

# Information Revolution as Global Culture Phenomenon

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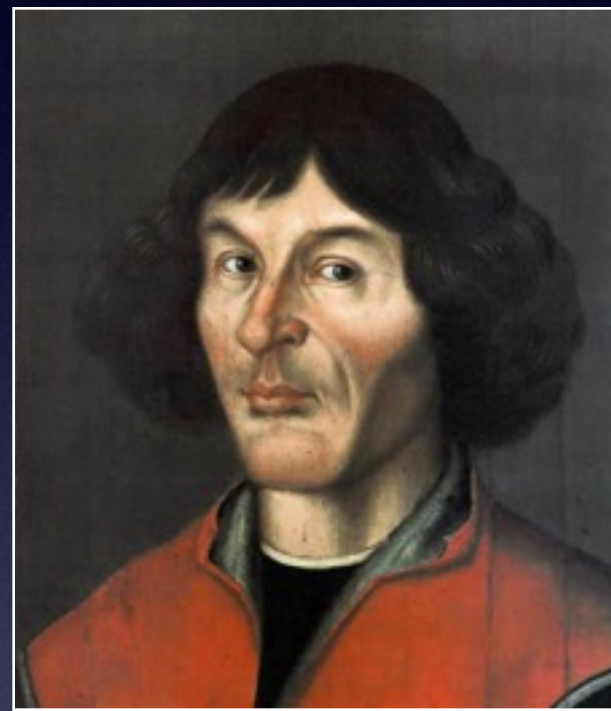


# Outline

- Four Revolutions of Mankind Consciousness
- Culture of Digital Society
  - Network personality
  - Enhanced social awareness
  - Cyber-physical systems
- Symptoms of Digital Society
  - 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

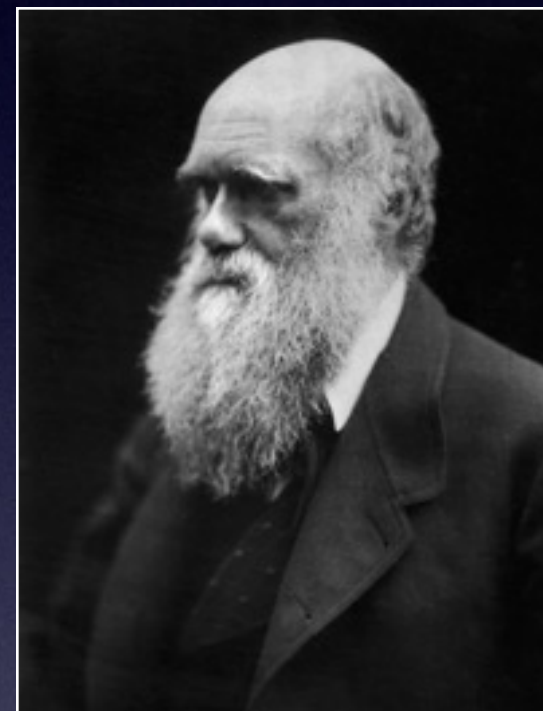


# Four Revolutions of Mankind Consciousness (Luciano Floridi)



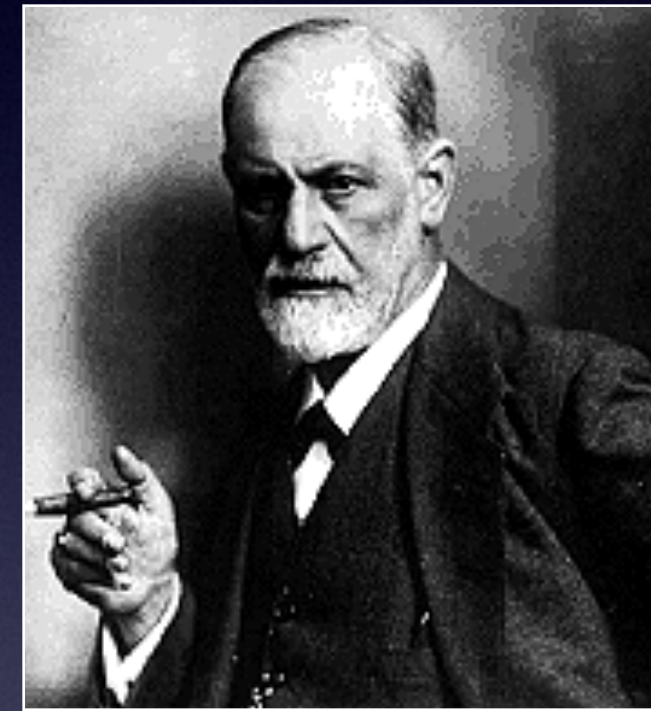
THE FIRST  
REVOLUTION

Copernicus



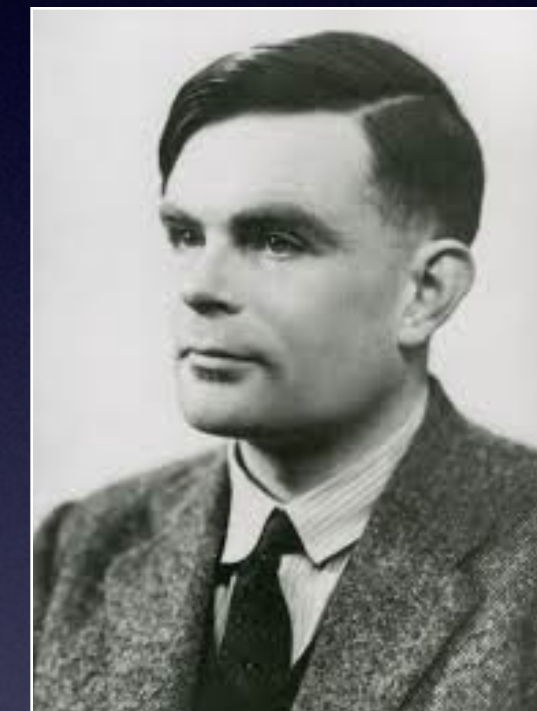
THE SECOND  
REVOLUTION

Darwin



THE THIRD  
REVOLUTION

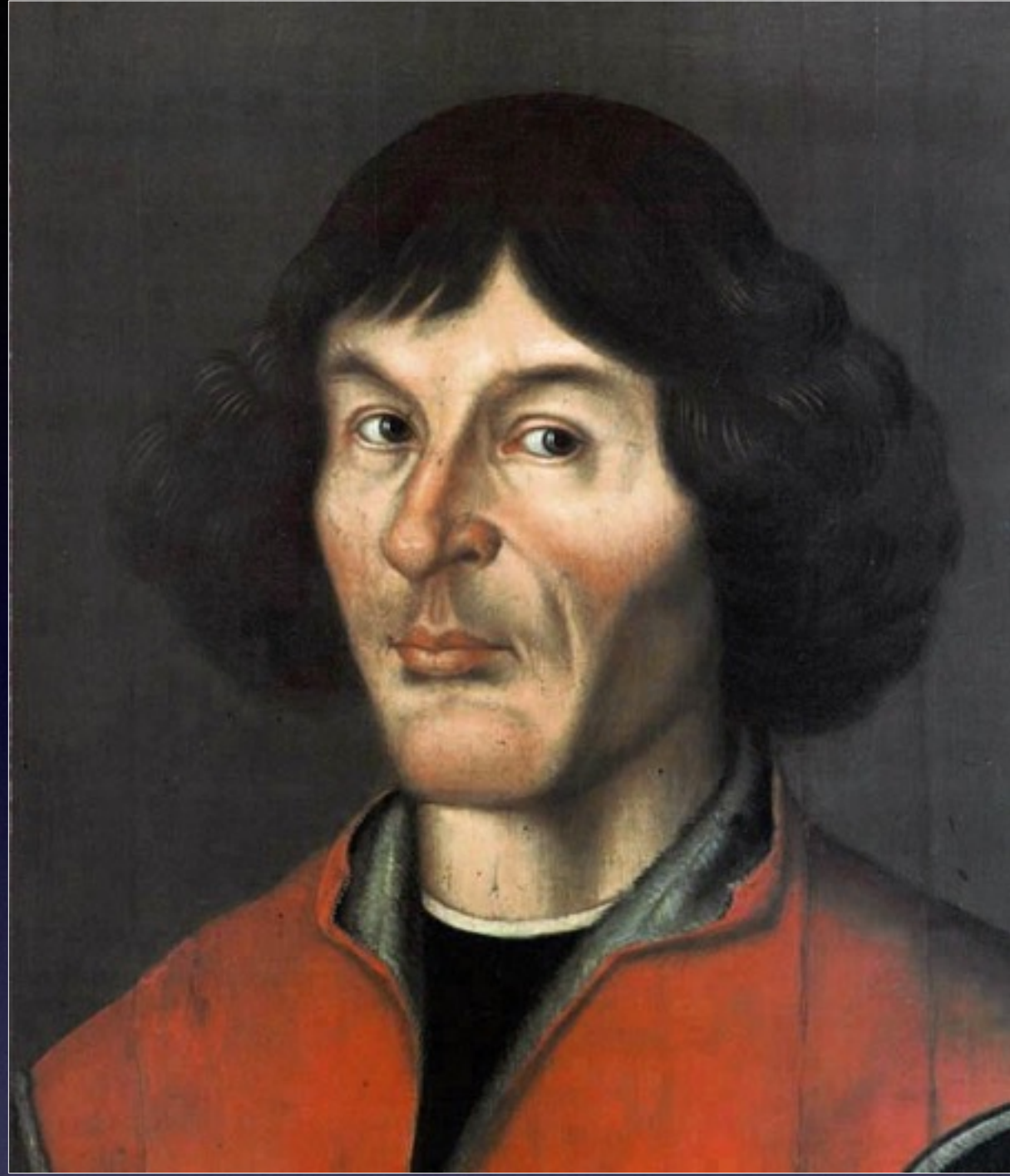
Freud



THE FORTH  
REVOLUTION

Turing

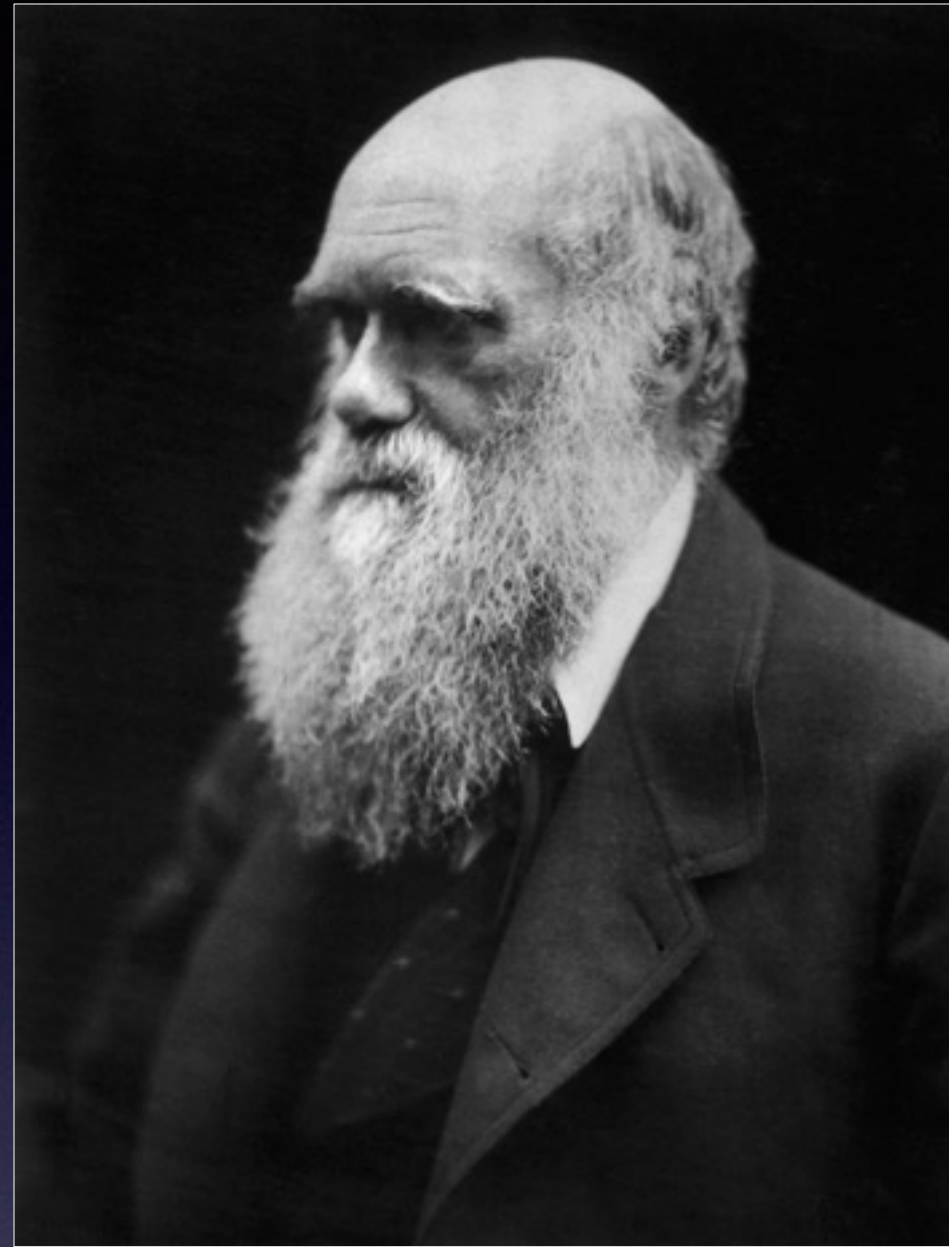




# Copernicus Revolution

We are not immobile, at the Centre of the Universe

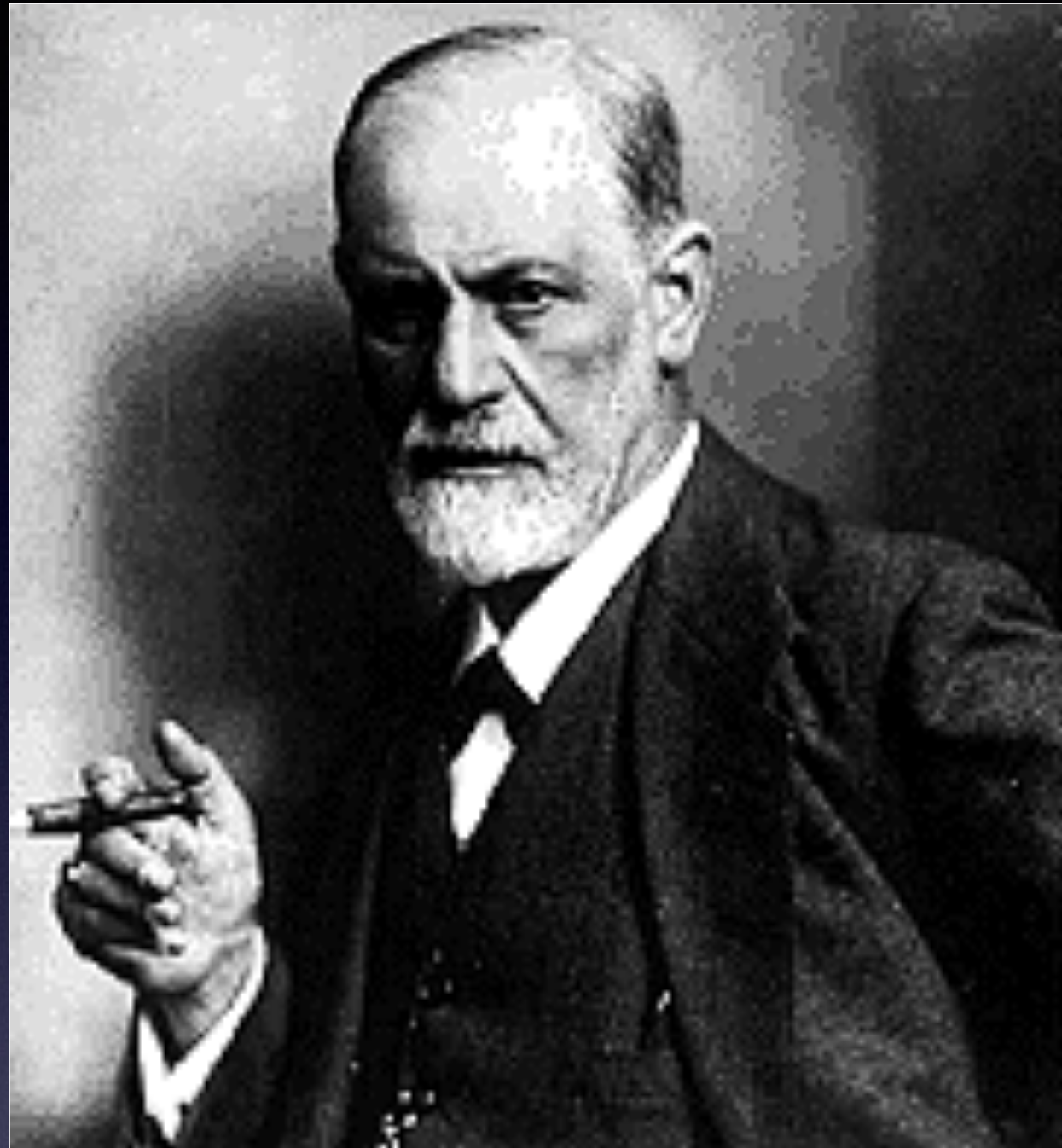




# Darwin Revolution

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)



# Enlightenment - Modernity – Post-Modernity (Nicole Dewandre)



Reasoning – Sustainability – Hyper-connectivity



# Enlightenment XVIII century



Age of Reasoning

“The sky is the limit”



# Modernity XX century

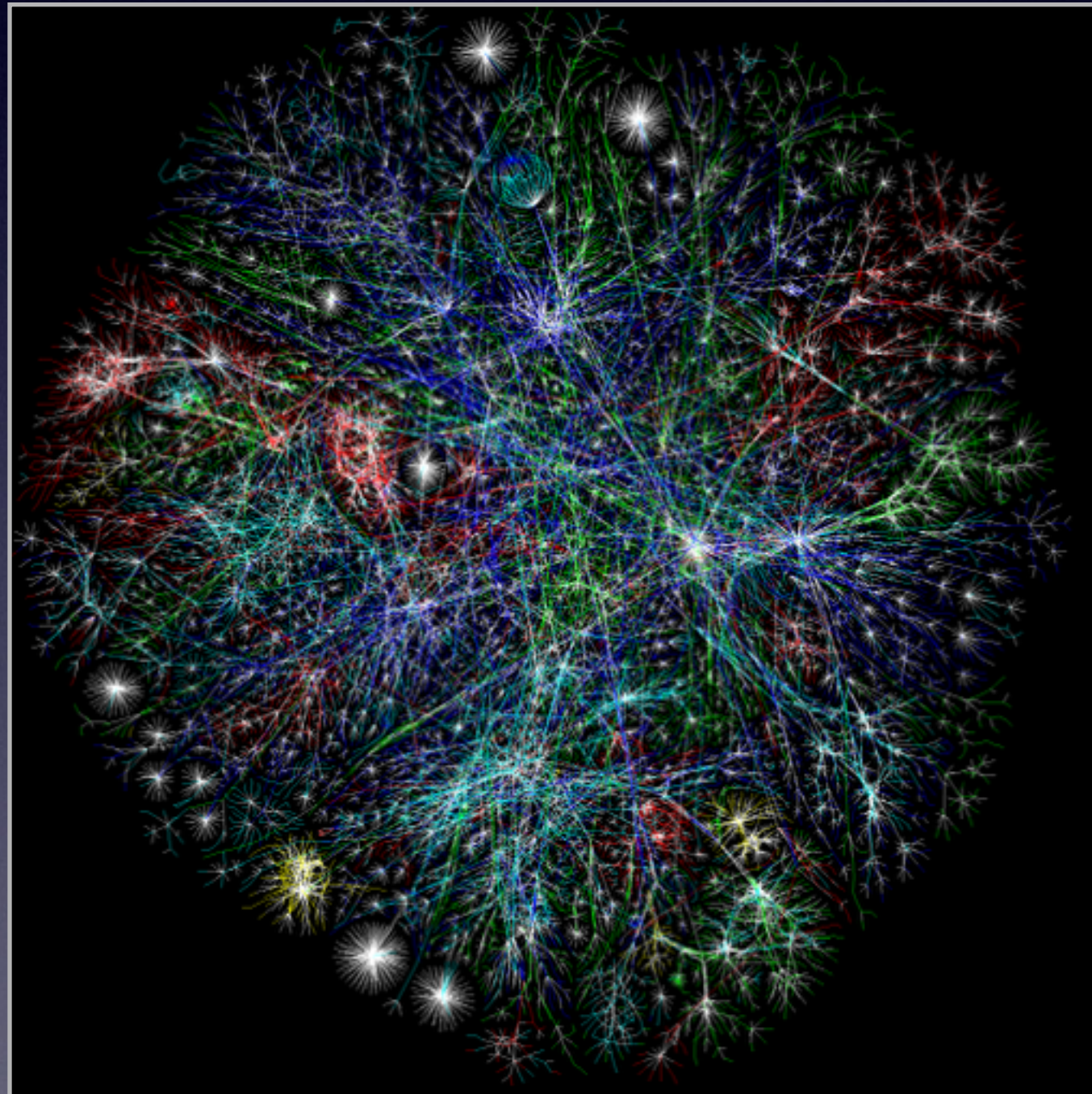


Age of Sustainability

“The earth is the limit”



# Post-modernity XXI century



Age of Hyper-connectivity

“The self is the limit”

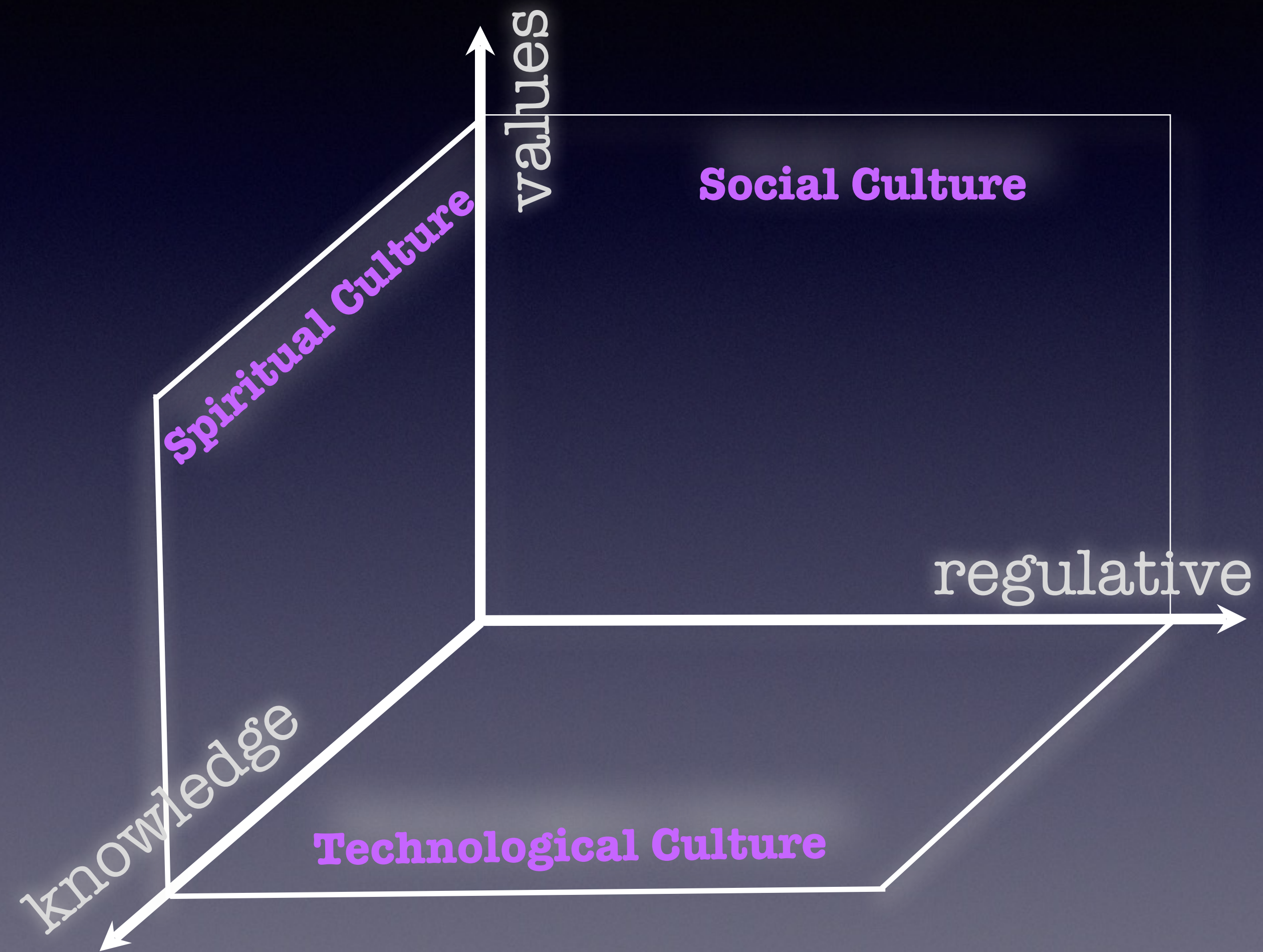


# CULTURE



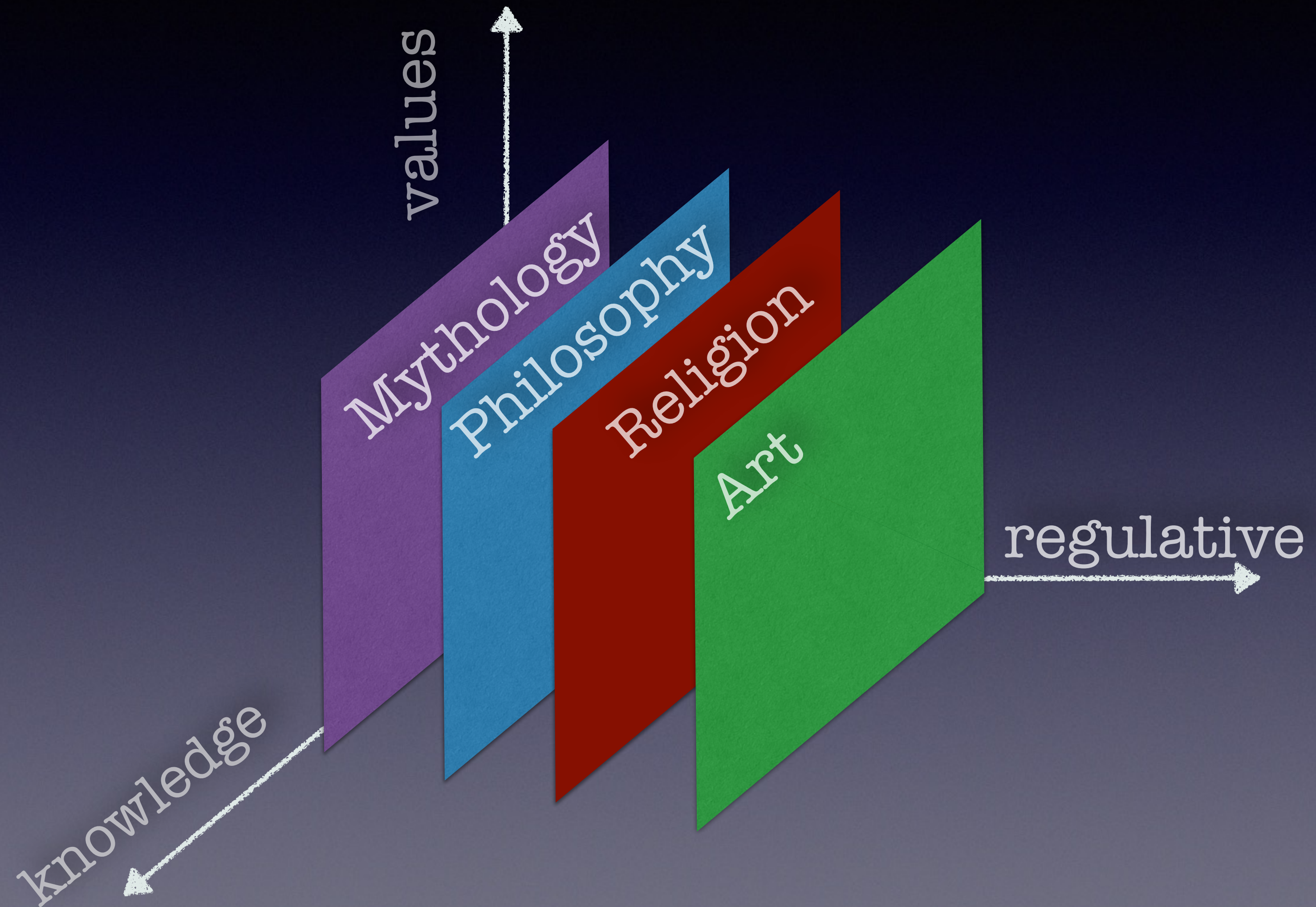


# Space of Culture



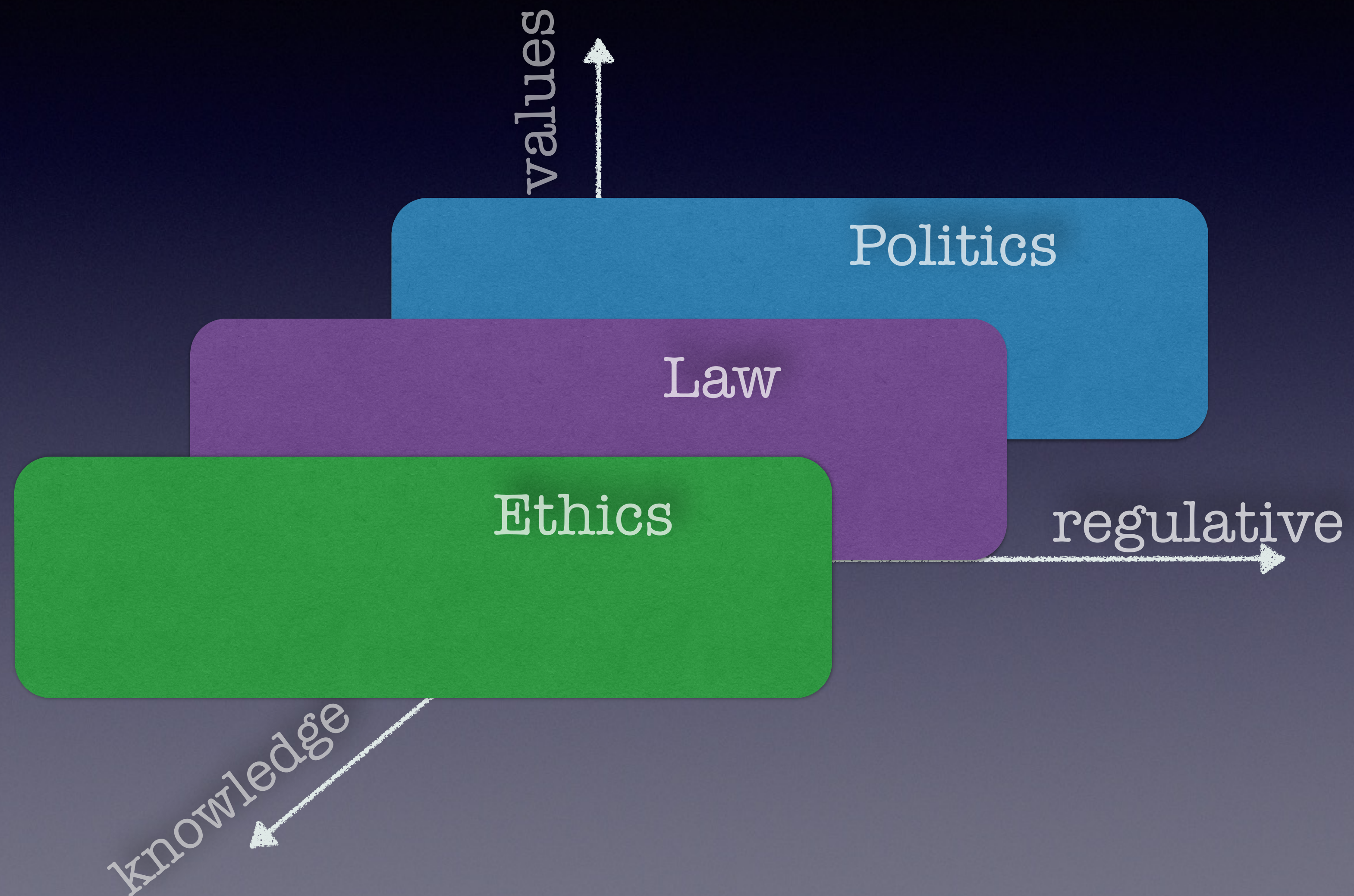


# Spiritual Culture



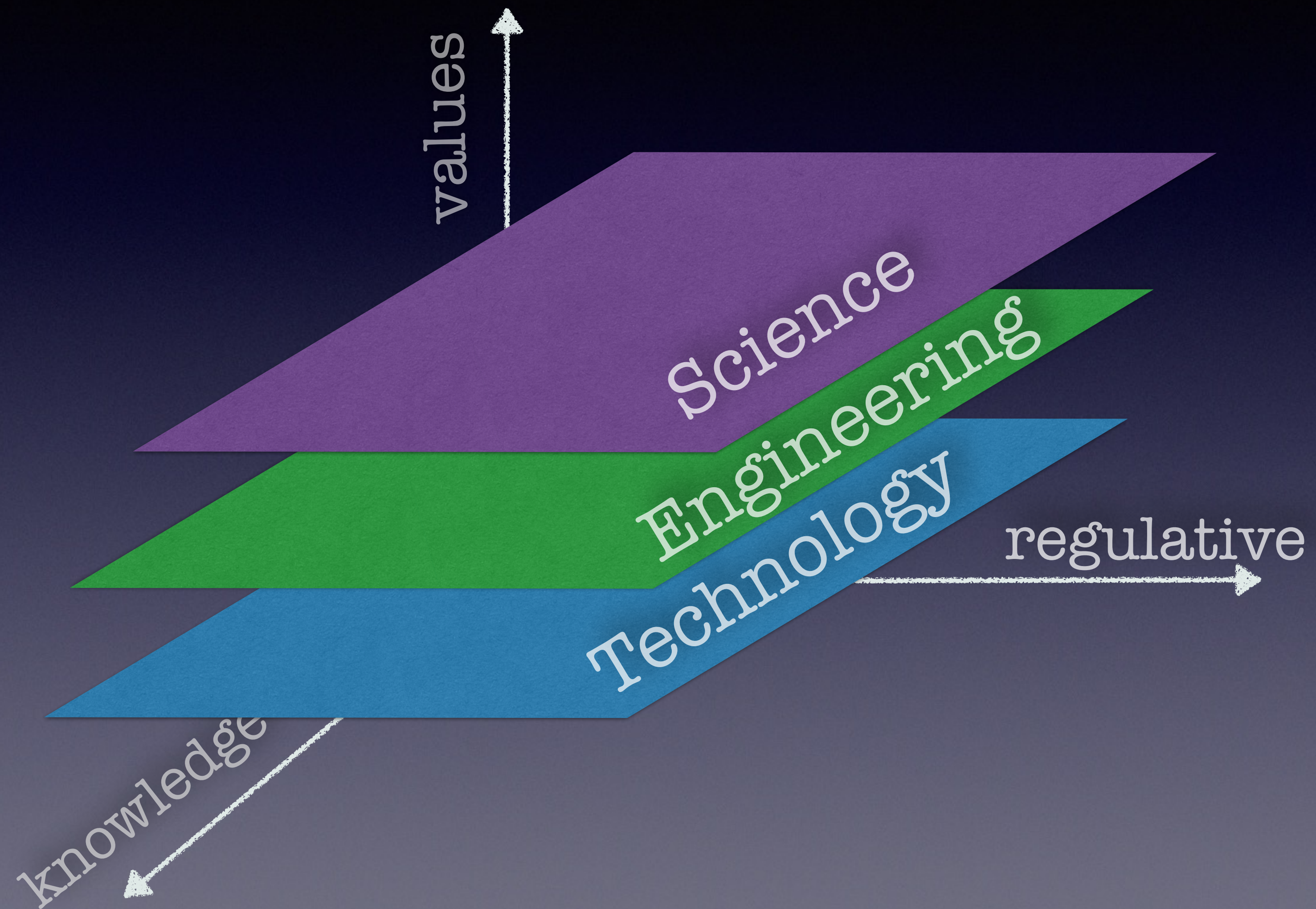


# Social Culture





# Technological Culture







# Culture of Enlightenment

The Space of Enlightenment Culture

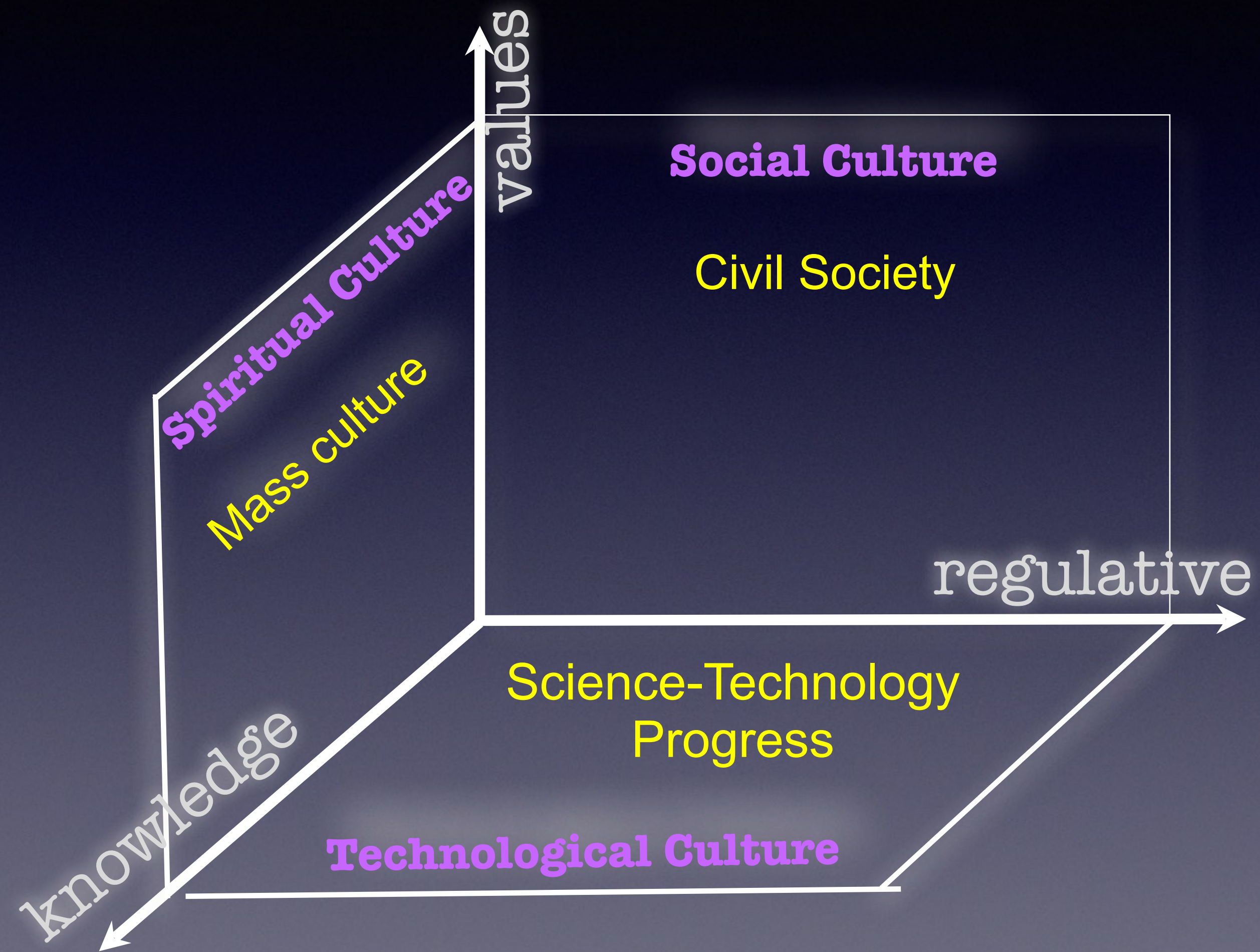


# Culture of Enlightenment

Values	Knowledge	Regulative
Reason, freedom, progress, patience, bright future, love, freedom, equality, justice	Scientific knowledge	Social contract, human rights, property rights, free markets



# Enlightenment. Space of Culture







# Culture of Digital Society

## The Space of Digital Culture

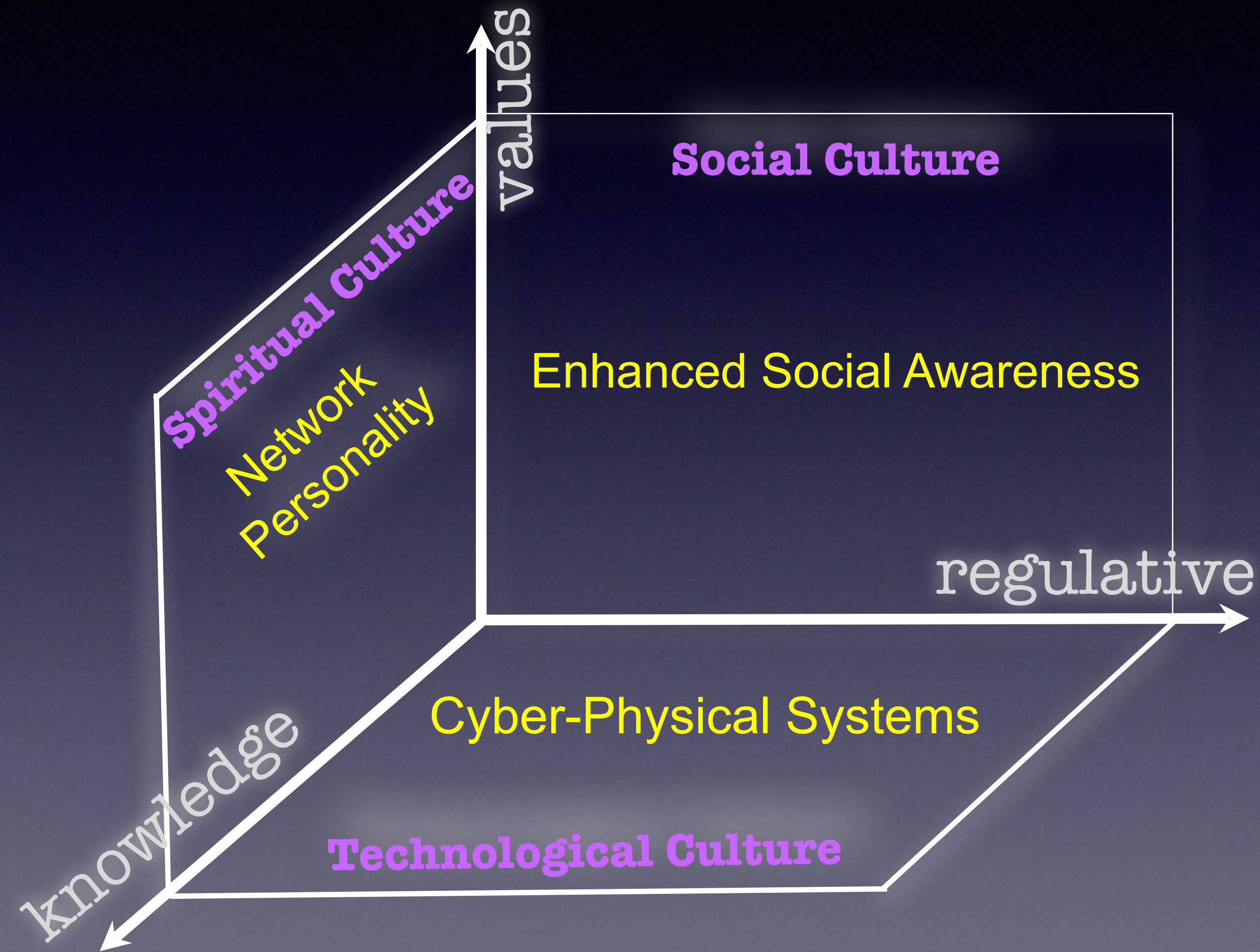


# Culture of Digital Society

Faces of culture	Phenomena	Neutral definition	Value-laden definition
Spiritual Culture	<i>On-line personality</i>	Ability of Websites to distinguish one individual from another	Personality formed in Network
Social Culture	<i>Enhanced Social Awareness</i>	Enhanced communicative features of artifacts	Perception of digital artifacts as socially behaving entities
Technological Culture	<i>Cyber-Physical Systems</i>	Systems combining computing, networking, and physical artefacts	Artificial inforgs, inhabiting infosphere



# SPACE OF DIGITAL CULTURE



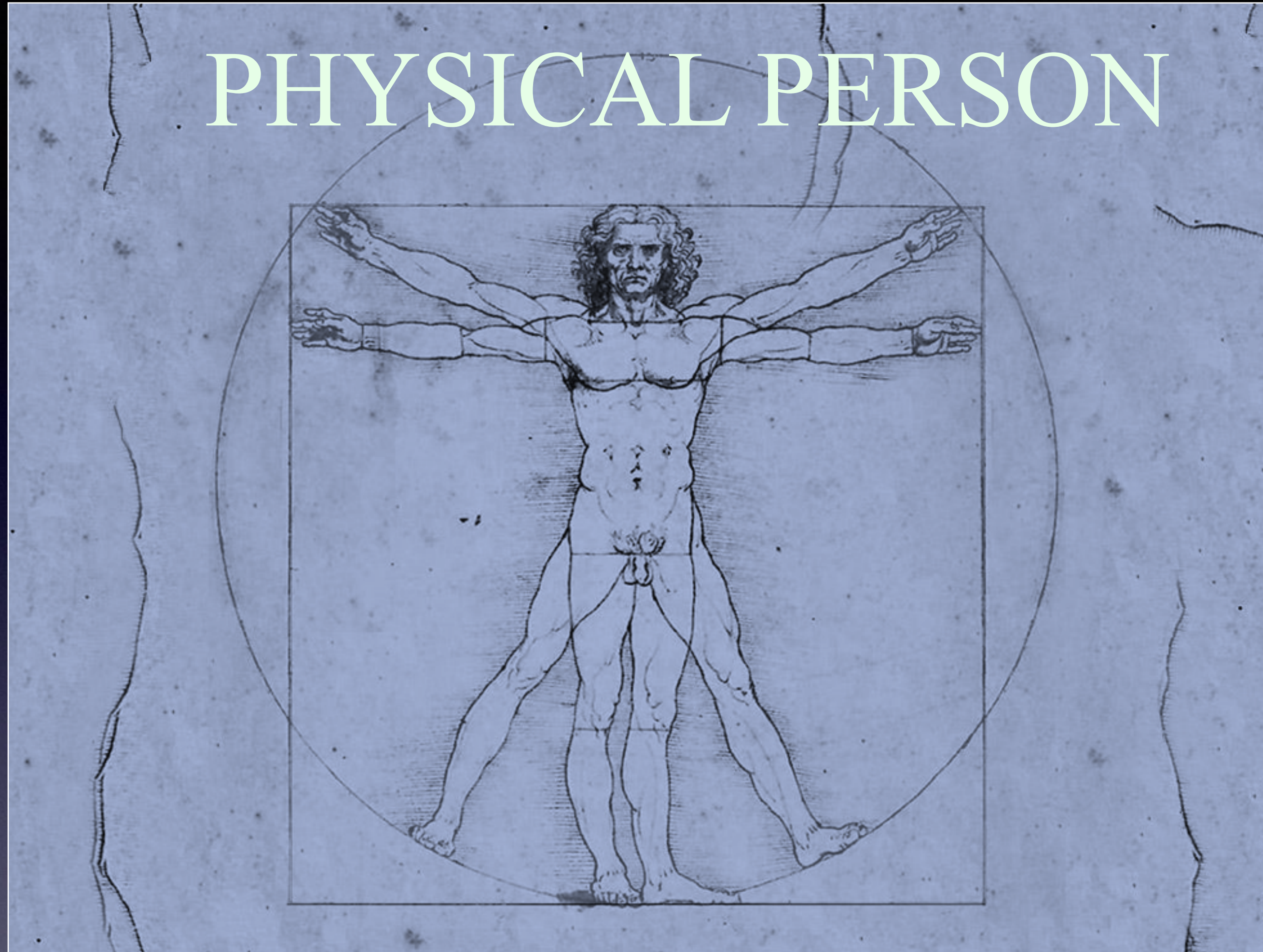


SPIRITUAL CULTURE OF DIGITAL SOCIETY

ONLINE PERSONALITY



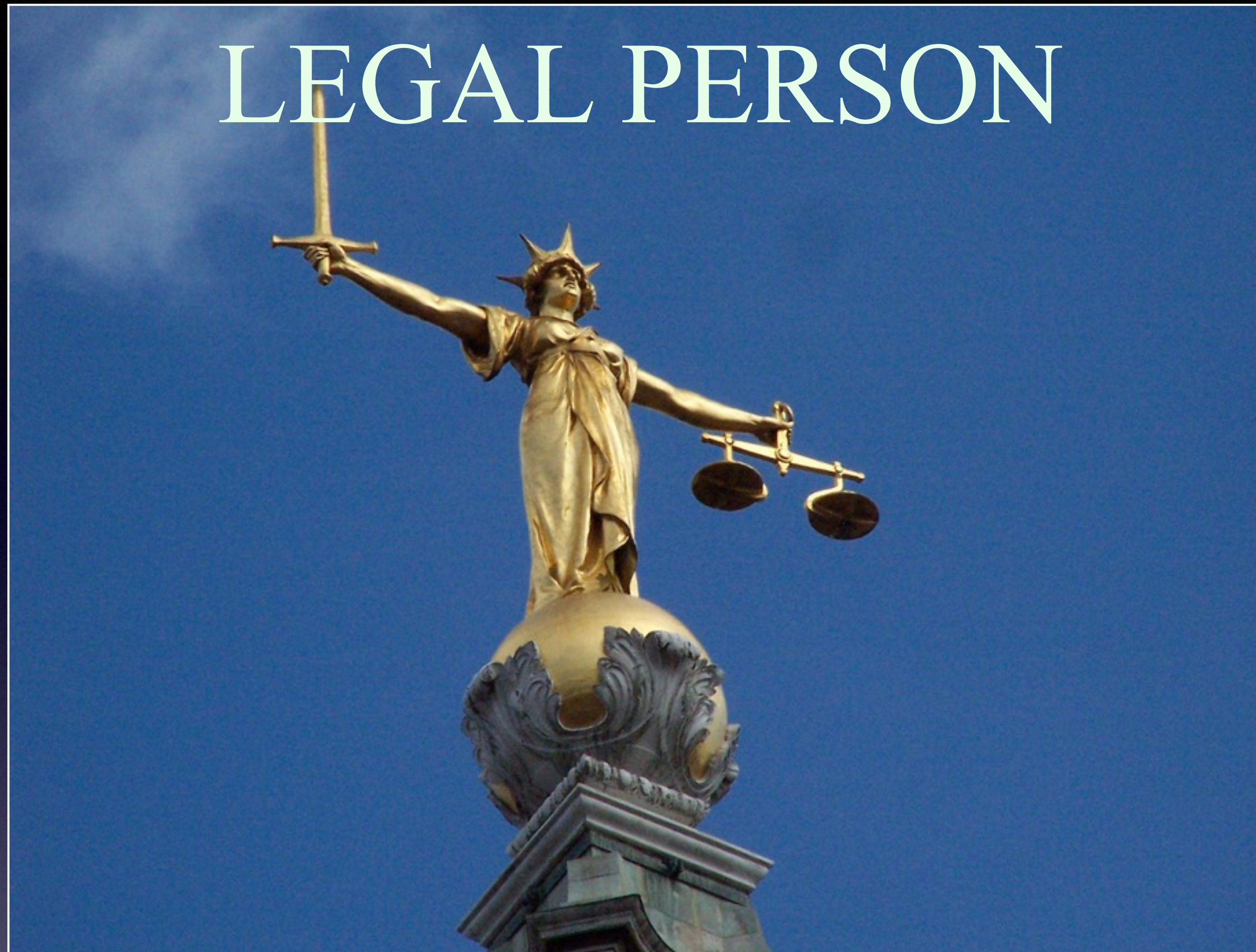
# PHYSICAL PERSON



We have had over 1,000,000 years to create social norms and architectures for how we deal with the Physical Person (Marc Davis )



# LEGAL PERSON



We have had over 10,000 years to construct the Legal Person and how it relates to the Physical Person



# DIGITAL PERSON

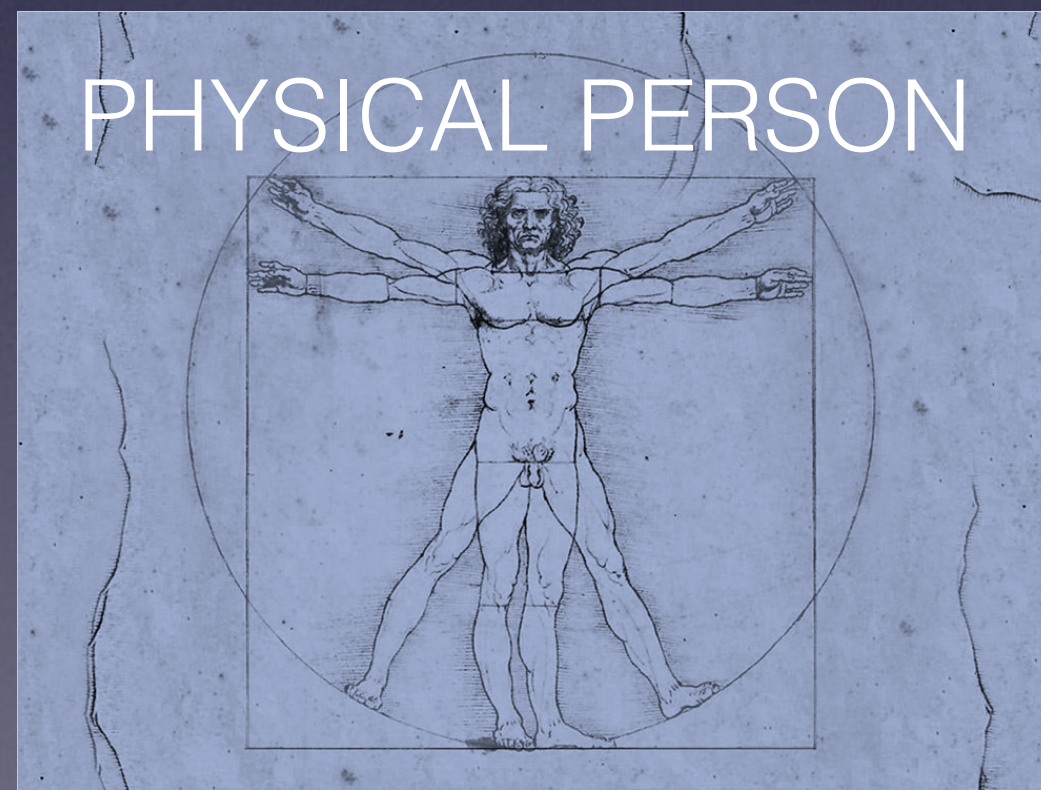


We have had just a few decades to bring into being the Digital Person



# THE BASIC QUESTION (MARC DAVIS):

What it means to be a “person” in the hyper-connected World? How to connect three types of “person”





# Digital Person?





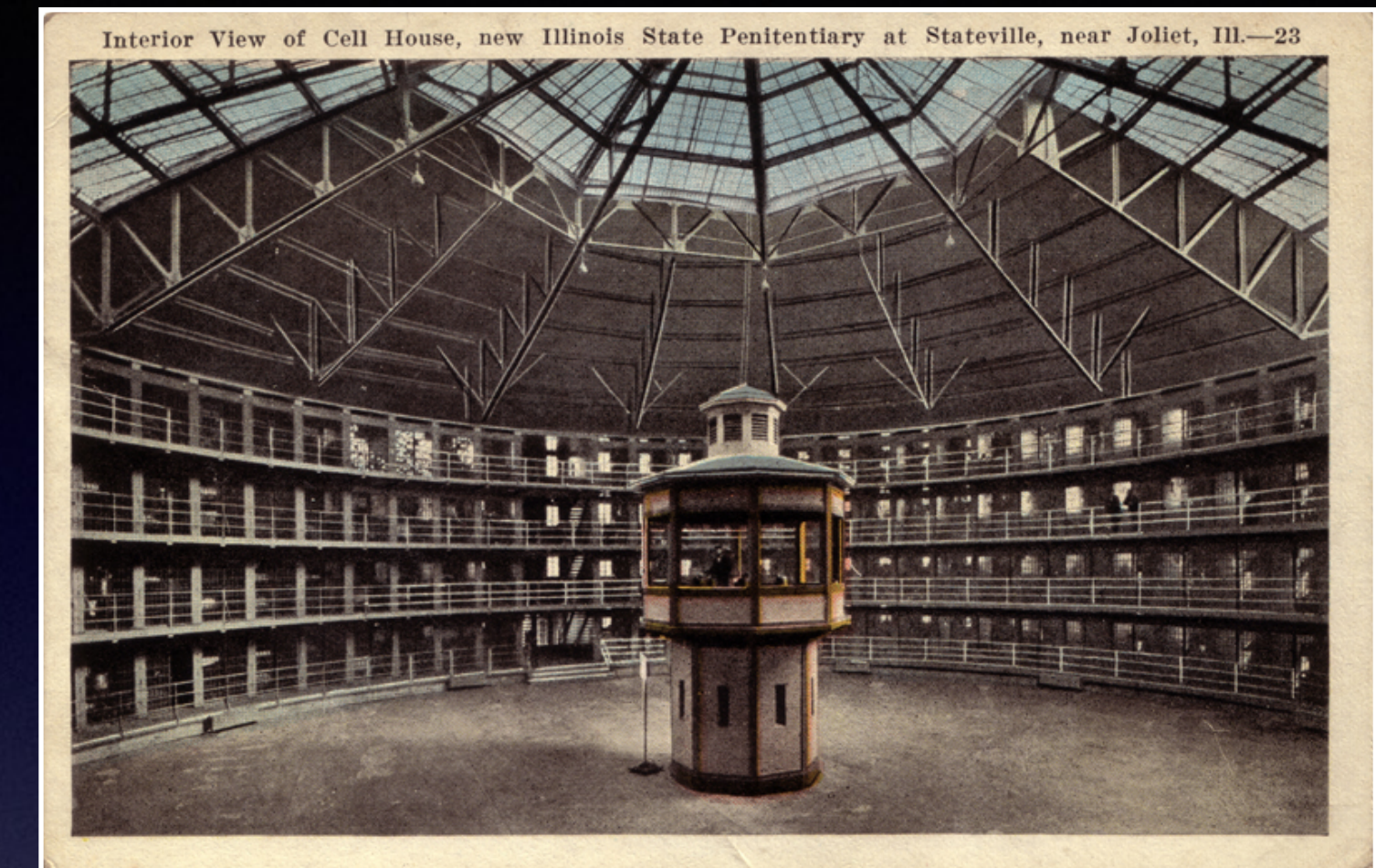
# Good news: Cyberspace is our new Habitat





# Bad news: In the new habitat we live in (Marc Davis):

## 1. Digital Panopticon



## 2. Digital Feudalism

We don't own our names, bodies, personal property, a domicile

We lack freedom of movement and expression

Our labor benefits the lords of the manor who own the land

We are "data serfs"





On the other hand:

“Personal data is the new oil  
of the internet and the new  
currency  
of the digital world.”

— Meglena Kuneva  
Former European Consumer Commissioner



# Monetisation of personal data

In 2010, the value of free services funded by surveillance-based advertising, minus a discount for foregone privacy, was estimated at over €100 billion



# SOCIAL CULTURE OF DIGITAL SOCIETY:

## ENHANCED SOCIAL AWARENESS

1. SOCIAL MEDIA

2. SOCIAL ARTIFACTS



# SOCIAL MEDIA



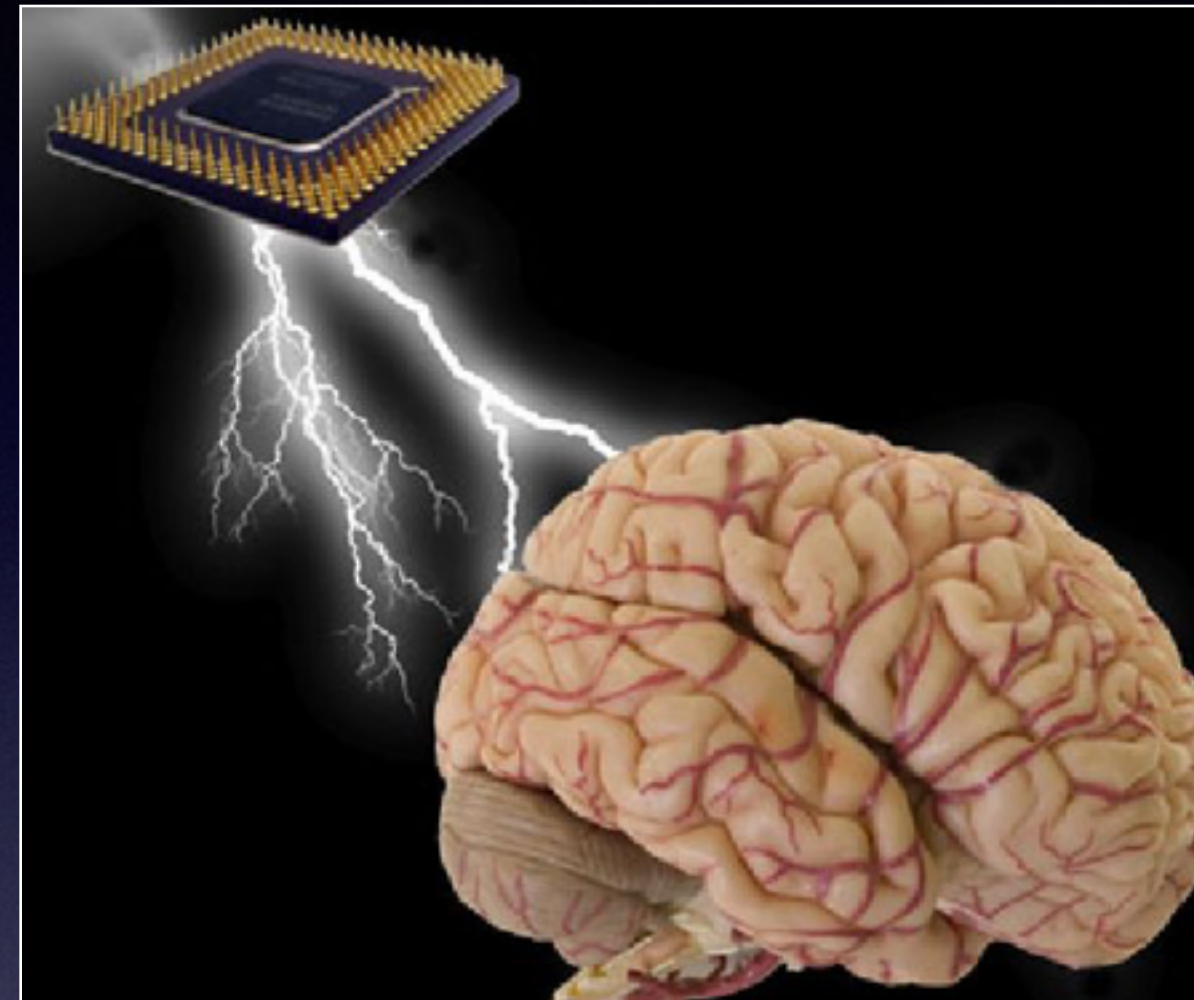
***Social Media***

Use of Web apps supporting creation  
of user-generated content

New way of forming social  
consciousness



# SOCIAL ARTIFACTS



***Social Artefacts***

Enhanced communicative features of artifacts

Perception of digital artifacts as socially behaving entities

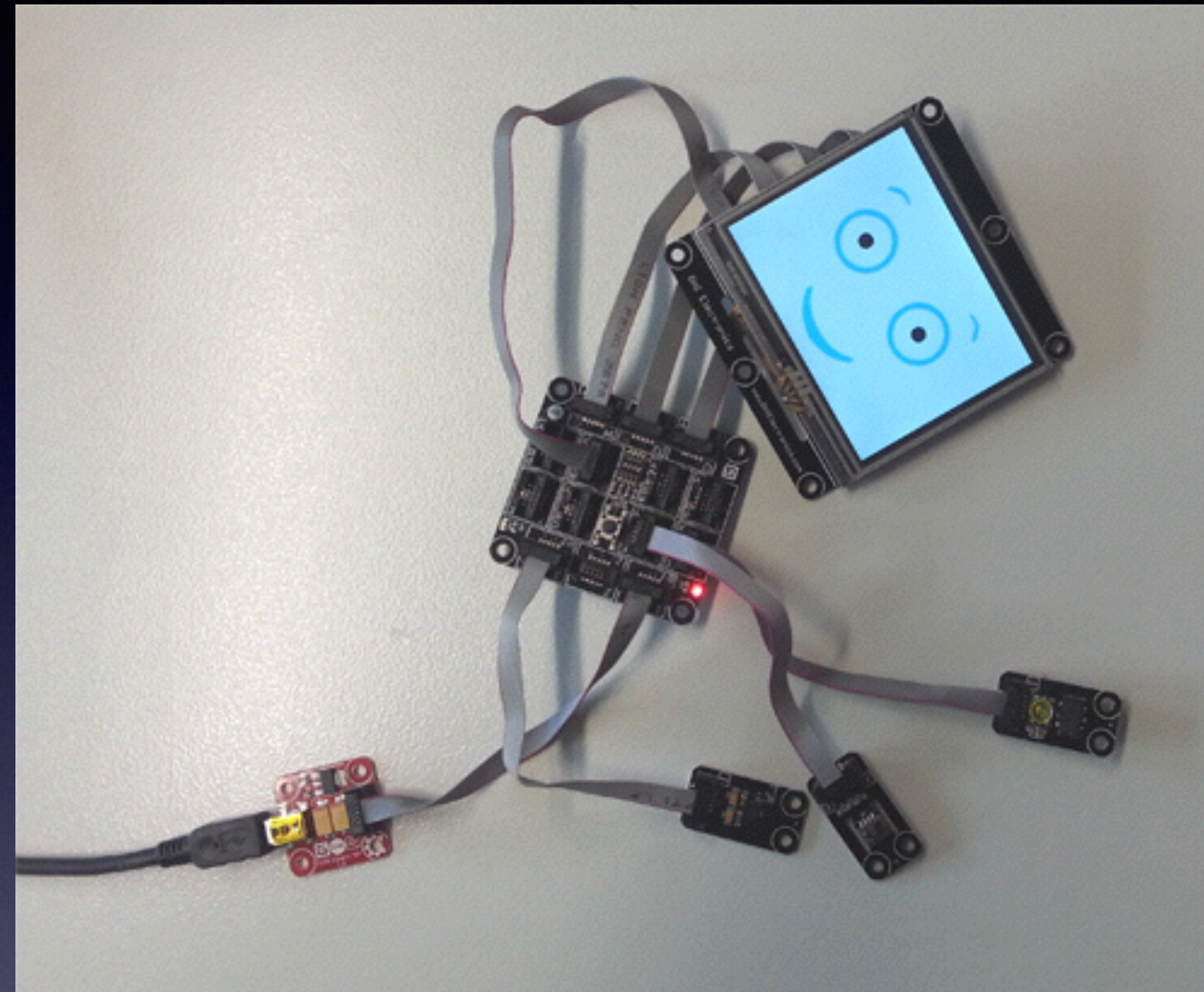


# TECHNOLOGICAL CULTURE OF DIGITAL SOCIETY

EMERGENCE OF CYBER-PHYSICAL  
SYSTEMS



# CYBER-PHYSICAL SYSTEMS



## ***Cyber-Physical Systems***

Systems combining computing,  
networking, and physical artefacts

Artificial inforgs, inhabiting infosphere



# SYMPTOMS OF COMING DIGITAL SOCIETY



# Symptoms of Digital Society



Reality/Virtuality



Human/Artefact/Nature



Scarcity/Abundance



Entities/Interactions



# THE FIRST SYMPTOM

BLURRING THE DISTINCTION  
BETWEEN REALITY AND VIRTUALITY



# Blurring between reality and virtuality

Humans perception of virtual (non-real):

1. **Magic** - before Enlightenment
2. **Natural but unknown** yet - since Enlightenment - “Disenchantment of the world”
3. **Technological** - since Industrial era





Max Weber  
(1864- 1920):

The fate of our times is characterised by rationalisation and intellectualisation, and, above all, by the "disenchantment of the world"



# Blurring between reality and virtuality

1. Today, people enchant the world. They began to believe in miracles!
2. Industrial society - rationalism and reification
3. Digital society - virtualisation of reality, de-reification



Industrial society. Events and processes are:

1. Physical phenomena based on conversion of energy
2. Described mathematically by linear equations

Digital society. Events and processes are:

1. Based on transformation of information
2. Described by algorithms

Today, non-real becomes artificial, which means – real.  
Virtual and real entities are converging!



# THE SECOND SYMPTOM

BLURRING THE DISTINCTIONS AMONG  
PEOPLE, NATURE, AND ARTEFACTS



# Blurring the distinctions among people, nature, and artefacts

1. Early mankind history - strong distinctions
2. Awareness that we are part of nature - Darwin
3. Awareness that we are part of artificial world - Turing:
  - Massive integration of sensors into the human life
  - Progress in cognitive sciences and biotechnology
  - Emergence of social artefacts
  - Emergence of analytical research methods in engineering



# Blurring the distinctions among people, nature, and artefacts



Memory outperforms intelligence. Many problems in e-health, safety, security, finance already arise within digital environments. Internet of Things. Cloud computing. Augmented reality



# THE THIRD SYMPTOM

REVERSAL FROM SCARCITY OF INFORMATION  
TO ABUNDANCE OF INFORMATION



# Reversal from scarcity of information to abundance of information

Modern Society –  
SCARCITY



Digital Society -  
ABUNDANCE





# Reversal from scarcity of information to abundance of information (Example: Engineering Design)

- Engineering in Industrial era - optimisation, trade-offs
- Today: who cares about overhead if resources are often almost unlimited?
- New optimisation criteria: security, trust, privacy, reliability, sustainability



# THE FOURTH SYMPTOM

REVERSAL FROM AN ENTITY'S PRIMACY OVER  
INTERACTIONS TO INTERACTIONS' PRIMACY  
OVER ENTITIES



# From Entities to Interactions



Entities as roundabouts of relations and processes (Floridi)



# From Entities to Interactions

- Our perception of the object, which becomes interconnected with other objects, has changed
- The object is not an inanimate entity anymore. It has some social content
- Traditionally, an object dominates
- Today, an object cannot be the main issue any more
- Object's behaviour cannot be predicted without knowing the structure and the content of the network



# CONCLUSIONS

- We are witnesses and participants of the fourth revolution of human consciousness
- The essence of the fourth revolution is our awareness about the existence of infosphere, which is actually, perception that we are part not only of natural world but also of artificial world
- The new digital society can be characterised by the new culture, where network personality, enhanced social awareness and cyber-physical systems form the cultural space
- We formulated a number of symptoms of the emerging digital society
- The above phenomena significantly affect our life and form directions for future challenges