

Extending the Human Mind

Prof. Dr. Edy Portmann

<http://portmann.iwi.unibe.ch/>
edy.portmann@iwi.unibe.ch

Deus Ex Machina?!



On our menu today:

1. Are we on the way towards a singularity?
2. About the Human-Machine-Symbiosis.
3. Cognitive Computing for Smart Cities.
4. Your questions, my answers.

06.07.2017

Edy Portmann

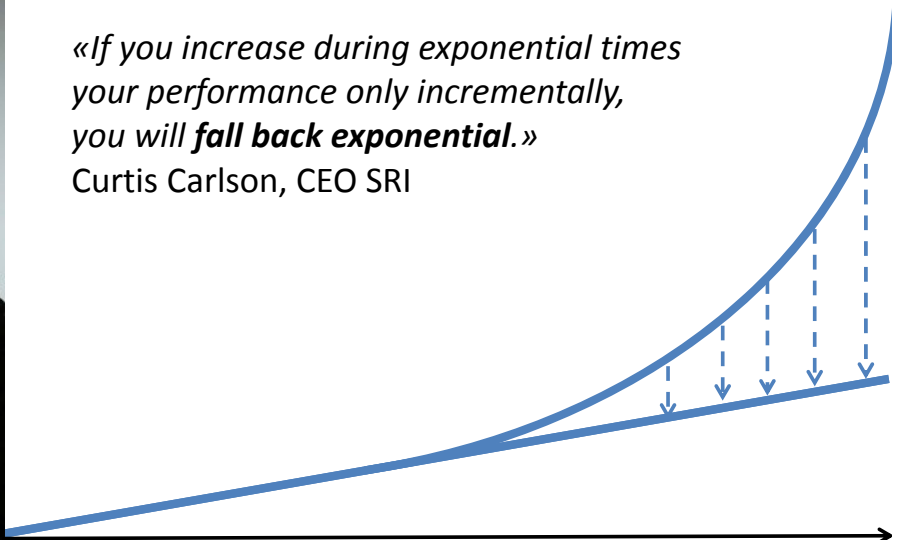
3

We live in exponential times



*«If you increase during exponential times your performance only incrementally, you will **fall back exponential.**»*

Curtis Carlson, CEO SRI



06.07.2017

Edy Portmann

4

Wasn't this here before?



*«As the Liberty lads o'er the sea
Bought their freedom, and cheaply, with blood,
So we, boys, we
Will die fighting, or live free,
And down with all kings but King Ludd!
When the web that we weave is complete,
And the shuttle exchanged for the sword,
We will fling the winding-sheet
O'er the despot at our feet,
And dye it deep in the gore he has pour'd.
Though black as his heart its hue,
Since his veins are corrupted to mud,
Yet this is the dew
Which the tree shall renew
Of Liberty, planted by Ludd!»*

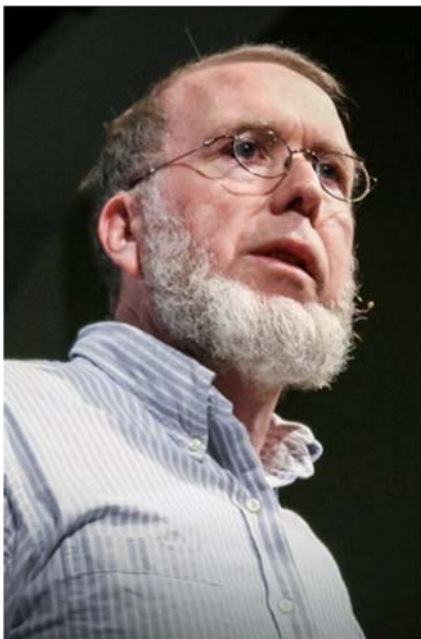
Lord Byron, britischer Dichter, Vater von Adda Lovelace

06.07.2017

Edy Portmann

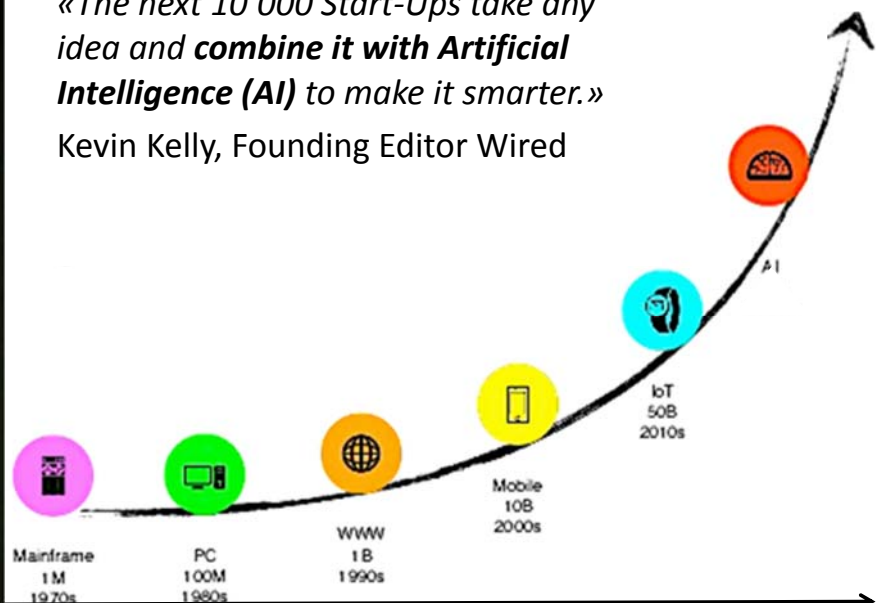
5

Towards a Singularity?



*«The next 10'000 Start-Ups take any
idea and **combine it with Artificial
Intelligence (AI)** to make it smarter.»*

Kevin Kelly, Founding Editor Wired



06.07.2017

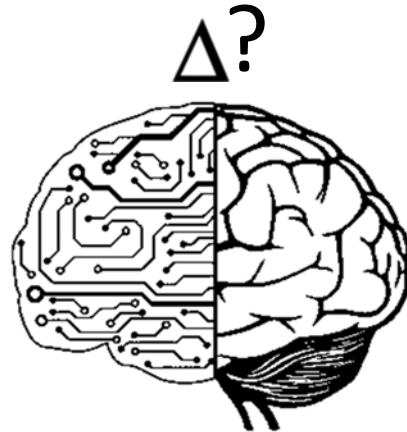
Edy Portmann

6

Biological vs. Artificial Intelligence



«Machines take me with surprise.»
Alan Turing, Mathematician



06.07.2017

Edy Portmann

7

Collective Intelligence and Connectivism



«How can people and computers be connected so that—collectively—they act more intelligently than any person, group, or computer has ever done before?» Tom Malone, MIT



«Connectivism is a learn and **cognition theory for the 21st century**» George Siemens, Cognition researcher

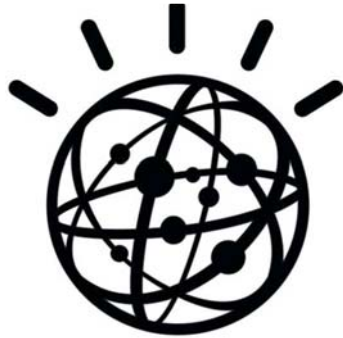
06.07.2017

Edy Portmann

8

What is Cognitive Computing?

«**Cognitive computing** is the simulation of human thought processes in a computerized model. **Cognitive computing** involves self-learning systems that use data mining, pattern recognition and natural language processing to mimic the way the human brain works..» Virginia Marie Rometty, CEO IBM



06.07.2017

Edy Portmann

9

How do these systems work?

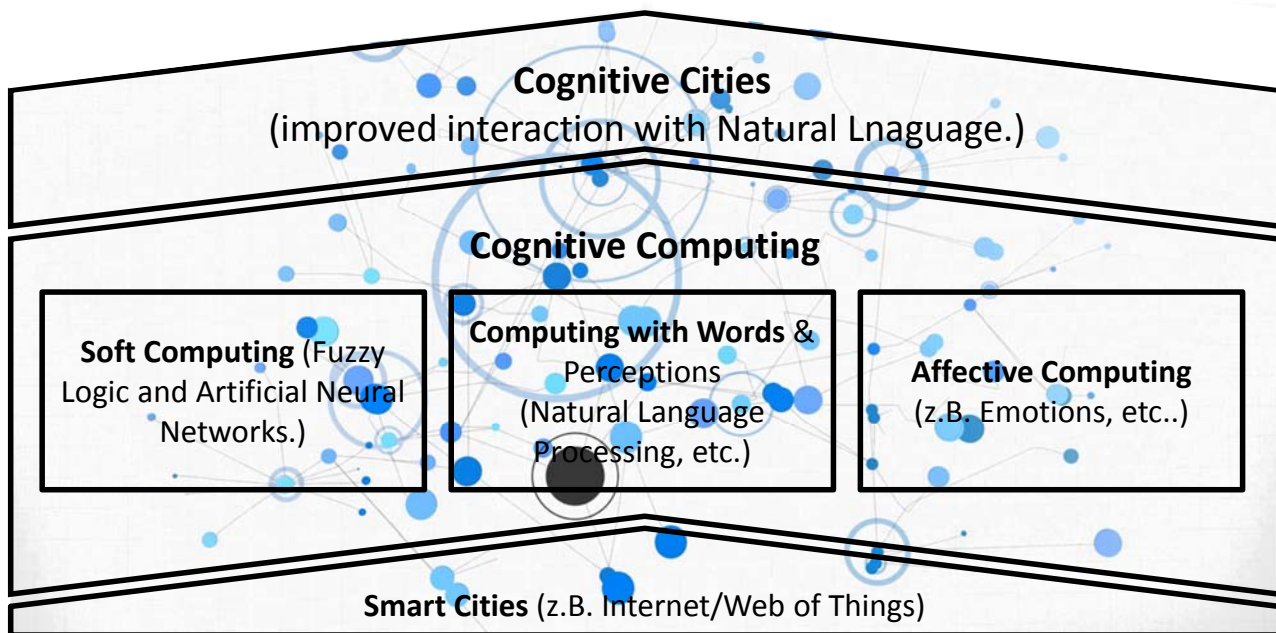


06.07.2017

Edy Portmann

10

Application: from Smart to Cognitive Cities



06.07.2017

Edy Portmann

11

A few wise words at the end

«It doesn't matter to predict the future, it matters to be prepared for the future..» – Perikles



06.07.2017

Edy Portmann

12

Many thanks!

