



# Digital Revolution: from Enlightenment to Entanglement

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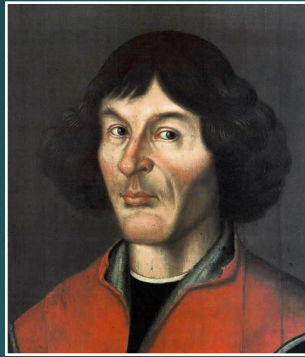
School of Education

18.04.2016

# Outline

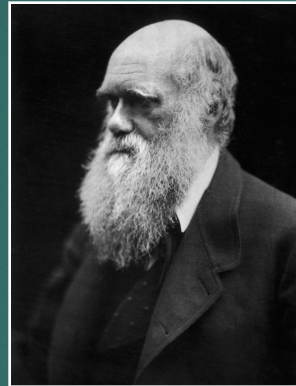
- ▶ Revolutions of Mankind Consciousness
- ▶ Enlightenment - Sustainability - Entanglement
- ▶ Symptoms of the Entanglement
  - ▶ Blurring between reality and virtuality
  - ▶ Blurring between human, machine and nature
  - ▶ Reversal from scarcity to abundance
  - ▶ Shift from the primacy of entities to the primacy of interactions
- ▶ Conclusions

# Four Revolutions of Mankind Consciousness (Luciano Floridi)



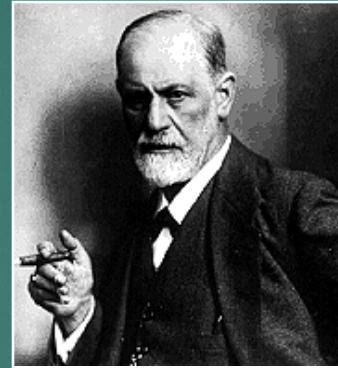
THE FIRST  
REVOLUTION

Copernicus



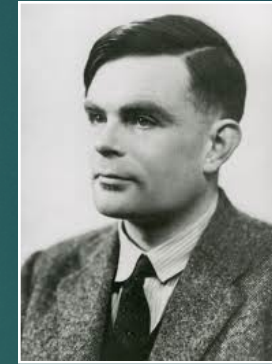
THE SECOND  
REVOLUTION

Darwin



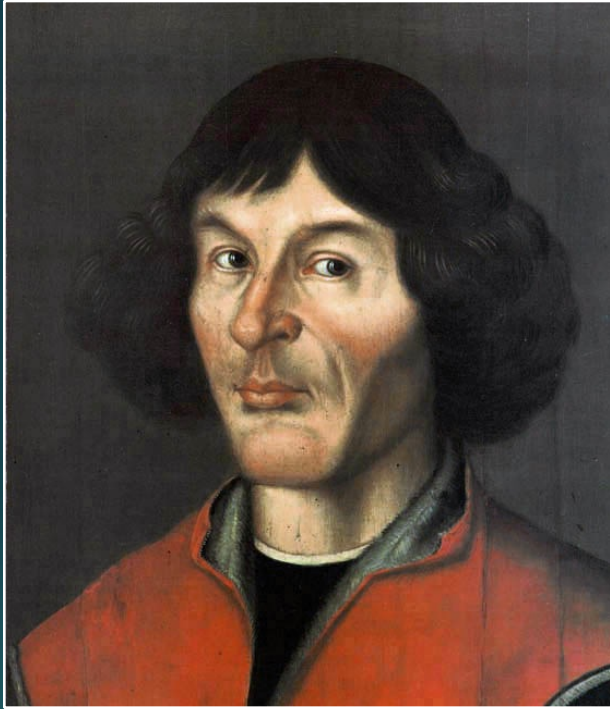
THE THIRD  
REVOLUTION

Freud



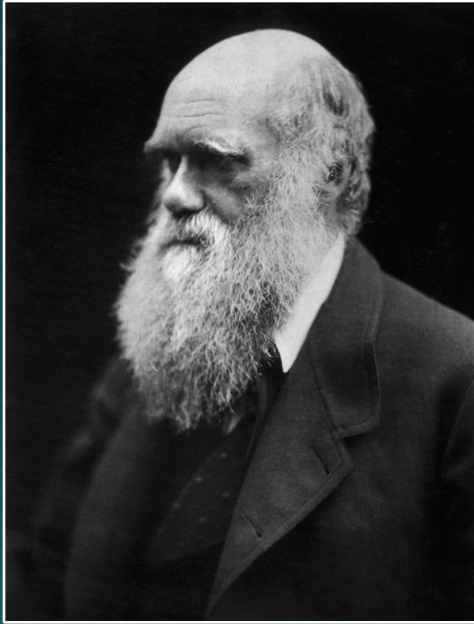
THE FORTH  
REVOLUTION

Turing



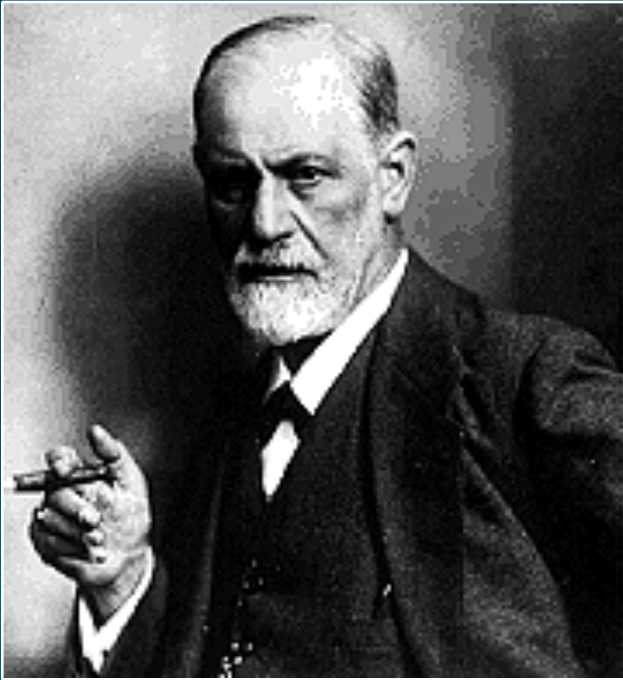
# Copernicus Revolution

We are not immobile, at the Centre of the Universe



# Darwin Revolution

We are not unnaturally detached and diverse  
from the rest of the animal world



# Freud Revolution

We are not Cartesian subjects entirely transparent to ourselves



# Turing Revolution

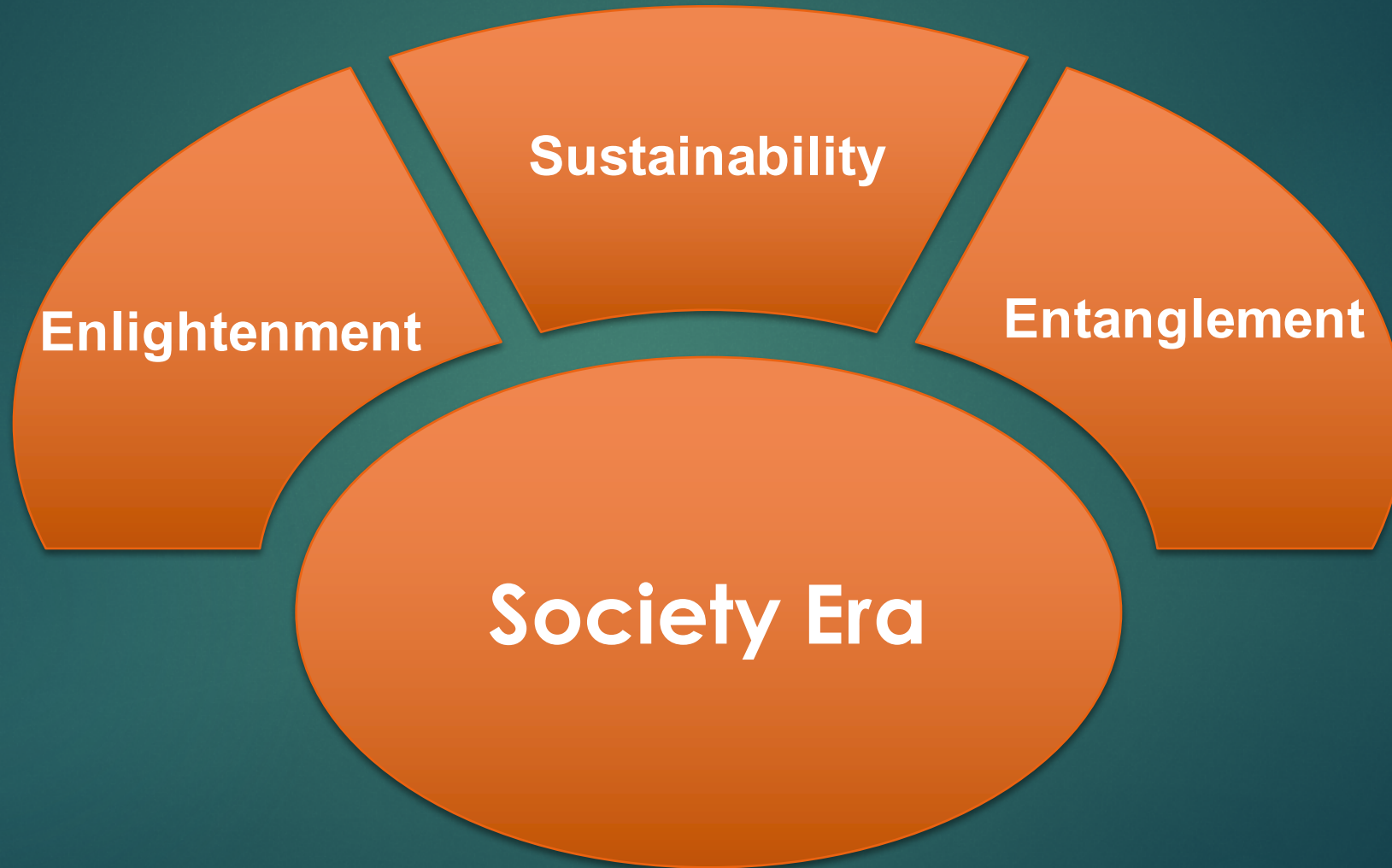
We are not disconnected agents but informational organisms, sharing with biological and engineered agents in informational environment (info-sphere)

# Society





# Society



# Enlightenment - Sustainability – Entanglement



Reasoning – Responsibility – Hyper-connectivity

**The sky is the limit**

**Enlightenment**

**Sustainability**

**Entanglement**



**Enlightenment**

**Sustainability**

**Entanglement**

**The earth is the limit**



**Enlightenment**

**Sustainability**

**Entanglement**

**The self is the limit**



# Humans are changing



# Humans are changing

Humans have become intertwined and inseparable with what they have created



# Humans are changing

Humans have outgrown the distinction between the natural and the artificial





# Humans are changing

Humans' bodies are born in womb or test tube, genes inherited or designed, manufactured, prosthetic enhancements are simple



# Humans are changing

Humans' perceptions, whether they are through our eyes and ears or hyper-spectral sensors, processed as much by computers as by their own brain



# Humans are changing

Humans - are  
cooperating inforgs,  
processing, sensing,  
deciding, acting



# Humans are changing

Humans' home planet is inhabited by both engineered organisms and evolved machines



# Humans are changing

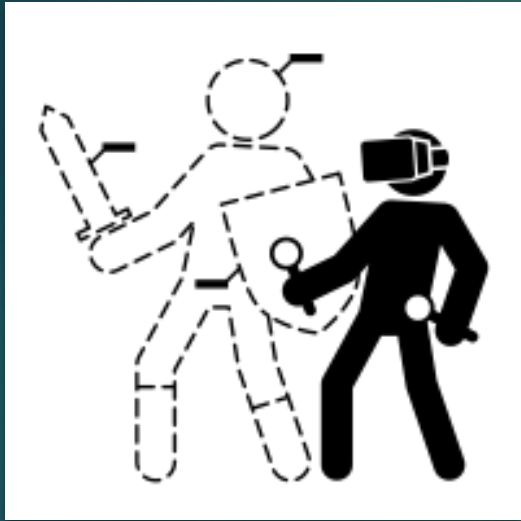
Humans being empowered  
by the tools of the  
Enlightenment and  
hyperconnected are  
becoming something new



# We are at the eve of the Age of Entanglement



# Symptoms of Digital Society - Society of Entanglement



Reality/Virtuality

**Online Personality**



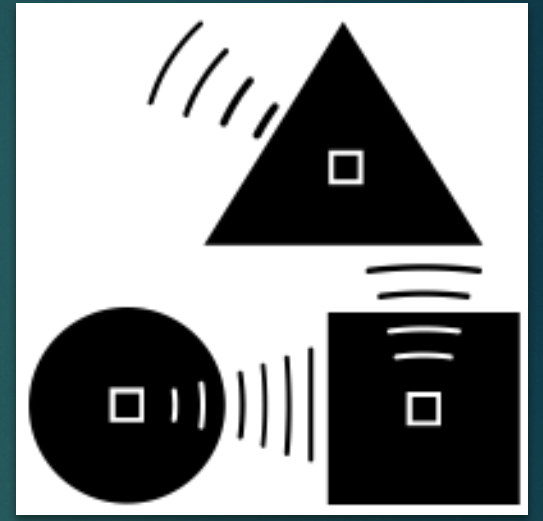
Human/Artefact/Nature

**Enchanted objects**



Scarcity/Abundance

**Data Abundance**



Entities/Interactions

**Cyber Physical Systems**



The first symptom of of Digital Society :  
**Blurring the distinction between reality  
and virtuality**

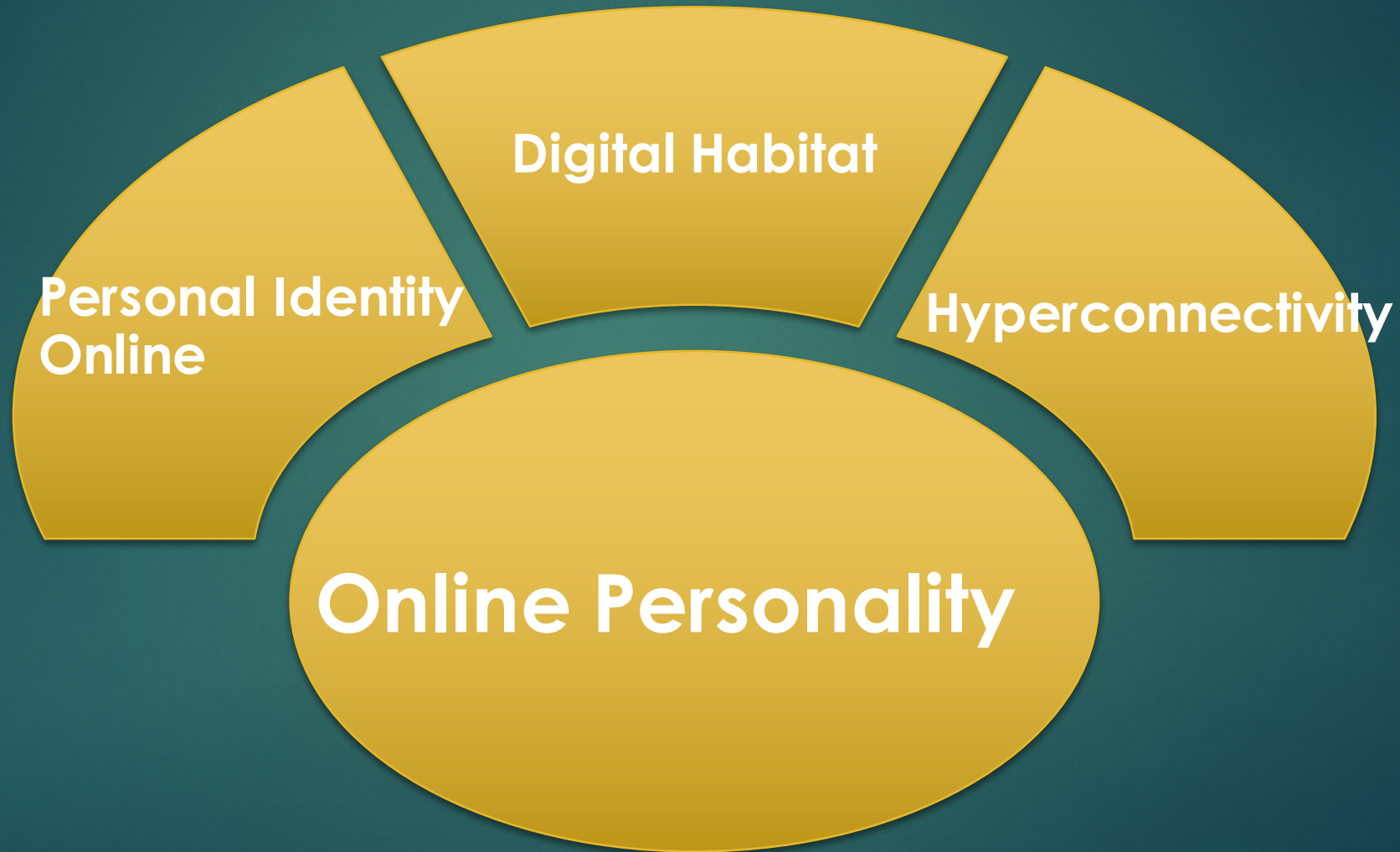
**NEW PHENOMENON: ONLINE PERSONALITY**



# Online Personality



# Online Personality



**Personal Identity  
Online**

**Digital Habitat**

**Hyperconnectivity**



**Personal Identity  
Online**

**Digital Habitat**

**Hyperconnectivity**



**Personal Identity  
Online**

**Digital Habitat**

**Hyperconnectivity**





The second symptom of Digital  
Society :

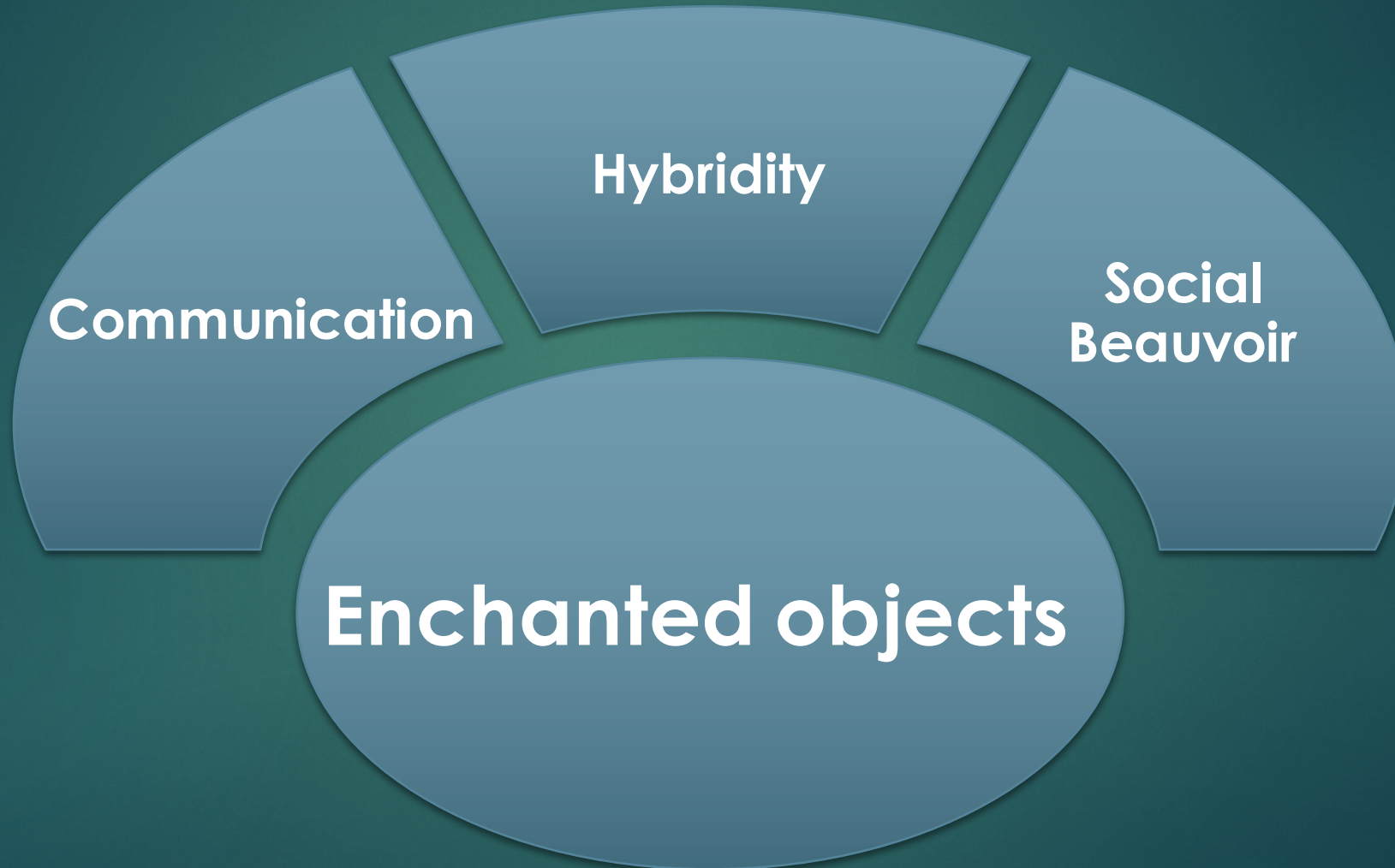
**Blurring the distinctions among  
people, nature, and artefacts**

**NEW PHENOMENON: Enhanced Social  
Awareness**

# Enchanted objects



# Enchanted objects





**Communication**

**Hybridity**

**Social behavior**



**Communication**

**Hybridity**

**Social behavior**




**Communication**

**Hybridity**

**Social behavior**





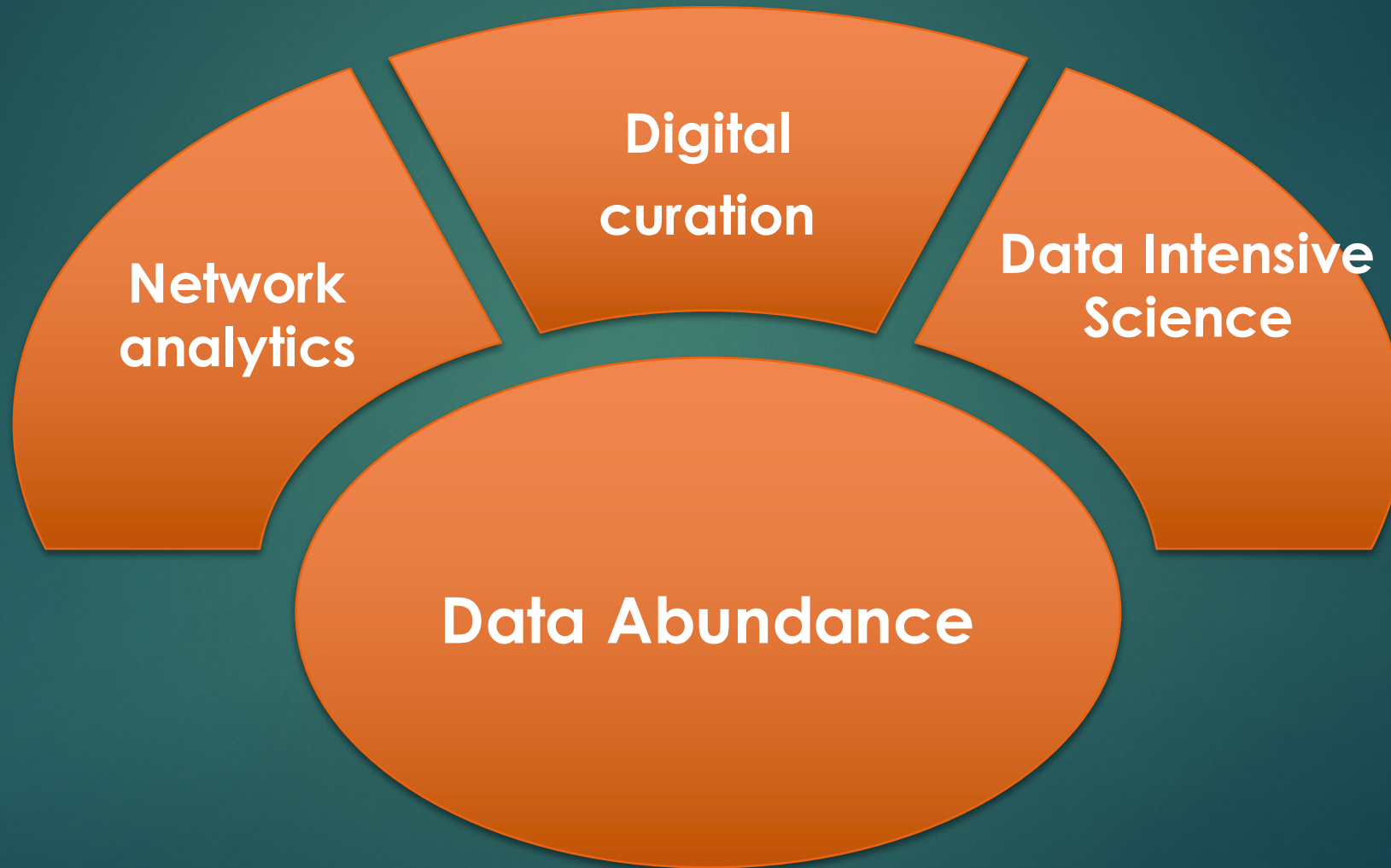
The third symptom of of Digital Society :  
**Reversal from scarcity of information  
to abundance of information**

**NEW PHENOMENON: Data Abundance**

# Data Abundance



# Data Abundance



**Network analytics**

**Digital curation**

**Data Intensive  
Science**



**Network analytics**

**Digital curation**

**Data Intensive  
Science**






**Network analytics**

**Digital curation**

**Data Intensive  
Science**

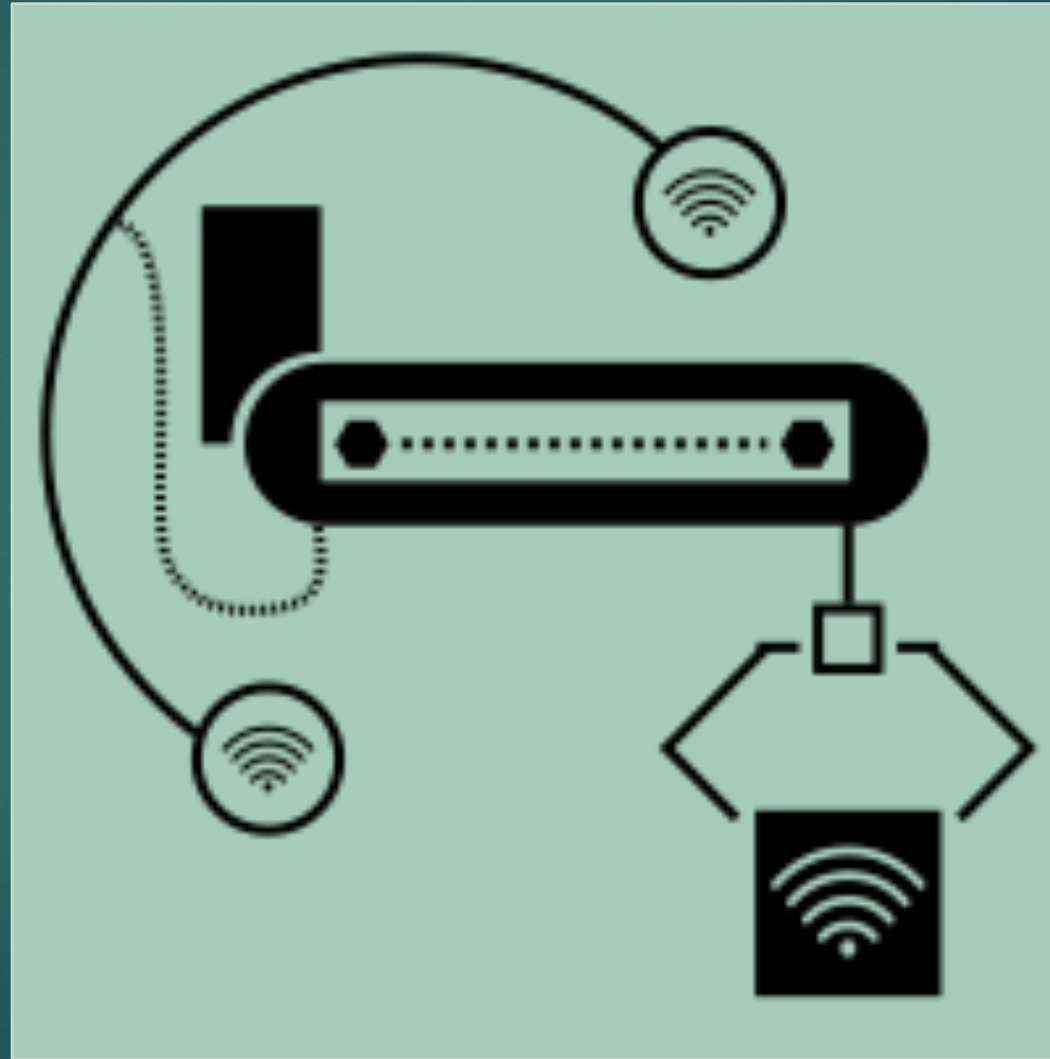




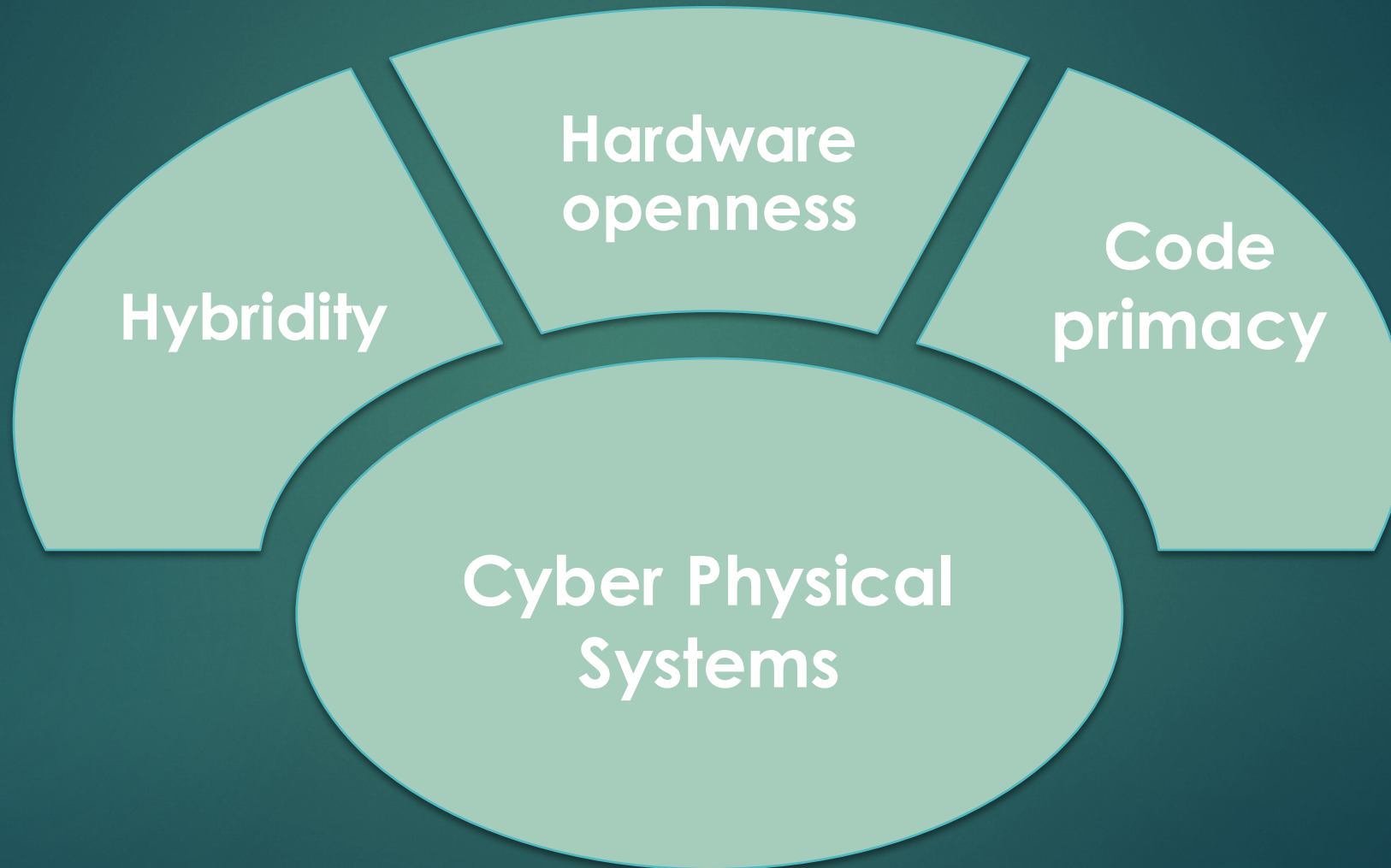
The fourth symptom of of Digital Society :  
**Reversal from an entity's primacy over  
interactions to interactions' primacy  
over entities**

**NEW PHENOMENON: Cyber-Physical  
Systems**

# Cyber-Physical Systems



# Cyber Physical Systems



**Hybridity**

**Hardware openness**

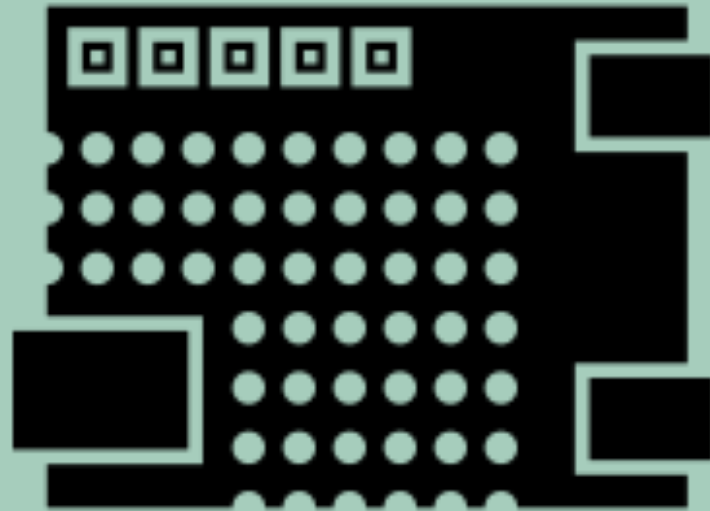
**Code primacy**



**Hybridity**

**Hardware openness**

**Code primacy**



**Hybridity**

**Hardware openness**

**Code primacy**



	<b>Enlightenment</b>	<b>Entanglement</b>
<b>Entity /Interaction</b>	Entity domination	Interaction domination
<b>Reality /Virtuality</b>	Separation	Blurring
<b>Nature/Artifact/Human</b>	Separation	Blurring
<b>Scarcity/abundance</b>	Scarcity	Abundance
<b>Math</b>	Linear	Fractal
<b>Process</b>	Analytic	Synthetic



# CONCLUSIONS

- ▶ We are witnesses and participants of the fourth revolution of human consciousness
- ▶ The essence of the fourth revolution of the infosphere
- ▶ Evolution of Society: Enlightenment - Sustainability - Entanglement
- ▶ Four symptoms of the emerging Digital Society
- ▶ The Society of Entanglement is the reality
- ▶ Digital Enlightenment is the horizon