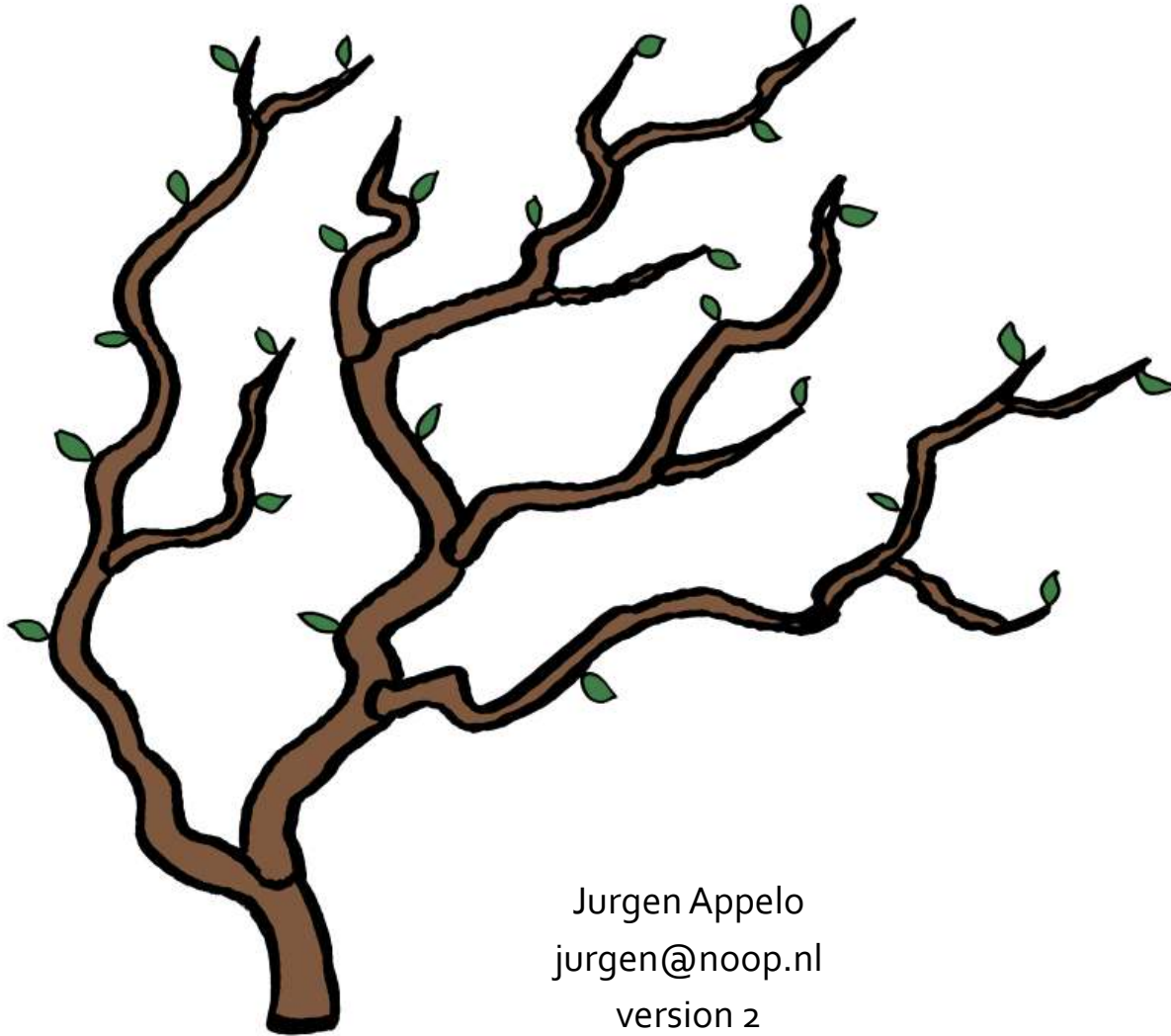


The Dolt's Guide to Self-Organization



Jurgen Appelo
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version 2



The Addison Wesley Signature Series

A MIKE COHN SIGNATURE
BOOK
Mike Cohn

MANAGEMENT 3.0

LEADING AGILE DEVELOPERS,
DEVELOPING AGILE LEADERS

JURGEN APPELO

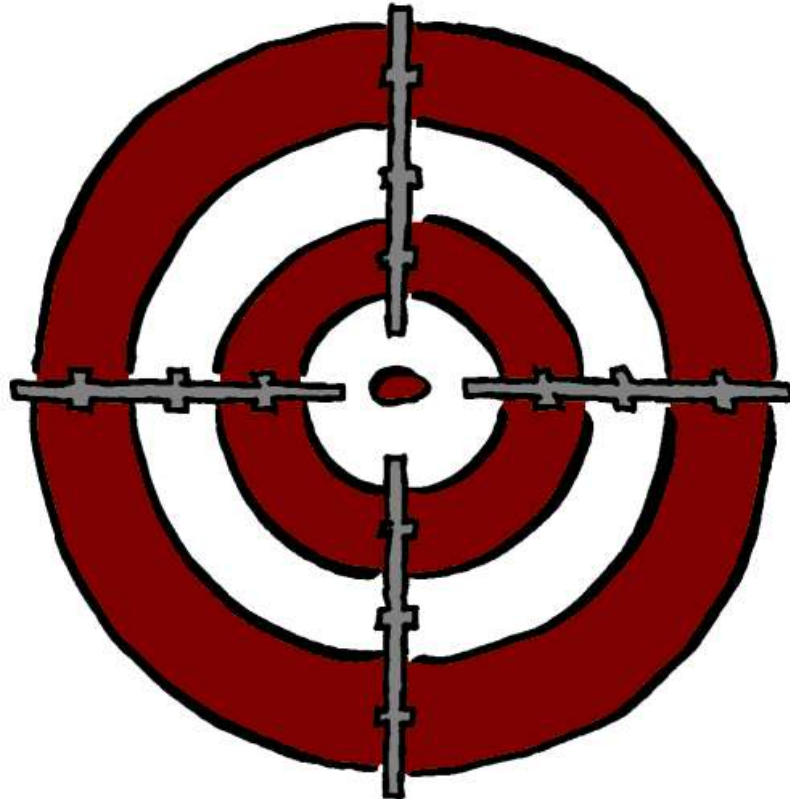


Forewords by Robert C. Martin and Ed Yourdon



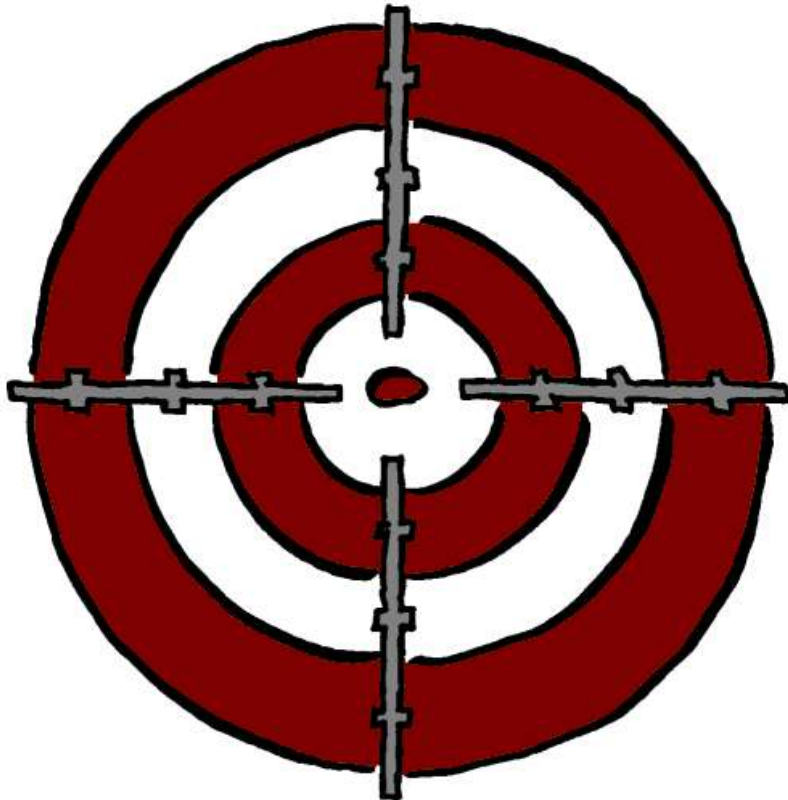
Goal #1

OK, so what is self-organization *really*?



Goal #2

How can we make self-organization *work*?



Agenda



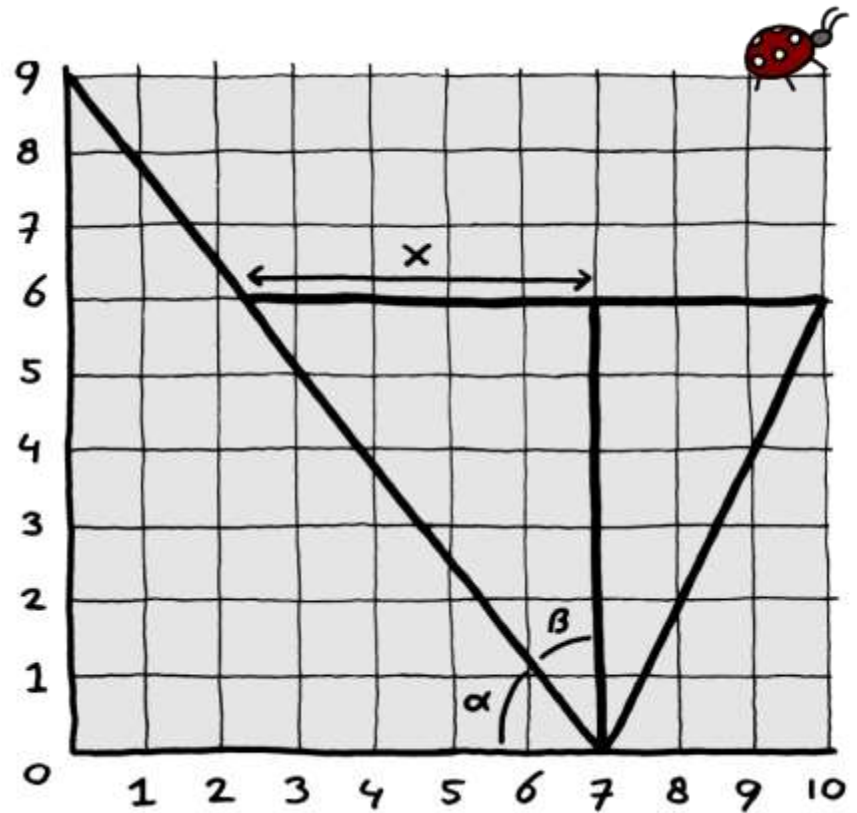
Self-organization

Direction

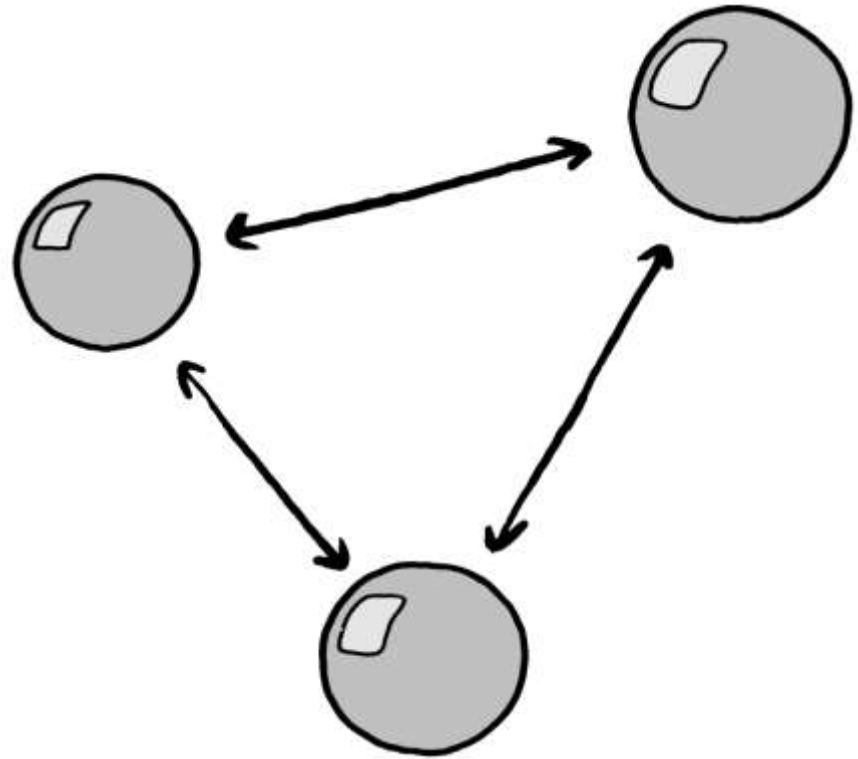
Delegation

Communication

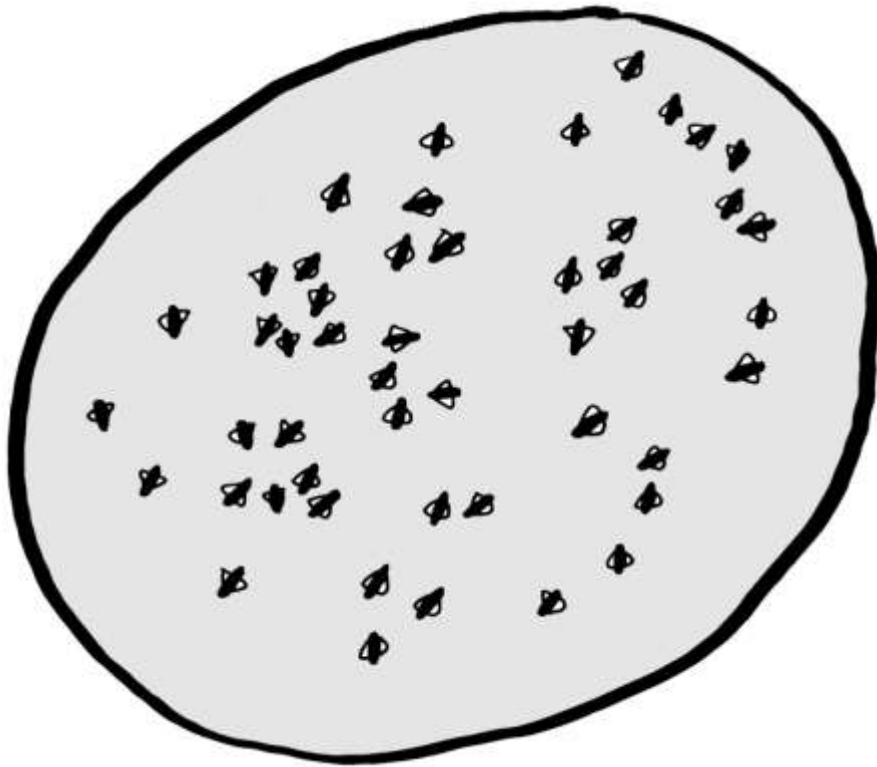
Conclusion



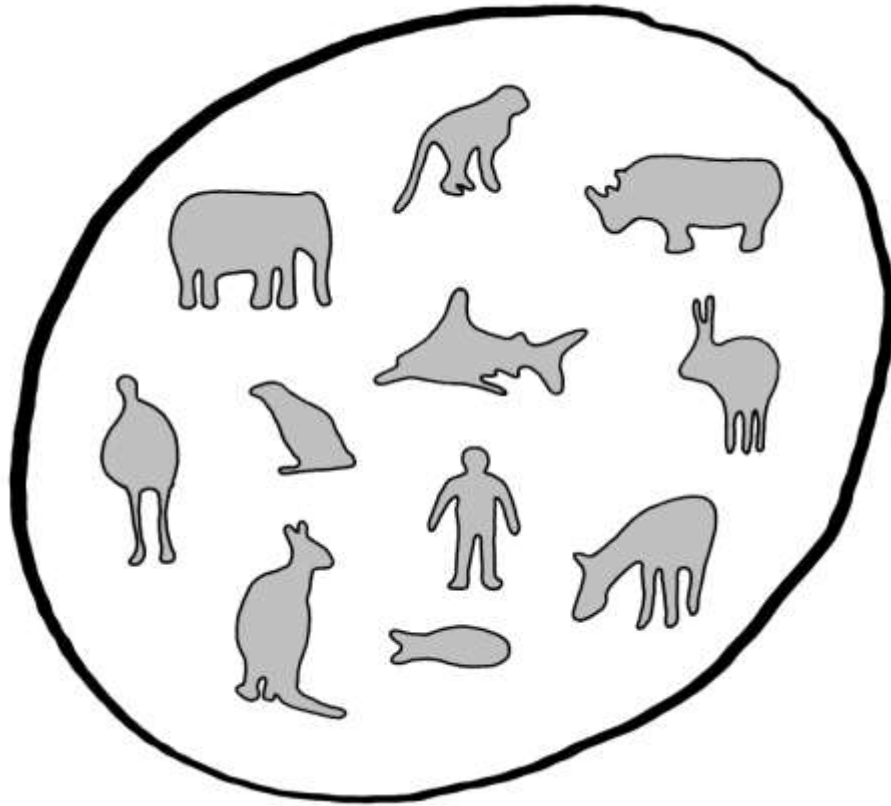
We have been taught about
linear systems



But then reality confronted us with
non-linear systems



That is like teaching people all about
fruit flies



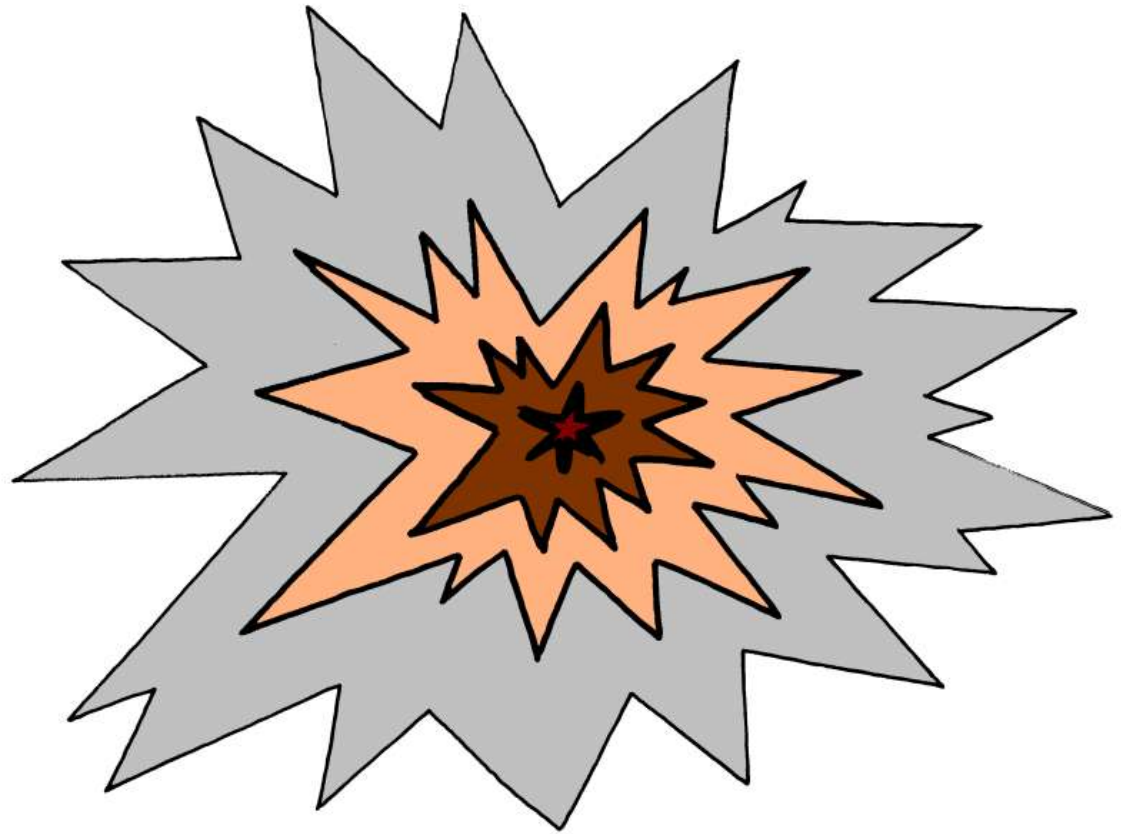
Huh?

And then lumping everything else together in
the group of... **non-fruit flies**

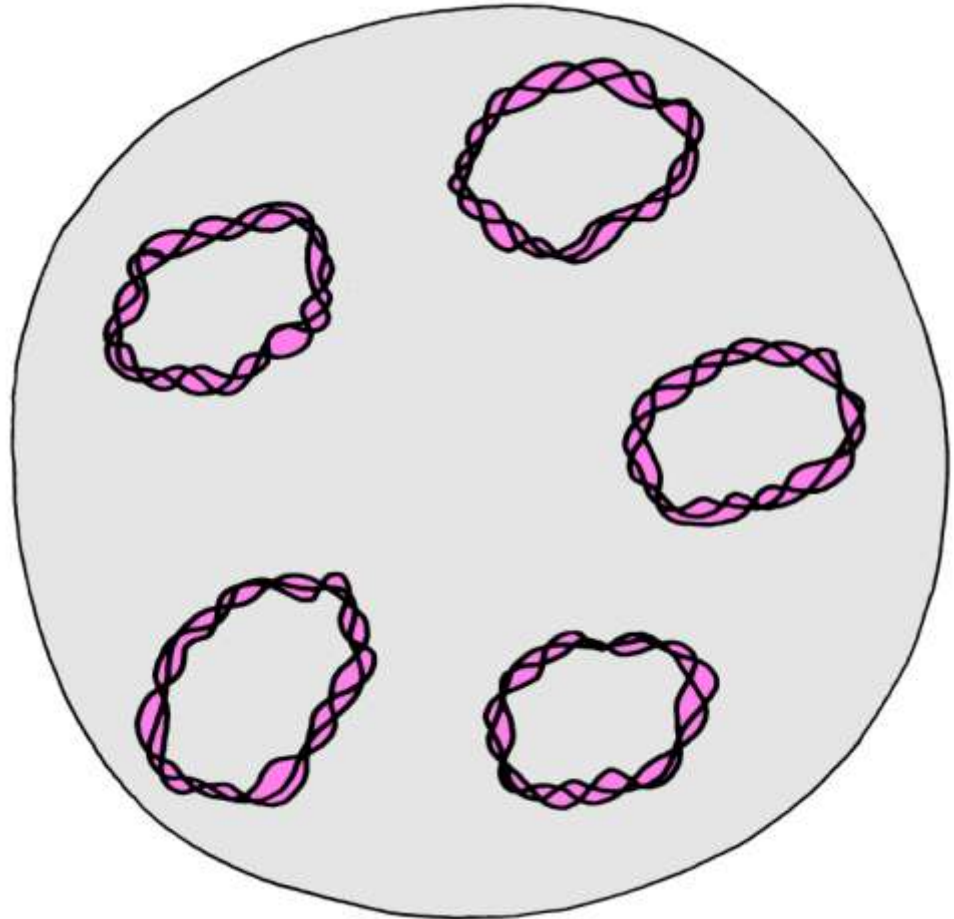
Let's adopt a more **realistic** approach

First, there was a

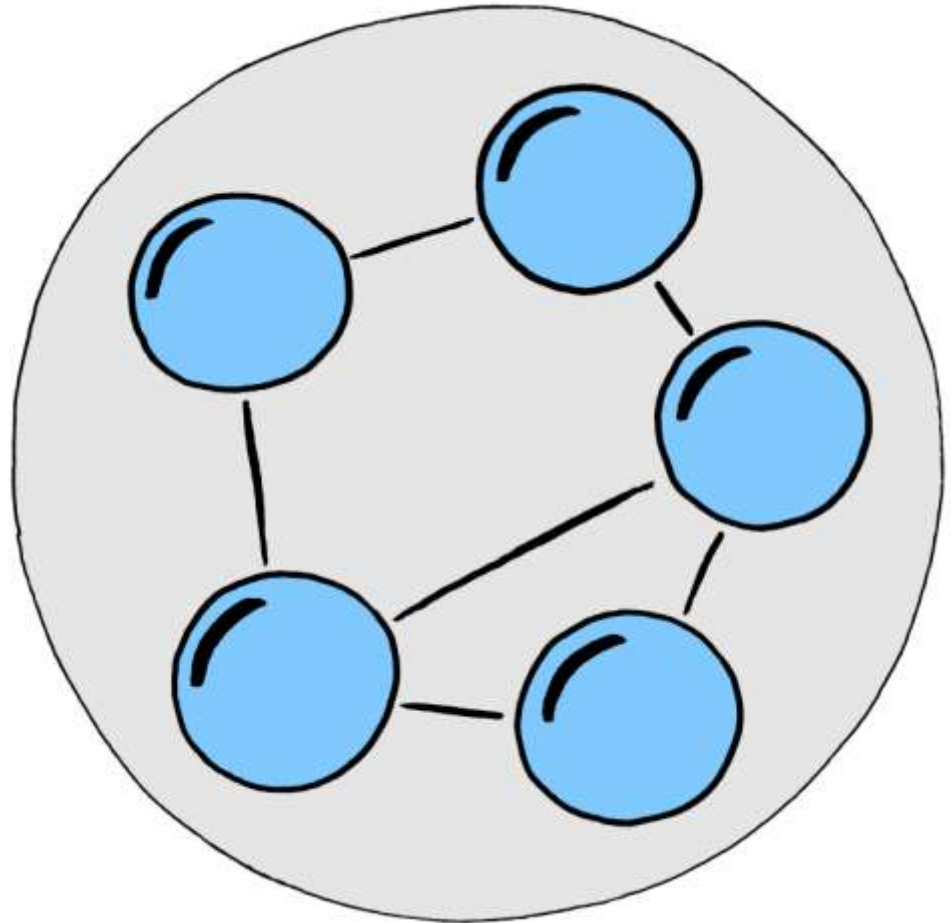
(big) **bang!**



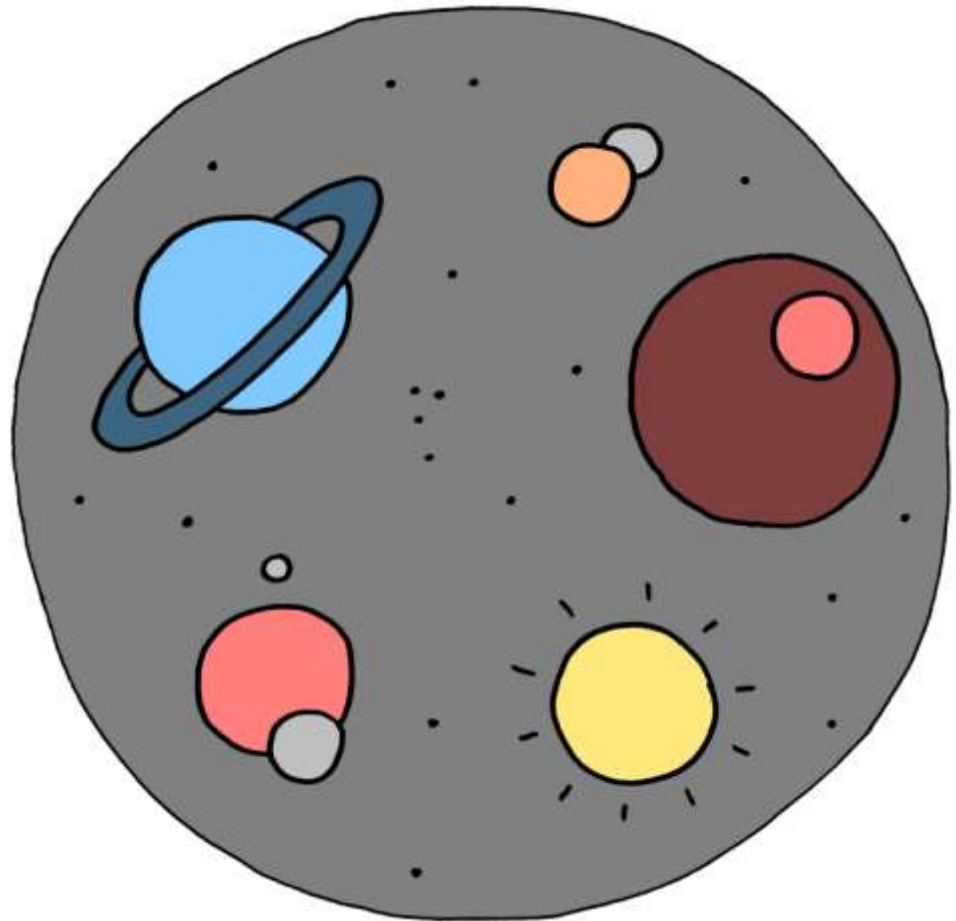
...and then strings formed particles



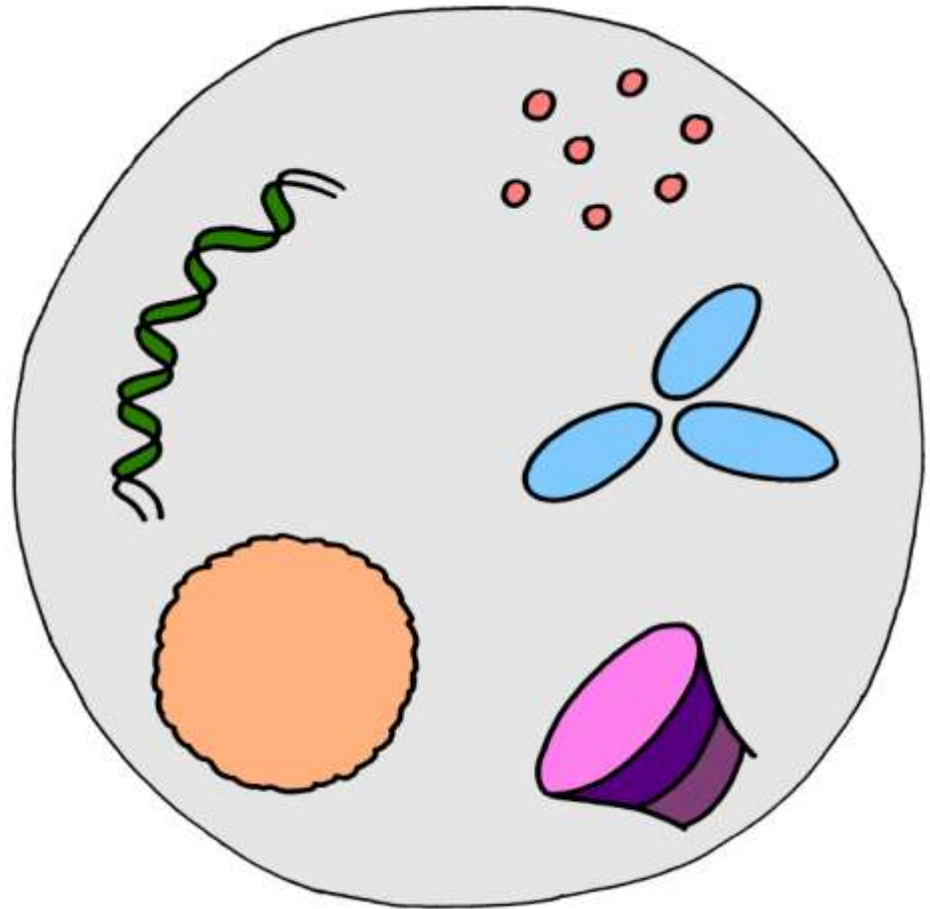
...and particles formed molecules



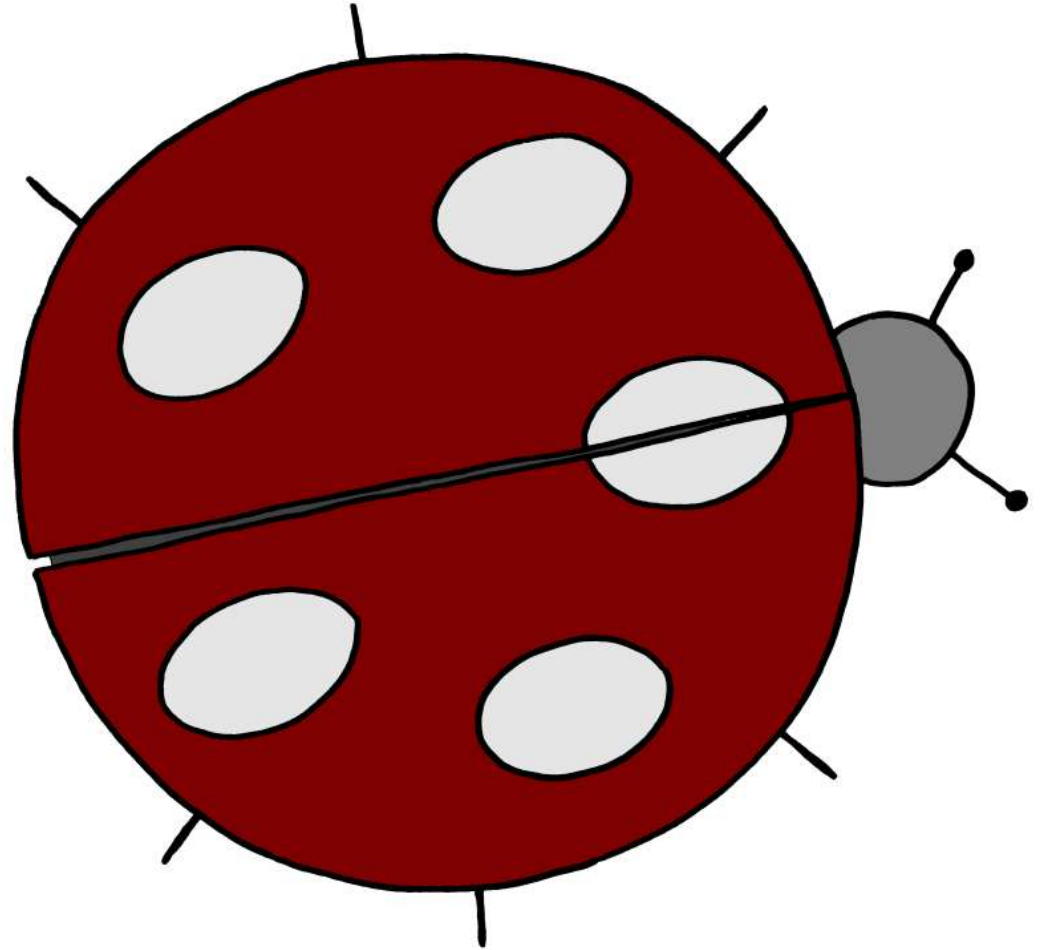
...and molecules formed solar systems



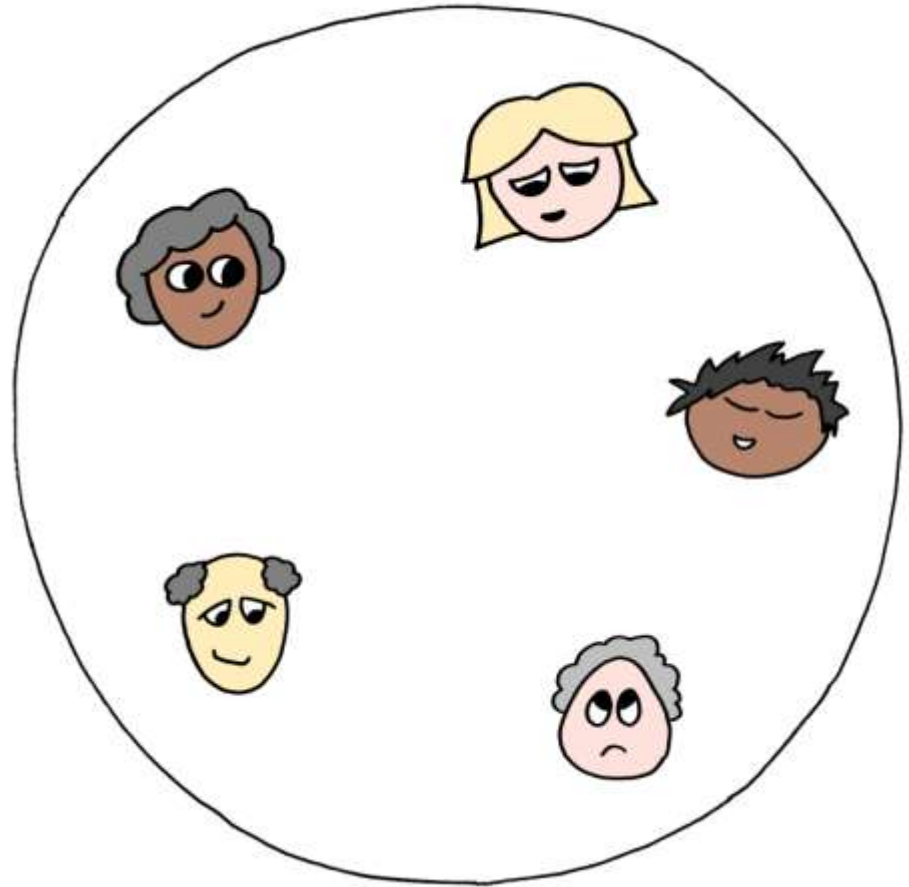
...and living cells



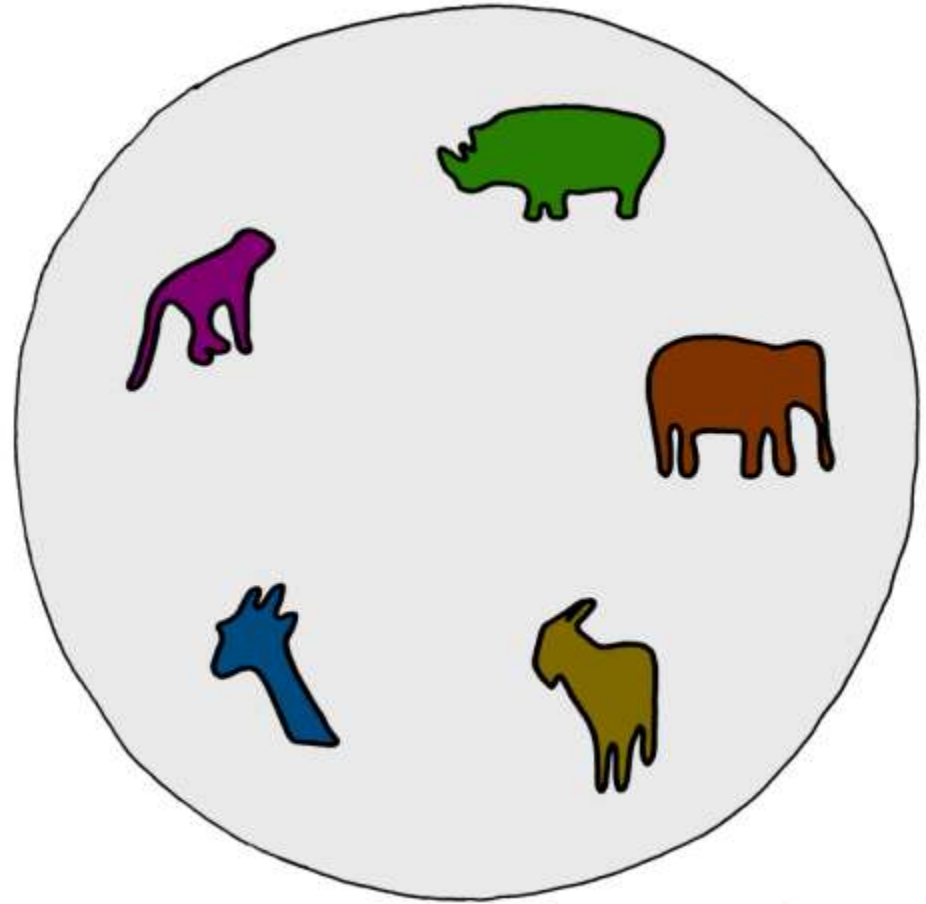
...and cells formed species



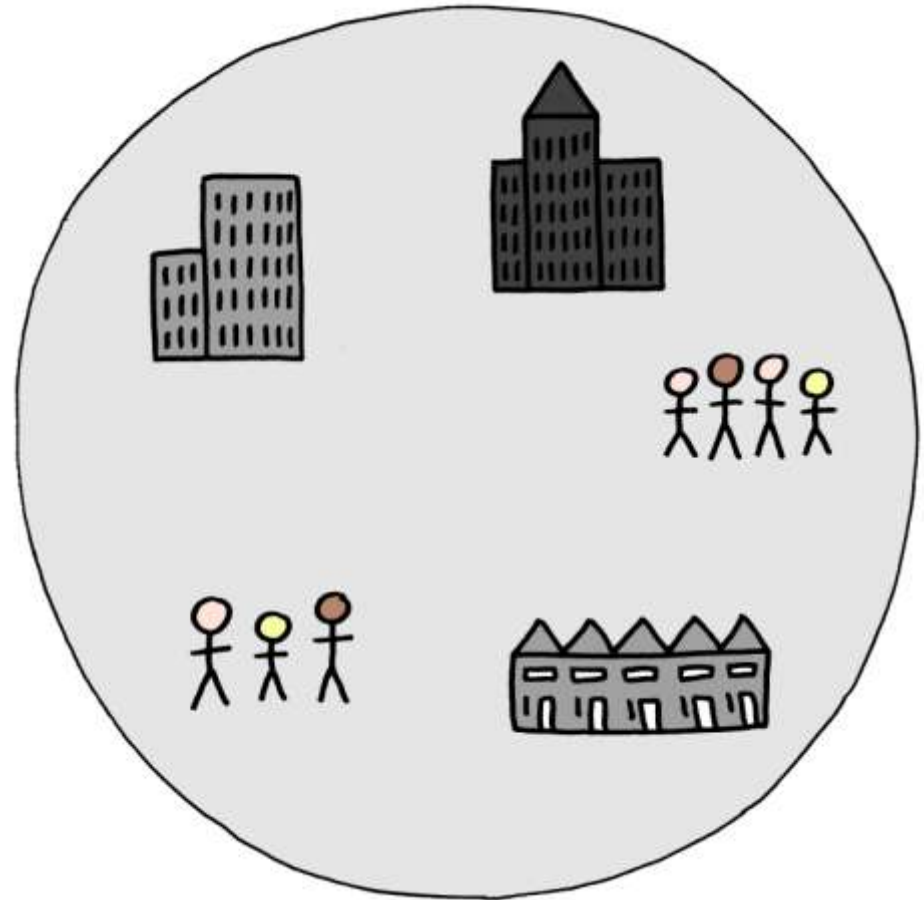
...and species formed groups



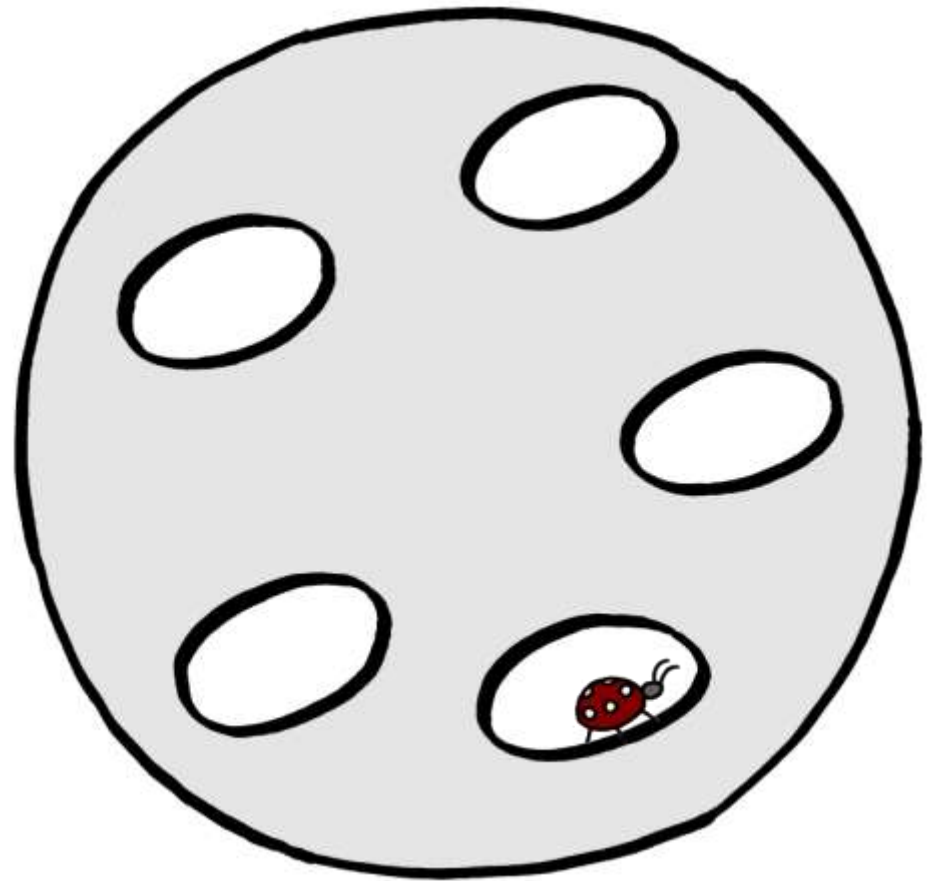
...and groups formed ecosystems



...and economies



...and every system organized itself.




Self-organization... a definition

“Self-organization is a process of attraction and repulsion in which the **internal organization** of a system, normally an open system, increases in complexity **without being guided or managed** by an outside source.”

<http://en.wikipedia.org/wiki/Self-organization>

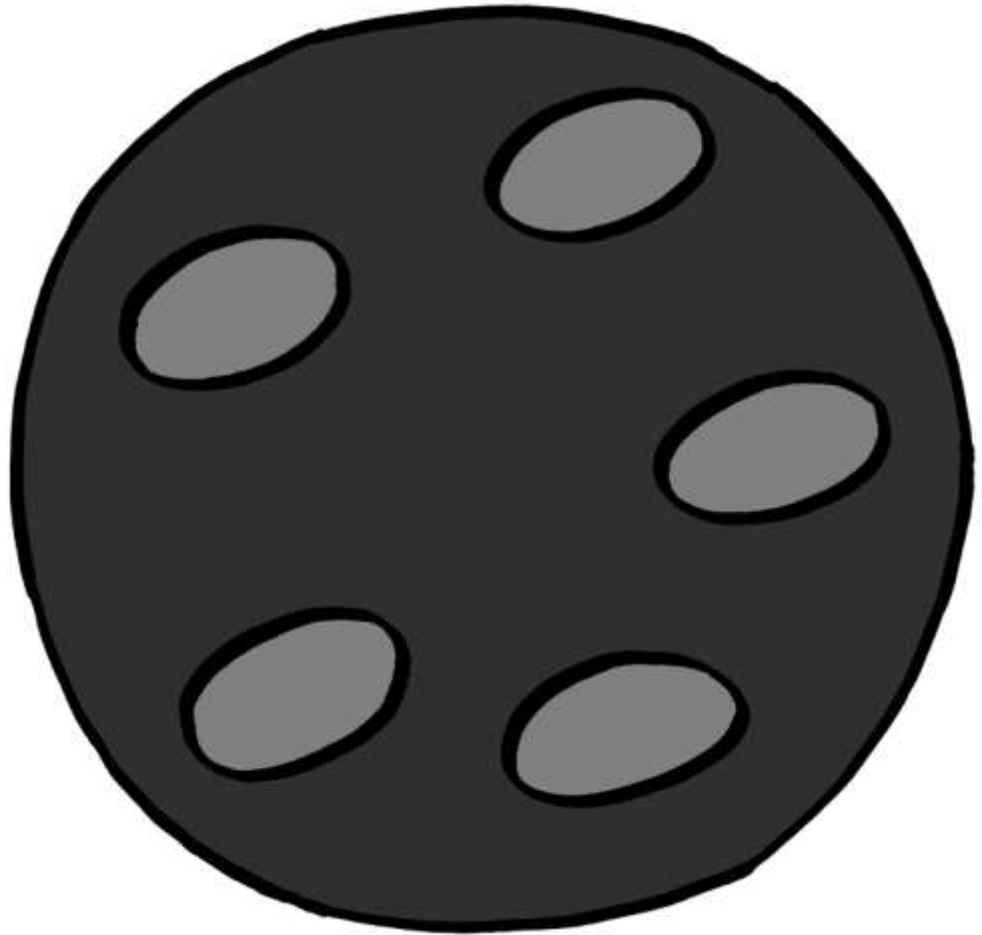
Organization **without**
management?

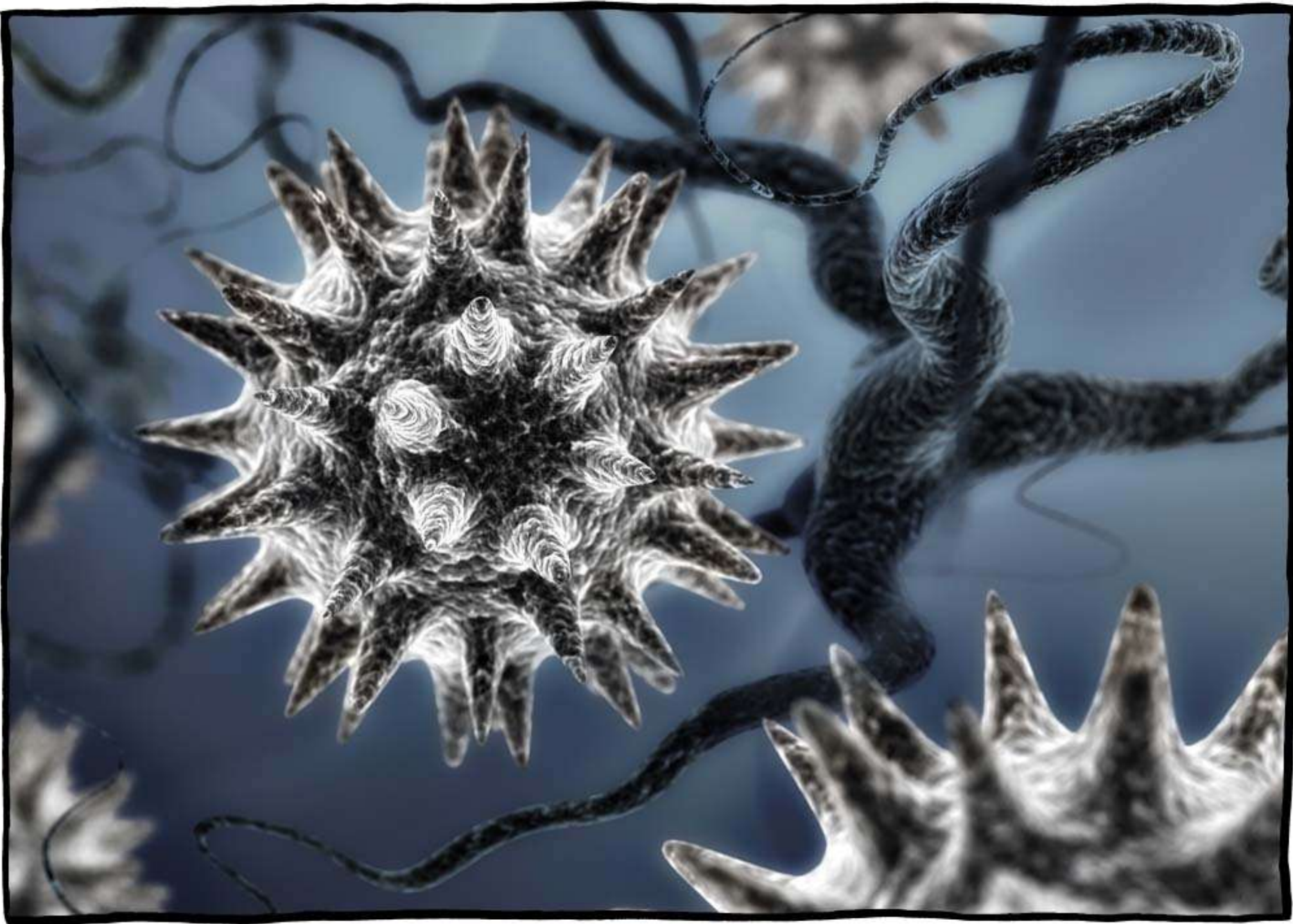


Cool!

but...

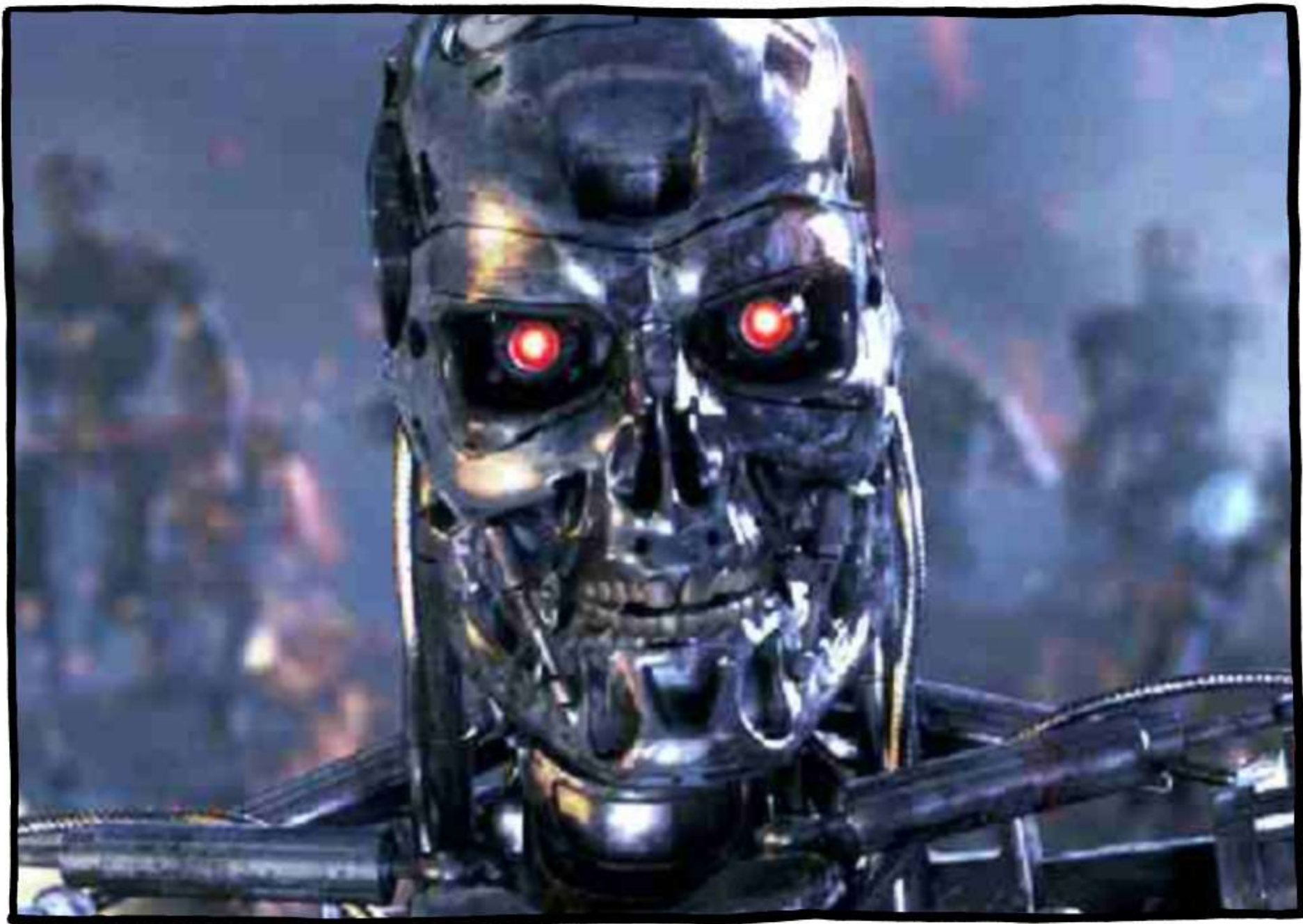
Self-organization has a **dark side...**





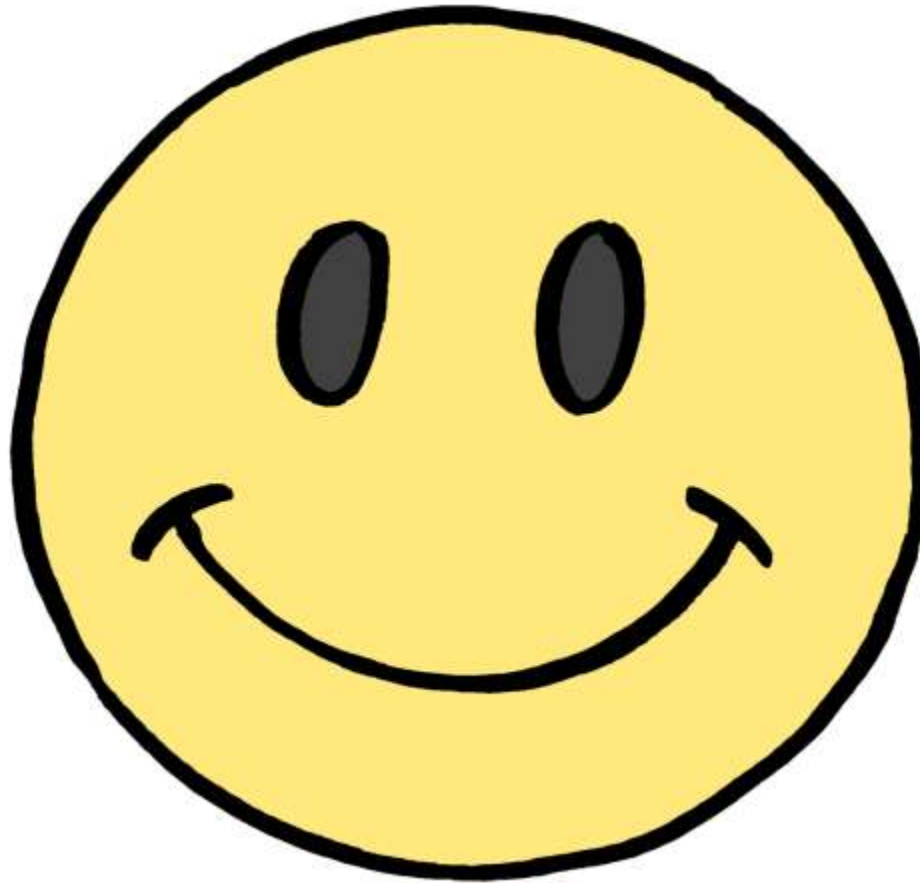






“We humans are **obsessed with purpose**. [...] The question of purpose, which doesn't necessarily have to have an answer, is one that leaps to the front of the human mind, whether it is appropriate or not.”

- Richard Dawkins



But people care...
about **value**.









“Self-organization requires that the system is surrounded by a **containing boundary**. This condition defines the "self" that will be developed during the self-organizing process.”

<http://amauta-international.com/iaf99/Thread1/conway.html>

The **containing boundary** has a chance to
direct self-organization
towards **value**

Agenda



Self-organization

Direction

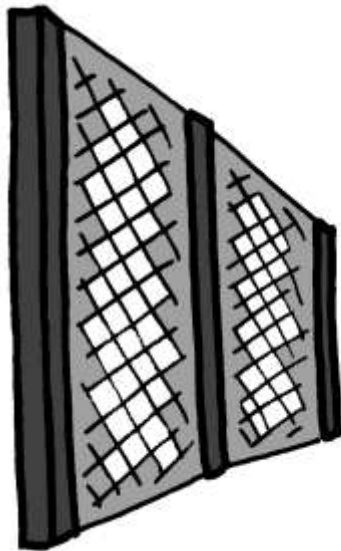
Delegation

Communication

Conclusion

Don't go here!

Go there!



Directed self-organization



Governance + leadership

Don't go here!



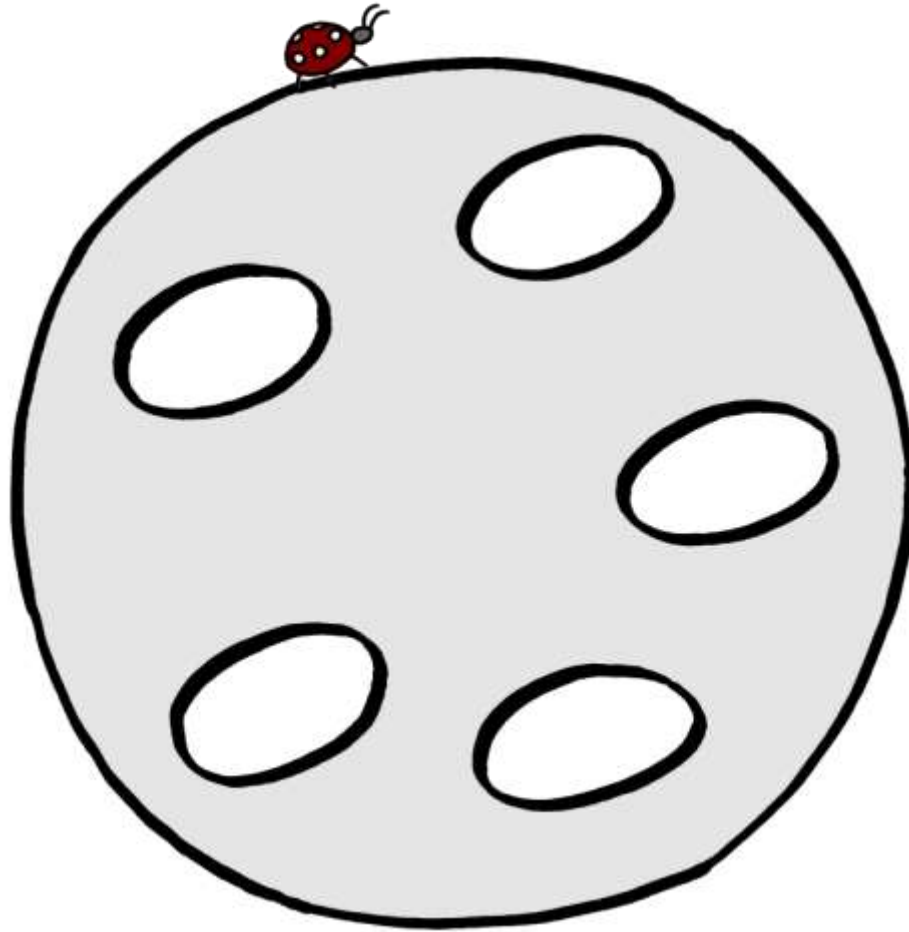
Go there!

Managers are like **gardeners**

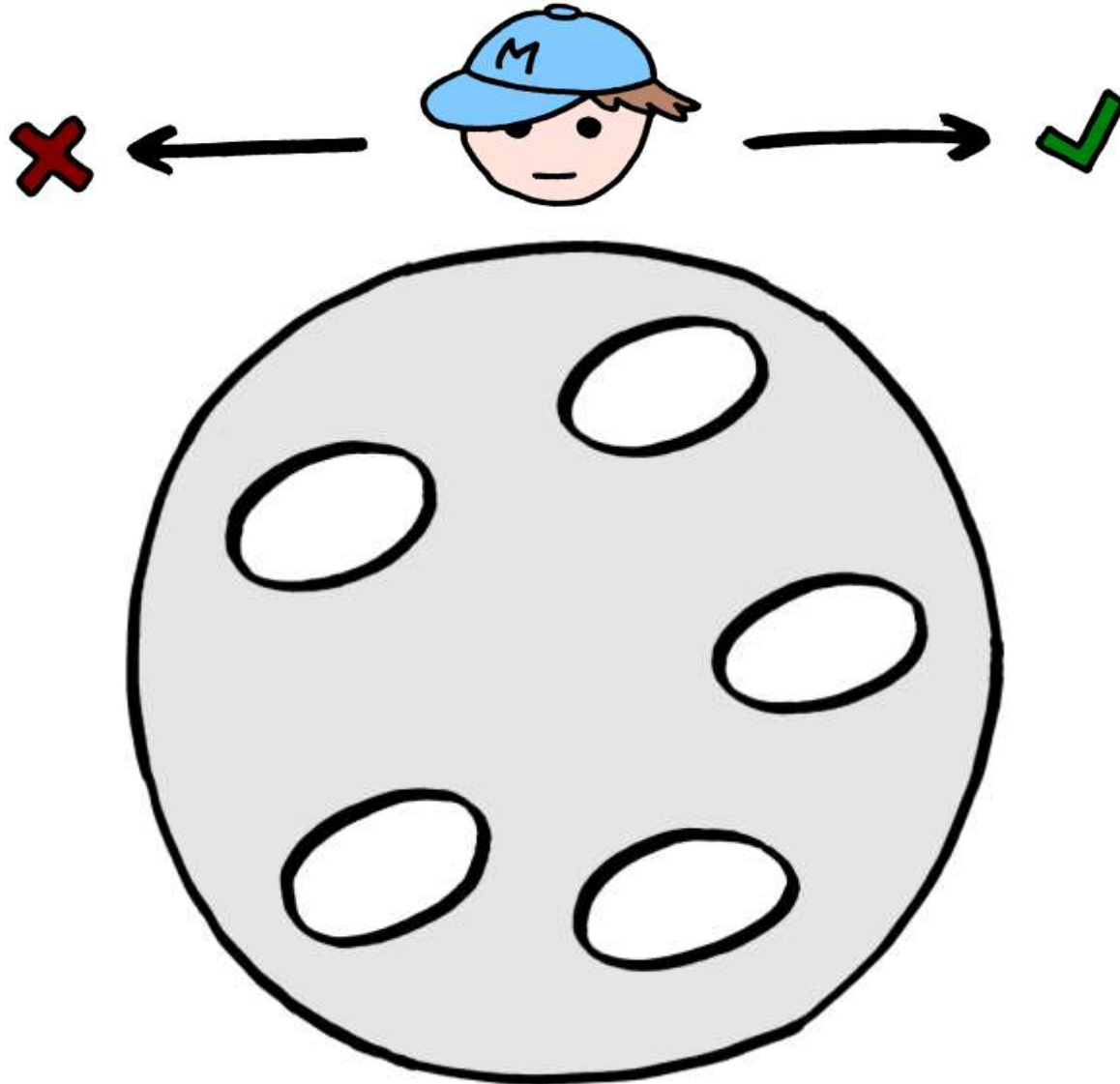
They let self-organization (anarchy) do useful work while steering the system toward valuable results



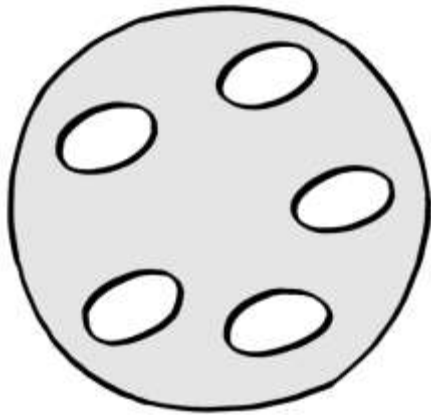
Self-organization is the **norm**



Management is the **special case**



Three levels of self-organization



Self-organized

For example: a software development team

Self-selected (= self-designed)

Self-organized *and* system selects its own members

For example: founders of a start-up business

Self-directed (= self-governed)

Self-selected *and* no direction outside the system

For example: criminal organization

And then there's

Emergence...

Supervenience

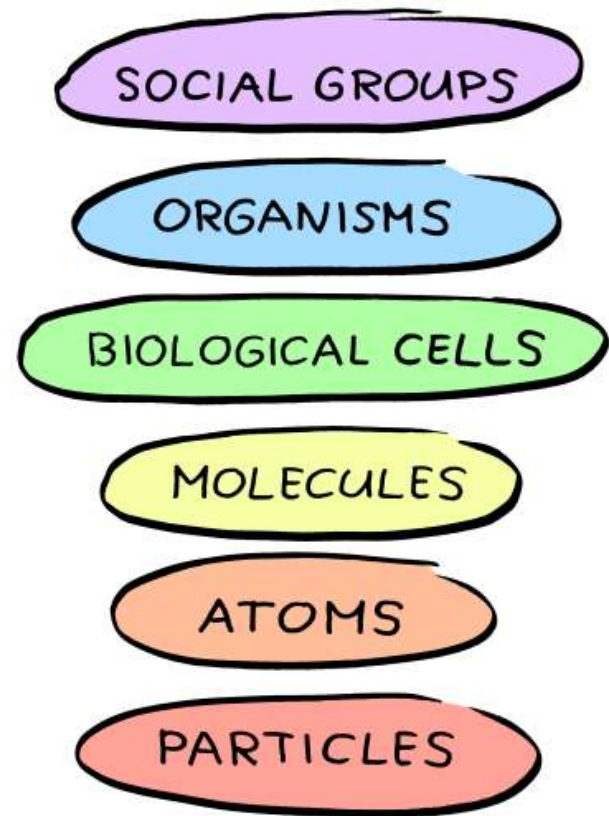
Emergent properties appear at a higher level that didn't exist in the components

Not just aggregation

Impossible to "build" the system as an aggregate from the components

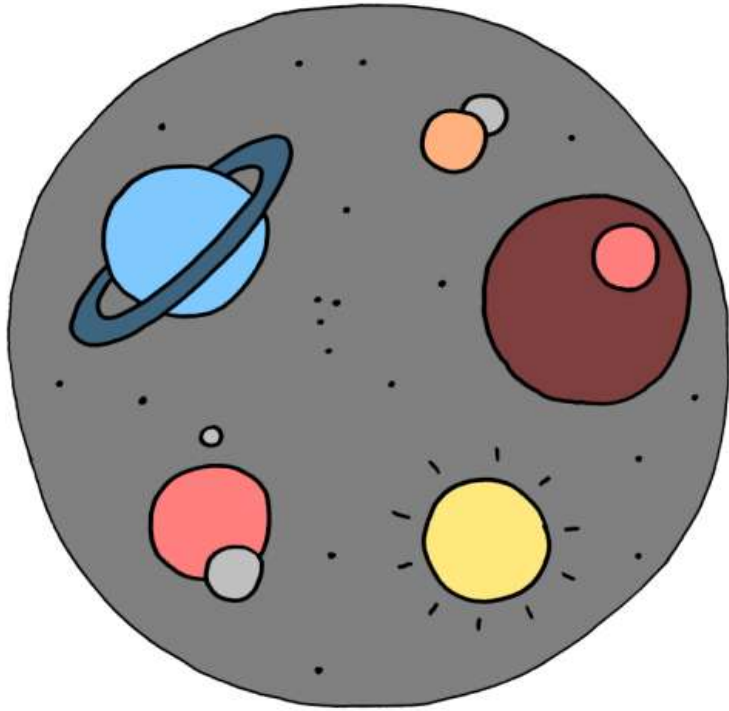
Downward causality

The emergent properties have a real effect on the lower-level components



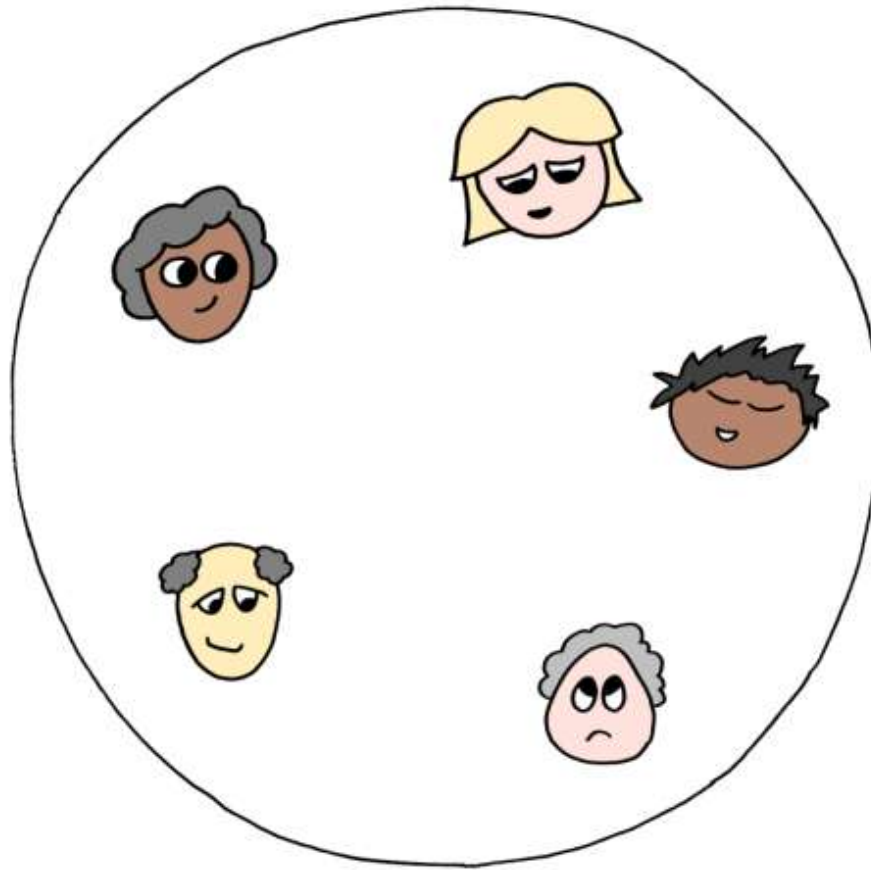
Emergent,
but *not* self-organizing





Self-organizing,
but *not* emergent

A development
team



Emergent +
self-organizing

The Darkness Principle

“Each element in the system is **ignorant** of the behavior of the system as a whole [...] If each element ‘knew’ what was happening to the system as a whole, all of the complexity would have to be present in that element.”

http://iscepublishing.com/ECO/ECO_other/Issue_6_3_10_FM.pdf

The Law of Requisite Variety

“If a system is to be stable the number of states of its control mechanism must be **greater than or equal** to the number of states in the system being controlled.”

http://en.wikipedia.org/wiki/Variety_%28cybernetics%29

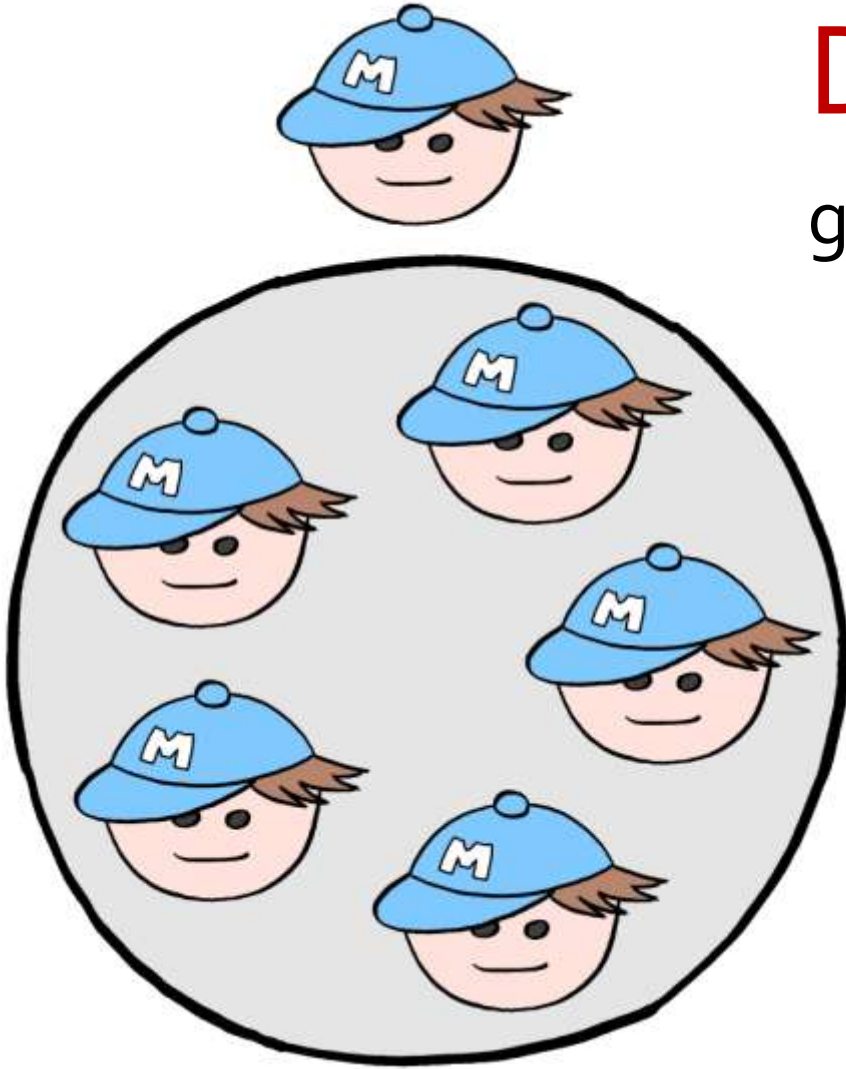
In human terms...

A team is **too complex** to manage by just one person.

Only people have the ability to manage complexity.

Therefore, management requires...

Distributed
governance and leadership



Agenda

Self-organization

Direction

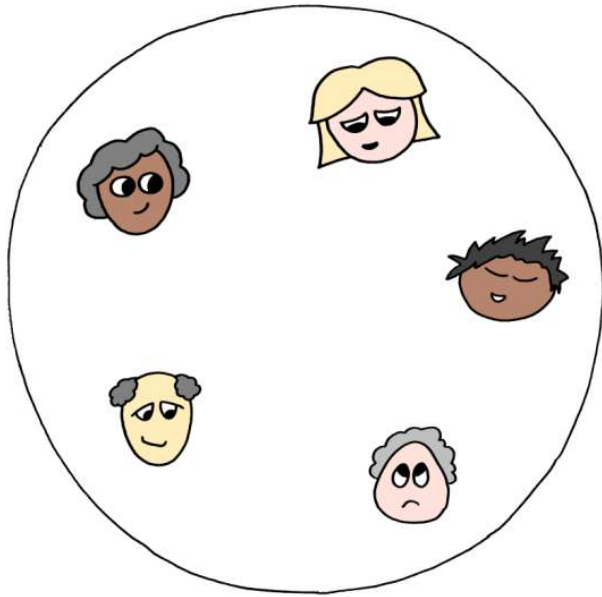


Delegation

Communication

Conclusion

Three levels of **maturity** in empowerment



Light (low impact)

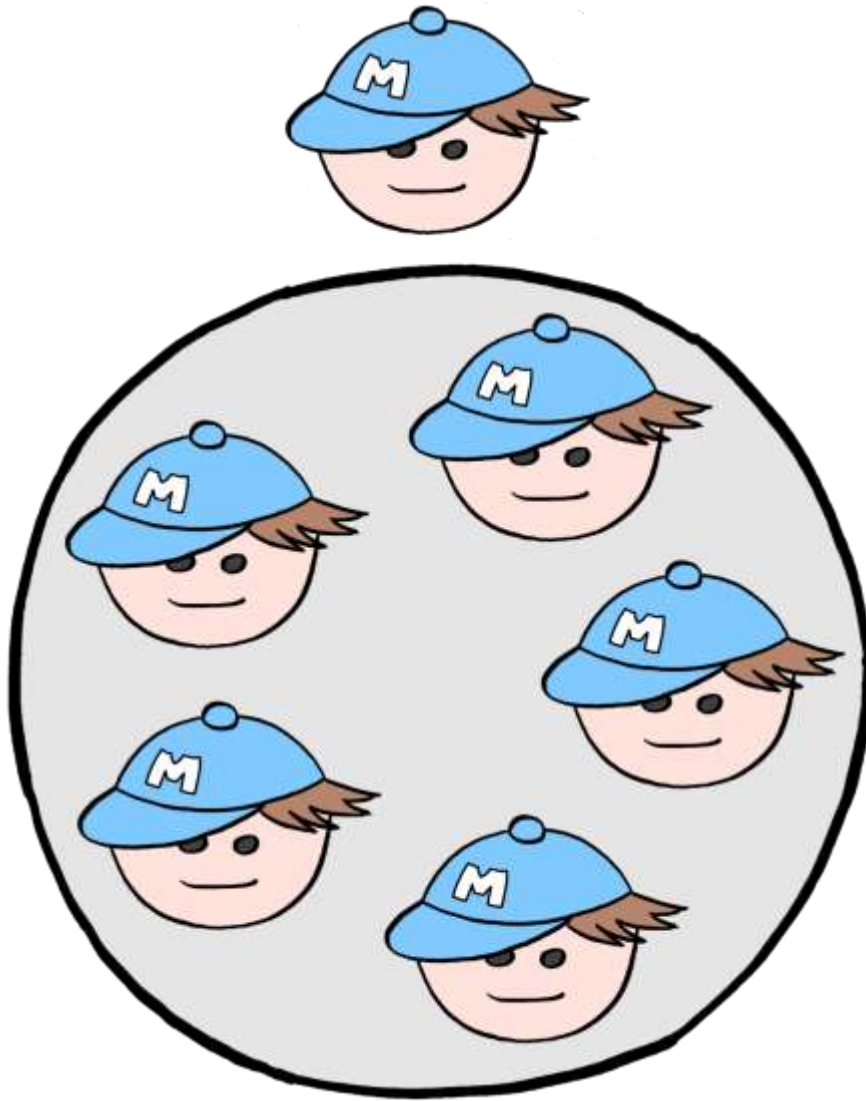
Example: coding guidelines, workshops

Moderate (medium impact)

Example: self-education, tool selection

Advanced (high impact)

Example: self-selection, open salaries



Question:
Does handing over power
to others make you
powerless?

Answer: NO

Zero-Sum

Football
Elections
Judiciary
...

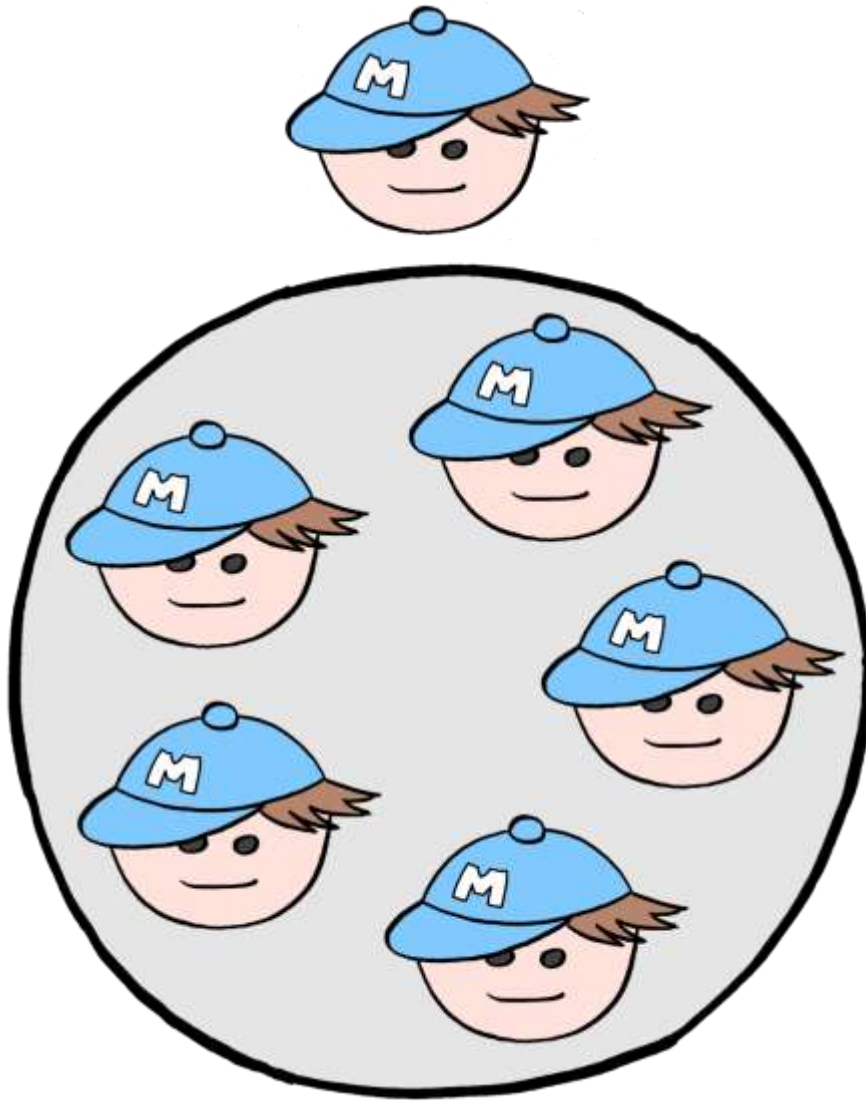
I win and you lose

Non-Zero-Sum

Free markets
Social networks
Teamwork
...

We all win!

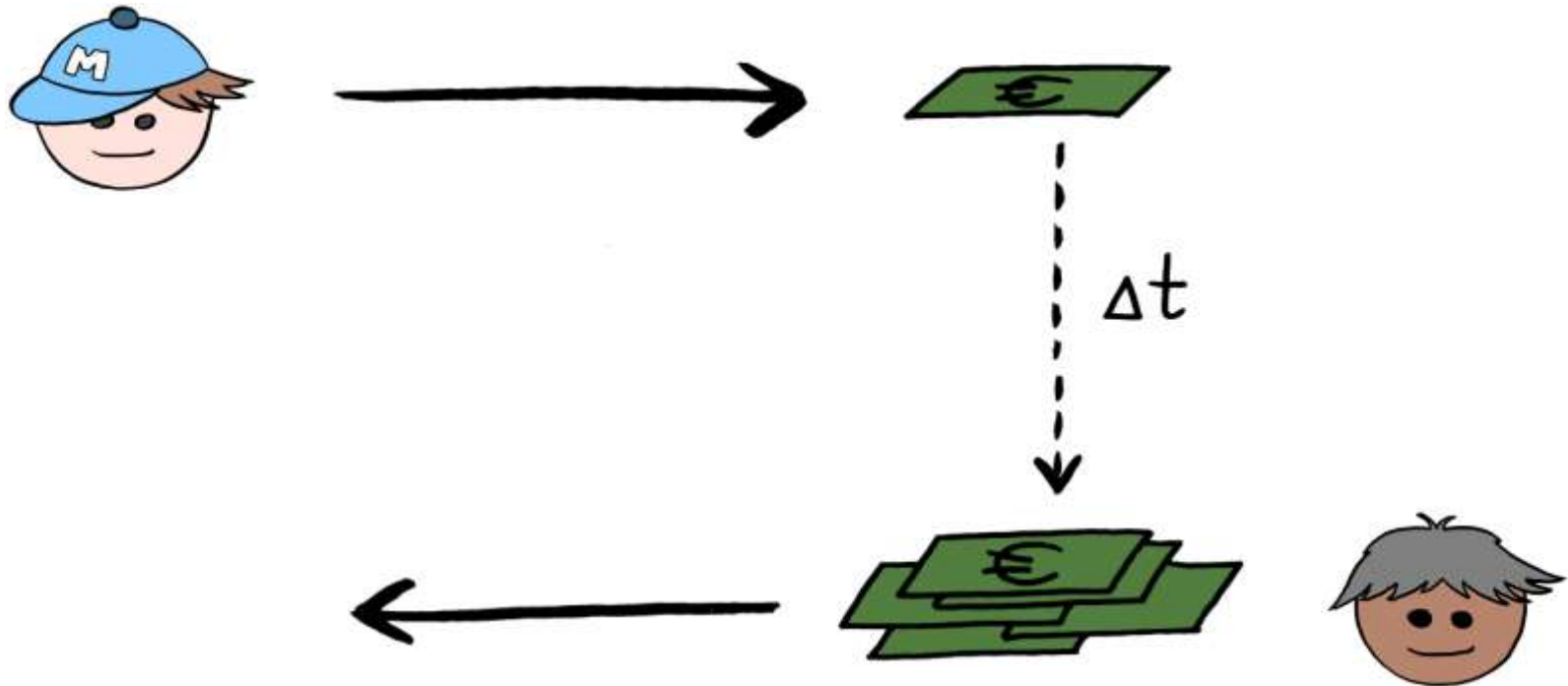
<http://en.wikipedia.org/wiki/Zero-sum>



Non-Zero-Sum

Powerful teams make their managers more powerful.

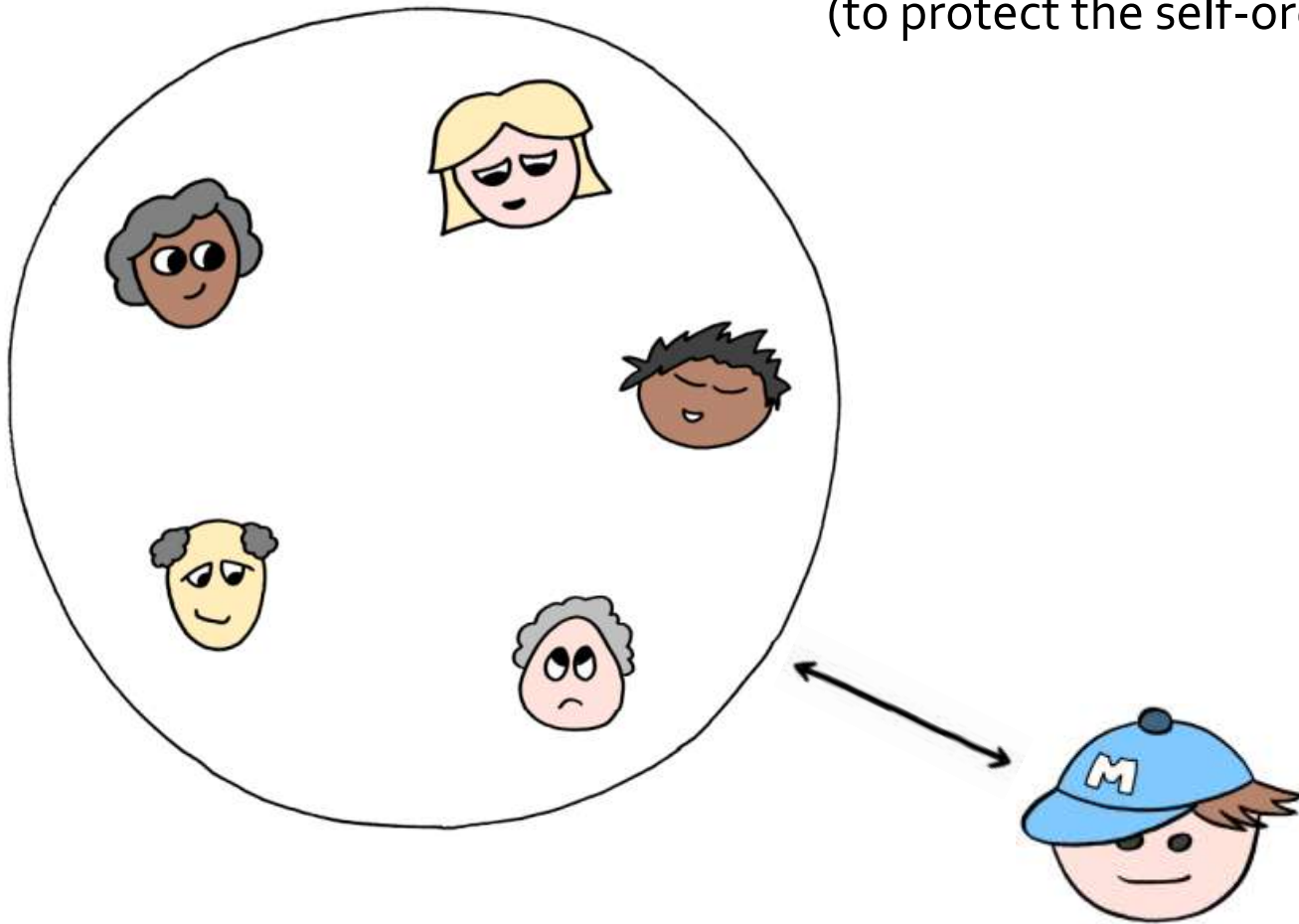
Empowerment is an **investment**



Beware of the **micromanagement trap**
(no patience while waiting for ROI)

Manage individuals

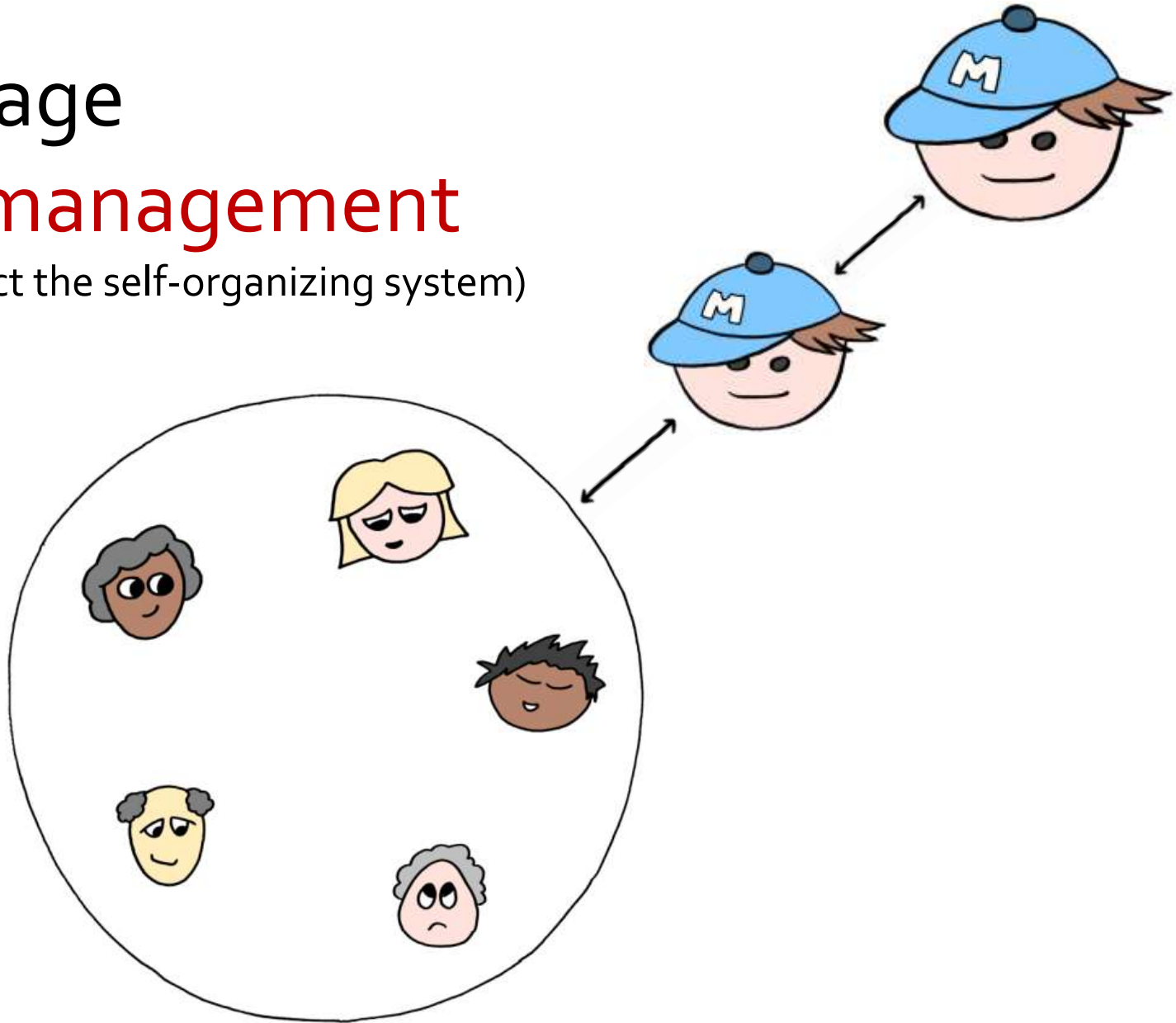
(to protect the self-organizing system)

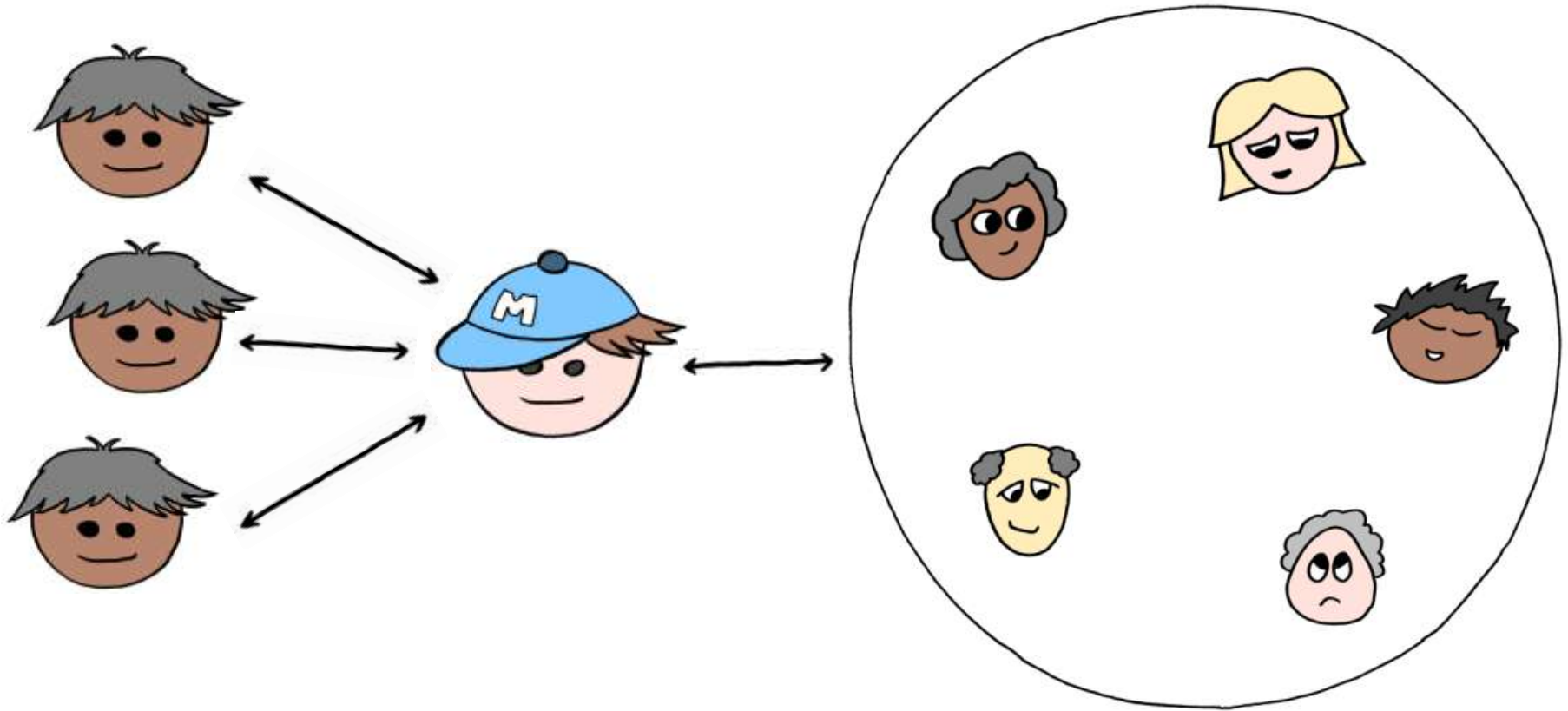


Manage

top management

(to protect the self-organizing system)





Manage
the **environment**
(to protect the self-organizing system)

Agenda

Self-organization

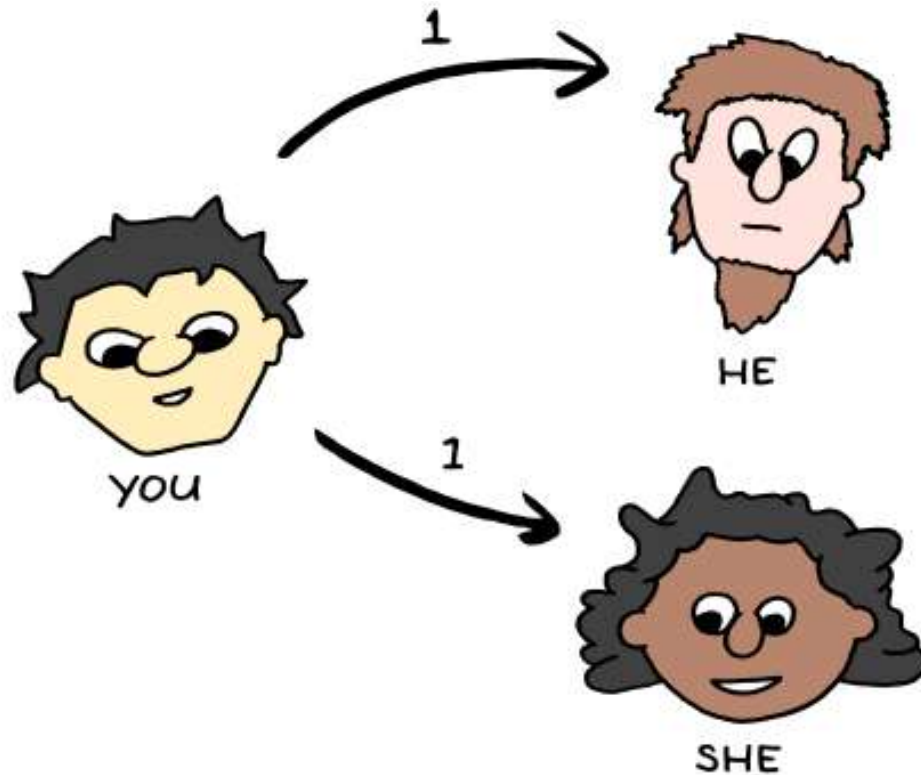
Direction

Delegation

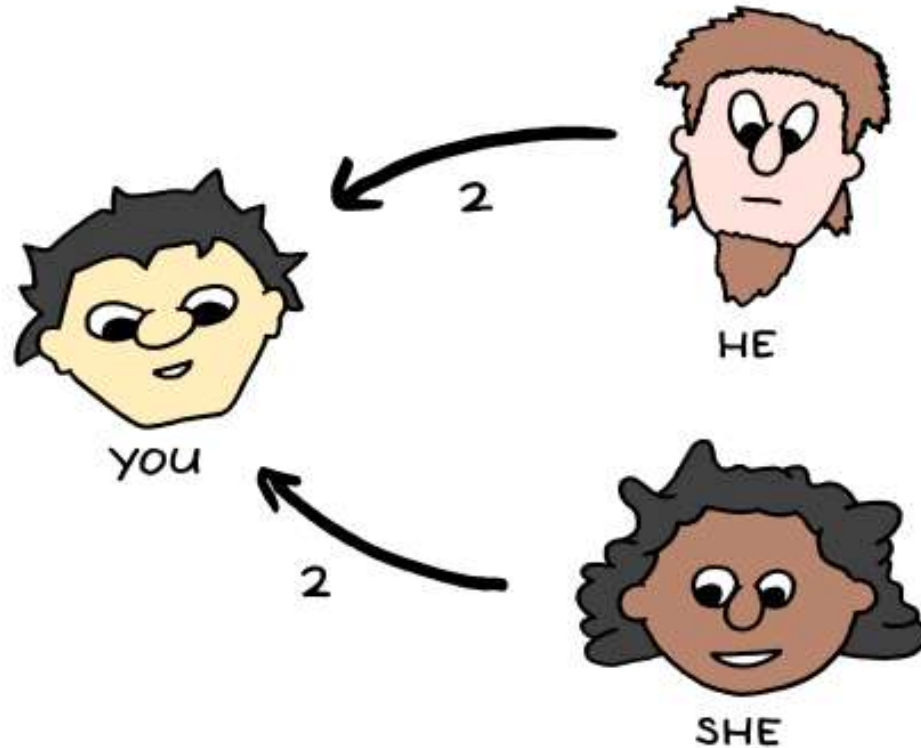


Communication

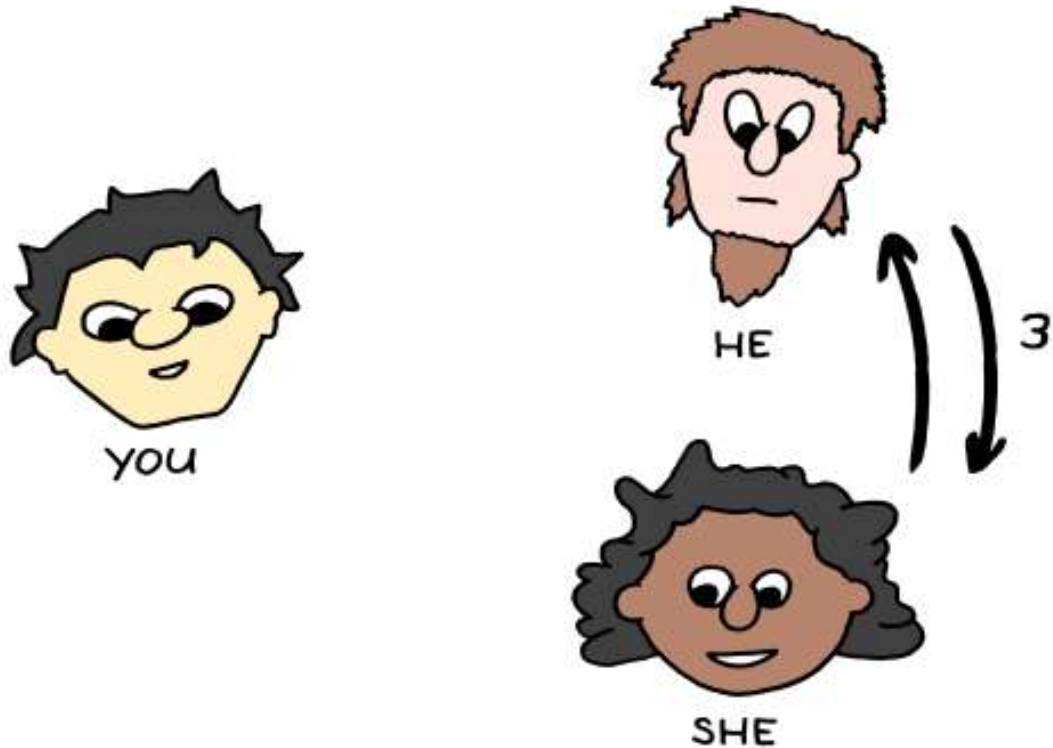
Conclusion



- 1) Trust your people
(communicate this clearly)



2) Earn trust from your people
(consistent behavior)

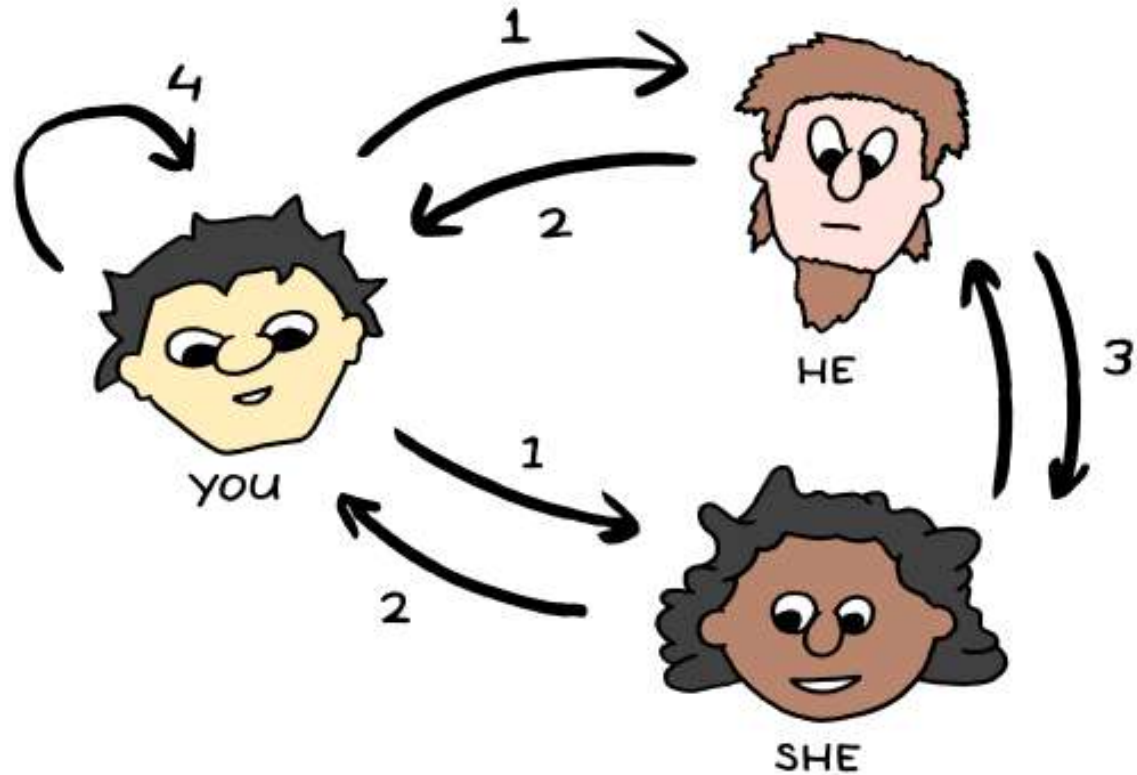


3) Help people to trust each other
(mingle, don't meddle)



4) Trust yourself
(stay true to your own values)

The four types of trust





Key Decision Areas

Make explicit list with
“areas of authorization”

Prepare project schedules
Select key technologies
Set documentation standards
Etc...

People should not walk into
“invisible electric fences”

Key Decision Areas

However...

Authorization per key decision area is not a “binary” thing

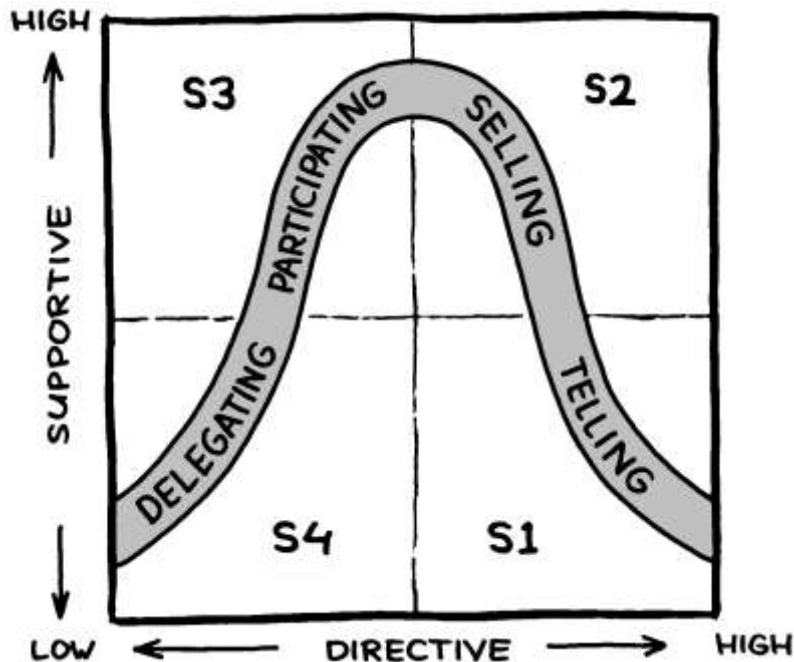


Situational Leadership

Four different “leadership styles”

1. Telling
2. Selling
3. Participating
4. Delegation

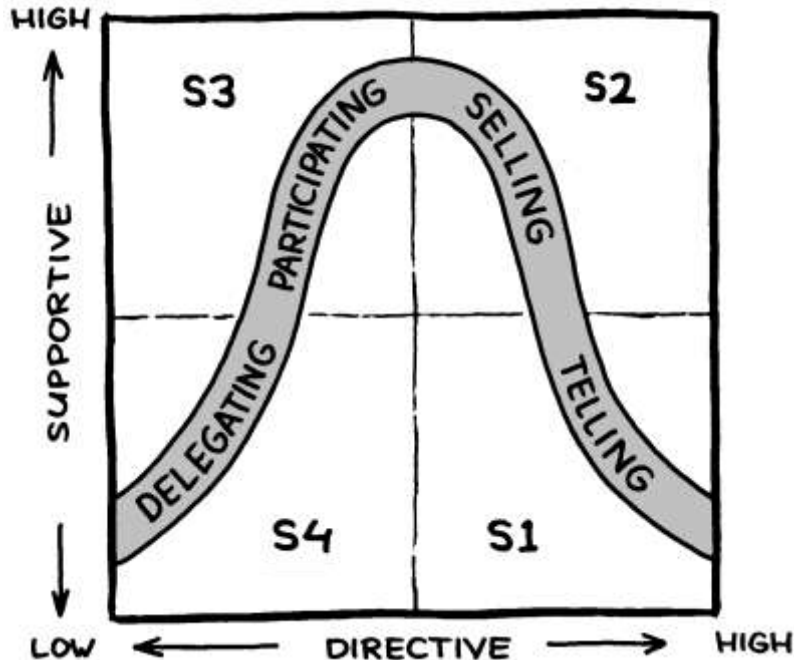
Work your way to level 4



Situational Leadership

However...

It might be good to distinguish between informing people (*push* your opinion) vs. consulting them (*pull* their opinions)



RACI Matrix

	ROLE 1	ROLE 2	ROLE 3	ROLE 4
TASK 1	R	C	I	A
TASK 2	I	I	R	A
TASK 3	C	R	A	I
TASK 4	A	R	I	
TASK 5	R	A	C	I
TASK 6	C	C	A+R	I

Involvement depends on tasks

Responsible

Accountable

Consulted

Informed

Make explicit what people can expect from whom

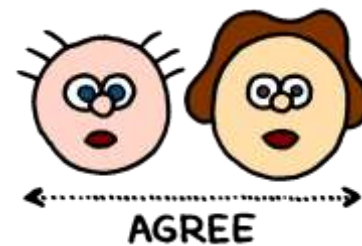
http://en.wikipedia.org/wiki/Responsibility_assignment_matrix

RACI Matrix

	ROLE 1	ROLE 2	ROLE 3	ROLE 4
TASK 1	R	C	I	A
TASK 2	I	I	R	A
TASK 3	C	R	A	I
TASK 4	A	R	I	
TASK 5	R	A	C	I
TASK 6	C	C	A+R	I

However...

Key decision areas are better than tasks, and there should be no separation of accountable versus responsible



The Seven Levels of Authority

We will now **merge** the ideas
behind the previous examples...

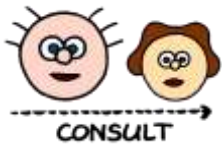
The Seven Levels of Authority



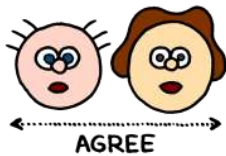
1. **Tell**: make decision as the manager



2. **Sell**: convince people about decision



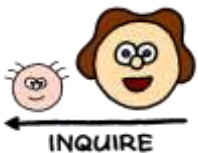
3. **Consult**: get input from team before decision



4. **Agree**: make decision together with team



5. **Advise**: influence decision made by the team



6. **Inquire**: ask feedback after decision by team



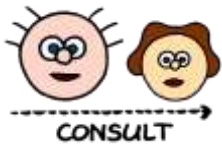
7. **Delegate**: no influence, let team work it out



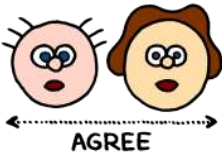
1. Relocate to other office building



2. Replace waterfall with Agile



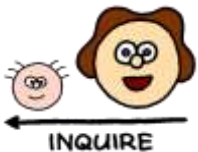
3. Select tool vendors



4. Agile adoption strategy



5. Architectural patterns



6. Design and deployments

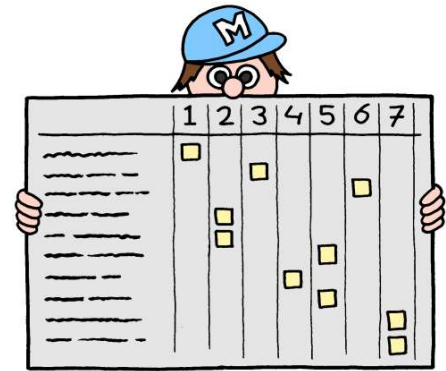


7. Coding and testing

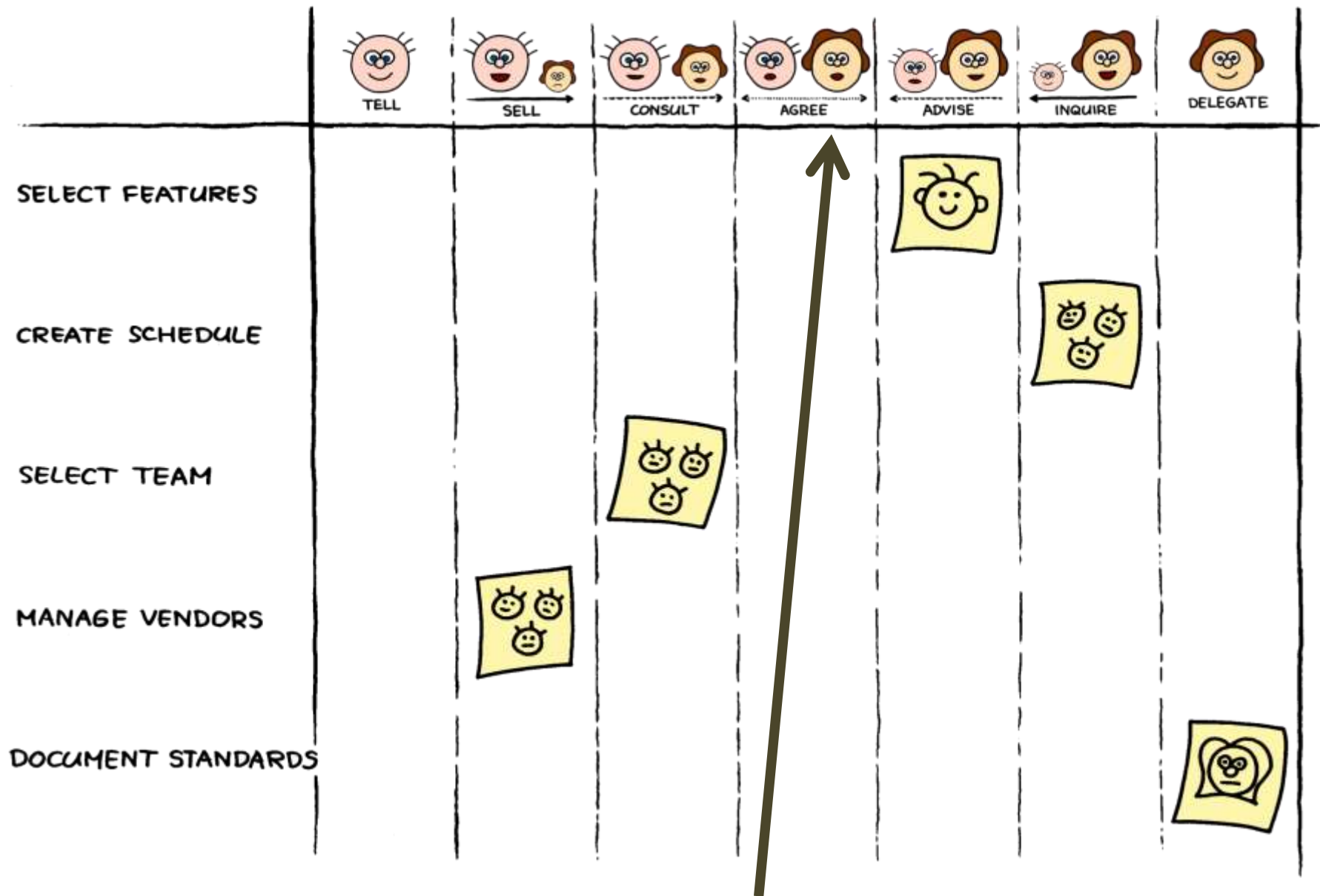
EXAMPLE

The optimal level of authority depends on people's **competence** and the organizational **impact** of decisions

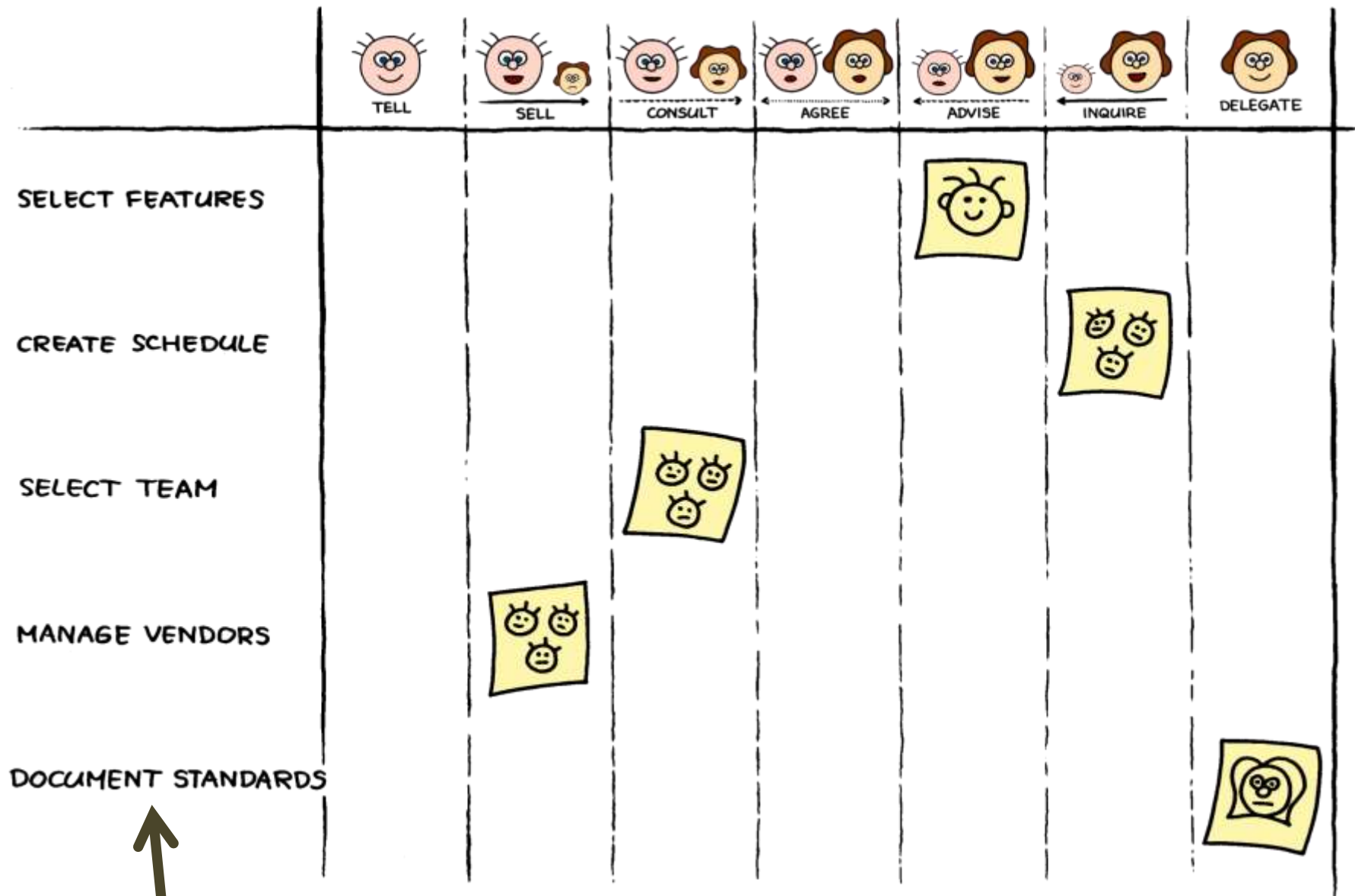




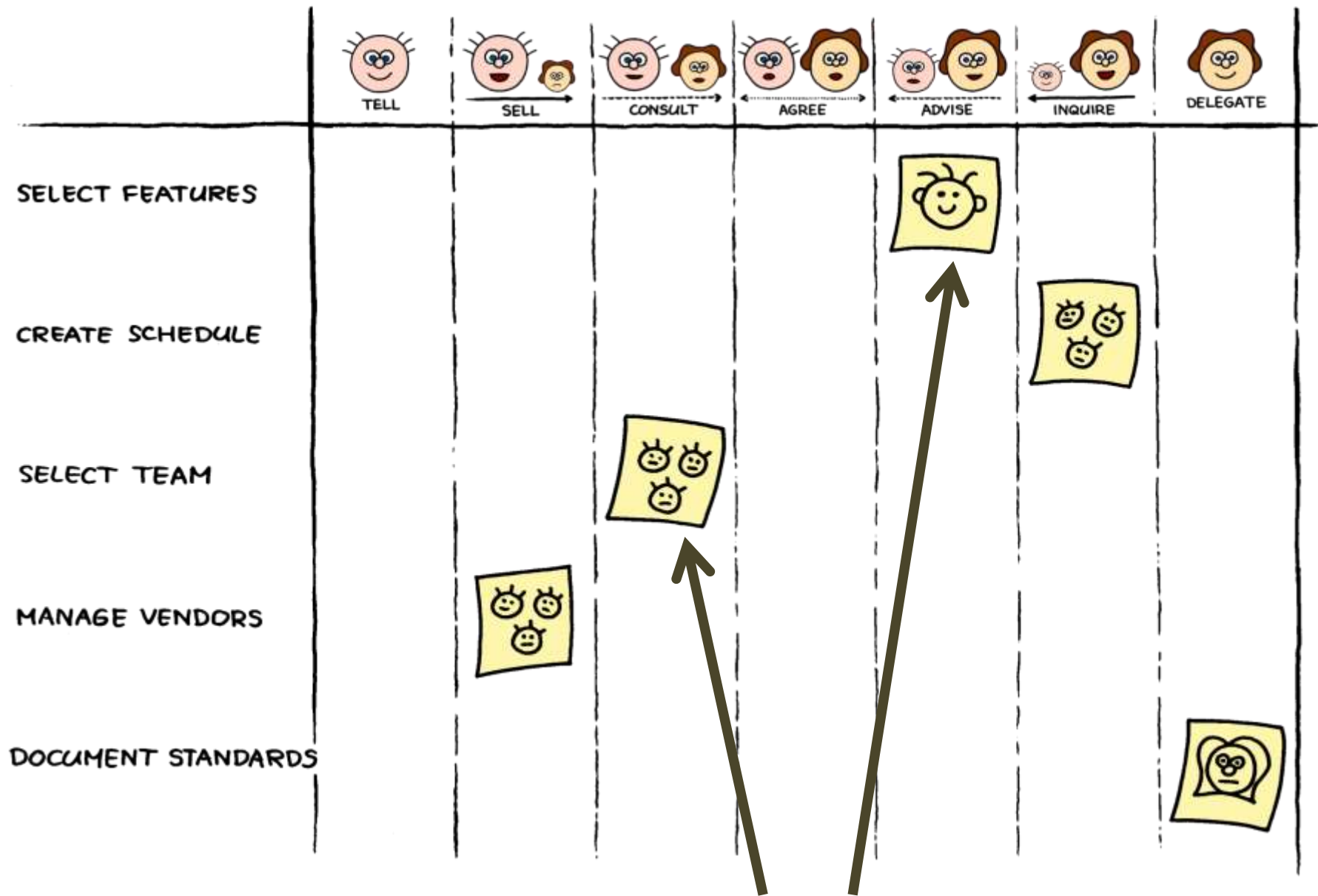
Authority Boards



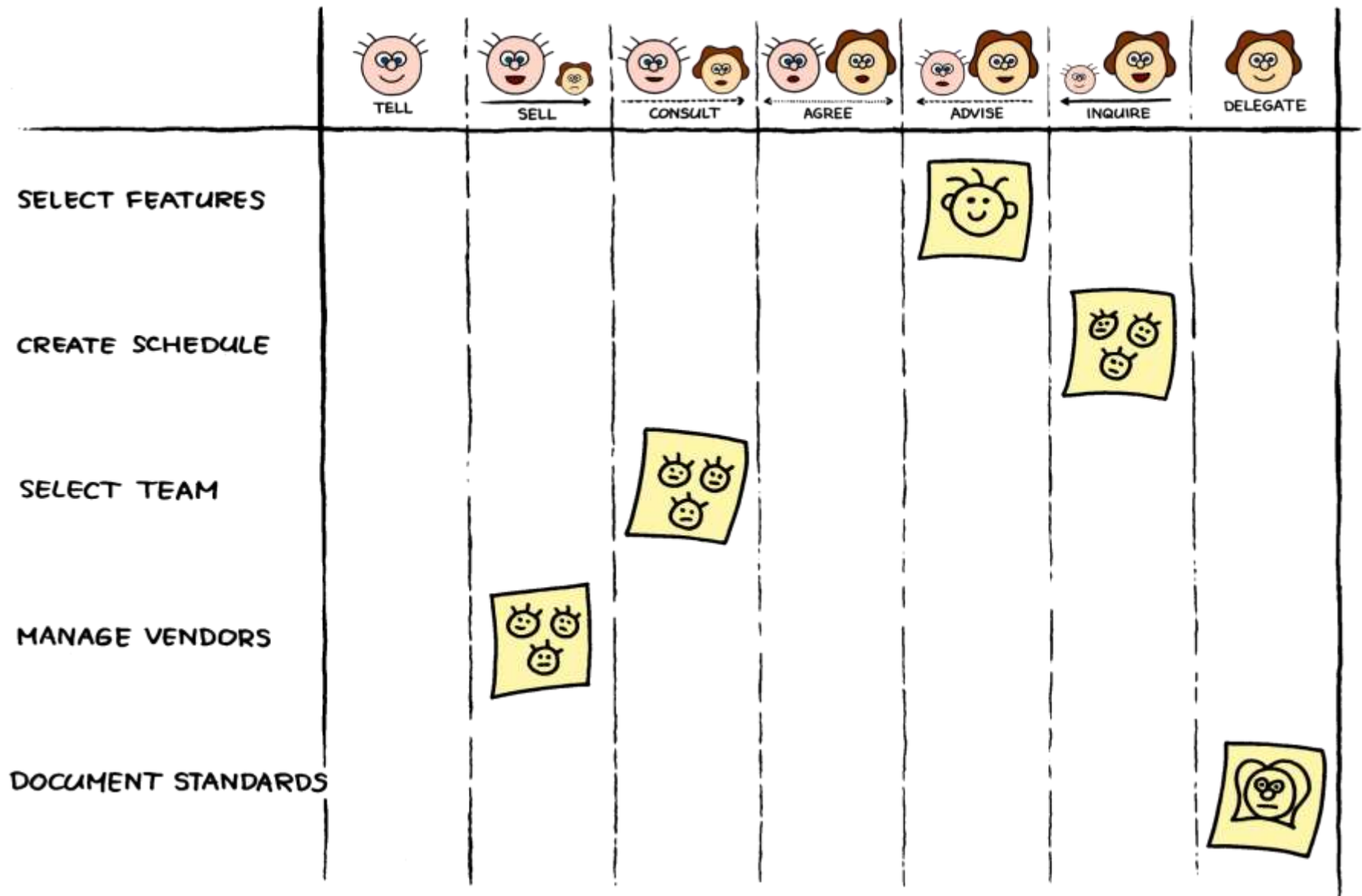
Seven Levels of Authority



Key Decision Areas

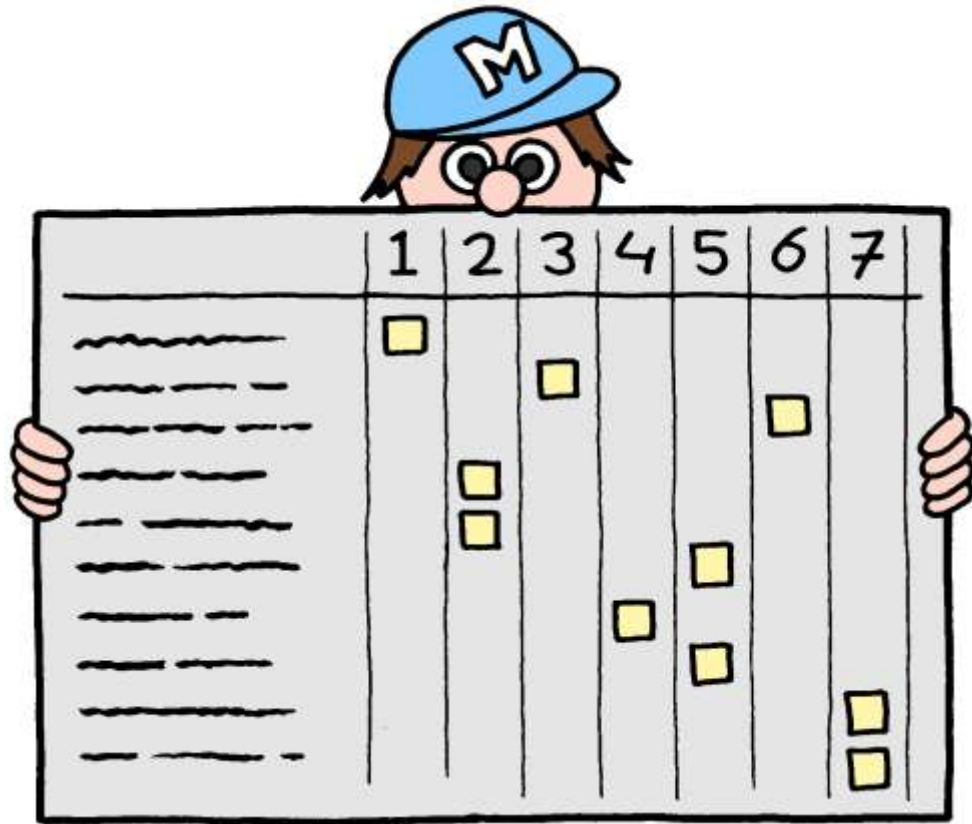


teams or people



flow from left to right

Authority boards are



controlled by the manager

Agenda

Self-organization

Direction

Delegation

Communication



Conclusion

Self-organization is the norm



Management is the special case



Management = governance *and* leadership



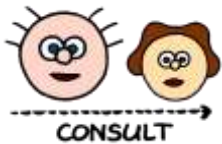
The Seven Levels of Authority



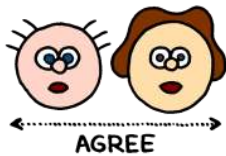
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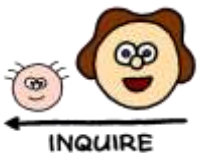
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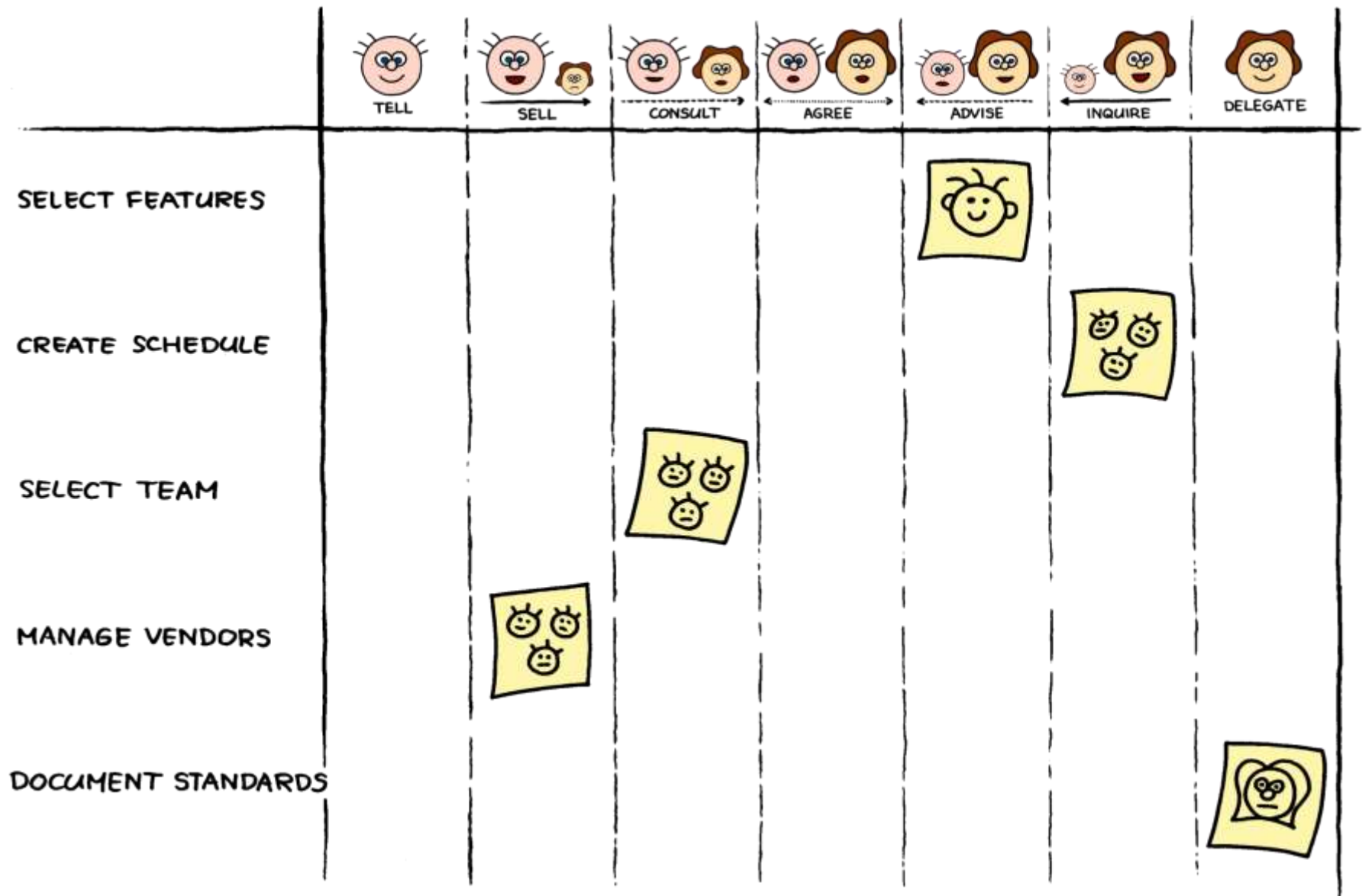
5. **Advise**: influence decision made by the team



6. **Inquire**: ask feedback after decision by team



7. **Delegate**: no influence, let team work it out



flow from left to right

The End





slideshare.net/jurgenappelo



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noop.nl (blog)



jurgenappelo.com (site)



management30.com (book)

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