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Cross boundaries to produce novelties at the intersection of two creative sectors: the role of intermediaries

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This study I will present you is part of the PhD thesis in management of innovation I'm currently doing. It is a joint paper with DSD and RS. The name of the presentation refers to the subject I'm interested in which is **how artistic and technological activities could meet and how techno-creative innovations could emerge from that crossover**. We take the example of an innovation community formed around video-mapping and we study the elements that impede or foster cooperation. Our motivation is to **understand how different resources needed by cultural and tech entrepreneurs are articulated, and how it could be managed in a sustainable way**. This is an important question for cities which face an urban crisis.

Since the end of 20<sup>th</sup> century and the popularization of the creative city concept, and even more strongly since the notion of creative class has been coined by Florida, many cities have been focusing on cultural and creative industries to foster their economic development. In practice, for cities, adopting the Floridian approach means work on the attraction of the creative class, looking for a tolerant population and a vivid cultural life.

However, a backlash appears, regularly associated with the arrival of tech industries. It takes various forms, such as congestion, housing prices rising or gentrification, but results in an urban crisis that could threaten creativity and innovation in creative sectors. **Homogenization of population and activities limits the possibilities of bisociation and innovative combinations**. To put it in a nutshell, we observe visible negative effects, but there are also less visible effects among which possibilities of crossovers between arts and tech activities. **The copresence of tech and cultural activities in a same city opens a new field of opportunities for innovation at the intersection of these sectors**.

This is from this observation that our research question emerges. **How techno-creative innovation - those which mix artistic and technological knowledge - do emerge and are valued?** What are the key roles of intermediaries in the functioning of innovation communities at the intersection of arts and tech? This is an important concern as more and more innovations involving both analytical and symbolic knowledge are developed, and many cities could benefit from this type of combination.

Now we can jump to our theoretical background. Instead of defining a priori that we are studying an epistemic community, those focused on the production and codification of knowledge in a given field, or a community of practice, composed of actors who share experiential knowledge, we use a broader notion, that of innovation communities.

We start with the idea that the creation and dissemination of new knowledge is a collective process, involving the use of multiple resources and interpersonal relationships. Communities are collectives of individuals voluntarily engaged in the creation, exchange and sharing of knowledge and experiences, in a specific knowledge field. In these collectives, **there is a core of passionate, very active people, and others less involved. There is no hierarchical functioning: it is the commitment of the members of the collective that forms the community**.

Nevertheless, communities have no clear boundaries, and they are constantly changing. Communities are highly dependent to their life cycle: in the exploration phase, they are

booming and spreading out, whereas in the exploitation phase they are more fixed. These collectives evolve over time, depending on the composition of the group, the involvement of the members, their position, the integration of new idea and knowledge, and so on.

A question remains: how are created new knowledge and practices emerging from a crossover of two distinct knowledge fields? We propose to study several types of boundary. It can separate communities from each other, but also bring them together because they are porous spaces. Boundaries are where communities can overlap. **It affects innovation processes by facilitating or hindering the combination of knowledge.**

The cognitive boundaries can be spot with the notion of cognitive distance, as developed by Noteboom. Two different actors don't understand each other because they don't have the same knowledge or frame of reference.

The social boundary is the idea that members of two innovation communities belong to different social networks. Since the members of two communities do not know each other, they do not benefit from the resources and opportunities that a social network can provide.

The spatial boundary is where individuals are physically separated because they do not live in the same neighborhood, they attend different places, they do not have the same uses of the territory...

The organizational boundary refers to actors who belong to distinct organizational arrangements, so they don't share the same habits or rules in their everyday practices.

Finally, the values boundary refers to the fact that actors have different values, ideals, ways of life, ways of doing... which are possibly not suitable with others.

**The dynamics of proximity identified by Boschma make possible to see whether actors are more or less close, what elements separate or bring them together, and thus explain why some collaborate and others do not.** The crucial point is to catch how to cross the boundary in practice, and then benefit from resources a collective can bring.

To understand this, our study draws on the literature focusing on intermediation processes. More precisely, we use the -grounds model developed by Cohendet et al to explain how some intermediary objects and actors can potentially bring together distinct innovation communities. Following their approach, we study five potential intermediaries.

There are projects, which combine skills and knowledge that result in a production in a creative sector. Events that act as temporary clusters: they bring together for a short period of time actors from the same field but from different territories. Places are perennial physical locations attended by individuals, where communities emerge and where experiments are initiated or presented. Spaces are settings of relations and cognitive exchanges where a set of ideas are articulated, giving rise to a common vision. It promotes the creation, codification and dissemination of the ideas of an innovation community. Finally, we add individuals or groups with an intermediary role because they bring together disconnected groups. They can be gatekeepers, boundary-spanners or brokers, depending on their structural position in the network and their actions.

On that basis, we have two more specific research questions that would conduct our empirical analysis. First, **what the precise roles of these intermediaries in the functioning of this type of community?** And secondly, **can we classify and articulate potential intermediaries according to their characteristics?**

Now we can focus on the mixed methodology used for this study, which can be summarized as an **explorative case study of an innovation community on a specific territory.** First, we did some explorative interviews to identify the main cultural trends and dynamics in the city we

chosen, to help us find the community to analyze. Then, we conducted 20 interviews with people we identified as members of the community. The sample was constituted with snowball and by analysis of cultural venues agendas. Finally, the data we get from interviews allows us to do network analysis. On one side, we focus on the social network to identify who is connected to who. On the other side, we do a three-partite network analysis to track the preferential circulations of actors between different places and events in the city.

We chose Nantes as a field for this study. The city is located on the western part of France and have developed a strategy of territorial and economic development based on cultural events for 30 years. More recently, it focused on the attraction of creative and technological sectors. We also notice the creation of a cluster dedicated to cultural and creative industries and territorial marketing focused on the attraction of creative class members. **The result is the co-location of cultural and technological activities in the same city, a context which fits with our study's aim.**

The empirical approach is focused on a specific community of innovation, the one dedicated to video-mapping. To give a definition, it relates to projections of steady or animated images on volumes thanks to adapted software and technologies. People involved in this practice are not necessarily intermediaries between a tech community and an art dedicated community. **They are on the edge of the two knowledge fields, and initiate techno-creative innovations involving a more or less important part of technological knowledge, depending of their approach.** By taking this example, we try to decipher what are the roles of each potential intermediaries we identified earlier. Video-mappers do create contents for the projection and also manage the technological side of the projection, so we consider they do innovate in a techno-creative field. Now we can consider how this practice is developed in Nantes.

As I said earlier, we did a social network analysis based on the data collected with interviews. The goal is to **identify the social realm of every interviewees and discover how they are linked to each other.** Here a node represents a member of the community, and a link is created when someone cite another member. We rendered the network with a specific layer that highlights nodes with a greater betweenness centrality. This can help us to spot **who could play an intermediary role between other nodes of the network.**

Our analysis suggests that the video-mapping practice in Nantes is emergent. The network is not very cohesive, and we can't identify leaders in the community, like people who would guide or influence the practice. In fact, there are 3 sub-groups which are all using the same technic for creation. However, **their approach of the practice and their frame of reference differs.** The deepening of knowledge concerning the technologies are also quite different but very close. The 3 sub-groups correspond to both the approach developed by actors and their education. First, there are former students of the architecture school who design and build structures on which images are projected or use this technic outside, on buildings. The second approach is associated to the video and lighting arts, so more affiliated to fine arts schools and institutions: they are recognized as legitime artists. Finally, other individuals practice video-mapping in a festive context, generally in techno clubs. Some started as lights technicians, some other learned by doing during this kind of events.

Crucially, there are two people who could bridge two parts of the network and act as brokers. The first one has a global vision of the network and could be a go-between. He would then be a major social resource, making it possible **to go beyond the social border with a liaison brokerage.** But in reality, this does not happen. The second is a former student of the architecture school, and she is the founder of a new festival dedicated to mapping. She could have **a gatekeeper role since she is part of a sub-network, and she also has links outside**

**her group.** Our purpose on how people could meet thanks to intermediaries can be extended by looking at places and events.

The second network analysis we conducted is 3-partite one. Here, nodes are the same people as the previous network, and we add places and events. A link is created when someone cite a place or an event as a resource for his activity. **The most cited places and events are constituting what we can call the core:** they are highly visible, are part of the local institutional arrangement. It is **where artistic productions recognized by the mainstream are presented.** These places and events are highly cited because they schedule exhibitions and performance along the year, and that **there are not so many places which display art – tech crossovers.** We hypothesize these places and events could play an intermediary role as **they favor face-to-face meeting.** These are also cognitive resources as art exhibitions or cultural events nourish creator's inspiration. We can say that **they offer a favorable context for situated social interactions: this is where knowledge is exchanged,** and experiments carried out by artists are discussed.

Considering this network, we could say that places and events play an important role in the structuration of a community. The cognitive distance between people seems to be quite short, as people use the same software and have quite similar knowledge. But we cannot decipher their precise role by just looking with distance: **we need to know why these intermediary objects are cited, what they offer to members of the community, and how they can affect the definition of a common vision.**

Ultimately, we can prioritize the different objects we identified as potential intermediaries. This distinction is operated thanks to the interviews offering a more comprehensive understanding of the practice. Results we get confirms that the **presence of other people interested in the same practice is essential for its development.** Being isolated means not benefit from peer review or access to multiple resources needed to develop a practice. But, even if the technic used by actors is quite the same, there no unified cognitive space and sub-groups are formed around different approach of the practice.

Places and events are important for the actors but offer different resources than the social realm. Some places offer multiple services: they organize workshops dedicated to software, schedule exhibitions, and only for a small part of the actors we interviewed, they support their practice by offering workspaces for short residency, lend equipment, and co-produce their artistic production. **Here, we identify an intermediary which is not fully used for the meeting of the different actors of the community but could spur cooperation.** In definitive, it can be said that the **articulation of resources is contingent on practice, and dependent on the presence of different forms of resources.** The intertwining of different resources is crucial for promoting crossovers.

To conclude, we can say that the practice of video-mapping - which gives rise to innovation mixing arts and technologies – is emergent in the context we studied. The network analysis highlights the **presence of different sub-groups we can associate to distinct approach of the technic.** Yet, some intermediaries could play a powerful role in the building of this space **by linking people together and define a guideline for this creative practice** in Nantes.

Among them, we identified a new festival dedicated to video-mapping and a study of this event offers a great research avenue. Following the literature discussing the role of event in field configuration, we argue that this festival **could play the role of catalysis.** This temporary social organization could have multiple effects on the local practice such as developing a specific frame of interpretation, defining an orientation, or legitimize the practice for local institutions and audience. We also assume that the festival **could be the missing spot that would link together unconnected parts of the network.** The hypothesis of a **brokerage function** of the

festival is a stimulating research perspective. In addition, these themes and many others will be discussed next October in Nantes at the conference Beyond Creative Cities, and it would be great to see some of you out there. Thank you for your attention.