

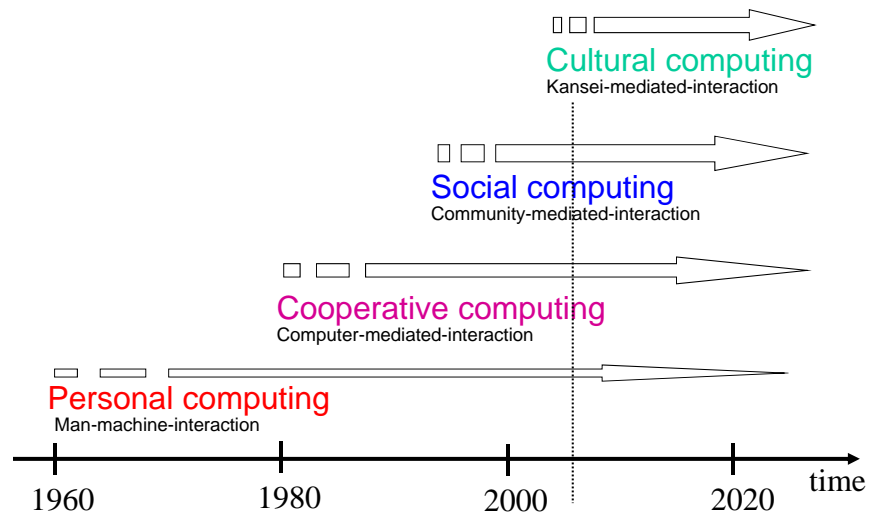
# Entertainment Computing - Social Transformation and the Quantum Field

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2009



## Interaction Paradigms in Computing



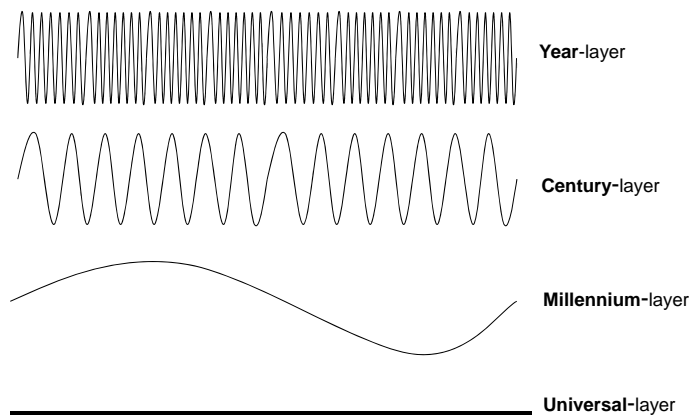
# What is Culture?

Culture is the **integration pattern** of human behavior that includes

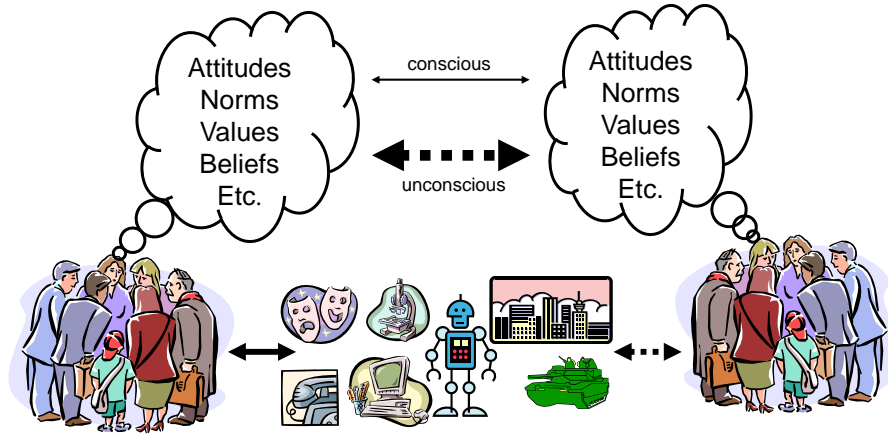
- attitudes,
- norms,
- values,
- beliefs,
- actions,
- communications and language
- institutions of a race, ethnic, religious and/or social group.

The word *culture* comes from the Latin root *colere* (to inhabit, to cultivate, or to honor). In general, it refers to human *activity*; different definitions of culture reflect different theories for understanding, or criteria for valuing, human activity. Anthropologists use the term to refer to the universal human capacity to classify experiences, and to encode and communicate them symbolically. They regard this capacity as a defining feature of the genus Homo.

## Culture on different layers



## Cultural Computing: Kansei mediation

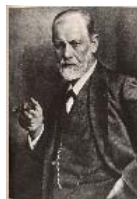


Nakatsu R., Rauterberg M., Salem B. (2006). Forms and theories of communication: from multimedia to Kansei mediation. *Multimedia Systems*, 11(3), 304-312

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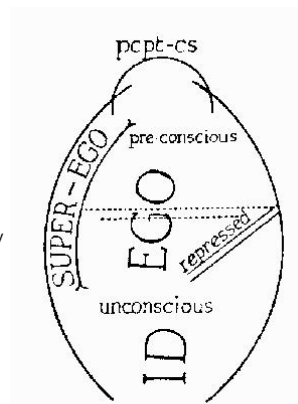
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### First Discovery: discovery of the *hidden part of mind*



(1856-1939)

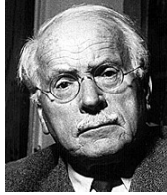
In 1932 the discoveries of **Sigmund Freud** about the unconscious in particular were revolutionary. His treatment of neuroses allowed inspection of a "hidden" part of the mind. Freud divided the mind into two parts: the preconscious (ideas and memories capable of becoming conscious), and the unconscious (desires, impulses, and wishes of a mostly sexual and sometimes destructive nature). All human thought is partly a conflict between the preconscious and unconscious, and partly a compromise to pursue pleasure whilst avoiding danger and dealing with the realities of life.



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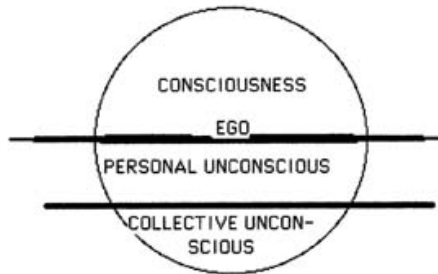
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## Second Discovery : discovery of the *collective unconscious*



(1875-1961)

After 1910 the discoveries of **Carl Gustav Jung** about the *collective unconscious* and the related *archetypes* were challenging. Jung dreamt a great deal about the dead, the land of the dead, and the rising of the dead. These represented the unconscious itself -- not the "little" personal unconscious that Freud made such a big deal out of, but a new *collective unconscious* of humanity itself, an unconscious that could contain all the dead, not just our personal ghosts. Jung began to see the mentally ill as people who are haunted by these ghosts, in an age where no-one is supposed to even believe in them. If we could only recapture our mythologies, we would understand these ghosts, become comfortable with the dead, and heal our mental illnesses.



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## Third Discovery : *fields* beyond energy and matter



(1942--)

Most notably, the theory about morphogenetic fields of **Rupert Sheldrake** in 1981 reveal a substantial change in the way how we should look at reality. He developed the idea of *morphogenetic fields*, and has researched and written on topics such as animal and plant development and behavior, telepathy, perception and metaphysics. For example, Sheldrake began working in the 1990s on the alleged telepathic powers of animals, which he thinks could be explained by *morphic resonance* between two brains.



(video, 4:03)



**Reference:**  
Sheldrake, R. (1981). *A New Science of Life: The Hypothesis of Formative Causation*.

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# Global Consciousness Project

Princeton, New Jersey, USA

(video, 2:30)



Roger Nelson



Mindsong MicroREG

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# The World of Quantum Mechanics

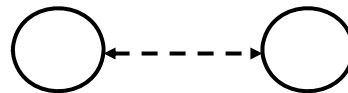
Einstein-Podolsky-Rosen (EPR) Paradox



Albert Einstein



Nathan Rosen



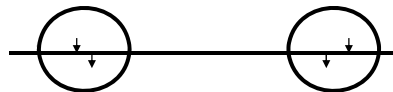
locality



David Bohm



Alain Aspect



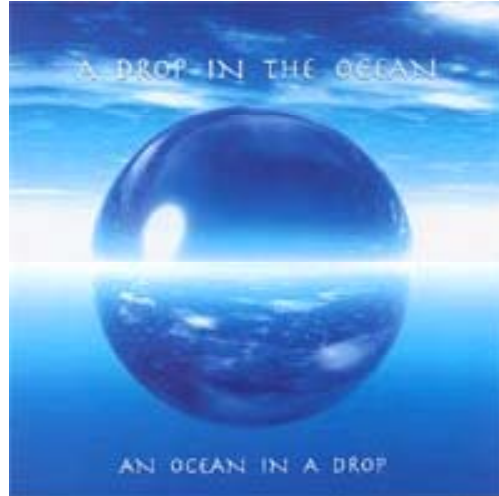
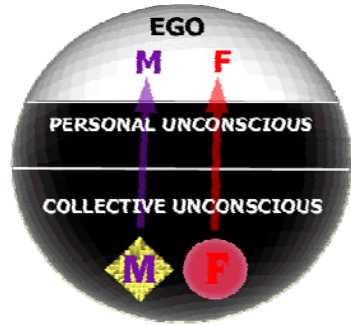
non-locality

A. Einstein, B. Podolsky, and N. Rosen, Can quantum-mechanical description of physical reality be considered complete? *Phys. Rev.* 47, 777 (1935).

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## Cultural Computing: the collective unconscious



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## Culture: the East



Lao-Tse  
c.604 - c.521 BC



Siddhartha Gautama  
563 - c.480 BC



Enlightenment



Bodhidharma  
470-543 AC

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# Cultural Computing

ZENetic computer (2003)



Naoko Tosa

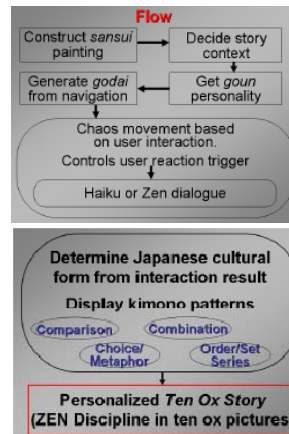


Seigo Matsuoka



# Cultural Computing

ZENetic computer (video, 3:43)



## Culture: the West



René Descartes  
1596-1650

**res cogitans** - mind

**res extensa** - body, matter, etc



Immanuel Kant  
1724-1804

synthetic  
*a priori* knowledge:

- time  
- space

both *pure forms of intuition*  
and *pure intuitions*.

## Culture in East and West

Cross-cultural psychologist's juxtapose  
Eastern *holistic* and Western *analytic* reasoning.

**Eastern** reasoning embraces contradictions among objects in a  
yin–yang field of constant change.

**Western** reasoning tends to focus on objects and categories,  
and is driven by *formal logic*.

Nisbett RE., Peng K., Choi I. & Norenzayan A. (2001). Culture and Systems of Thought:  
Holistic versus Analytic Cognition. *Psychological Review*, 108(2), 291-310 .



# What would be a Western equivalence to ZENetic Computer?

Possible Answer:

- an interactive experience based on the story of **Alice in Wonderland**



Charles Lutwidge Dodgson  
1832-1898



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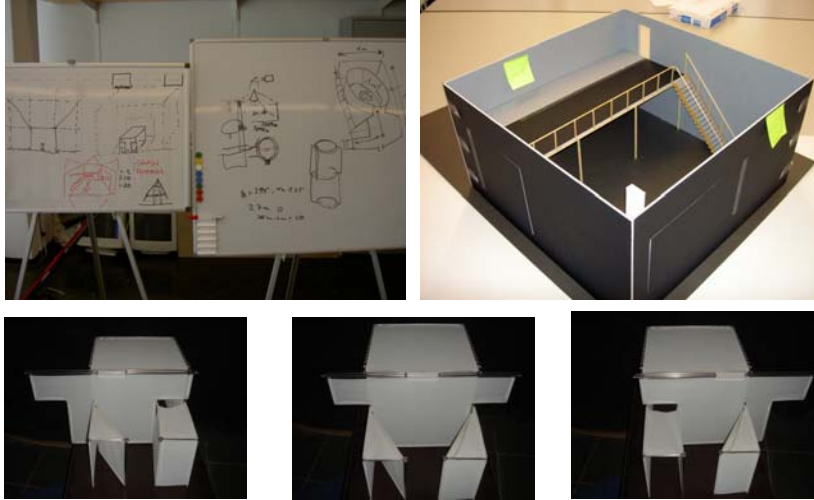
## ALICE-Lab at TU Eindhoven:



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# Planning and Modeling



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# Stage-1: In the Park



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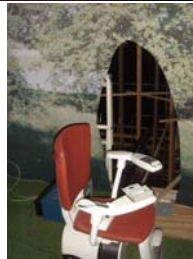
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## Stage-2: Down the Rabbit Hole

Microsoft  
**Research**



(video, 1:03)



Flow stair lift



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## Stage-3: Drink me – Eat me

Microsoft  
**Research**

(video, 1:25)



Five sides Cave



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## Stage-5: The Caterpillar



*'Who are YOU?' said the Caterpillar.  
This was not an encouraging opening for a conversation. Alice replied, rather shyly,  
'—I hardly know, sir, just at present— at least I know who I WAS when I got up this  
morning, but I think I must have been changed several times since then.'  
'What do you mean by that?' said the Caterpillar sternly. 'Explain yourself!'  
'I can't explain MYSELF, I'm afraid, sir' said Alice, 'because I'm not myself, you see.'  
'I don't see,' said the Caterpillar.*

(video, 2:18)



## Stage-6: The Cheshire Cat



*'Come, it's pleased so far,' thought Alice, and she went on. 'Would you tell me,  
please, which way I ought to go from here?'  
'That depends a good deal on where you want to get to,' said the Cat.  
'I don't much care where—' said Alice.  
'Then it doesn't matter which way you go,' said the Cat.*

(video, 0:19)



## Stages 1-6: an overview

(video, 8:57)



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Let's get aware about our connections to the collective unconscious...

### **Team Members**

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Joran van Aart  
Dirk van de Mortel  
Geert van den Boomen  
Ton van der Graft  
Arrens van Herwijnen  
Tijn van Lierop  
Chee Fai Tan

*Thank you for your attention.*

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