

MERE IMPEDIMENTS?

A second thought on the role
of social boundaries in self-organisation
of the global collective intelligence on
the Earth

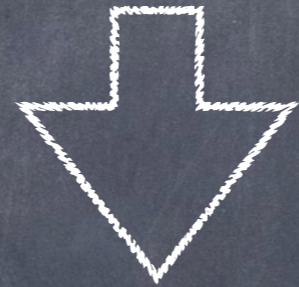
MARTA LENARTOWICZ

GBI, VUB

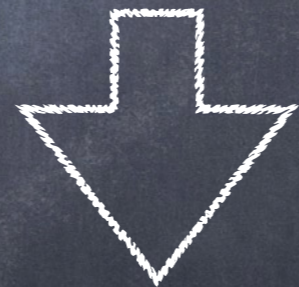
Evolution of social boundaries leads
towards the GB.

Evolved social boundaries will be the key
operational faculties of the GB.

1. A way of approaching social systems



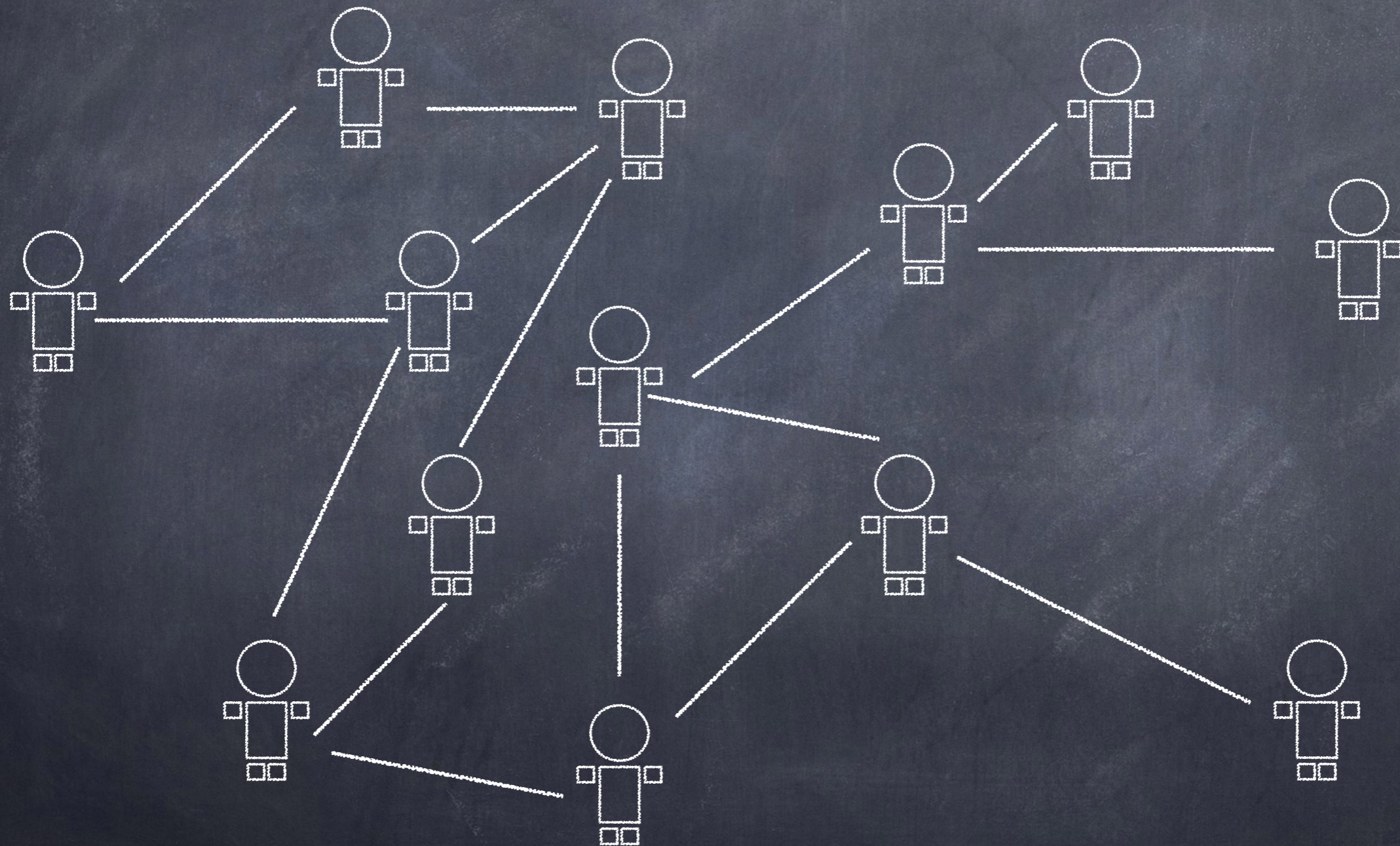
2. Evolution of social boundaries



3. Future of social boundaries

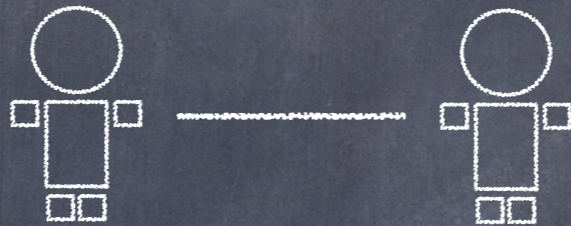
1. A way of approaching social systems

[Based on H.A. SIMON + N. LUHMANN + F. de SAUSSURE + J. SEARLE + Y.M. LOTMAN + F. HEYLIGHEN]



1. A way of approaching social systems

'the properties of the parts and the laws of their interaction' (Simon 1962:468)



THE PROPERTIES OF

THE PARTS:

proximity,

similarity,

trust, etc.

LAWS OF

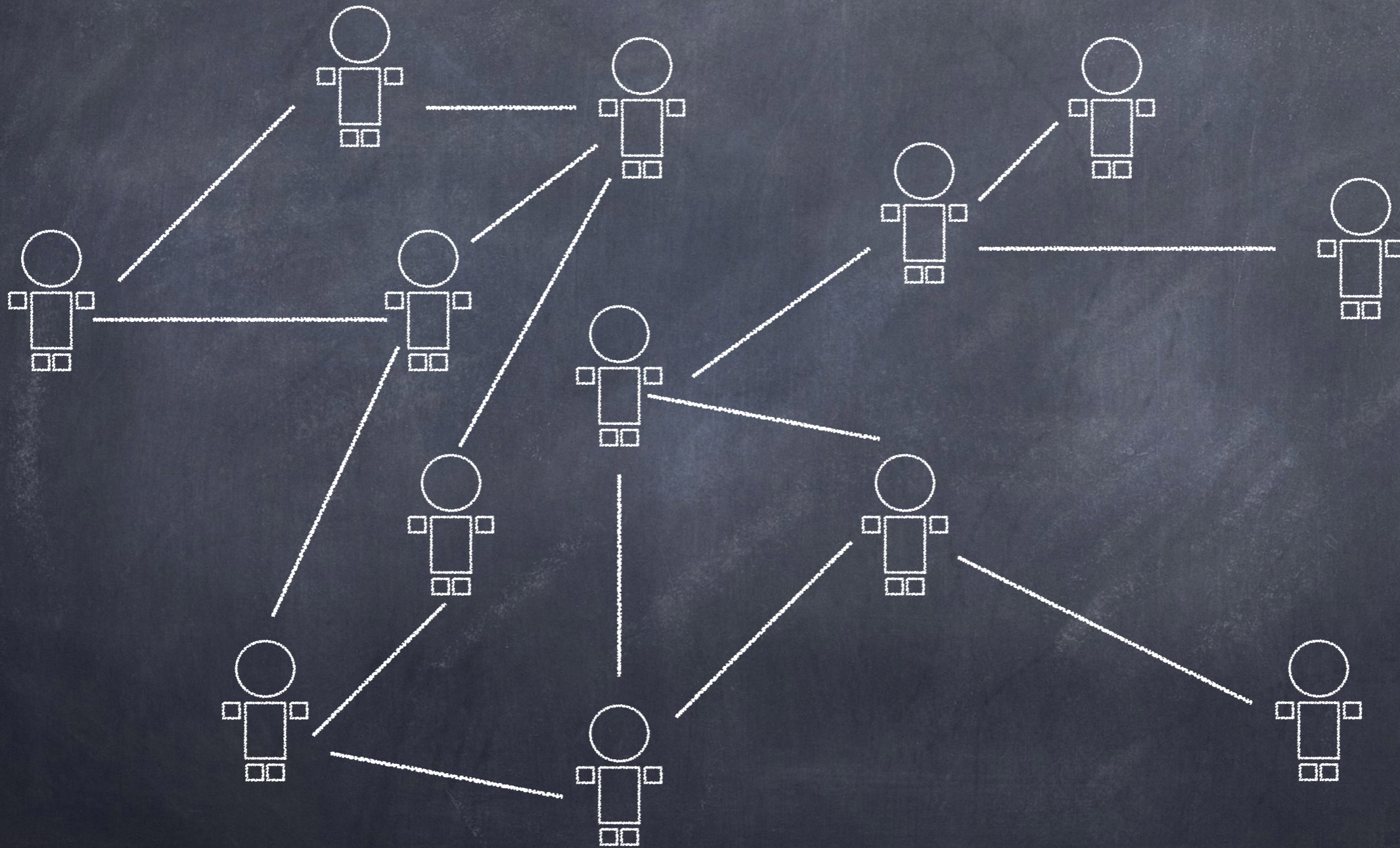
INTERACTIONS:

game theory,

stigmergy,

signalling, etc.

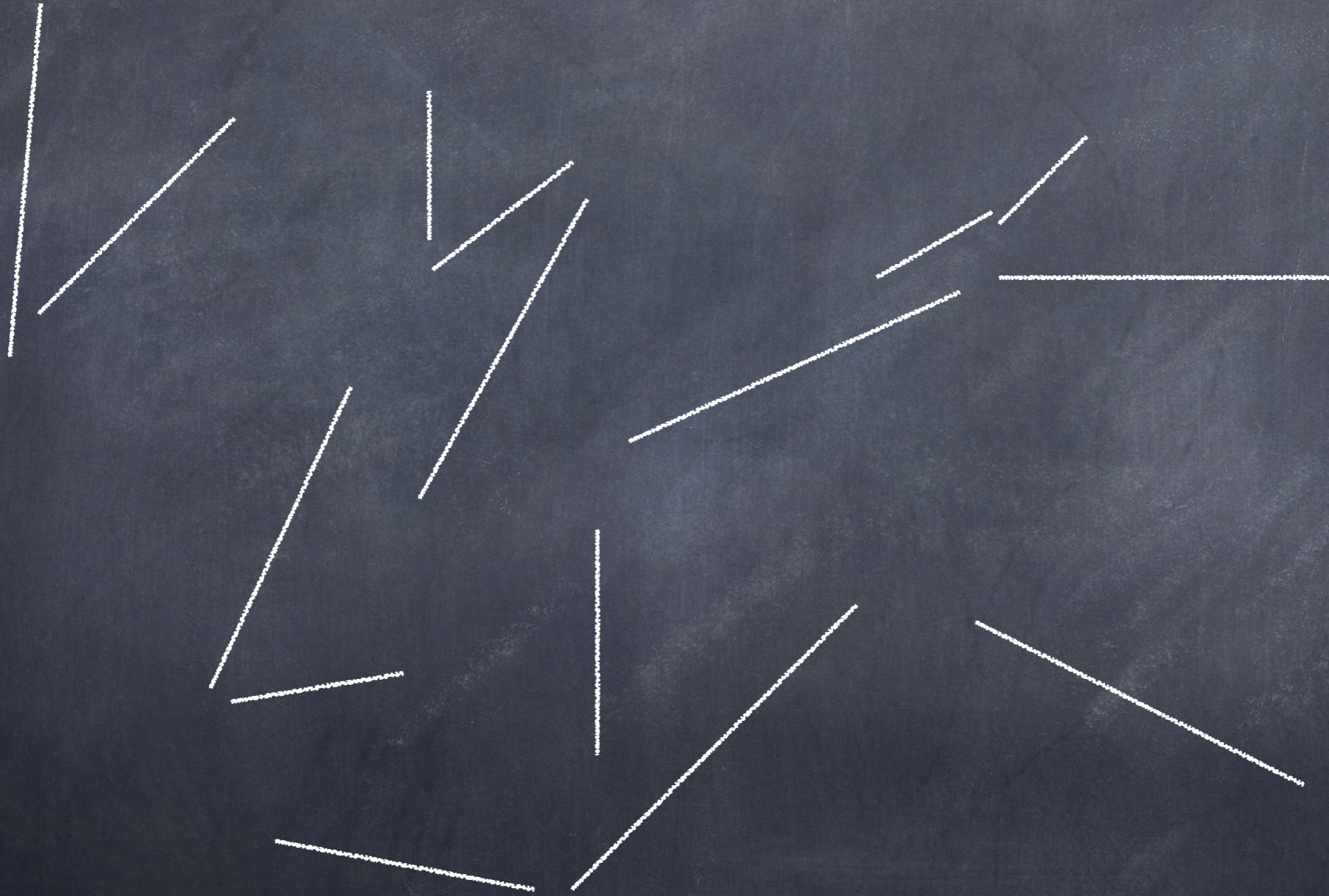
1. A way of approaching social systems



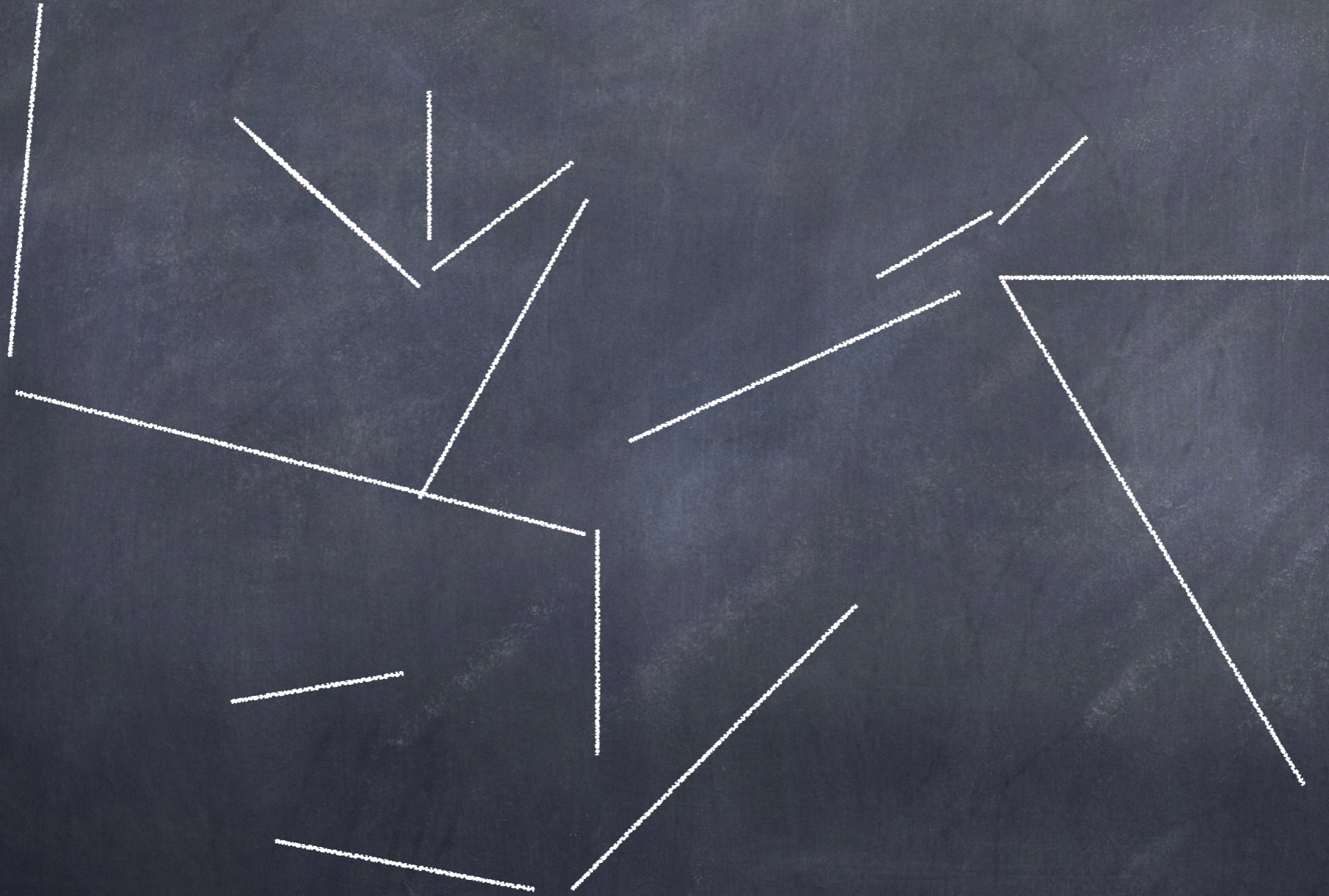
1. A way of approaching social systems



1. A way of approaching social systems



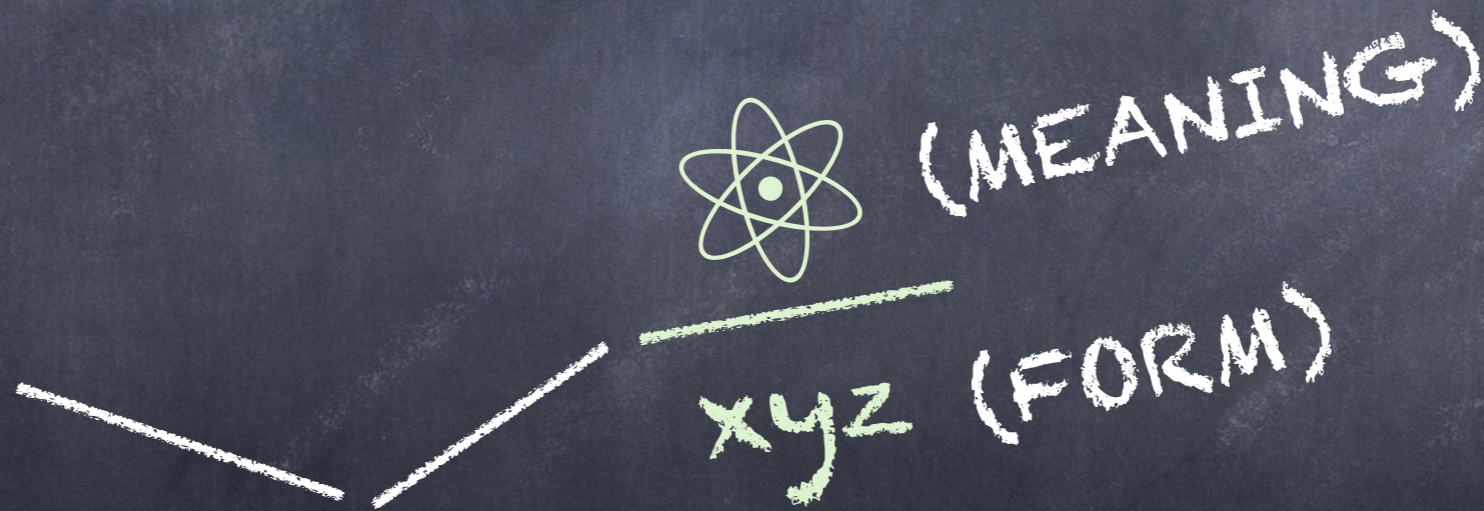
1. A way of approaching social systems



1. A way of approaching social systems

WHAT ARE THE
RELEVANT
PROPERTIES OF THE
PARTS?

WHAT ARE THE LAWS
OF THEIR
INTERACTIONS?



1. A way of approaching social systems

$$\frac{\text{atom symbol}}{\text{xyz}}$$

$$\frac{\text{cloud symbol}}{\text{ab}}$$

$$\frac{\text{cloud symbol}}{\text{yy}}$$

$$\frac{\text{moon symbol}}{\text{xz}}$$

1. A way of approaching social systems



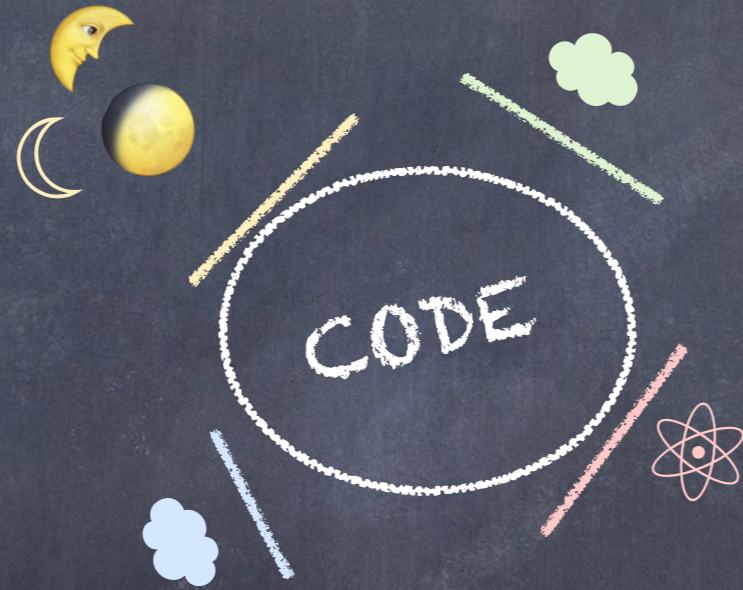
1. A way of approaching social systems



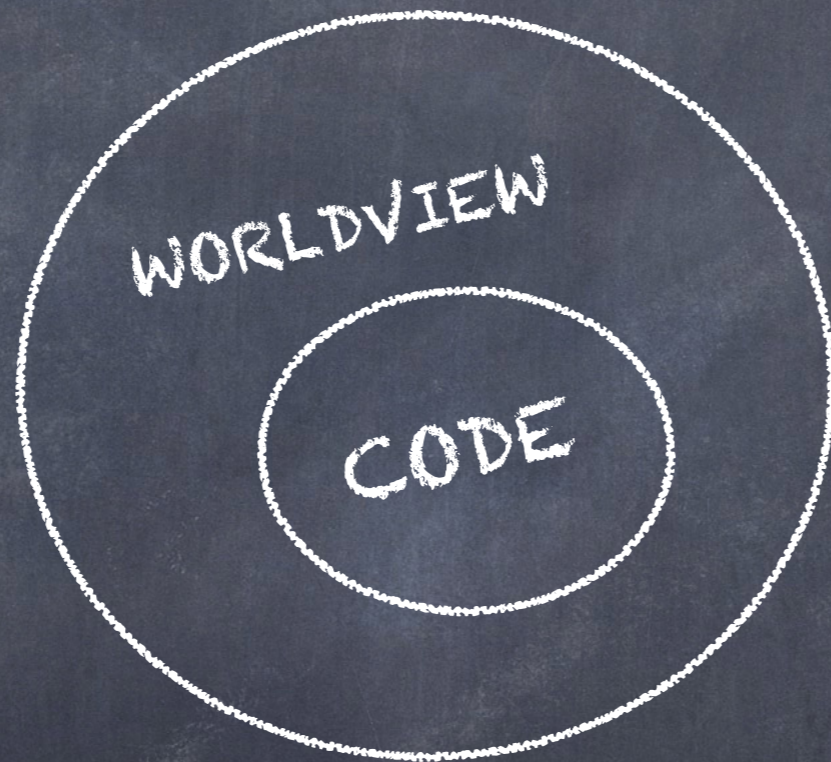
1. A way of approaching social systems



1. A way of approaching social systems

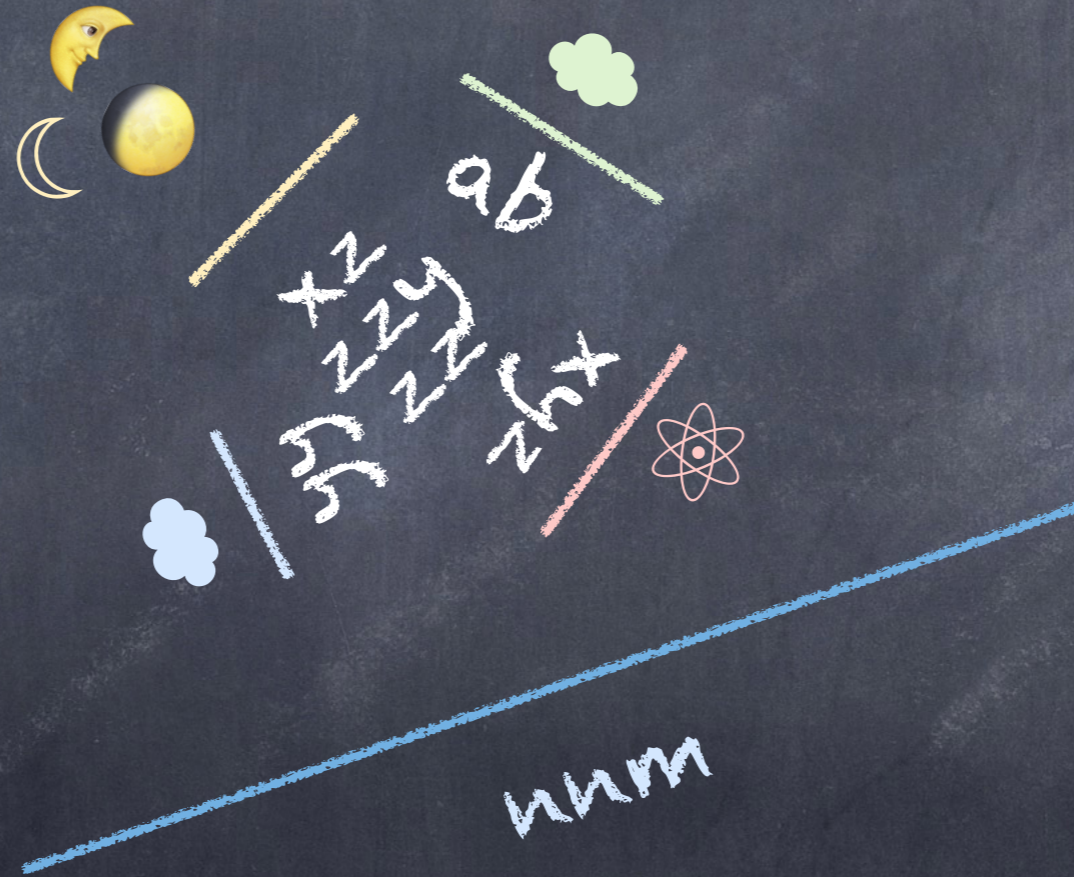


1. A way of approaching social systems



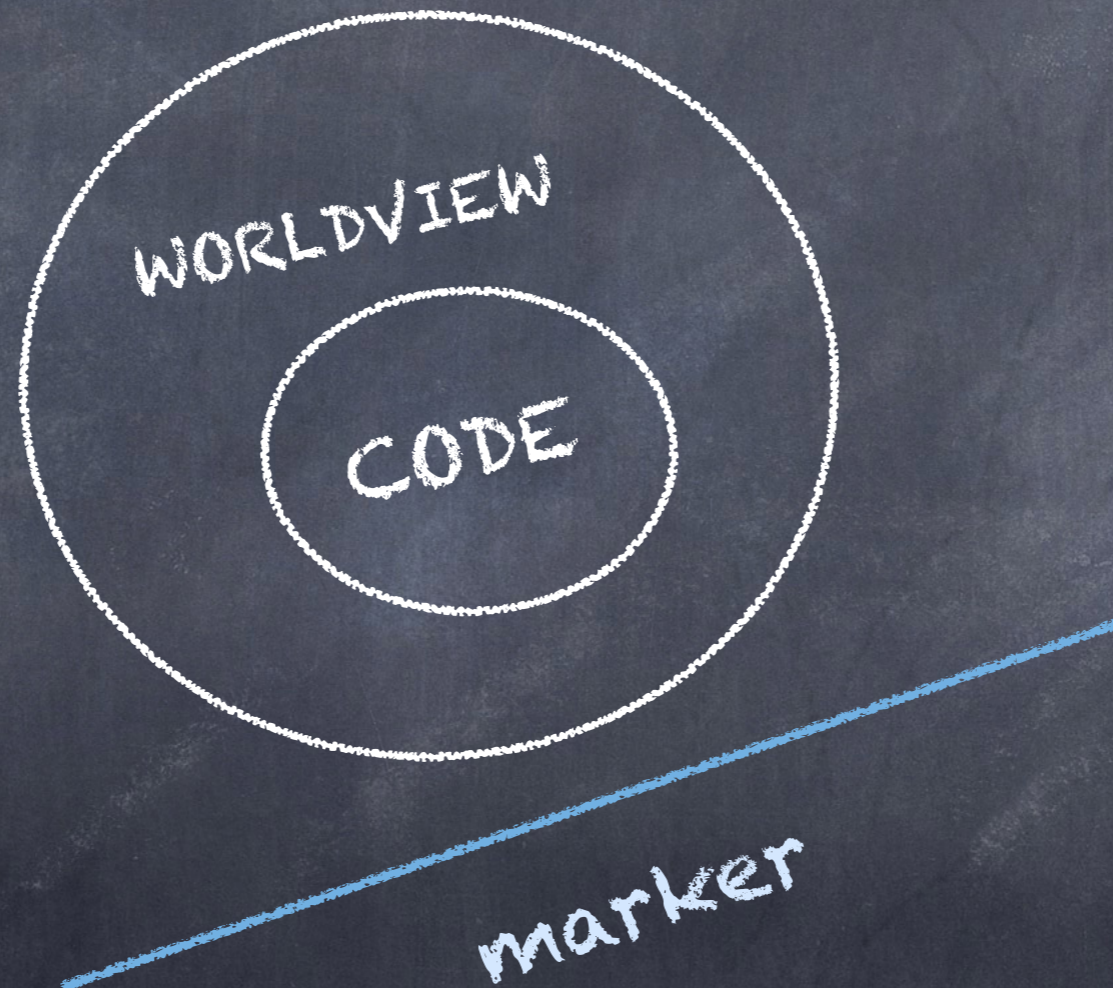
1. A way of approaching social systems

A social system:



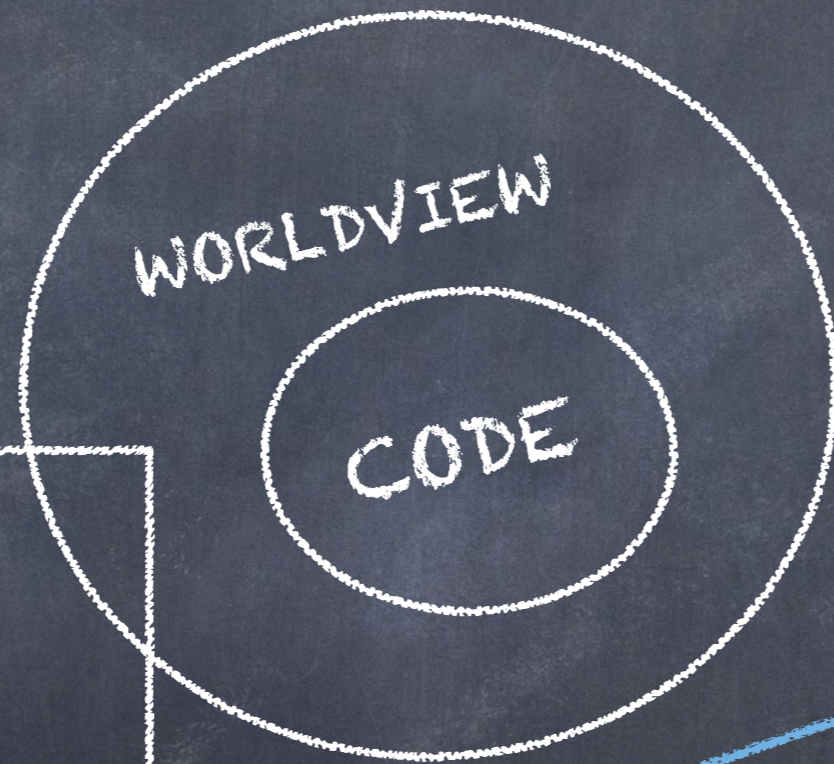
1. A way of approaching social systems

A social system:



1. A way of approaching social systems

A social system:



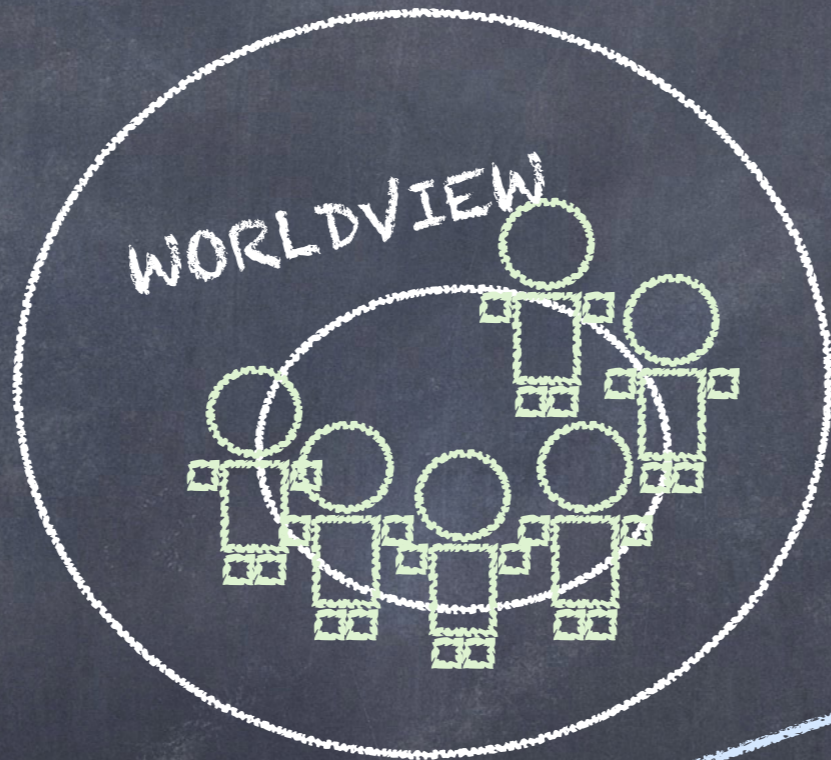
A SYSTEM BOUNDARY: DELINEATES PARTS OF THE SYSTEMS FROM NON-PARTS

marker

A SOCIAL SYSTEM BOUNDARY: DELINEATES COMMUNICATIONS THAT CONSTITUTE THE SYSTEM FROM OTHER COMMUNICATIONS

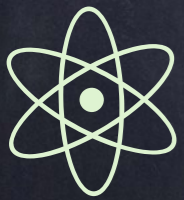
2. Evolution of social boundaries so far

Spoken communication: a tribe



SOCIAL SYSTEMS
WITH
TOPOLOGICAL
BOUNDARIES

market:
HUMANS

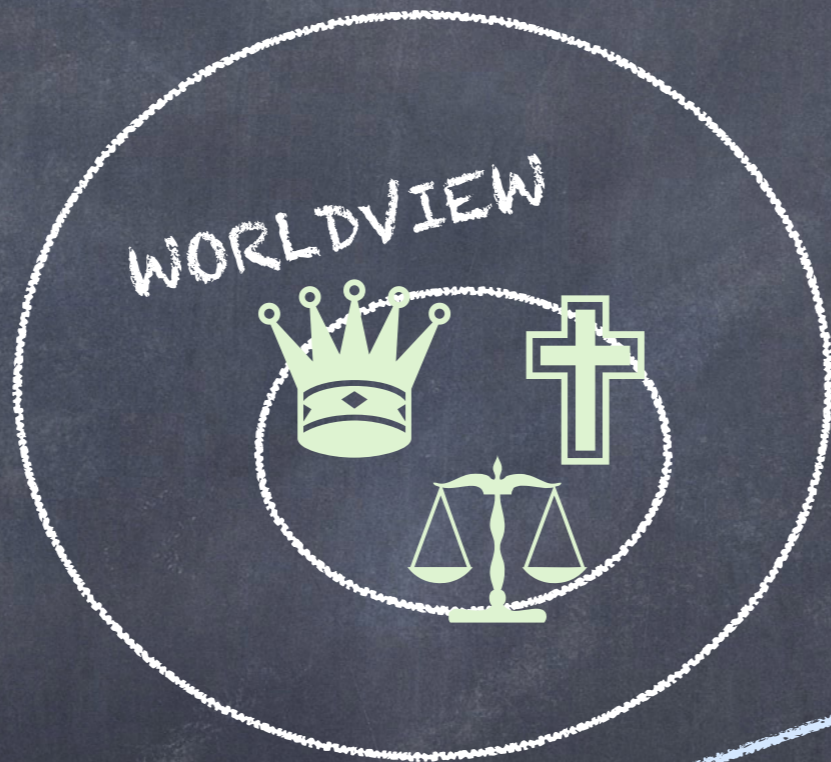


xyz

abb

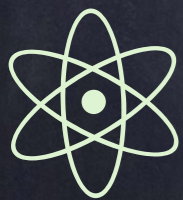
2. Evolution of social boundaries so far

Written communication: a stratified society



SOCIAL SYSTEMS
WITH SEMIOTIC
BOUNDARIES

marker:
SIGNS

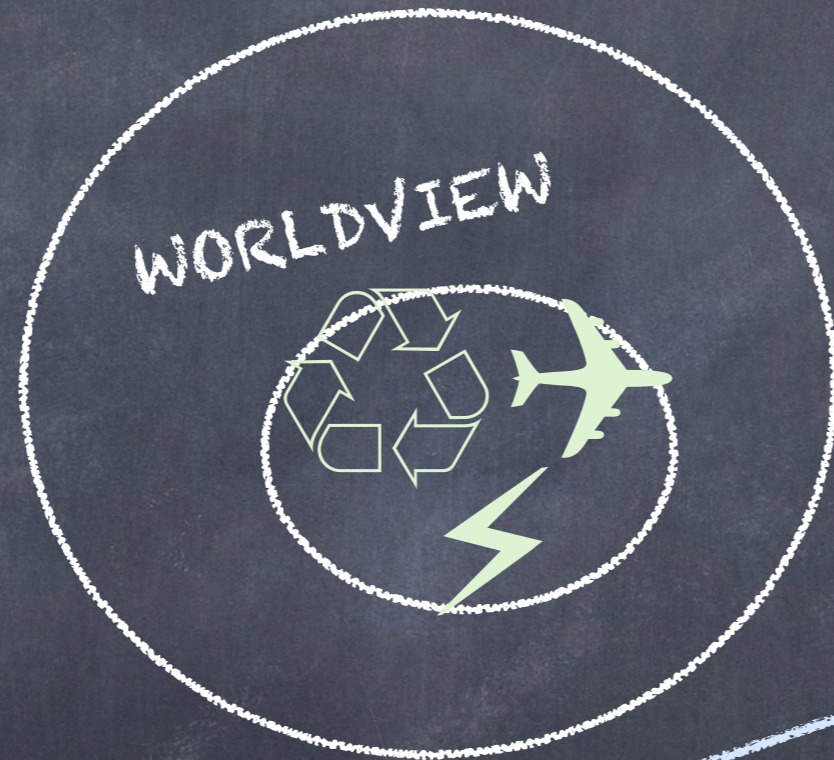


xyz

abb

2. Evolution of social boundaries so far

Industrialised print: functionally differentiated society



SOCIAL SYSTEMS
WITH
PROGRAMMED
BOUNDARIES

market:
PROGRAM

COAL MINE IN SOSNOWIEC, POLAND
2014 MINERS' STRIKE BEFORE THE SHUT-DOWN



Source: <http://www.polskieradio.pl/5/3/Artykul/1244041,Koniec-strajku-pod-ziemia-Gornicy-nie-pojda-jednak-do-domu>

SOSNOWIEC COAL MINE IN POLAND
2014 MINERS' STRIKE BEFORE THE SHUT-DOWN



Source: <http://www.polskieradio.pl/5/3/Artykul/1244041,Koniec-strajku-pod-ziemia-Gornicy-nie-pojda-jednak-do-domu>

environmental
movement

SOSNOWIEC COAL MINE IN POLAND
2014 MINERS' STRIKE BEFORE THE SHUT-DOWN



Source: <http://www.polskieradio.pl/5/3/Artykul/1244041,Koniec-strajku-pod-ziemia-Gornicy-nie-pojda-jednak-do-domu>

education

SOSNOWIEC COAL MINE IN POLAND
2014 MINERS' STRIKE BEFORE THE SHUT-DOWN



Source: <http://www.polskieradio.pl/5/3/Artykul/1244041,Koniec-strajku-pod-ziemia-Gornicy-nie-pojda-jednak-do-domu>

politics

SOSNOWIEC COAL MINE IN POLAND
2014 MINERS' STRIKE BEFORE THE SHUT-DOWN



Source: <http://www.polskieradio.pl/5/3/Artykul/1244041,Koniec-strajku-pod-ziemia-Gornicy-nie-pojda-jednak-do-domu>

Law

SOSNOWIEC COAL MINE IN POLAND
2014 MINERS' STRIKE BEFORE THE SHUT-DOWN



Source: <http://www.polskieradio.pl/5/3/Artykul/1244041,Koniec-strajku-pod-ziemia-Gornicy-nie-pojda-jednak-do-domu>

media

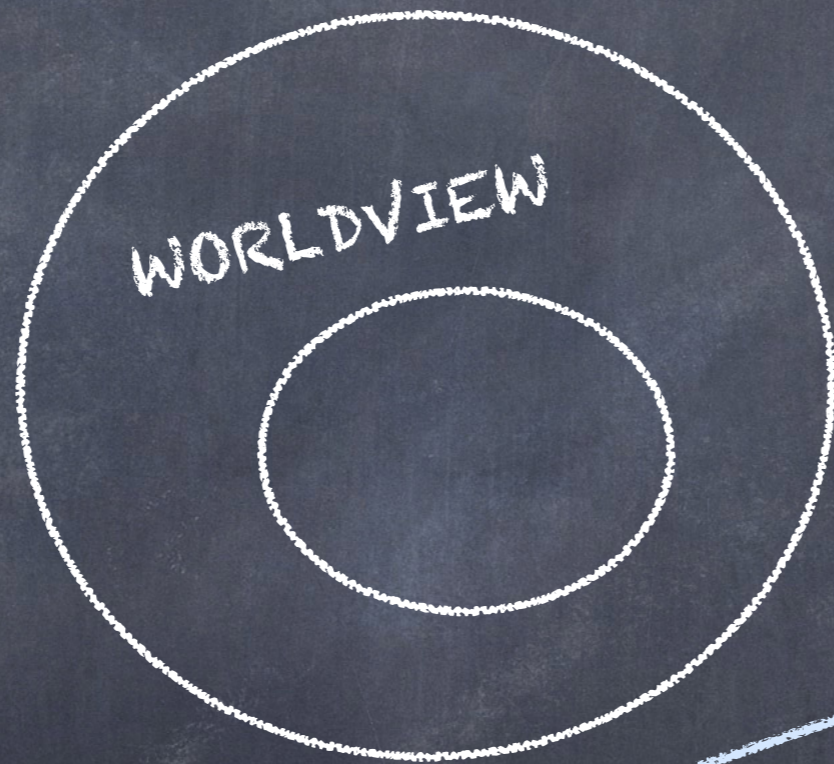
2. Evolution of social boundaries so far

System	Code
Policy	Inferior/Superior
Economy	Non-/Payment
Science	Un-/True
Art ⁴	Imitation/Innovation
Religion	Immanent/Transcendent
Legal System	Wrong/Right
Sport ⁵	Failure/Success
Health System ⁶	Sane/Insane
Education ⁷	Un-/Placeable
Mass Media ⁸	Non-/Informative

[ROTH 2014]

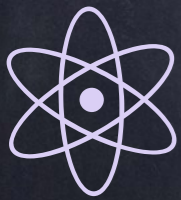
2. Evolution of social boundaries so far

Print: functionally differentiated society



SOCIAL SYSTEMS
WITH
PROGRAMMED
BOUNDARIES

market:
PROGRAM



xyz

abb

COAL MINE IN SOSNOWIEC, POLAND
2014 MINERS' STRIKE BEFORE THE SHUT-DOWN



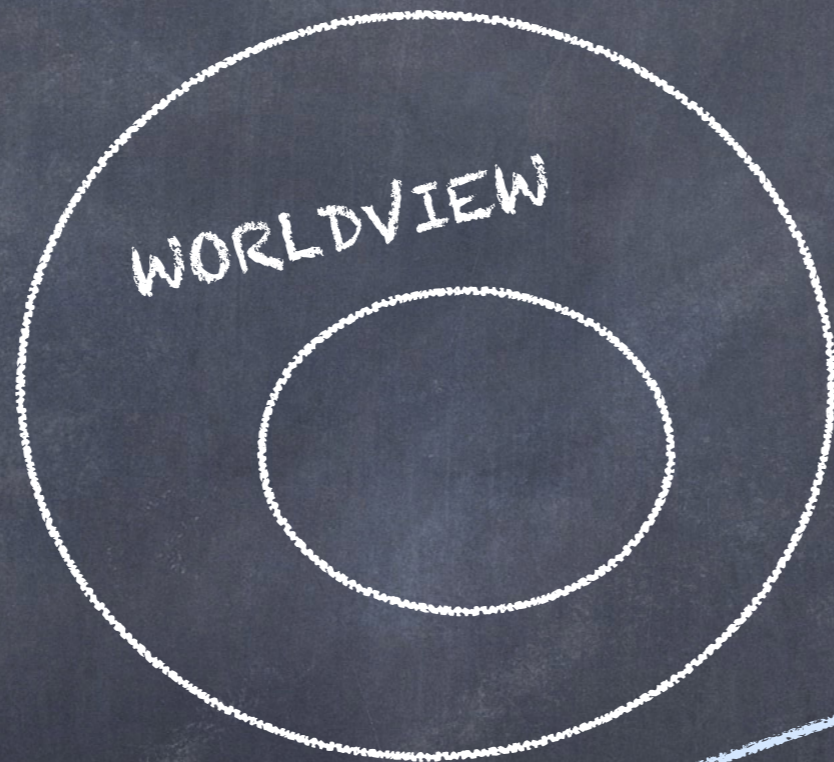
Source: <http://www.polskieradio.pl/5/3/Artykul/1244041,Koniec-strajku-pod-ziemia-Gornicy-nie-pojda-jednak-do-domu>

2. Evolution of social boundaries so far

- SOCIAL SYSTEMS WITH TOPOLOGICAL BOUNDARIES
- SOCIAL SYSTEMS WITH SEMIOTIC BOUNDARIES
- SOCIAL SYSTEMS WITH PROGRAMMED BOUNDARIES

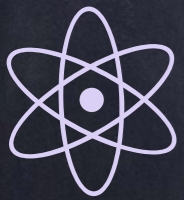
3. Future of social boundaries in the GB

Internet: the GB society



SOCIAL SYSTEMS
WITH AUTOMATED
BOUNDARIES

market:
AUTOMATED
OPERATIONS

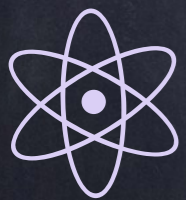
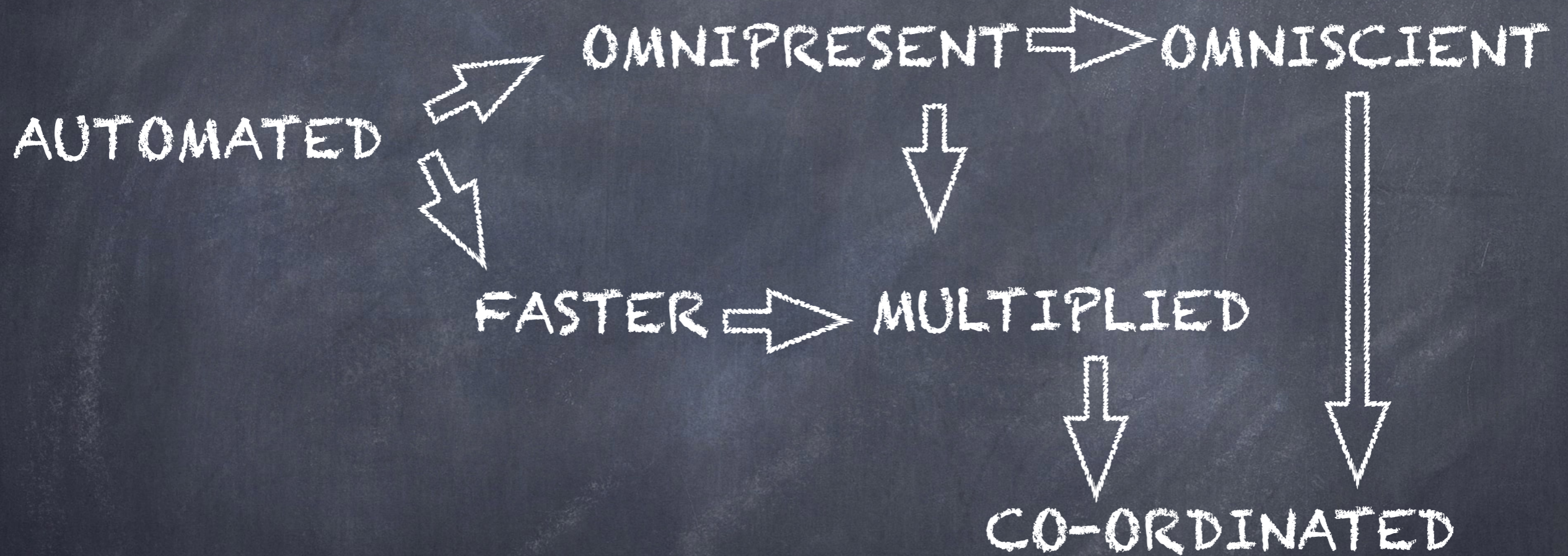


xyz

abb

3. Future of social boundaries in the GB

Internet: the GB society



xyz

abb

WORLDVIEW

CODE

CODE

WORLDVIEW

CODE

WORLDVIEW

CODE

SOSNOWIEC COAL MINE IN POLAND
2014 MINERS' STRIKE BEFORE THE SHUT-DOWN



Source: <http://www.polskieradio.pl/5/3/Artykul/1244041,Koniec-strajku-pod-ziemia-Gornicy-nie-pojda-jednak-do-domu>

WORLDVIEW

CODE

WORLDVIEW

CODE

WORLDVIEW

CODE

WORLDVIEW

CODE

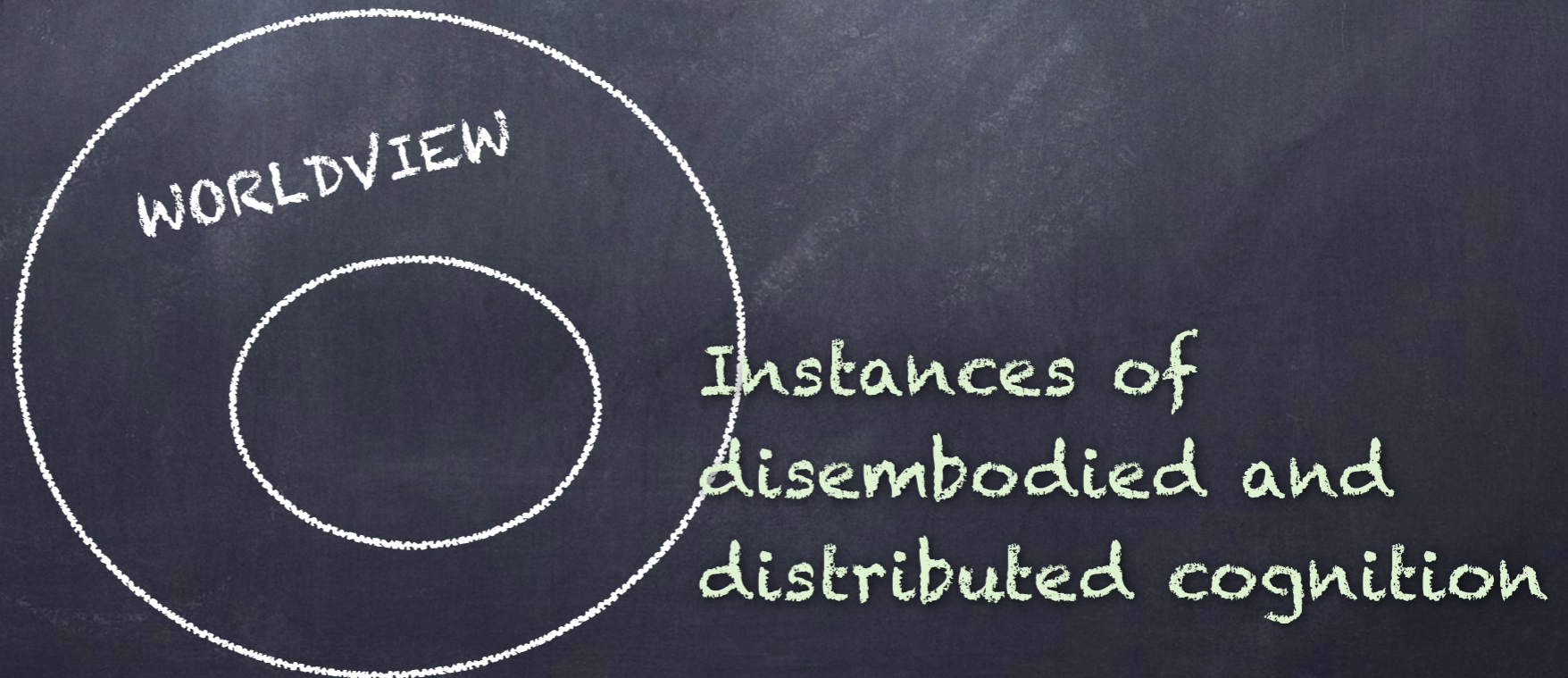
WORLDVIEW

CODE

3. Future of social boundaries in the GB

- SOCIAL SYSTEMS WITH TOPOLOGICAL BOUNDARIES
- SOCIAL SYSTEMS WITH SEMIOTIC BOUNDARIES
- SOCIAL SYSTEMS WITH PROGRAMMED BOUNDARIES
- SOCIAL SYSTEMS WITH AUTOMATED BOUNDARIES

(an external view)



1. Evolution of social boundaries produces more and more instances of disembodied and distributed cognition

2. Evolved, automated social boundaries will be the key cognitive faculty of the GB.

References

HEYLIGHEN, F. (2001) The science of self-organization and adaptivity

HEYLIGHEN, F. (2013) Return to Eden? Promises and Perils on the Road to a Global Superintelligence

LOTMAN, Y. (2001) Universe of the Mind: A Semiotic Theory of Culture

LUHMANN, N. (1995) Social systems

ROTH, S. (2014) Fashionable Functions (...)

De SAUSSURE, F. (1916) The course of general linguistics

SEARLE, J. (1997) The construction of social reality

SIMON, H.A. (1962) The architecture of complexity

VEITAS, V., WEINBAUM, D. (2014) World of views