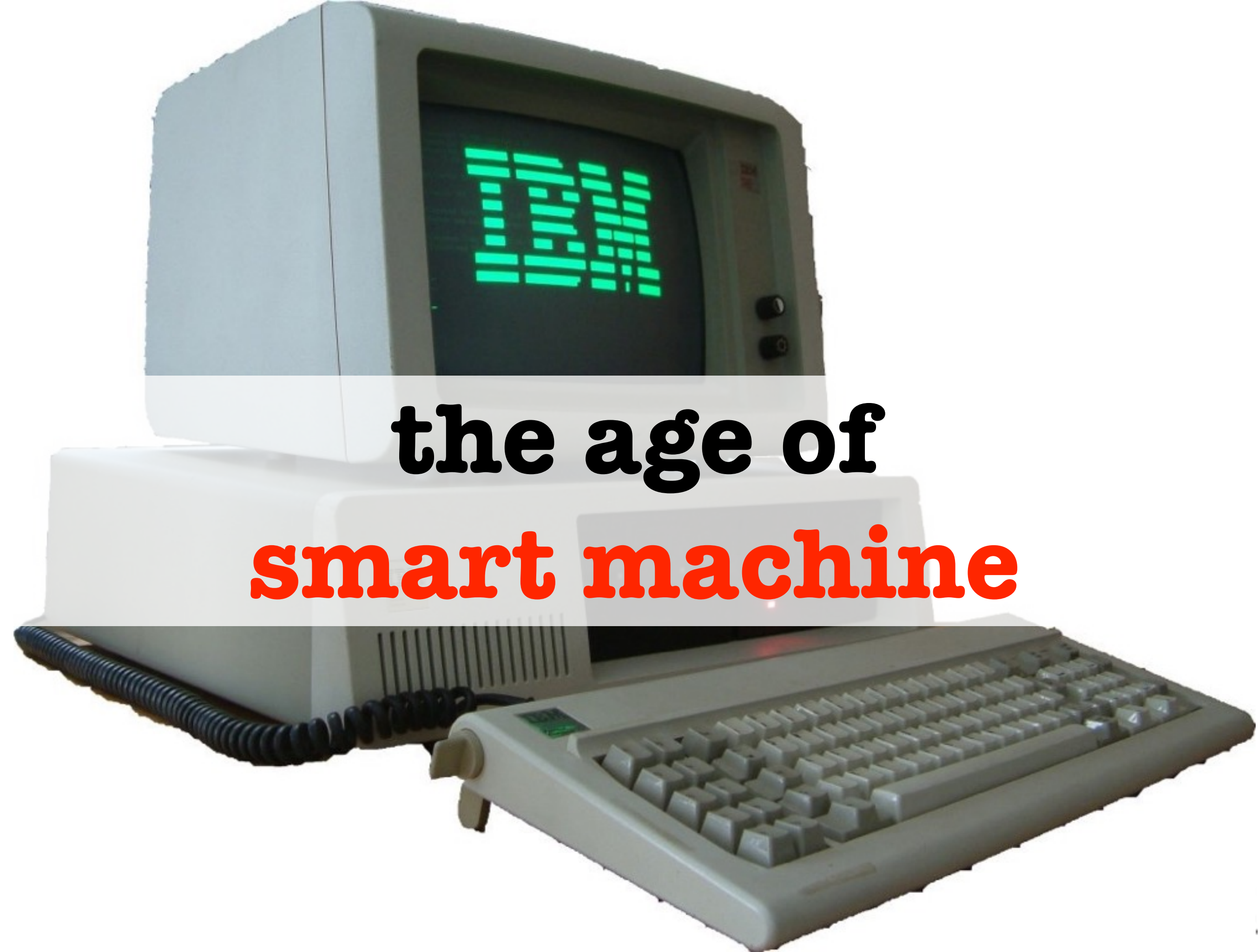
# management tools

## scientific management

2.2

# **information** economics





**the age of  
smart machine**

# information as by-product

(production, distribution, and use)

# managerial challenge

complexity

information overload

**management logic**

modularization (design rules)  
horizontal coordination

# organizational forms

network of distributed org.

# management tools

outsourcing  
virtualization

# 2.3

# **generative** economics





**the age of**  
**generative machine**





# digital technology

# separation of form & function

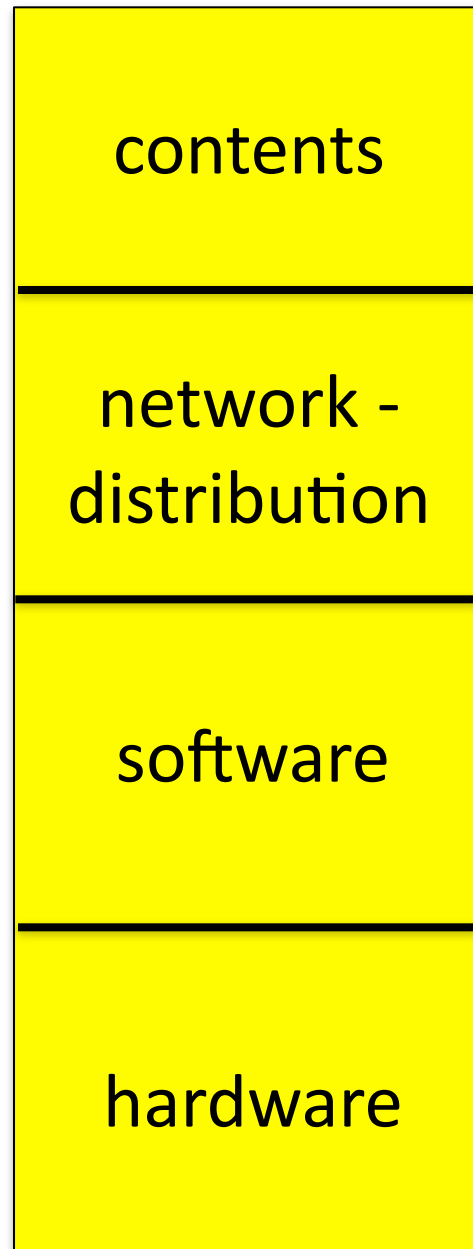
(universal machine of von Neumann computing architecture)

# separation of contents & media

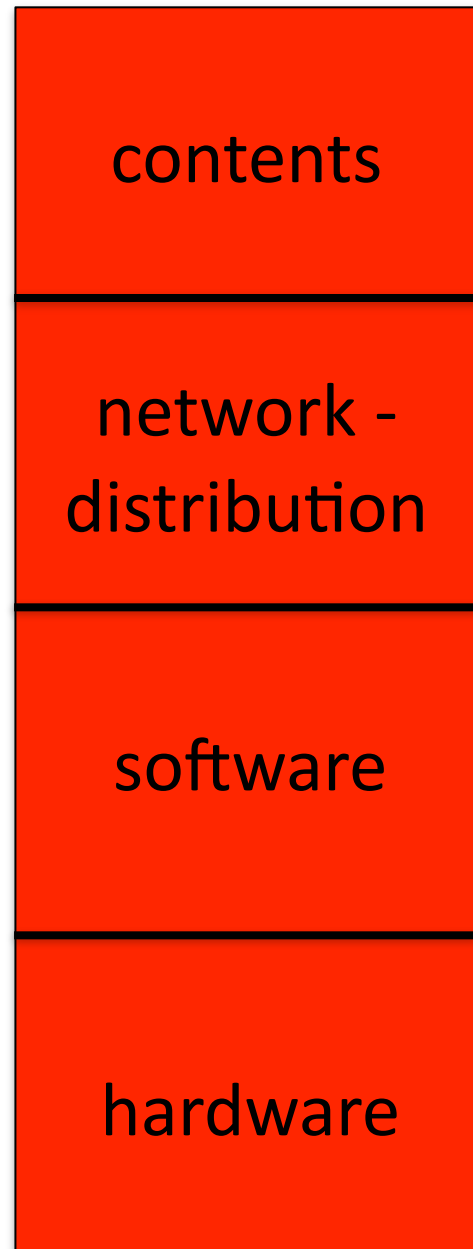
(universal network of Claude Shannon)

# walled garden of products

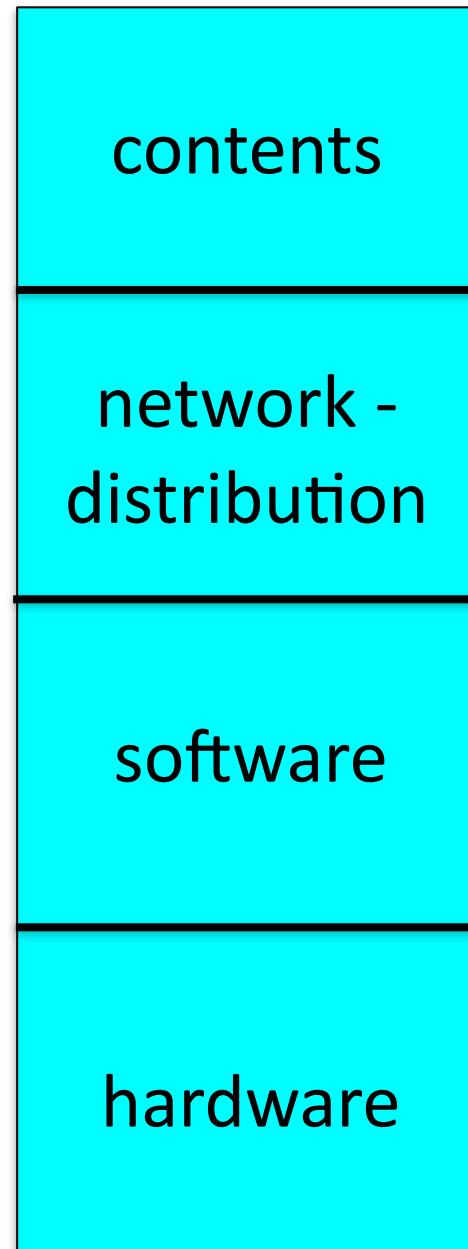
TV



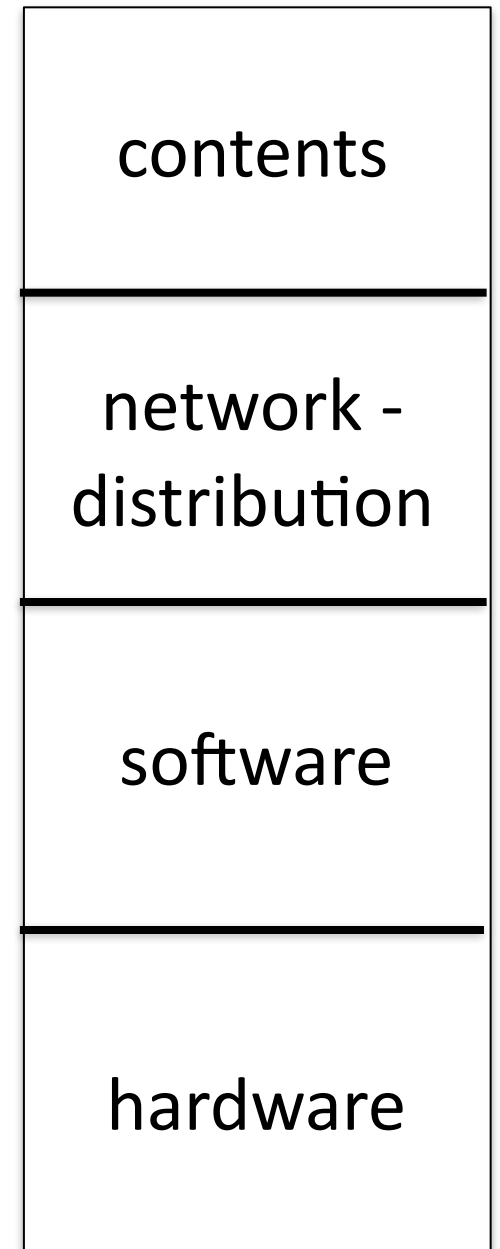
phone



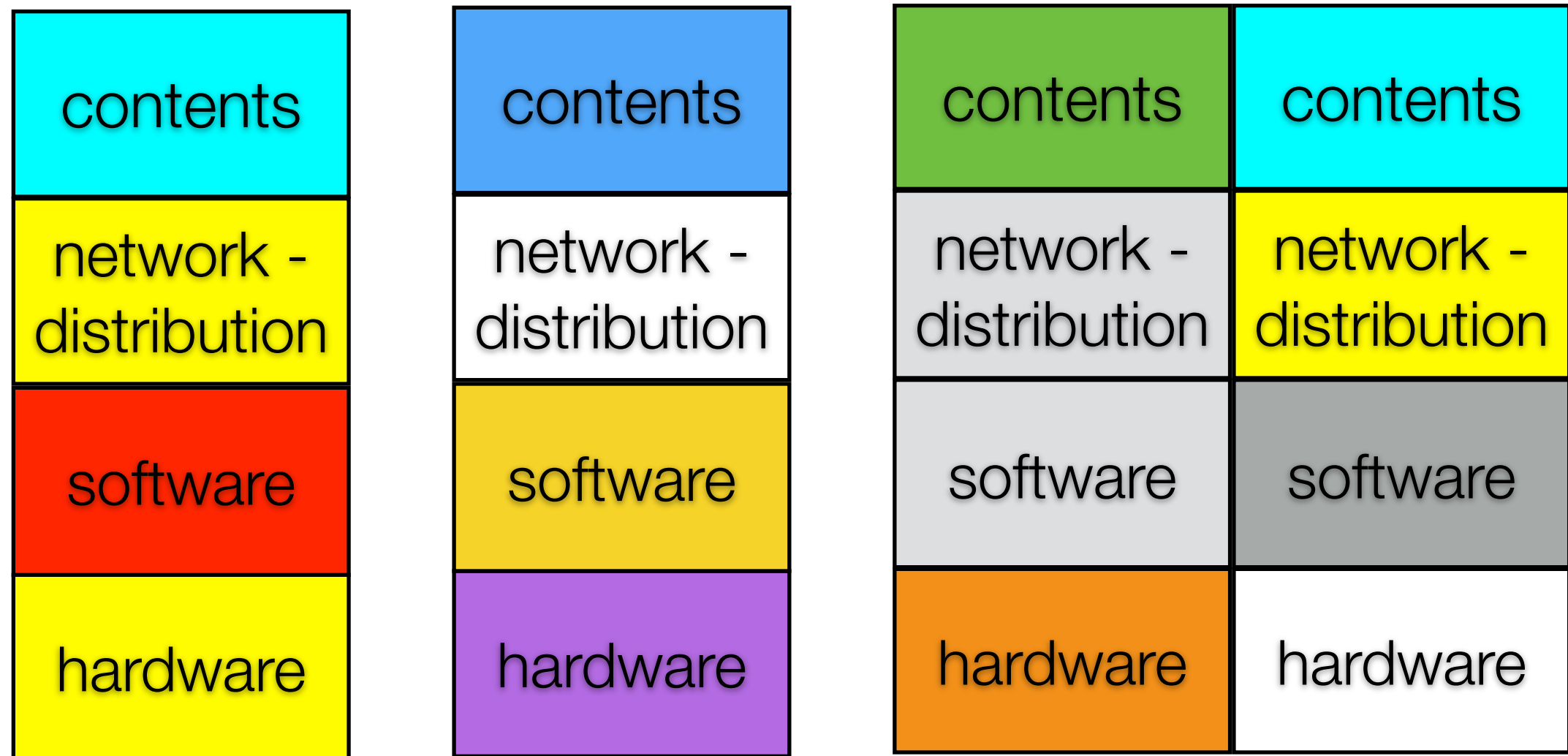
book



music



# re-configuration of new products



highly evolutionary  
products that produce  
user-generated trace data

technology **constantly**  
**evolves** beyond the  
original design



# managerial challenge

deconstruction of products  
reconfiguration of value system  
convergence

**managerial logic**

mutation

recombination

open innovation

# organizational forms

ecosystem of open  
platform

3.0

**reversed semiotics**

reference vs referent

information as  
**representation**  
of the real

information as the  
**genetic materials**  
of the real



# 4 types of **reversed semiotics**

# which one is real?



# which one is real?

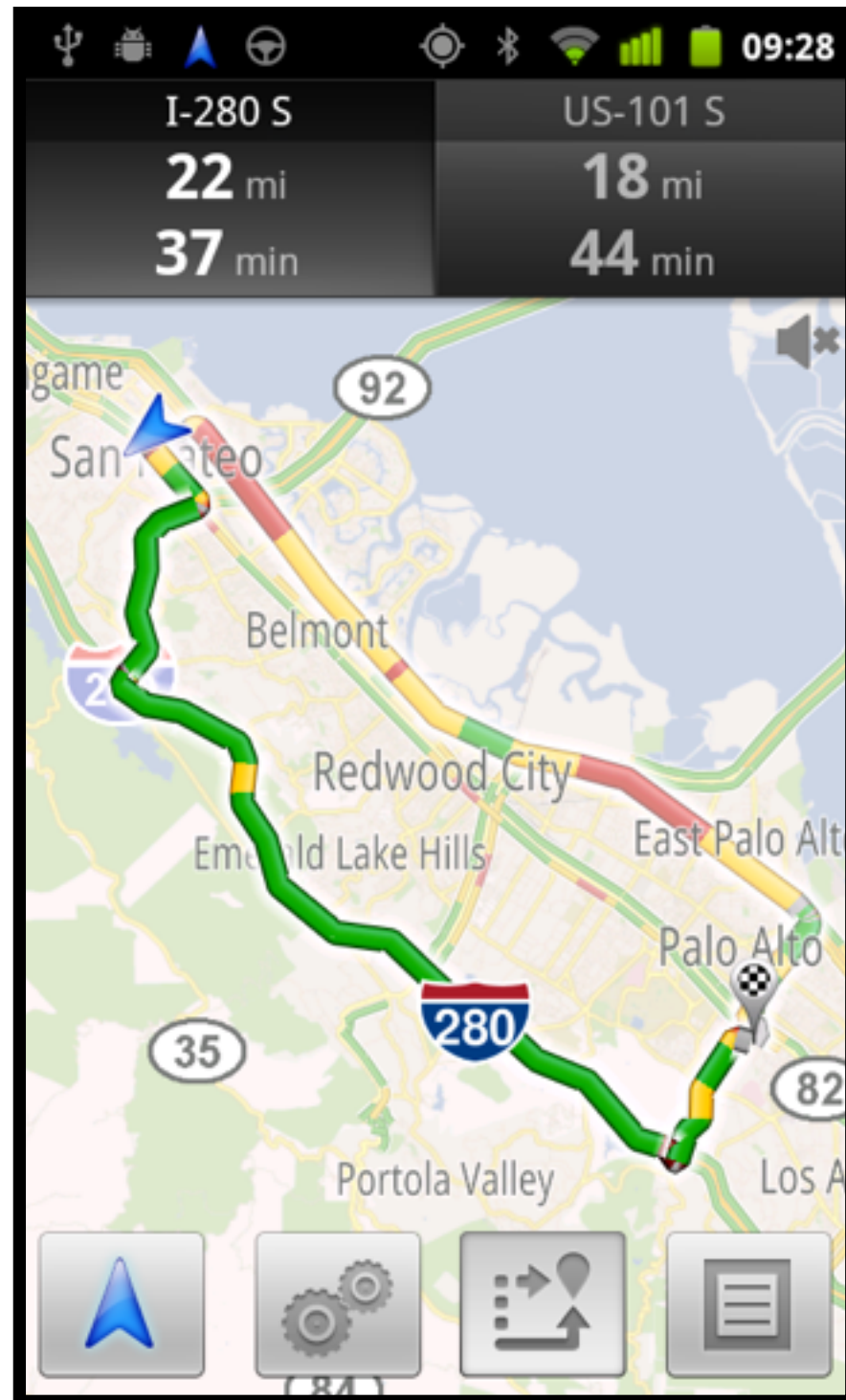


# which one is real?





# which one is real?



physical goods as **avatar**  
of “real” digital products



flipping the value  
economic proposition

“Simulation is no long that of a territory, a referential being or a substance. It is the generation by models of a real without origin or reality”

“the age of simulation thus begins with a liquidation of all referential”

“It is no longer a question of imitation, nor of reduplication, nor even of parody. It is rather a question of substituting signs of the real for the real itself.”

(Jean Baudrillard, 1983)

information economics:

dissimulate

immaterial representation

non-rivalry of consumption

generative economics:

simulate

metabolism of information

generative recombination

**strategic use of  
information as by product**

**strategic use of  
information as simulacra**

industrial  
economics



information  
economics



generative  
economics

**deconstruction of  
traditional organizations**

**deconstruction of traditional  
industrial systems**

products

things

noun

creativity

craftsmanship

platform

experiences

verb

generativity

procrastinated binding



# 3.1



what is a firm?

what is a product?

# a firm: a classic model



activities

technology

knowledge

product vs. service

**product** as a fossil of activities  
frozen in time and space  
through production value chain

**product** as a performative  
enactment of a network of activities  
at the point of consumption



# **liquidation of product**

product as a delivery platform of  
contents and service activities

# procrastinated binding

“value is created after the product was purchased”

# resolution of transactions

“creating Moor’s law in physical world to reduce frictions  
in economic transactions”

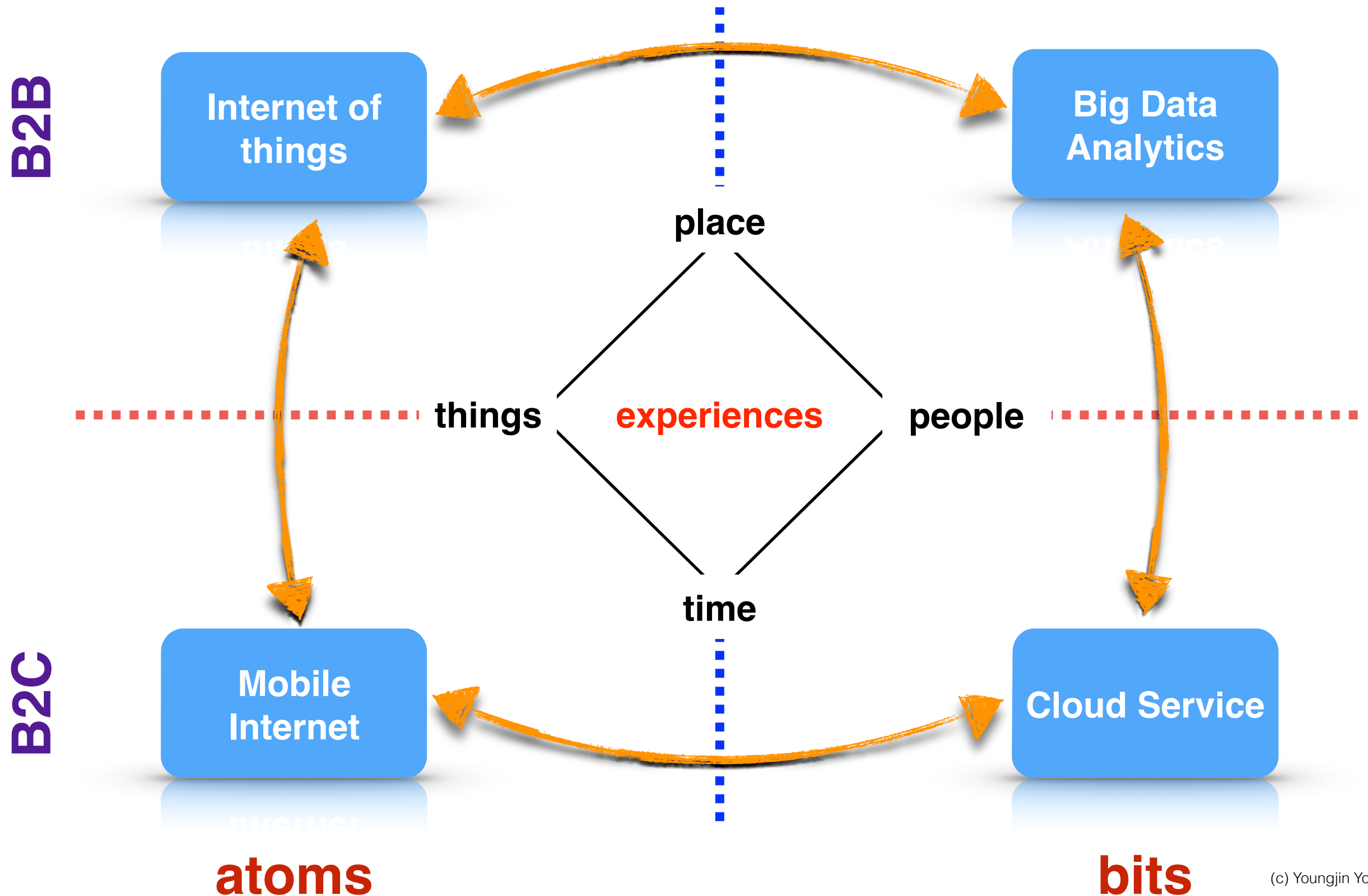
power shift

musicians are poorer  
than ever before!



3.2

# Quad Core of Computed Experience

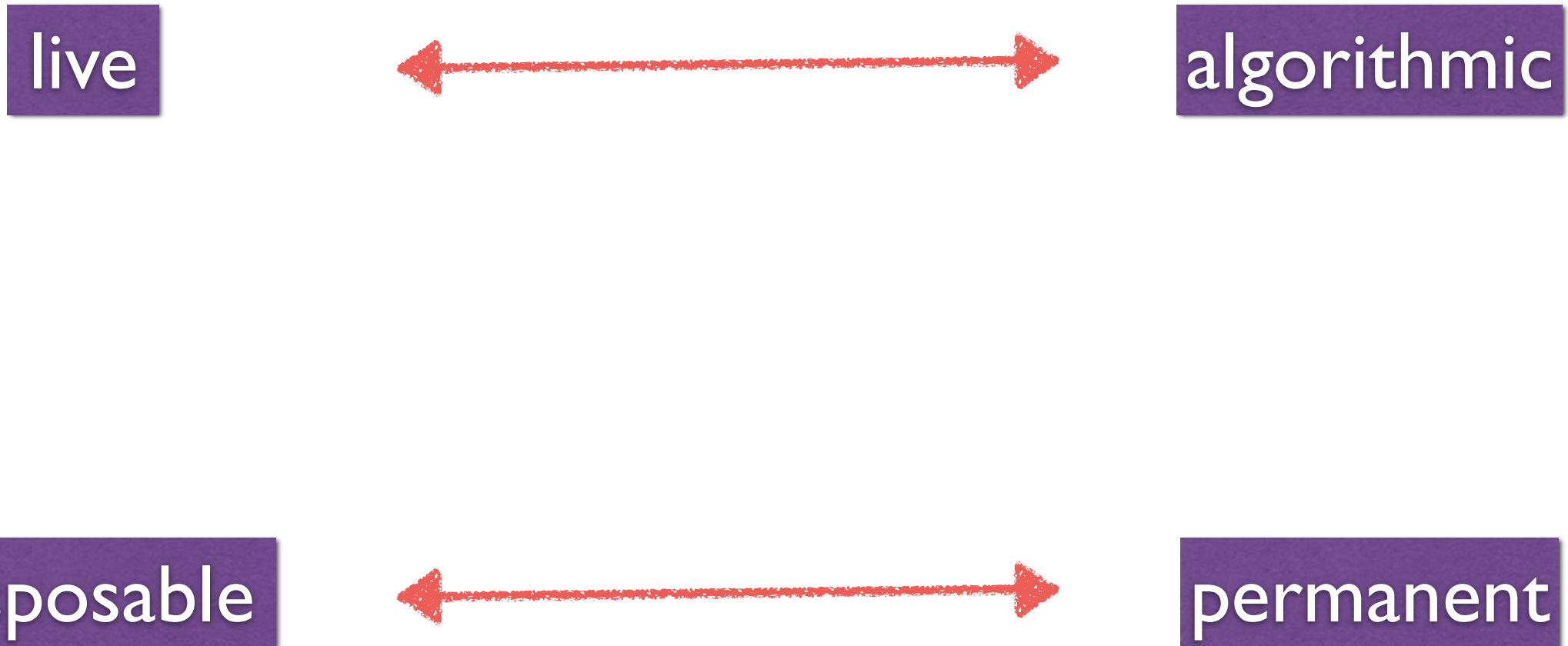


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# characteristics of hybrid sociomaterial world

- digitally enabled complex socio-technical phenomena
- no central governing body or design rules
- evolve beyond the original designers
- non-linear emergent behaviors
- leaves large-scale digital trace data

# design decision



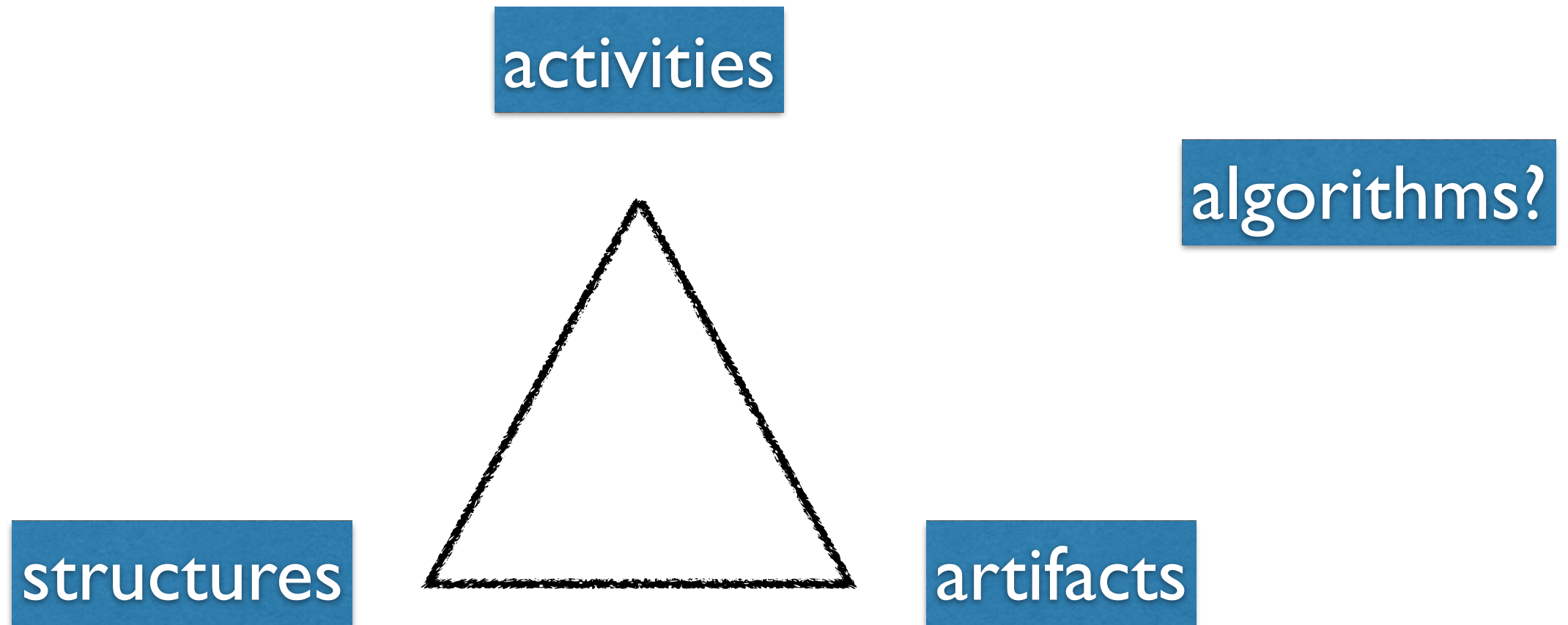
big data with an  
**evolutionary ontology**

# evolutionary computation

## social science



# holy trinity of social science (and their evolutions)



the rise of  
**algorithmic reality**

forget about  
B2B and BC2

think about  
A2C and A2A

Inspired by Karl Lang @ Baruch College

6.0

concluding thoughts



what should IS  
discipline do?

“the tables have turned”

seeking new theories on

**[sociomaterial, computed,  
algorithmic, generative, or digital, but  
definitely not just social or technical]**

reality

# beginning with a hybrid agency

actors  
matter  
data  
algorithms

thank you