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From Talent to Creative Cities: Toward a Conceptual Framework

Very first draft - Please do not quote

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Abstract

This article explores the concept of “creative city” by focusing on creative people and creative industries. Creative industries belong to the formal world of market-oriented firms and institutions while creative people interact through social networks to share and diffuse creative ideas. While creative people explore and generate ideas, creative industries exploit creative productions. The role of the city is to link up the myriad of creative ideas coming from its creative districts with creative industries located in creative clusters. Creative industries rest on constellations of communities that constitute a medium level bringing up talented-people ideas viable and marketable. We develop here the anatomy of the creative city following Cohendet et al. (2009). After discussing about conceptual issues of the “creative city”, this article deals with the question of its measurement. We found that quantitative data do not provide enough information to catch the whole local process of creative production. Qualitative methods appear to be more relevant to understand relations, city’s layers and actors’ game at stake in exploring and exploiting local creative productions

Keywords

creative cities, creative industries, creative class, clusters, under- middle- upperground

1. Introduction

In the recent years, a lot of works in Regional Science have been increasingly related to the fundamental issue of creativity. This interest began with Richard Florida's on the creative class concerns (Florida, 2002b). The author postulate that creativity is the crucial skill in a knowledge-based economy and that a peculiar class - the creative class - owns the key to economic growth and competitiveness. A major point of this approach is that creative people and new ideas need tolerant and open environment to diversity in order to develop, diffuse, implement and improve ideas. This approach raised a great debate and associated concepts such as creative industries and cities have been developed on hype (Hospers and Pen, 2008). The first shortcoming of Florida's approach is to consider *who* creative people are rather than *what* creative people really do. Actually, the accumulation of creative or talented people remains can maybe represents a necessary but not sufficient condition for creative city to emerge. The second shortcoming is that the author gave us the key to understand *what* is "people's climate" - i.e. a tolerant and open environment to diversity and so creative people - but not *how* such environment can emerge. Cities can be considered as a cluster of creative clusters: on one hand, creative industries produce and supply creative outputs to the market. On another hand, creative people interact outside the market-oriented sphere and explore, generate and diffuse creative ideas within creative districts. Creative clusters and districts shape the creative milieu or ecology of the city (Hartley, 2005; Cohendet et al., 2009).

Consequently, creative cities have to manage the transit of talented-people ideas to marketable and exploitable ideas for creative industries. Some sources of clashes or tensions exist between creative districts and clusters: while talented-people explore and play, creative industries exploit ideas to diffuse creative output on the market. Production vs. consumption, supply vs. demand, and copyright vs. intellectual capital are some examples of clash creative cities have to deal with. To understand strengths that drive local creative process, Cohendet et al. (2009) introduce a three layers anatomy of the creative cities shaped with the upperground, the middleground and the underground. While the upperground gathers the whole market-oriented firms and institutions within the creative industries, the underground corresponds to talented-people which explore and generate creative ideas outside the market. The major point of this approach is the crucial role of the middleground. The middleground explore creative ideas, "buzz", and trends of the underground to select and make viable the best ideas, practices and skills in order to feed the upperground. It gathers a constellation of communities that interface with both upperground and underground. This approach appears to be the most relevant to define and fully understand

both individual and collective behaviors at stake in creative process, and above all the essence of a creative city. This conceptual approach raises the question of its measurement: we found that quantitative data lead to an underestimation of the relation process shaping creative cities. Oppositely, qualitative data allow to give an overview of each layers' impact in the global creative production of the city even if such relational data are quite difficult to acquire.

The article is organized as follow: Section 2 presents the findings but also the limits of the creative class approach, especially to depict creative cities. Section 3 focuses on creative people and industries while section 4 decomposes the creative city within three interrelated layers. At last, section 5 introduces the question of creative city's measurement.

2. Creativity and space: the “creative class” approach beyond the hype

From 1995 to 2002, Richard Florida produced a wide of works dealing with the link between space and creativity. Starting from the concept of the “learning region” (Florida, 1995), the author shed light on the major role of region as a main organizational mode for technology and wealth in an emergent knowledge-based economy (ibid., 528): Actually, “learning regions” supply a wide range of infrastructures and networks that stimulate ideas and knowledge flows and allow intensive knowledge activities to develop (ibid., 534). Regional competitive advantage lies on the peculiar capacity of regions to quickly organize and exploit determinant resources, individuals, skills that are to innovation the author called “talent” (ibid., 531).

Florida (2000) strengthens this issue by assuming that a distinct advantage of regions is their ability to produce, attract and retain those workers who play the lead role in knowledge-intensive production and innovation, who provide the ideas, know-how, creativity and imagination so crucial to economic success. By lying on the agglomeration phenomena in specific regions and cities (Marshall, 1890; Porter, 2000) and according to Dumais and al. (1997), Florida (2000) postulates that firms, especially high-tech ones, beyond locating near specialized suppliers or pool of customers, mostly tend to cluster near huge constellations of talent in order to reduce costs of ideas and innovation production.

Talent is seen through the lens of the “knowledge workers” concept (Drucker, 1969), the “symbolic analysts” (Reich, 1991), the “change agents” (Carter, 1994) or the high-skilled human capital (Lucas, 1988; Glaeser, 1992; 1995; 2000). The author found with this concern the genesis of the future “creative class” approach (Florida, 2002b): Driven by the knowledge-based

economy, the proportion of intangible assets in production became higher than the raw material one in the 1990s (Cooke and De Laurentis, 2002). Previous locational constraints such as the access to natural harbors or proximity to energy sources no longer exert the same pull they did.

Talent became the crucial resource for firms and what matters now for regions is to develop their capacity to attract this special category of human capital: Consequently, the distribution of talent is an important factor in economic geography, as a key intermediate variable in attracting innovative and creative industries (Asheim and Gertler, 2005). The investigation of regional factors that attract talent and their effects on incomes and innovative industries underpins several attempts (Florida, 2000; 2002a; 2002c) leading to the “creative class” well-known approach (Florida, 2002b).

These regional factors rest on the “quality of place” notion, but they must be understood in broader terms: tolerance, diversity and a rich artistic and cultural milieu shape the “people’s climate” and create a virtuous environment that attracts talented or high human capital individuals Florida (2002b) gathered into the “creative class”: « *The creative class* [gathers people] *who are paid principally to do creative work for a living. These are scientists, engineers, artists, musicians, designers and knowledge based professionals, whom collectively I call “Creative Class”* » (ibid., xii). According to the author, quality of place is determinant to attract talent, and the presence of such human capital in turn attracts and generates innovative, technology-based industries (Florida, 2002a) or at least leads to high level of firms creation (Acs, Florida and Lee, 2004).

Then, the “creative class” approach tends to show, on one hand, that creative people are the new wellspring for economic growth: If some empirical evidences can be found with Marlet and Van Woerkens (2007) in Holland, McGranahan and Wojan (2007) in the USA, Fritsch (2007) in Germany, Boschma and Fritsch (2009) in Europe and Chantelot (2010a) in France, the impact of more traditional high skilled human capital on local economic growth has already been identified through among others Lucas (1988), Glaeser (1995; 2000; 2003), or Simon (1998). The added value of the “creative class” approach lies on the measurement of human capital, based on occupational instead of educational issues. On the other, the “creative class” approach links high proportions of talent and cities that are tolerant and open to diversity: Among others, Florida (2005), Andersen and Lorenzen, Hansen (2008), Clifton (2008), Chantelot (2010b) tend to supply empirical evidence that concentration of talent is highly correlated with the presence of creative people in artistic and cultural domains, defined as “bohemians” (Florida, 2002c). More generally, high levels of foreign-born people, “bohemians”, third places (Oldenburg, 1991) and

such measurements of tolerance, openness and diversity appears to be correlated with the presence of talent (Florida, 2002a).

These two empirical findings shape the “creative class” approach: cities have to attract, generate, retain and organize creative and talented people in order to reach virtuous path of economic competitiveness and growth (Florida, 2005). It leads to the elaboration of strategic recommendations dedicated to urban planners and regional decision-makers (Florida, 2006). The rapid implementation of such recommendations within local development policies (Florida et al., 2002; 2006) raised a great debate in both scientific and political communities.

« *I felt compelled to engage in this critical dialogue only because these ideas have entered into the policy arena* ». As a revealing trend, Glaeser (2004, 5) illustrates the bulk of criticisms that emerged from this debate. Because of its spectacular success and diffusion in regional science and local development issues, the “creative class” approach has been explored and sharply examined. Evidences of a lack of scientific robustness (Levine, 2004; Glaeser, 2004), oversimplification of economic growth mechanisms (Shearmur, 2005), urban and sociological harmful impacts (Malaga, 2004; see Peck, 2005 for a survey) can be seen as the main criticisms the approach faced. The extent of the debate sprawls from a « *funky side of neoliberal urban development politics* » view (Peck, 2007, 2) to an elitist and entrepreneurship conception of regional development where « *policy precedes proofs* » (Hoyman et Faricy, 2009, 315).

According to main criticisms, we cannot forget empirical weaknesses of the approach (Chantelot, 2009). We cannot forget to be cautious with the use of the approach within local development policies. In spite of criticisms, the “creative class” approach opened a large research area for studying links between creativity and space. On that point, its contribution appears unquestionable. This approach answers who are creative people, where they locate, how many they are and how they rise over time in an era of intensive production and use of knowledge where creativity is the crucial skill and innovation a permanent activity (Foray, 2000) for an economy to succeed. However, it does not answer the question on what is a creative city. One the one hand, if Florida (2005) tends to introduce how to build creative city through “people’s climate”, accumulating talented people can be only seen as a necessary, not sufficient condition for a creative city to emerge.

On the other hand, even if Florida (2008) noticed that features of creative cities are high levels of ideas’ flow, talented people, and urban metabolism, Jacobs (1969, 230) and Hall (1998, 348)

have already noticed that creativity cannot be orchestrated. Creativity does not emerge from the importation of artists, “gays” people, or professionals. Instead, there is more reason to believe that creativity is generated through social, work or production embedded relations in an organic way within specific urban contexts (Scott, 2006, 15). Beyond the hype, the main shortcoming of the “creative class” approach is to focus on who creative people are instead focusing on what they really do (Cohendet et al., 2009).

Consequently, the creative class approach leads to a weak comprehension and definition of what could be a creative city.

3. Toward the creative city: creative industries and people

Cities are often seen as creative because of gathering a large proportion of talent (Florida, 2002b; 2005; 2008). Although defining a creative city is not easy (Simmie, 2001; Hemmel, 2002; Hartley, 2005; Landry, 2006) especially because this notion can be seen as a ready-to-think fad (Peck, 2005; Di Cicco, 2007; Hospers and Pen, 2008) largely used by urban planners, local decision-makers and civil society, this vision appears too restrictive for at least two major concerns: creativity is a collective process and “*Creativity is the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful, adaptive concerning tasks constraints)*”, Sternberg and Lubart (1999, 3).

Shifting from individual talent to collective communities in generating creative ideas

New ideas development does not only rest on individual talent but emerge from collective actions. Koestler (1975, 120) noticed that creative ideas emerge from the mix between several bits of existing knowledge. According to Storper and Venables (2004), face-to-face contact is the most efficient technology to exchange ideas and tacit knowledge. It implies that individuals have to socialize into interaction networks (Nonaka and Takeuchi, 1995, 62) that can be both physical and virtual. Virtual networks widely participate to knowledge and ideas exchange and production. The overlapping of both physical and virtual network strongly shapes the city’s involvement in both local and global dimensions (Wellman, 2002). However, even if virtual networks overlap physical networks, the collective effort for creating always need proximity to be achieved (Grabher, 2001). Then, no matter how many talented people there is within the city, what matters more is how and where they interact and get organized to create. On one hand, creative cities must provide a base for knowledge flows where ideas emerge from the accumulation, the combination and the renewal of disseminated bits of knowledge (Cohendet

and al., 2009). On the second hand, cities can be considered as an evolved organization mode of interactions, clashes, variety, difference, change and support the flow of ideas and knowledge. Consequently creativity and cities are made for each other (Hartley, 2005) as far as creativity can be seen as a situated process. But rather than focusing individual talent (Florida, 2002a), considering creativity as a collective process needs to assume the existence of communities that stimulate creative productions (Cohendet et al., 2010).

Creative industries as the way to market for creative ideas

Defining creativity as the production of a work that is novel and appropriate (Sternberg and Lubart, 1999) implies to identify creative outputs. Because technological determinism underpins economic growth, only innovation has been considered as creative output within economic literature: while invention refers to the production of new ideas and knowledge, innovation represents the introduction of this production on the market. Consequently, creativity concept has been quite unexplored. Moreover, invention has been the less investigated concept among the three determinant scales “invention-innovation-diffusion” that lead new ideas to the market (Arthur, 2007). Invention emerges through the interaction between bits of knowledge belonging to science and industry. It can be seen as a reason why creativity has not been developed in economic science: science and industry only refers to synthetic and analytic knowledge bases (Asheim and Gertler, 2005). The third knowledge base - symbolic - gathers artistic, design, or cultural knowledge and its development mode is considered through informal interactions that occur outside the productive sphere. Invention appears as a restrictive conception of creativity: only two knowledge bases involve in the invention process while a mix of the three bases is often needed within to perform a creative process.

Since the recent advent of the knowledge-based economy, symbolic knowledge base became increasingly important in the development of new products and services. More generally, the 21st century experiences the rise of creative industries (Caves, 2000). Creative industries are assumed to be good for the economy, but it seems to be hard to know how good they are (Clark, 2009). However, creative industries are moving from fringes to the mainstream economics (DCMS, 2001, 3) and form part of the most innovative sectors in the economy. They support innovation in other sectors through creative inputs and ideas for new products, services or various supports for product innovations. They are also an important user of new technology and demand innovations from technology producers, particularly ICT (Müller et al., 2010). Own innovative activities are a key driver for supporting innovation. Creative industries are no homogenous sector, however. The UK Department of Culture Media and Sport classify Advertising, Film and

Video, Music, Performing Arts, Publishing, Software and Computer Services, R&D (Architecture, Design, Fashion) and Telecom as creative industries (DCMS, 2001).

Creative industries tend to cluster particularly in large cities (Scott, 2005; Lazaretti and al., 2008). They consume and produce creative ideas in a market-based way. Unlike other sectors of the economy, creative industries face a peculiar point: supply precedes demand. For creative enterprises to be competitive, like for artists to succeed, it implies a well-informed audience and processes for supplying novel and creative productions that reach their attention (Hartley, 2005). A very important issue about creative production is the progressive blurring of the historic boundary between users/consumers/amateurs and producers/experts driven by the emergence of social and participatory media and user-created digital content. As Hartley (2005, 8) noticed “*The most important invention of Internet has been the user*”: The volume of creative productions strikingly increased these last ten years because everybody can diffuse its own-made creative work in huge social networks such as *Facebook, Wikipedia, YouTube, Flickr, MySpace, etc.* On one hand, it strengthens the link between producers and users. But on the other hand, it leads to create a wide ecology of creativity within a city, where local issues of creativity nourish and is nourished with global creative productions.

These two networks layers - physical and virtual - participate to shape city creative buzz that can stimulate not only local creative productions but the local economy as a whole: “*The likelihood is that places with an unique buzz, an unique fix, a special kind of energy, will prove more magnetic than ever for the production of products and above all the performance of services*”, (Hall, 1998, 963). Hence, the creative ecology of the city must gather as well as creative people, creative communities and industries.

A first vision of the creative ecology of the city

These different issues can lead to a first vision of the creative ecology of a city. Hartley (2005) choose a 3 stages model gathering creative industries, services and people (see below table 1.). Creative industries and services are based on the productive and support sphere, i.e. the economy while creative people are based on culture. Creative industries and services use the three bases of knowledge because of technology, marketing, and symbolic assets are necessary to perform the activity. Like creativity is a specific human activity, creative ideas can come from everywhere as well as in productive spheres than in the informal world of people's interactions. Consequently there is an opposition exploitation/exploration between two layers of creative production sources. Even if it can be softened by the digital revolution as seen before, creative people involve in social networks not with a market-oriented view oppositely to creative

industries and services that can find in it new ideas, new knowledge, know-who, or new business models directly exploitable on the market.

The creative ecology of a city appears deeply complex because it cannot be considered as the sole output of a productive sphere but rather than a complex system with embedded social networked relations where economical, cultural, artistic, management spheres are continuously interacting. Social networks can be source of diffusion, experimentation of new ideas and consuming habits. But above all, they can be sources of innovations (Potts and al., 2008). Here again, it leads an opposition between the informal world of creative people where produced knowledge or intellectual capital is free to use and to adopt and the creative industries that need copyright and intellectual property enforcement (Montgomery, 2010).

Table 1. Creative Industries, Services and People (From Hartley, 2005, 4-6)

	Creative Industries	Creative Services	Creative People
Environment	Industry	Economy	Culture
Knowledge base	Analytic + Synthetic ++ Symbolic +++	Analytic + Synthetic ++ Symbolic +++	Symbolic +++
Location	Clusters	Whole economy	City/Place
System	Closed-Expert	Closed-Innovation	Open-Innovation Network
Role	Provider-led or supply-based definition	Creative input is high value- add, skills' outsourcing	User-led or demand-side definition
Domains	Exploitation of creative ideas	Support and stimulate change of creative productions	Experimentation and adaptation. Individual agency may have network effects.
Weight	Between 3%-8% of advanced economies (UK, USA, Australia), also important to emergent economies (e.g. China, Brazil). High Growth, leverage and multiplier effects	Creative services expand the creative industries by at least a third ("Creative Trident"). Adds value to the economy as a whole, boosting the innovation of other sectors (e.g. manufacturing).	The energies of everyone in the system can be harnessed, adding the value of entire social networks and the individual agency of whole populations to the growth of knowledge
Creative Inputs	Sectors from DCMS (2001) definition	Creative occupations and companies (Designers, Producers, Performers, writers, etc.)	Population, Workforce, Consumers, Users, and Entrepreneurs, Artists

These oppositions derive from the peculiar nature of creativity: Both formal - seen as elaborate productions of organizations creative - and informal - seen as self-organizing social networks - worlds interact to participate jointly to growth in creative ideas emergence. What can be interesting in order to catch the whole dimension of a creative city is to explore the structural hole between these two worlds. How do ideas transit from the informal world of social networks

to the formal world of the market? According to some authors (Cohendet et al., 2010; Hartley, 2010), the definition of the “creative city” concept lies on the answer to this question.

4. The creative city: upper, middle and underground

The creative city gathers several sources of creative productions with people, services and industries. As it can be noticed, creative industries tend to cluster (Lazzaretti and al., 2008; Cooke and Lazzaretti, 2008) but mechanisms of agglomeration appear to be more complex. Actually, clusters depicted through territorial innovation models emerge because of industry/science interactions (Moulaert and Sekia, 2003).

On one hand and as shown with Asheim and Gertler (2005), symbolic knowledge base is determinant in creative industries because knowledge at stake in creative process is not purely scientific or industrial (i.e. analytic or synthetic). Symbolic knowledge base implies aesthetics, arts, know who, meaning, symbols, culture, local specificities (i.e. *terroir*), traditions, etc. that are highly location- and context-specific. On the other hand, creative clusters go beyond the interactions between firms and institutions such as laboratories, development agencies, financial services, etc. that can be located within clusters. The creative process needs interactions between a wide range of knowledge that occur outside the cluster: new creative ideas can come from the world of arts and culture because of their symbolic dimension: The creative city must gather one or several creative clusters shaped with firms and institutions that belong to creative industries and one or several creative districts where creative people interact generating and adopting ideas, trends, styles, etc. These two agglomeration forms stimulating creative production constitute the “creative milieu” of the city, its creative ecology shaped with a myriad of ideas micro producers (Currid, 2007).

Consequently the creative city must stimulate interactions between its creative clusters and districts, in order to transit raw ideas generated in informal world to marketable ideas that can be exploited by creative industries. If the mechanisms of this transition will be discussed later, conditions for the emergence of creative cities seem to rest on concentration, diversity and instability (Hospers and Pen, 2008). Actually concentration is a well-known asset that allows a rich flow and density of ideas. Diversity also is a well-known asset that allows ideas to cross-fertilize by interacting, especially if they are *a priori* unrelated (Jacobs, 1969; Desrochers, 2001). If we agree with Florida (2005) that creative ideas need tolerance and openness to develop - in other that “new needs friends” - instability can be seen as the as the major stake faced by creative cities. They have to referee and to organize several clashes or tensions that rise from the emergence and

above the all the use of creative ideas between creative clusters and creative district. These clashes have already be evocated with the description of table 1.

First, if creative people can be considered as idea suppliers, they also constitute the audience of creative productions. They mainly are consumers of creative outputs coming from creative industries. It leads to a first clash between production and consumption, or supply and demand. This is consistent with the opposition between intellectual property and capital or copyright vs. sharing coming from the interaction between culture and economy (Hartley, 2010).

Second, the way is to create represent a clash too. People in creative districts often produce creative output through experience of play or leisure. The creativity process can be considered as emergent oppositely with the elaborated one developed through creative industries. One more time, this clash emerges from the antagonism between the social-oriented asset of creative process within districts and market-oriented asset within creative industries.

According to tensions between both informal and formal worlds of creative ideas emergence, creative cities can be considered as evolved machine in managing clashes, stimulating diversity, variety and accumulating symbolic knowledge so crucial to creativity. On the side of creative people, cities have to be vibrant: They have to strengthen their creative districts to stimulate new ideas development through spaces of socialization, networking and self-expression of arts, culture and uniqueness. On the side of creative clusters, cities have to play a platform role to make ideas transit from creative districts to creative industries. It implies for cities to codify raw ideas into exploitable knowledge. Consequently, Potts and al. (2008) define creative industries from social network markets. If we can consider that creative industries are directly linked to the market and creative people evolve in the social area, creative cities constitute a network that rely both creative people and industries. In other words, a creative city manages the sharing, the exchange, the diffusion and the socialization of knowledge. This process tends to identify, to accumulate, to combine and to enhance dispersed knowledge within both local milieu and global network. It ensures the transit of the production of the creative maelstrom of its district to the creative industries market. To sum up, from talent micro-level to creative firms' macro-level.

The three layers of the creative city

Cohendet and al. (2010) give a framework explaining this transition of ideas from micro to macro level. They identify three layers that shape a creative city: the underground, the middleground and the upperground. They suggest that creative districts correspond to the underground layer and gather all creative and talented people interacting in an informal milieu while firms and institutions evolve in the more formal upperground. Between these two layers, a middleground

one is necessary because codes and creative process are entirely different and they rarely interact. Communities shape the middleground layer and ensure the transit process of ideas described above. Consequently the middleground is the heart of the creative city by linking creative people and creative industries.

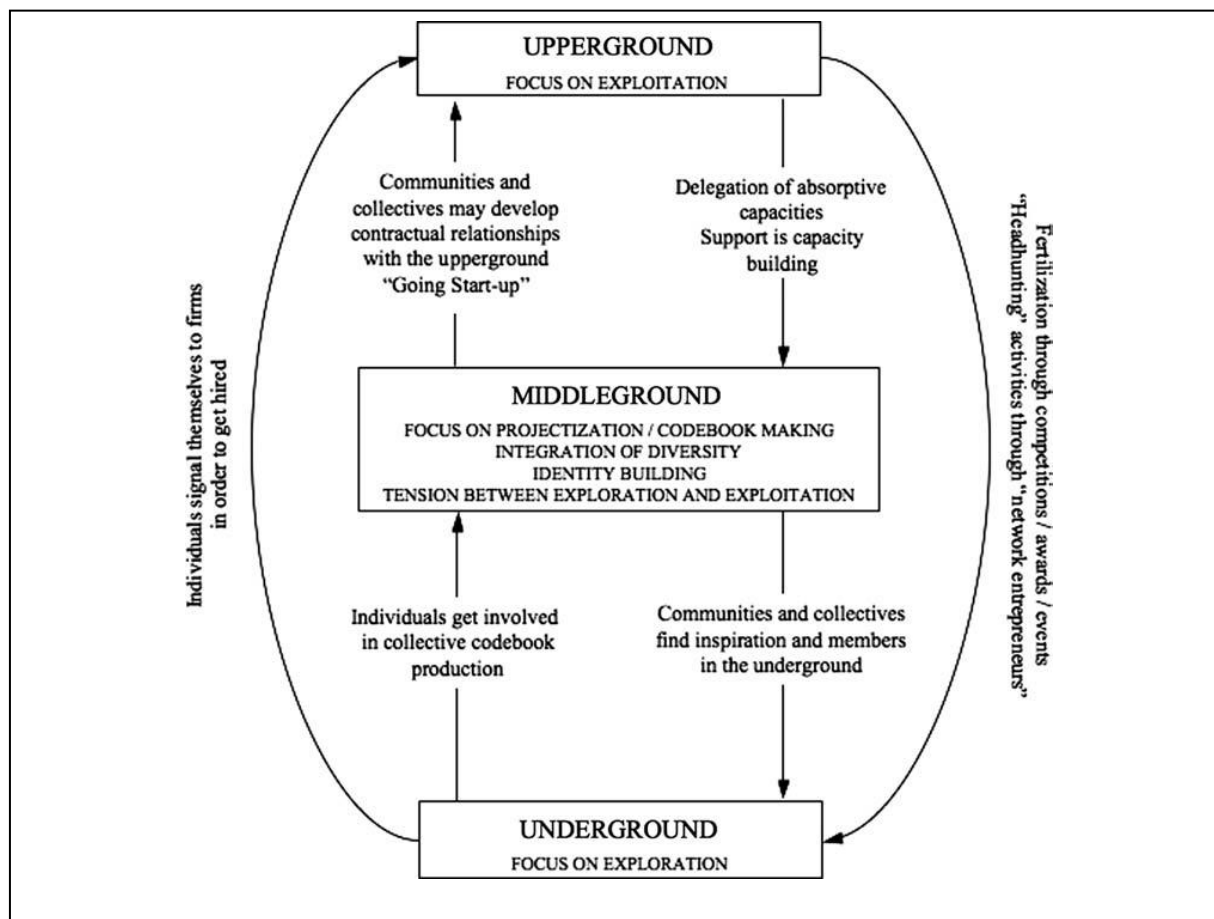
The underground gathers the whole creative, artistic or cultural activities that take place outside organizations, i.e. outside the market. However, it does not prevent the production, the diffusion and the adoption of creative ideas are performed through processes ensured by more or less informal entities and people. These processes are self-organized and the fruit of voluntary cooperation. They occur into urban environment, especially into creative districts. The essence of such processes is experimental, *avant-gardiste*, and more authentic, more subversive, without boundaries, cooler than market-oriented productions because they are obviously opposed to the market logic of standardization and exploitation (Arvidsson, 2007). Knowledge exchange and socialization occur within creative districts through informal place such as “*third places*” (Oldenburg, 1991) including nightlife places, bars, restaurants, galleries, museum, theaters, live performance stages, places dedicated to creative expression, clubs, etc. Underground can be seen as generator of new ideas and new trends, a creative-tank as well in the in the sense of ideas than skills. Links with upperground are quite weak and are made through the social life of creative districts, where professionals of creative industries often come.

“The middleground appears as a critical intermediate structure linking the underground to the upperground” (Cohendet et al., 2010, 97). Middleground is shaped with communities that identify underground creative ideas and bring them up to the creative industries. Communities have to continuously switch between exploration of creative buzz (Bathelt et al., 2004; Storper and Venables, 2004) and exploitation issues that rule the market. They represent a platform that transit raw creative idea into exploitable and viable marketed products or services. Consequently, tacit knowledge developed within the underground layer is transformed and codified through communities of the middleground. It gathers constellations of communities that exchange and observe “best practices” and opportunities.

The upperground is shaped with firms and institutions that are responsible for the introduction of creative productions on the market. They mainly do not have research and development department and have to identify what the next trend will be because their supply precede the demand. Creative firms and institution are often project-based organizations and the project leader has to balance between macro expectations due to market and micro ideas and initiatives associated with creative professionals. They exploit creative ideas but let them developed into the

local creative milieu: as a consequence, creative firms are linked with communities that build creative ideas and skills. Figure 1 summarizes the role of the three layers and their relationship.

Figure 1. Under- Middle- and Underground (from Cohendet and al., 2010)



The definition of the creative city through these three layers obviously shows how creative district and creative clusters can be linked up. It shed light on the single importance of each layer within the city. If this framework allows to characterize the “creative city” concept, its measurement represents a critical point in its full study process.

5. From conceptual to analytical framework: introducing discussion about creative city measurement

The question of the creative city measurement appears to be difficult. Many ways can be explored in order to perform such a measurement. A first distinction has to be made between results that can be obtained with both quantitative and qualitative measurements.

Quantitative measurements concern the evaluation of creative professionals, artists and creative industries. As shown with Florida (2002b, 328), McGranahan and Wojan (2007) in North America or Boschma and Fritsch (2009) in Europe, a classification of estimated creative occupations can be drawn and allows to measure the creative workforce, its composition and its evolution within a given spatial unit. Although the distinction between occupations that are creative and others that are less or not can be widely discussed (Chantelot, 2010c), it gives a powerful tool to evaluate the creative capacity of a region. However, this method consistent with the “creative class” approach does not take into account the sectoral perspective of creative industries. Higgs et al. (2008) introduce the “creative trident” perspective that crosses creative occupations and creative industries. The “creative trident” measures the creative workforce as well as inside than outside the creative industries, and the non-creative workforce employed within creative industries. Then “specialist creatives” are employed in creative occupations in creative industries; “support workers” are employed in creative industries, but in non-creative occupations; and “embedded creatives” are employed in creative occupations, but in industries that do not produce creative products. On one hand, it gives an overview of weight of creative industries in an economy whatever its territorial scale. On the other hand, it shows how non-creative occupations can play a support role for creative industries and to what extent creative occupations spread into the whole labor market. Limitations of such method lie on the focus put on what creative people are and not on what they do.

It can be strengthened with a firm-based view. Even if the delimitation of the creative industry perimeter can be discussed too, it provides an overview of its weight within the economy: GDP, income, labor productivity, and international trade represent macroeconomic measurement of the creative industry and service sectors (CIE, 2009). Especially adapted for country, such measurements do not give any relevant finding on how creative productions emerge. However, they constitute a useful framework to notice weight, evolution and trends of the creative industries. More, it does not take into account the composition and the role of both middleground and underground into the value creation of the creative industries productions.

Applying the under- middle- upperground framework of the creative city through quantitative measurement appears to be unfeasible. Each city has to be taken individually and there is no database that can estimate the number, the composition and the location of communities. Only a qualitative analysis, case studies, monographs can be used to give a relevant overview of how the creative process can be enhanced by cities. As we have shown in the previous section, relations between under-, middle- and upperground shape within networks such as complex small worlds (Watts, 1999; Strogatz, 2001). Tools of networks’ analysis appear to be relevant to identify the

importance of underground and the brokerage position of the middleground layer in linking underground and upperground up. Granger and Hamilton (2010) develop an alternative empirical model found on relational mapping. It depicts the creative milieu in Coventry (UK) as a system of relations between professionals and networks which shape creative spaces through underground, middleground and upperground in which creative initiatives can take hold.

As an example, a relational map of arts-based organizations and networks operating in the West Midlands, United Kingdom is examined here, which magnifies the importance of underground lock-in scenes in creative economic activities, and from which it is possible to conceive of an upperground, middleground and underground of creative spaces taking hold and driving creativity in different ways. Relational data rest on observation and interviews with creative workers or more generally actors of the local creative milieu. The difficulty comes from the large panel of actors and the quantitative measurement that evaluate the power of the link between them within the three layers. Cohendet and al., (2009) notice that the culture cluster in Montreal gives a relevant example of relations between the three layers: On one hand, the underground materializes in answer to opportunities provided by creative spaces. On the second hand, the upperground fertilizes and nurtures the underground through the emergence of communities, localized events organization and competitions. The middleground plays a crucial balance and intermediation role between exploration and potentially global exploitation.

Another alternative is to provide a case study on a creative firm. Putting the focus on the success story of a single organization allow to sharply depict its relations not only with both underground and middleground, but also to see how it rest on middleground to perform its creative production. Leslie and Rantisi (2011) and Cohendet et al. (2010) manage to map relational layers' issue between the three layers in the case of "Le Cirque du Soleil" circus in Montréal. The last authors give same conclusion with the Ubi Soft case in Montréal. In these different cases, linkages between the three layers widely contribute to shape the creative cluster in the city. Consequently, using a qualitative approach to depict mechanisms that work in creative productions appears to be relevant. If it leads some difficulties in the quest for data, we cannot ignore the more powerful tool it provides in comparison with quantitative approach.

6. Conclusion

The aim of the paper was to give an overview of the creative city notion, starting from Florida's work to the three layers' approach (Cohendet et al., 2009). This last approach seems to be the most relevant to fully understand relational issues at stake in creative process within a city. The definition of the creative city from three layers playing a major role in the global creative process

in bringing up micro ideas from talented people to marketed macro ideas appears to be a relevant one to identify the real role of city for the creative process. As it involves individuals in the process, social networks analysis takes a great importance in this understanding: if case studies, monographs or relational mapping can be efficient methods to catch how local creative milieu gets organized and how its actors/layers interact. However obtaining relational data constitutes a challenge (Granger and Hamilton, 2010). A better mean to depict local creative process maybe is to focus on a creative firm and see how it manages to draw relationship allowing it to perform its creative production. Above the measurement question, policy issues remain an open research area (Collis and al., 2010). To what extent a local policy should intervene to enhance relations between actors? The planning issue - make places available for self-expression of creativity - is surely a way to explore and consistent with Jacobs (1969) that noticed that new ideas need old buildings.

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