Lecture 3A : in Australia for the OSDC2014

Thursday, November 6, 2014. Gold Coast Campus Griffith University G03, Australia
Sponsor: City of GOLDCOAST.

What Went Wrong at the NSA?
- brief inprovisation -

30 minutes Q&A

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41 pages

NSA
FBI
GCHQ
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BDS
AIVD

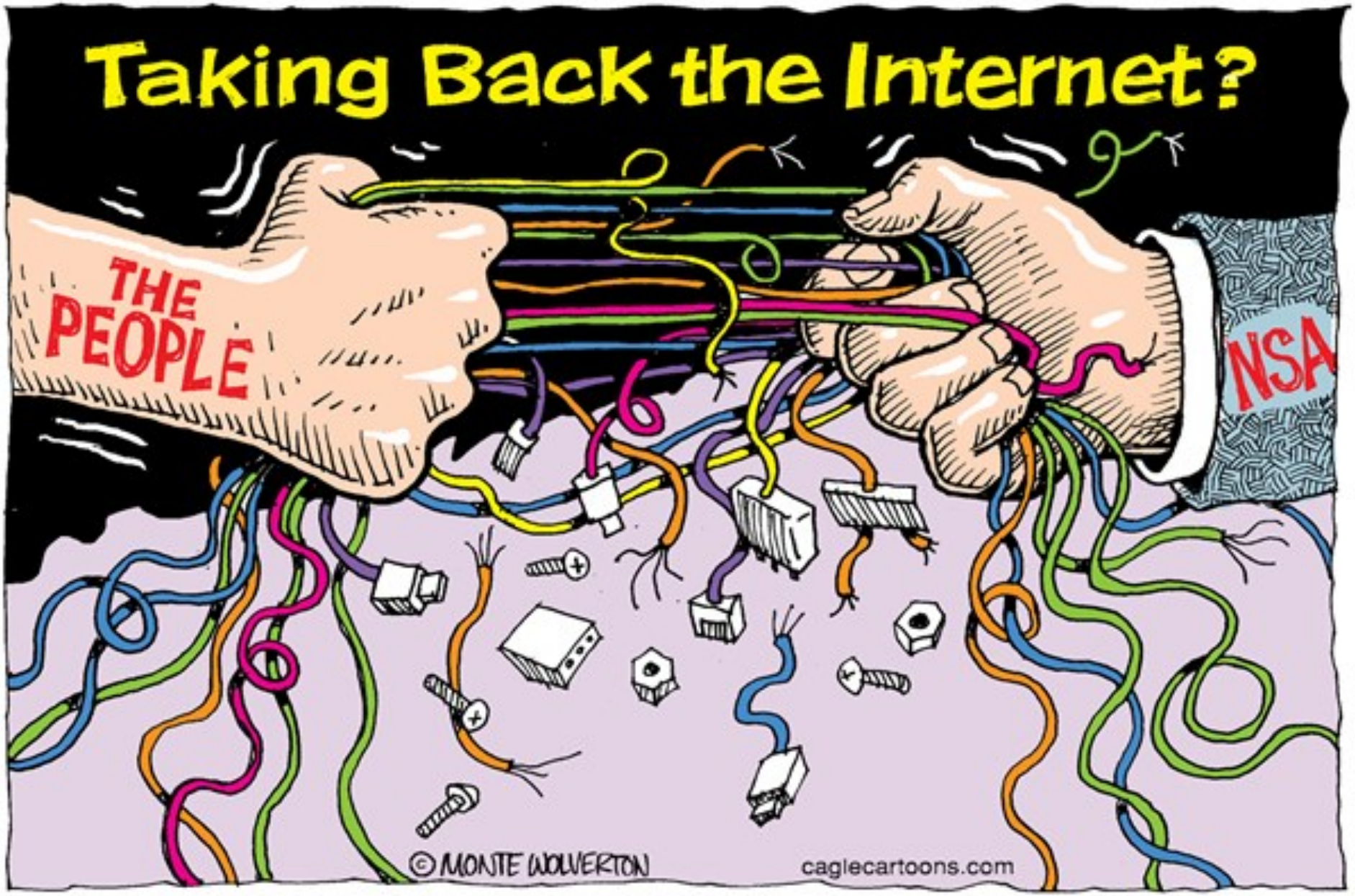
Russians?
Chinese?
French?

Five Eyes

Echelon

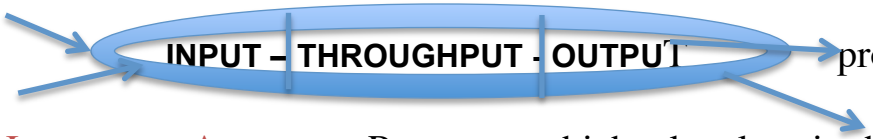
Mass
Unwarranted
Surveillance

Whistleblowers
gave
Internal
WARNINGS
about what
happens
AFTER
the tapping


Taking Back the Internet?
THE PEOPLE
NSA
©MONTE WOLVERTON
caglecartoons.com

2. How have Nature and Evolution solved this problem? The Weave http://wp.me/p2guJP-7x

Living Systems Theory [J.G. Miller, 1978] is a general theory about the existence of ALL living systems that interact with their environment. They exist at 8 "nested" levels of principal components:
(* = examples on next pages)
cell, organ *, organism *, group, **organization***, community, society, and supranational systems.
humans * ?? ?? ?? New LIFE forms ??
The 20 vital subsystems and processes of all living systems arranged by **aggregation/analysis/corr/des-aggr**



processes of energy, matter and information:

Input stage A: sensors Processes which take place in the Systems Input Stage
input transducer: brings information into the system **ingestor:** brings material-energy into the system.

Processes (FUNCTIONS) which take place in the Systems Throughput Stage B information processes:
internal transducer: receives and converts information brought into system **channel and net:**
distributes information throughout the system **decoder:** prepares information for use by the system
timer: maintains the appropriate spatial/temporal relationships
associator: maintain appropriate relationships between information sources **memory:** ??
stores information for system use **decider:** makes decisions about various system operations ??
encoder: converts information to needed and usable form
((material-energy processes: **reproducer: boundary: distributor: producer: m-e storage**: **motor:**
system supporter: provides physical support to the system))

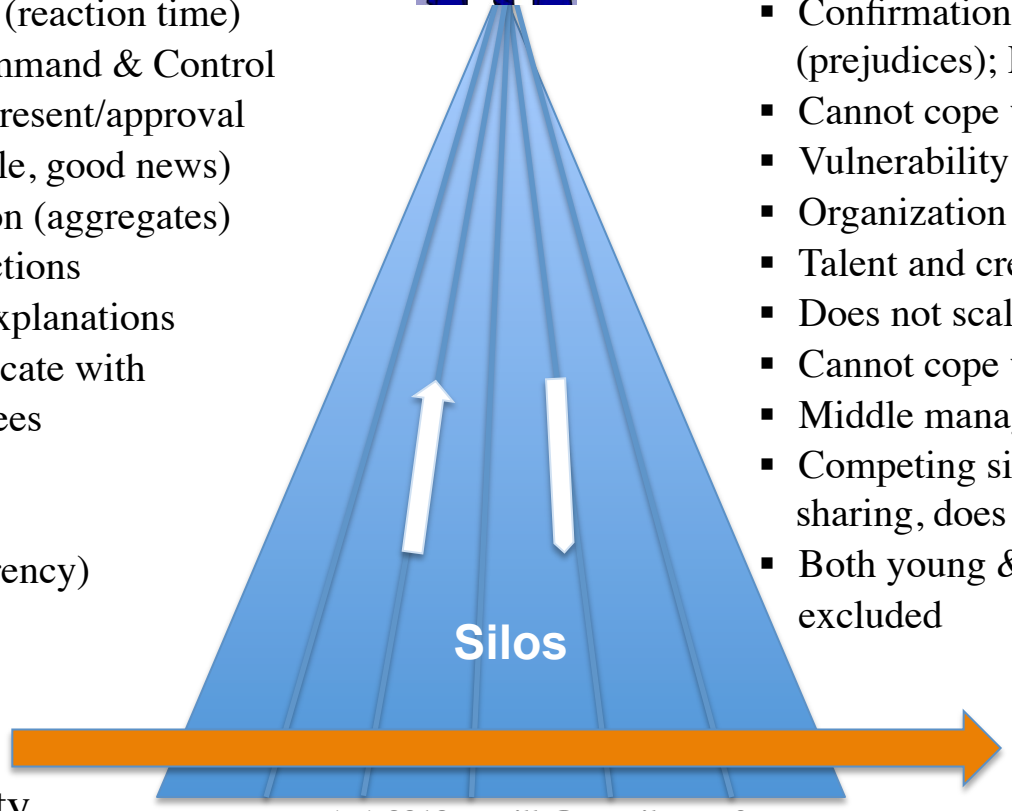
Processes which take place in the Systems Output Stage C **output transducer:** handles
information output of the system extruder**:** handles material-energy discharged by the system, actuators.

1.What is the Problem: the ComplexiTimes of 2013

Old hierarchical organizations can no longer cope. (Napoleons Army) Closed, Simplifications

- Too many levels of management
- Decisions Too slow (reaction time)
- Inward looking Command & Control
- Endless meetings, present/approval
- Filtering (bits, simple, good news)
- Upwards information (aggregates)
- Downwards: instructions
- No overviews, no explanations
- Could not communicate with lower layer employees

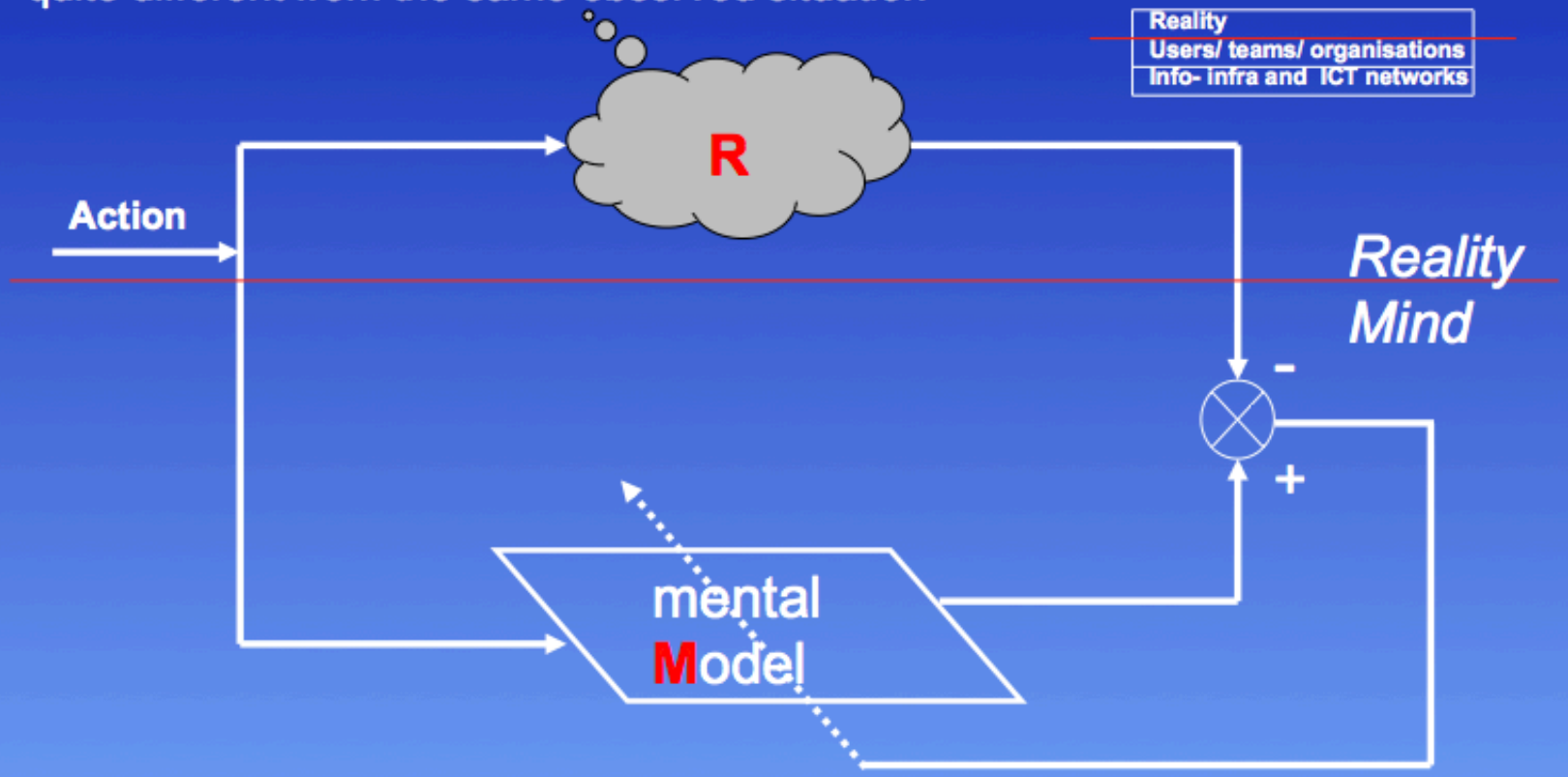
- NOW WE CAN !!
- (networked transparency)



- Central Overview (model) Too simple
- Out of touch with reality (bus. process)
- Confirmation of "working" model only (prejudices); Push R&D → market
- Cannot cope with unexpected surprises
- Vulnerability
- Organization does not Learn, innovate
- Talent and creativity wasted
- Does not scale up well
- Cannot cope with diversity
- Middle management, admin jobs ??
- Competing silos, power struggles, non sharing, does not work.
- Both young & innovative ignored, excluded

What do people/ groups DO ??

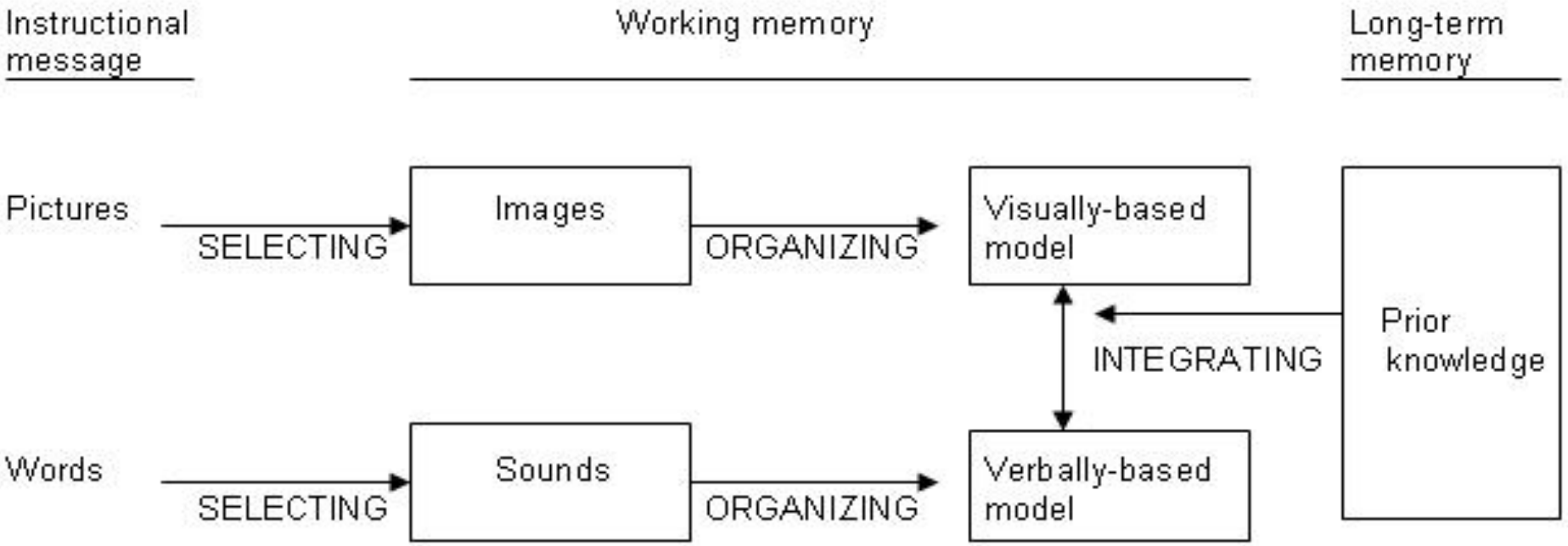
People "see" (perceive, imagine) through a filter / set of prejudices.
Several people can have different filters and therefore see or hear something quite different from the same observed situation



Problems: Groups of people CONFIRM each other, ignore differences M-R, because recipe WORKS
Closed for signals from the outside/ other Ms; danger: adapt the world according to their M.
P1. Arteriosclerosis. Purity (Old Tired) vs (Young Wired and self-empowered)
sudden shift to NEW paradigm and roadmap, sometimes disruptive innovation !
P2: Complexity --> simplification info/ M/ R ? Humble

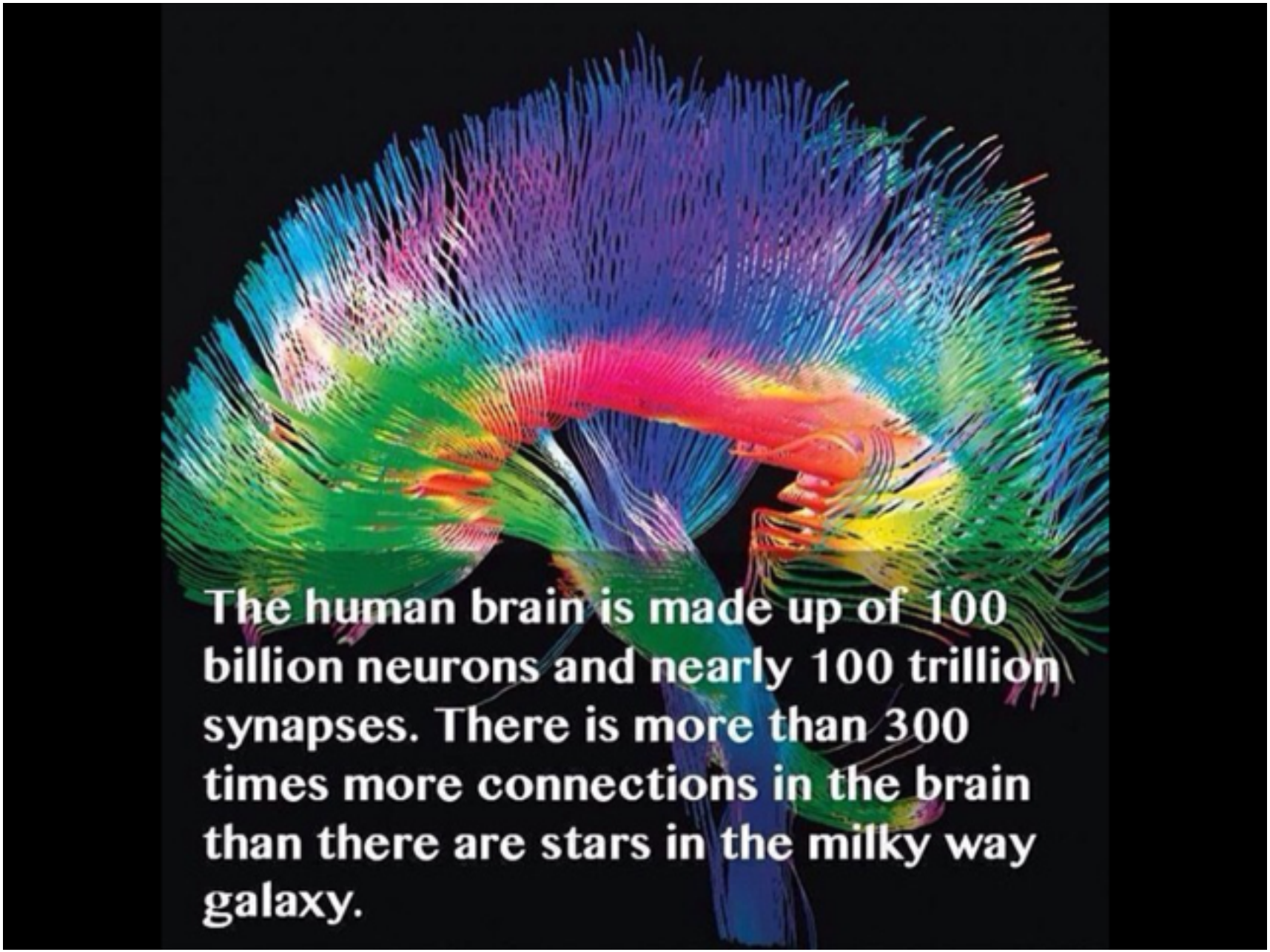
(CC) 2010 vantill gmail

Mayer, R. E. (2001). *Multimedia learning*. New York: Cambridge University Press.
Human BRAIN



Jeff Hawkins and Sandra Blakeslee; "On Intelligence", (2005) http://www.onintelligence.org/about.php
Artificial Intelligence is on wrong track, BRAIN manipulates not info but **Patterns**.

We *look* with our eyes, but *see* with our brain,
We *hear* with our ears, but *listen* with our brain. > understand, feel, know, imagine, act
And other senses: touch, smell
taste…. that combine with them


The human brain is made up of 100 billion neurons and nearly 100 trillion synapses. There is more than 300 times more connections in the brain than there are stars in the milky way galaxy.

The Telescope Metaphor: a better picture for ALL, by Synthesis

Issues:

- Simple
- Linear
- Static

Max. Size.
Does not scale

Issues:

- Complex
- Non linear
- Dynamic

< distance >

Virtual Lens

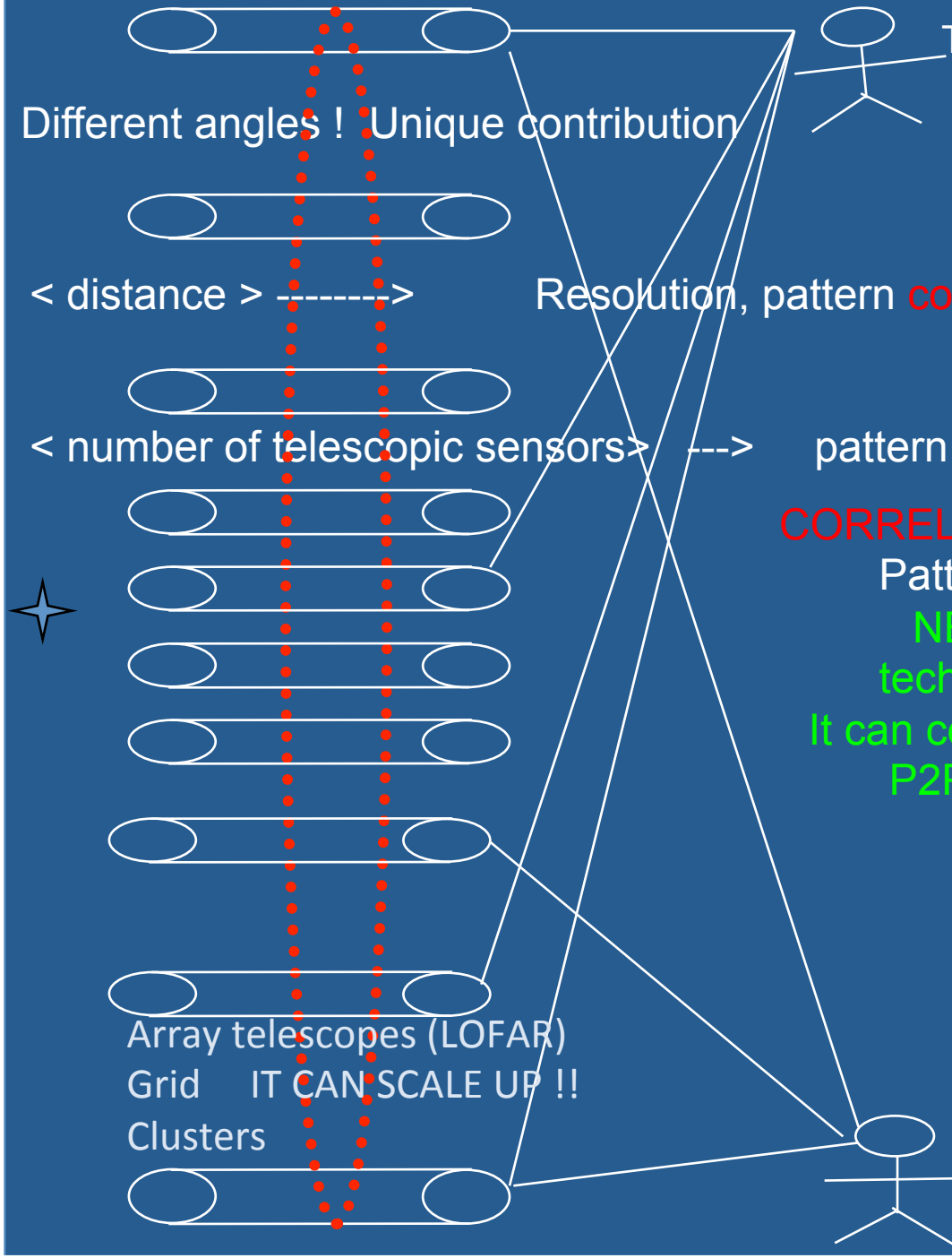
Different angles!

Cooperative can scale !

NETWORK Synergy

How patterns ???????

Earlier publication: http://www.vantill.dds.nl/democracy.html
http://www.vantill.dds.nl/synthecracy.pdf



Different angles ! Unique contribution

< distance > -------->

< number of telescopic sensors> --->

Array telescopes (LOFAR)
Grid IT CAN SCALE UP !!
Clusters

The Telescope Metaphor: a better picture for ALL by network sharing of contributions on Internet, social networks

Resolution, pattern contrast

pattern definition HDR

CORRELATION N factorial Combinations

Pattern Recognition and matching

NETWORK "Network Lenses" ??

technology and groups of humans

It can coordinate, inform, self organize

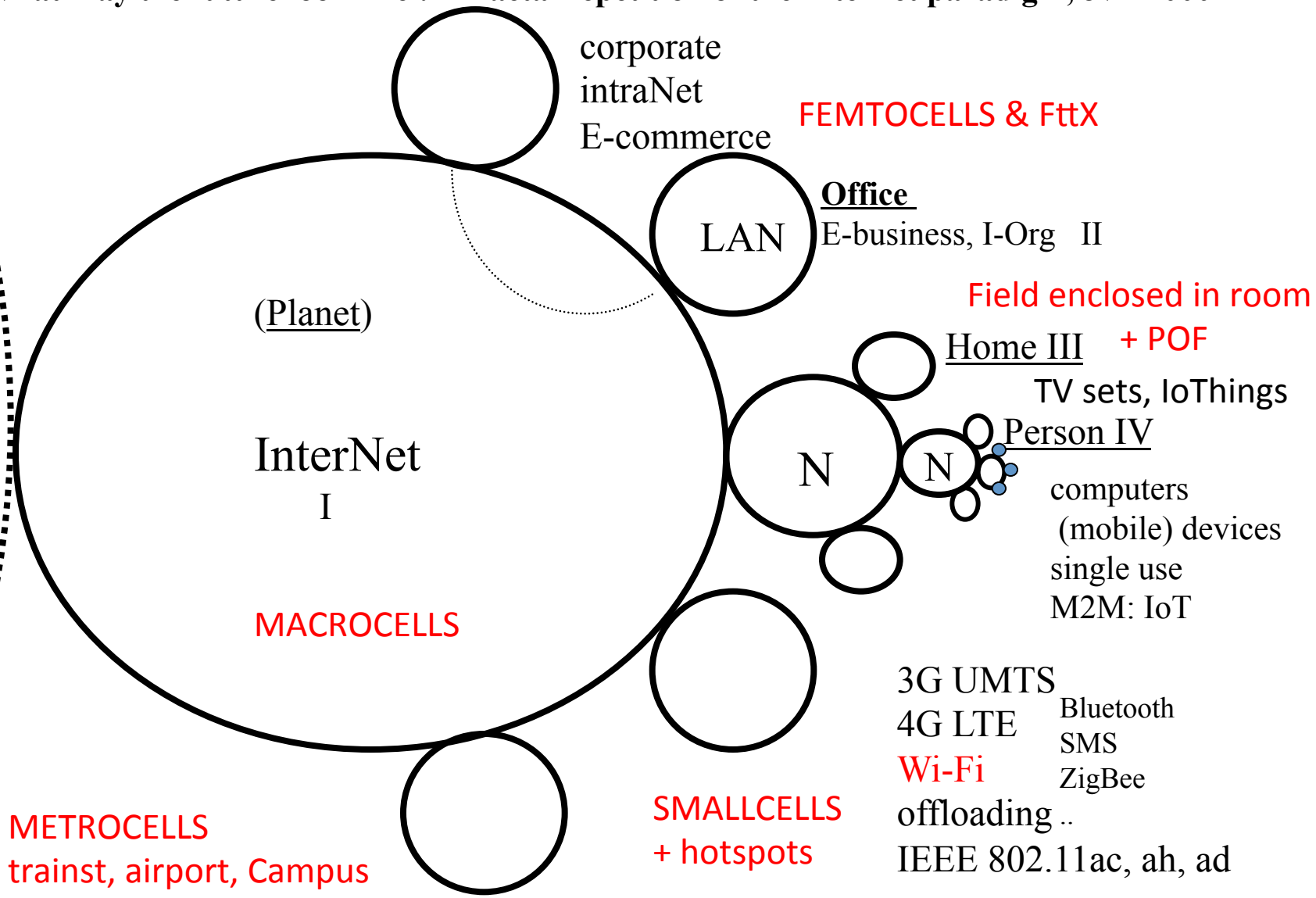
P2P collaboration, creating value

Collective intelligence ??

HDR = High Dynamic Range in image

Diversity of circumstances and scales + interconnected (next: The Internet of Things)
[Internet, + energy + goods] as a lifeform: “The Weave” MODEL(weavelets are fractal too)

What may the future look like : Fractal repetition of the Internet paradigm, JvT 2000



The Trias Internetica: clustering of roles in the NetTech Age [van Till 1988, version Aug 6 2010

aka the Trias Telematica]

(unipolar extreme: selfcentered, intolerance, isolation)

CIVIL SOCIETY empowered *Civilians*

volunteers

Freedom of Choice, user commons
microtransactions<Douglass North>
virtual communities <Maslov ++>
distant friend links, P2P, complexity
horizontal value chains, share flock
Synthesis > Synergy, distr. models
*open source softw. dev. contribu
* ISOC IETF, organic growth
* mashups, self org. swarms

The power of ideas and know how shared in COMMONS with fast learning

(unipolar extreme: bureacratic vertical hierarchy controlaholicism)

Synthecracy

Reliability and **Equality** in treatment by Law

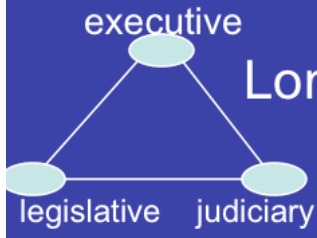
MKT Businesses Enterprises

The power of position

The power of EBITDA

Risk/ Reward vent.
Partnerships
Brotherhoods

(unipolar extreme: dominant monopolies)



[Separation of State Powers (Montesquieu)]

Long time- general interest of public

STATE *Governments*

Institutions


iPad
02:02
97%
Momenten
1 van 1
Wijzig
DON'T SHOOT!
MEDIA
FPD
U.S.POLICE

Tesa Arcilla @TesaArcilla · 13m

Phones in the air, chanting "CY Leung, step down!" #OccupyCentral #hk929 pic.twitter.com/cORcEX8oGj

Emergent behaviour: Flocks, Swarms, Schools of fish.
Teams in Fast Learning people in P2P Cooperation !!!
>>>>>COLLECTIVE INTELLIGENCE with DISTRIBUTED AUTHORITY

- OPEN for wide diversity. for sudden changes, unexpected surprises : LERNEN
- ORTHOGONALISE, extract "orthogonals" from the Chaos, which are agnostic to other layers/ parameters/ infrastructures/ Examples: containers, IP datapackets.
  This allows and absorbs changes in complex ecosystems.
- Correlate and match. Social Networking! Match with learned patterns.
- And interconnect Tribes (clusters with strong ties) by "weak link" super networkers and LERNgroups (same Karass) who have trusted contributors & credibility in many tribes. These links create stability and synergy.
  This is what happens in Twitter, by Bloggers, G+ lacks this?
- Remove obstacles in complex, non lin, dynamic systems (Liebig Law)
- Maintain freedom to explore, experiment, express and create
- Form FAST LEARNING problem solving Teams with a P2P Commons
  in which the best people with unique and proven skills, crafts and knowledge
  (the Orthogonals) contribute, cooperate and learn together : WEAVELETS

- Smart Connected Cities (Richard Florida statistics about the Creative Class), including 21 subsystems (energy, food, etc) for Life Support [James Grier Miller] ; HK !?
- Next step: strings of interconnected City Area's including trade routes: Cascadia, Corridoria and then PlanetBrain.org

What happens at the Transformed Plane?

- All of the information is available there (halfway the Weavelet) to make spatial (3D) models, for handling Depth and Proportions, and temporal (time: 4D) models of movements etc. to act upon.
- The patterns are distributed, stored and manipulated all over the Weavelet by multiple feedback loops in contact with the ecology around it. So collective and individual decisions and actions can be taken.

  Physical evidence: In optics halfway behind the lens there is the FFT Transform plane. The image is fuzzy there, while on the Focal plane it is sharp. Jumping spiders have 4 distinct photoreceptor layers in their eyes, they can judge distance to jump by processing the difference between defocused and focused layers. http://www.livescience.com/18143-jumping-spider-unique-vision.html

New Organizational Paradigm : The FRACTAL Structure of a Weavelet

Yes, it can scale up, self organize. Fast parallel pattern recognition (incomplete matching) Orthogonalisation. Correlation with learned patterns.

Pluriform
Diverse

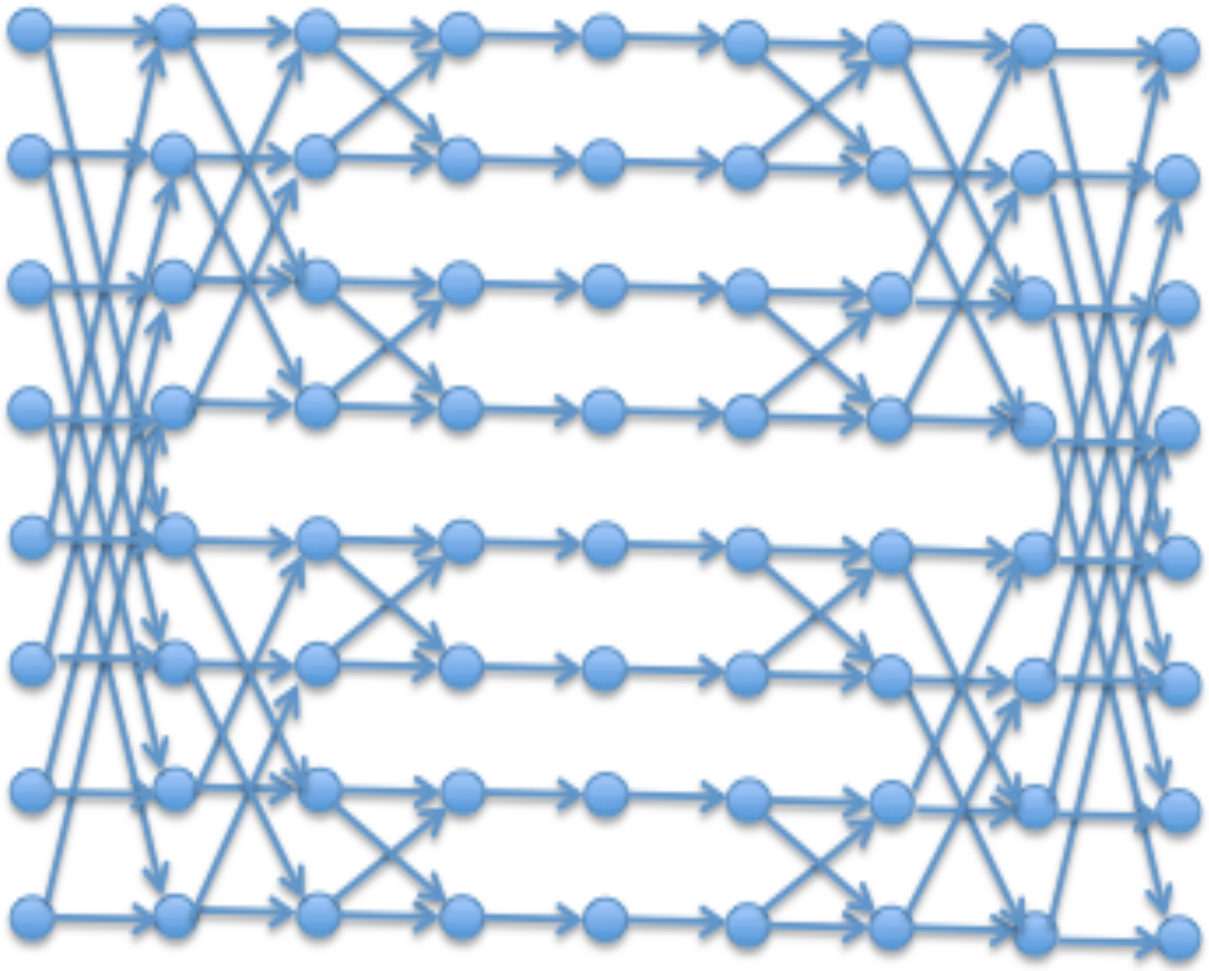
DISTRIBUTED
Transparent
Everybody
can see
everything

P2P
Connectivity
OPEN
Synthesis
Value creation

Synergy
Innovation

Very resilient

Contributions
Fractal unfolding repetition



Distributed:
Every
Karass can:
recommend,
confirm,
verify AND
notice
significant
differences
decide, act,
combine,
mix, create
bend light,
zoom in,
focus, has
overview,
feed back

Functions
as ONE
organism

Group Collective Intelligence based on Cooley-Tuckey connections)
Distributed authority, can cope with Complexity and react fast.

Examples of Successful Working Constructive Weavelets <Fiduciary trust & the Best Cratfswomen/men !>

- Flashmobs
- Bitcoin
- Collection and aggregation of pictures and videos after Boston Bombing
- Wikipedia, Google, Facebook, Twitter, InstaGram, Alibaba
- AmberAlertNederland.nl
- Self organizing Phyles, commons and cooperatives (see P2PFoundation.net)
- New Education: MOOC's, "learning in the digital age". Connectivism by George Siemens and Stephen Downes (connecting the dots) see: Susan Bainbridge
- Cascadia, Corridoria
- Singularity.U University ventures, exponential enterprises
- The Maker Movement (3D printers lasercutters, crafsmen, schoolchildren)
- BuurtZorgNederland.com
- AmsterdamSmartCity.com

- " The Responsive City" –Engaging Communities Through Data Smart Governance- Stephen Goldsmith and Susan Crawford (just out)

- Next Century Cities Launch Event (Oct 2014) Local Californian city govts that have built their own Next Generation Networks (Optical Fiber infra FttH). 3 hour video on Youtube

What do they have in common: nearly no hierachy, so without many layers of management

Are groups of people learning and creating in Weavelets / P2P Phyles our next evolutionary step?

Or will huge clusters of fast evolving bacteria and/ or viruses outpace our medical R&D ?

We should learn from Nature !!!

- Flocks of birds, they look together outside the flock !!
- Complex ecologies, link to DNA for storage and replication of learned lessons?
- Evolutionary dynamics (Prof Martin A. Nowak: Supercooperators)

- How the brain may work, including within neurons and synapses : Weavelets??

- Experiment with new networked P2P enterprise organization structures, like Holacracy, where value and jobs are created
- Experiment with new structures for Smart Connected Cities (book Susan Crawford)
- Connect farms and small rural with optical fibers too

- Design and introduce new viral Social Media where people can flock and cooperate

SUDDEN FLOW of Lightning https://www.youtube.com/watch?v=JVXy-ZqqZ-g

The Global Brain Metaphore

- Will our Planet become conscious in about 2020?
- Peter Russell described that for each evolutionary leap more than 10 ^ 10 (10 Bln) must be present and interconnected
- Human foetus: first few months: braincells replicate by many millions each day. Up to around 100 billion.
- After x months suddenly the neurons start to make axons, near and far, and synapse connections.
- After birth the baby starts to learn fast and becomes conscious and communicates with parents and fits to environment. Learning curves start.

- There are now about 7 billion people on this planet, of which 6.5 have cellphone connections and about 3.5 billion have smartphones and Internet connectivity. Is baby Gaia already kicking when young people flock ??

Are we engineers wiring Mother Gaia's future Global Brain and will she wake up? I hope to be still present when she does, around 2020?

Mobile phones + internet access + Internet of Things = >> 10 ^ 10 !!