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Dr.Dobb's

Leading a Self-Organizing Team

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- ☐ Self-organization and subtle control
- ☐ Containers, Differences and Exchanges
- ☐ Influencing how the team evolves

What is a self-organizing team?

- Self-organizing does not mean
  - the team gets to decide *what* goal they pursue
  - or even necessarily *who* is on the team
    - (some self-organizing teams are given this responsibility)
- Self-organizing is about the team determining how they will respond to their environment
  - (and managers/leaders can influence that environment)

Complex adaptive systems

A CAS is characterized by:

- A dynamic network of many agents
  - acting in parallel
  - acting and reacting to what other agents are doing
- Control is highly dispersed and decentralized
- Overall system behavior is the result of a huge number of decisions made constantly by many agents

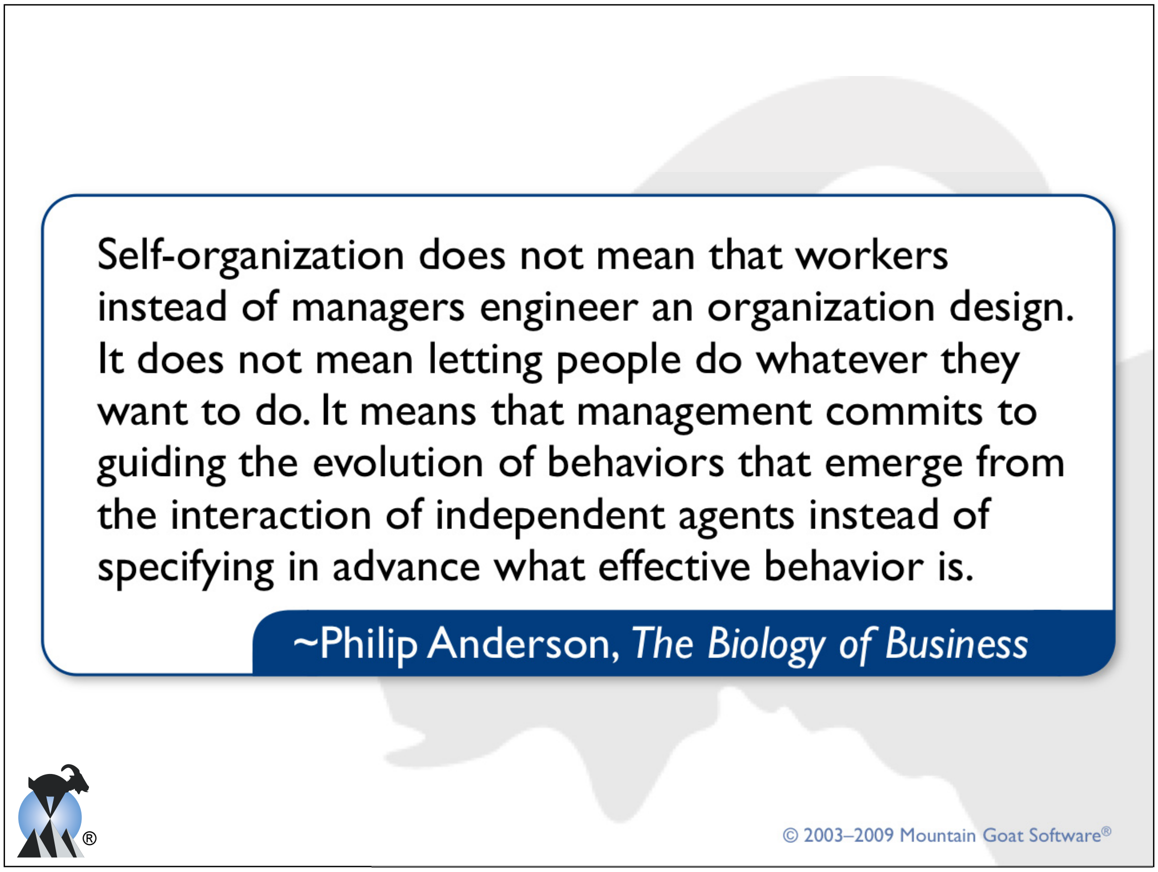
John Holland in *Complexity:The Emerging Science at the Edge of Order and Chaos* by Mitchell Waldrop

Some examples

- Ant colony or bee hive
- Flock of geese heading south
- Us right now
- A crowd batched up to get into a concert or sporting event
- A family preparing, eating, and cleaning up after a meal
- Cars and drivers on the highway
- A software team

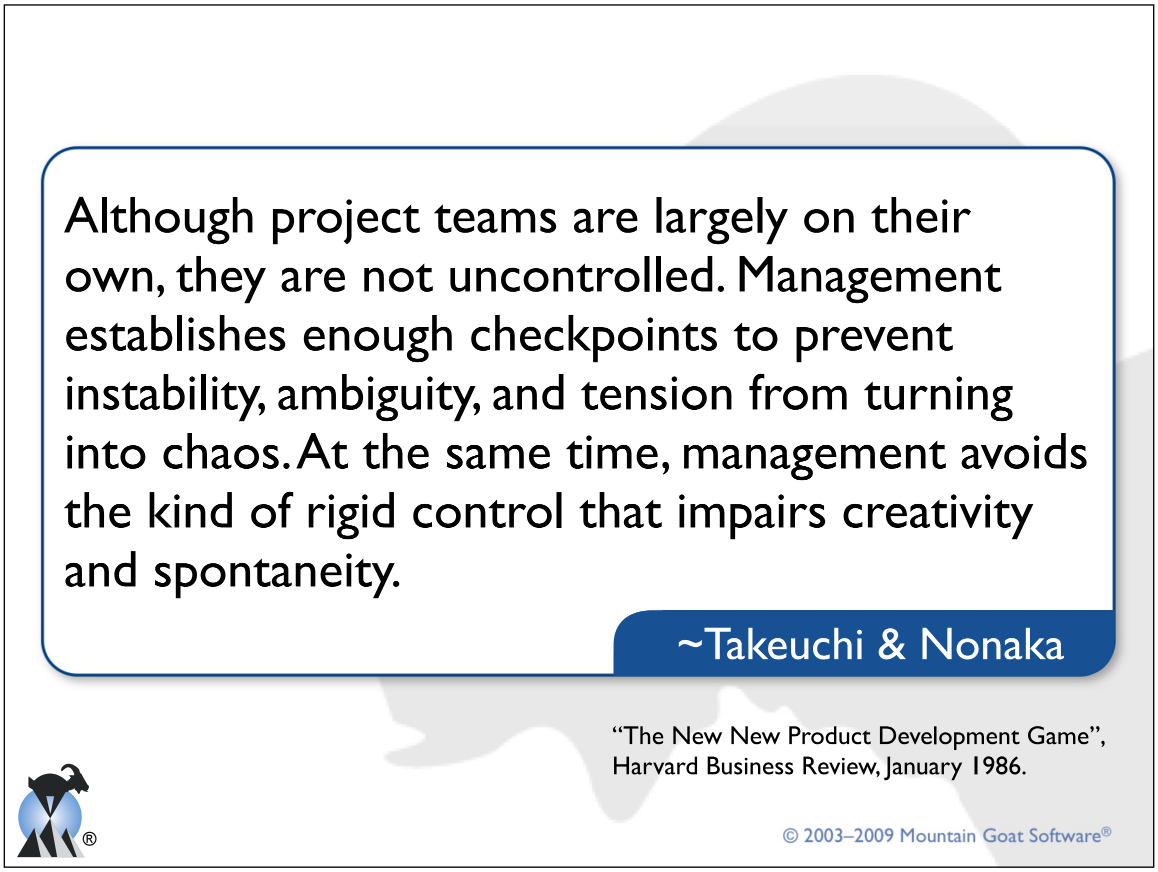
Control is not evil

- Simple rules or incentives are used to guide or direct behavior
  - "Drive this direction and on this side on the highway."
- For bioteams, these are provided by nature
  - "Produce honey"
- For our teams,
  - Rules and incentives can be added by managers or leaders...or in some cases by team members



Self-organization does not mean that workers instead of managers engineer an organization design. It does not mean letting people do whatever they want to do. It means that management commits to guiding the evolution of behaviors that emerge from the interaction of independent agents instead of specifying in advance what effective behavior is.

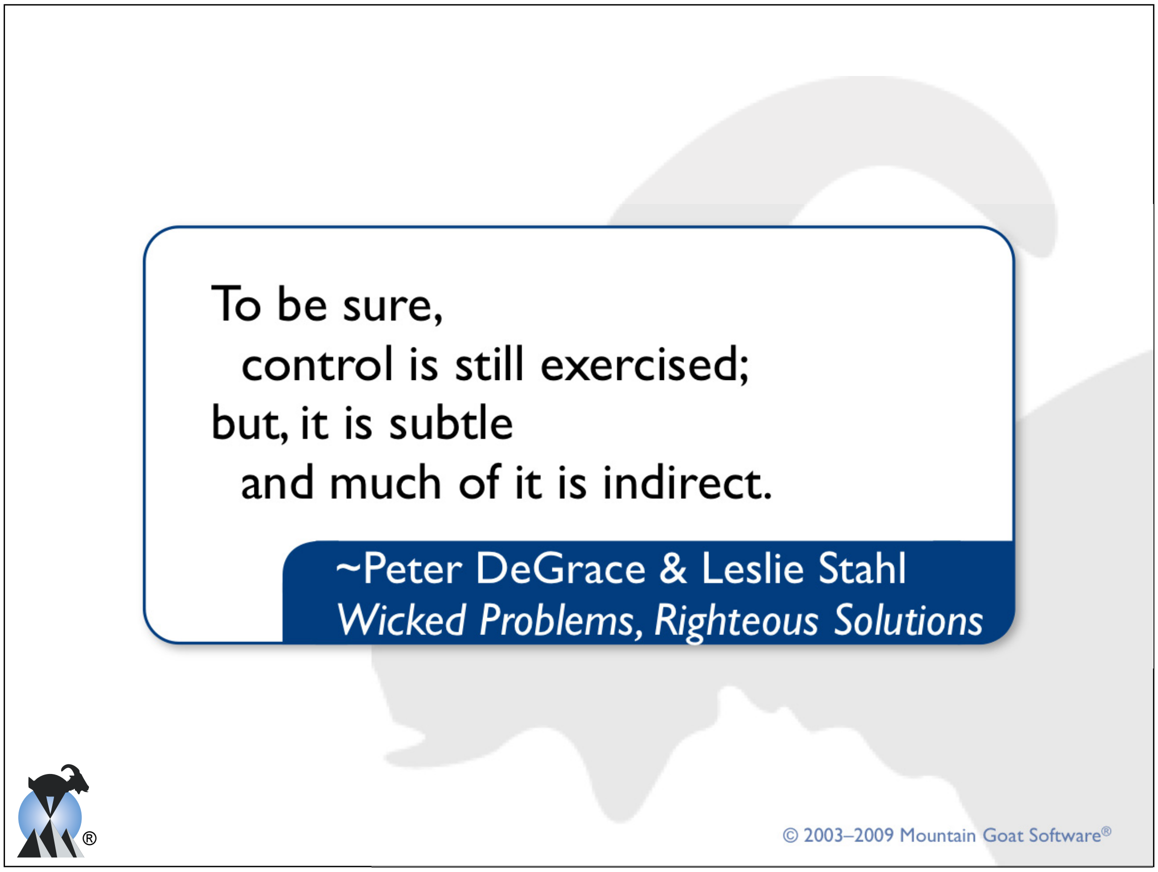
~Philip Anderson, *The Biology of Business*



Although project teams are largely on their own, they are not uncontrolled. Management establishes enough checkpoints to prevent instability, ambiguity, and tension from turning into chaos. At the same time, management avoids the kind of rigid control that impairs creativity and spontaneity.

~Takeuchi & Nonaka

"The New New Product Development Game", Harvard Business Review, January 1986.



> To be sure,
> control is still exercised;
> but, it is subtle
> and much of it is indirect.

~Peter DeGrace & Leslie Stahl
Wicked Problems, Righteous Solutions

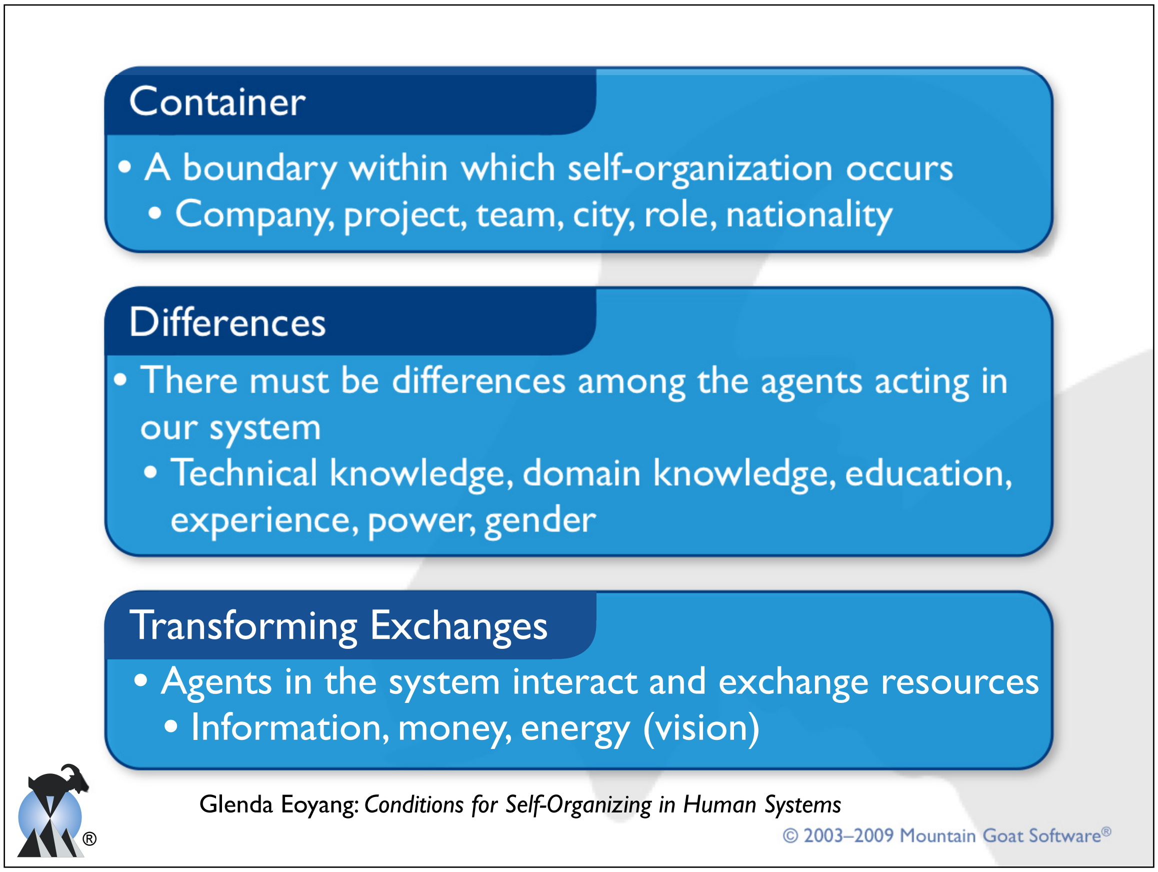
What this is not

- We're not talking about
  - Being deceptive or sneaky
  - Manipulating people
- Nothing I'm going to advocate *needs to be secret*
  - But there may be reasons why you don't *broadcast* your reasons

☑ Self-organization and subtle control

□ Containers, Differences and Exchanges

□ Influencing how the team evolves



Container

- A boundary within which self-organization occurs
  - Company, project, team, city, role, nationality

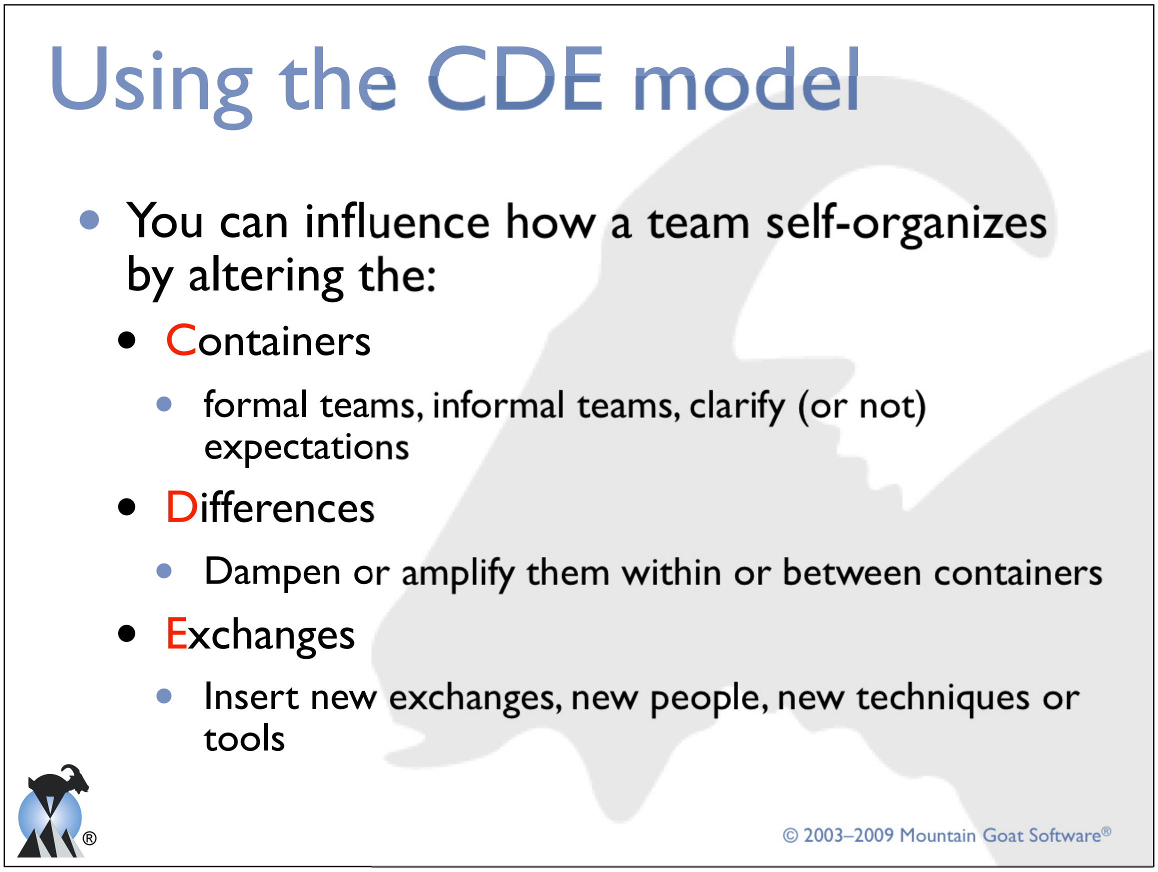
Differences

- There must be differences among the agents acting in our system
  - Technical knowledge, domain knowledge, education, experience, power, gender

Transforming Exchanges

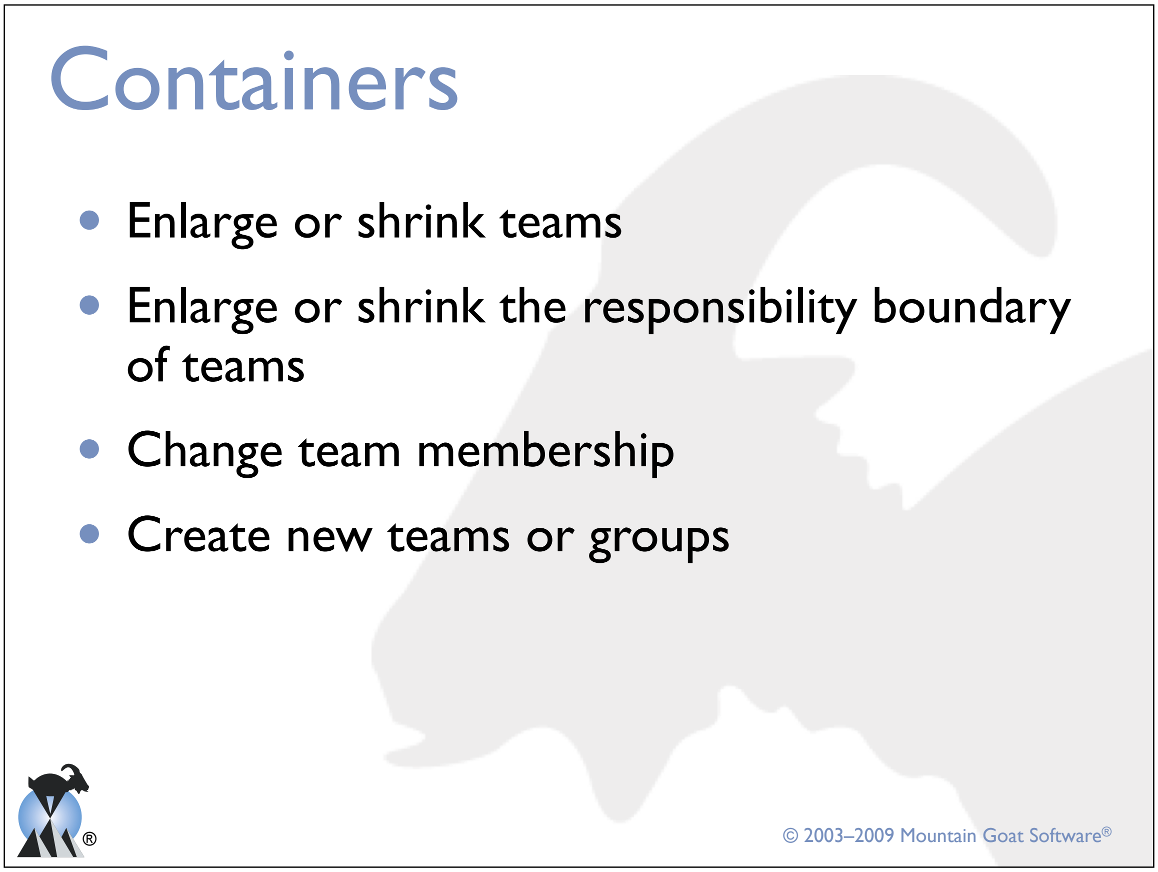
- Agents in the system interact and exchange resources
  - Information, money, energy (vision)

Glenda Eoyang: *Conditions for Self-Organizing in Human Systems*



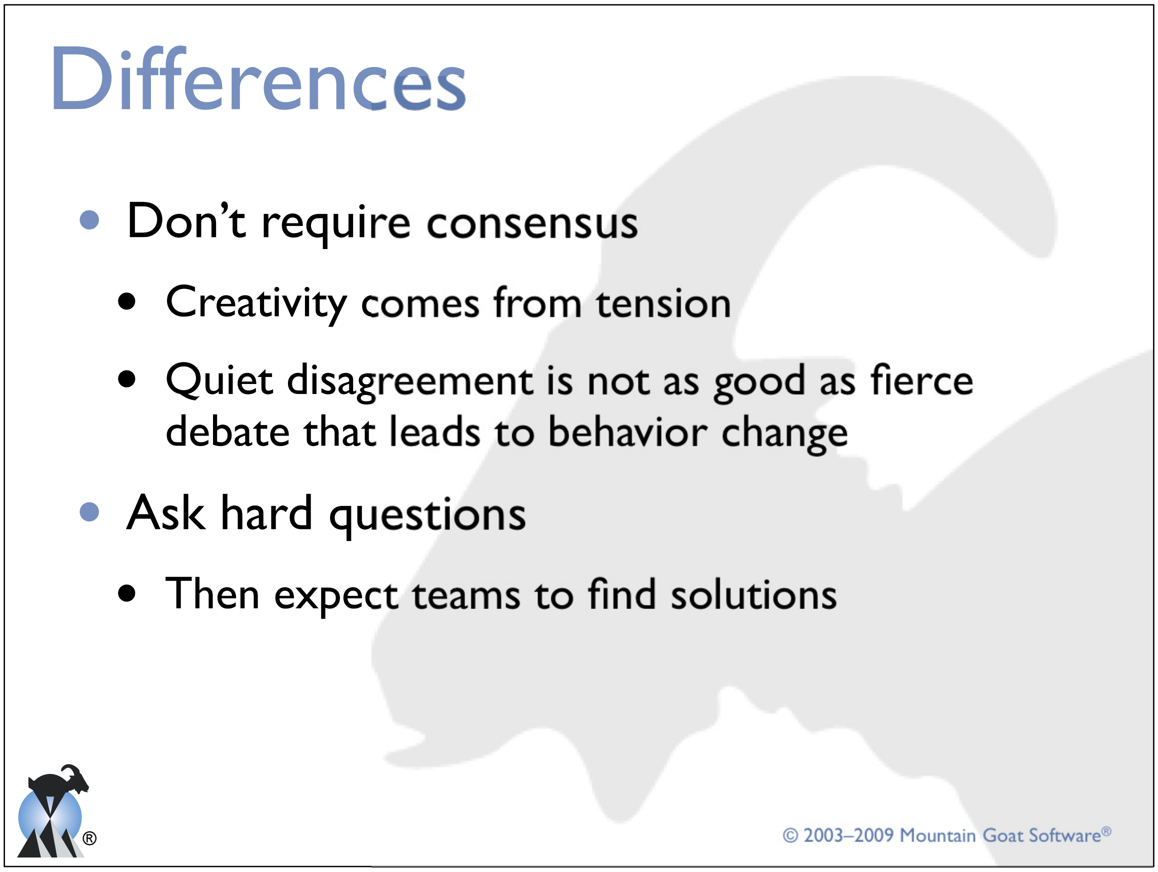
Using the CDE model

- You can influence how a team self-organizes by altering the:
  - Containers
    - formal teams, informal teams, clarify (or not) expectations
  - Differences
    - Dampen or amplify them within or between containers
  - Exchanges
    - Insert new exchanges, new people, new techniques or tools



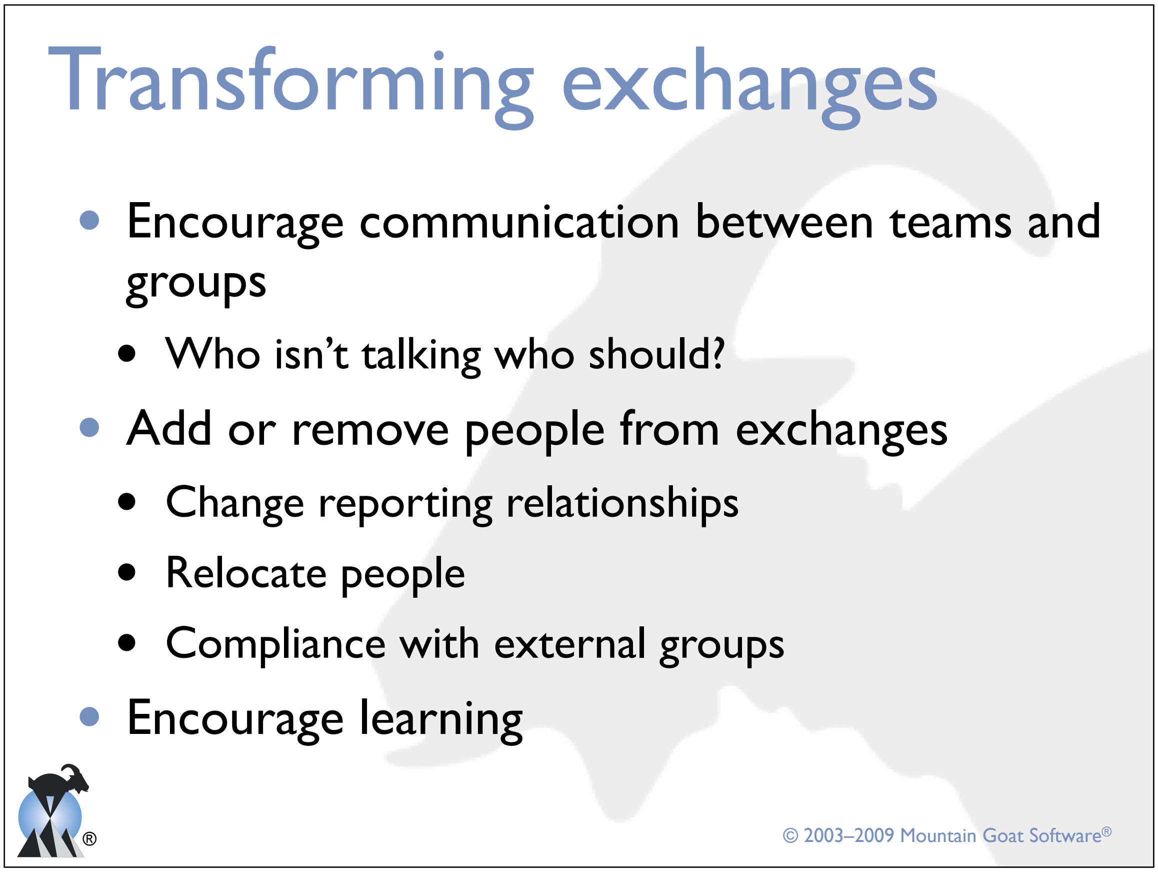
Containers

- Enlarge or shrink teams
- Enlarge or shrink the responsibility boundary of teams
- Change team membership
- Create new teams or groups



Differences

- Don’t require consensus
  - Creativity comes from tension
  - Quiet disagreement is not as good as fierce debate that leads to behavior change
- Ask hard questions
  - Then expect teams to find solutions



Transforming exchanges

- Encourage communication between teams and groups
  - Who isn’t talking who should?
- Add or remove people from exchanges
  - Change reporting relationships
  - Relocate people
  - Compliance with external groups
- Encourage learning

You are the ScrumMaster or project manager...

- The next set of slides describes some teams with some trouble spots. Think about how you might help them by changing their Containers, amplifying or dampening Differences, or changing their Exchanges.
- For each case, identify at least one thing you'd do.
- Note whether you are tweaking their Container, Differences, or Exchanges. (You might be affecting more than one.)

1 The team consists of four developers, two testers, a database engineer and you. The developers and testers are not working well together. Developers work in isolation until two days are left in the iteration. They then throw the code "over the wall" to the testers.

2 The team is failing to deliver potentially shippable software at the end of each iteration. None of the items they start are 100% finished. They're close but work is always left to be done in the next iteration.

3. The team seems to be consistently undercommitting during iteration planning. They finish the work they commit but it doesn't seem like much. The product owner hasn't complained yet but you're worried she will soon.

4. Your organization has 20 different agile teams. Each team has its own testers who are starting to go in different directions in terms of preferred tools and approaches.

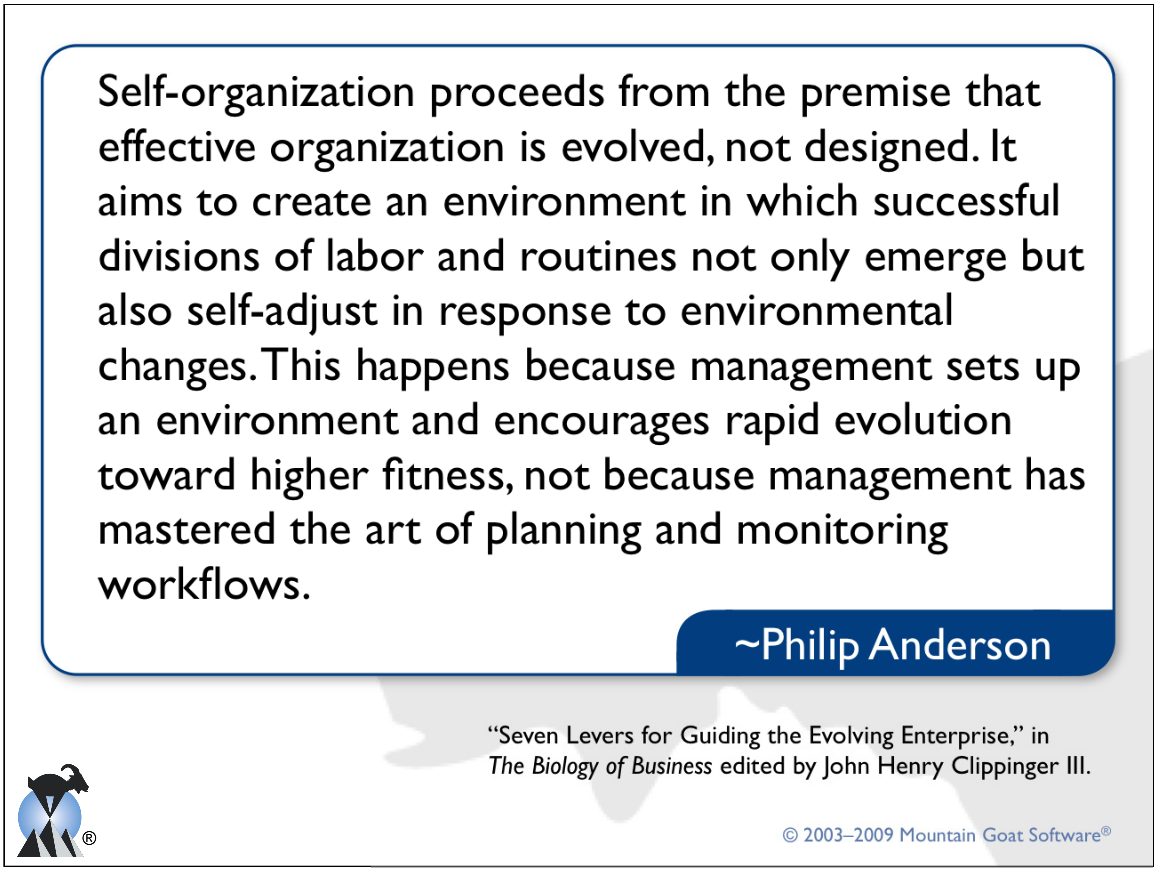
5. Jeff, a senior developer, is very domineering. During iteration planning the team defers to him on every decision even though he is a horrible estimator. You notice the glances that other team members exchange when he suggests very low estimates on some tasks.

6. You are responsible for two teams. Team members on one discuss all sides of various issues before making a decision. This has been working well. On the other team, discussions drag on endlessly because they pursue absolute consensus in all cases.

- ☑ Self-organization and subtle control
- ☑ Containers, Differences and Exchanges
- □ Influencing how the team evolves

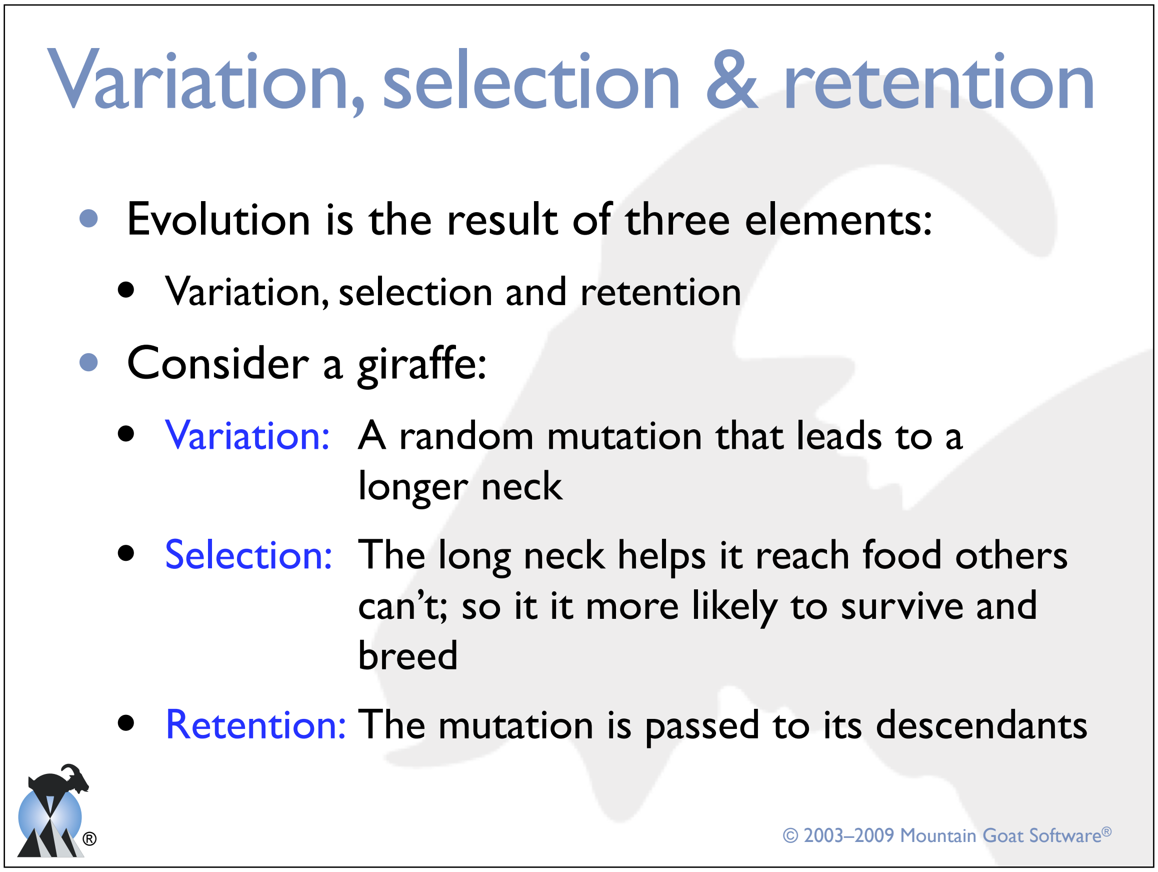
The self-organizing path

- Self-organization is not something that happens one time
  - A team is never done doing it
  - The team continually re-organizes in a sense-and-respond manner to its environment
- As you see the team self-organize you can influence, but not control or direct, its path
- We can view this as the evolution of a team



> Self-organization proceeds from the premise that effective organization is evolved, not designed. It aims to create an environment in which successful divisions of labor and routines not only emerge but also self-adjust in response to environmental changes. This happens because management sets up an environment and encourages rapid evolution toward higher fitness, not because management has mastered the art of planning and monitoring workflows.
>
> ~Philip Anderson

"Seven Levers for Guiding the Evolving Enterprise," in *The Biology of Business* edited by John Henry Clippinger III.



Variation, selection & retention

- Evolution is the result of three elements:
  - Variation, selection and retention
- Consider a giraffe:
  - Variation: A random mutation that leads to a longer neck
  - Selection: The long neck helps it reach food others can't; so it it more likely to survive and breed
  - Retention: The mutation is passed to its descendants

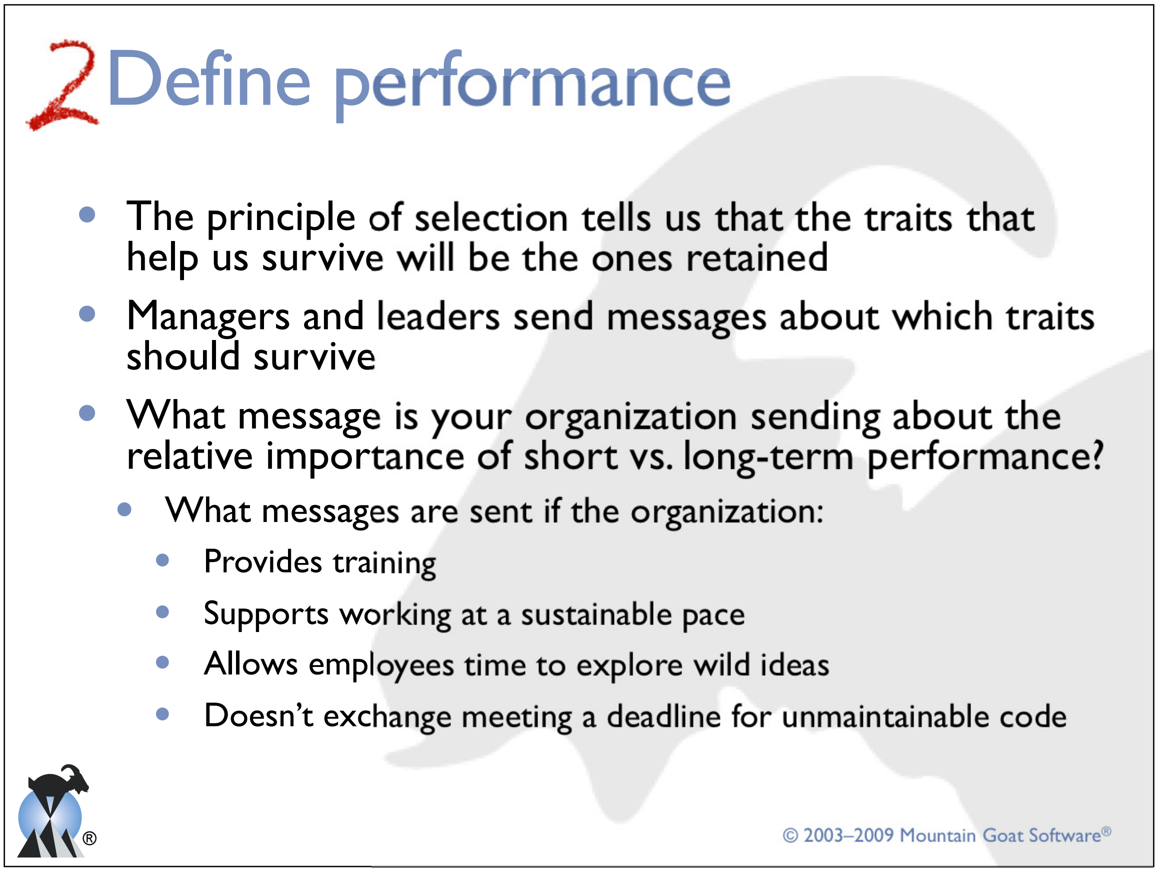
Seven levers for influencing team evolution

1. Selecting the external environment
2. Defining performance
3. Managing meaning
4. Choosing people
5. Reconfiguring the network
6. Evolving vicarious selection systems
7. Energizing the system

Philip Anderson, "Seven Levers for Guiding the Evolving Enterprise."

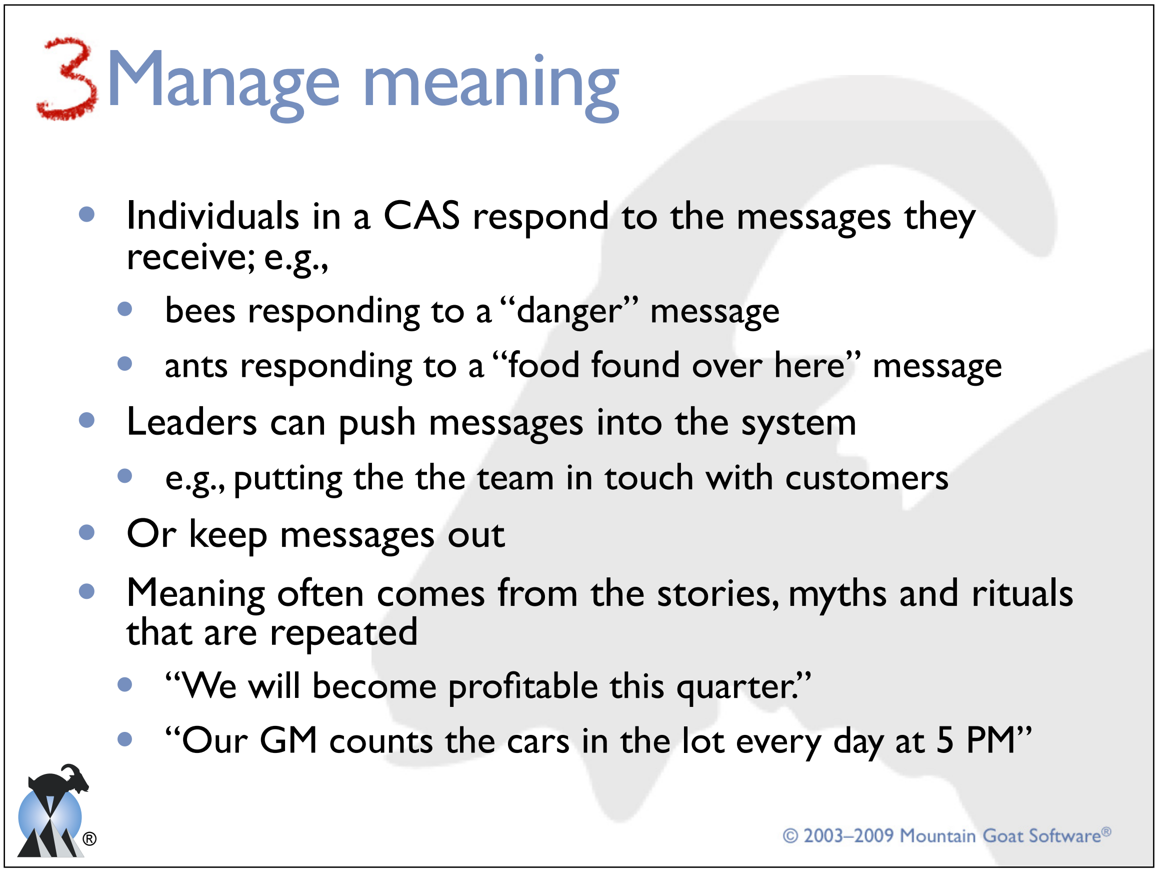
Select the external environment

- More than just the physical environment
  - What business are we in?
    - (OK, maybe *you* can't influence this one, but someone can
  - The company's approach to innovation
    - Fast follower or innovator? Are mistakes OK? When?
  - Types of projects worked on and the rate at which they are introduced to the organization
  - Expectations about multitasking and focus



2 Define performance

- The principle of selection tells us that the traits that help us survive will be the ones retained
- Managers and leaders send messages about which traits should survive
- What message is your organization sending about the relative importance of short vs. long-term performance?
  - What messages are sent if the organization:
    - Provides training
    - Supports working at a sustainable pace
    - Allows employees time to explore wild ideas
    - Doesn't exchange meeting a deadline for unmaintainable code



3 Manage meaning

- Individuals in a CAS respond to the messages they receive; e.g.,
  - bees responding to a "danger" message
  - ants responding to a "food found over here" message
- Leaders can push messages into the system
  - e.g., putting the the team in touch with customers
- Or keep messages out
- Meaning often comes from the stories, myths and rituals that are repeated
  - "We will become profitable this quarter."
  - "Our GM counts the cars in the lot every day at 5 PM"

4 Choose people

- Clearly, who is on the team influences how they self-organize
- Adjust
  - Team size
  - Location
  - Background
  - Experience
  - Skepticism
  - Decision-making style
  - Gender
  - Motivation
  - Eye color
- Some people are like "glue" and pull a team together and keep it there

Self-selecting members?

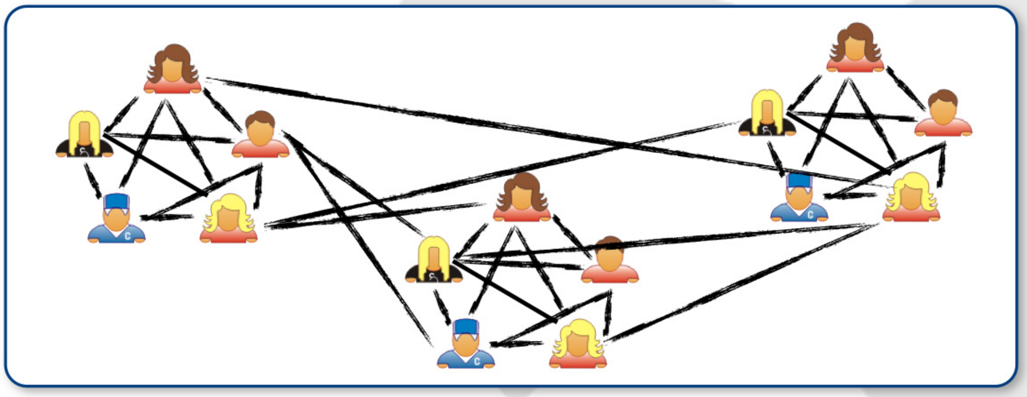
1 Should a delivery team (as opposed to other teams in the company) be allowed full control over who is on the team?

2 Under all circumstances or only some? Which?

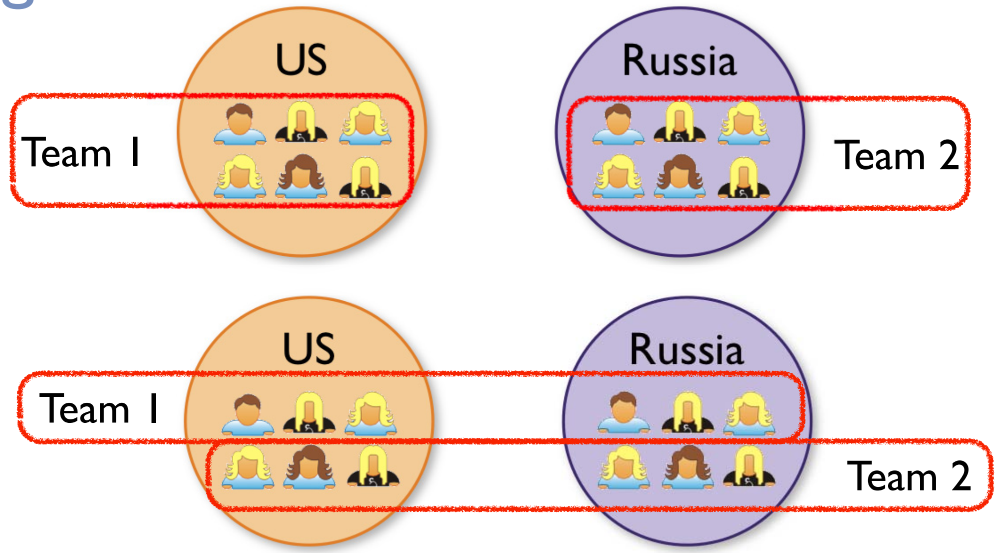
3 What are the advantages and disadvantages?

5 Reconfigure the network

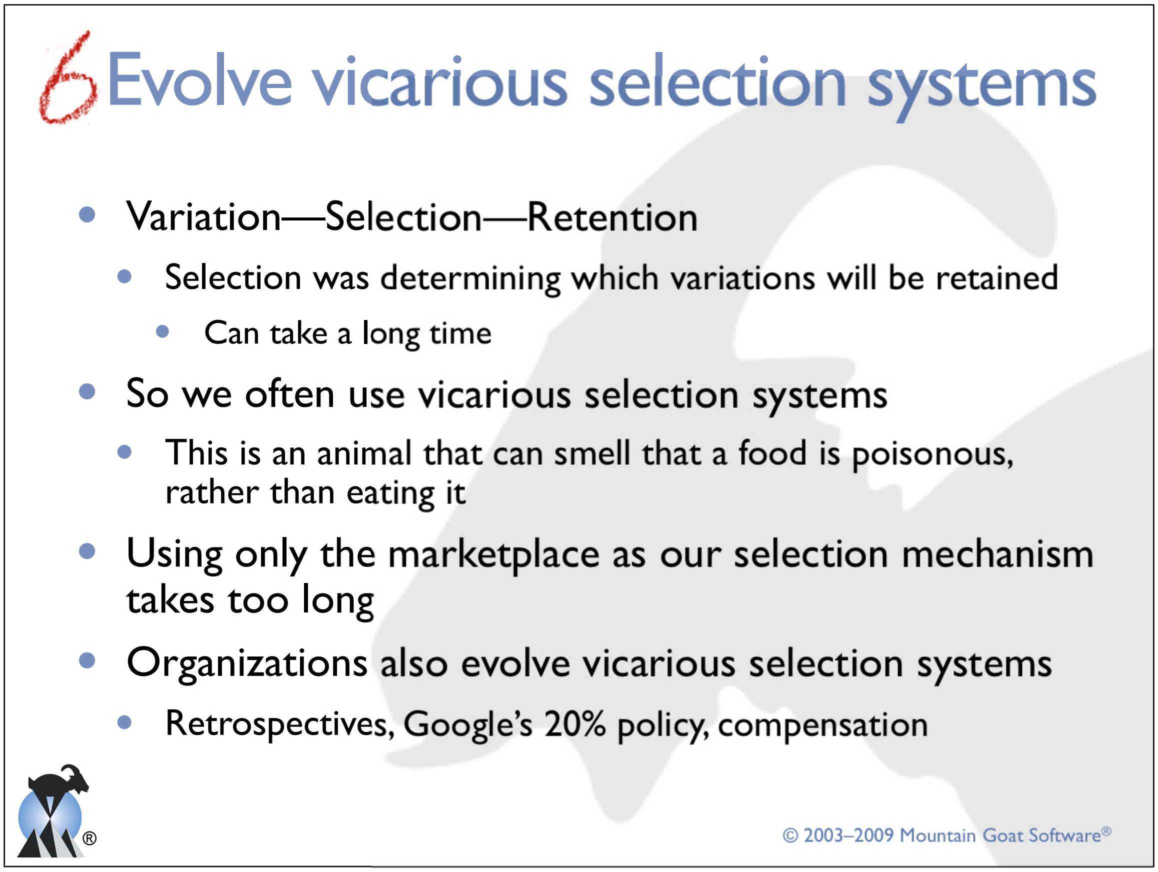
- Communication paths (formal and informal) can be more important than the individuals
- You can introduce or remove flows
  - To other teams, experts in the organization, customers



Reconfiguring the network for a global team

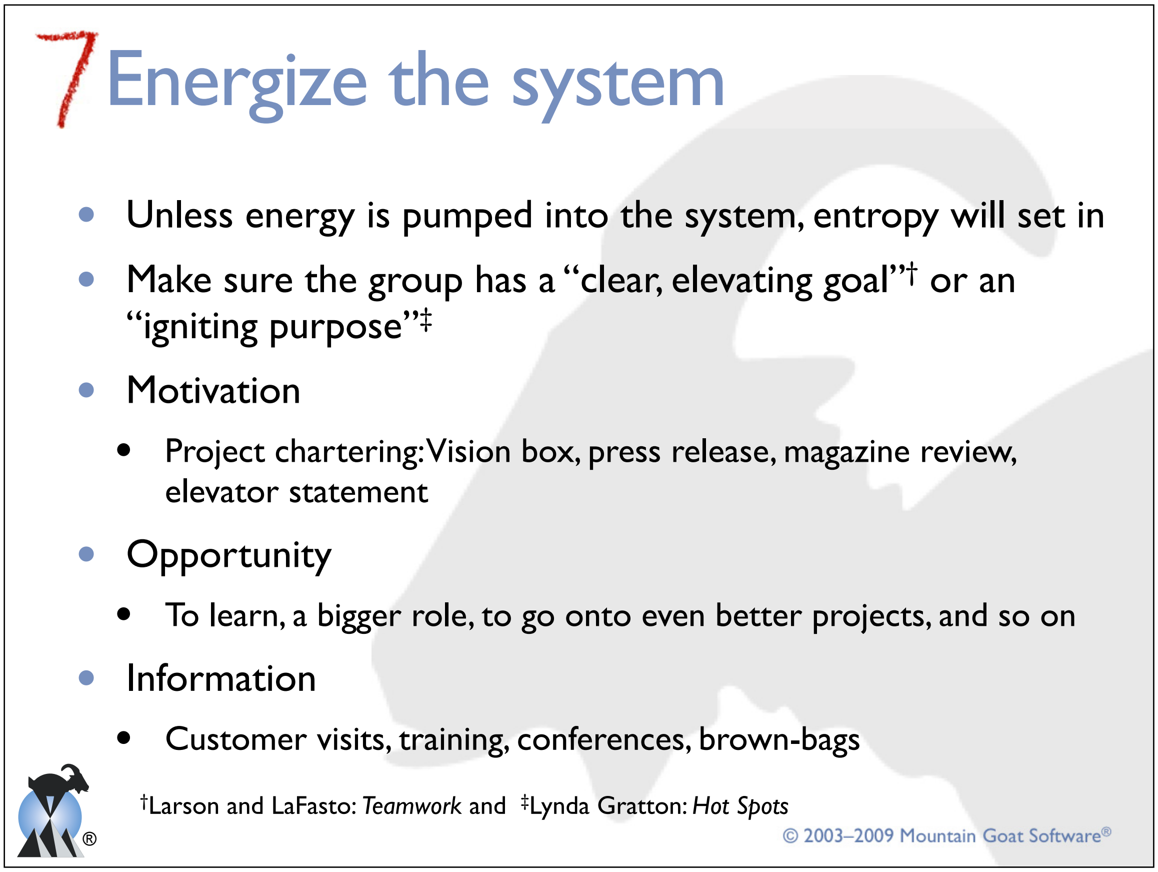


Distributed Scrum: Agile Project Management with Outsourced Development Teams at HICSS 2007 by Jeff Sutherland, et al.



6 Evolve vicarious selection systems

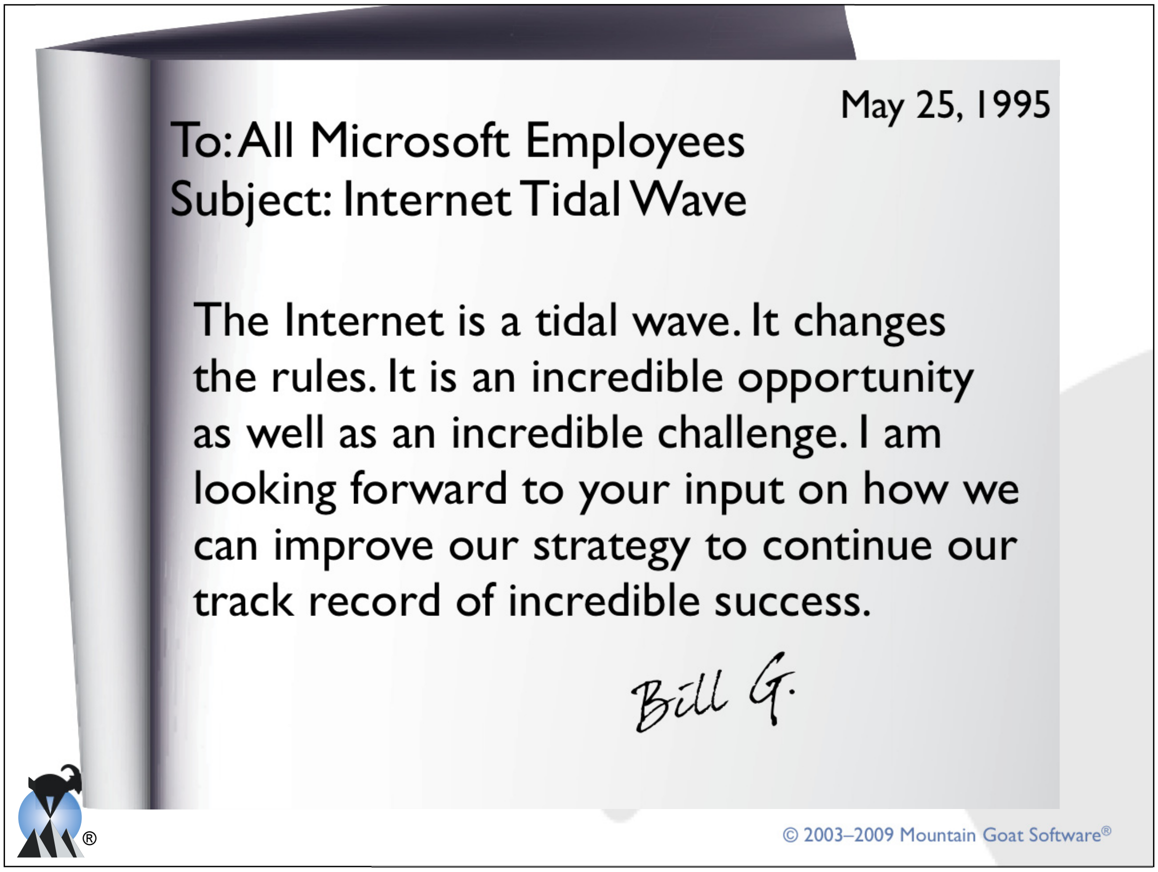
- Variation—Selection—Retention
  - Selection was determining which variations will be retained
    - Can take a long time
- So we often use vicarious selection systems
  - This is an animal that can smell that a food is poisonous, rather than eating it
- Using only the marketplace as our selection mechanism takes too long
- Organizations also evolve vicarious selection systems
  - Retrospectives, Google's 20% policy, compensation



7 Energize the system

- Unless energy is pumped into the system, entropy will set in
- Make sure the group has a "clear, elevating goal"[†] or an "igniting purpose"[‡]
- Motivation
  - Project chartering: Vision box, press release, magazine review, elevator statement
- Opportunity
  - To learn, a bigger role, to go onto even better projects, and so on
- Information
  - Customer visits, training, conferences, brown-bags

[†] Larson and LaFasto: *Teamwork* and [‡] Lynda Gratton: *Hot Spots*

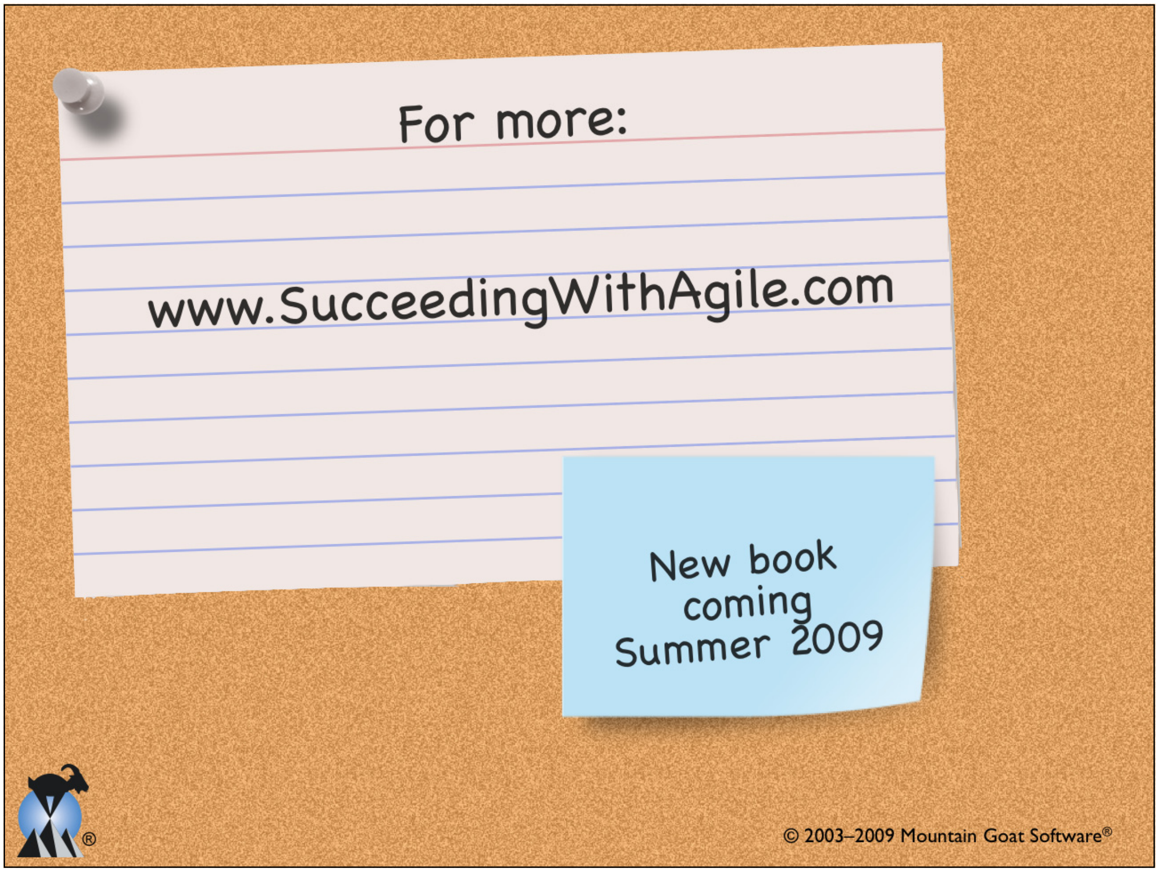


May 25, 1995

To: All Microsoft Employees
Subject: Internet Tidal Wave

The Internet is a tidal wave. It changes the rules. It is an incredible opportunity as well as an incredible challenge. I am looking forward to your input on how we can improve our strategy to continue our track record of incredible success.

Bill G.



For more:

www.SucceedingWithAgile.com

New book coming Summer 2009

Date	What	Where
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May 12 May 13–14 May 15	Effective User Stories Certified ScrumMaster Agile Estimating and Planning	Orlando
June 8 June 9–10 June 11	Effective User Stories Certified ScrumMaster Agile Estimating and Planning	San Jose
August 3 August 4–5 August 6	Effective User Stories Certified ScrumMaster Agile Estimating and Planning	Denver
Sept 14–15 Sept 16–17	Certified ScrumMaster Certified Scrum Product Owner	La Jolla

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