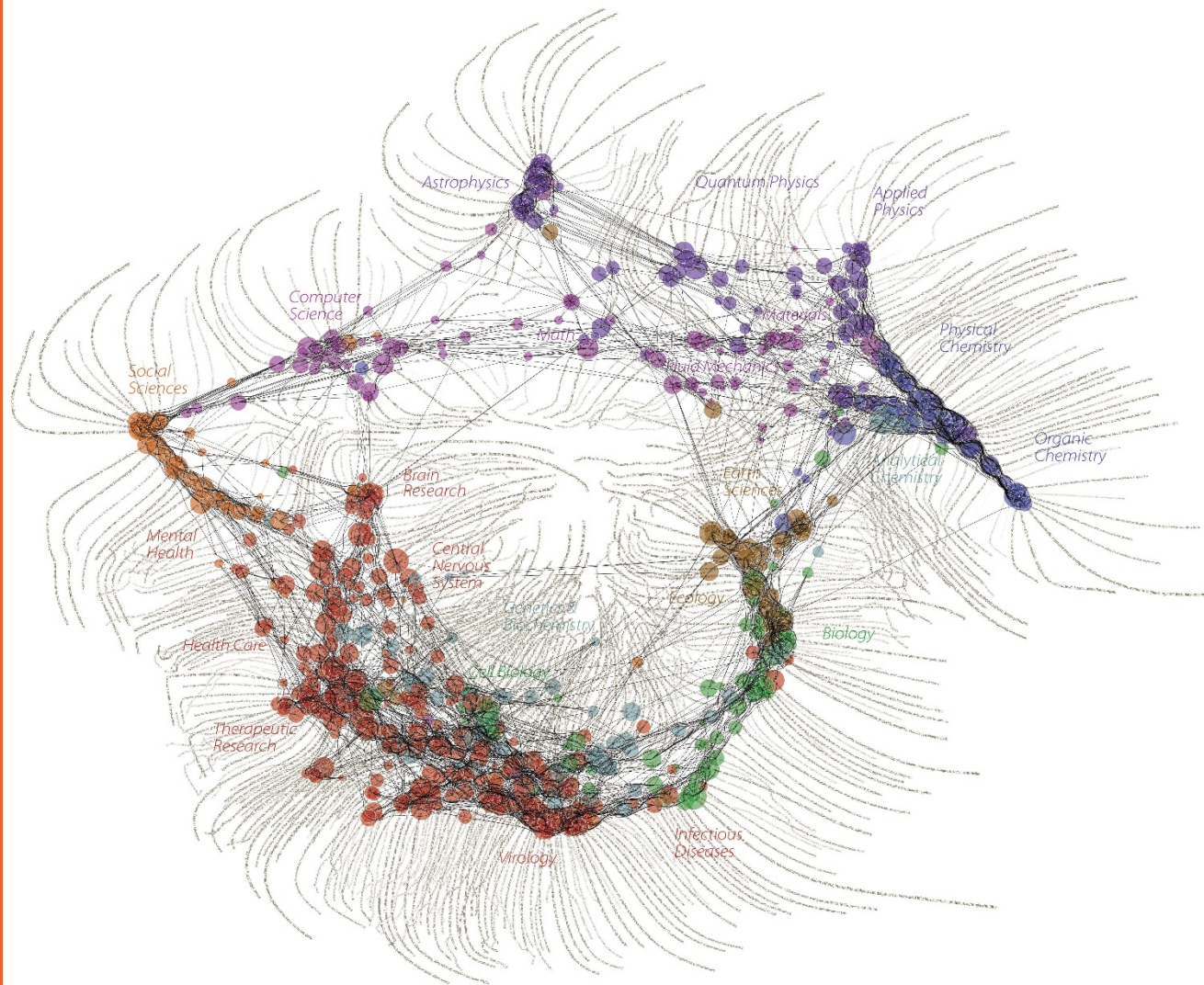


Disciplines

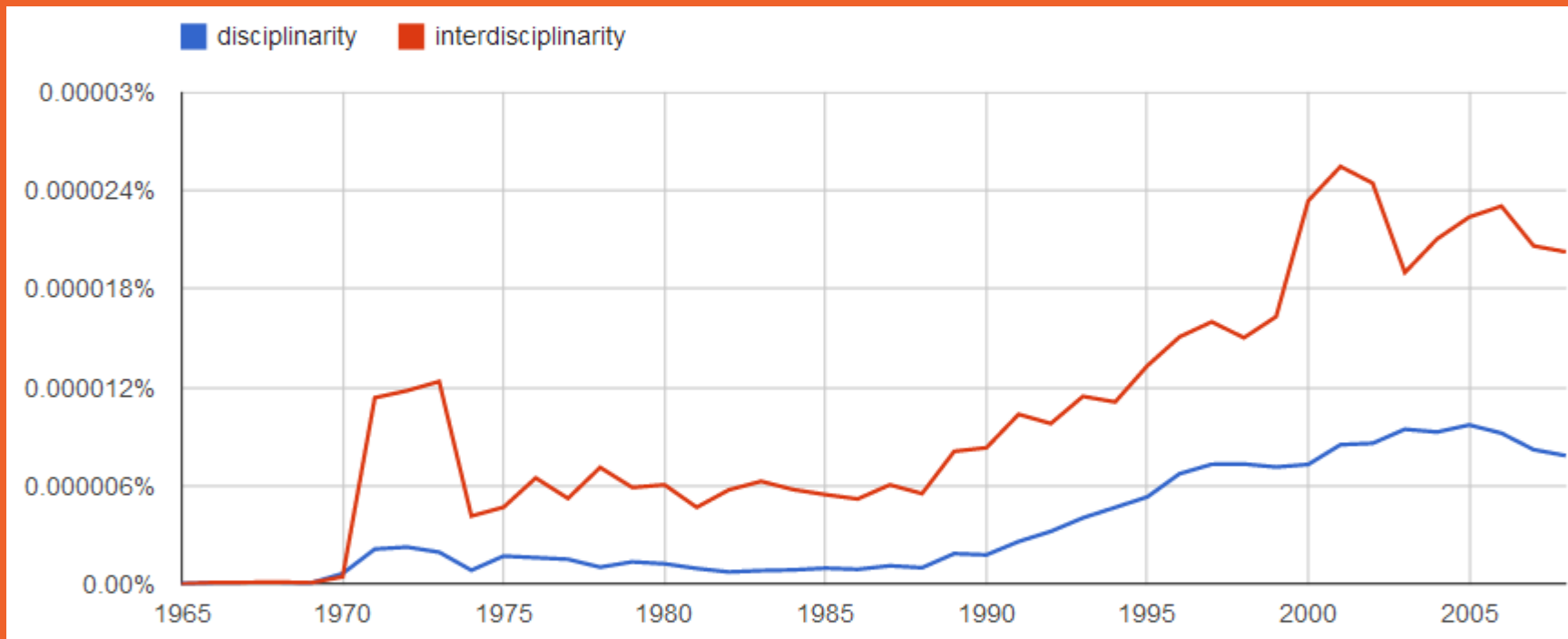
Scott B. Weingart | <http://www.scottbot.net> | [@scott_bot](#)
Cassidy Sugimoto | <http://ella.slis.indiana.edu/~sugimoto/> | [@csugimoto](#)

KNOWeSCAPE | The Hague | National Library Room B/C
Wednesday, October 23, 2013 | 09:45-10:15



Disciplinarity and Interdisciplinarity

As they pertain to data mining, knowledge orders, and academia



Disciplinarity and Interdisciplinarity

Google Ngrams, ISI Web of Science, JSTOR Data for Research

Conceptualization

Social

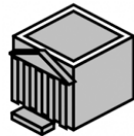
Communicative

Cognitive

Methodological

Institutional

Educational



Entities



Defining Disciplines

Qualitative Approaches

Conceptualization

The hierarchy of the sciences? Cole, 1983

Social

Communicative

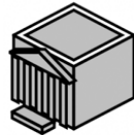
Cognitive

Methodological

Institutional

Educational

Entities



Defining Disciplines

Cole, 1983

Conceptualization

The Virtues of Disciplinarity, Hunt, 1994

Social

Communicative

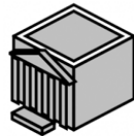
Cognitive

Methodological

Institutional

Educational

Entities



Defining Disciplines

Hunt, 1994

Conceptualization

Specialization and recombination of specialties in the social sciences, *Dogan, 2001*

Social

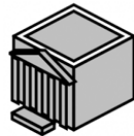
Communicative

Cognitive

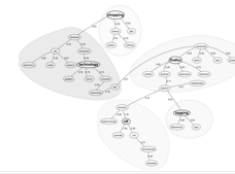
Methodological

Institutional

Educational



Entities



Defining Disciplines

Dogan, 2001

What makes a discipline a discipline?

- Textbooks, Exemplars, and Defining Scholars
 - Cole 1983; Schummer, 2004
- Authors, Papers, Journals, or Research Projects
 - Hargens and Felmlee, 2004; Bordons et al., 1999; Besselaar and Heimeriks, 2001; Gmur, 2003; Schummer, 2004; Carayol and Thi, 2005; Porter and Rafols, 2009; Porter and Chubin, 1984; Carayol and Thi, 2005; Rafols and Meyers, 2010; Morillo et al., 2003; Rafols and Meyers, 2010; Leydesdorff and Rafols, 2010; van Leeuwen and Tijssen, 2000
- Cognitive, Methodological, or Theory-Based
 - Klein, 1990; Hunt, 1994; Schummer, 2004; Bordons, 2005; Zitt, 2005; Feller, 2006; Lamont et al., 2006; Rafols and Meyer, 2006; Holland, 2008; Krishnan, 2008; Dogan, 2001; Gmur, 2003; Besselaar and Heimeriks, 2001
- Institutions, Training, Self-Policing, or Departments
 - Hunt, 1994; Bordons et al., 1999; Dogan, 2001; Besselaar and Heimeriks, 2001; Schummer, 2004; Feller, 2006; Rafols and Meyer, 2006; Porter et al., 2007; Krishnan, 2008; Porter et al., 2008
- Community Structure
 - Besselaar and Leydesdorff, 1996; Gmur, 2003

Word Soup

- Field = Discipline
 - Garfield, 1979; Cole, 1983; Hargens and Felmlee, 1984; Bordons et al., 1999, Dogan, 2001, Bordons et al., 2005; Porter et al., 2007
- Field = Undefined
 - Besselaar and Heimeriks, 2001; Bordons et al., 2005; Rafols and Meyers, 2006; Rafols and Meyers, 2010
- Field = Subdiscipline
 - Carayol and Thi, 2005
- Specialty = Discipline
 - Garfield, 1979; Hargens and Felmlee, 1984; Leydesdorff and Rafols, 2010
- Specialty = Subdisciplines
 - Dogan, 2001; Rafols and Meyer, 2010
- Research Area = Unrelated
 - Morillo, 2003
- Research Area > Discipline
 - Besselaar and Heimeriks, 2001
- Scientific Domain = Discipline
 - Carayol and Thi, 2005; Leydesdorff and Rafols, 2010
- Scientific Domain \neq Discipline
 - Porter et al., 2007; Rafols and Meyers, 2010

Conceptualization

Specialization and recombination of specialties in the social sciences, *Dogan, 2001*

Social

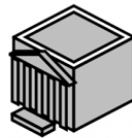
Communicative

Cognitive

Methodological

Institutional

Educational



Entities



Quantitative Analyses

Conceptualization

Social

Communicative

Cognitive

Methodological

Institutional

Educational

Trace

University Website	labs/centers, faculty, syllabi, locations, course lists, research interests
Pub. Index (journal, ISI SC, conf. proceeding, etc.)	list of publications, authors, date
Listserv	university affiliations, email texts, subscribers, dates
Association Index (lab, professional, etc.)	disciplinary identity / mission statement, member list
Social Network Profile	friends/coworkers/connections, interests, locations, dates, affiliations, publications
Syllabus	references, instructors, full text
Report (Grant, etc.)	authors/collaborators, text descriptions, titles, budget, locations, publications, patents
Thesis / Dissertation	title, abstract, full text, author, advisor / committee members
Publication	references/citations, authors, abstract, date, full text, title, location, acknowledgements
Patent	references/citations, full text, inventors, dates
Discipline	faculty, degrees, publications, ideas, journals, departments

Analysis

Content

Word/Language

Citation

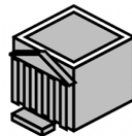
Mentorship

Collaboration

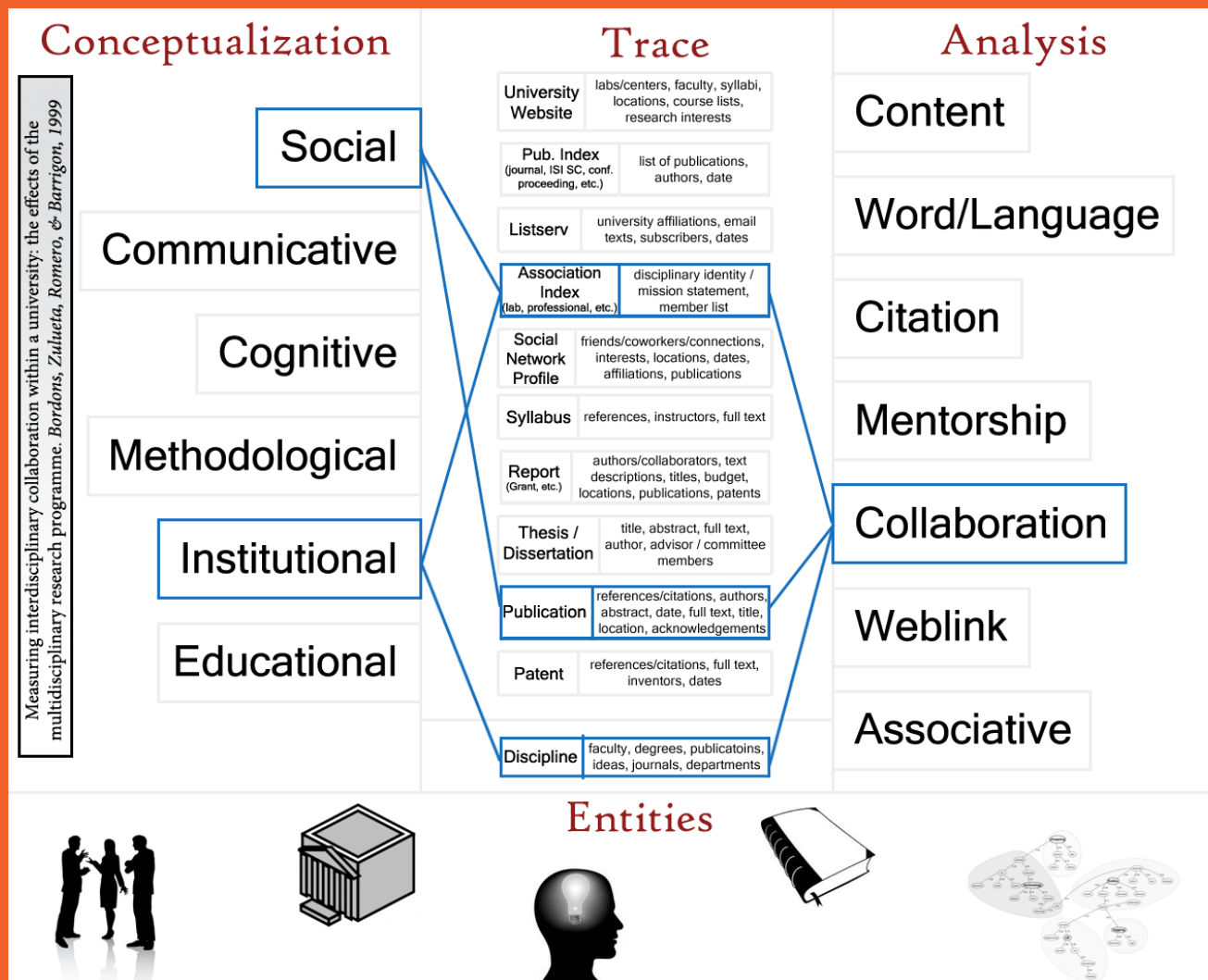
Weblink

Associative

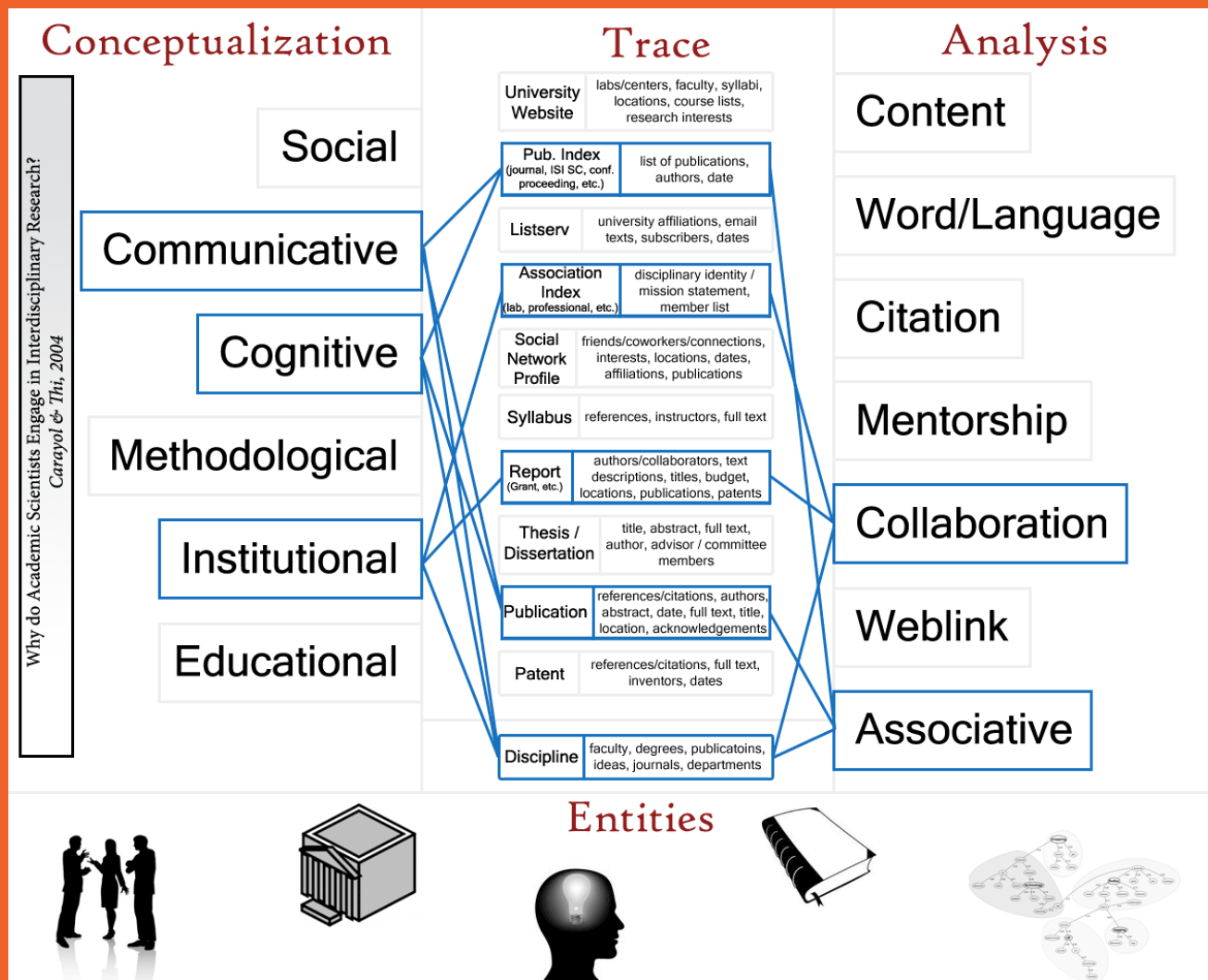
Entities



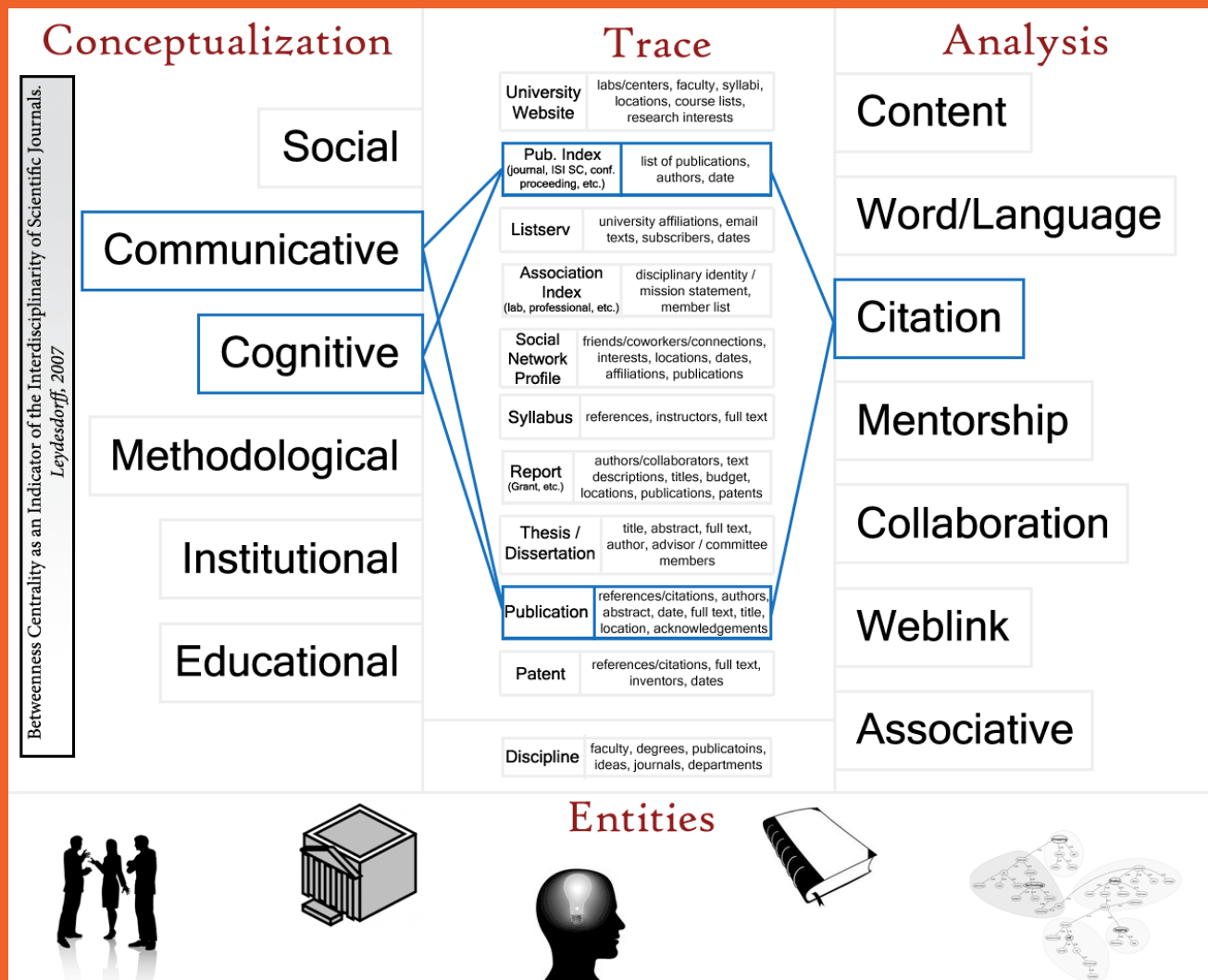
The Bridge from Concept to Analysis



Bordons et al. 1999



Carayol & Thi, 2005



Leydesdorff, 2007

Conceptualization

Social

Communicative

Cognitive

Methodological

Institutional

Educational

Trace

University Website	labs/centers, faculty, syllabi, locations, course lists, research interests
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Social Network Profile	friends/coworkers/connections, interests, locations, dates, affiliations, publications
Syllabus	references, instructors, full text
Report (Grant, etc.)	authors/collaborators, text descriptions, titles, budget, locations, publications, patents
Thesis / Dissertation	title, abstract, full text, author, advisor / committee members
Publication	references/citations, authors, abstract, date, full text, title, location, acknowledgements
Patent	references/citations, full text, inventors, dates
Discipline	faculty, degrees, publications, ideas, journals, departments

Analysis

Content

Word/Language

Citation

Mentorship

Collaboration

Weblink

Associative

Entities



Thank you.

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