

# The Territorial Intelligence Process: Ecology of Communication for Development of Hybrid Territories

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## Abstract

**Aims:** This article aims providing structural, and deeper, answers to the words used in titled, how “The Territorial intelligence process can be considered as necessary Ecology of Communication for development of “hybrid territories” and because in first part, we have been working, researching, for more decades in territorial intelligence field and secondly, because we have seen from the TICs development that territorial organizations in 21st Century are becoming hybrid, a mix made of physical (geographical) territory and digital territory and call for appropriate path to think about their future. **Study design, Methodology & Place and Duration of Study:** We illustrate our arguments by drawing on five situations of specific PhD research conducted in the interval from 2000 to 2014 throughout E.U in general and in France, in particularly. Reflecting the past six years, (2008-2014), they were fueled from the exercise of two local mandates. **Results & Conclusion:** All aspects encountered during these years need extracting additional points for consideration in the future. In conclusion, we propose structural elements for a response, and perhaps, for a future program of hybrid territories to be developed with the help of territorial intelligence process because of exposed territory to an insular development potentially breaking their continuum.

**Keywords:** development, hybrid territory, local government, systemic, territorial intelligence

## 1. Introduction

With this contribution we aim trying to provide structural answers to the question of the first part 1-Can territories be described as intelligent? In this section, we will see that it is proceeding with a slow investigation, progressive, complex and based on solidarity, leading to a logical communication part of a process, informational and anthropological, to allow the emergence of a structuring logic included into a comprehensive systems approach. In the following section, we will ask for an epistemological and methodological framework outlining research situations for their ability to produce meaning in a search process of actors of a territory to make it intelligent. In conclusion, we ask a few elements for a future research roadmap.

We will do it within relation of the proposal for an Ecology of Communication exposed and demonstrated by Abraham Moles (Moles, 1995) in “*Structural Theory of Communication & Society*” book whom we quote some extracts p.94 and followings: “*Ecology Science communication is the relationships and interactions between different species of communications activities within a closed area such as the time available for individual or social group dispersed in such a territory*”. “*And stress it will be to achieve a description of transactional human activity, knowledge networks and systems.*”

### 1.1 On the Beginning: The Purpose of Research is Certainly an Autobiographical Concession

Before delivering answers to the questions raised by the introduction, it will be necessary to indicate that some elements of our journey, both personally and professionally, or extra-professional, enriched our proposal. In order to supply our immediate and future exchanges finally, projecting prospects and power line work, actions, successful programs, failed projects, project underway or in preparation.

#### 1.1.1 A Set of Tool for Reading and Writing the Territory Based on Personal and Professional Elements

Of course, we will not develop these personal facts but they surely acted as a foundation, no doubt about it,

certainly, set of territorial tool reading that we propose in this article. This has resulted in a fundamental requirement: games player, with no real and fruitful contribution, without far looking, so do not concern us, and do not enter into this framework thinking. In this sense, the purpose of research or science "*The choice of the object of science is an autobiographical confession.* ». He interweaves autobiography and positive discourse (Onfray, 1997) and could be certainly an autobiographical confession.

Taking action, launching a project, a program in Territorial Intelligence is requiring we accept to be potentially exposed to project failure. But contemporary culture highlights immediate result, quantitative performance and do not emphasize, or so little, the virtues of learning from failure.

In contrast to this constant "Taylorized" culture, only a few constant points persist from one project to another one because there is no perfect formula and reproducible formulation. Here are a few constants over the identified projects. The first constant means acceptance of a relatively long time horizon (at a current time when the very short term appears to dominate and be the priority of action and units of measurement), the second concerns the permanent load of human factor in its commitments, the latter, concerns the heterogeneous constant dimension (and so much better!) project in its objectives and skills he'll call for, he must orchestrate.

The latter contingent has to be connected with the electoral (political) calendar. Interleaving in the territorial administrative division (municipality, inter municipal, township, city, state, region, EU) and maps, devices of all types of partners: FIRP (prevention of forest fires), PPRI (flood risk prevention), PLU (housing local plan), SCOT (territorial coherence scheme) plus countless unions, etc.) Pushover election with the other two terminals, start and end of term, unproductive and time-consuming of precious energy.

In our opinion, and in result from our observation, these elements prevail in an action so called Territorial Intelligence. Therefore we must add another, our ability to rise in fertile networks experts and lay knowledge, so long neglected by territorial engineering. On a professional level and to complete elements put into the development of toolset territorial reading as presented hereby, I must let you in after a scientific training, technological and military, I served in the French navy, then I joined the industry in France and abroad, finally, associated with several projects creating training courses, university or private sites, I joined University Education and Research on pursuing a career. This journey and adventures in relation with gradually prepared me to practice interdisciplinary and highly anticipated by actions, projects and programs located in Territorial Intelligence, inter disciplinarily.

From this background we denote so, that I do not belong to any elite corps or solely institution. This is a critical point for practicing Territorial Intelligence as we understand it because Territorial Intelligence does not accommodate with a mono or single culture and is expecting in 21 century from the actors "*say, do and be*". (Austin, 1962), (Gramaccia, 2001).

### 1.1.2 In Terms of Responsibilities into Local Government

Under commitment for the City since 2008, and during two local elective offices (which has ended in March 2014), one of Deputy Mayor of a medium town, the second as Community Advisor from both of these missions, I supported some programs that helped me, either totally or partially, appealing to the lessons and feedback from the leading of PhD thesis about Territorial Intelligence, actions or programs in relation with.

It was more precisely:

- Supporting the development of ISD (Information Systems Department).
- Prepare, assist communities for receiving Very High Speed Broadband and more generally the digital land planning.
- Conducting a Renewal schema five years along and this part of a backup plan associated with a neighborhood renovation.
- Setting up a Centre of Education and Higher Education for six years
- Pilot (as project manager) a digital departmental plan for land (SDTAN)

In order to prepare this contribution, we delved into the material texts (co) produced in recent years (20 to 30 years), objects for lectures or articles, as sole author or as (co)-author and thesis lead as in return by immersing myself into years, of civilian and military professional past, past to serve in the industry and in the Navy and have allowed me to meet the environment that we intend to describe in this article, we now characterize, define.

We have to stress as for each cited case we have had acted by combining, interlacing "*parts of non-human with human ones*" on bringing specific skills, applied, and far from very different spheres. Territorial Intelligence

refers to action, decision, risk and systems.

### 1.2 The Life of a Territorial Intelligence Project is Combining Actions, Decisions, Risks and System

Some major, specific aspects can be used to design our work on Territorial Intelligence and mind it referred to and still alive:

- We have to take in consideration some elements of culture issued from traditions that show our culture and commitment, resilience; (Lévi Strauss, 1967; Cyrulnick, 2001; Bertacchini et al., 2012).

-elements so called scientific and technological skills, which, according to the encountered situations, we must add knowledge and know-how to structure a Territorial Intelligence action. (Polyani, 1969; Bois, 2005; Perrin, 2010; Rmili, 2010; Déprez, 2012).

- And some language elements used as for sense of territorial grammar (Jakobson, 1960; Bertacchini, 2004; Herbaux, 2007: a, b; Maurel, 2012; Bertacchini et al., 2013).

Territorial intelligence regularly leads us meeting elements of a system we will call territory, both immersed into a complex and competitive environment, (Foerster (Von), 1981), (Bougnoux, 1993), (Lévy, 1997) to describe this whole structure has composed and whose logic dedicated to production of goods and services. Though we observe its organization and flows (outputs, inputs, media puts) that goes through, definition and negotiation procedures, formal and informal it finally adopts, latterly, its representations whether expression of physical or digital elements.

Our work and research meets contemporary news, repetitive announcements made of industrial sites closure and more broadly, any short-industrialization. To have faced crisis experiences, both in the military area and in civilian sector, we measure, take into account importance to identify, preserve, maintain, improve and pass forward knowledge we place at the heart of our approach. When an industrial site disappeared, when a military unit is closed, or its performances in action compromised, capabilities (knowledge and skills) associated with men, who held leave the host country or their survival itself, is threatened. We here discuss about operational skills Territorial Intelligence calls for. We discuss precisely territorial intangible heritage to create, maintain, preserve, stimulate because sometimes territories are experiencing a life cycle disrupted, often exposed to either breaks, or a so-called digital divide that undermines the territorial value chain is i.e. development of relationships apply to a range of jurisdictions. We have been living our daily lives and land that cannot be reduced only to expressions and digital productions rooted in the territory without physical links. We must bear in mind dangers of disruption observed between sphere of financial economics with sphere of the real economy.

In order to illustrate our previous remarks, we will bring a larger object expressed by The Economist, 12th April 2013 and which can be summarized as follows: *“the concern even occur in our 'developed' countries 'technological extinction' connected to a slowdown in innovation.”* (Note 1). Does it not therefore in a project of territorial intelligence, (co-) produce, connect, renew the fabric of this intangible capital midpoint of project and source of our ability avoiding this technological extinction so as to fight against the decline phase which follows inexorably to mature phase of a cycle of territorial life? And, therefore, from what point can we describe the intelligent territory? What are the associated assumptions (implicit and logical relations but to be checked at each step of the process) with a territorial intelligence process?

## 2. Can the Territories be described as Intelligent?

Without claiming enough power to bring definitively answer on this fundamental question, here are some structural elements of response that'll punctuate our reasoning. These elements also will draw from many and varied researches and professional practices. We will use a query to raise the issue of all. *“Indeed, why men posed, anchored or passage in one way or another on a territory, do they form a project group or otherwise deform, or take no action, to certain situations do opportunities, threats and risks?”* (Bertacchini & al., 2006)

The idea of combining intelligence and territory had not yet expressed, though we do not catch the link because so many elements were missing. It only was later, when our journey took us to participate in creation of trainings, settlement of a Technology Department of University, in a territory without any university location, we will question thinking this fact which should logically be a factor of attractiveness.

The idea of combining intelligence and territory in our sense came to us after having read the work of both economists Jayet and Wins (1993) on the process of locating companies, barriers to entry market, and then heard (or imagined?) the expression of Territorial Intelligence, took into consideration definition given by Datar for spatial Development (Note 1). This definition was association of information and communication crossed with organization. We wrote two reports (Note 2), the first, *“Decision Process of location and Local Development”*.

The first one, from the logical point of view of entrepreneurship, has focused on modeling decision process of an entrepreneur who allows him to choose at a convenient time a territory to locate its business. The second report, in coordination with the previously and seen from an institutional perspective of a Development Corporation, as it clarified criteria for determining location of activity seen in the light of this analysis logic. Through publication of these two reports, we capitalized two logical analysis, one private, the second, based on service spirit. Beyond, formal, measurable criteria, we update a series of informal criteria that we decided to latter explore.

In the meantime, ICTs began to be widely disseminated and used abroad, therefore announced in France as a means for all territories (competitive or not) authorizing developments so far inaccessible prior to arrival. Therefore, another question was about to break in parallel. "How can we explain that certain territories were able to mobilize ICTs to formulate their policy development or, more precisely, how to explain that certain territories would happen and others do not? While accessibility of ICTs, equipment, networks, was now made possible of?" (Bertacchini et al., 2000).

In order to initiate this investigation, we decided to define, compare, and measure what we would call later the formal capital (Bertacchini, 2004) of two territories close enough with characteristics. We then propose an evaluation of local capacity for action (associated with a mathematical function) model inspired, derived by the meta-model of Schwartz (Schwartz, 1997). Among elements that have helped feed the work and publications on territorial intelligence, we note that traditionally they fed of economy, geography, Science and Technologies of Information and Communication (ICTs) and connected with knowledge management. Links with business intelligence and ICTs are often cited in current definitions of territorial intelligence. The territorial intelligence systems (ITS) need to use traditional process of information transmission and information technology and communication through Intranet or Internet Web sites, documentation, information systems geographical data and analysis. (Bouchet et al., 2007; Bertacchini, 2006; Bertacchini, 2012; Shang, R. Bouffanais, 2014).

But these elements borrowed, equally relevant, did not meet our expectations because they do not address the informal criteria mentioned above and do not allow us access to the organizational capacity that mentioned definition given by Datar. Our expectation (Or Quest?) was firstly meet Edgar Morin's work by reading "Introduction to complex thought" (Morin, 1991). It follows a progressive investigation, slow, complex and inclusive.

### *2.1 Slow Investigation in Progress, Progressive Intricate and Integral*

Subsequently, we discovered the life course of this researcher, Resistant, Humanist and finally we read page 124 of the same book "*lived solidarity is the only thing that allows increasing complexity.*" This phrase, powerful, connected, in our view, both ends of a "complexity and Solidarity lived process." Likely in response to a territorial further complicated environment, and perceived as such by many actors met, policymakers broadly and territories face disruptions in their life cycle.

Because territory environment made of such components as human, technology, financial, legal, mutated, in our view, became more complex. But complexity and its corollary, uncertainty, scare and practice, though expected by interdisciplinary and multidisciplinary projects or problem to solve, does not exist culturally. The required Knowledge on part of those in charge to define, implement and monitor achievements of local politics has also changed. How then do orchestrate these movements to build an intelligence, which we call for in reference to a territorial development of the local movement from localized mobility or latent resources? We will strive presenting now and always in touch with our combined experience as a researcher and actor, prior assumptions local commitment or in other words "*How, in a development perspective, to mobilize local resources having been beforehand detect their potential deposits? And with what logic and communication based on prior assumptions which happen to engage this movement?*" (Bertacchini, 2004).

### *2.2 Communication Logic to be Revealed, to Lead and to Structure*

Territorial intelligence field of contemporary research, like many areas of research, encounters problems of interaction between systems (Watzlawick & al, 1967) as well as it has to numerous interdisciplinary implications. Mucchielli (Mucchielli, 1998) wrote that "*the coming years will tell us whether Information and Communication Sciences will manage to strengthen their interdisciplinary.*". Therefore, and by extension, we could argue that in order to qualify for spatial dynamic of their content, local organizations, communities essentially, has to detect and then combine available expertise, localized and / or mobile, physical or dematerialized (digitalized.) This inventory work is made for structuring their resources capital and intelligence with a view to achieve a development policy. Connecting this formal capital, latent or revealed, is not achieved in all cases and we could not at this stage yet speak of territorial intelligence process because we did not understand the logic of communication process in work that would allow information to give meaning to data exchanged by territorial

actors. We will now consider or prior (s) in an attempt to territorial development that we meet in a hypothesis.

As we below mentioned, derived from the Jayet and Wins' reports, we proposed the following hypothesis: "The existence or nonexistence of a network of relationships between local actors can prove to be a barrier or a catalyst in construction or reconstruction of territorial link. » (Bertacchini & Dou, 2003). This relational grid, physical or virtual (digitalized) can help mobilizing local skills around a shared goal, a logical communication, and in case of complementary skills to gather, to facilitate their acquisition by a user appropriate learning. Thus, since there recognized inequalities of access to territorial development process, it produces asymmetries in mechanisms evaluation of authors of local history. Based on this central hypothesis, spaces involved in the way their organizational mediation do not all have access to same capacity development. In other words, they do not have put in hands conditions for recognition and shared communication that do not engage in a co-constructed process we have named, informational and anthropological, because of their logical structuring development.

### *2.3 Informational and Anthropological Processes are Structuring the Development of Territory*

When these inequalities generate systemic asymmetries in the evaluation mechanisms of authors of local history, the information provided, exchanged, their members are tainted with disabilities, lack of direction, and distortion of their content and prove their inability to design relational network for conducting the organizational mediation. In this situation territorial data remains "*a sign or set of signs without attribution of meaning*» (Toffler, 1991) and may not be information that "*when received in the communication process.*" (Lamizet, Silem, 1997).

A priori, history of these local actors are not allowed to or prohibited from investing in their future. A posteriori, when the exchanged information has not potential credit, disability content of information exchanged does not favor joining network communication. Therefore, the relationship displayed but not shared around this objective, logical shared communication cannot reproduce and permanently impair the Territorial Enhancement. Building social link fails, constitution, transmission of intangible heritage group does not occur. Attempt mediation, humanist essence qualified territorial intelligence, we may propose prove to be an answer and so we need to continue rebuilding what has allowed us time to lend this process, fed this ability to "*choice, freedom, uncertainty*" (Shannon & Weaver, 1949). We have to cross these proprieties with the assumptions we precised before in order to explain how the path to a territorial intelligence process has to be engaged, structured and followed by territorial team in charge with.

Prior to sharing experiences then comes from our conception of reality and our knowledge of information held by local history background. This would involve qualified local, real informational and anthropological background of history, or what we understand of this reality. If written as, common sense suggests that we can, as a result of our investigation and understanding of the real world, discovering objective reality. Our conception of reality is no longer a "True image "what is outside of us". It is, always according to Watzlawick (Watzlawick & al, 1967) necessarily determined by the process that led us to this design and any purported reality is construction of those who believe they have discovered and studied. In other words, "The environment as we perceive it is our invention. ». Or more precisely "*A growing body of new knowledge suggests that what we call reality is actually something we construct.*" (Foerster (Von), 1981). And this invention, the translation may prevent writing the territorial grammar understood as structural model of communication proposed (Jakobson, 1960, p350-377).

Like any territorial actor, mobile and shared between various jurisdictions, as is increasingly the case today, territory of leisure, professionals, status, actual or virtual, we are immersed in a variety of environments, near, intermediate and remote. But, how do we live these territories and since it is our main purpose, how territorial intelligence can suggest a response for that?

According to Levy (Levy, 1997) the individual projects his inner reality in the world he sees, while being penetrated by him, through a circular interaction undermines division between subject and object, and it allows or not, finding this logic of communication. The living self-organizes, provides his own goal, determines its own criteria of differentiation, action and "*calculates an uncertain environment by practicing a sort, selection or translation to the transformation of a disorder in his order.*" (Bougnoux, 1993). It is for Territorial Intelligence to focus on structuring search logic often not collected (invisible) by members we have assembled to form a project team.

### *2.4 A Structural Logic from the Invisible Information into Operable Communication*

With elements, complexity and solidarity experienced, intelligent communication, construction of reality, multidisciplinary approach, we formulate hypotheses of territorial grammar within the meaning of the model formulated (Jakobson, 1960), as a point of departure and arrival, to form (co-construct) the formal territorial

capital (Bertacchini, 2004) prerequisite for grammar in sense of Jakobson (Jakobson, 1960) and Levi-Strauss (Levi-Strauss, 1950) as the language of territorial organization committed in a territorial intelligence process. With an incidence, double, this territorial grammar will result territorial project feasibility and quality of territorial grammar will result maturity of the project, well before visibility of specific territorial project and its perception by territorial actors will not be directly involved in the project, finally, will met success factors of the project involved. We mention that this language must also be fed the resulting production of ICTs use Information Technology and Communication and promote tools of "Web 2.0" for consultation well as themselves, they cannot completely substitute for good social relationships "real". (Perrin, 2010), (Déprez, 2012).

As we have below indicated, the physical origin territorial levels, for varying degrees and multiple uses, integrated, or integrate gradually ICTs, blurring administrative divisions while promoting emergence of virtual territories (or dematerialized) (Perrin, 2010). Thus, so the "*digital society*" is on the way and is reconfiguring the territorial chain value. It is essential that these territories could integrate Information-Communication Technologies and, it is also necessary that they fill in, because of risk being marginalized on a national and international level and to curb their use for cooperation, particularly in projects related to sustainable development. The territorial intelligence process that can be described as information and communication territorial approach finds full justification in assisting in formation of capital formal territorial level (Bertacchini, 2004). In our opinion, and this was confirmed to us by practice in shares during the last six years, formal capital of a territorial level (or division) is the preamble to development policy, whether policy territorial change, retraining, or innovation to an area facing a change, a break in its life cycle. Writing this formal territorial capital follows from logic of communication that territory is chosen. It is therefore a logical characteristic of organization, communication and structuring based on sequence of torque 'Information-invisible Communication-operable' and reflects both the sharing protocol communication activities, individuals and transactional system of exchange used by individuals within territory of component systems. (Moles, 1995), (Cooren, 2001).

We thus see that aspects are in fact just as much equal as part infrastructures, telecommunications networks to broadband (pipes) on media and content of scanned documents created with these tools. Such issues are relevant to all sectors of society, from education to economy through health; World administering to company, through the particular. It is therefore required that territorial intelligence relies on a network of multidisciplinary skills held by local actors of culture and therefore, different codes. This is a crucial point. From this point of view, we must clarify the assumptions underlying the territorial grammar enabling the informational and anthropological processes that will engage and share logic of territorial communication.

We consider a point of view of Computer Science and Communication, and born from the observation of practice of local actors, as anthropological information process involves combination of three assumptions (Bertacchini, 2012). They, may be, seemed logical, implicit, but, in reality, they should be checked at each step of a fragile process made of individual, collective intelligence, and physical, digitalized means.

- The actors exchange information (energy generation individually and / or collectively);
- They give credit to the information received (capture-information exchange);
- The communication process engaged and established actors establish appropriate networks and transfer skills (mobilization and transfer of energy: formulation of the project).

When, into the territory, these assumptions are met and checked, and that stakeholders have taken in consideration these three stages of assumptions, potential sources of skills can be identified with an action of information and communication authorities, the territorial logic of communication and mobilized in context of writing one or more development projects. We believe this is the first step to the definition of a local development policy; priority to an endogenous one, responsive medium-term competitive relationship between territories involved and would enable anticipation, adaptation territories facing a structural change of their position on their life curve. In fact, it is a systemic approach well adapted to the described situation because understanding a process of learning to make from categories of territorial actors very different, local authorities and ICTs which are going to build hybrid territories.

### **3. Setting Epistemological, Methodological and Illustrations of Ended Researches**

We found that territorial intelligence, confirmed purpose and scientific applied field, is at the convergence point of information, communication, technologies, knowledge which are shaping hybrid territories made of physical representations (geographical one) and digitalized expressions. Territorial intelligence is reflecting a relationship Space-Territory which succeeds after territoriality, as a phenomenon of appropriation or re appropriation of

territorial resources, and finally, allows the statement of territorial project when the territorial level happened to make it while gaining formal capital. From an epistemological and methodological point of view, the term certainly bold, territorial intelligence emphasizes construction of a scientific object that ultimately leads to the development of a meta-model of territorial system inspired by Schwarz's work (Schwarz, 1997). For our purposes, this approach is not exclusively a systemic modeling associated with matrix territorial process, made of structuralism and functionalist, in nature. Our work in Information Sciences and Communication Technology and, as such, also referring to social approaches, inter relational and systemic theory, that is to say, informational (information theory and energy associated attributable, among other ICTs) finally, constructivism, that is to say a communicative approach with reference to territoriality and is consisting of re appropriation of the territory resources.

We will complete this brief presentation by recalling, as already pointed out other work in other scientific disciplines, studies of a territory behind an initial uncertain knowledge underlines importance of the project team skills in charge of its development. It is therefore necessary to emphasize heuristic nature of this approach and for ontological level we refer to a pragmatic territory and its stakeholders, in this case, situation, Researcher in its relationship with the Society. Finally, we believe useful to specify that territorial intelligence cannot be limited and be reduced to a standby approach but is rather a logical project type 'Bottom up' which will attempt to display elements of a pro-active or anticipatory attitude risks and disruptions that may affect territory which will inevitably occur.

Caught in this systemic approach called "comprehensive" and with its help, we have clarified the theoretical position of researcher-actor we can seize meta model of Schwarz to monitor changes in its business planning of territorial intelligence in a theater with its rituals, heroes, symbols, values which constitute its history. This theater consists of an unspoken rhythm that exchange between people. There is mediation and capitalization of a culture of signs and postures (habitus "*way of being*", of Bourdieu) (Bourdieu, 1994) establishes a grammar of communication (relates to learning, to impact of this learning on the last agent, the ability of these provisions give rise to social practices) and founded identity of local group. This observation is a crucial point of research on land issues in Quebec (Herbaux, 2006) and us away from blissful prophecies about roles of ICTs and a concept of development where 'territory physical' and actors are absent to make way for a fully digitized territory (a territory with no more (physical) geographic roots).

As we earlier outlined, creation of an enabling environment is a pre-requisite to any emerging innovation society as Moles (Moles, 1995) had imagined and named "*Ecology System of Communication*". A primary objective is to create local institutional terrain behavioral, informational/anthropological, where territorial actors could express their perceptions, enrich their knowledge, skills and assert their influence on the development process; it relates to the political environment, recognition of a local authority, technical and administrative instrumentation and social remobilization of local actors, the manner in which information is at the center of these reports. But we find in, at this cross junction of Territorial Intelligence and Sustainable Development programs these methods of exchange and dialogue are difficult to provoke, to train and maintain in long term view. Preferences are moving towards the more easily operable communication in the couple we below cited "actionable information-communication invisible."

This approach planning is to define conceptual framework for supporting a democratic ascending process and spatial proximity (whether product contacts face to face way or remotely via digital Relations) is at the heart of this territorial specificity. It is not necessarily involving social identity and proximity, but involves a first stage of a new territory construction, through a gradual process of emergence of territorial appropriation, it is accompanied and promote. This appropriation phenomenon of symbolic representation by which human groups think their relationship to/with a physical space, can only be built by progressive integration of a local feeling, through a collective mental process. Brunet (Brunet, 1990) teaches us that the consideration of only lived space has shown its limits and emergence of a territorial identity cannot be reduced to an economic, social or cultural activity devoid of common political existence or administrative recognized. The only aspect of lived within the premises, are neither progenitor nor constitutive of territory and it is here that territorial intelligence offers a humanistic path and a realistic mediation for development of hybrid territories.

Territorial identity cannot be reduced to a more political or legal identity rooted in a place: there must be, this and something more: a conscience (Bourdieu, 1980). It is well to local political space (Levy, 1997), in which territorial actors feel responsible for and where to play power relations (Raffestin, 1980) for appropriation emerge. Durkheim, (Durkheim, 1977), p.138 advanced "*For that votes express anything other than individuals, so they are driven from the principle of mind*"

By the end of this epistemological return, which wanted to restore our scientific progress and ask an epistemological framework, then we proposed the following definition of territorial intelligence (Bertacchini, 2004) "*Regular and continuous informational and anthropological process, initiated by local actors physically and / or remote resources that appropriate space by mobilizing and transforming energy of territorial system capacity project. Therefore, territorial intelligence can be likened to territoriality resulting from the phenomenon of appropriation of resources of a territory then consists in transfer of powers between categories of local actors from different cultures.*" This collective capacity, territorial intelligence, planning to anticipate disruptions that will reach territory during its life cycle, to seize opportunities that arise, requires implementation of an evolving culture and is well upstream of the visible area project by territorial actors who are not involved from the outset in future project. Territorial grammar, formal territorial capital will flow whether project and quality of this grammar will result feasibility of project itself. That is why we place the scope of territorial intelligence well before what we design, the communicable visibility territorial project, and its perception by external actors and as an informational and anthropological process, that is to say, with a structuring capacity. This reinforces the need to write co-constructed formal territorial capital because of its quality will take place the meeting of key success factors for the development project. And by writing this formal territorial capital, signs and data involved in production of meaning for the evolution of regional culture because together in a process of communication.

### 3.1 Signs and Data as Meaning Producers in the Process of Territorial Development Project

This change of relations and exchanges, a project spirit in fact, must be backed by another signal processing and information (Gramaccia, 2001; Bois, 2005; Herbaux, 2007; Bourdieu, 1994). Communicate differently, participating in a joint project is modifying individual links and relations to each other; so the out daily exchange relationship to access a shared project of otherness then there is capitalization and valuation of individual missions; this sharing and putting into perspective, the conjectures are all opinions based on analyzes of assumptions that provide formal and semiotic relationship of continuous and interactive flows, the group. Organizational culture takes, with recursive aspect, a sustainable profile. Signs, data representations are then called as producers of meaning (Maurel, 2012). While covering a period of more than fifteen years in territorial intelligence research, we are now discussing some situations in order to illustrate this statement. We made the choice of four researches conducted in French specific region as Nord-Pas de Calais Region, Rhône Alpes Region, Languedoc Roussillon Region and Paca (Provence Alpes Côte d'Azur) Region.

### 3.2 Application in Nord-Pas de Calais Region. Territorial Intelligence: From a General Representation to a Concept of Finality (Herbaux, 2006)

It came from an experimental territorial intelligence component in the North of France (Lille, Pévèle and Audomarois countries) and part of a research commissioned by the French State. Anticipating threats in the business world was a leitmotiv of our work, with apprehension, formulation of potential risks, the role of information transmission and impact of Information Technology and Communication (ICTs) on the regional economy was a field of constant questioning. We now set out the assumptions in relation with this research.

#### Hypotheses testing

Research in this context do not mark themselves in an established model of knowledge transfer but rather observing concurrent approaches that establish modalities for knowledge sharing. To do this, we asked first three working hypotheses related to the assumption of synthesis:

- Hypothesis 1: the perception of threats and future breaks is effective for territorial actors and the population within the territory.
- Hypothesis 2: Information and Communication Technology (ICTs) are an essential approach for sharing information within the territory.
- Hypothesis 3: the territorial intelligence process is related to priority processing of information about the economic fields.

And finally, the hypothesis of synthesis: "*Territorial intelligence, is within the territory, between information and communication processes.*" (Herbaux, 2006) deduced in that case an appropriate definition of territorial intelligence. ", "*Within the local scale a change of culture based on collection and sharing between all territorial actors' signals and information in order to provide the decision-maker, and timely, judicious information*" (Herbaux, 2006).



### 3.2.1 The Concept of Information Processing Applied to the Territory by the Action Research Implemented in the Nord Pas-De-Calais Region in 2001

The model used during this research-action was based on a recursive pooling signs that stood in several registers from the individual ones to the collective; address the threat, it allows a shorter space and time in transmission and interpretation of signs. We should note that this approach applied to the local inhabitants, disrupts the normal pattern of transmission for detection of threat; informal, tacit and confused emergency, access to explicit, structured and continuous deliverable. Arguably, this approach was gradually changing a local culture. Indeed, this new posture of territorial actor that he is participating in local project differently. The frame of shared project now supplies watermark daily searches and, in this, they jostle internal culture canvas of the area and its hierarchical system.

### 3.3 Application in the Rhône Alps Region. Networks & Collaborative Practices: Towards an Epistemological Spelling of Building Online Knowledge

In this research, conducted in the Rhône Alps Region (Bois, 2005), the central objective was to organize the collection of know-how recognized by an old profession, but scattered, by a community of builders in mud-clay, form of networks actors holders of such knowledge to individuals, structuring knowledge identified to finally make them available, accessible, visible and therefore make them ready to be solicited, usable.

This research therefore associated networking to allow collaborative practices through the construction of online knowledge in order to provide tools for a community builders in mud-clay by combining, Human and Non Human, physical Territory with the virtual one, local and remote actor, the knowing and doing skills, secrets skills to be revealed, identified and latent ones, and to allow the meeting, by organizing the mediation between actors, professionals with non-professionals, knowledge holders with old/scattered ones with users/manufacturers in information retrieval and documentation in connection with past and special techniques of building. Bois (2005) described the methodology of making what he called the online attic of knowledge.

Bois outlined the methodological mediation that led to the organization of this dynamic encounter between actors and know-how.

1. The dynamics studied and restored find us the assumptions of territorial grammar: exchanged information, credit to perceived information captured, and then mobilization of credited information to establish the communication process in view of deliver online training information.
  - a. A very concrete experience of manufactured online attic of knowledge.
  - b. The conditions of collaborative writing.
  - c. The use of knowledge attic for online training.
2. The contents of the attics of knowledge. The first question is concerning the online documents bearers of knowledge. We have had to identify the best writing and organizations for these documents were properly indexed by similar search engines.
3. a. The second explored subject is concerning interweaving human and tools for production of documents bearing knowledge. The generic name imagined for this dynamic system was attic of knowledge.
4. b. For this experiment we have studied the hypermodern episteme from three books: “*Words and Things*” of Michel Foucault (Foucault, 1966), “*We Have Never Been Modern*” by Bruno Latour (Latour, 2006), and from Peter Sloterdijk “*Spheres trilogy*” (Sloterdijk, 2003, 2005).

This method was applied to the manufacture of an Online Attic of Knowledge on building earthen-clay by a collaborative practice with a STICA (socio-technical of information and communication arrangement). Artifacts of this research were two prototypes Attics of knowledge, an application in PHP MySQL JavaScript for dialogue between authors and users of documents describing the intertwining between humans and tools during the collaborative process.

### 3.4 Application in the Provence Alps Côte d’Azur Region. Coexistence of Territories: The Physical Space under the Test of the Virtual One. A Relational Cyber Metric Approach Issued From a Territorial Intelligence Process

This research was conducted on several research fields, but the most important of these research areas was the territory of the PACA (Provence Alps Côte d’Azur Region) and follows a study sponsored by the Regional Council of PACA in order to assess the regional public Web (Perrin, 2010). As territorial intelligence proposes to better understand how to realize the phenomenon of appropriation of territorial resources, it uses the social approaches through the relational aspects. We are committed to identifying new territories assemblies, their combinations and interactions made between physical and virtual new territories incorporated areas.

This research has been based on three theoretical foundations: the theory of complexity, metric information

analysis, and territorial intelligence. The associated questions with this research made us wonder about the principles of coexistence and cohabitation of physical and virtual aspects (Queau, 1993), (Dubey, 2001), which can be seen in our realities: - What kind of cohabitation between the dimensions of physical and virtual territories? - Should we consider a combination of the territories and what forms are the interrelationships of physical and virtual territories? – Do virtual networks are, act as an extension of the physical networks or do they answer to its own logic and condition, able to give them some autonomy? - Are they able to finally turn have an influence and impact on the physical networks? It is to highlight the coexistence of physical and virtual territories and bring items that can enlighten us on assumptions based our research. As we have seen in our results, the virtual territories reproduced partly physical and geographical aspects which they are drawn. However, it has also been observed in contrast, in the virtual world, a degree of autonomy that gives these territories characteristics that become their own.

### *3.5 Application in Languedoc Roussillon Region. Signs, Data and Spatial Representations: Elements of Meaning in the Drafting of Intercommunity Territory (Thau Basin)*

Local territories are subject to forms of development increasingly dictated from the upper scale, based on the paradigms of the global economy and sustainable development. These local areas are indeed a relevant level to respond operationally to these issues of global proportions. The question then is how these areas can, in this context, also promote endogenous development that makes sense for local actors.

#### 3.5.1 Spatial Representations and Their Potential of Mediation

The concept of territorial intelligence mobilized in this context is an informational and communicational approach to territorial development. From this point of view, territories are represented using the Schwarz meta-model as systems able to emerge and become more complex to deal with an uncertain environment. In this approach, the systemic and constructivist paradigms we deepen the potential role of the geographical dimension, via spatial representations, in the devices of information and communication at the level of inter territories, assuming that it has the potential for mediation.

#### 3.5.2 STICA and Mediations: Boundary Objects Enhancing Local Knowledge

"Mediation" has, as means power of articulating these actors and heterogeneous strategies or antagonists using the STICA "socio-technical information and communication arrangement", studying communication situations and different forms of mediation that it allows, as well as learning that may arise. Spatial representations, as constituting STICA media products offer a variety of semiotic properties and features even if they are still most often methodological unthought-of in professional routines of territorial cooperation. They may be in particular boundary objects within the meaning of Star S.L., Griesemer J (1989), Flichy (1995) between heterogeneous worlds and allow enhancing the knowledge of local actors from the moment green design information (Moles,1995) is adopted. With Bateson, Birdwhistell exchange is no longer only regarded as transfer of information but as a participation in communication by agreeing to closer objects a priori had nothing to do with each other: a clear intellectual disposition a clear scientific posture. (Winkin, 2001)

From a pragmatic and empirical point of view, research and intervention on the Thau territory allows a micro level, to highlight situations of production and use of spatial representations in STICA and their effects in the process of territorial planning. We show how the deployment of an explicit representation of urban sprawl, first by quantifying and setting cards, then by operations mediation can make this issue initially blur a new object management within the territory. The potential mediation of physical 3D models of the territory, taken as "*boundary objects*" (Flichy, 1995), is also shown. Finally, two experiments valuation skills and local knowledge are used to validate the feasibility and the relevance of these approaches in an objective territorial intelligence, while stressing the tests to pass to the TK holders and gain legitimacy in professional routines of territorial planning.

The corpus of research hypotheses

This prepositioning brings us to formulate a body of hypotheses bearing on both a global approach of territories taken in context encompassing and more pragmatic dimensions that fall within the territorial engineering, addressing the point of view of information science and communication.

#### Hypothesis 1

The current dominant paradigms (global economy, sustainable development, society technologies information) paradoxically give full weight to local areas (inter country) scale in France).

#### Hypothesis 2

Territorial strategic planning across inter generates a multitude of acts of communication between heterogeneous actors and mobilizes a patchwork of combined methods of animation tools of information and communication (Plant & al, 2014). The integrative concept of STICA socio-technical information and communication arrangement has a potential heuristic for understanding and operating in a unified way the informational and communicational dimension of territorial development process based on consensus.

Hypothesis 3

Emergence of sustainable development gives a central role to the biophysical materiality territories and imposes eradicating compartmental approaches previously undertaken on a sectorised basis.

3.6 Application into the Paca (Provence Alps Côte d'Azur) Region. Local Government and Sustainable Development: Contribution of Information Technology and Communication (Icts) for Organizing Participatory Public Policy Dimension. A Democratic Cyber Sustainable Development Project to be Read from a Territorial Intelligence Process

Since October 2012, this PhD research (Deprez, 2012) is subject a contract of scientific partnership between the PACA region and the city of Vitrolles in which is conducted the research action and the results fed into a wider regional reflection. He is questioning the wide game of uses which the technological dimension of territorial sustainable development projects is subject. The technical object is considered as the objective realization of a human effort of invention, construction and analysis has to be conducted in the modernization of public administration through the prism of the transition from computer to digital by changes authorized from Web 2.0. The focus is given to all local authorities in the PACA Region, engaged in a Local Agenda 21 (LA21), a Territorial Climate and Energy Plan (PCET) and an Agenda for Global Innovative Region (ACT). Indeed, the use of digital, to control information within territorial projects studied, can approach the web space in a dimension of sharing, first meaning of the concept of participation at the heart of sustainable development programs.

Hypotheses / research questions

We now present the research hypotheses translated as a main question that will be detailed after presenting how we combine the three components of a STICA (socio technical information communication arrangement) (production areas / mediation / receipt) with the three assumptions of territorial intelligence (exchange / capture more value / networks, skills.)

- > Do public administrations rely on communication resources offered by Tics to make dynamic information?
- > How organizing internal services of local communities in the management of sustainable development project, and its participatory dimension in the digital age?
- > What characterizes the "process of objectives to be shared by the group in charge of spatial planning", which is a prerequisite for any concerted territorial policy? (Bertacchini, 2009).

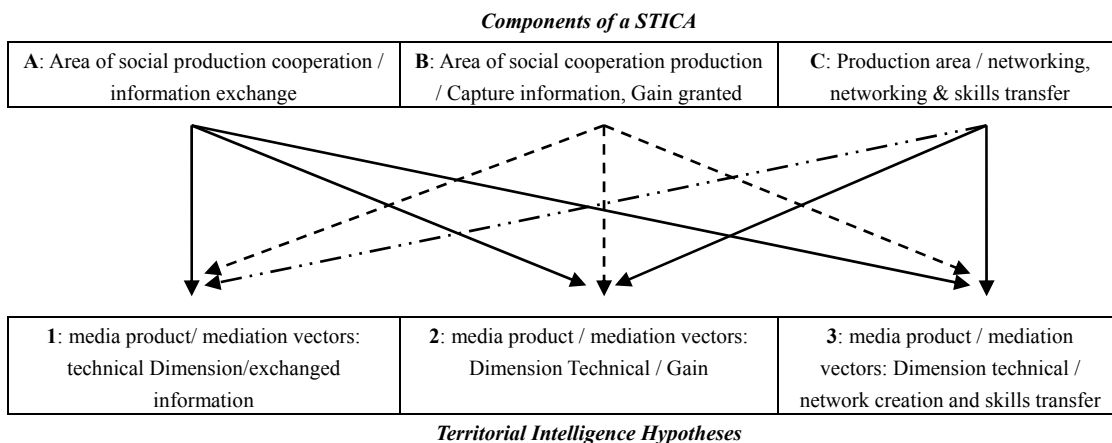


Figure 1. Proofreading assumptions: analysis of a STICA in relation with territorial intelligence hypotheses (Déprez, 2012), (Bertacchini, 2014) (adapted from)

We now clarify and detail the main questions of our research in terms of components of a STICA crossed with the assumptions of territorial intelligence.

A.1: Area of social production cooperation / information exchange

- Do Local authorities exchange information?
- What is the information content offered?

A.2: Social zone of production cooperation / Capture information, Gain granted

- Does Public information change the repository trades community?

A.3: Production area / networking, networking & skills transfer

- How local authorities do organize democratic dialogue?

B.1. Media product / mediation vectors: Dimension technical / information exchange

- Do digital tools used by local governments share information?
- What kind of information content is provided on institutional sites?

B.2. media product / mediation vectors: Dimension Technical / Gain

- Do local authorities use all communication resources of ICTs to boost the exchange of information?

B.3. media product / mediation vectors: Technical dimension / network creation and skills transfer

- Does the new discursive schema opened by using digital (Doueïhi, 2011) allow the creation of links between main actors of the ecosystem area / community around the issue of sustainable?
- Does the website of local authorities allow it to engage a kind of dialogue within the organization?

C.1. Social zone of cooperation & Reception / Exchange of information

- Is the local authority adapting to online engagement behaviors on the web to make it more visible and accessible exchanged information?

C.2. Social zone of cooperation / Gain

- What do public relations maintain with digital tools used by public administration?

C.3. Social Zone of cooperation / networking, transferred skills.

- What are the socio-technical means available to local actors to participate in the co-construction of sustainable development project implemented by the local community?

#### **4. Conclusion: Structural Elements for a Response, and Perhaps, for a Future Program of Development of Hybrid Territories**

At the crossjunction of action on our object, territory, and identity gained by territorial actor during this process, territorial intelligence, is thus a paradigm of meaning and identity because data is received in a process of communication (Bertacchini & Dou, 2003). Thus, the territorial dynamics derives its existence from complexity of its networks (hypothesis 2) acting in social debate and energy (hypothesis 1) implementation can scale territorial new object (hypothesis 3). Endogenous territorial innovation thrives on internal signals and external information flows. This is to tap into local history, informational reserve, to capture data streams to be treated in continuously and to detect the threat in time, seize the opportunity, finally, to promote the emergence of informational process as anthropological.

The answers are offering a bundle of new tracks to explore the concept of knowledge sharing and to be transferred from each other's territorial actors. This capitalization of signs and information development perspectives, supply to local possible futures able to thwart the threat, that territories uncertainty will face during the course of their life cycle. Creation of this position is carrying the seeds of attributes anticipation of a democratic tool shared by local actors, involving them more closely to territorial strategic vision and that, much before visible operable communication. The term local actor, for the shared (or to be shared) resource, then makes sense and Researcher, in our point of view, is also becoming a territorial actor because participating in transactional exchange protocol.

Finally, in order to again more precisely reflect our orientation we still borrow from Davallon (Davallon, 2004) trying to better present our position. "*Research in Information Sciences and Communication, is the ability to experiment and adapt concepts and methods forged in other scientific objects within other disciplines.*". Territorial intelligence as we did perceive, practice, restore was enriched from many years of a process we can such call "trial and error" fed breaks, voluntary or otherwise, risks, crisis, hopes, misunderstandings toward the behavior of organizations, civil, military, commercial, non-commercial.

With our central object, territory, central object of our lives and our research, we finally find again the path of experimentation. With always in mind dangers of the ever greater distance between two worlds sphere of real economy with the sphere of financial economics, we studied before.

We have tried to reconstruct history (fabric) of maturation of our research in territorial intelligence based on our practices, experiences, misunderstandings, unresolved enigmas and we wanted to offer you a frame of 'territorial intelligence' as a process of meaning for building hybrid territorial organization. Because contemporary territory is made of an unequal mix of, physical/geographical and digitalized, with remote territorial actor and territorial actor present, communicating in different time "on and off. A process of meaning that is reflecting ability of territorial actors to mobilize data, information and knowledge on contributing to (sustainable) development of a territory or as result of a collective effort through a retro-looking playback. We have proposed a territorial intelligence definition that makes sense in, and for, distinct occupational universe therefore trying to break down barriers of cultures to form compounds of expert and lay knowledge mixed networks that territorial engineering practices hold little or not at all.

The difficulty of this prospective and projective writing both lies in consideration of the most important constraint for all societies in history, and by extension, access to energy (Odum, 1971) internal system energy /external of a project, in relation with environment, and needs for both combining the abandonment of part of worldview of modernity - separation of world in actors, institutions and territories - and adoption of a highly innovative vision that emphasis on mediation, network, translation and ultimately mobilizing collectively skills, but initially formed and grown individually, in an environment is favoring short term as in its reading of communication activities in individual practice emphasizing operable communication.

We here display problem statement of territorial intelligence by using comprehensive systems approach to identify the logical structuring of communication that is to say, analysis on a system, territory, taken in a whole as a dual system consisting of "non-living and living", as a dissipation structure (Lotka, 1922) and (Prigogine, 1986) refers to complex systems technique as described by Le Moigne (Le Moigne, 1990).

And now, after having it heard so many times, and subjected to a question from a student, future doctoral or present PhD student, I would say this if the question was asked me "*Could you explain us in a few words, phrases, in order to summarize territorial intelligence?*"

Here are today the main elements of response I would do to help my partner to catch the structured set (or the way structure to be structured), and for keeping on the structure that forms territorial intelligence.

I'll help in this by proposing an approach frame by using authors such as Rifkin, Latour and Morin. Because we do not have one answer, automatically give reproducible from one territory to another, and we must bear humility to accept that failure is part of the process.

#### 4.1 A frame to Approach Territorial Intelligence Stepwise

At a Meta-level of analysis: to provide a continuum of development by saving energy

*"The reality is clear: increasingly complex energy-intensive civilization that appears in history intensifies the pace, the flow and density of human exchange, and creates more connections between people."*(Rifkin, 2012), p. 29.

*"The major economic turning points of history arise from the convergence of a new energy regime and a shift in communications. »* (Rifkin, 2012), p.40.

*"The more complex energy civilizations allow humans to compress time and space. »* (Rifkin, 2012) p.44)

We note that a logical structuring of communication should be adapted to the situation of the imagined land to be developed enabling it to reduce inherent energy degradation territorial system and reorganize the structure of its communications so as to provide a continuum of development.

At a meso-level: a systemic comprehensive communications approach

*"It seems that we are required by" connections "that no longer resemble the registered social links"*. (Latour, 2010) p.14.

*"The worst thing would be to limit in advance the shape, size, heterogeneity and combining associations. »* (Latour, 2010), p.19)

*"Which rearranged links for these new assemblies? »* (Latour, 2010), p.375).

We conclude that only a systemic comprehensive communications approach will allow the emergence of a communication logic outlined above with a focus on structure meeting between expert knowledge and lay

knowledge 'ignored'; while demanding that deal with a break encountered by territory during life cycle, we have to recreate positive conditions of assemblies replaced actors.

At a micro level: endogenous inputs specific project stakeholders can help us solve this complexity

*"The experienced solidarity is the only thing that allows the increase of complexity."* (Morin, 1991) p.124).

Finally, it confirms that well before territorial project became visible from outside public and communicating (a couple of visible / operable communication information), endogenous inputs, produced with the help of a bottom-up approach, specific project stakeholders can help us solve this complexity (Bertacchini, 2013).

But more importantly, when I am engaging in a project what I am trying to make him soak principles of Territorial Intelligence (the first head of the humanist vision that combine physical and digital territory for the development of a hybrid territory) I am particularly vigilant to gather what can be scattered to seek the lowest divider or when we adopted an T.I attitude, the greatest common denominator.

This is, at this precise point, the Territorial Intelligence process can be likened to a humanistic, realistic mediation, well beyond of a philosophical principle, a theoretical coup because it will become a necessity in view of leeway reduced and liberty degrees looming less. We will have to tap resources from the territorial actor, available and included, in ecology of communication on which it has participated.

For the end of our today's contribution, we deliver an extract words Bunker Roy published when he mentions the fate experienced by some excluded communities because they have never been associated with thinking about their future in Time 'VOL.182, NO.14 I 2013, page 42: « *In order to accomplish amazing things, we believe, there is no need for pre-studies and expensive surveys by paper-qualified experts. The root of all developmental failures can be traced to the top-down business model, where poor communities are never consulted, taken into confidence or treated as equals. Ours is a bottom-up approach: we believe strongly in' communities taking ownership of the whole process. We mobilize and apply traditional, practical skills, knowledge and wisdom...!*»

We find for the translation part of the spirit what we have tried to share with you that is to say, a development approach in which man (in fact becoming a citizen through the process), territorial actor in a combination with ICTs, is recognized as a project partner in order to build a bottom-up approach. This is why we introduced the ability of territorial intelligence process to meet representations of the physical territory with the virtual territory to allow the development of hybrid territories resulting from this interweaving.

Several thesis, at this penultimate paragraph of the conclusion (we will only mention the most significant), led us to consider the territorial intelligence as a realistic process that can be mobilized for the development of territories which we refer to be hybrid. Indeed, many voices are questioning:

- the absent productivity of high-tech innovation and resulting in a mysterious breakdown of productivity showed in statistics.
- Internet democracy is considered down when the digital revolution was announced as a comparable rupture printing.
- A globalization that is slowing to the point that some authors suggest a de-globalization.
- Finally in the management science some authors do not hesitate to talk about insular management (information silos) to describe the lack of communication between departments, between employees, combined with a lack of responsibilities that would threaten large organization.
- Finally, the return of the geographic area / physical, boundaries is more than ever convened at world current events.

And because as stated by Moles (Moles, 1995), it's built ecology of communication that can be described as an emerging ecosystem from communication logic to define with local stakeholders included in the path of territorial development (Bertacchini, 2014).

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## References

- Austin, J. L. (1962). *How to do things with Words*: The William James Lectures delivered at Harvard University in 1955, Ed. Urmsom, Oxford.
- Bertacchini, Y. (2000). *Information and territorial watch: Representation of the local complex and emergence of a territorial intelligence project*, Université d'Aix-Marseille III, Laboratoire CRRM: Aix-Marseille. p. 256.
- Bertacchini, Y. (2004). Between information & communication process: the territorial intelligence., Les Cahiers du Centre d'études et de Recherche. *Humanisme et Entreprise Journal*, 267, La Sorbonne Nouvelle, Paris, octobre.
- Bertacchini, Y. (2004). The territory, a company of collective intelligence to be organized towards the training of the formal capital. *Review of Communication & Organization*, 25, 35-51. French. In Press.
- Bertacchini, Y. (2009). Territorial intelligence: observation, research, applications. *International Journal of Information Sciences for Decision Making*, 35.
- Bertacchini, Y. (2012). Actor-Network & Territory-System: modeling with an evaluation function of the local potential action.». *International Journal of Economic Intelligence*, 4(2012), 33-51. 2012/1 (Vol 2), Ed: Lavoisier.
- Bertacchini, Y. (2012). Between information and communication process, the territorial intelligence, as a network concept and a framework to shape local development. *International Journal of Humanities and Social Science*, 2(18), 242-247. Retrieved from [http://www.ijhssnet.com/journals/Vol\\_2\\_No\\_18\\_October\\_2012/28.pdf](http://www.ijhssnet.com/journals/Vol_2_No_18_October_2012/28.pdf)
- Bertacchini, Y. (2014). "Intelligence, Territory: the territorial intelligence, a humanistic way of mediation?" *Communication and Organization Journal*, 46, in press.
- Bertacchini, Y., & Dou, H. (2003). The Territorial competitive intelligence: a network concept, VSST' Scientific Symposium, Barcelone.
- Bertacchini, Y., & Dumas, P. (2000). "How to federate some local resources by developing new links? ", Third Triple Helix International Conference, ISA Research Committee 23, Rio de Janeiro, Brazil, 26-29 April 2000.
- Bertacchini, Y., Déprez, P., & Perez-Rubio., A. M. (2012). "Networks & Local Knowledge: A Language of Mediation to Arrange In a Process of Territorial Intelligence." *Review of Contemporary Business Research*, 1(1). American Research Institute for Policy Development, 2012/12.
- Bertacchini, Y., Déprez, P., & Perez-Rubio., A. M. (2013). "The way and Tracks of mediation in action through ICTs into a territorial sustainable development: sharing skills and actors knowledge through ICTs". *International Journal of Intelligence Economic*, 2013/2 (Vol5), 113-123.
- Bertacchini, Y., Girardot, J. J., & Gramaccia, G. (2006). "Territorial intelligence. Theory, Posture, Assumptions, Definitions. ", in: Actes du 5e Colloque "TIC et Territoire: quels développements?" *International Journal of Information Sciences for Decision Making*, 26.
- Bertacchini, Y., Maurel, P., Deprez, P., & Plant, R. (2013). Spatial information & communication arrangements: A contribution to territorial intelligence. *International Journal of Emerging Trends in Computing and Information Sciences*, 4(1). ISSN 2079-8407. Retrieved from <http://www.cisjournal.org>
- Bois, Ch. (2005). Networks and Collaborative Practice: Towards an epistemological spelling of building online knowledge. Université du Sud Toulon-Var, 9 décembre.
- Bouchet, Y., Bertacchini, Y., & Herbaux, Ph. (2007). The establishment of a territorial intelligence system by a local authority: research methodology to set up a competitive intelligence project., in VSST Conference VSST - Stratégic, scientifique & technologique Watch, Systèmes d'Information élaborée, Bibliométrie, Linguistique, Intelligence économique. 2006: Marrakech (Maroc). p. 107-121.
- Bougnoux, D. (1993). *Information and Communication Sciences de*, Textes essentiels, éd: Larousse, Paris.
- Bourdieu, P. (1980). *Le sens pratique*, Paris, Éditions de Minuit.French.
- Bourdieu, P. (1994). *Raisons pratiques. Sur la théorie de l'action*, Paris, Seuil, p. 23. French.
- Brunet, R. (1990). *Le Territoire dans les turbulences*. Montpellier: Reclus, coll. Géographiques, 223 p. French.
- Cooren, F. (2001). *The organizing property of communication*. Amsterdam & Philadelphia, PA: John Benjamins.

- Cyrułnik, B. (2001). *Le monde de l'éducation*, juillet-août. French.
- Davallon, J. (2004). Concrete object, scientific object, object of research. *Hermès*, 38, 30-37. <http://dx.doi.org/10.4267/2042/9421>
- Déprez, P. (2014). *Local government and sustainable development: Contribution of information technology, and communication, (ICTs) for organizing participatory public policy dimension. A democratic cyber sustainable development project to read from a territorial intelligence process*, Université du Sud Toulon Var, 25th september 2014 (PhD to be defended).
- Doueïhi, M. (2011). *For digital humanism*, Seuil.
- Dubey, G. (2001). *Social links to the virtual era*, PUF Paris.
- Durkheim, E. (1977). *Rules for the Sociological Method*, 1st edition 1895, PUF, Paris.
- Flichy, P. (1995). *Technical innovation: recent developments in the social sciences to a new theory of innovation*, Paris, La Découverte.
- Foerster (Von), H. (1981). *Observing Systems*", Intersystems Publications, Seaside, CA. Governmental Agency for Local and Regional Development.
- Foucault, M. (1966). *Words and Things*. Archéologie des Sciences Humaines, Gallimard, NRF.
- Gramaccia, G. (2001). *Speech acts in organizations*, L'Harmattan, 268.
- Herbaux, Ph. (2006). *Territorial intelligence: From a general representation toward a concept of finality*, Thèse de doctorat, Université du Sud Toulon Var, 31 mai.
- Herbaux, Ph. (2007). Anticipation of breaks affecting territory, Territorial intelligence in North Pas de Calais region, *Le Territoire dans tous ses états*, Presses. Technologiques, Editor. Yann Bertacchini: Toulon. p. 160-179.
- Herbaux, Ph. (2007). *Territorial intelligence. Theoretical marks*, Questions contemporaines, L'Harmattan, Paris.
- Jakobson, R. (1960). "Linguistics and Poetics", in T. Sebeok, ed., *Style in Language*, Cambridge, MA: M.I.T. Press, pp. 350-377.
- Jayet, H., & Wins, P. (1993). How companies are they located they? CESURE, Rapport de Recherche n°3/93. French.
- Lamizet, B., & Silem, A. (1997). *Encyclopedic Dictionary of Information and Communication Sciences*, Paris, Éditions Ellipse, p590.
- Latour, B. (2006). *We never have been modern. Symmetrical anthropology* Essay, Paris, La Découverte, Poche / Sciences humaines et sociales, (éd. originale, 1991).
- Latour, B. (2010). *Changer de société, refaire de la sociologie*, 400 p, La Découverte, Poche, French.
- Le Moigne, J. L. (1990). "Modeling complex systems" article of the Encyclopedia Universalis.
- Lévi Strauss, C. (1997). *Structural Anthropology*, Paris, Plon, 1958; rééd. Pocket.
- Lévy, P. (1997). *Collective Intelligence: Mankind's Emerging World in Cyberspace* Plenum, New York.
- Lotka, A. J. (1992). The stability of the normal age-distribution. *Proceedings of the National Academy of Sciences*, 8, 339-345. <http://dx.doi.org/10.1073/pnas.8.11.339>
- Maurel, P. (2012). *Signs, Data, Spatial Representations: sense meaning items on conceiving a local inter authority project. Application to the Thau territory*, Université du Sud Toulon/Var: Toulon. p. 458.
- Moles, A., (1995). *Structural Theory of Communication & Society*, Cent/Enst, Paris, Masson, 295 p.
- Morin, E., (1991). *Introduction to the complex thought*, 158 p, Points Essais, n°534, Seuil, Paris.
- Mucchielli, A. (1998). *Systemic and Communicative approach to organizations*, Armand Colin.
- Odum, H. T. (1971). *Environment, Power, and Society*, Wiley-Interscience New York, N.Y.
- Onfray, M. (1997). *Politique du rebelle, Traité de résistance et d'insoumission*, Grasset (Figures) 342 p, French.
- Perrin, G. (2010). *Concurrency of Territories: the physical territory under the virtual test*, Thèse de doctorat, Université du Sud Toulon Var, 7 janvier.
- Plant, R., Maurel, P., Barreteau, O., & Bertacchini, Y. (2014). Beyond IWRM: The Role of Territorial Intelligence. The Case of the Thau Territory, Southern France. In Squires, V., Milner, H., & Daniell, K. A.



- (Eds.), *River Basin Management in the Twenty-First Century: People and Place*. CRC Press (Taylor & Francis), Canberra, Australia. <http://dx.doi.org/10.1201/b17168-24>
- Polyani, M., (1969). *Knowing and Being*, Chicago, University of Chicago Press.
- Prigogine, I., & Stengers, I. (1986). *The new alliance: Metamorphosis of Science*, Volume 26 de Folio. Essais, Gallimard, 439 p. French.
- Publication of NIC (National Intelligence Council) *Global Trends 2030 in 2030* identifies major trends that will shape the international system: (individual empowerment), (diffusion of power), (energy, water and power issues.) This dynamic shows three scenarios for 2030: (reverse engines), (fusion) and (fragmentation).
- Qeau, Ph. (1993). *Virtual: virtues and dizzinesses*, Champ Vallon, Seyssel, p.9.
- Raffestin, Cl. (1981). *Pour une géographie du pouvoir*, Paris, Litec, 250 p. French
- Rifkin, J. (2012). *A new conscience for a world in crisis*, p.29, Babel.
- Rmili, M. (2010). *Information, Tic & Territory: From decentralized Cooperation in Paca Region to extraterritorial cooperation in the Euro-Mediterranean space*, Université du Sud Toulon Var, 7 avril.
- Schwarz, E. (1997). Toward a Holistic Cybernetics. *Front Science through Epistemology to Being. Cybernetics and Human Knowing*, 4(1), Alborg.
- Shang, Y., & Bouffanais, R. (2014). Influence of the number of topologically interacting neighbors on swarm dynamics. *Scientific Reports*, 4, 4184. <http://dx.doi.org/10.1038/srep04184>
- Shannon, C. E., & Weaver, W. (1949). *The mathematical theory of communication*. Urbana: University of Illinois Press.
- Sloterdijk, P. (2005). *Sphères I, II et III, Écumes, Sphères III [2003]*, Paris, Maren Sell éditeurs.
- Star, S. L., & Griesemer, J. (1989). "Institutional ecology, 'Translations', and Boundary objects: Amateurs and professionals on Berkeley's museum of vertebrate zoologie". *Social Studies of Science*.
- Toffler, A. (1991). *Powershift: Knowledge, Wealth, and Violence at the Edge of the 21st Century*. New York: Bantam Books.
- Watzlawick, P. J. Beavin, J., & D. Jackson, D. (1967). *Pragmatics of Human Communication A Study of Interactional Patterns, Pathologies, and Paradoxes*. Published by W. W. Norton and Co/NY.
- Winkin, Y. (2001). *Anthropology of Communication*. De Boeck & Larcier/ Seuil.

## Note

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