

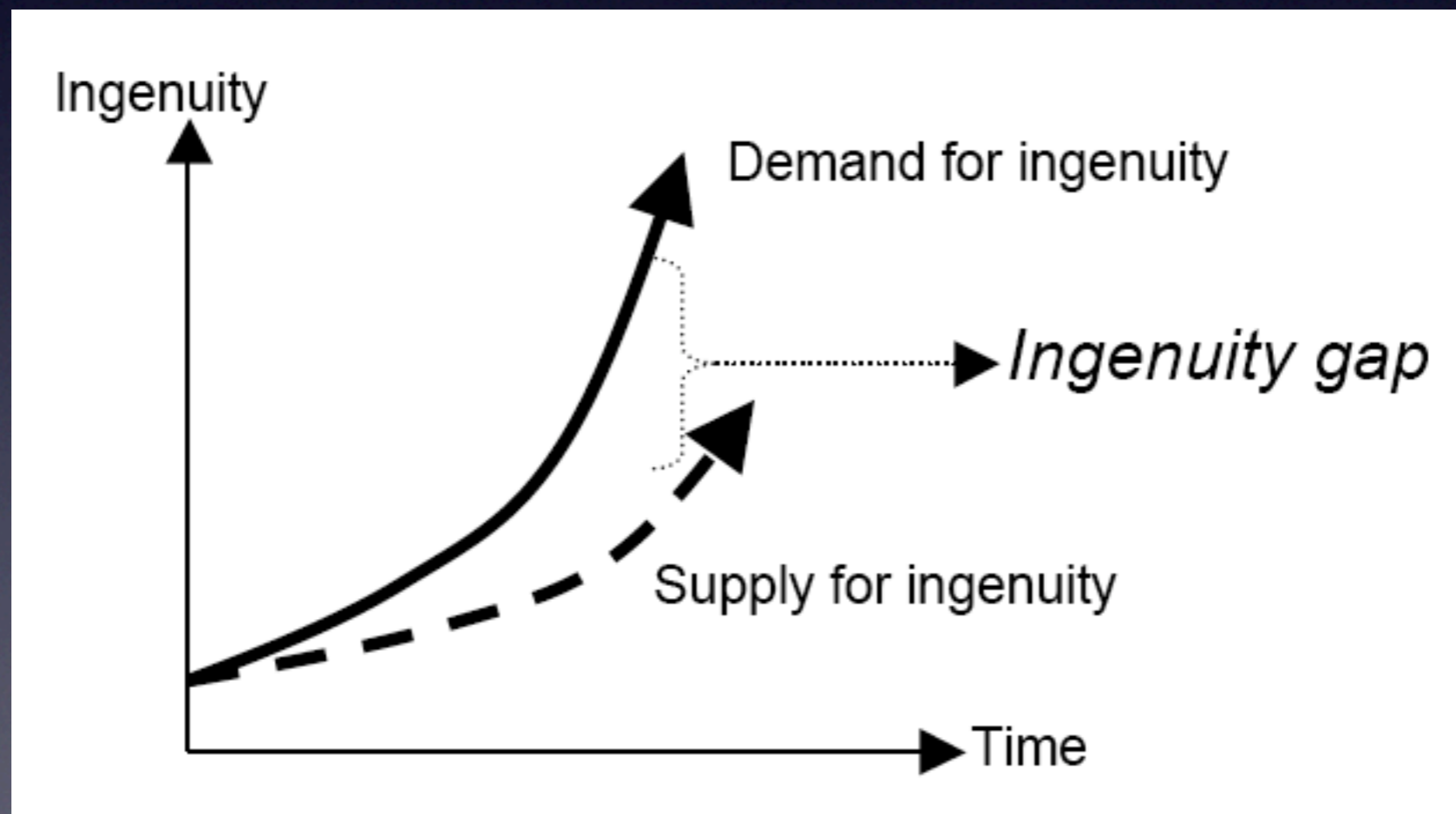
Collective Intelligence

Global problem solving and self-organization...

Sunit Shrestha

Why we need collective intelligence?

The ingenuity gap;
complexity drives challenges at exponential speed



C.I. definition

... is an intelligence that emerges from the collaboration and competition of many individuals (*agents*), an intelligence that seemingly has a mind of its own.

[wikipedia.org](https://en.wikipedia.org)

MIT's CI center

more IT oriented...

“How can people and computers be connected so that—collectively—they act more intelligently than any individuals, groups, or computers have ever done?”
before?’

George Por's humanist definition

"the capacity of human communities to evolve towards higher order complexity and harmony, through such innovation mechanisms as differentiation and integration, competition and collaboration. "

In short...

How $1 + 1 + 1 > 3$?

or

Synergy in group's
collective problem solving

if we are all fairly
stupid, how can we act
smart collectively?



Ants colony

- Queen is not the central commander, in fact, no commander at all.
- Each ant is relatively stupid, simple rule of behavior.
- Yet adaptive to rapid changes. From fighting to finding & storing food
- Rely on feedbacks such as pheromone



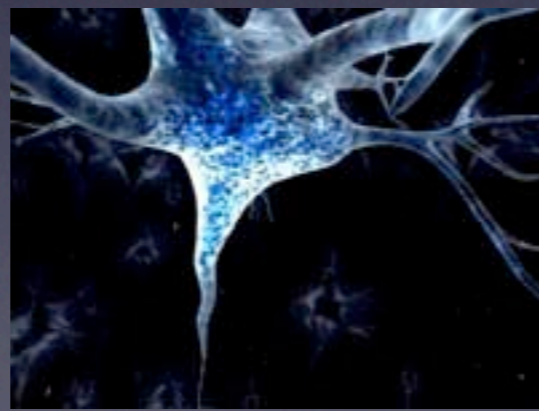
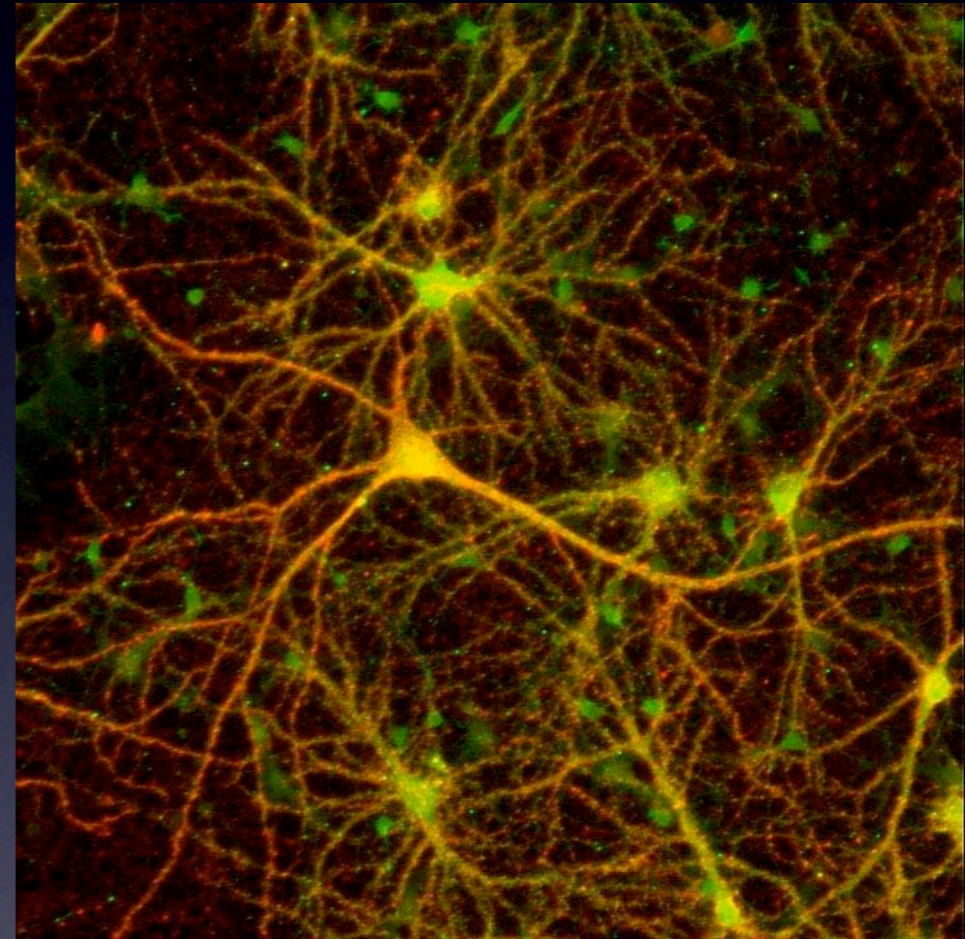
So as Bees Hive



So as urban development



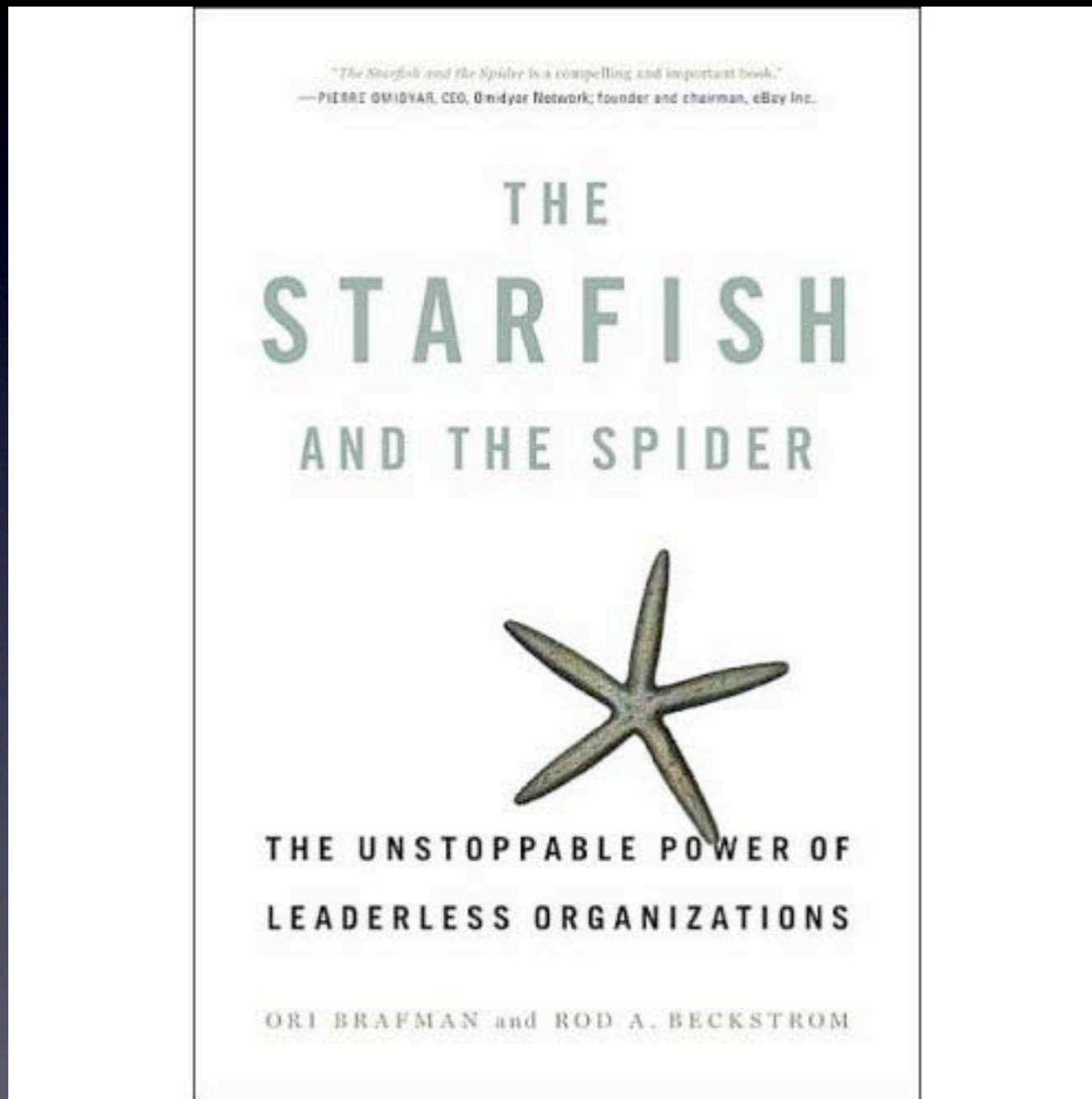
The Brain and Neural network



SimCity / SimLife



Starfish & Spider



- Aztec, Inca, Apache & the Spanish
- Linux
- AA

Global data connection & resource mobilization in nature a.k.a global brain

- Bacteria creative net in precambrian era
- Eukaryotes early nervous system
- Embryonic memes
- Socio-evolution and the global brain

Global Brain

- Systems as collective learning machine
- Key conditions
 - Conformity enforcers
 - Diversity generators
 - Inner-judge / local feedback
 - Resource shifters
 - Intergroup tournament

Type of C.I.

