

**WAHRHEIT ODER
WAHRHEITSLIEBE
IN UNSERER
ABBILDUNG VON
WIRKLICHKEIT?**



**TRUTH OR
TRUTHFULNESS IN
OUR MAPPING OF
REALITY?**

José María Díaz Nafria

The Problems of Achieving and Speaking the Truth



Time Saving Truth from Falsehood and Envy.
François Lemoyne, 1737

*“... a **general criterion** of truth must be such as would be valid in each and every instance of knowledge, however their objects may vary. It is obvious however that such a criterion [being general] cannot take account of the [varying] content of knowledge (relation to its [specific] object). But ... **truth concerns just this very content**”*

Critique of the Pure Reason, Immanuel Kant

“Truth is the property of no individual but is the treasure of all men.”

Ralph Waldo Emerson.

“In a time of universal deceit speaking the truth is a revolutionary act.”

Attributed to George Orwell.

The problem of truth in the context of multiple perspectives of reality



Contents

1. The problem of truth (Wittenberg, 2018)
2. How do we know the truth?
3. How do we speak the truth?
4. How is our system of truths?
5. How in the hell can we integrate everyone truths?
 - How it is done in the current digital world
 - How can we do otherwise?
6. The glossaLAB project



1. The problem of truth

What is **truth** in the first place?

Classical approach: **A is B** : Judgment $T \vee \neg T$?

A object of observation,

A encapsulates: $\{A_1, A_2, \dots\}$

A_1 encapsulates: $\{A_{11}, A_{12}, \dots\}$

etc

$\{A_1, \dots, A_j\}$ we have observation access to

$\{A_{j+1}, \dots, A_N\}$ we have no observational access to

B predicament, attribute,

B encapsulates: $\{B_1, B_2, \dots\}$

B_1 encapsulates: $\{B_{11}, B_{12}, \dots\}$

etc

$\{B_1, \dots, B_j\}$ is conscious

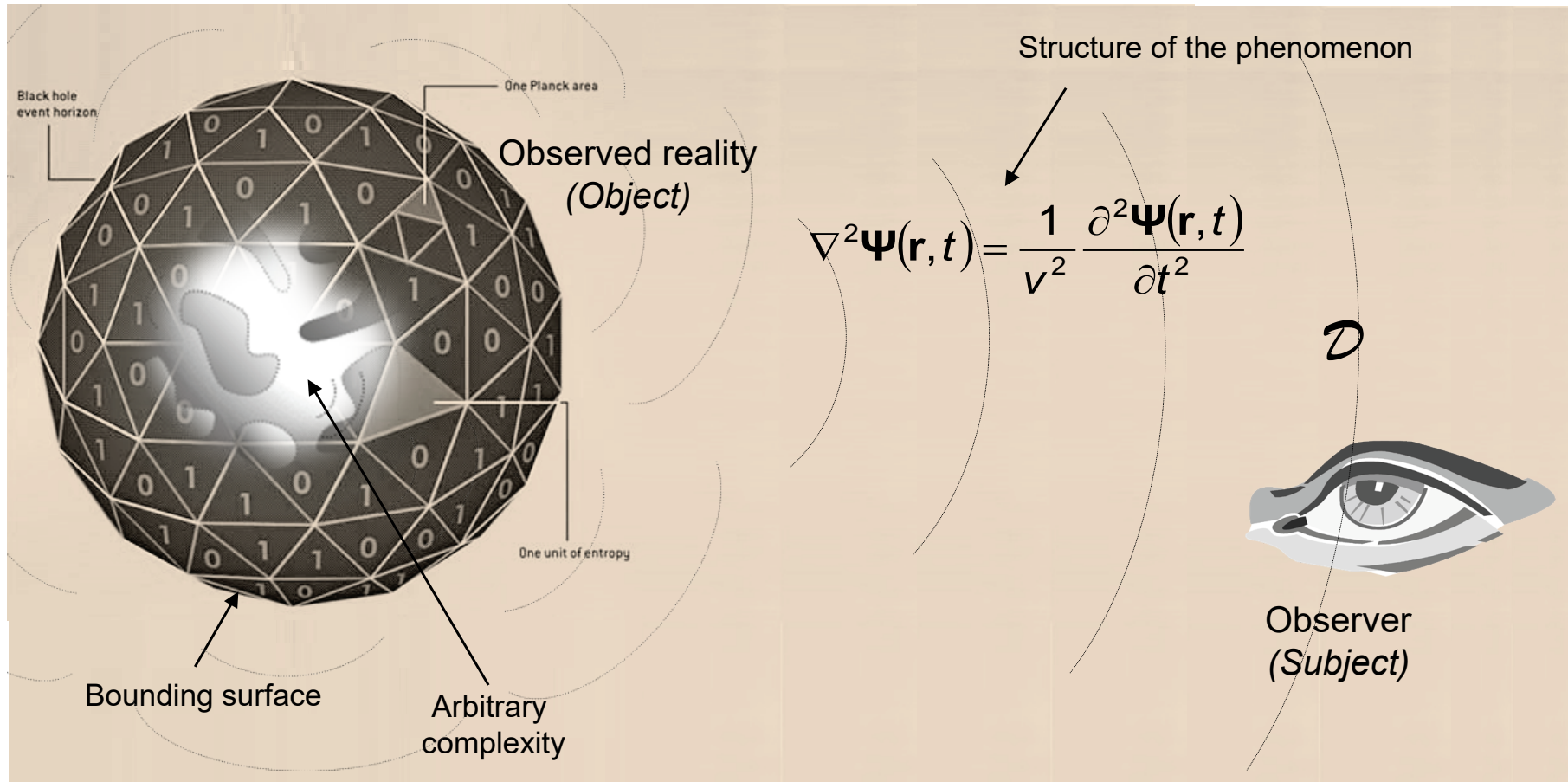
$\{B_{j+1}, \dots, B_N\}$ is unconscious



Contending perspectives:

- *Correspondence*: “*Verita est adequatio rei et intellectus*” (Aquinas). *Logic Inductivism*.
- *Coherence*: fit of elements within a whole system
- *Constructivist*: social processes...
- *Consensus*
- *Pragmatic theories*: concepts into practice.
- *Deflationary*: expressive convenience.

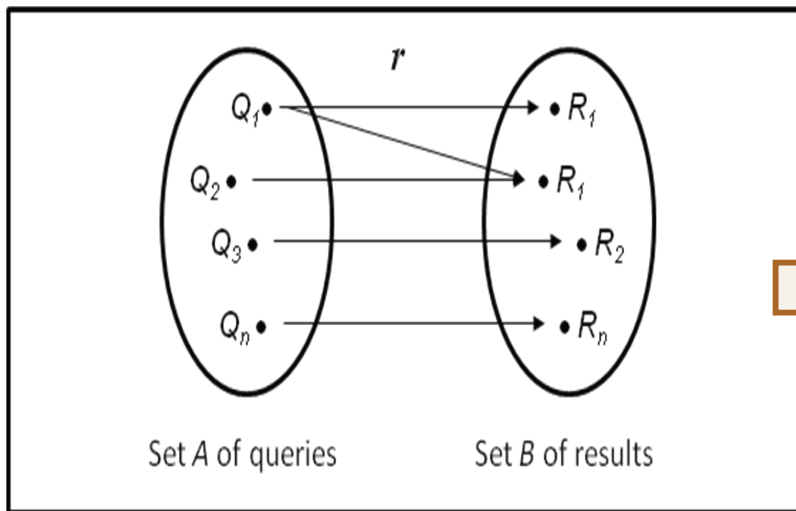
2. How do we know the truth?



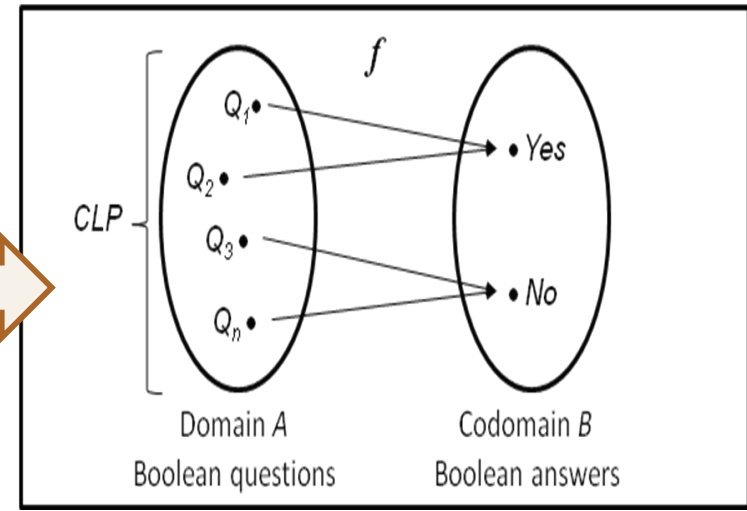
Bekenstein Holographic Universe

2. How do we know the truth?

Floridi's Correctness Theory of Truth

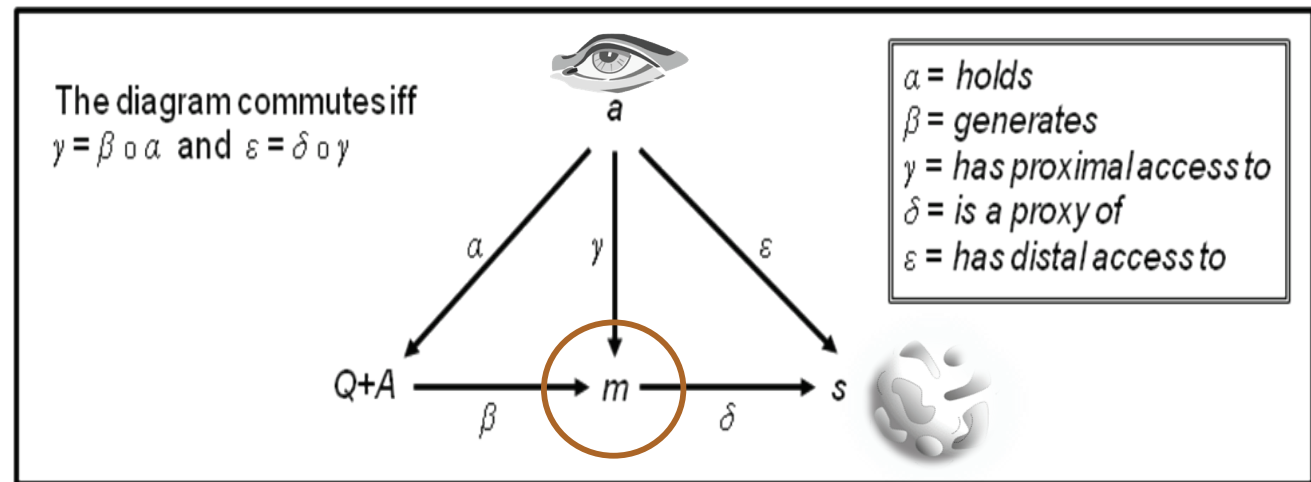


Norm.

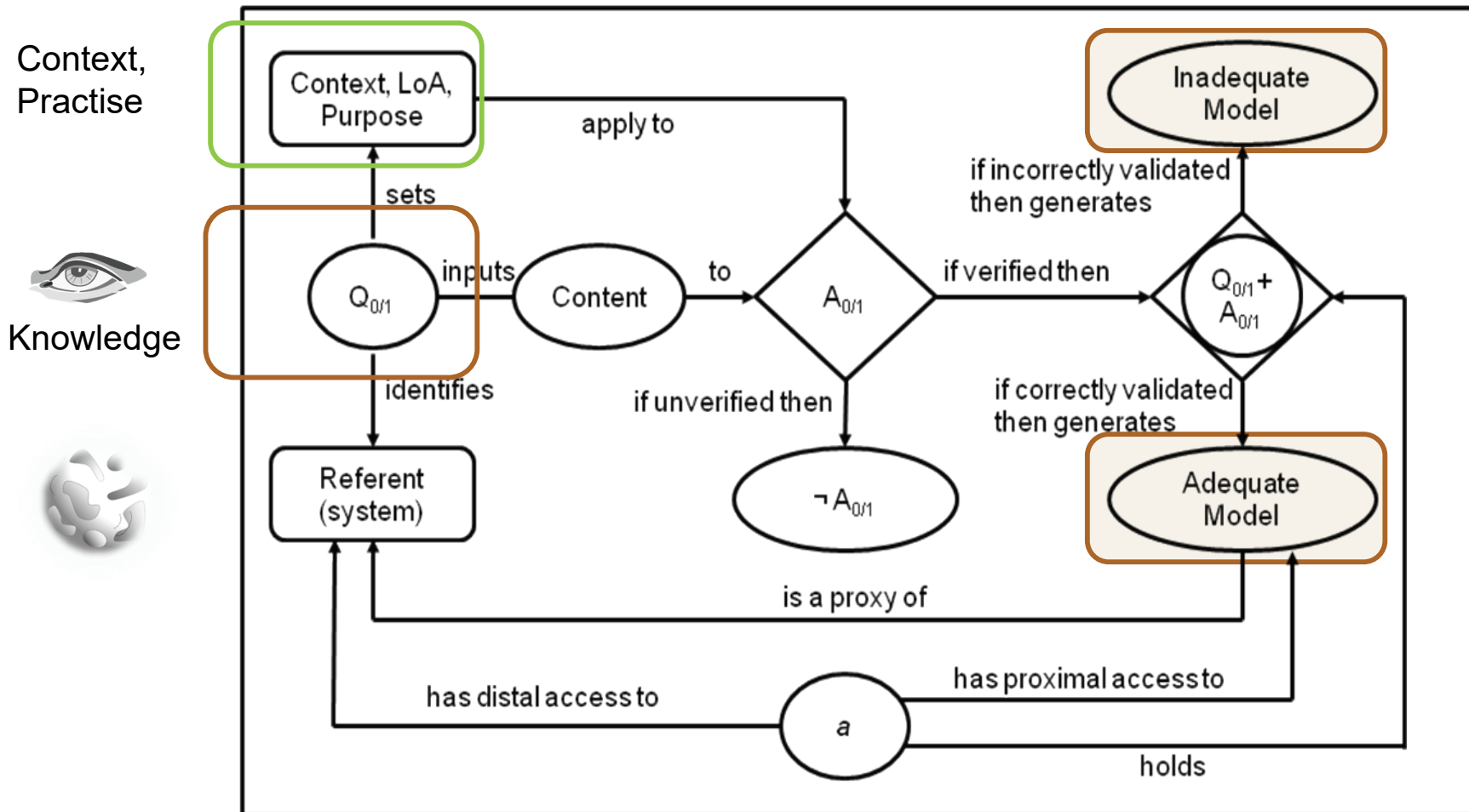


What **access** do we have to the objects of knowledge?

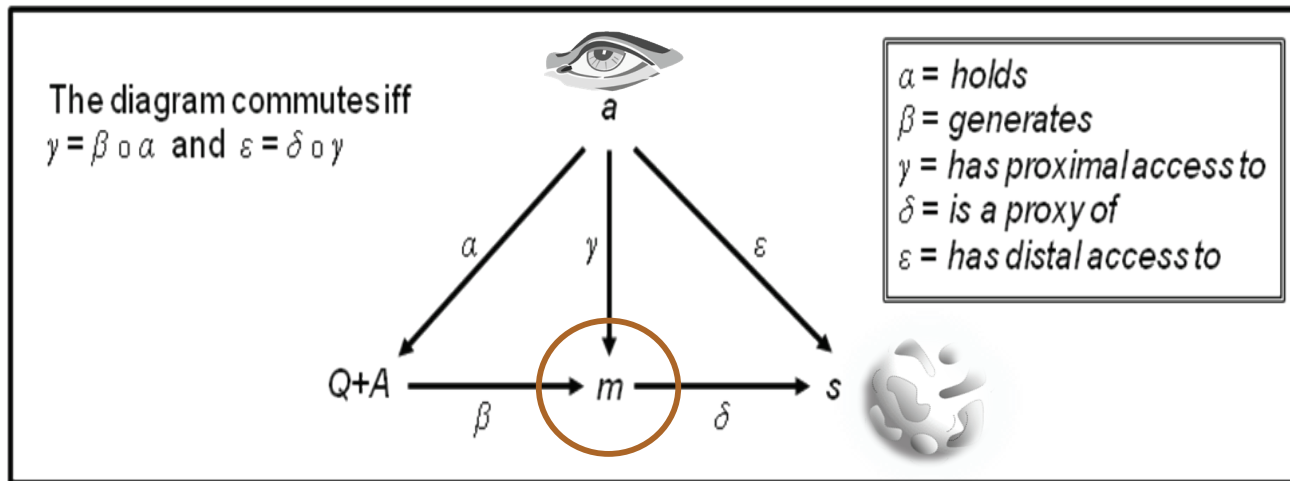
How are we informed about the object



2. How do we know the truth?



2. How do we know the truth?



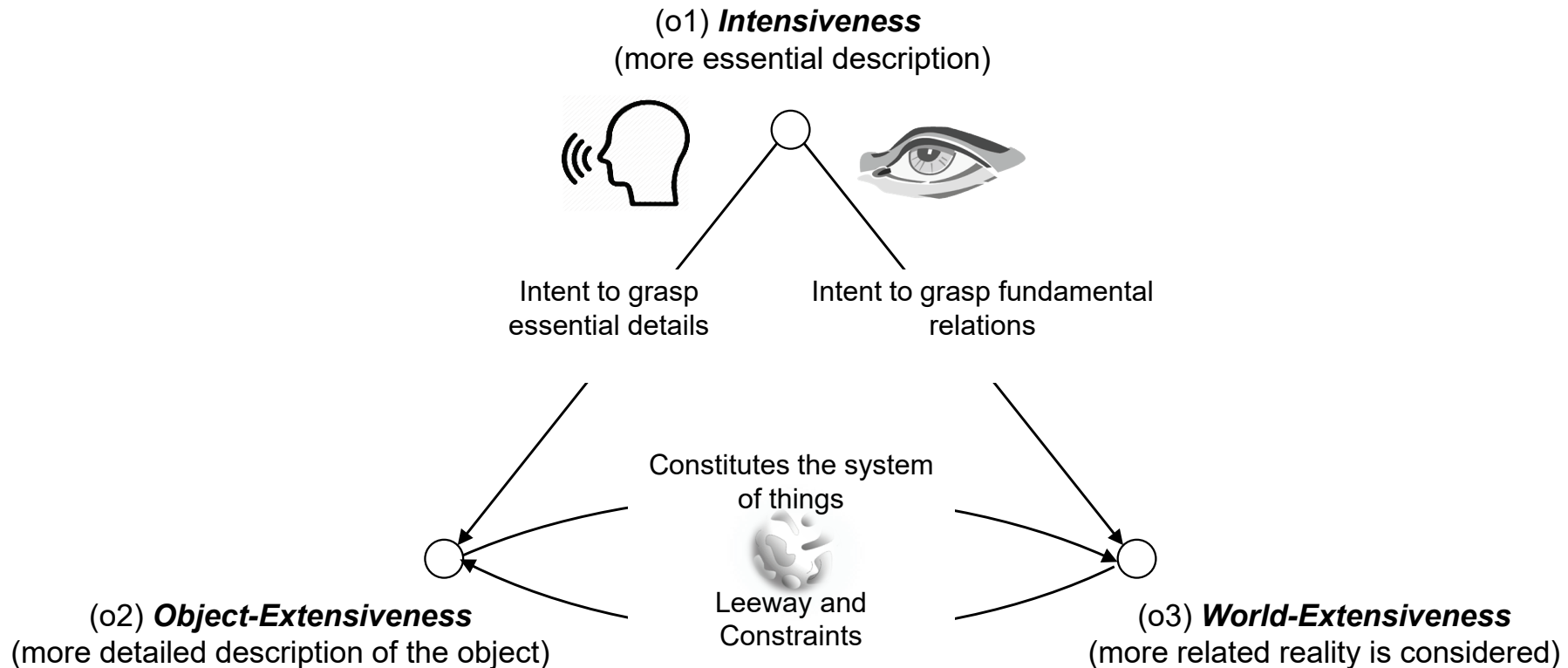
How do we
achieve these
models / proxies?

$\mathbf{K}(\text{object}) = \min \{\text{Length}(\text{algorithm} \rightarrow \text{object})\}$

„Diese Mosaik von Worten, wo jedes Wort als Klang, als Ort, als Begriff, nach rechts und links und über das Ganze hin seine Kraft ausströmt, dieses Minimum im Umfang und Zahl der Zeichen, dieses damit erzielte Maximum in der Energie der Zeichen“

Über Oden der Horaz, **Nietzsche**

3. How do we speak the truth (truthfulness)?



Openness of the **conceptualisation triangle**:

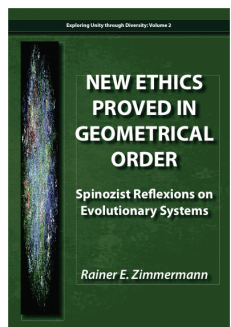
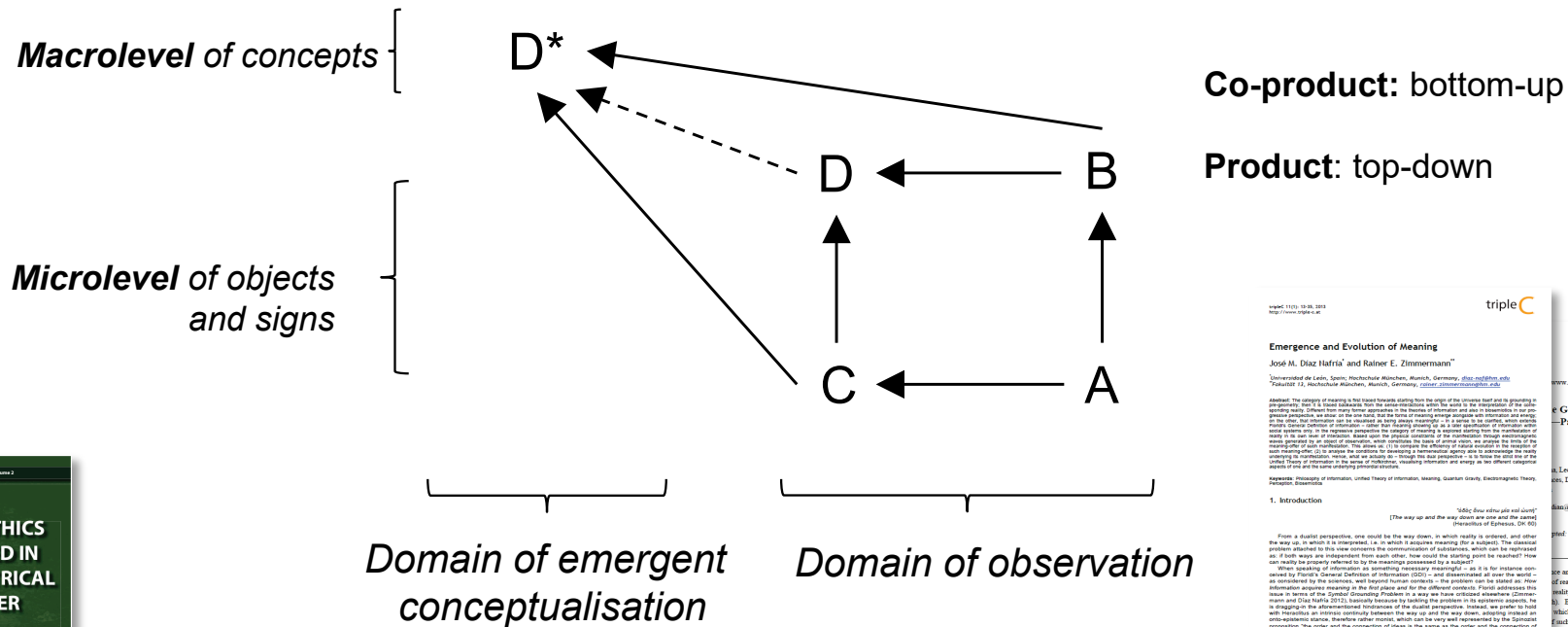
o1) intensiveness: we can achieve a more essential description

o2) object-extensiveness: we can add more details

o3) world-extensiveness: we refer to more reality

3. How do we speak the truth?

- Beyond deduction and induction: abduction (emergence of concepts)



Emergence and Evolution of Meaning
 José M. Díaz Hefris¹ and Rainer E. Zimmermann²
¹Universidad de León, Spain; ²Hochschule München, Munich, Germany. info@tripleC.info

Abstract: The ontology of meaning is the topic here. It is argued that the emergence of meaning is a process that is not reducible to the physical level. It is argued that the emergence of meaning is a process that is not reducible to the physical level. It is argued that the emergence of meaning is a process that is not reducible to the physical level.

Keywords: emergence, information, ontology, theory of information, meaning, quantum theory, emergence, emergence.

1. Introduction

1400: One who is not a scientist... [The way up and the way down are one and the same] (Descartes of Epistémology, Ch. 10)

From a dualist perspective, one could be the way down, in which reality is ordered, and other the way up, in which it is disordered, i.e. in which it acquires meaning for a subject. The central problem situated in this view concerns the communication of substances, which can be represented as if both ways are independent from each other: how could the related, past be reached? How can reality be properly referred to by the meanings possessed by a subject?

... When speaking of information or something necessarily meaningful – as it is for instance conceived by Floridi's General Definition of Information (GDI) – and disseminated all over the world – as understood by the sciences, and beyond human entities – the position can be stated as: these information elements resulting in the dual and/or the observer context. The problem here is the issue in terms of the Symbolic Grounding Problem in a way we have criticized elsewhere (Zimmermann and Díaz Hefris 2013), basically because by looking the problem in its epistemic nature, he is engaging in the aforementioned instances of the dualist perspective. Instead, we prefer to deal with the problem in terms of the emergence of meaning, which is the way down, leading instead to the observer context, which can be very well represented by the significant proposition. The order and the connection of ideas is the same as the order and the connection of things (Descartes 1951, § 11). Nevertheless, it is important to notice that our position neither implies the reversibility of the interpretation type, nor that the world is as we represent it. On the contrary, the interpretability type is a kind of sense by reference – in the context of neuroscience, linguistics, cognitive and social sciences.

This progressive perspective, aimed at understanding the emergence of meaning from progressively to reference meaning, is developed in section 2 based upon a criterion, 'transformation of the universe'. While arguing the grounds of this vision in § 2.1, we intend to draw attention to the fact that – in accordance with the microsimulation action of sensory systems, which target the grounds for a scientific understanding of information, clearly manifested from the 1940s (legal information; electromagnetic theory; meaning; perception; homeostatics; information; electromagnetic information; electromagnetic information).

4. How is our system of truths / knowledge?

The **Modal Stratified Bond Model** (Burgin, Díaz) distinguish:

1) **Modal** dimension (horizontal)

- *Assertoric* knowledge
- *Hypothetic* or *heuristic* knowledge (possible knowledge)
- *Erotetic* knowledge (knowledge deficit)

2) **Hierarchical** dimension (vertical)

- *Componential* level: elements, parts, blocks used to build →
- *Attributed* level reflects the static structure
- *Productive* level reflects the cognitive (dynamic) structure of K (acquisition, production and transmission)

3) **Systemic** dimension

- *Descriptive* K: about **properties** and **relations** of the objects of knowledge
- *Representational* K: set of representations of an object (models, images..)
- *Operational* K: **rules**, procedures, algorithms, etc., for practical purposes.

4. Structural perspective of knowledge Integration

Conceptualisation of knowledge:

- Mapping c of a *knowledge structure* \mathbf{K} into a *conceptual system* \mathbf{C} : $\mathbf{K} \rightarrow \mathbf{C}$
- Named set $(\mathbf{K}, c, \mathbf{C})$: *conceptualisation* of \mathbf{K} by \mathbf{C}

Knowledge integration

When knowledge from different systems is mapped into one conceptual system it is called *conceptual knowledge integration*.

Conceptual system

consists of **concepts** and **relations** between them: **concept network**

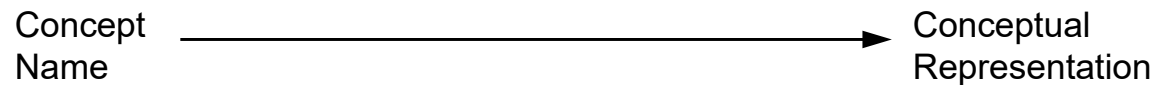
It contains: *Systemic* (or *primary*) *concepts*: K items with descriptions

Emphasized (or *secondary*) *concepts*: used in descriptions of systemic concepts and have descriptions

Background (or *tertiary*) *concepts*: used in descriptions, without descriptions

4. Structural perspective of knowledge Integration

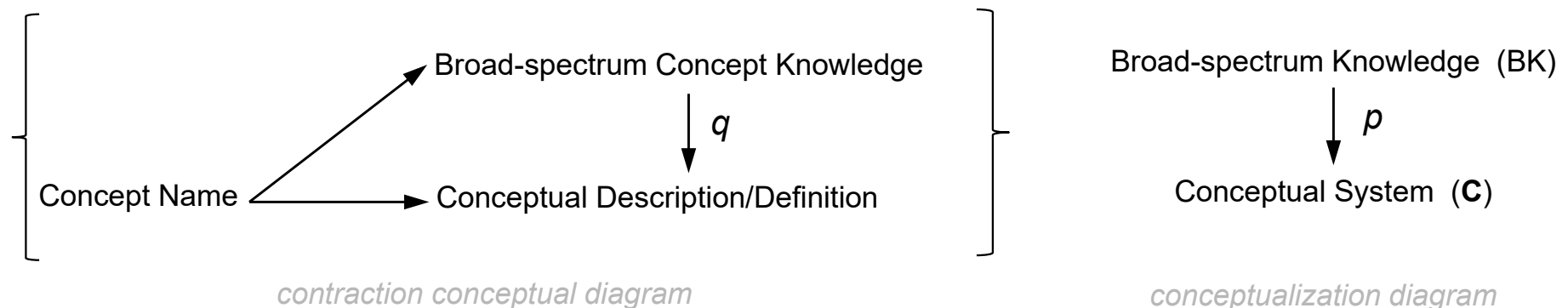
Representation model:



The **Conceptual representative** of a concept:

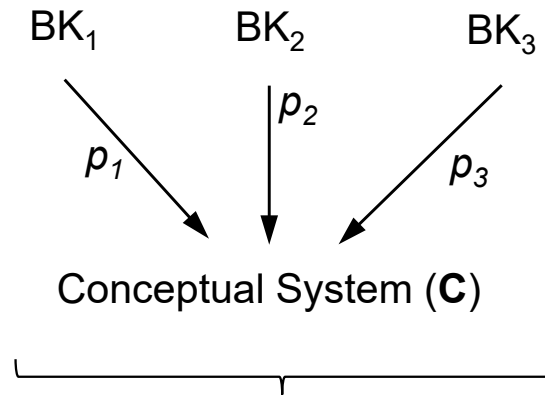
- 1) The *Concept Domain* (D_C): domain of **reality** described
- 2) *Broad-spectrum concept knowledge* (BK): what is **known** about the D_C
- 3) *Representation*: embraces different **representations** about the D_C

The **meaning of a concept** is formed by its description in the conceptual system:



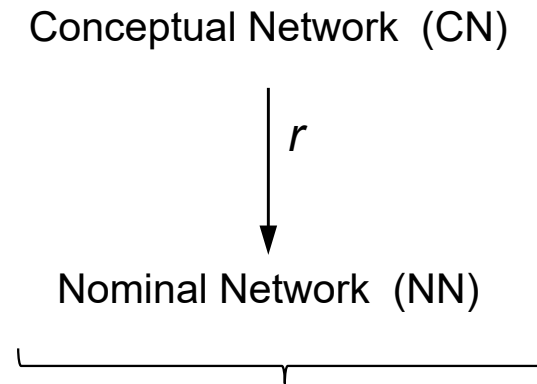
4. Structural perspective of knowledge Integration

Conceptual integration



Can we really achieve it?

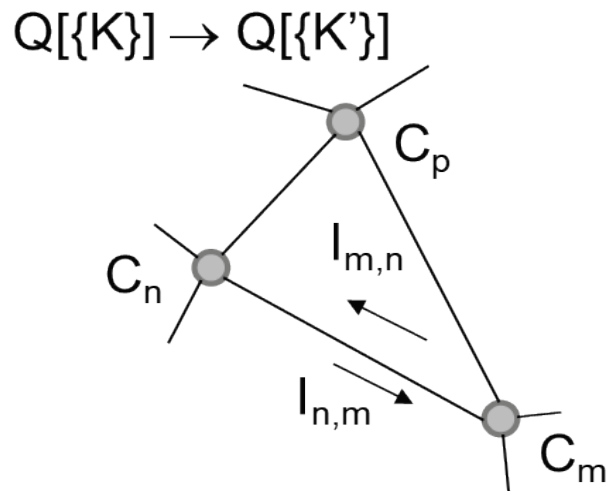
Nominalization named set (CN, r , NN)



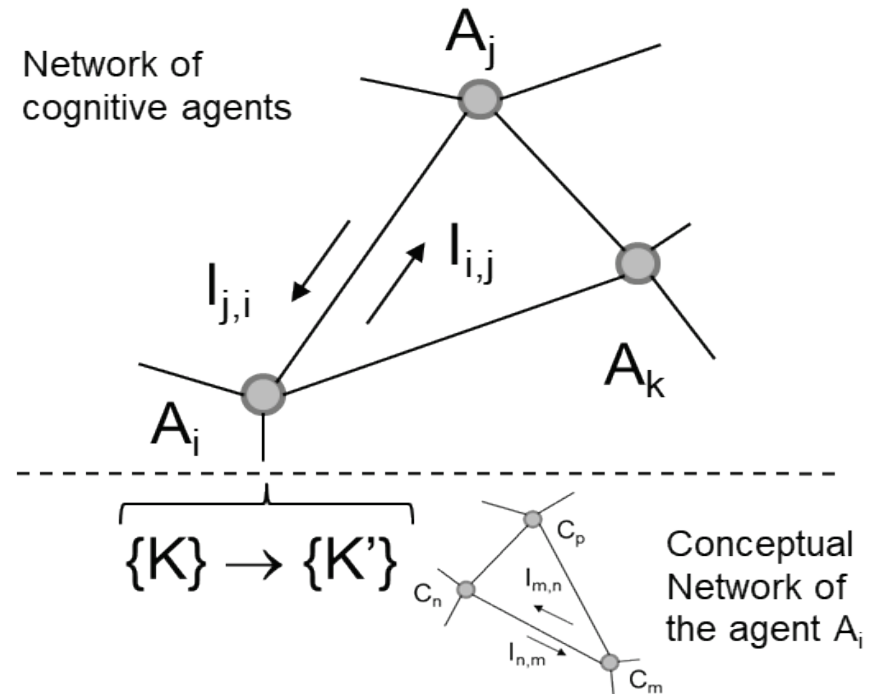
We can explore them in disciplinary settings

4. Network Perspective of Knowledge

Networks of disciplinary knowledge



(Passive) *Conceptual Network*



(Active) Network of *cognitive agents*

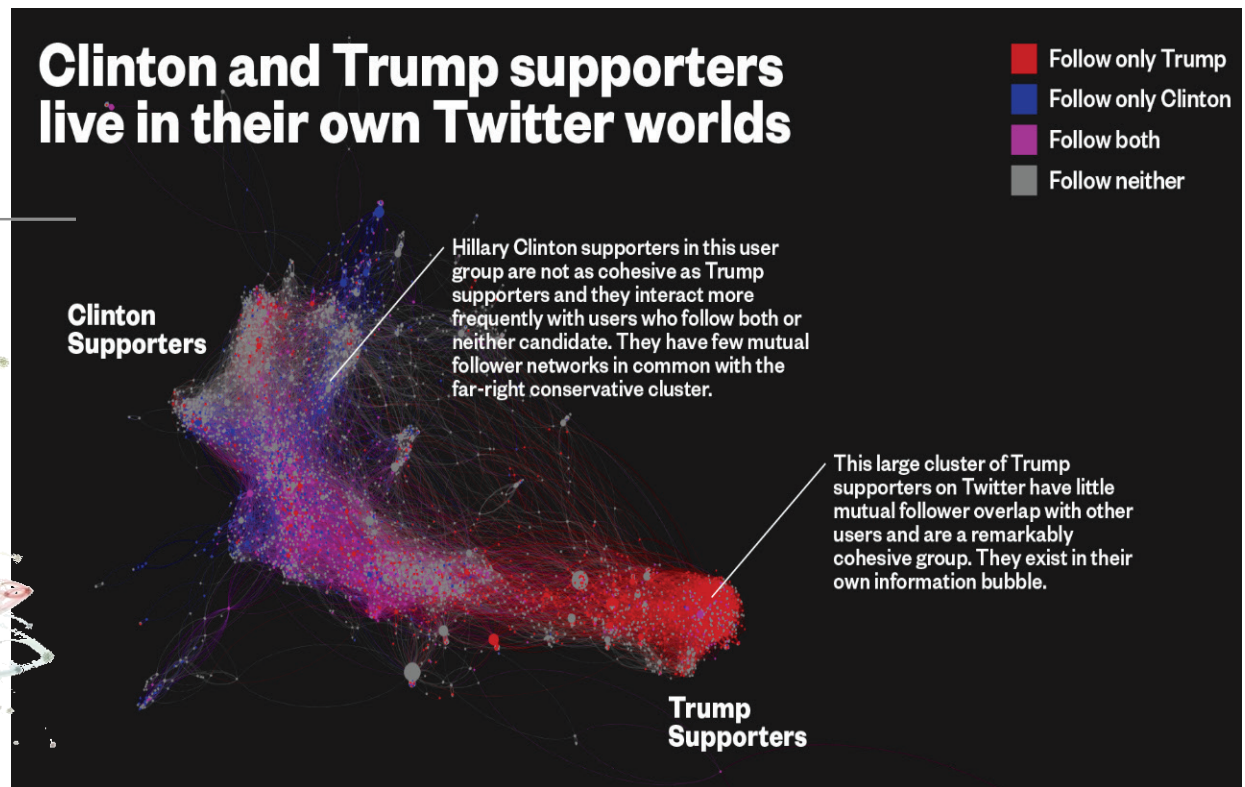
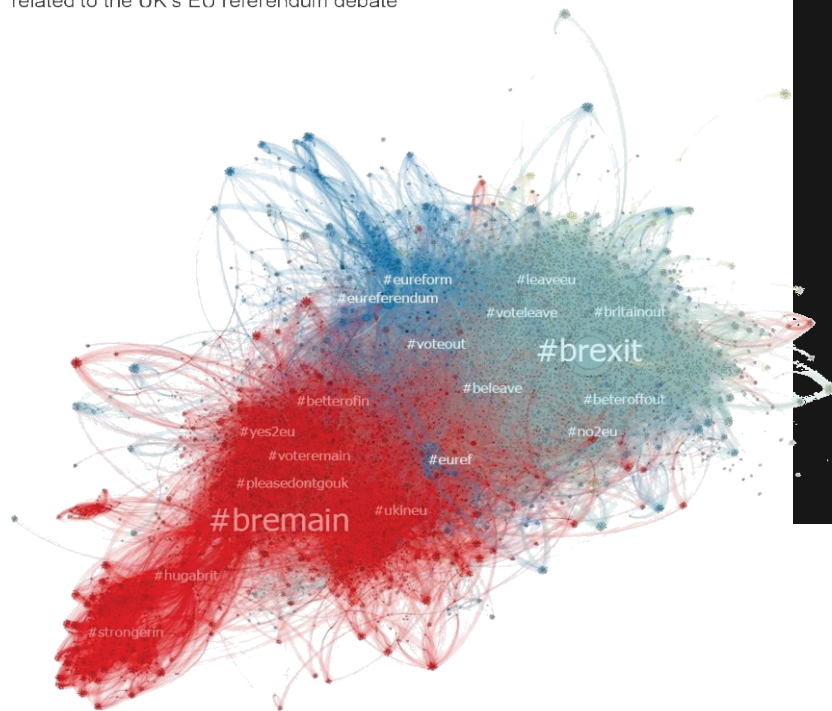
Each concept enables that a knowledge domain can better approach a specific part of the reality referred (or provides an operational capacity to the other concepts in such endeavor)

5.1 How do we speak the truth in the digital world?

Filter Bubbles

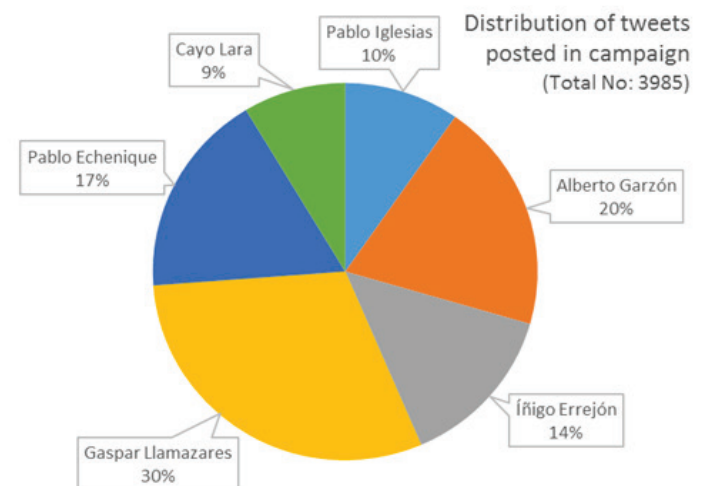
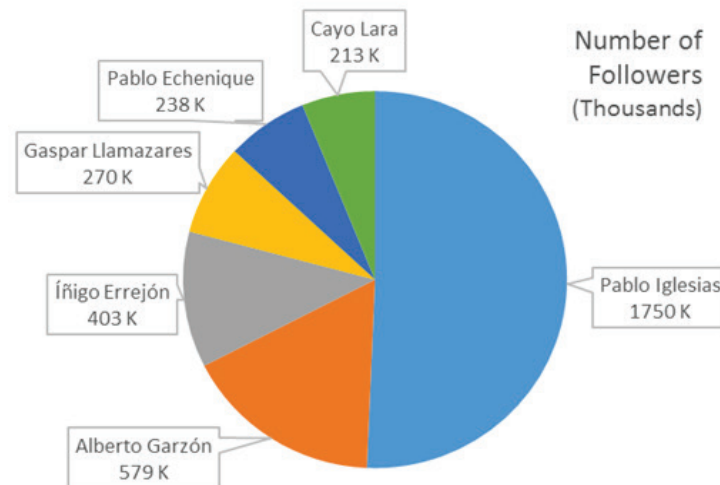
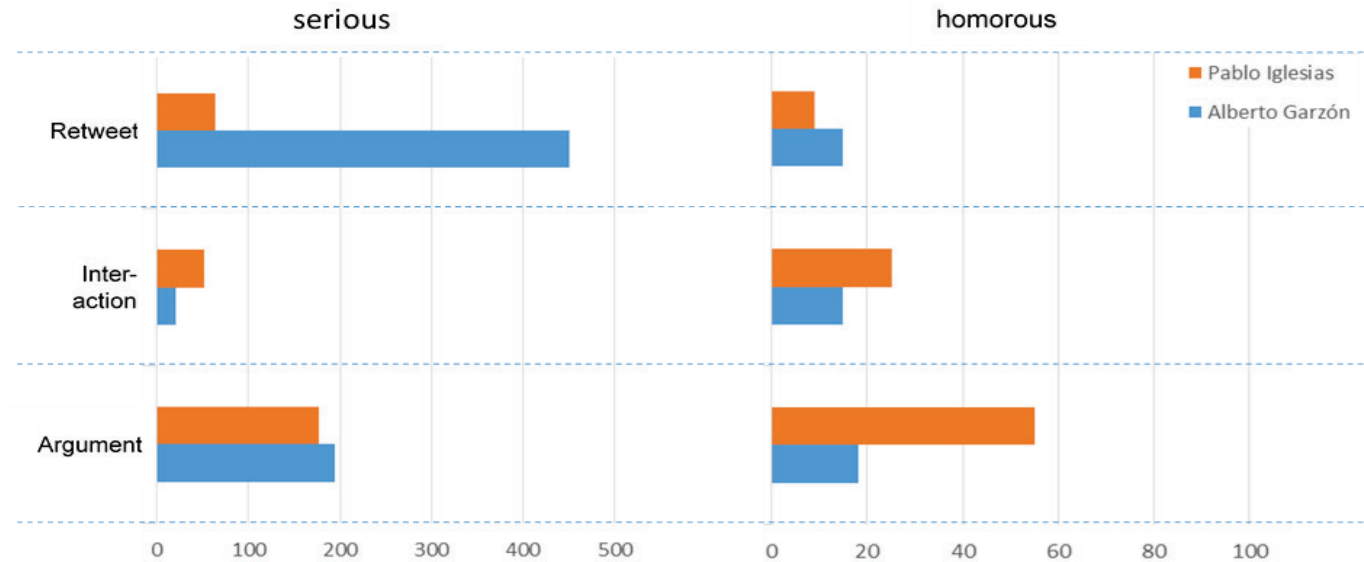
The EU referendum debate in the UK Mapping polarization on social media

Semantic network analysis of 13,310 co-occurring hashtags on Instagram related to the UK's EU referendum debate



5.1 How do we speak the truth in the digital world?

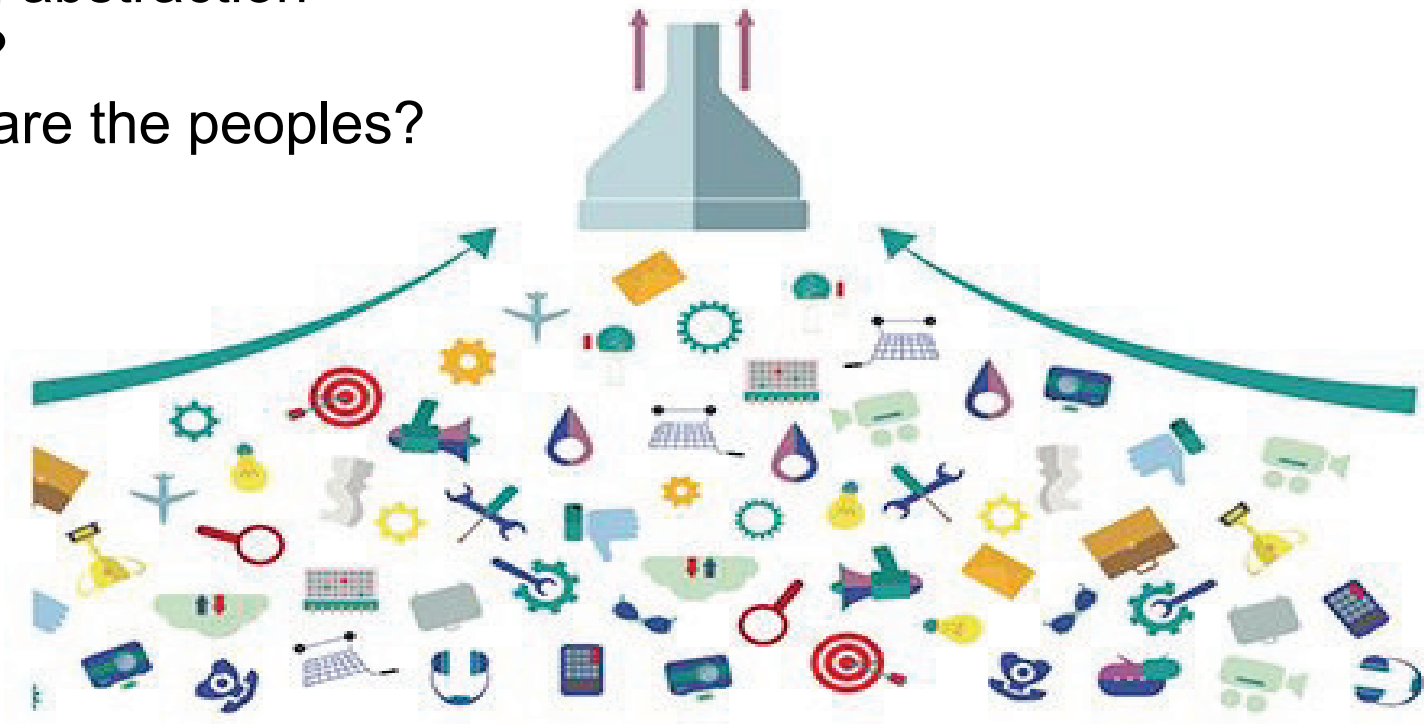
2) **Discourse dynamics in the left-wing coalition:** Study of Twitter interaction during the *Spanish electoral campaign for 2016 general elections*



5.1 How do we speak the truth in the digital world?

Big-Data approach

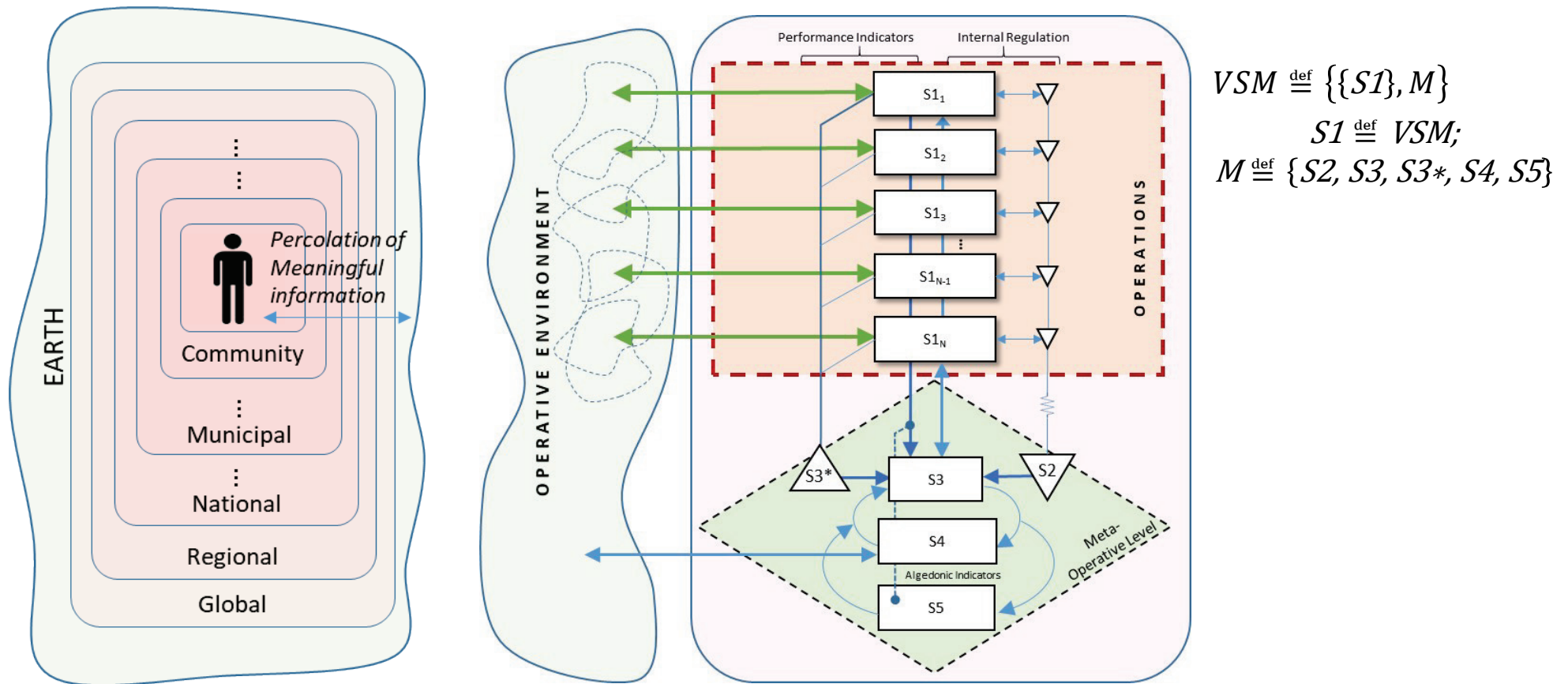
- What are the interest, context, abstraction behind?
- Where are the peoples?



5.2 How can we integrate knowledge otherwise?

How can we do otherwise?

Decentralised conceptualisation, awareness (CLP)

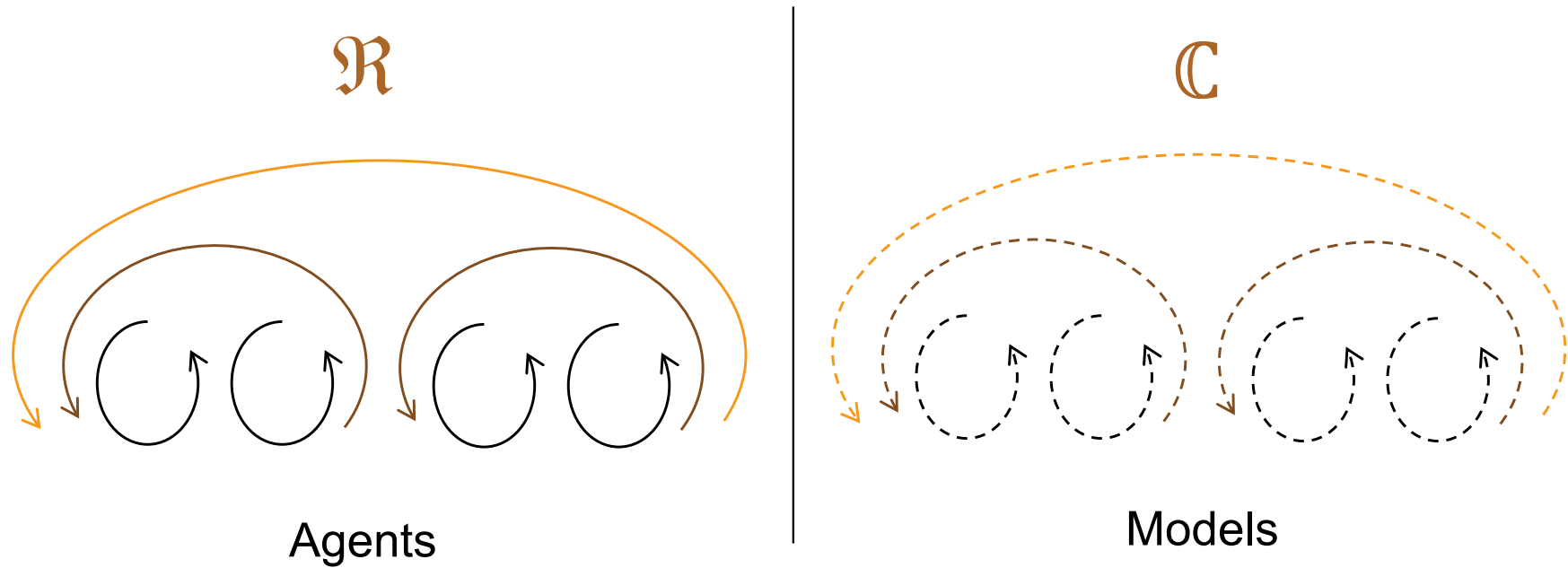


$$VSM \stackrel{\text{def}}{=} \{\{S1\}, M\}$$

$$S1 \stackrel{\text{def}}{=} VSM;$$

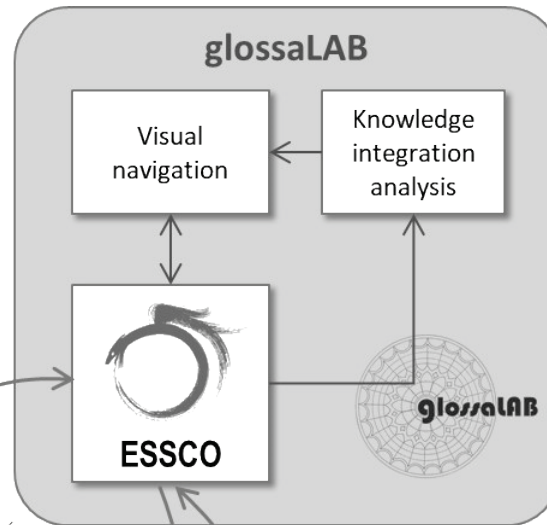
$$M \stackrel{\text{def}}{=} \{S2, S3, S3^*, S4, S5\}$$

5.2 How can we integrate knowledge otherwise?



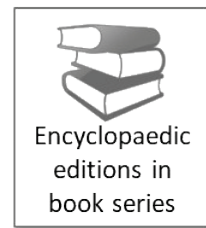
6. glossaLAB project

Enhanced methodology (Encyclopaedic project)



- Redundancy reduction
- New perspectives and topics
- Theoretical re-framing

- Reviews
- Research articles concerning theoretical clarification



glossaLAB: Integrando y co-creando conocimiento mediante glosarios interdisciplinarios y herramientas de análisis e interoperabilidad semántica

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SENPLADES

6. glossaLAB project

Enhanced methodology (glossaLAB project)

Assessing the Performance of Knowledge Integration

In order to qualify the knowledge integration achieved in a given research framework, the ID-glossaries, used to elucidate the network of concepts, will serve as a proxy of such integration. To that purpose each contribution and participant will be identified by the knowledge domains involved using a set of 67 domains adapted from the higher categories of the Universal Decimal Classification. Such identification allows assessing the integration through a multidimensional perspective based on:

- the diversity of the disciplines involved, measured in terms of *Shannon Diversity Index*, and
- The effective integration achieved through the meeting of different perspectives, measured through the analysis of both the *semantic network of elucidated concepts* and the *network of participant researchers* (in terms of *average minimal distance* between any two nodes and the *clustering coefficient*). Both values can be combined using the *small-coefficient*, σ , or other alternatives.¹

- **Technical** level: desarrollo de plataformas abiertas
- **Theoretical** Level: ID contributions + Discussion + Integration (Intensiveness performance)
- **Meta-theoretical** level: KI performance assessment
- **Organisational level**: structure and management system based on the Viable System Model

6. glossaLAB project

Co-organising congresses linked to glossaLAB



IS4SI-2019, Berkley, UCB, 2-7 June

ICAI-2019, Madrid
7-8 Nov. 2019



TRUTH OR TRUTHFULNESS IN OUR MAPPING OF REALITY?

Danke für Ihre
Aufmerksamkeit

INSTITUT
FÜR
Design
Science

WAHRHEIT ODER
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José María Díaz Nafría
jdian@unileon.es
<http://bitrum.unileon.es>



BITrum
Universidad de León



6. glossaLAB project

Approach for advancing and assessing KI (glossariumBITri)

Aims:

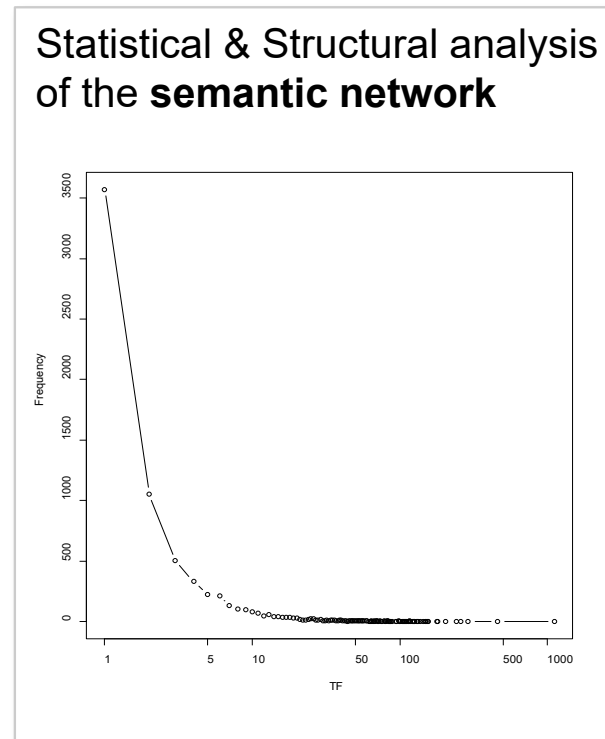
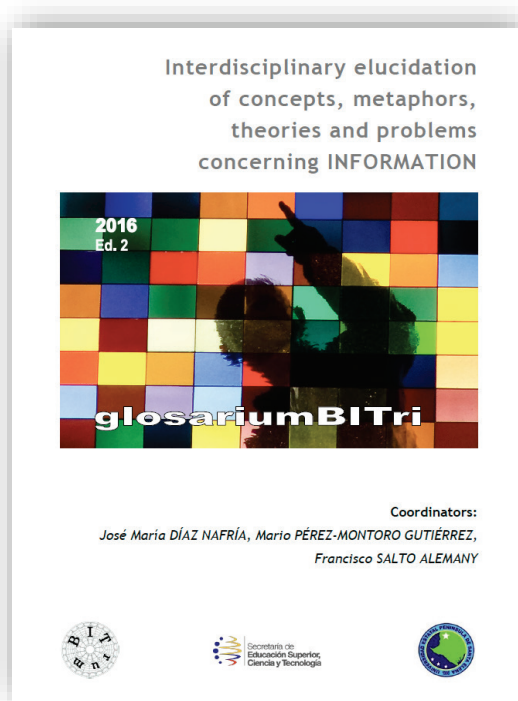
- *Theoretically* level
- *Metatheoretically* level

Methodology to assess knowledge integration

The screenshot displays the BITrum website interface. At the top, there is a search bar and a language dropdown menu set to 'Todo-BITrum'. Below this is a horizontal navigation bar with tabs for 'BITrum-Público (SP)', 'BITrum-Privatum', 'Glossarium BITrum', 'stylusBITae', 'Contribuciones (SP)', 'Contributions (EN)', 'BITagora', and 'PRIMER'. A left sidebar contains a 'Public BITrum' menu with sections for '1. BITrum Project', '2. About Us', '3. Activities', '4. Resources', and 'News'. The main content area features a large banner with the text 'BITrum' and a globe graphic. Below the banner are navigation icons for 'Project', 'About us', 'Activities', and 'Resources'. A 'Versión española' link is present. The main text describes the interdisciplinary research group BITrum, its formation in 2008, and its focus on information theory and knowledge integration. A 'BITrum site provides access to:' section lists links for 'Project planning and BITrum group', 'Activities within BITrum frame', and 'useful resources'. A 'Recent Announcements' section includes three entries: 1) BITrum signs a cooperation agreement with the universities of León and Santa Elena for the development of the glossariumBITri journal (dated 27 Jun 2015); 2) BITrum signs a cooperation agreement with the Ecuadorian University of Santa Elena (dated 5 Jun 2015); 3) The PROMETEO Project of the Ecuadorian Government selects BITrum's research programme (dated 5 Jun 2015). An 'Open calls' section lists several calls for papers and abstracts from 2016-01-08 to 2016-04-18.

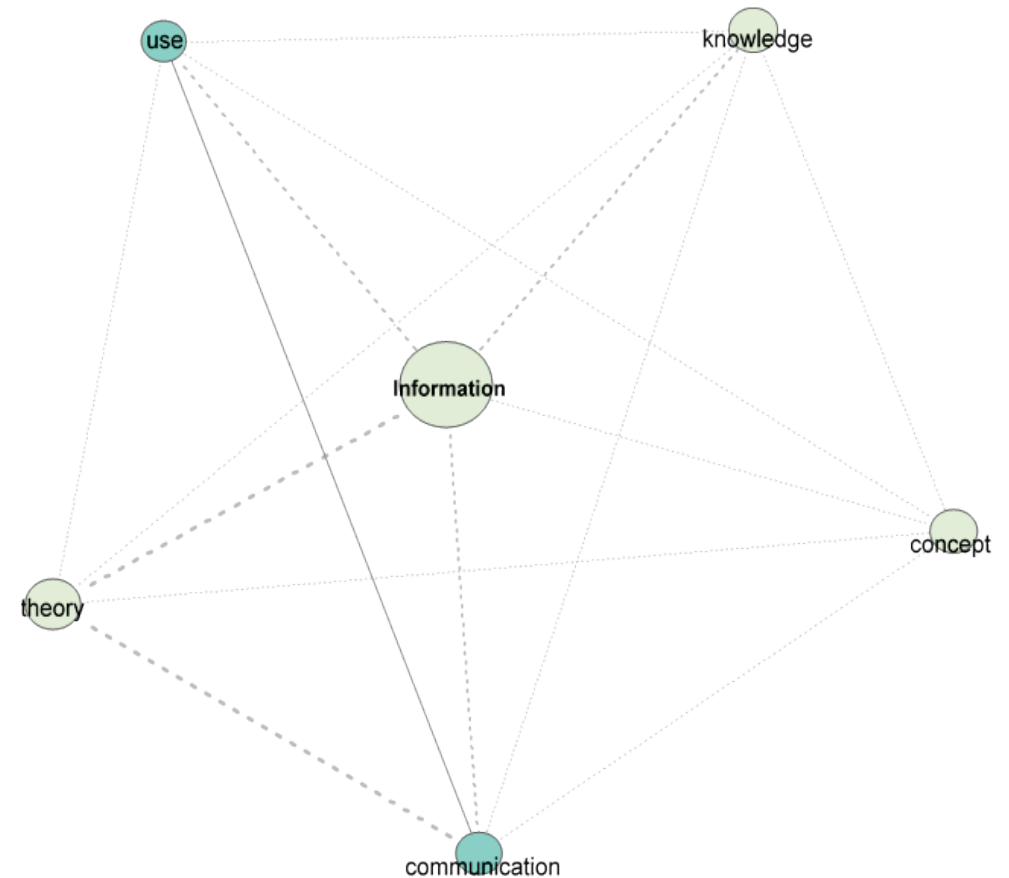
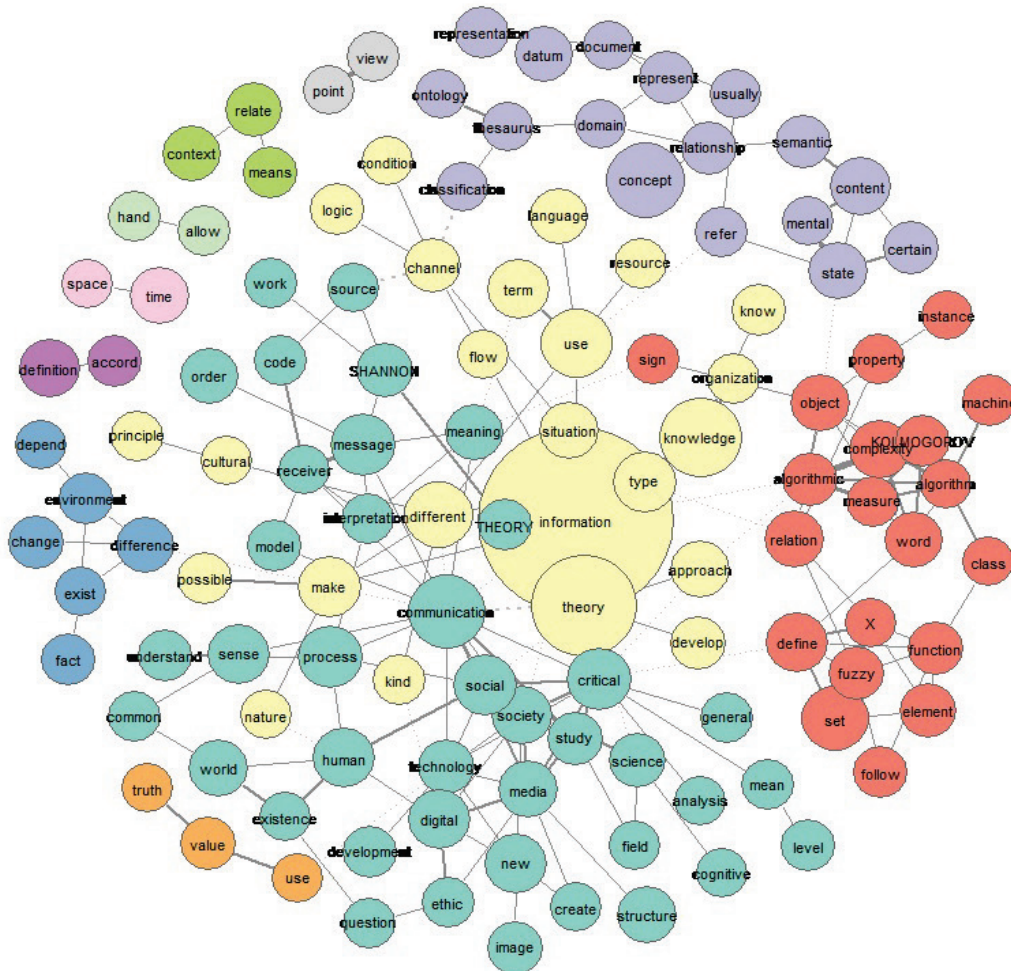
6. glossaLAB project

Approach for assessing KI (glossariumBITri results)



6. glossaLAB project

Approach for assessing KI (glossariumBITri results)



6. glossaLAB project

Thecnical level: platform development

The screenshot displays the e-IESC platform interface for editing an article. At the top, there are navigation links for 'English', 'NameTalk', 'Preferences', 'Watchlist', 'Contributions', and 'Log out'. Below this, a set of tabs includes 'Article', 'Discussion', 'Read', 'Edit', and 'View history', with a search bar to the right. The main content area is titled 'Voice (e.g., Feedback)' and includes a 'Publication record' sidebar. The article content is structured into several sections: 'General description summarizing the content of the article', 'DEF. 1', 'DEF. 2', and 'Applications related to the concept', all grouped under a bracketed label 'Result of a theoretical depuration process'. Below this is the 'Perspectives' section, followed by 'References' and 'Online resources'. The footer contains 'Last modified date | About e-IESC | CC Attribution | Disclaimers'.

English NameTalk Preferences Watchlist Contributions Log out

Article Discussion Read Edit View history Search

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About
Propose new article
Guidelines
Random article
FAQs
Help

Voice (e.g., Feedback)
Author name (Year), *e-International Encyclopaedia of Systems and Cybernetics*, 1(1)

General description summarizing the content of the article

DEF. 1
DEF. 2
...
Applications related to the concept

Result of a theoretical depuration process

Perspectives

Content from François' *IESC* (particularly, referring the definitions provided by other authors)

Content from *Principia Cybernetica* (acknowledging authorship)

Content from *glossariumBITri* (idem) New content

References **Online resources**

Category: cat_1, cat_2, cat_3

Last modified date | About e-IESC | CC Attribution | Disclaimers

- **Co-edition** platform (MediaWiki)
- **Peer-review** publication system
- **Semantic Annotation**
- **Semantic navigation**
- **Semantic network visualisation**
- **Semantic networks analysis**