Towards an Ontology of Territorial Intelligence

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Abstract

The objective of this paper is to set forth a project for building ontology of territorial intelligence. It will address the issue of why to engage in such project, for what purpose and how to realistically proceed.

Keywords: Thesaurus, ontology, knowledge, contributory, culture

Résumé

L'objet de cette communication est de proposer un projet de construction d'une Ontologie de l'Intelligence Territoriale. Il sera traité des raisons d'un tel projet et de la façon dont il peut être mené dans une approche contributive de type Web 2.0

Mots clés : Thesaurus, ontologie, connaissance, contributif, culture

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RATIONALE

On Ontology

Two ontological questions are stemming from the philosophy of being: What am I? Why? Two definitons can be found in the dictionary : "The branch of metaphysics that deals with the nature of being" and "A study of the ultimate nature of things".

Let's make our point through a remake of a famous philosophical tale.

It is the tale of a young girl aged twelve, named *Territ Intel*, who is very curious. She breaks the mirror of reality, and is carried in a wonderland. But after some queer adventures, she meets the big caterpillar on top of his mushroom, and the question rings out: "Who are you?"

This was not an encouraging opening for a conversation.

Intel Territ replied, rather shyly, `I--I hardly know, sir, just at present-- at least I know who I was when I got up this morning, but I think I must have been changed several times since then.'

"`What do you mean by that?' said the Caterpillar sternly. `Explain yourself!'

`I can't explain myself, I'm afraid, sir' said Territ Intel, `because I'm not myself, you see.'

`I don't see,' said the Caterpillar.

`I'm afraid I can't put it more clearly,' Territ Intel replied very politely, `for I can't understand it myself to begin with; and being so many different sizes in a day is very confusing.'

`It isn't,' said the Caterpillar. "Keep your temper!"

`You!' said the Caterpillar contemptuously. `Who are you?'

…. *Territ Intel* felt a little irritated at the Caterpillar's making such very short remarks, and she drew herself up and said, very gravely, `I think, you ought to tell me who you are, first.'

`Why?' said the Caterpillar.

Here was another puzzling question; and as *Territ Intel* could not think of any good reason, and as the Caterpillar seemed to be in a very unpleasant state of mind, she turned away…

These are ontological questions. They are working in any thinking being.

It is also necessary to answer the cunning girl's question: we ought to tell who we are and why we are wondering about the ontology of *Intel Territ*. Whether we are rationalist, Cartesians, Latin in culture, or empiricist, opportunist, more Anglo-Saxon oriented, we, as scientists, have to define at some time in the progress of our science what our scientific object is. We have come, as a community of researchers in Territorial Intelligence, at the

point where finding a commonly recognized definition of that concept is a necessity.

Defining Territorial Intelligence is a challenge

For now more than 10 years, many of us have proposed dozens of definitions, none has been able to cover the whole landscape of Territorial Intelligence. In Besançon, 2007, we wrote: "*Territorial Intelligence* is a polysemic expression. Its frontiers and contents are fuzzy. Its current definitions are numerous and sometimes contradictory. However its usage is wide spreading whatever the risk of confusion is."

A quick look at the results of two inquiries on the Internet will prove the importance, the vitality and the actuality of the concept (Table 1). The questions were asked in 2007/ 12/10 and 2010/ 10/03.

Query on Google	Au 10/03/10	Au 10/12/07	Évolution
Intelligence territoriale	2 560 000		
"intelligence territoriale"	28 300	18 900	+ 50%
territorial intelligence	2 510 000		
"territorial intelligence"	32 800	4 830	+580%
Inteligencia territorial	2 470 000		
"inteligencia territorial"	25 000	1 050	+2 281%

We notice that occurrences in 2010 are approximately the same in three languages (French, English, Spanish), but terribly different from what they were in 2007. Yet, we found an essential inability to define TI in discursive and compact wording. Any attempt to find a synthetic and encompassing speech is simplistic, partial, biased. Among the reasons, it is that TI is inherently complex (in Morin's terms) therefore irreducible to the proposed rationalizing definition.

To overcome that ontological issue, we are suggesting here to use an "epistemological trick". It consists in building up a dictionary of the notions that one associates with the idea and the practice of Territorial Intelligence, and to make it on a "contributive", i.e. UGC (User Generated Content) basis.

A CONTRIBUTIVE, USER GENERATED CONTENT - BASED ONTOLOGY

Why Ontology ?

From a mere list of words to a structured network of related concepts, with ad hoc definitions, there is a progressive level of complexity that can be summarized into four levels:

Vocabulary, → Dictionary, → Thesaurus, → Ontology

With the following characteristics:

Vocabulary = a list of words without explanation, i.e. with no meaning

Dictionary = a collection of words in a specific language, often listed alphabetically, with usage information, definitions, etymologies, phonetics, pronunciations,

Thesaurus = a collection of terms with hierarchical, predefined and standardized relations

Ontology = an agreement on shared conceptualization, possibly partial; it is possibly "systematic, formal, axiomatic development of the logic of all forms and modes of being" (Dameron, 2003)

Constructing ontology is generally viewed as a constructivist process. It allows more complexity in the formulation of concepts, more meaningful, more related and possibly (or at least partially) automatizable.

Why contributive?

Being contributory in a common project means a constructivist approach, with gradual, progressive, and lifelong learning. There is presumably more intelligence in a network of hundreds of people than in one person; it solidifies the concept of collective intelligence like in Wikipedia model.

AIMS AND OBJECTIVES OF CREATING CONTRIBUTIVE ONTOLOGY OF TERRITORIAL INTELLIGENCE

From our point of view there are scientific and behavioral objectives associated to that project.

Since it is contributive, it is expected to stir the IT community to produce the best of its collective intelligence. Hundreds of related concepts and definitions should emerge during a first round of collective "brainstorming". Then it is expected that discussions and confrontations of ideas will lead to consensual core concepts and definitions of partial pieces of the puzzle.

Besides that internal goal of scientific clarification, another objective of the project is to make the world know the existence and consistency of movement of territorial intelligence. That will promote the diffusion of concepts, nourishing new perspectives and new researches. It will profit from the popularity of Wikipedia-like environment and Web.2 .0 tools.

PROSPECTIVE PROJECT COMPLETION

Two methodological approaches are commonly recognized: top down (deductive) and bottom up (inductive). We aim at mixing both. Four steps are suggested.

First step: gathering up vocabularies

The bottom up part will start from an analysis of syntactic and semantic content of speech existing (web corpus) on the territorial intelligence and infer a list of concepts and terms most frequently used

The top down approach will start with a departure list of terms proposed by a group of experts in a Delphi-like first round. See example in annex.

Second step: building up a dictionary

Previous lists (of experts and discourse) are put in contributory circuit under Wiki software in order to adopt the concepts and definitions by (partial) consensus.

Here will stand the major scientific difficulty of the project.

The dictionary has to be multilingual in order to cover the span of researchers all Europe and World around. The basic issue is that mere translation will be insufficient. Cultural backgrounds are essential to finely understand TI concepts. Some problems will be addressed at the next steps by the way of semantic web technique, but probably never completely.

Third step: organizing in a thesaurus

From the material made up in previous steps, creating hyperlinks and networking the concepts, raw definitions and cultural background will result in a thesaurus, which…

Fourth step: .. result in ontology

At present time, it is not possible to precisely outline the form and structure of the ontology. It will depend both on the material gathered and on the technology available. An in-depth analysis of those issues will be conducted in parallel with steps 1 to 3.

CONCLUSION

Mobilizing the community of potential contributors is the key of success. Ontology per se is a goal that is far away, but if maintained it will provide a lot of by-products that are worth the collective effort, and … excitement!

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ANNEX : PRELIMINARY LIST OF VOCABULARY (IN FRENCH)

Acteurs territoriaux

Adhésion

Apprentissage

Autonomie

Capital social, culturel, symbolique, intellectuel

Carte, cartographie (carte du monde surréaliste) (topos)

Cluster (district technologique, Italie)

Communauté, communautarisme

Commune

Confiance

Culture

Découpage territorial

Département

Dispositif

Dispositif d'intelligence territoriale

District industriel (expérience italienne)

Dynamique

Ecologie industrielle (Kalundborg, Le Monde mag 23 janvier 2010)

Ecoumène (Augustin Berque, emploie ce terme d'écoumène pour désigner la « relation d'un groupe humain à l'étendue terrestre » et précise que cette relation est caractérisée par une «imprégnation réciproque du lieu et de ce qui s'y trouve, dans l'écoumène, le lieu et la chose participent l'un de l'autre. »)

Festival (les festivals sont généralement très implantés géographiquement avec une problématique soit introvertie soit extravertie)

Global

Globalisation

Gouvernance territoriale

Identité, identité narrative (storytelling), identité culturelle

Influence

Local

Médiateur, passeur, interface

Mémoire « Les peuples n'existent que par leur mémoire »

Mondialisation

Objet frontière, objet intermédiaire (boundary object)

Open source, open model

Patrimoine

Pays

Pôle de compétitivité

Projet

Région

Représentation

Responsabilité

Richesse

Territoire réel, vécu, rêvé, présent, projeté

Territoire mythique, symbolique, rituel

Territorialisation

Terrorisme, drogue, trafic

Valeur

Virtualité (O. Mougin, Esprit)

Xénophobie