

# The biology of complexity

“Individual wellbeing is based on the individuals functioning in taking advantage in their own life. It is about where it leads to, not what means it takes. On the other hand: Economic rationality has to do with the choice of means, not ends. This calls for a new rationality.”

*Amartya Kumar Sen (Economist)*

“The trouble is, we don’t have a unified, conceptual framework for addressing questions of complexity [....]”

“Big data without a big theory to go with it loses much of its potency”.

“The field is in the midst of a broad synthesis of scientific disciplines, helping reverse the trend toward fragmentation and specialization, and is groping toward a more unified, holistic framework for tackling society’s big questions.”

*(Geoffrey West, professor at Santa Fe Institute and chair of the World Economic Forum’s Global Agenda Council on Complex Systems, in Scientific American, May 2013, p.7)*

## The biology of complexity

Human behaviour is at least partly responsible for the complexity of this world and for the complex challenges arising from that.

Somewhere in the last centuries in the economical and technological driven parts of the world we lost the connection between the development of our nature and systems and the human behavioural side of this development. *(Other societies, still living in close conjunction with the earth and nature, or at least with the human nature, still know how to value the human effects on social development and on the environment.)*

Including the human biology factor in development approaches, either in development plans, in development methods or in a descriptive way, could reinstall this connection, making complexities bearable, maybe even enabling us to handle it.

But decomplexing our systems and our environment and ourselves at least in the way we engage them, is probably the way to defy complexities.

## The biology of complexity

### Biology of complexity:

The complexities that we produce are reflections of ourselves and most often stem from the relations between ourselves and between us and the universe we are part of.

Therefore if we understand what drives our biology, individually and in communities of different scale, we are able to understand the parameters for complexity and eventually learn how **'we are the complexity we produce'**. Only then we will discover that we can reorder complexity from our own biology.

....so the **biology of complexity is human biology, and especially the behavioural side of it. It is the science that describes what drives human behaviour and human interaction.** It incorporates human cognition, psychology, social science and some elements of life sciences, like aging, talent development, creativity and health.

## The biology of complexity: biology of change

### Biology of change:

Change is most of the times planned with high expectations, but concludes most of the time as an autonomous organic process only to be claimed by many competitors. However this 'autonomous organic change process' is in fact a human affair that we made together, either consciously or not. It is our own individual biology and shared group biology that can be addressed to create the change at the time we want.

## The biology of complexity: biology of innovation

Key to innovation is seeing things that don't yet exist and their place in the universe.

### **Biology of innovation:**

Talking about innovation we just entered the notion of the innovation ecosystems. Though in that notion the role of human talents and co-creation are entering the 'human' influence in systems theory, there is still no integration of human and societal biology in this approach. A concept of how to address this human factor, other than by using the old social science mechanisms as education and sociology of organization, is missing.

The biology of innovation puts the factors of human drive and development into an equation that delivers a frame for 'innovation culture', those intra and inter human connections and behaviour that produces innovations.

## The Core: How to include human biology in societal transition

**INCLUSIVE GROWTH** means **LINKING THE ENERGY OF EVERY CITIZEN**

*Giving back the power of conscious action to citizens.  
Thus enabling them to get in control of their life and connected  
to a society and ecosystem they can really associate with.  
.....just to create a better world together.*

## Between complexity and wellbeing: it is about what we perceive

1<sup>st</sup> there is the complexity 'as it is'

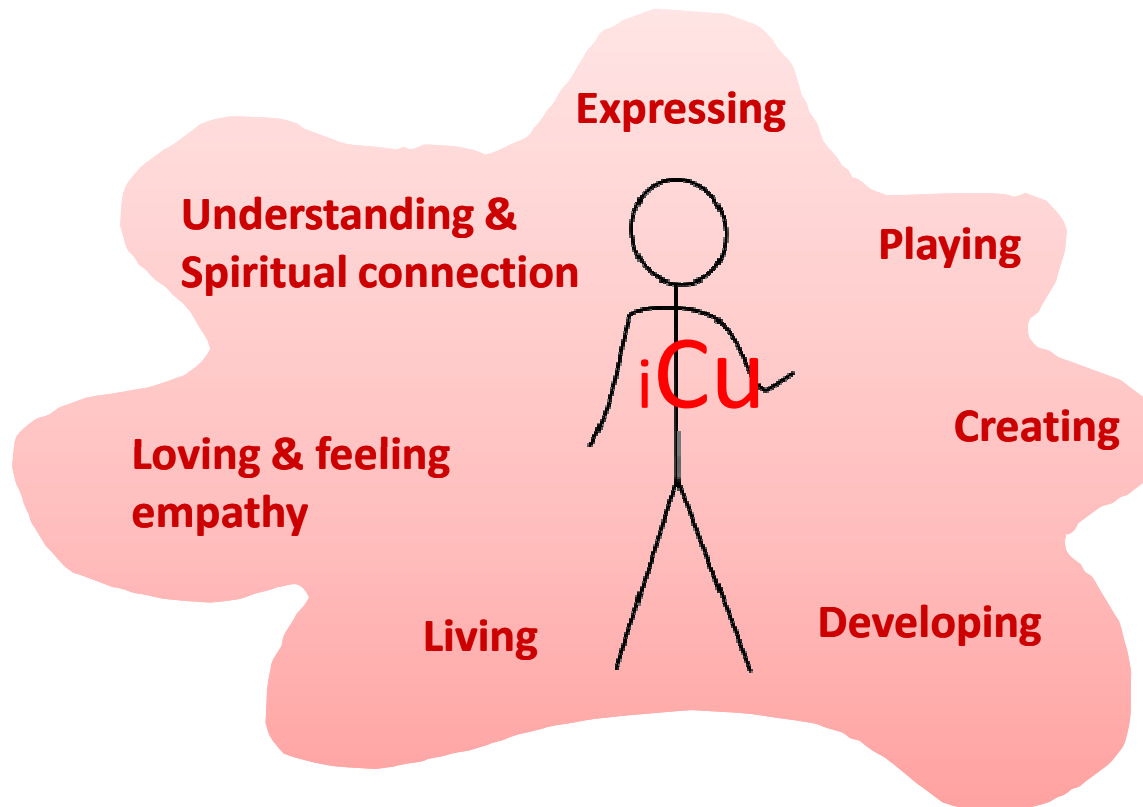
2<sup>nd</sup> there is a level to be chosen as 'a reasonable state of complexity that allows most of us to develop ourselves upon'

3<sup>rd</sup> we should then determine the minimum levels of wellbeing that will provide all of society the key to self-sustained organic growth, enabling each individual to fully live up to her/his own potential.

4<sup>th</sup> it's to be determined what are the functions of complexity to be addressed in a certain setting to arrive at that level of wellbeing where we find only support from the complexity

.....remember that complexity is only what we perceive and only something that we need to reduce or solve when it bothers us because its got out of our control.

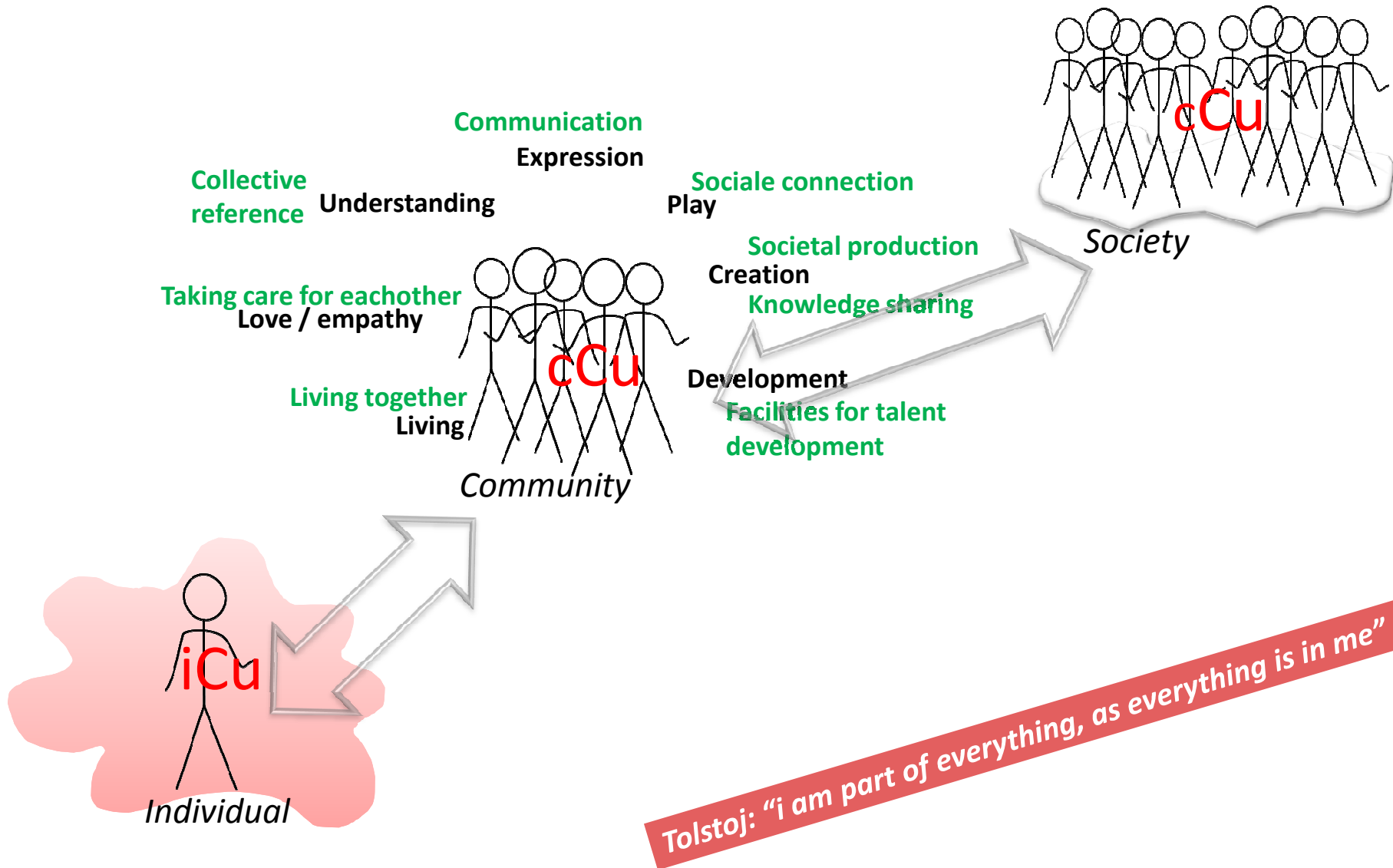
# Your individual biology: the seven factors that drive your life



drs. Willem R. Reek MCM ©  
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Biology is also the process that propagates holistically from the individual to society and back



### Expression

- Communication
- Language
- Arts

### Understanding

- Collective referential framework

### Play

- Help each other develop
- Social connections
- Arts (performing?)

cCu

Culture of the community

### Love / empathy

- Taking care for each other
- Caring together
- Collective consciousness
- Feeling at home

### Creation

- Societal production
- Knowledge sharing
- Cocreation
- Smart specialization
- Collecting 'the world' into your own proximity

### Living

- Food provision
- Clean water provision
- Clean air
- Healthcare and social care
- Living together

### Development

- Individual talent development
- Creating facilities for learning and training skills and developing ones talents

- Out of the box
- Open to new ideas
- Disconnected from existing patterns

#### Understanding

- Collective referential framework

- Open social systems
- Caring for the world around us

#### Love / empathy

- Taking care for eachother
- Caring together
- Collective consciousness
- Feeling at home

- Open connection with: *everything below*

#### Living

- Food provision
- Clean water provision
- Clean air
- Healthcare and social care
- Living together

- Open Communication
- Multilingualism

#### Expression

- Communication
- Language
- Arts

- Open playing / gaming
- Playground accessible to everyone
- No fixed rules

#### Play

- Help eachother develop
- Social connections
- Arts (performing?)

- Open knowledge sharing
- Open sharing of ideas/inventions
- Open creative processess

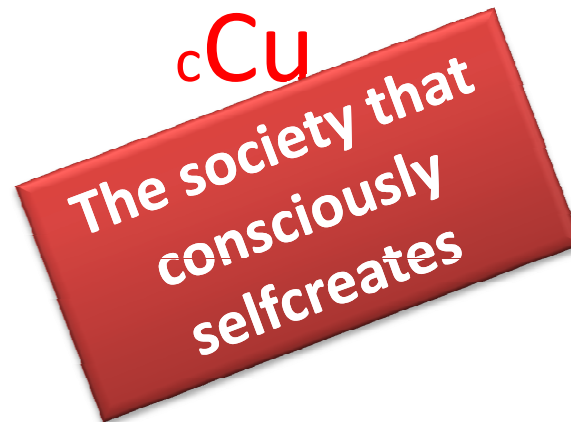
#### Creation

- Societal production
- Knowledge sharing
- Cocreation
- Smart specialization
- Collecting 'the world' into your own proximity

- Facilities for talent development open to everyone
- Tailormade talentdevelopment as basic principle

#### Development

- Individual talentdevelopment
- Creating facilities for learning and training skills and developing ones talents



# The 'happy life formula' of wellbeing

*"Never leave home without this !"*

The biological essence of life =

$$\text{Wellbeing} = \frac{iCo \times iQ \times cQ}{\Delta iCu \times \Delta cCu}$$

self conciousness and oversight

your individual capacities

What's available

your potential development

The collective development 'space'

# De variables of wellbeing

iQ:

- physical constitution
- DNA
- physical abilities

iCo:

- awareness of own culture
- awareness of own qualities
- awareness of collective culture
- awareness of collective qualities

iCu:

- loving
- understanding
- expression
- playing
- creating
- talent development
- living (providing basics of life)

cQ:

- physical environment
- social environment
- facilities

cCo:

- aggregation of iCo
- awareness of collective being

cCu:

- aggregation of iCu
- interactive versions of iCu  
(like communicating and cocreating)