Conway’s law, architecture and Organizations

Presentation and interaction at Gothenburg Tech Radar Meetup

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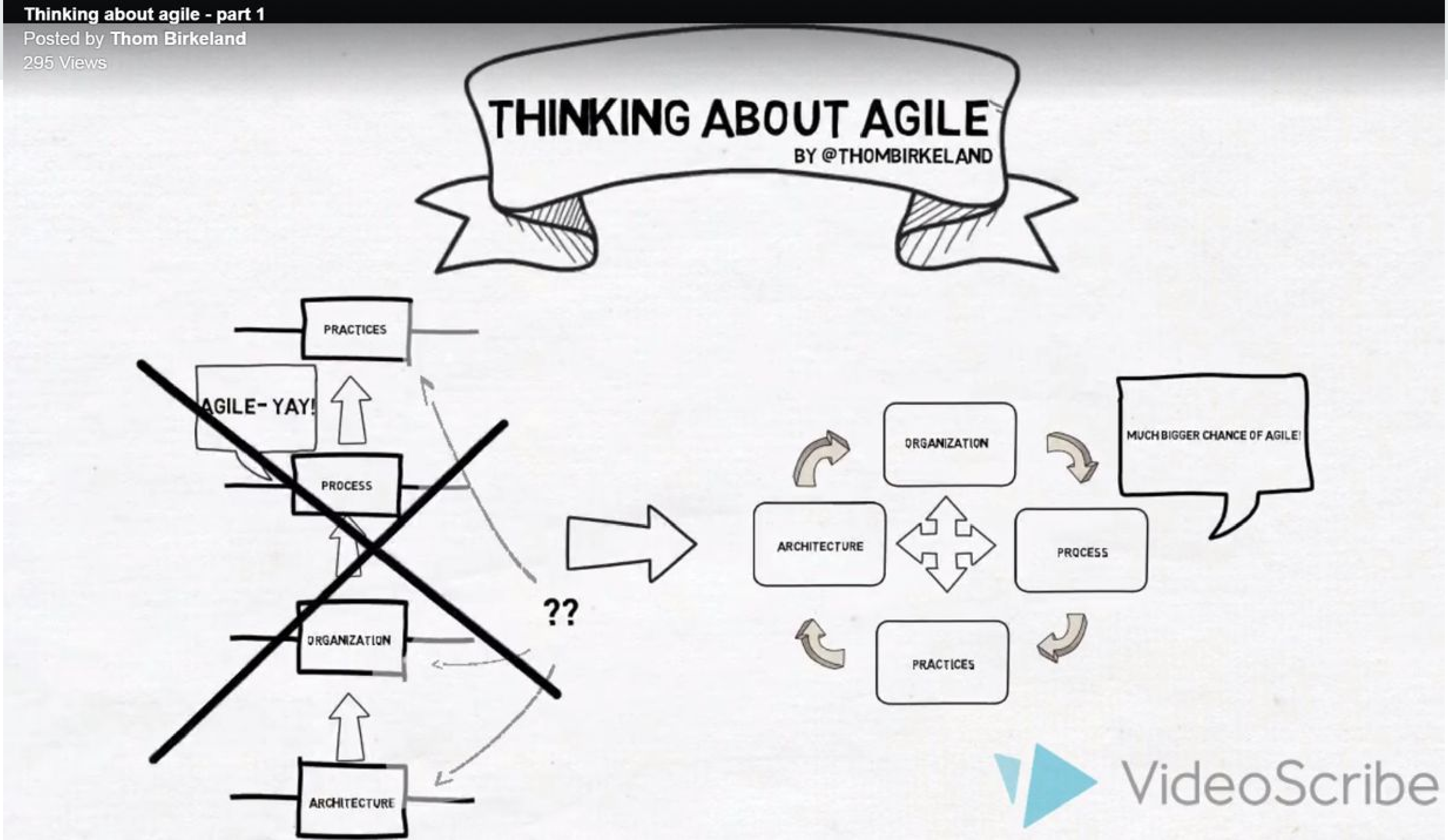
Warm up question

What is Conway's law to you?



Thinking about agile - part 1

Posted by **Thom Birkeland**

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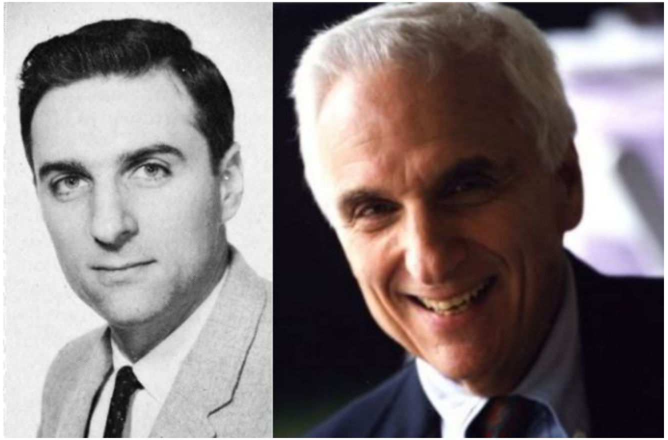
THINKING ABOUT AGILE

BY @THOMBIRKELAND

Melvin Conway



50 year career in computer science

IBM, Think, MUMPS

2nd career as high school math teacher

COBOL & PASCAL Compilers

Author of “How do committees invent”, 1967

Conway's law

"Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure."

Mel Conway in "**How do committees invent?**", published in *Datamation,* 1968

Coined "**Conways's law**" by Fred Brooks in *The Mythical Man-month*, 1975

Conway's 2nd, 3rd and 4th "laws"

"There is never enough time to do something right, but there is always enough time to do it over."

High frequency delivery cycles key to being able to continuously improve

"There is a homomorphism from the linear graph of a system to the linear graph of its design organization"

Cross team dependencies are important - thus we should aim for autonomous teams

"The structures of large systems tend to disintegrate during development, qualitatively more so than with small systems."

Time is against large organizations - smaller teams are more efficient.

How does Conway’s law influence organizations?

- Smaller teams rather than large
- Team focus over organizational value
- Excuse not to work across boundaries
- Used to spur innovation
- Used to drive architecture evolution
- Fuels Brook’s law
  “Adding manpower to a late project makes it later”
- Tells us to actively manage communications
- Fuels agile work methods, incl DevOps
- Fuels modern (micro service) architectures

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Your experience with Conway's law?

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Used tondrive architecture

No experience

Nothing, just heard about it just naw.

Used to drive architectural evolution

Hej hek

Our code is better than your code mentality

Used for thesis

Happens every time. Also applicable to single person 'teams'

I don’t know

Observed it

No experience either

Things fall between responsibilities and teams.

Bottleneck

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Implications for future organizations?

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Drive architectural evolution using organizational design

Decoupled teams

Microservices === microteams?

Active work on communication within organization (Ref Elon Musk)

To upgrade competencies for existing employees

T-shaped competency profiles

The need for full stack people will persist

Coupled components require coupled teams.

Shaped every major organization I worked at

Different issue tracking systems along support chain, hindering transparency and collaboration, as well as prolonging feedback loops.

Need for more abstraction of Dev ops and infra

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