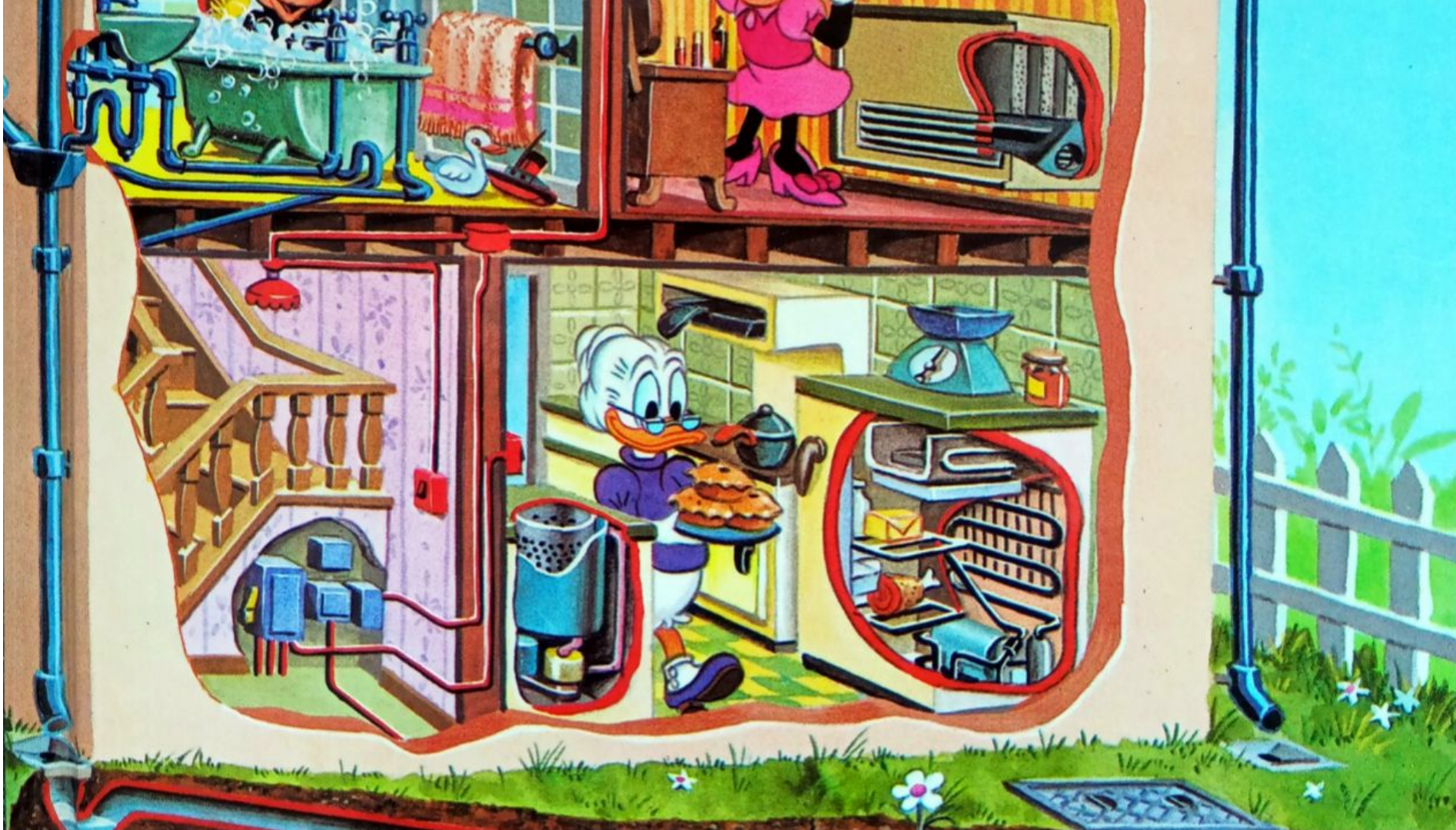
# Systems at Work & Play: Holism in an Agile World

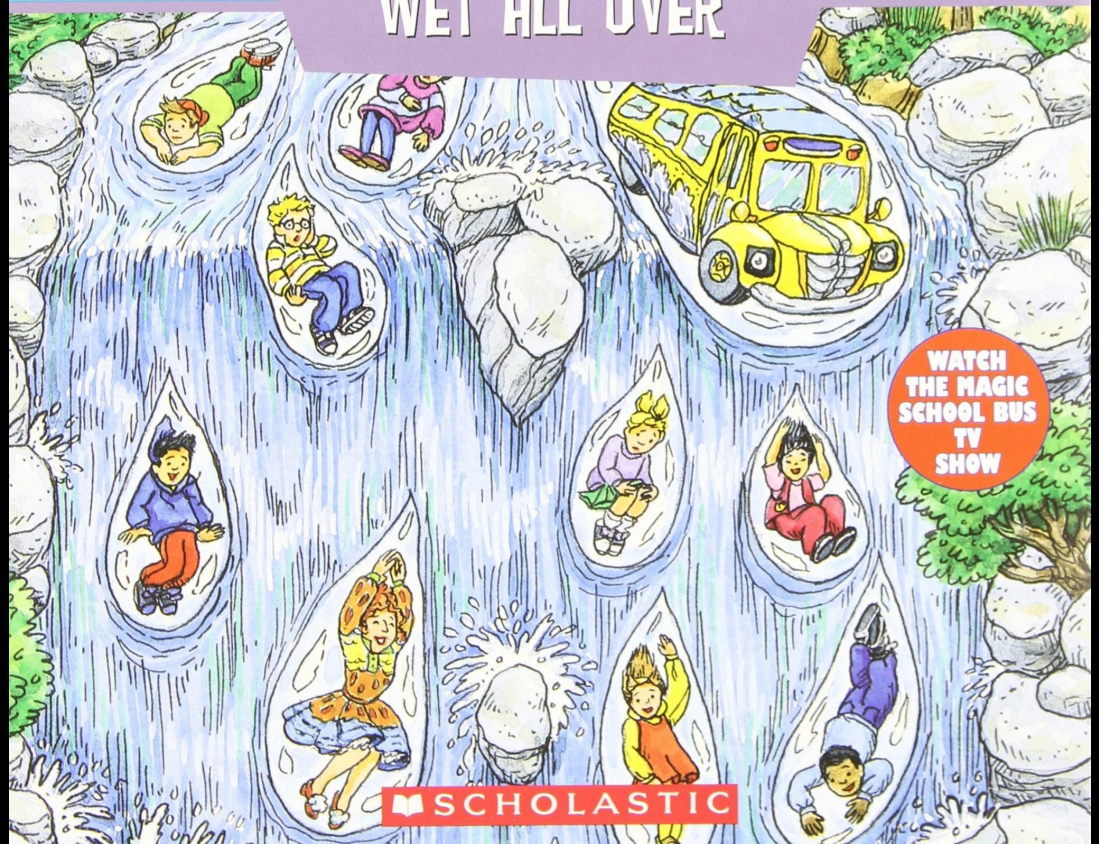
Wil Wade

# How It Works in the HOME



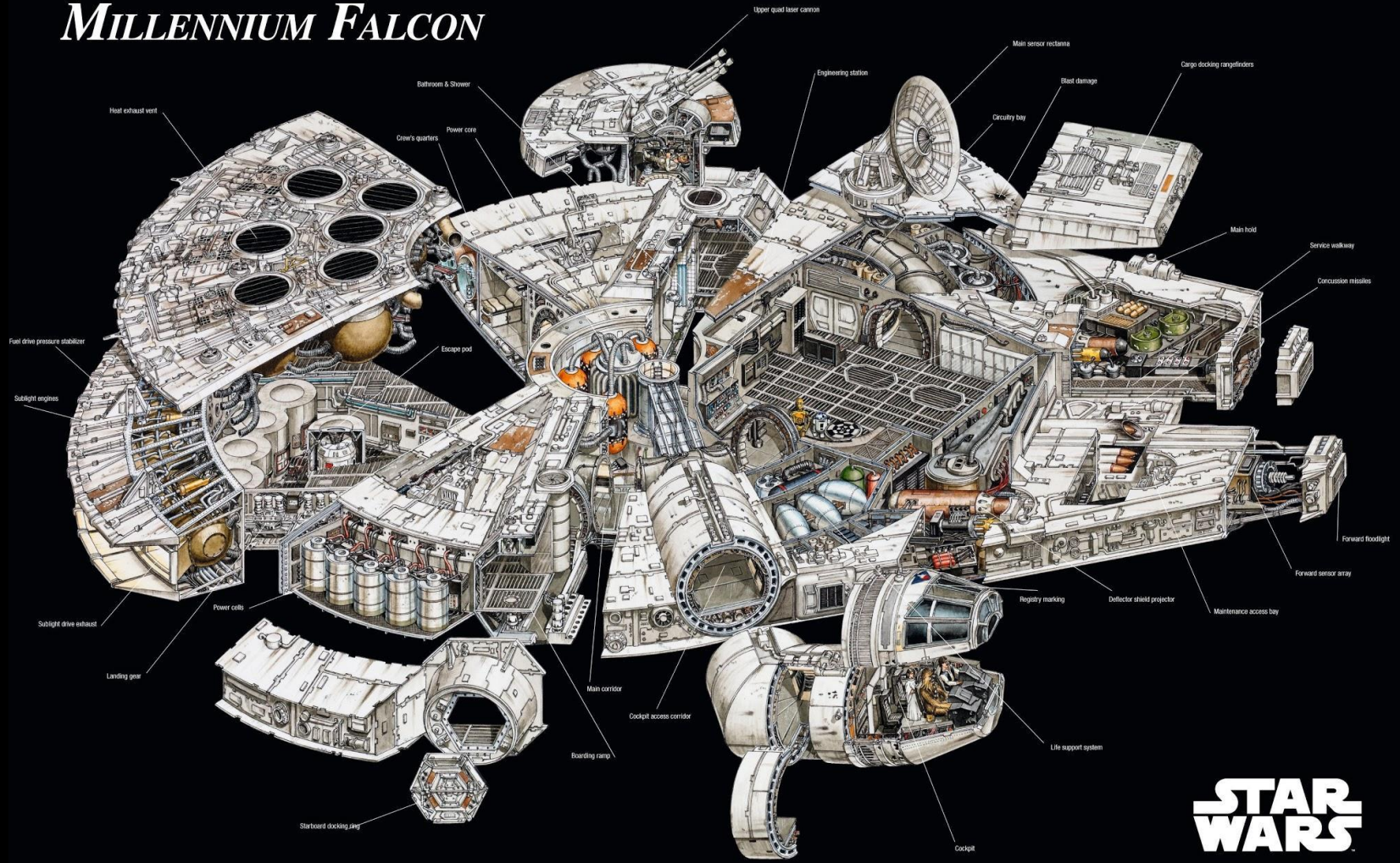
# The Magic School Bus®


## WET ALL OVER

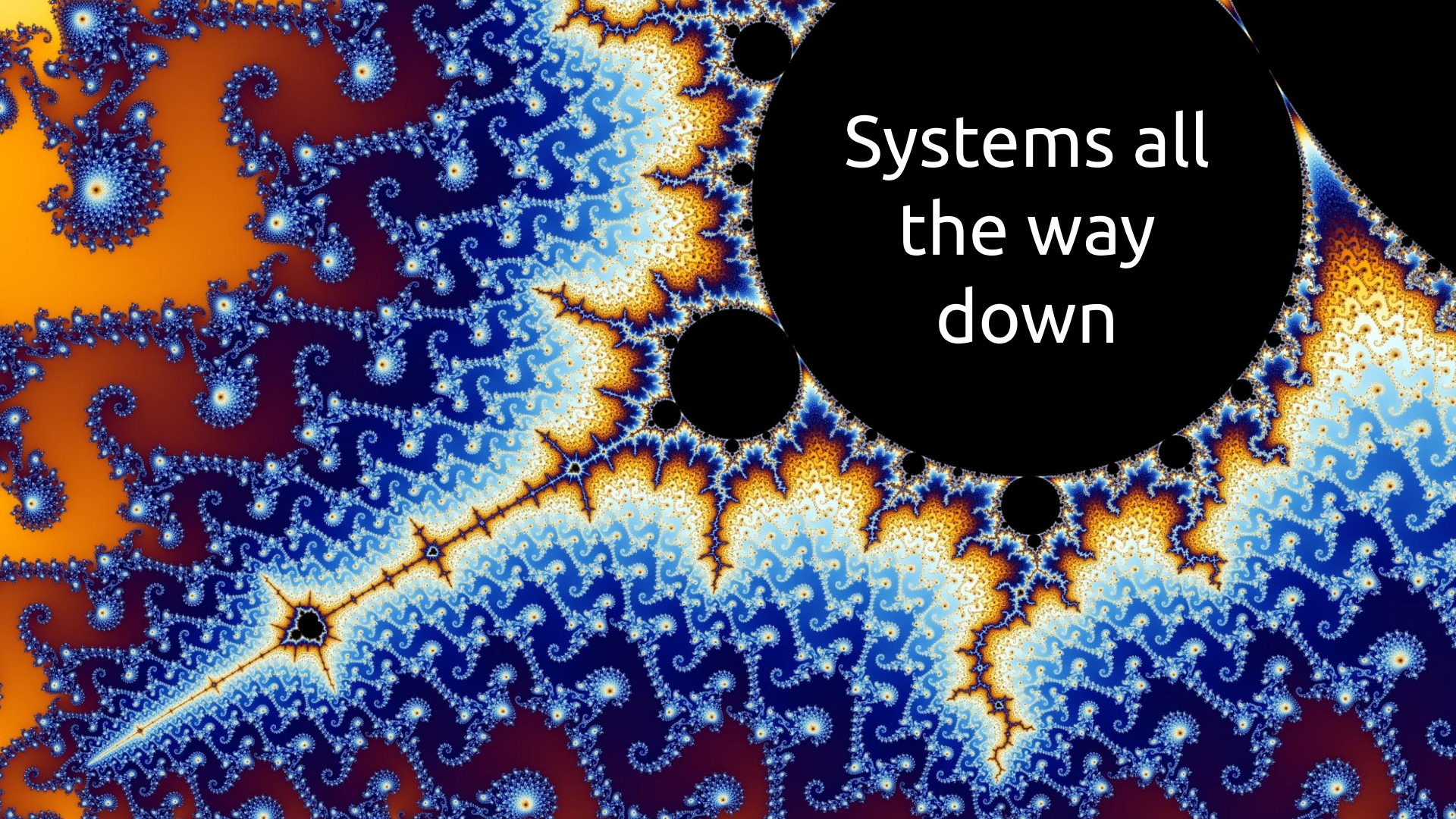



SCHOLASTIC

# MILLENNIUM FALCON




STAR WARS

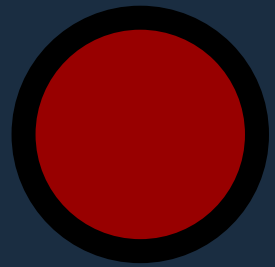

Systems all
the way
down

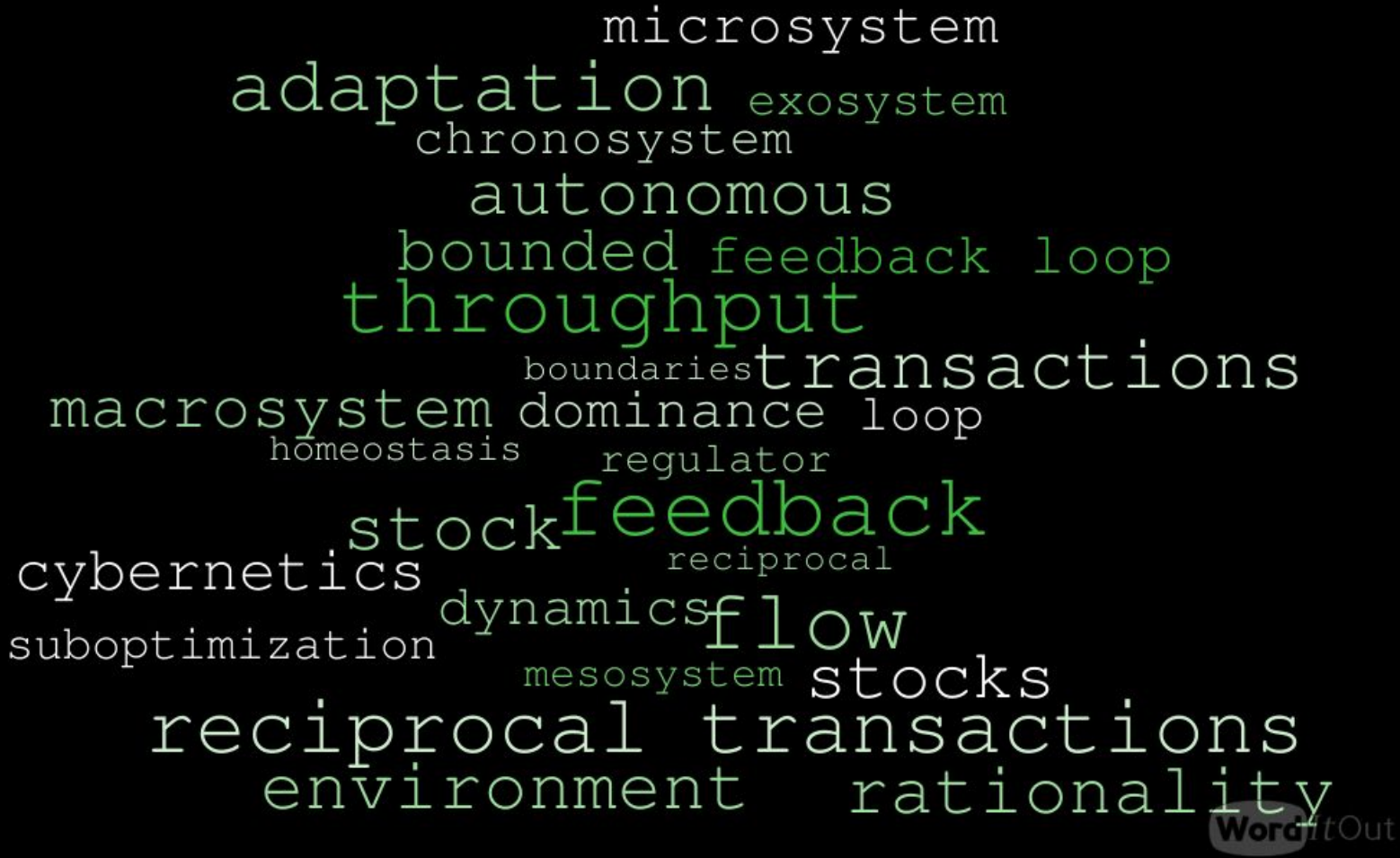
I sometimes say that generalists are the most specialized people of them all, so specialized they can’t in fact do anything. Except make observations of that nature.

- Tyler Cowen

marginalrevolution.com/marginalrevolution/2019/05/range-why-generalists-triumph-in-a-specialized-world

# Language

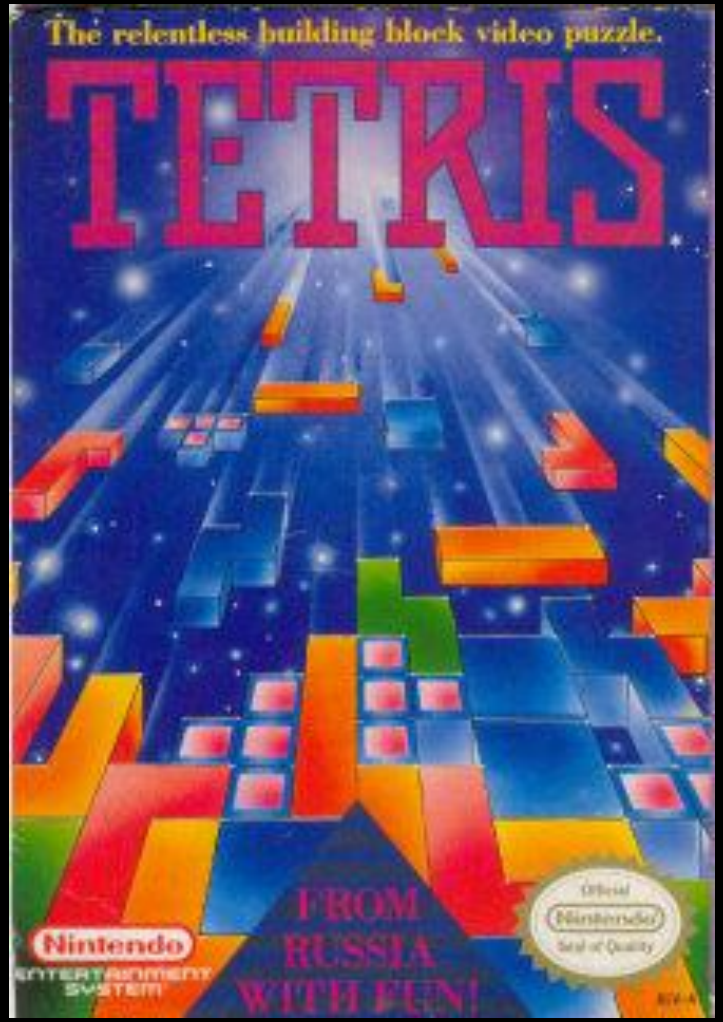


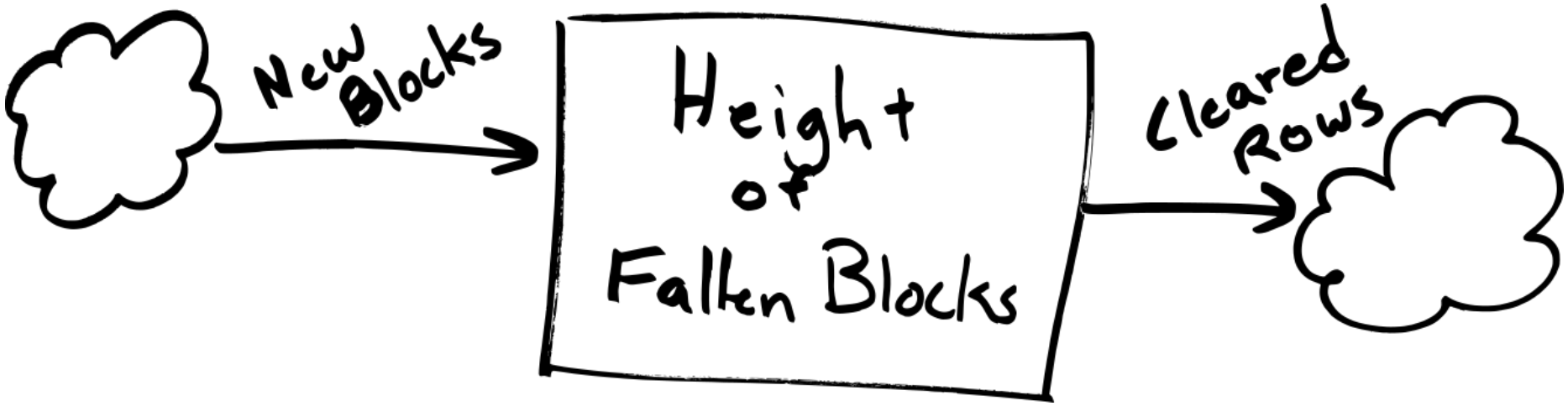

microsystem
adaptation
exosystem
chronosystem
autonomous
bounded
feedback loop
throughput
boundaries
transactions
macrosystem
dominance loop
homeostasis
regulator
feedback
stock
reciprocal
cybernetics
dynamics
flow
suboptimization
mesosystem
stocks
reciprocal transactions
environment
rationality
WordItOut

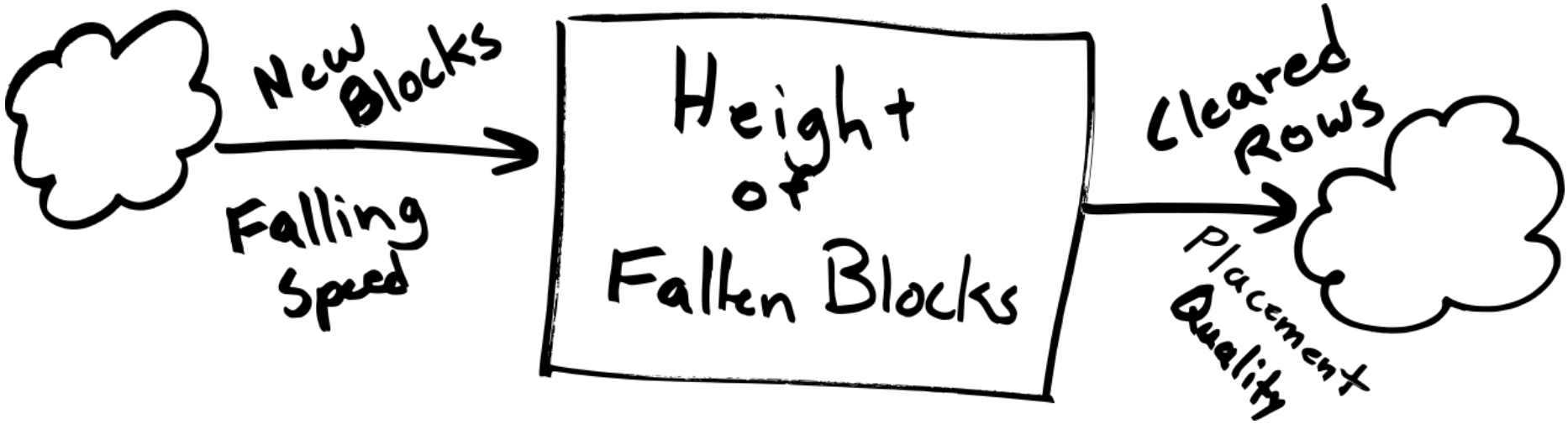
A structure of [things] connected by [relationships] that produces behaviors.

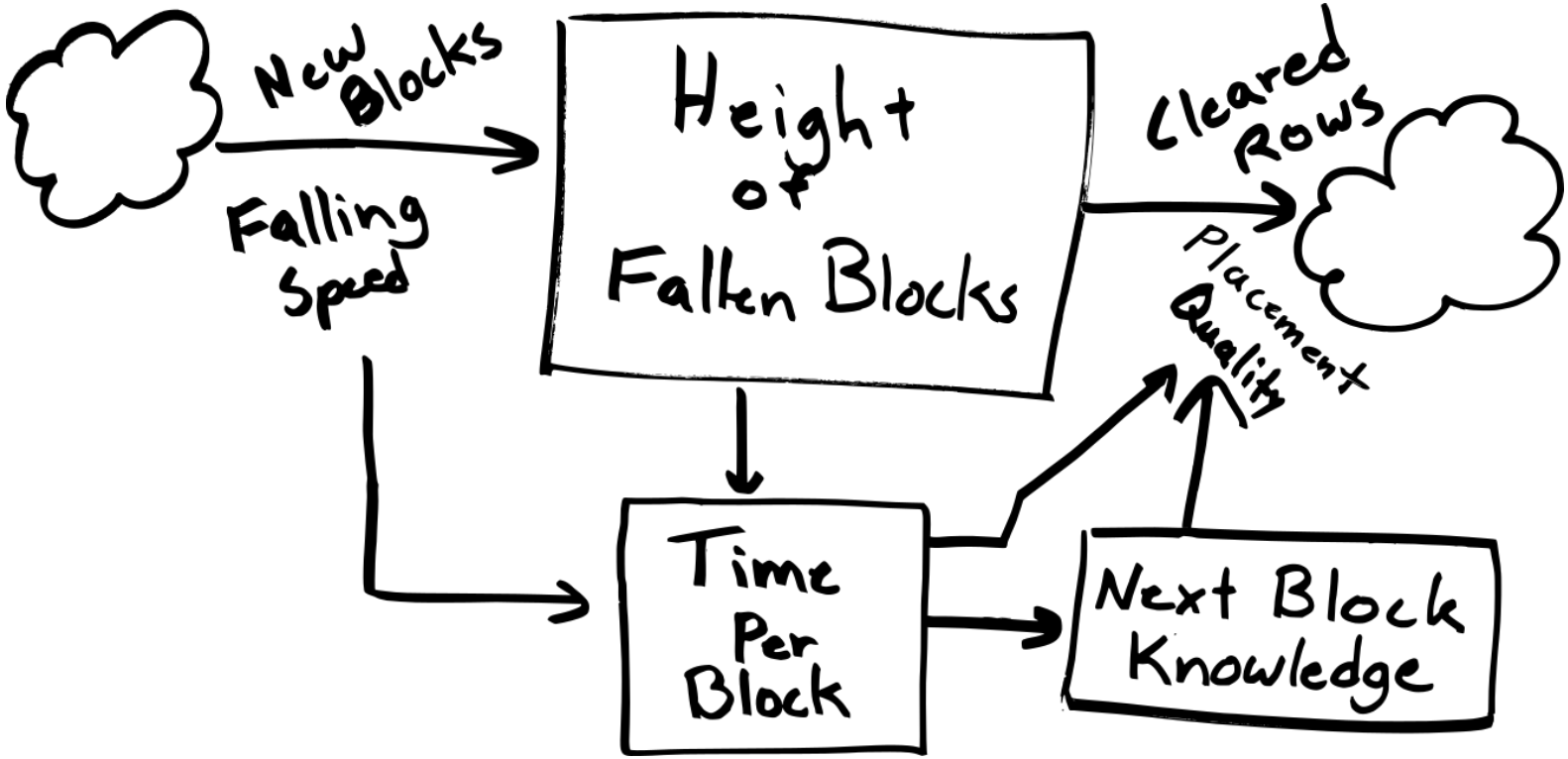

POLICE

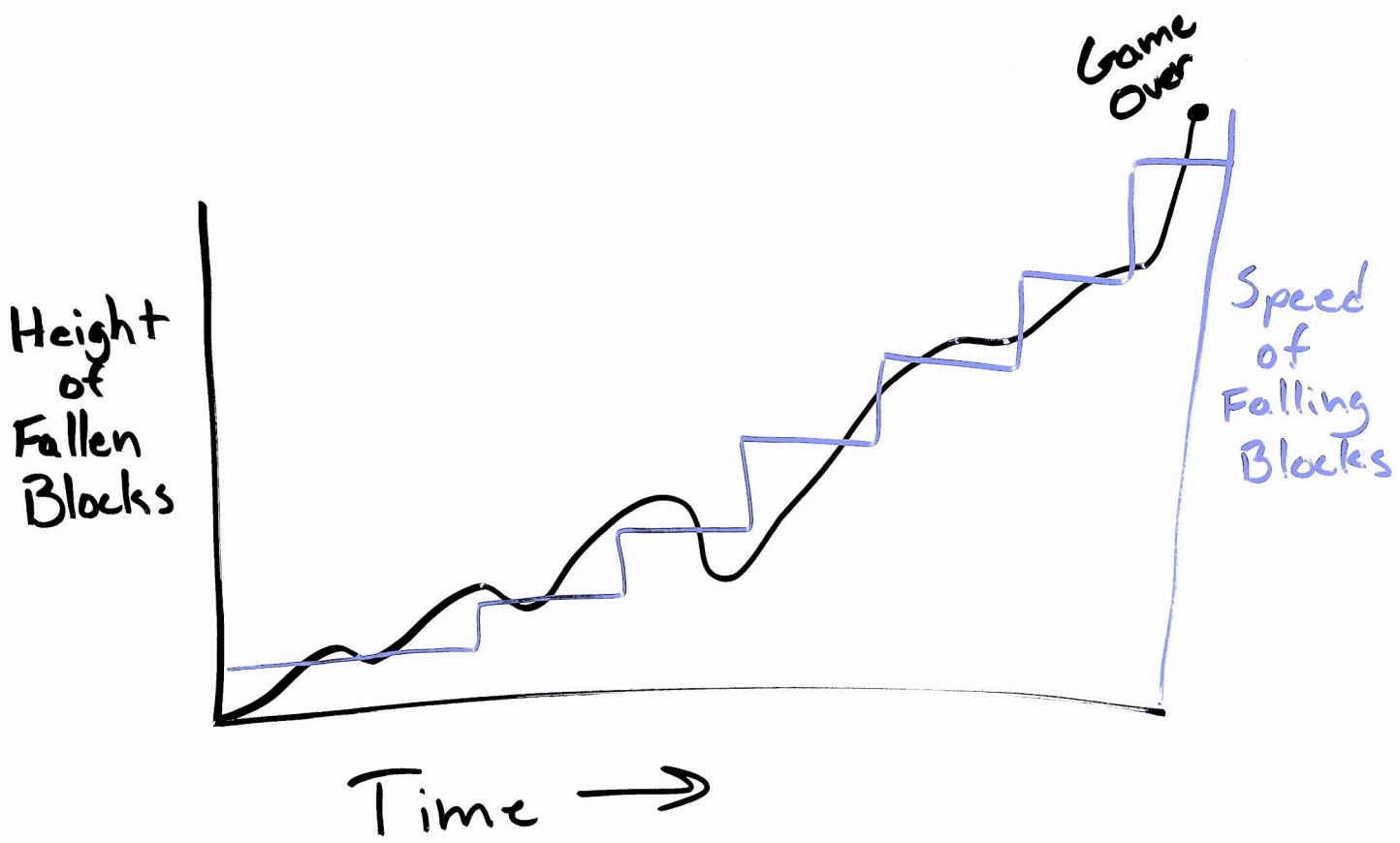

Not a System

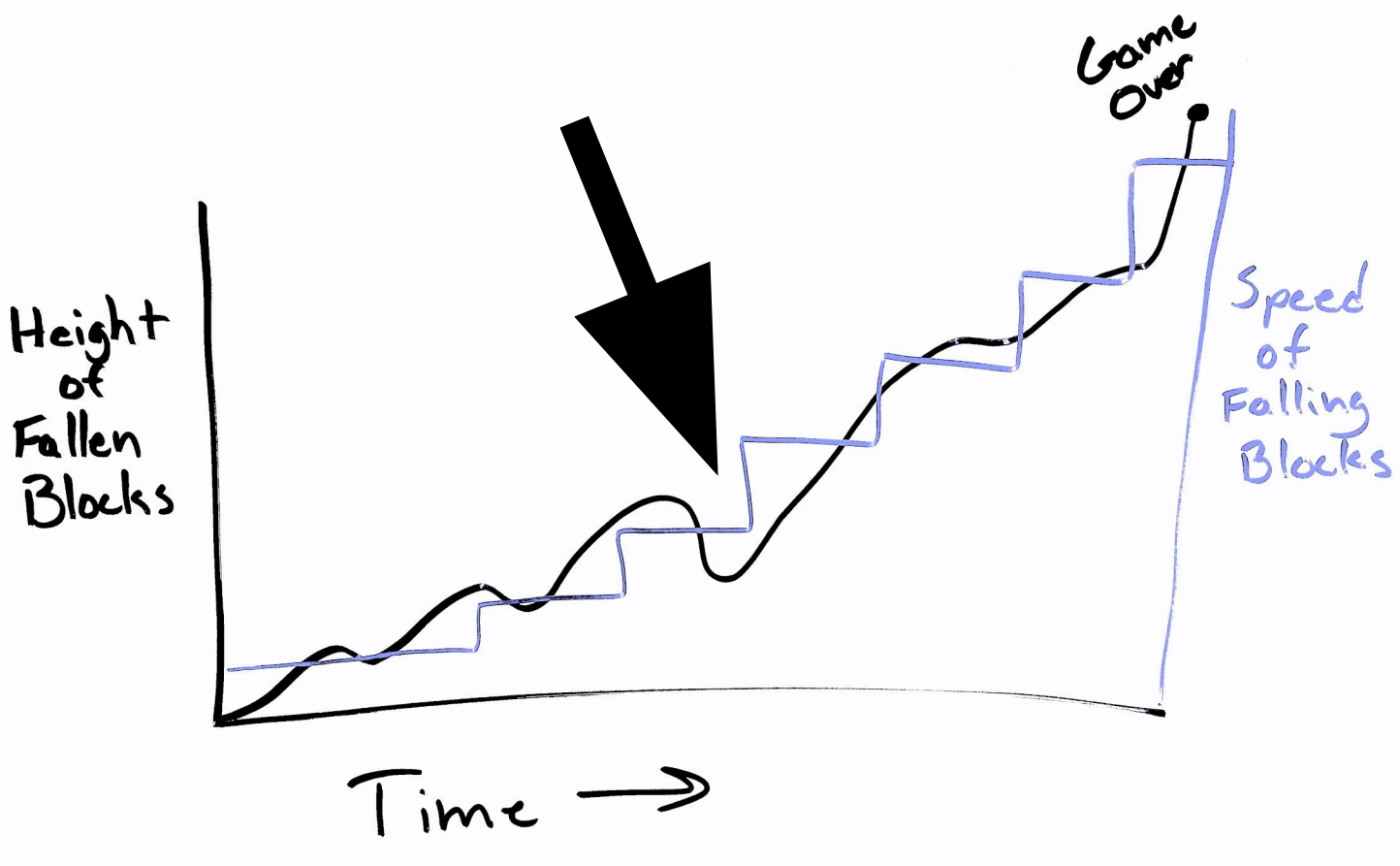

The relentless building block video puzzle.
TETRIS
FROM RUSSIA WITH FUN!
Nintendo
ENTERTAINMENT SYSTEM
Official Nintendo Seal of Quality


New Blocks
Height of Fallen Blocks
Cleared Rows

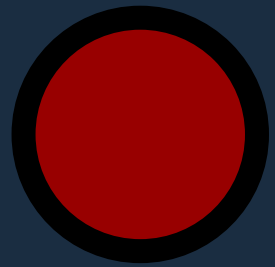

New Blocks
Falling Speed
Height of Fallen Blocks
Cleared Rows
Placement Quality


New Blocks
Falling Speed
Height of Fallen Blocks
Cleared Rows
Placement Quality
Time Per Block
Next Block Knowledge


Game Over
Height of Fallen Blocks
Speed of Falling Blocks
Time

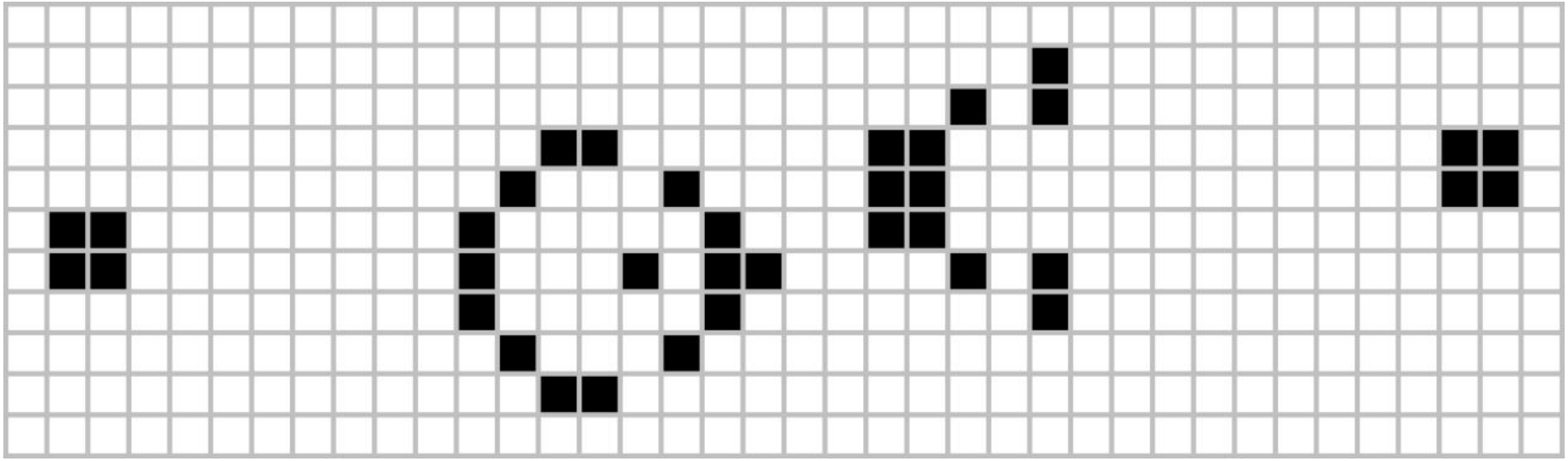

Game Over
Height of Fallen Blocks
Speed of Falling Blocks
Time →

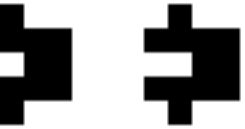
# Language



# Non-linear

# Conway's Game of Life

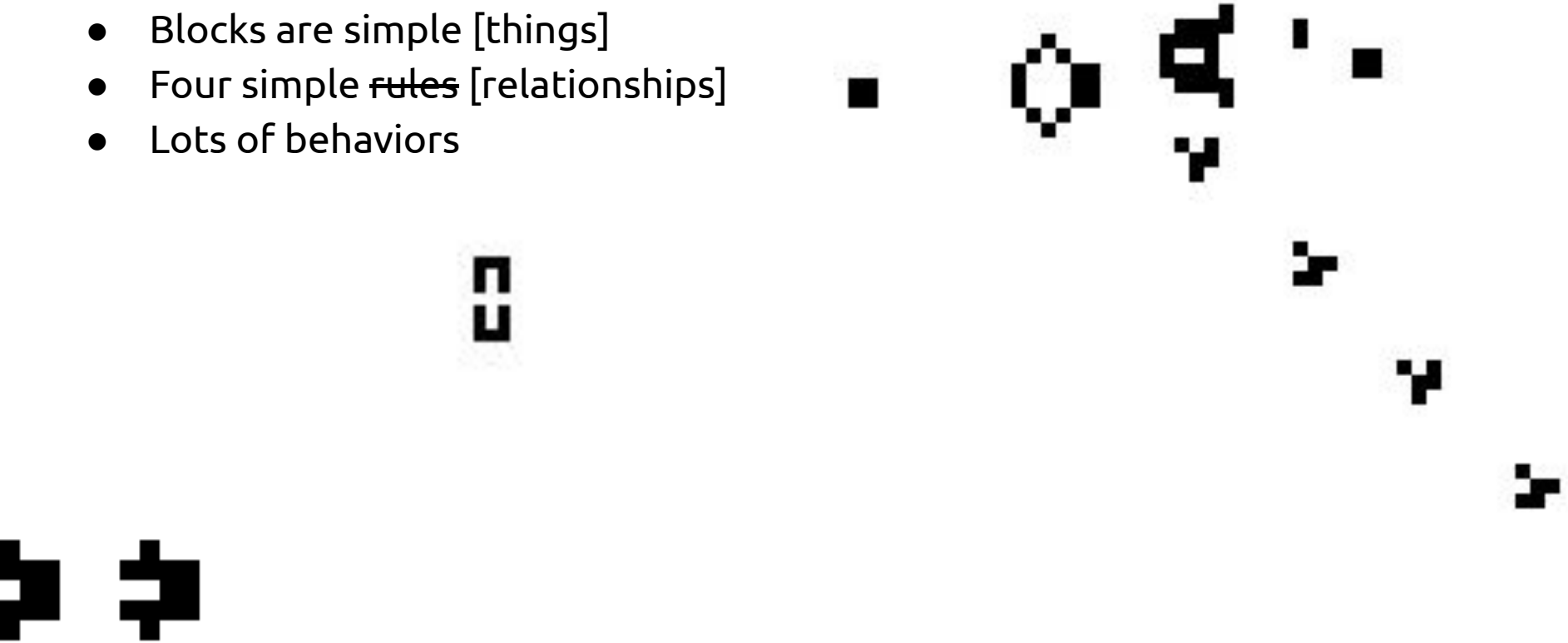




# Conway's Game of Life

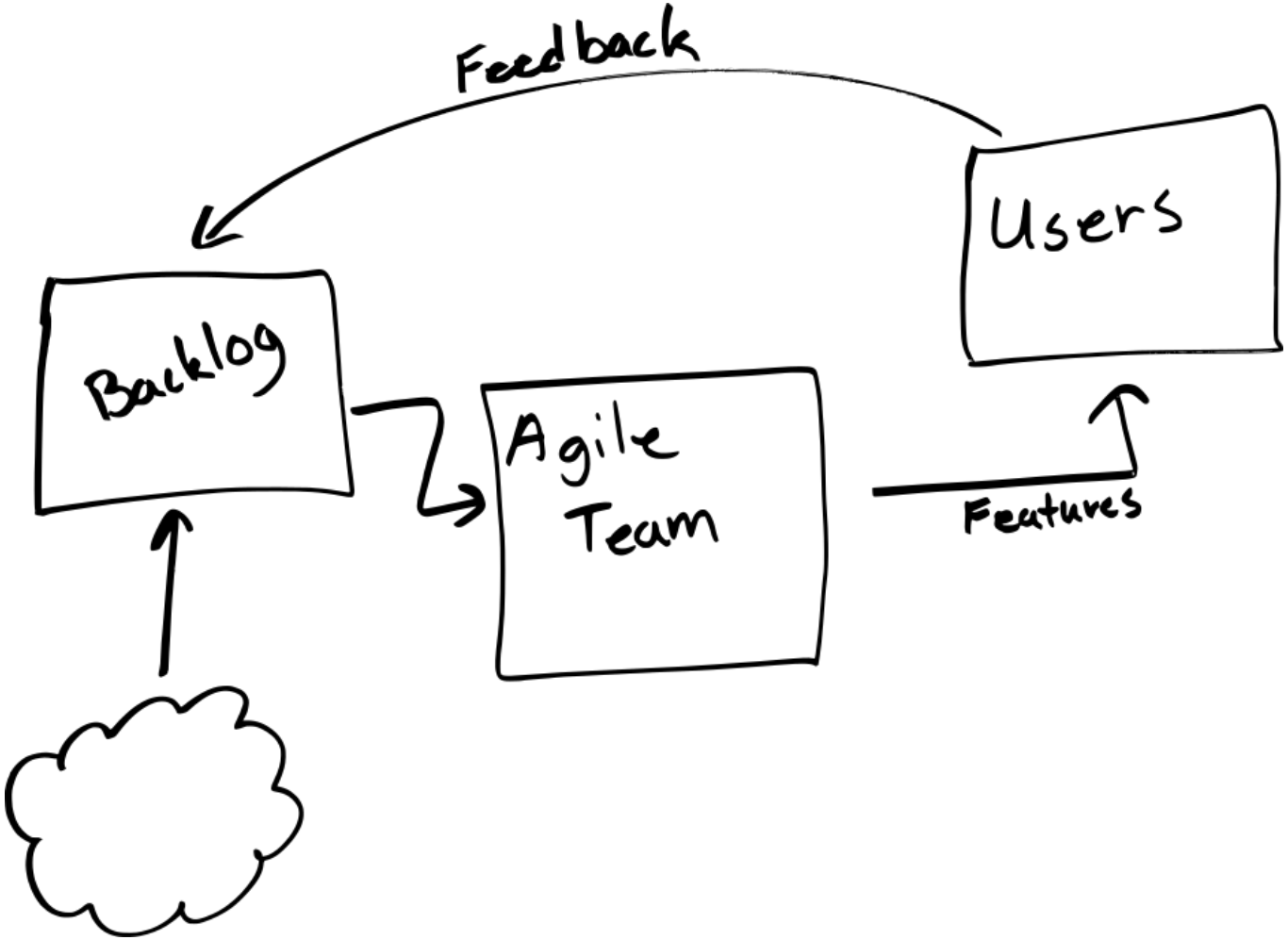
# Conway's Game of Life

- Blocks are simple [things]
- Four simple ~~rules~~ [relationships]
- Lots of behaviors

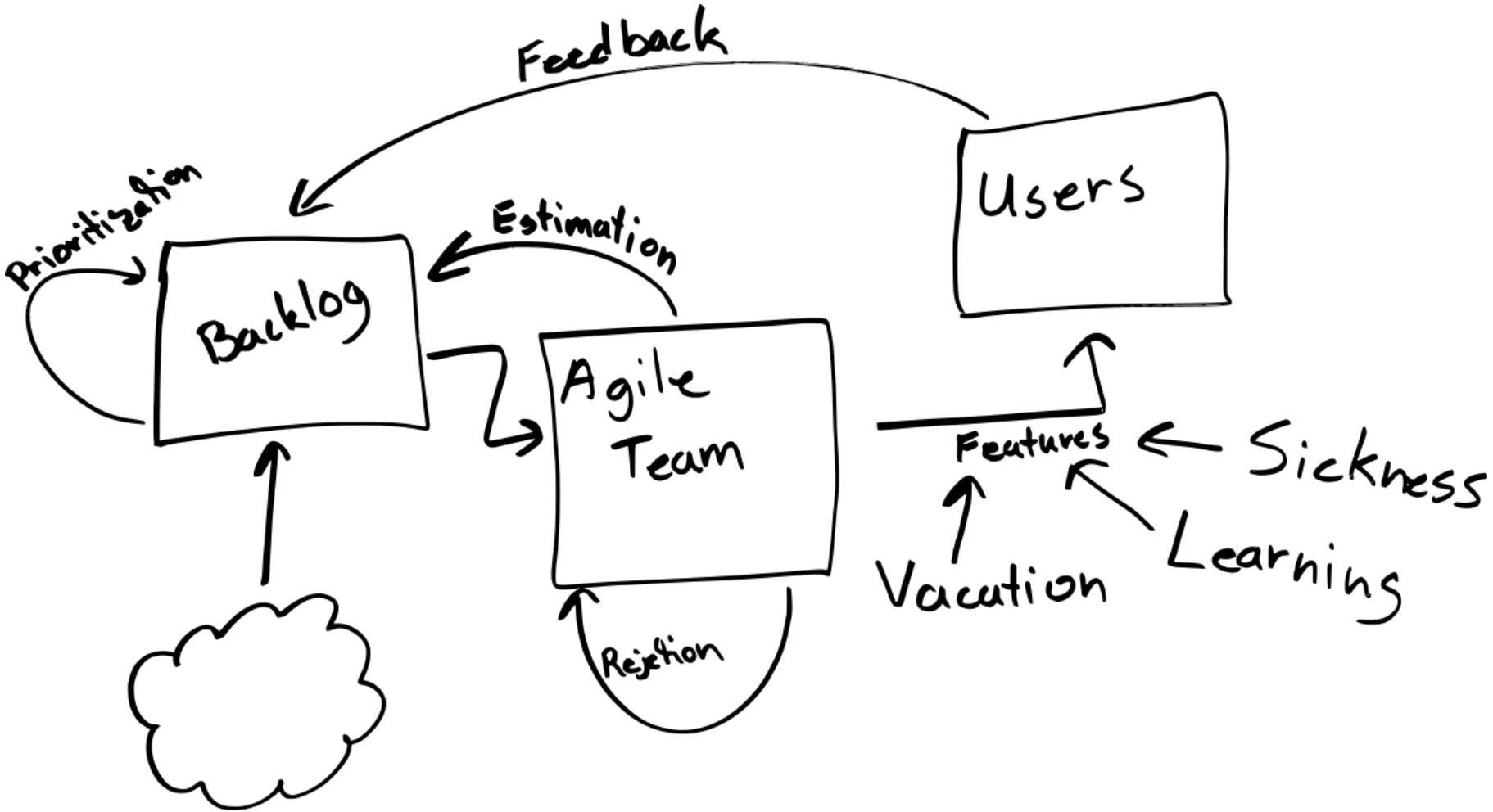


# Agile

- Change is Good
- Small Steps
- Feedback Loops
- Cross Functional Teams


Feedback
Users
Backlog
Agile
Team
Features

A structure of [things] connected by [relationships] that produces behaviors.

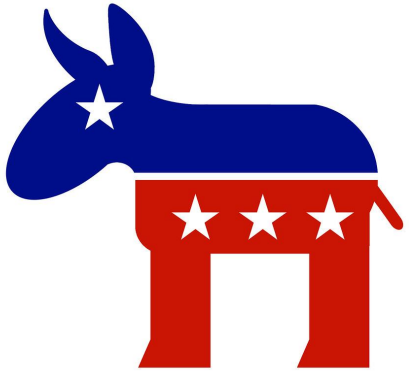

Feedback
Users
Prioritization
Estimation
Backlog
Agile Team
Features
Sickness
Vacation
Learning
Rejection

# Non-linear

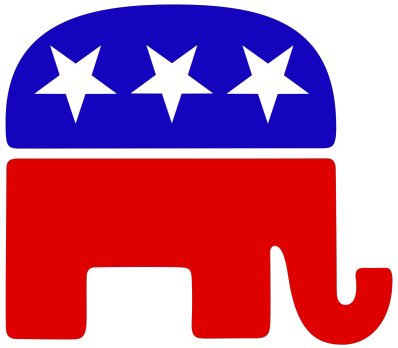
# Three Keys to Understanding Systems

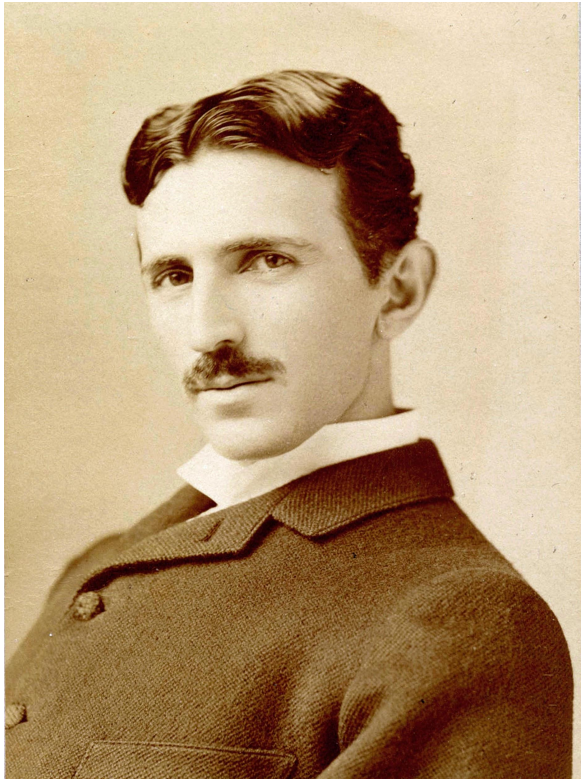
# Right vs. Wrong

VS

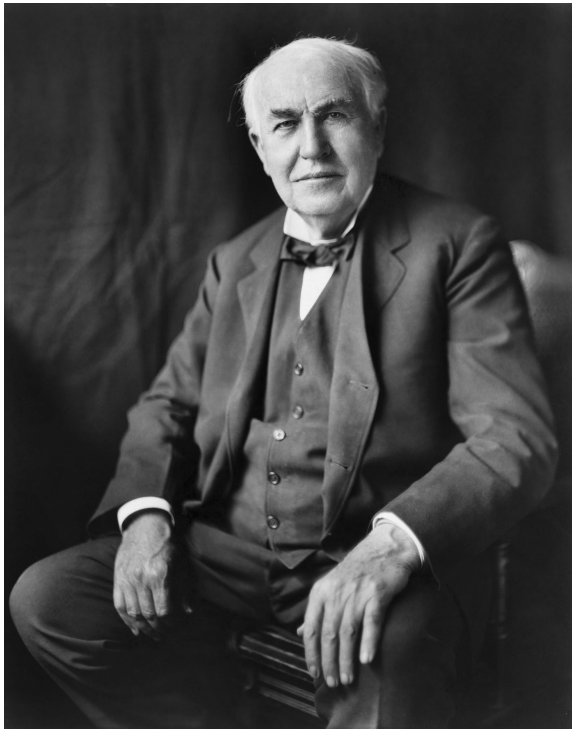


VS





# AC vs. DC



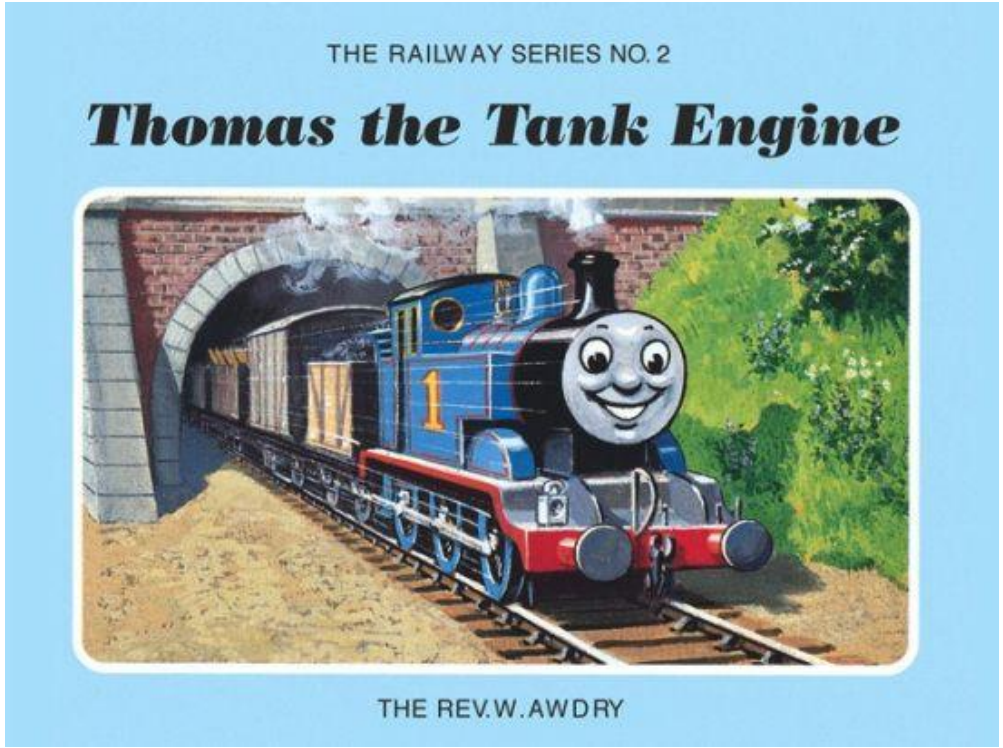
VHS vs. 


vs.

# Right vs. Wrong

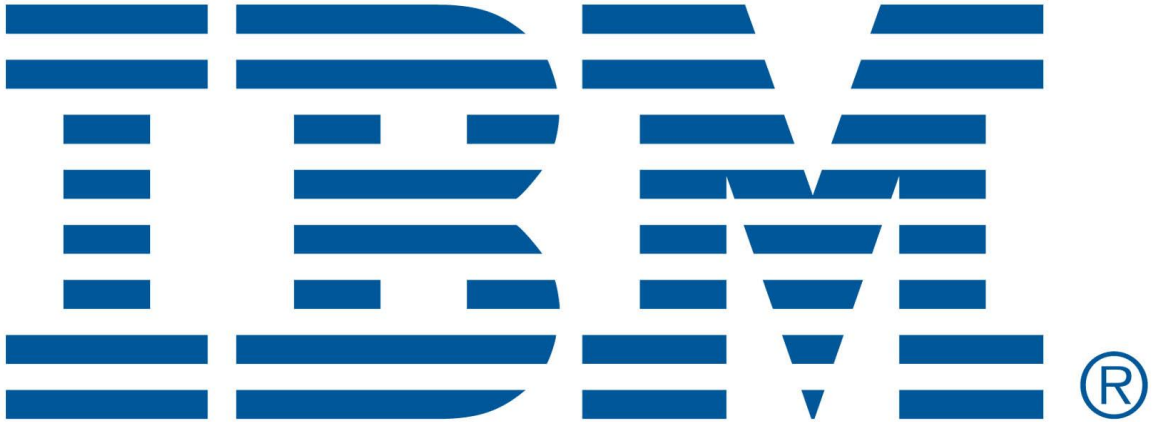
# Right vs. Wrong

# (Really) Useful



# Discovery vs. Creation


BADLANDS
Near Snakewater, Montana


IBM

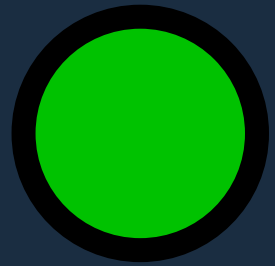

XEROX®

# Temporary Assumptions

# Weak opinions, weakly held

# Three Keys to Understanding Systems

# Modeling:
# The Very Short Version



# Look for [things]

# Look for [relationships]

# Can you explain behaviors?

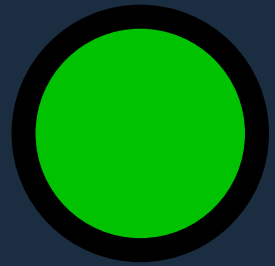
# Time

# Incentives Matter

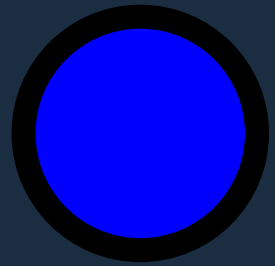

Goals

# Picking Boundaries

# Modeling:
# The Very Short Version



# Common System Problems



# Delayed Feedback

# Limits

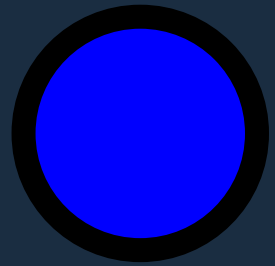
# Systems are Resilient

# Systems are Resilient

*Until they aren’t*

# Unintended Side Effects

# Common System Problems



A structure of [things] connected by [relationships] that produces behaviors.

# Questions?

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github.com/wilwade
Dev @CarbonFive

Resources:

- *Thinking in Systems: A Primer* by Donella Meadows
- *Once Upon a Complex Time: Using Stories to Understand Systems* by Richard Brynteson
- *System Thinking - Creative Holism for Managers* by Michael C. Jackson
- *How It Works in the Home* by Walt Disney Productions