Torre A., 2014, Proximity relations at the heart of territorial development processes, in Torre A., Wallet F. (eds), 2014, *Regional development and proximity relations,* New Horizons in regional Science, Edward Elgar, London, 375p.

Proximity relations at the heart of territorial development processes

From clusters, spatial conflicts and temporary geographical proximity to territorial governance

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Introduction

Studies on proximity relations have, in the last 20 years, focused on a large number of topics of all sorts mostly related to questions of production organization or knowledge and innovation creation and transfer (Knoben & Oerlemans, 2006). At first limited to the analysis of local relations, they then widened their focus to take into account more global relations, striving more and more towards generalizing the points of view and expanding the scope of their results, in terms of understanding the phenomena at play within contemporary economies (Boschma, 2005) as well as of the integration of new variables – environmental variables for example – in the analysis (Torre & Zuindeau, 2009).

The widening scope of this approach and the increasingly sophisticated tools it uses, make it possible, today, to raise the question of its contribution to regional or territorial development theories. This question is not only legitimate, in light of the impact of proximity approaches, but it also coincides with the major concern of many specialists in space-related topics studying the processes of territorial development, as well as the mechanisms that govern them or the different forms taken by the various types of development. It also echoes the search for insight or recommendations in terms of public policies whether they be purely regional or result from a shift towards more local governance, as part of decentralization processes.

In order to provide some answers to these – theoretical or empirical - questions, one needs to have a quick look at regional development approaches, and more particularly, to concentrate on development questions. Proximity analyses have largely been developed in an institutionalist and evolutionist framework, which implies taking into account the productive and social dynamics and considering the relations that go beyond the market forces and include different types of interactions and actors other than just firms or productive activities. This approach is strongly inspired by that of Schumpeter, who remains the theoretician of development seen as a break or opposition from linear growth patterns. According to Schumpeter, development processes are based on changes from the usual growth patterns, changes triggered above all by the production of innovations, defined as

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« simply the doing of new things or the doing of things that are already being done in a new way » (Schumpeter, 1934, The Theory of economic development). The innovations we are interested in here are those related to the introduction of a new product, of a new production method, the opening of a new market, the development of new production factors, and organizational changes. We could look at them differently today by dividing them into two main categories: the innovations related to production questions on the one hand, and those related to organization questions on the other.

It is in this tradition that we wish to anchor our analysis, by identifying, at territorial level, two development sources related, respectively 1) to changes and innovations in terms of production, and particularly, technological innovations and 2) to changes and innovations in terms of organization and of the role of institutions, which we shall call territorial innovation. We consider both types of changes or innovations as constituting the engines of development through the novelties they introduce into or breaks they represent from routine processes, and through the accelerations they generate in growth patterns. This is the reason why we believe it is important to identify and distinguish two main areas of analysis of territorial development, which deal with the productive dimension of development processes on the one hand and, with territorial planning - which consists in implementing and organizing processes of development and change at territorial level – on the other hand.

The proximity approach can contribute insight into these issues in that it provides analytical tools that help better understand the social, spatial and economic mechanisms that are at the heart of development phenomena. In particular, it should help shed some light into 1) The genesis of technological innovation and knowledge, as well as their diffusion and appropriation at local and extra-local levels, 2) The origin and initiation of projects of territorial development, and of the governance processes underlying them. Analyses in terms of proximity must enable us to understand the modes of emergence of innovations, of new rules and new ways of functioning, of inter-actor relations and interactions underlying these processes, as well as the geographic dimension of these processes of territorial development; they must also help pave the way for the implementation of recommendations promoting change and territorial development.

In order to bring into light the effects of proximities, their functions and possible complementarity, as well as how they are mobilized, we have, in this article, proceeded in three stages. The paper starts with a brief presentation of the tool box provided by the proximity approach (I). It then analyses the role played by the different types of proximity in the processes of territorial development, considered in their productive dimension (II), before concentrating on the role of proximity in territorial development processes viewed in their territorial planning dimensions (III). The article ends with some conclusions relative to the place of proximity in the logics of change.

I. The grammar of proximity: operational tools

The analysis of Proximity relations (Torre, 2008; Boschma, 2005) proves to be a valuable field of research in various disciplines as well as for different topics such as innovation, industrial production and clusters relations, or land-use conflicts. In keeping with our previous work, we consider the distinction between two main categories of proximity - geographical proximity and organized

proximity (Torre & Rallet, 2005) - , redefined more precisely on the basis of recent research on the subject (Torre, 2011). These notions of proximity refer, above all, to potentialities given to individuals, groups, human actions in general, in their technical and institutional dimensions. This potential may, or may not exist at a time *t*, and therefore may or may not be usable or actionable through the action and representations of the actors (human or non-human). These types of proximity have no moral value and their existence constitutes neither an advantage nor a disadvantage. It is activation through human action that gives this potential its significance and value ("positive" or "negative") in relation to the economic and social criteria that are relevant in the societies where it is found.

Geographical proximity

Geographical proximity is above all about distance. In its simplest definition, it is the number of meters or kilometres that separate two entities. But it is relative in two ways:

- In terms of the morphological characteristics of the spaces in which activities take place. There can be a "crow flies" proximity, in the case of a trip by plane for example, but the nature of the terrain also plays a role: travelling from one point to another on a flat surface is not equivalent to climbing up and down a mountain in order to go from a point A to a point B;

- In terms of the availability of transport infrastructure. The existence of a road or a highway, of a railway or metro network, of river-borne transport, will make access to a place more or less quick and more or less easy. It is in this sense - that of Perroux - that we view functional distance;

- In terms of the financial resources of the individuals who use these transport infrastructures. A high speed railway line might enable people to travel more quickly to and from two places, but its cost proves prohibitive for part of the population, at least in cases when the individuals have to travel frequently. Therefore, we shall say that the geographical proximity between two people, or between people and places, is partly related to the cost of transport, and to the financial means of individuals.

Geographical proximity is neutral in essence. It is the human actions and perceptions that give it a more or less positive or negative dimension, as well as certain usefulness. It is the way in which actors use it that matters. Thus, the fact that two firms are located in proximity of each other may or may not be a source of interaction: these two entities may remain indifferent to each other or they may choose to interact; in this latter case we talk of a mobilisation of the potentialities of geographical proximity. But this mobilisation can have different results depending on the actions undertaken. For example, in the case of innovating firms, it might be the diffusion of scientific or technological knowledge through geographical spill over effect (Bonte, 2008) but it might also lead to firms spying on other firms, or unduly reaping the benefits of an invention that is supposed to be protected by intellectual property rights (Boschma, 2005; Arend, 2009).

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Geographical proximity can be activated or mobilized by the actions of economic and social actors. Depending on their strategies or strategic choices, or according to their perceptions of their environment, the behaviours and attitudes of these actors vary and they mobilise geographical proximity differently. More precisely, actors might seek to get closer to or further away from certain people or places, or they might feel satisfied or dissatisfied with the geographical proximity of certain people, places or technical objects.

One then talks of sought for and unwanted geographical proximity.

Sought for geographical proximity refers to the quest, by some actors, for geographical proximity to other economic or social actors, to natural or artificial resources, to places or technical objects. It can be permanent or temporary:

- The need for permanent geographical proximity is met by being in what is considered an appropriate location or by moving and settling in a place deemed more likely to help the actors concerned meet their needs or conduct certain activities. It is the case of individuals who move to a city so as to benefit from the presence of other inhabitants, infrastructures, of a certain cultural environment, of sub-contracting firms that wish to settle closer to their clients, or of agribusiness firms that build silos or processing plants in proximity to places of agricultural production, so as to limit their transport costs and load losses;

- The need for temporary geographical proximity can be fulfilled without having to settle in a different place, but by travelling and undertaking occasional trips of a limited duration. We refer, for example, to trips by seasonal migrants, by owners of holiday homes, by tourists..., but also by engineers intending to meet in the framework of their activities of knowledge transfer, or of project managers meeting at a trade fair or attending a trade show.

Unwanted geographical proximity corresponds to cases of actors finding themselves in situations of unwanted geographical proximity to people, activities, technical objects or places, without being able to move and change locations.

For a long time considered, in economics, as a possible source of external economies (Marshall, 1890) and of competitiveness for firms, partaking of the emergence of industrial districts or other types of local productive systems, geographical proximity is also the source of negative externalities, which correspond to the disadvantages of being in proximity to objects of concern, such as a polluted site or a waste incineration plant for example. It is also the case when firms find themselves in proximity to competitors that seek to appropriate part of their knowledge through industrial espionage for instance, or by hiring their best engineers away from them.

Organized proximity

Organized proximity too is a potential that can be activated or mobilized. Organized proximity refers to the different ways of being close to other actors, regardless of the degree of geographical

proximity between individuals, the qualifier "organized" referring to the arranged nature of human activities (and not to the fact that one may belong to any organization in particular[1]). Organized proximity rests on two main logics, which do not necessarily contradict each other, and which we shall call the "*logic of belonging"* and the *"logic of similarity".* Both can help in the formation of trust relations, because they help the actors to build a set of common references, and interpersonal ties between participants to a joint project for example.

The logic of belonging refers to the fact that two or several actors belong to the same relationship graph or even to the same social network whether their relation is direct or intermediated. It can depend on the sector they operate in; in this case they share a common creative or innovation capital. It can be measured in terms of degrees of connectivity, reflecting more or less high degrees of organized proximity and therefore a more or less great potential of interaction or common action (Bouba Olga & Zimmermann, 2004). The development of interaction between two actors will be facilitated by their belonging to the same tennis club, or Internet knowledge network. Similarly, cooperation will, *a priori*, develop more easily between researchers and engineers who belong to the same firm, the same technological consortium or innovation network. It includes a common organizational culture between the members of a team for example.

The logic of similarity corresponds to a mental adherence to common categories; it manifests itself in small cognitive distances between some individuals. They can be people who are connected to one another through common projects, or share the same cultural, religious (etc.) values or symbols. Social norms, common languages partake of this organized proximity. It can also, however, correspond to a bond that sometimes emerges between individuals without them having had to talk in order to get to know one another. It facilitates the interactions between people who did not know one another before but share similar references. Thus, collaboration is all the easier when it involves individuals who share the same culture. Similarly, researchers who belong to the same scientific community will easily cooperate because they share, not only the same language, but also the same system of interpretation of texts, results.

The logic of similarity possesses two facets. It can develop within a reciprocal relationship; a relationship which shortens the cognitive distance between the actors involved (common project, common education and knowledge circulating within a network...), but it can also emerge from a common basis, facilitating the communication between strangers (see the example of diasporas). It is also the case when actors share the same or similar symbolic attributes and therefore refer to common norms or goals, in terms of lifestyles or social attitudes towards food or clothes for example. The actors linked by a logic of similarity share certain resources, of a material (diplomas or social status) or cognitive (routines, conventions...) nature, which can be mobilized when the properties described here are activated.

1 One may be organized or one may organize an activity without necessarily refer to or belong to an organization, in the strict sense of the term.

Just like geographical proximity, organized proximity refers to a potential that is neutral in essence. It is the perceptions and actions of individuals that give it a more or less positive or negative dimension, and therefore a certain usefulness. Thus, being connected by a logic of belonging is not a guarantee that interactions will occur, and even less a guarantee of the quality of these interactions. It is human actions that determine whether or not actors are going to start interacting; and results of the interactions vary in this regard: a firm may enter into a relationship with a laboratory in order to collaborate with the latter, or rather to try and rob the laboratory of one of its inventions. For the logic of similarity, a common project has as much chance to lead to an industrial or technological success as to end up in a failure resulting in heavy losses for the parties involved. Finally, the logics of similarity and of belonging can also facilitate collaborations that might be immoral in their motivations. For example, Mafia organizations often feed on both the logic of similarity (ethnic origins) and on the logic of belonging (strong connection within a network of actors), which can be considered immoral ethically.

Temporary geographical proximity

We should now add to these two original notions the notion of *temporary geographical proximity (TGP)*, which constitutes one form of geographical proximity that enables actors to temporarily interact face-to-face with one another, whether these actors are individuals or organizations such as firms or laboratories for example (Torre, 2008; Torre & Rallet, 2005).

The development of communication technologies and ICT nowadays facilitates long-distance exchange; be there for economic reasons between producers, or for day-to-day relations between friends or relatives. Consequently co-location, which has for a long time been considered as a necessary condition of cooperation between organizations or individuals, no longer constitutes an absolute necessity. A large part of the information and knowledge that are necessary for production or innovation activities can be transferred from a distance, through telephone or Internet mediated exchanges for example (Walther et al., 2005). However, times of face-to-face interaction are necessary and beneficial in this context. The growing importance of trade fairs (Bathelt & Schuldt, 2008), or the travelling done by members of R&D (Research and Development) collaboration projects undertaken by biotech start-ups are good examples of such situations. Face-to-face interaction cannot altogether be eliminated, including in the case of communities of practice, for example (See Torre, 2008). Thus, ICT cannot be considered as substitutes for face-to-face relations: they are useful tools to support or enhance the interaction between two or several individuals.

Space matters, but in a new way; one that consists of temporary face-to-face contact between two or several individuals. Temporary geographical proximity corresponds to the possibility of satisfying needs for face-to-face contact between actors, by travelling to different locations. This travelling generates opportunities for moments of geographical proximity, which vary in duration, but which are always limited in time. TGP is limited to certain times; this form of geographical proximity should not be mistaken for a permanent co-location of firms or laboratories.

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The necessity of TGP is embodied in the existence of places that are especially made for TGP based activities. In the case of private individuals they can be conferences, theme or recreational parks. In the case of firms or laboratories they are specialized venues:

- Trade shows, conferences and exhibitions enables actors to fulfil certain needs related to the processes of production, research or innovation, such as the collection of information, sharing experiences, speculations about a certain type of production (Entwistle & Rocamora, 2006). The "hub" formula, which enables individuals from different horizons to meet in the same place, helps them to save on transport costs; these hubs are readily viewed as temporary clusters (Maskell et al., 2006), a term which highlights the relation with the permanent clusters formed by localized systems of production. But above all, these places respond to a need for face-to-face relations related to the wish to reduce the costs of transactions (Norcliffe & Rendace, 2003; North, 1991);

- Common "platforms" of project teams are meant to enable the participants of a project to work together for a period of up to several months, in the framework of a project team. It is also the case of the members of a project undertaken by the geographically dispersed subsidiaries of a firm (Kechidi & Talbot, 2010). Once the partners have reached an agreement as to the characteristics of the project, the platform is dismantled and the participants go back "home".

But there are two main reasons for the need for TGP: Business trips are undertaken in order to reach a common decision or determine the characteristics of a cooperation project; or an activity that can only be performed in a place other than the participants' usual workplace. These meetings are needed at regular intervals during the coordination process. Their frequency and regularity are the cause of most business trips. The face-to-face interactions do not, in this case, occur in places exclusively dedicated to meetings, but in "ordinary" places, i.e., in the participants' usual workplaces, firms or laboratories.

II. Proximity and regional development: the production side

The favoured theme examined by proximity approaches remained, for many years, the productive dimension of development phenomena. Indeed, the first research studies on the subject focused on production relations, and more specifically on innovation dimensions. This tendency is perfectly understandable for it has much to do with two factors that are closely linked to proximity approaches:

- The first is relative to the influence of evolutionist approaches on the work of researchers that concentrate on proximity questions, and therefore to the influence of taking into account the dimensions of technical and technological change in contemporary economies. Thus, technological trajectories and processes are being examined along the same lines as the analyses conducted by Dosi (2000), Nelson and Winter (1982), or Rosenberg (1994), for example.

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- The second is the development, since the 1980s, of local innovation systems and of local or decentralized policies promoting them. We are referring in particular to technopoles and scientific parks; and to the cluster-based approach, which since it was introduced by Porter (1990) has enjoyed much success and has been developed extensively. These forms of spatial concentration of innovation have turned out to be fertile fields of investigation in terms of proximity approaches, in that the processes of interaction prove to be at the heart of the functioning of systems, that the local dimension plays an important role in those interactions, whether it manifests itself in the rooting of firms and or in the political discourse.

II. 1. The importance of clusters and questions concerning the role of the different types of proximity in their success and functioning

The geographic concentration of innovation activities, clusters particularly, have become a subject of study that evolves continuously; At first, authors raised the questions of how clusters emerged and developed, then they concentrated on the benefits firms draw from this process, using well known arguments on the advantages of geographic proximity between producers, such as the « cafeteria », « cross pollination » or « synergetic » effects. The first studies placed emphasis on these phenomena and researchers then focused on the channels of innovation, or knowledge transfer: Through what channels is knowledge diffused? It is between formal and informal exchanges, technology markets, alliances and agreements, or even the relationships that develop within social networks. Finally, there comes a third stage – that of doubt - which has to do with two factors. First of all, do enterprises always privilege local relations? and if not, why do they interact with firms or laboratories located in other geographical areas or other countries ? And what forms do these « long distance » relations take? Lastly, the question is raised of the validity of geographic concentration in matters of innovation: Do innovative firms or laboratories really benefit from being located in proximity to one another? Indeed, some studies show that some firms located in the same clusters do not collaborate, or that they even prefer to develop relations with partners situated far from them, even though the skills needed are available locally. Then come the questions of rivalry in innovation, or of secrecy in technological processes, with the idea that too much proximity can kill proximity. In the same vein there emerges the hypothesis that “too much proximity kills proximity and that the clusters that are not open enough to the external relations could lead the system that supports them into unfavourable or vicious dynamics.

It can be said, beyond these doubts, that the topic of clusters has been extensively studied and discussed because they are at the heart of the processes of regional or territorial development and because they themselves constitute places of growth (see Boschma (2005) for more on this question). Indeed, though they have not always been able to prove it, many authors consider that clusters are at the basis of development, and this for at least two reasons: 1) they are enclaves of growth, whose success benefits the whole region in which they are operating, if only via traditional transfers such as employment or salaries; 2) they could be able to generate effects of productive growth in their area through inter-industrial relations or through the diffusion of innovations or technological flows. As Frenken and Boschma (2011) highlighted, clustering occurs as a result of a process through which different, better adapted routines are selected; this process taking place not only at the firm level but

also at the level of the market and, above all, of institutions. It is in no way random and depends on the geographical and non-geographical proximity between the actors.

Beyond their internal organization, which naturally requires specific studies - of the modes and structures of governance, the implementation of functioning rules and of partnership structures and knowledge exchanges - it is important to take clusters into consideration for they play a major part in the concentration of activities of innovation and production and of high-tech production activities. Indeed, we note that the concentration of innovation activities is particularly high in the world, that only certain countries are able to take part in the production of technological innovations, and that within these countries, only a few regions participate in these activities, making use of a limited number of clusters or parks the size of which is generally limited. But clusters are also considered as having positive pervasive effects within local and regional systems and abroad. It is thought, not only that they can generate spillover effects on the industries situated in proximity and on the labour markets, but also and above all that they are veritable drivers of growth.

Here again we find Schumpeter's idea of innovation-driven growth. The strength of these systems lies above all in their ability to produce technological innovations and then to ensure that the geographic areas in which they are located benefit from their activities. Thus, they are « development factories » the dynamics of which drive growth in their region, but also, more generally, pull industrial economies as a whole. Indeed, it is in these areas that a large number of major innovations originate; innovations which not only generate productivity gains in the case of production process innovations, but also make it possible to introduce on the market new products that contribute to renewing product ranges and therefore contribute to prosperity through the mass production of basic consumer goods such as telephone terminals or computers for example. It is therefore important, and useful, in terms of economic policy, to promote their development, and even their creation when possible. Hence the increasing number of policies promoting the polarisation of innovation related activities, policies in favour of clusters (see OECD, 2001) or of polarisation processes in some countries of the OECD such as France for instance (OECD, 2005).

However, all the attention focused on these systems and their supposed virtues must not let us forget that they also form and develop important relationships with outside parties, and that they are, in their majority, open systems. Indeed, an extensive literature proves the existence and importance of gatekeepers, who maintain relations with the rest of economic systems, in terms of commercial relations or of technological exchanges; But it places even more emphasis on the importance of collaboration between organizations located long distances away from one another, such as firms situated in different clusters, or more simply, of technological collaborations, partnerships or alliances developed in a more or less formal manner. Thus, one must take into account the fact that firms that produce or use innovations are integrated in a network of knowledge transfer and that this network reaches far beyond the area where they are located. There remains to understand how they function and to examine at what point in time it becomes more interesting to turn toward the outside, to

compensate for a lack of local resources, or because of misgivings about interacting too closely with other « insiders », which might prove dangerous in terms of intellectual property for example.

This question leads to that of the usefulness and validity of the geographic concentrations of innovating firms and research laboratories. For what reasons do firms tend to group into clusters? What benefits do they get from being part of a cluster? Is this clusterization phenomenon always positive? Is it related to some geographical virtues or rather to the importance of human contacts or of technological complementarities? Should it be encouraged through the implementation of adequate policies, and if so, to what extent? This clearly brings us back, ultimately, to the analysis of the positioning and behaviours of firms and laboratories that group into clusters: do they favour long distance or proximity exchanges? And if they use both channels of collaboration, to what extent, and in which situations do they privilege one type of exchange over the other? It is these questions that the proximity-based approach can help answer.

II.2. The role played by Geographical and Organised Proximity within clusters

Let us begin by analysing proximity relations that develop within clusters, which should help us better understand their functioning. Several applied works have concentrated on proximity relations within clusters (see for example Biggiero & Sammarra, 2010; Carrincazeaux et al., 2008; Takeda et al. 2008; Weterings & Ponds, 2008). As stated before they lay emphasis on the diffusion of innovation and on the transmission of knowledge within these systems. Even though doubts have emerged about the positive role played by these clusters, and most of all about the probability of extended collaboration within the systems, we can assert that cluster organisation is usually seen as a useful tool for territorial development, and that many development policies are now based on these local systems of innovation. It seems interesting to take a closer look at this approach and to interpret it in terms of proximities; this will also lead us to examine and analyse the clusters that “function”, compared with simple geographic concentrations of activities, be it high-tech activities.

Following on from the above definitions of proximity relations, we shall proceed to describing clusters and interpreting their functioning in terms of proximity relations. This will enable us to not only provide a simple and elegant definition of clusters, but also to classify them very easily according to whether they are able to generate internal spillover effects or or can develop strong relations with outside partners.

For this purpose, let us begin by positioning proximity relations in terms of potentials that can or cannot be activated, which will enable us to characterize relations within clusters and to determine to what extent they can promote development. Let us remind that geographical and organized proximity describe two ideal types of spatial relations between humans, their combination provides some understanding of the coordination and communication process between actors, both local and remote. It is on this basis, and on that of the following hypotheses, that we shall analyse proximity relations within clusters.

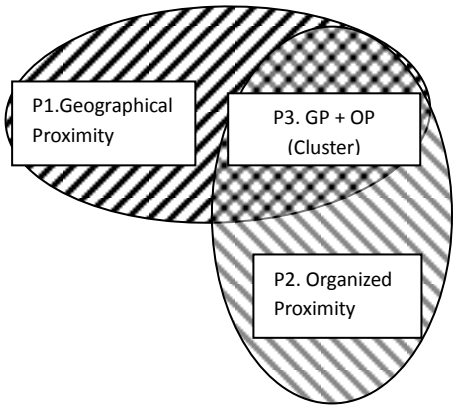
- *The potential of geographical proximity can remain inactive, or not mobilized.* Two people or two firms can find themselves in a situation of geographical proximity without

interacting with one another. It is possible to live in the same building as neighbours whom we don't know or visit; likewise, a laboratory can be located in proximity to a firm with which it has no connection.

- *The potential of organized proximity can remain inactive.* This is the case for people of the same geographical origin or who come from very similar cultures but who do not meet or communicate with one another. Organized proximity remains a potential state and is only activated by the establishment of interaction based on the actions of groups of individuals or institutions.

- *The simultaneous mobilization of both types of proximity gives rise to situations of localized coordination.* This is the case of "working" clusters, local innovation networks or family gatherings, situations where the combination of geographical and organized proximity promotes the establishment of coordination and interaction processes taking place in a specific location.

It is then possible to draw the ideal map of clusters, taking into account the main two categories of proximity (geographic and organized), as shown in graph 1. Although widely discussed in economic literature, this model is only one possibility among others in the interaction of proximity types, and is not that commonly observed in reality. Indeed, organized proximity - consisting of functional relations (interaction) or relations between people sharing the same identity (common beliefs and cognitive maps) based on organization rather than territory - often exists independently of geographical proximity. Similarly, firms may find themselves in geographical proximity of one another without maintaining any organized relations.



In the "ideal" case of clusters - i.e. the joint presence of geographical and organized proximity - geographical proximity, which can be confused with the co-location of activities, is permanent in nature. Firms or laboratories are located on the same site and therefore at short distances from one another. Furthermore, these entities have formed relations of organized proximity, such as client-supplier relationships, exchanges of know-how or various kinds of cooperation. This is a highly favourable situation in which the diffusion of knowledge leads to internal synergy effects that go beyond those of a mere geographic concentration of activities, and contributes to the dynamics of development.

Figure 1: The articulation of the two major categories of proximity within a cluster

This alchemy, albeit exceptional, is based on the activation of geographical proximity by organizational and institutional actions. In other words, in order to reveal the full potential of geographical proximity, it is necessary to mobilize the logic of belonging or the logic of similarity of organized proximity:

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- From an organizational point of view, this requires collective action at a local level, and more importantly the establishment of common projects. These projects may consist of collaboration between different firms or laboratories for the co-development of products or for the provision of technical support or mutual assistance within the same group; or also of cooperation projects jointly undertaken by firms or research laboratories. Local skills and knowledge are combined to work towards a common goal shared by a group of co-located participants. It is in this context that the potential benefits of geographical proximity can be realized and contribute to the creation of synergy within the local system. Here, geographical proximity is activated by the mobilization of the logic of belonging associated with organized proximity;

- But the institutional dimension and the role played by history and time in the mobilization of the potential benefits of geographical proximity must not be underestimated. Just as the examples of the Hshinsu Technopole in Taiwan or Sophia Antipolis (Lazaric et al. 2008) have shown, the creation of synergy within a local system is based on the development of shared representations or expectations by local actors: It can be said that geographical proximity is activated by the mobilization of the logic of similarity associated with organized proximity. Furthermore, time favours the creation of a local innovation network and the transition from the juxtaposition of R&D activities to a system characterized by organized relations, by the creation of a sense of belonging and common representations, through successive confidence-producing interactions.

When this type of relationship develops at local level, it becomes one of the drivers of development. Indeed, the synergy effects spread within the system and lead to a dynamic process of growth that reaches beyond the field of technology and benefits all sectors of production and the local populations, via rising income and employment. We have here the pecuniary externalities Perroux, and later Krugman (1991), enthusiastically identified and discussed, along with the upstream and downstream spillover effects within regional productive systems. Nevertheless, taking into account this type of relation does not exempt us from studying the relationships that the clusters' members develop with outsiders. Here again, analysing the proximity relations enables us to provide a framework to analyse these external interactions, most often based on cooperation.

II.3. Temporary geographical proximity and its role in cooperative behaviours

Taking into account long-distance relations rests on the explicit integration of the processes of mobility and ubiquity of actors, mobility and ubiquity, which have increased dramatically with the development of transport and communication infrastructure. In order to account for these processes, let us introduce the notion of temporary geographical proximity (TGP), which constitutes one form of geographical proximity that enables actors to temporarily interact face to face with one another, whether these actors are individuals or organizations such as firms or laboratories for example (Torre & Rallet 2005; Torre 2011).

The development of communication technologies and ICT facilitates long-distance exchange; consequently co-location, which is often considered as a necessary condition of cooperation between organizations, no longer constitutes an absolute necessity. A large part of the information and knowledge that are necessary for production or innovation activities can be transferred from a

distance, through telephone or Internet mediated exchanges for example (Walther et al 2005). However, times of face-to-face interaction are necessary and beneficial in this context (Freire-Gibb & Lorentzen, 2011). The example of the Airbus or Renault platform teams, or that of the travelling done by members of R&D (Research and Development) collaboration projects undertaken by biotech start-ups are good examples of such situations. Face-to-face interaction cannot altogether be eliminated, including in the case of communities of practice, for example (See Torre 2008). As a consequence ICT cannot be considered as substitutes of face-to-face relations: They are useful tools to support or enhance the interaction between two or several individuals.

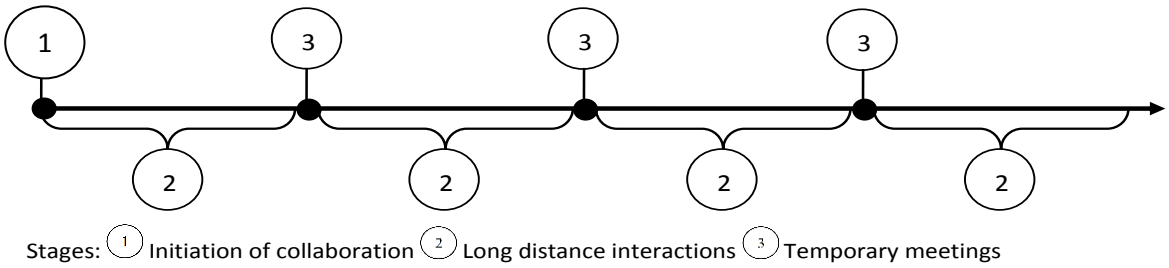
Space matters, but in a new way; one that consists of temporary face-to-face contact between two or several individuals. Temporary geographical proximity corresponds to the possibility of satisfying *needs for face-to-face contact between actors, by travelling to different locations. This travelling generates opportunities for moments of geographical proximity, which vary in duration, but which are always limited in time. TGP is limited to certain times; this form of geographical proximity should not be mistaken for a permanent co-location of firms or laboratories.*

The necessity of TGP is embodied in the existence of places that are especially made for TGP based activities. In the case of private individuals they can be conferences, theme or recreational parks. In the case of firms or laboratories they are specialized venues. Trade shows, conferences and exhibitions enable actors to fulfil certain needs related to the processes of production, research or innovation. These hubs are readily viewed as temporary clusters (Maskell et al. 2006), a term which highlights the relation with the permanent clusters. But above all, these places respond to a need for face-to-face relations related to the wish to reduce the costs of transactions. Common “platforms” of project teams are also meant to enable the participants of a project to work together for a period of up to several months. It is also the case of the members of a project undertaken by the geographically dispersed subsidiaries of a firm.

But two main reasons explain the need for TGP: Business trips are undertaken in order to reach a common decision or determine the characteristics of a cooperation project; or an activity that can only be performed in a place other than the individual’s usual workplace. These meetings are needed at regular intervals during the coordination process. Their frequency and regularity are the cause of most business trips. The face-to-face interactions do not, in this case, occur in places exclusively dedicated to meetings, but in “ordinary” places, i.e. in the participants’ usual workplaces, firms or laboratories.

Let us look at a situation of long-distance collaboration between two firms working on a common project, of research and development for example. The analysis of the dynamics of proximity necessitates an understanding of the stages of interaction between the actors participating together to the innovation process; in other words either between the participants - located at some distance from one another – of a common project of production and knowledge exchange, two partners located at some distance from each other and involved in common research and development project necessitating interactions for the transfer and the co-creation of knowledge. The process of collaboration, which takes place over a period of several months or years, involves frequent

exchanges and interactions of different natures. It can be illustrated as follows (Graph 1). The horizontal straight line represents the time-course of the process of collaboration. The numbers correspond to different sequences of face-to-face or long-distance interactions. We retain three main sequences.



Graph 1: The process of collaboration between firms and the stages of interactions between the participants.

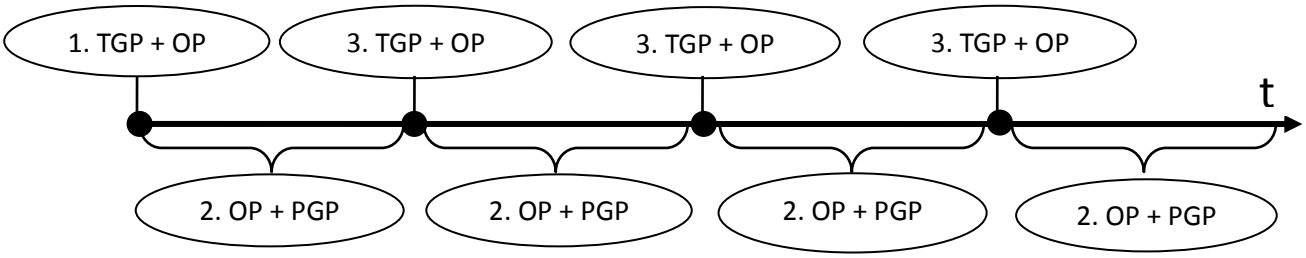
Short stage 1 is that of the initiation of the collaboration. The aim of this initial stage of co-presence is to enable the project participants to get to know one another, adjust their points of view, prepare the technical and human aspects of the cooperation, plan the future stages of the project and negotiate agreements concerning the possible gains or losses resulting from the cooperation process. Its purpose is also to promote the development of trust relationships between the participants of the common project. The duration of this initial stage depends on the complexity of the project and on the number of partners involved (from a few days for small organizations to several months in the case of the platform teams of large manufacturers).

Long stage 2 is that of long-distance teamwork. Once the partners have reached their agreements and have adjusted their points of view, they separate and carry on working together « from a distance ». The project develops and progresses thanks to exchanges made through ICT (telephone, fax, the Internet, text, communicating terminals...). Thus, the participants of the project exchange information or knowledge and solve the daily operational problems. It should be noted that this phase is the longest of the three. At this stage, the relationship between the partners rests on the trust that was initially created, as well as on the common rules decided or implemented by the management team. The long-distance interactions that develop between the partners must not only foster the process of production at technical level, but also promote the development of cooperation. They enable the members to communicate and discuss the technical characteristics of the products, the necessary improvements, the small problems encountered during the daily operation of R&D or production activities, and to prepare future operations.

Stage 3 is that of occasional face-to-face meetings. These meetings generally last one to a few days. The scheduled meetings are fixed in advance, either contractually or informally, generally at the beginning of the project. They generally take place twice a year and are aimed at verifying that the work is performed properly, at determining what has been achieved and at preparing the future stages of the collaboration, and in some cases, at modifying the organization of the project so as to adapt to possible changes that might have occurred at one of the partners' since the previous meeting. Adhoc meetings become necessary when long-distance interactions are not enough to solve

certain problems that degenerate into conflicts. In this case, some members of one or several teams travel in order to meet one another and discuss, in person, the problems that have arisen so as to find solutions to them. The meetings enable the members to meet face-to-face, to communicate verbally or non-verbally, but also to interact outside the strictly professional context.

To each phase correspond permanent geographical proximity relations, temporary geographical proximity relations, and local or external organised Proximity relations (graph 2).



LOP: Local Organized Proximity. EOP: External Organized Proximity. TGP: Temporary Geographical Proximity. PGP: Permanent Geographical Proximity

Graph 2: Geographical and organized proximities during the process of collaboration between firms.

Short stage 1 corresponds to the initiation of the collaboration, a stage of creation and / or activation of the potential of organized proximity. The potential of organized proximity is created when the actors do not yet know one another or do not share the same references. It is activated by the face-to-face interactions between the actors of the process of collaboration, which contribute to the development of knowledge-based relationships and of trust relations (see Nooteboom 2000). This operation aims to create bonds of belonging. The first stage also relies on TGP, for the meeting between the protagonists lasts a limited period of time. The potential of geographical proximity is mobilized when different individuals meet in the same place.

Long stage 2 corresponds to long-distance teamwork, when relations of organized proximity develop without permanent face-to-face interactions. The stages of long-distance teamwork enable the partners to continue collaborating even in the absence of face-to-face interactions, by using communication infrastructures. These stages exclude relations of geographical proximity and aim to promote interactions of organized proximity. The potential of organized proximity, which already exists, is mobilized in a « positive » manner by the multiplication – through the use of ICT - of interactions between people who are located far from one another. The geographically distant actors find themselves in a situation of ubiquity; they exchange technical information and use their bonds of belonging to a common project to facilitate coordination.

Short stage 3 corresponds to occasional meetings and is based upon relations of temporary geographical proximity and of organized proximity. The occasional meetings involve the resources of temporary geographical proximity. They are stages of short term face-to-face interaction, during which transport infrastructures are used. The actors are then in a situation of mobility; during these meetings the partners reconfirm their initial agreements, maintain or consolidate their mutual trust, try to find solutions to possible tensions and conflicts and plan the future stages of the collaboration

program. As in stage 1, the potential of geographical proximity is mobilized when different individuals meet in the same place. TGP enables the partners to confirm their bonds of belonging; the potential of organized proximity is reinforced by the confirmation of the knowledge - and trust-based bonds. TGP offers the partners another chance to make the process of long-distance cooperation a successful one, by giving them the opportunity to reconcile their points of view, to partly modify the relational configuration or review the ways in which they cooperate.

II.4. The role of the different proximities in the strategic behaviours of innovative firms

Having now examined the relations formed by the firms or research laboratories within the cluster, and then their relations with parties outside the cluster, we can come back to the various types of cooperative interactions, whether they be with insiders or outsiders, and draw some conclusions in terms of proximity relations. Indeed, it clearly appears that we can examine this question from the perspective of innovation actors, and even more of firms, which are involved or have a vested interest in the innovation process and interact with the market, that is either industrial clients or end consumers. Giving a closer look at firms seems a good way of identifying the hard core of development processes and of their contrasted origins.

In order to assess the role played by the different types of proximity, and even more by the different ways in which they are used by organizations, it is first of all necessary to make another detour via the types of relations developed by innovative firms, be it standard purchaser seller relations, or relations of cooperation through which knowledge circulates or innovations are diffused. We have summarized them in graph 2, which highlights the partners of organizations by identifying:

- Purchaser/seller relations, described here as « standard », and which concern both the suppliers of intermediate goods or of raw materials and the clients of the firm;

- The relations we consider to be « strategic » and which either take the form of horizontal interactions of cooperation with partner firms or laboratories, or of vertical relations of cooperation with suppliers or industrial clients that participate in the definition of the product (Von Hippel, 2010) ;

- And finally, let us not forget to mention the role of institutions in organizing the relations between the members of the network, but also giving it meaning and, often, a name (the Valorial Competitive Cluster for example in France), and an explicit purpose.

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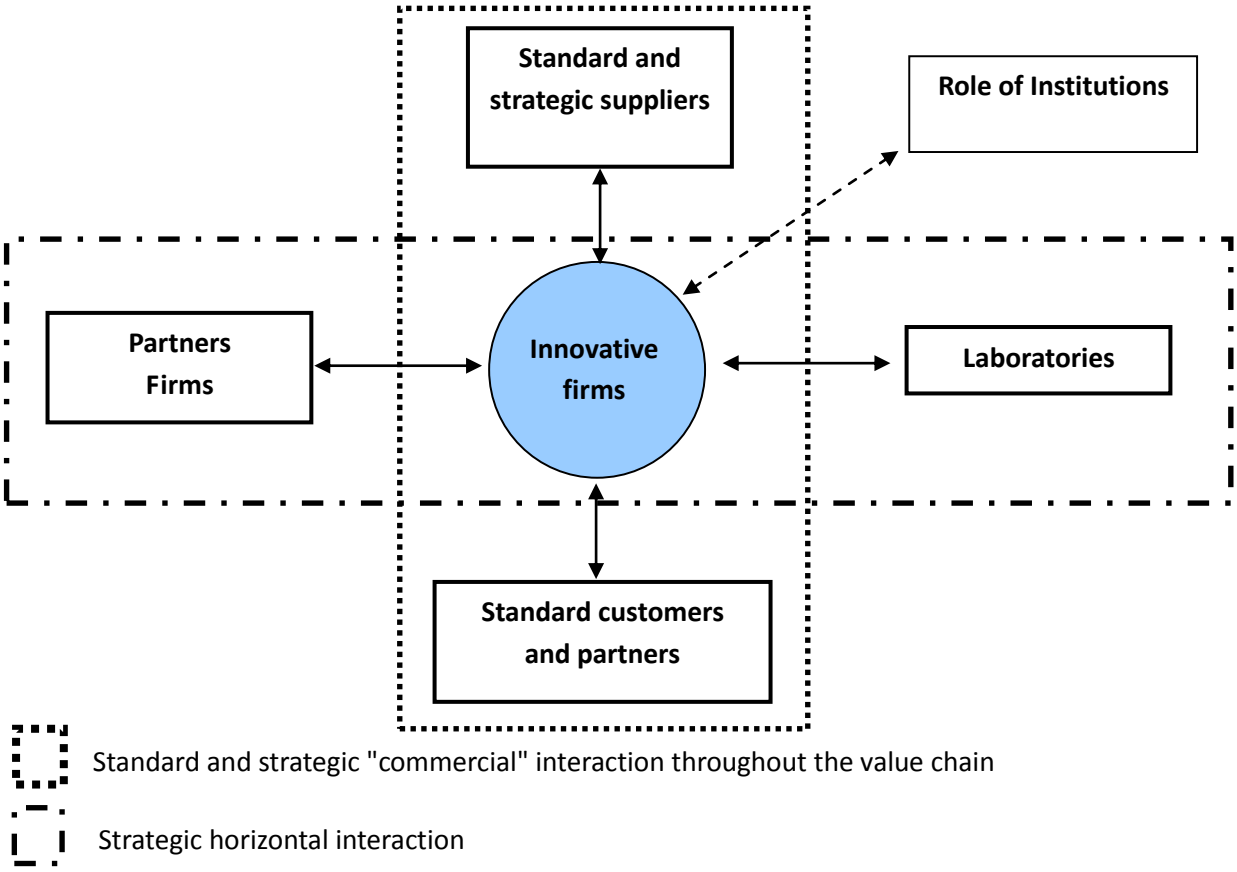

Figure 2: The cooperative relations between firms within and without a cluster

On this basis, and given what we know of inter-firm relations within clusters (See for example, Gallaud & Torre, 2004, or Boufaden et al, 2009), we can draw the map of the proximity interactions developed by innovative firms, as well as of the different ways in which firms use the different types of proximity.

One can say that innovative firms maintain three types of proximity relations with their partners. Relations can be:

- Permanent geographical proximity relations, activated by organized proximity relations and which are based on interaction internal to the cluster, through meetings or more informal encounters (face-to-face). To a greater or lesser extent, these relations may be accompanied by;
- External relations through temporary geographical proximity relations, which also rely on organized proximity relations and involve the organization of short visits and trips using different means of transport (mobility);
- External relations through long-distance organized proximity relations that depend on the use of ICT, such as the telephone or internet.

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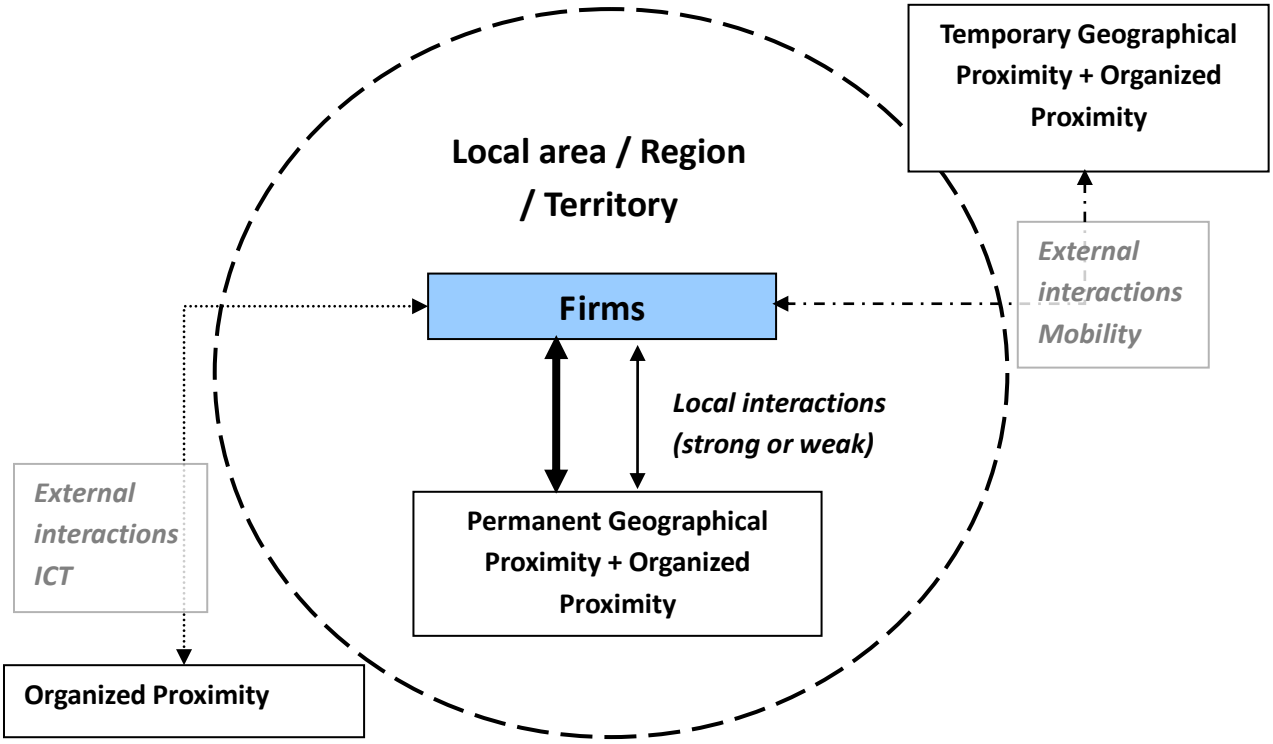

Figure 3: Internal and external interactions of clustered firms: the use of different types of proximities

This diagram characterizes the relations between firms and their local or wider environment in terms of geographical and organized proximity as well as in terms of internal or external links to the cluster. It is only a general and broad image, which does not take into consideration the peculiarities of various groups of firms. Indeed, on the basis of this figure, we can draw typologies of firms that belong to clusters, according to whether they have more or less close relations with insiders or with outsiders, according to whether they exchange knowledge using the different types of mobility or information and communication technologies, or whether they use one or several of these different forms of interaction. Thus, we find that there are important differences between firms according to which sector they belong to, their age, or their size. As an obvious consequence of this, depending on their characteristics and their networks of interaction, firms do not all have the same ability to drive development processes at local or more global levels.

Conclusions Part II

We can conclude this section by summarizing the findings presented above:

- The process of coordination between production partners located in the same area is based upon the combination of both geographical and organised proximities. It is especially the case for clusters' formation and growth

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- Organized proximity helps in building trust and cooperative relations
    - at the local level
    - at a distance
- The process of coordination between geographically distant partners of production, research or development projects is mainly based on organised proximity (e.g. non spatial proximity)
- Temporary GP helps in building (trust) and repairing (conflicts) distant cooperative relations. It makes it possible to maintain:
    - internal local ties to the cluster
    - global ties
- All the proximities contribute to the process of territorial development in helping distant or close partners to work together

III. Proximity and regional development: the planning side

Territorial development can in no way be limited to the productive dimension. The latter is indeed essential and was for a long time seen as the main source of development for nations or regions; But there is no denying that it has now become necessary to also examine the territorial planning dimension and to take into account not only the production or exchange relations but also other types of decisions or actors, which also play an essential role in territorial development processes. This is due, in particular, to the rise of public-private partnerships, to the increasing involvement of the local populations in processes of participatory democracy, as well as to the *resulting increasing complexity* of territorial innovation processes. This leads to a broadened conception of territorial development - including considerations of regional planning - which can be analysed through the proximity-based approach (geographical or organized proximity). Particular emphasis must be placed on the analysis of the processes of territorial governance, which help to bring together the different categories of actors present on one territory, and which therefore constitute « engines » of territorial development, especially when the latter is considered from a planning perspective.

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III.1. Towards an enlarged definition of territorial development processes

Several reasons explain why it has become necessary to broaden the definition of territorial development, by including into it not only the production or technological relations but also a number of other, social and environmental, factors:

- The first reason is related to the fact that, from an economic point of view only, the development of some regions or geographic areas is no longer exclusively linked to production activities, but also to processes of income transfer or to the development of service activities of different types. The example of France here is telling in that it shows that the rise in wealth concerns above all the Southern and coastal regions of the country, which are characterised not only by a very low level of production activity but also and especially by the rise of two important phenomena: a) the wealth transfers that take place as a result of retired people taking residence in those regions or of tourists from other areas spending their holidays and part of their income on the coast or in the South. b) The rise of the human service sector which addresses these new categories of population and creates employment and contributes to local development. The definition of the principles of territorial development must, consequently, take into account the involvement of these new sectors;

- The second reason has to do with the extraordinary rise in the involvement of local populations – and their will to participate – in the democratic debate and in local decision making processes. This demand for direct democracy, which is related to the advance of decentralization processes, is accompanied by an increase in the number of parties involved in development: State departments or local authorities are no longer the only entities that make the decisions concerning development. They have now been joined in this process, by a series of actors who want to have a say in the decisions made and about the directions to follow. It is of course the case of firms, but also of other actors of society, such as the defenders of social economy, or the many associations that watch over the processes of development. One then talks of multi-level governance, to describe the piling up of decision making levels, from Brussels to the local level (Hooghe & Marks, 2001), but also of territorial governance (Torre & Traversac, 2011), to indicate that decision making concerning development paths now involves, not only the public authorities but also, many other parties that take part in the management of processes and in choices about development projects;

- The last reason is related to the question of innovation. In the previous section we discussed the question of technological innovation. But innovation can take many other forms: Organizational, social, institutional.... At the level of territories, one can talk of territorial innovation, which manifests itself through the implementation of new actions, operations, structures or projects, serving territorial development. From this we can draw a new definition of territorial development, one that is broader than, but faithful to Schumpeter's basic intuitive definition: Development results from changes that occur at

the level of territories, changes of productive, technological, organisational and institutional natures (Torre & Wallet, 2013).

These changes – the most important ones at least – must today be subjected to the agreement of the populations; this is a key component of participatory democracy. This agreement cannot be reached without discussion, but it can also rest on the expression, via conflicts, of pre-existing disagreements or oppositions. Indeed, it is not uncommon to find that a decision concerning an important change – such as a big project of construction of an energy production facility or of a large scale, rail or road, transport infrastructure – implemented by the public authorities, is met by strong oppositions from local populations. It is the expression of local democracy which, through conflicts, is going to find ways of reaching new agreements about the conditions of territorial innovation, as well as the changes to be made at territorial level. In other words, it is through conflict relations that an agreement concerning the routes to territorial development will be reached. This is where the advantage lies of taking into account territorial governance, which must find ways of reconciling opposing views and of making the different parties involved work together, with a view to developing projects for the good of the territories.

III.2. Territorial Governance

Governance involves the participation of players with heterogeneous preferences in the decision process, people from different groups each with their particular incentives. It becomes a focal point of local development processes, focusing numerous contributions in coordination, interaction, collective action, empowerment and learning actions – with a special emphasis on participation and consultation. In some human sciences – institutional economy, political science, sociology, management – discussions may be about a specific object, but much interdisciplinary work revolves around a few key themes: expertise and public action, the general interest, participative governance, property rights, community governance, development, public policies, governance *vis-à vis* the issue of voluntary schemes, equal access to resources, as borne out by the terms of world, European, urban, or environmental governance, etc.

Definition and components

Without being normative, let us define territorial governance as the set of processes and mechanisms through which different parties or actors of various natures (production, association, individuals, representatives of the public or local authorities...) contribute to working out - sometimes through discussion, and sometimes through conflict - common projects for the future development of the territories (Torre and Traversac, 2011).

Thinking in terms of territorial governance refers to concrete objectives in terms of local development:

- Promote the setting up of territorial development projects;
- Contribute to the design of wide consultation schemes;

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- Facilitate the coordination of heterogeneous groups of players;
- Limit the spatial exit of people with certain profiles;
- Avoid sterile confrontations;
- Decide on development pathways.

For a broad view of the governance of territories, we first have to consider the components of public action that contribute to the decision making of local or extra-local public authorities. In particular these include:

- Laws, edicts at a national level (civil law, criminal law, rural law, environment law etc.) that apply both to particular territories and to the whole administrative territories (regions, districts, municipalities etc.) of a nation;

- Regulations, both from national regulations (concerning safety, labour legislation, discrimination) and from the regulations and directives from the EU, and they apply indifferently in theory in the various States of the EU;

- Tools for public, national or decentralised policies at the level of the main European regions: Economic policies for industrial development, services, agriculture or energy; social policies concerning work, housing, health, education; territorial development policies, often linked to infrastructure issues and local taxation, a highly sensitive area today;

- Financial instruments (national or community aids and transfers, taxes, user contributions) which, by enablement or the setting of limits, contribute to an orientation of policies and projects undertaken by players in the territories.

Levels and actors

Governance is becoming multi-level and is increasingly carried out by hybrid mechanisms, partly from above with European and national financing, and partly local (High & Nemes, 2007): the logistical and financial means at national and community levels are based on local resources and the capacity for innovation in the territories. But it also springs from a more local level, through concrete instruments of local planning. It is incarnated in urbanism documents determining how areas should be inhabited and developed, in land occupancy Plans and local urbanism Plans, in planning schemes carried out at a regional level and in the various types of zoning resulting from public policy. Lastly account must be taken of the role played by the various categories of territorial, private or semi-public actors and by associations (Jordan & al. 2005 ; Berger 2003).This is a question of participative democracy and the involvement of numerous local actors in decision processes that is no longer being left in the hands of the representatives of the Public Authorities alone.

These actors wish to carry out development projects complementary to, or opposing the Public Authorities; they wish to be part of decision making bodies and to dispose of the resulting means for their own projects. They especially manifest themselves between elections on the principle that the

power delegated to the elected representatives is insufficient to give them and their administrations a universal competence and the rationality to respond to all the questions, nor to approach new issues in any relevant way. In the sphere of production there are the old and strongly embedded lobbies of farmers and networks for innovation and the transfer of technologies and knowledge (Torre 2006). In addition, there are diverse local systems that are the voices of private players: Clusters, Industrial districts, professional unions, catchment area management syndicates... Closer to territorial development and the public good is the increasing role played by associations, marking the lively presence of citizens in the decision making process and their growing participation at local level, whether to introduce or to contest projects. There are for example associations for the protection of nature (*e.g.* the RSPB, Royal Society for the Protection of Birds, in Great Britain), some of which extend their action to the national level or even beyond, and to residents or neighbourhood associations whose main concerns are local.

Conflicts and cooperation: the mechanisms of territorial governance

The mechanisms of territorial governance are not completely stabilised, though they have in the last few decades given rise to all kinds of inventions that have in common the fact that they make it easier to introduce opportunities for the exchange of opinions. Political players have generally agreed that allowing various forms of participation by private or semi-public players in debates or in public decision making enables advances to be made in harmonious and democratic territorial governance processes.

Beuret (2006) lists various types of participation as a function of their intensity: communication (transmit a message and obtain the public's adhesion to a proposition), information (advise a group about intentions or decisions made), consultation (collect the opinions of players, without any guarantee that these will be taken into consideration), dialogue (set up horizontal interactions between players on an equal footing), discussion meetings (working to put together elements aimed at a solution) and lastly negotiation (reaching a common decision).

Designed to facilitate the making and adopting of public decisions, the set of processes, with its arsenal of tools for participating and informing, is causing procedures to become quite heavy and provokes contrasting reactions from people, who sometimes tend to react to and strongly oppose public projects, especially involving the building of infrastructures. There has been a rise of protest and conflict, directed especially at projects introduced by the public authorities in terms of transport infrastructures (roads, motorways, high speed railway lines etc.), energy (nuclear and conventional power stations, wind farms etc.) and waste (final waste disposal installations, disposal sites etc.). Here arises the problem of the collective good, since these infrastructures are necessary to the life of the populations, particularly in peri-urban areas, but are at the same time rejected or contested by the latter.

Our research on conflicts in rural and peri-urban areas shows that this dimension of ensuring the collective good is essential in land development processes or in the management of various local functions; it appears in the form of tribunals, media campaigns, or violent demonstrations. Land-use conflicts are a form of expression of opposition to decisions that leave part of the local population

unsatisfied (Darly & Torre, 2010). Some local innovations provoke resistance which can give rise to conflicts. Major changes, which involve the reconfiguration of land use (introduction of transport or waste treatment infrastructures, new local urbanism plans, territorial or environmental zones) generate conflicts the social and spatial scope of which can become considerable.

Furthermore, conflicts play a very important part in the processes of territorial development because they constitute veritable decision making laboratories, through the setting up of a trial and error process. When a new decision is made, it can be met with opposition and lead to a conflict: During this period, the feasibility of the innovation is tested. The latter is modified so as to make it acceptable for the largest possible number of actors, or it is rejected. Thus, conflictual acts give rise to a process of territorial learning that involves a double phenomenon: During conflicts, actors learn from one another, and each conflict reveals the appropriateness or limitations of the new decisions or new projects, and provides the interested actors an arena to react. After each conflict, adjustments can be made, and thus, this trial and error process helps build the paths to development, in particular by approving or rejecting the implementation of decisions for change.

Conflicts are revealing of the transformations and changes occurring in the territories; they are signals of the social, technical and economic evolutions, of novelty and innovation. They bring to light the oppositions that the latter arouse, the discussions concerning their implementation, their possible (non-)acceptability as well as the putting into effect of the procedures of governance and of their transformation under the influence of the dynamics of change. Any change can give rise to more or less justified or relevant, opposition or resistance. During these periods of conflict, new interest groups form and social recompositions as well as technical or legal changes take place. Following the conflict, new agreements, new modes of governance, new configurations of actors involved in the decisional process, and technical acts are implemented at local level (road layout modifications, construction of various facilities, zoning modifications...), resulting from the negotiations. Thus, conflicts are both the result and the origin of territorial evolutions.

Thus, conflicts are one way of entering into the discussions on the stakes and ways of territorial development, and of affecting the decisions by involvement in processes from which one had been excluded (Dowding *et al*., 2000). This is the reason why they bear either on the decisions that have been taken on development (arbitrated negotiation) or on the composition and representativeness of the bodies in charge of the decision (arbitration). The conflict is also an integral part of the process of deliberation at local level, allowing an expression of local democracy and the re-integration of players who were forgotten or left aside in a previous phase of project design.

To conclude, territorial governance is not limited to an idyllic vision of economic and social relations, *i.e*. to forms of cooperation and common constructions. It is also about interaction between forces promoting cooperation and other forces promoting conflict. The processes of territorial development and their progress over time do not in any case resemble a long and tranquil river. They are made of phases of negotiation, collaboration or appeasement, and of much rougher periods when certain groups or categories of players clash, sometimes violently, in defining the steps to be followed and the options to be adopted. Thus, the process of the governance of territories has two complementary

sides, the reciprocal importance of which varies with periods and situations. It feeds on opposing tendencies, (Glazer & Konrad, 2005), the reconciliation of which leads to a definition of path development.

Obstacles to governance

The process of territorial governance cannot be taken for granted; indeed it comes up against certain obstacles which slow it down or stop it, or taint the decisions made with serious suspicion as to their validity. Its success depends on two pre-requisites.

The first is the acceptance by the different parties of the rules of the game. In many cases, the local actors refuse to take part in the process of definition of a common project and abandon the game. They sometimes do this by leaving the territory and by « voting with their feet » (Tiebout, 1956). But because this strategy is often impossible to execute, the most common situation is that in which some actors, resistant to the decisions being made or the methods implemented to reach them, leave the territorial development arena. They can then choose not to express their opinions, or to act and express themselves outside the governance mechanisms set up for this purpose, sometimes by using a power of influence or balances of power.

The second prerequisite has to do with the designation of the actors who are going to participate in the consultation process, i.e. who are going to implement the territorial projects and the possible development process, and discuss and share the possible benefits. The combination of various parties aiming at representativeness implies a phase from which certain groups of actors are excluded. Other groups can exclude themselves from the process and possibly come into opposition. Given that not everyone can take part in the debates, certain groups of actors are chosen, each group with its own representative expressing and defending their ideas and opinions. This situation comes down to favouring the expression of all bearers of ideas at the expense of representativeness.

In the face of these obstacles, the tools of representation and those used to designate representatives, as well as the mechanisms of deliberation, play a central role in the construction of the paths to territorial development. One of the crucial functions of intermediation actors is to bring together a network of actors in which each is legitimate in the eyes of the group s/he represents (internal legitimacy) and is recognized as legitimate by the other groups (external legitimacy) - both types of legitimacy can develop in the course of action. The actors of intermediation called upon to consolidate this network, serve as translators between actors, whose interests and goals are often difficult to reconcile. This is necessary for territorial governance to be possible - territorial governance being at the foundations of territorial development.

III.3. Conflicts and geographical proximity

A few additions must be made to proximity-based approaches so as to take into account these different dimensions of territorial governance as well as of their role in the processes of territorial

development. This is true in particular of the conflict dimension, which deserves closer examination because of its strong links to the components of geographical proximity.

As Torre and Zuindeau (2009) showed, land-use and neighbourhood conflicts and tensions can be closely related to geographical proximity. Indeed, geographical proximity plays a central role in the production of conflicts because it is imposed on the actors, cannot be eliminated and often is the direct cause of conflict. The approach is based on a fundamental distinction between unwanted geographical proximity and sought for geographical proximity.

We have seen before that *geographical proximity is unwanted* when, for example, residents of a particular area have to endure the negative effects of effluent discharges, of olfactory, visual or noise pollution emitted by their neighbours, or the creation of an activity that causes nuisance. Similarly, it is an issue when different land-users disagree as to what the land they occupy should be used for, some wanting the land to be used for recreational purposes and others wanting to use it for production purposes. Geographical proximity can also be unwanted when there are disagreements about what category/ies of users should or should not have access to a given area. This unwanted proximity can result, if relocation is not an option, in a constraint of proximity due to three types of interference:

- *Superposition*: This is when two or several land-users use or wish to use a piece of land for different purposes. For example, some of the occupants might wish to use the land for recreational activities whereas others might wish to use it for nature conservation or even development. These are generally situations when using a piece of land for different purposes proves difficult or even impossible.

- *Contiguity*: In this case, individuals or groups of individuals located side by side disagree as to where the boundary between their respective properties lies; the different parties may be in a dispute over property boundaries, easement issues or over usage of a shared strip of land separating the two properties. Contiguity refers to any situation in which individuals or legal persons have a dispute over the boundaries of their respective territories of action.

- *Neighbourhood*: This refers to situations in which the undesirable effects of certain activities are diffused by air, water or under the effect of gravity over to actors located in proximity. An example is the emblematic case of pollution externalities, effluent discharges, toxic emissions or even noise pollution, which negatively affect actors located more or less close to these sources of pollution.

The other opposite situation discussed in the literature is that of *desirable or sought out geographical proximity*. In this case, land-users seek proximity to other social or economic actors, or even to natural or artificial resources or to areas that present (human and spatial) characteristics associated with a low population density. It can be of two types depending on whether one needs permanent or temporary proximity:

The need for permanent geographical proximity leads the actors concerned to locate or relocate in an area they believe is more likely to provide what they need, or to facilitate the realisation of their projects. It is the case of people who choose to settle in a town in order to benefit from the presence

of other people, infrastructures or even a certain cultural environment. Another example is that of firms that seek to locate their silos or processing plant close to areas of agricultural production in order to limit transport-related expenses and losses.

But the need for temporary geographical proximity does not call for a relocation of activities as it can be satisfied through mobility or through trips and visits of varying duration. It is the case, for example, of seasonal migrants, owners of holiday homes and tourists, hikers, etc., who wish to spend varying periods of time close to the countryside, in the context of their recreational activities. The demand for landscapes, natural or protected environments, and transport or recreational infrastructures is central here.

In addition to the distinction between both types of geographical proximity, it is important to take into account an asymmetrical relation associated with the physical component of proximity. It is the phenomenon that authors call the 'micro localisation' of actors or *inequality in space* (Torre & Zuindeau, 2009), a consequence of the combination of the physical characteristics of space (an actor can be located at the top or at the bottom of a hill, upstream or downstream of a river) and of the spatial position of the social and economic actors (more or less close to a source of pollution). Depending on the precise location of the latter, on the topographic characteristics of the piece of land on which they are located, or on the man-made infrastructures present in the area, the actors find themselves in more or less advantageous situations in terms of space and co-ordination. This results in relational asymmetries between the local actors, asymmetries that play a determinant role in the modes of expression as well as in the resolution of conflicts. A situation of inequality in space conditions the relations between land-users, as well as their solutions to the difficulties caused by a forced collocation. For example, an actor who is in a favourable location (easy access to water resources for example) can carry a lot of weight in a negotiation, or might well be requested to undertake technical actions in order to repair or prevent damage. The actor who is in an unfavourable position (with no direct access to water resources) might be more prone to engage in conflict to defend his interests, if he feels his interests are not adequately looked after. Finally, this spatial inequality has an impact on the very definition of property rights and therefore on the modes of conflict resolution: attempts at negotiation, mediation, consultation and judgements take into account this fundamental phenomenon of spatial (and sometimes hierarchical) inequality.

III.4. The interaction of the different types of proximity in the processes of territorial governance

Analysing the interaction between the different types of proximity, as well as the possible ways of activating and recombining them, helps to better understand the role they play in the framework of territorial governance processes and therefore in the development of territories. Indeed, they lie at the basis of collaborations, of oppositions, of agreements and compromises reached by different parties at local level, which involve geographical as well as organizational dimensions. In simpler terms, the two polar situations of cooperation and conflict are at the foundations of territorial governance processes. The situations considered are characterized by the activation of the potentialities of the different types of proximity, for the benefit of the categories or groups of

individuals who use these potentialities to assert their existence and play their part as parties involved in a conflict or a dialogue process.

Activating the different types of proximity in the case of cooperation between local actors

Graph 7 describes the most studied situation, in which cooperative relations develop at territorial level through the interactions between the local actors, who engage is dialogue. The table describes the relations between the (sought for and unwanted) geographical proximities (columns) and the organized proximities (The logic of belonging and logic of similarity) (rows). The strength of the relation is indicated by the number of crosses (from 0 to XXX). The box is shaded when one of the proximities is absent or insufficient.

The relations between the actors of the territory are highly constrained by their situation of geographical proximity (unwanted) which forces them to co-exist in the same location, hence the two crosses in the right hand side column. But the actors can also seek to move closer to one another, or even to define ways of working together. Or they may wish to develop infrastructures that will enable them to reduce transport times and costs, hence the cross in the « sought for geographical proximity » column. Reading along the rows, in terms of organized proximity, reveals the nature of the cooperative relations, which lead actors to discuss and exchange. Actions are jointly implemented and are founded in the mobilisation of the logics of belonging and of similarity, according to whether network-type interactions or common representations and projections are activated.

		Geographical Proximity	
		Sought for	**Unwanted**
Organized Proximity	**Belonging**	(xx, x)	(xx, xx)
	Similarity	(xx, x)	(xx, xx)

Graph 7: Activating the different types of proximity in the case of cooperation between local actors

This situation can be linked to the regulating function of organized proximity, which makes it possible, for example to bring ideas or actors closer together, or to discuss and develop common projects. It is on this basis that the actors who are subjected to the unwanted geographical proximity of other actors or activities, can take advantage of their close links and common representation with one another in order to put into place consultation processes.

The cooperation facilitated by organized proximity rest on the logics of similarity or belonging, which underlie it. With regard to the logic of belonging, the ties developed within networks prove essential. Belonging to the same network, the same organization, enables actors to initiate discussions about

the rules to develop within consultation mechanism and to discuss the technical modalities of the arrangements to be made. organized proximity is here characterized by a strong voluntary dimension. As it plays the part of a social link restorer, it can be mobilized in order to help solve conflicts that arise in the absence of interactions. Activating it helps to restore the relation, through the implementation of join actions.

With regard to the logic of similarity, sharing common values is essential. It refers primarily to the possibility of pooling the experiences and the projections of the local actors so as to make the latter participate in a common project. Unlike the logic of belonging, the logic of similarity conditions the actors' acceptance of the general rules of dialogue, which are at the origin of the process and are essential to its initiation. It then allows for the formulation of collective rules - accepted by all stakeholders - and of shared beliefs and expectations, a temporary and revisable compromise that enables the actors to trace a common path. The results of the studies concerning the dynamics of concerted management of rural areas highlight the decisive role of common representations or values in the formulation of agreements (Beuret, 2006). They are used to initiate a consultation process aimed at reinforcing those common references: The two subcategories of organized proximity are at once the foundation and the product of consultation.

Activating the different types of proximity in cases of land-use conflicts

Land-use conflicts result, above all, from by an unwanted geographical proximity affecting the protagonists of the conflicts (graph 8; this is the reason why the « sought for geographical proximity » (which is negligible) box is shaded). It affects the latter in that it forces them to live in close proximity of one another, as in situations of neighbourhood, contiguity or superposition. As far as organized proximity is concerned, the stakeholders generally use it in two very different types of context:

- To lay the foundations of alliances and create common languages within opposed groups. Thus, activating organized proximity relations helps the actors to refine their points of view and to formulate propositions built on common foundations ;
- To try and form bridges between the opposed parties. The reconciliations and discussions that take place have one common basis: the protagonists of conflicts know one another, they often belong to compatible worlds and to networks of close relations. The actors rest on the resources provided by organized proximity to build negotiations and future agreements.

		geographical proximity	
		Sought for	**Unwanted**
organized proximity	**Belonging**	(x, 0)	(x, xx)
	Similarity	(xx, 0)	(xx, xx)

Graph 8: Activating the different types of proximity in the case of land-use conflicts

Conflicts are often borne by groups of people who share common opinions; For example they can have in common their opposition to some infrastructure projects, which refers to the logic of similarity. Thus, the residents of a group of buildings sometimes meet in order to exchange their points of view concerning their living environment (for example to discuss a need for natural open spaces), which might be considered threatened. They then mobilize their networks, their knowledge and support so as to make themselves heard, for example, by the media, through the distribution of pamphlets or by expressing their views on the internet, or by taking legal action. The logic of belonging is activated. Both types of logics are reinforced as the conflict process develops, with the consolidation of the relations between the protagonists of an association and the refinement of the contents and discourses used during the opposition phases. Mobilising the potentials of organized proximities helps to build and strengthen the groups of opponents.

But organized proximity can also be used to try and solve or prevent conflicts, by calming the tensions that sometimes arise between different land users. Indeed, its social substrate puts into play the actors' coordination capacities, their level of interaction, as well as the interactions between institutions that are called upon by the protagonists, or that may even be directly involved in the conflict process. The mobilisation of the logics of belonging and similarity thus contributes to formulating more or less temporary, local compromises, as well as managing tensions. It therefore helps lessen the conflict generating effects of geographical proximity.

Organized proximity then plays a part both during the phases of negotiation and legal action processes. It comes into effect, for the most part, during periods of tensions arising outside peak conflict times, and during which its virtues are used to ensure coordination through negotiation or consultation. But it continues to play a quiet role during conflict peaks, and thus, ensures the maintenance of the social relation without which negotiations or the search for new agreements cannot be initiated. Negotiation then depends on the rules imposed at local level by the regional, national or supranational authorities, but its purpose is also to produce rules to be used locally, to be negotiated and formulated collectively by the local actors.

Proximities and spatial exit

It is important, in order to analyse the processes of territorial development and to address the questions of governance underlying them, to bear in mind situations of « spatial exit » (graph 9), in which unwanted geographical proximity and the absence of organized proximity connections (time t1) can lead the actors who cannot marshal enough support for their projects or their demands, to leave and move to a different location (time t2). It is the case when a place is affected by high pollution episodes or is being abandoned by its population, such as in situations of rural depopulation or of extreme poverty. Consequently, territorial governance becomes impossible because the opportunities of local agreements are totally overwhelmed by the lack of relationship between the local actors, which pushes some to « exit » the area, or to « vote with their feet ».

		Geographical Proximity	
		Sought for (t1)	**unwanted (t0)**
Organized Proximity	**Belonging**	(x, xx)	(0, xxx)
	Similarity	(x, xx)	(0, xxx)

Graph 9: Proximities and spatial exit

Conclusions Part III

Let us now summarize with a few bullet points the main results obtained above.

- Because geographical proximity is often imposed , it often leads to:
    - congestion effects, pollutions…
    - contiguity, superposition, neighbourhood, inequality in space
    - oppositions and conflicts
- But geographical proximity also helps in setting:
    - decisions by local actors (but not only)
    - negotiations, collaborations... at the local level
- organized proximity helps in:
    - building rules (be there local or imported from abroad)
    - building cooperative networks (trust) and their common projects
    - building networks of opponents and their common projects during conflict processes
    - setting the role of institutions (local or global)

General Conclusion

The research on proximity relations has, for several years now, helped to shed light on a number of obscure points of spatial analysis and of the relations between actors located in proximity of, or at a distance from one another. This article has aimed to draw more attention onto them and to position them within the field of territorial and regional development approaches. Particularly, we have attempted to evaluate to what extent using proximity-based approaches can help us to study the mechanisms of territorial development and to better understand the dynamics involved at regional, local and territorial levels.

To answer this question, we have considered it wise to address the problem of territorial development from the main two perspectives considered in the land-use literature, that is to say the economic and productive dimensions on the one hand, and the questions of land planning on the other. Indeed, issues of development cannot possibly be reduced to the relations of production, in so far as development also rests, nowadays, on many actors of civil society, who are neither the public

authorities nor firms, and yet play a key role in development processes and in choices concerning the different paths to development.

The elements presented above are all reasons to believe that taking into account proximity relations and how they develop and function, contributes to shedding some light on the mechanisms of territorial development. Thus the interactions between geographical and organized proximities helps us to better understand the emergence, development and functioning of clusters, as well as to draw an easy-to-understand typology of the different types of localized production systems and of their respective capacities to generate localized or more exogenous development processes , depending on the types of proximity mobilized and their combinations. It also helps us better understand and classify the relationships formed between the firms located within clusters, and to determine to what extent they make use of the different types of proximity depending on their own characteristics. We find that the different types of proximity play a crucial part in the processes of land planning, and particularly in the modes of governance, which lie at the foundations of territorial development in that it is through proximity that the various parties involved can interact and agree on common development paths. The proximity-based approach helps us to better understand how cooperative relationships form but also why strong oppositions to or conflicts concerning development projects arise. Finally the different types of proximity provide keys to solve or overcome those conflicts, for the benefit of common projects and development paths.

To come back to Schumpeter, and if we regard development as being, above all, the result of important changes and even of innovations, it is easy to see that proximity relations play a central part in mechanisms of development. Indeed, it is on the combination of and the interactions between the different types of proximity that the engines of technological innovation and the processes of knowledge joint creation and transfer rest; processes that pull growth in contemporary economies, particularly in situations in which geographical and organized proximities are combined. Similarly, new land planning projects, the changes associated with them, the oppositions they generate, the joint agreements reached with regard to those projects, the overcoming of obstacles, lie at the foundations of the governance and development of the territories. These projects are the bases on which the processes of territorial develop can be implemented; territorial development which basically rests on proximity relations, on their mobilisation, interactions and actions that they allow.

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