



Reinventing creativity in old Europe: A development scenario for cities within the Upper Rhine Valley cross-border area

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ABSTRACT

On both sides of the Rhine, from Karlsruhe to Strasbourg and Basle, a core region of Europe has been a focus of cultural and technological revolutions for almost one millennium. In particular, that area was one of the core regions of European Renaissance. The Upper Rhine valley, after a complex history, is now divided into regions belonging to three nation states. The challenge nowadays is to become a model territory for building Europe as creativity-based economy and society. The specificity of this area, and potentially its strength, is to be a polycentric metropolitan region. Linguistic and institutional variety, together with a very old common culture: will such circumstances turn to be a winning recipe in the 21st century? In this article, we address those topics with a special view on the Strasbourg city and the Alsace region, on the French side of the Rhine. The relevant policies for fostering innovation within this cross-border area – taking full advantage of the creativity potential of such a multi-cultural space – suppose a great deal of institutional cooperation but also a reengineering of the instruments, away from the classical “technology transfer” paradigm. It means giving more consideration to other sources of creativity than science and technology (cultural and creative industries) as well as developing a culture of innovation in every branch of activity.

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Introduction

The literature on economic and social development of territories, as well as the corresponding policies, have focused for a long time on innovation in a relatively narrow sense. Innovation mechanisms are still often considered as a process of application of science and technology to the economy. A typical illustration is the traditional use of the wording “technology transfer” for any attempt to harness existing academic assets (universities, public research centers, large scientific facilities, etc.) to regional development. The longer run impact in terms of human capital creation, cultural endowment, attraction of talents, emergence of creative communities, etc., is largely overlooked or even sometimes despised by regional policymakers. They overestimate the importance of technological instruments, typically research policy or technology transfer, whereas only one innovation in five is actually strictly based on science and technology (Godet, Durand, & Mouli, 2010). This is a typical bias in countries like France that

inherit a long historical tradition of engineers at the top of economic, administrative and political power.

In a recent discussion about the contribution of university to regional development, an elected representative dryly replied: “everybody knows that, in our region, the university is off-shore!”. Beyond the ideological stand it reveals, this remark points to a real analytical debate because the impact of educational, scientific and cultural institutions within the perimeter of a region is certainly harder to demonstrate than university-industry technological partnerships or start-up firms’ creation. The technological links are never as big as policymakers would like (for their communication policy). Unfortunately, if the local economic impact of a university can be proved quite noticeable, the amount of research contracts is not necessarily a large proportion of it, even for a renowned science-oriented university (2% in the case of Strasbourg, in the calculation done by Gagnol and Héraud (2001)). In a short run evaluation of the economic impact, the main contributors, through their expenses, appear to be the population of students and scholars attracted by the university. In a longer time perspective, the indirect effects through various forms of knowledge externalities are probably very important but rather difficult to anticipate. Some technological outcomes

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are rapidly observed, but the bulk of the academic potential impact in creative terms needs years or decades to develop (sometimes beyond the political horizon!). Analytically, we want to underline the lag between policymakers' vision of innovation, which is "linear" (from science to business) most of the time, and the scholars' approach demonstrating the complex collective and networking nature of such a creative process (Kline & Rosenberg, 1986).

Hopefully, a renewal of the academic and political thought is presently observed around the concept of creativity. Other sources of creativity are increasingly viewed, worldwide, as potential sources of innovation and territory development. "Creative policies" aim at supporting creative industries based on artistic or cultural assets. Nevertheless, we also see here the risk of a restrictive vision of creativity: focusing on activities based on arts, culture, design, etc., could lead to underestimate the creativity in more traditional activities. The latter can benefit from transversal policy instruments fostering entrepreneurship and pro-active attitudes, improving the capacity of local actors to bring radical changes in their vision (to "think out of the box"), and developing cultural interfaces that favor the emergence of new ideas.

This article is an opportunity to test some of the theoretical and instrumental ideas around the notion of creativity (creative people and creative communities; cultural interfaces; new roles of universities; cluster policy; cognitive platforms like "ideas labs"; etc.) on a region that has the specificity of being at the crossroads of several national cultures and institutions. Our field case will be the French region Alsace and the tri-national cross-border area called "Upper-Rhine Valley" (URV). It is interesting to see to what extent diversity is an advantage in terms of creativity and how regional governments try to cooperate for transforming a geographical and historical heritage into a new fruitful reality.

We start the article by positioning the concept of creative economy (see section "Towards a creative economy") and its application to territories (see section "The creativity of territories"). Then, we describe the cultural setting of Alsace and URV and its spatial organization as a polycentric metropolitan area (see section "Creativity and cultural roots in the Upper Rhine Valley polycentric metropolitan area"). Section "Regional ambiguities in creative attitudes" is devoted to the specific obstacles on the road to creativity and Section "The necessary change of regional development paradigm and the possibilities opened by trans-border cooperation" to the solutions that trans-border cooperation could bring. We will conclude with a presentation of some innovative policy instruments like cognitive platforms for collective creation.

Towards a creative economy

The most developed countries, particularly in Europe, are confronted to the necessity to reorient their economies towards increasingly more innovative activities in order to cope with global competition. During the last decade, the European Union commitment to aim at a "knowledge-based" economy and society (the so-called Lisbon strategy) has been a clear message to the member-states and also to sub-national entities like regional authorities and city

councils. This radical evolution in the development policy of territories was prepared, in a more conceptual framework, by scholars and international institutions during the nineties: a typical document from that period is OECD (1996). In the introduction of their book on knowledge architectures and knowing communities, Amin and Cohendet (2004, p. 2) state: "knowledge has become the buzzword in theories of the firm and in explanations of corporate competitiveness". More recently, a series of analytical works, including from those authors who tried to improve the understanding of the very source of innovativeness in organizations, stressed the notion of *creativity*. Progressively, this notion tends to be the new buzzword among scholars interested in the study of innovative firms as well as for the policymakers advocating the idea of "learning region".

Innovation, creativity, regional development and social cohesion are increasingly linked issues in policy recommendations. A good example is the Sixth progress report on economic and social cohesion of the European Union (CEE, 2009). It refers to the initiative of declaring 2009 "European Year of Creativity and Innovation" by stressing the conclusion of many studies: creativity and innovation policies crucially have a regional dimension. Typically, the report covers "technological innovation, but also many non-technological forms of innovation such as social, artistic, cultural, process and service innovation" (CEE, 2009, p. 3). The enrollment of every source of creativity, and specifically at regional/local levels, is crucial for helping Europe to emerge faster and in a sustainable way from the current economic crisis.

The first approach of creativity in regional economics was developed around the concept of "creative class" (Florida, 2002), underlining the contribution of "talented people" and therefore the political issue of attracting them into the territory. That issue is now reconsidered in a new theoretical framework, focusing on the role of specific "knowledge communities" in organizational creativity (Amin & Roberts, 2008; Cohendet, Héraud, & Llerena, 2010b; Wenger, 2002). The new focus on specific communities is also linked to the rediscovery of the role of cultural and artistic milieus to the development of town, regions and nations. International institutions have recognized the importance of the issue of the *creative economy*: "an evolving concept based on the potential of "creative assets" to generate socio-economic growth and development, in a globalized world increasingly dominated by images, sounds, texts and symbols" (UNCTAD, 2008). By stressing the potential role of creative industries in the innovative development of certain territories (typically creative cities), many studies renew and extend the classical approach of innovation – criticized for being too much focused on the applications of the sole science and technology fields.

The study of creative cities in contributions like Hospers (2003), Scott (2006), Hessler and Zimmermann (2008), Cohendet and Simon (2008) shows the importance of dense networks of specialized and complementary firms, the role of communities of artists and scientists, and other factors which are typical of large capital towns. To put it shortly, scale and scope economies combining into strong agglomeration effects, in addition to infrastructural facilities like universities and leading cultural institutions, a priori favors

the largest urban areas of rich countries for driving creative experiences. Nevertheless, we try here to extend the analysis to other types of territories. Specific cultural assets – through *knowing communities* that can express and reformulate such heritage – may contribute to creative experiences in medium sized cities as well. We intend to illustrate this point with the case study of Strasbourg and the other cities of the Upper-Rhine Valley. Before that, we need more insight into the notion of creativity and the contribution of specific communities.

An interesting theoretical approach is developed by authors like Cohendet, Grandadam, and Simon (2010a). The very source of creativity in many cases is not an individual vision (Florida's talented people) or the research outcome of an organization, not even the production of a network of actors, but the activity of knowledge communities within and across organizations. A prerequisite for the development of cultural industries is the existence of a more or less specialized *underground* within the territory. Those un-formal groups also play a significant role for the city's or region's attractiveness in general. The communities play their role through the constitution of a common (often tacit) culture, implicitly writing a new cognitive code book. For the full development of economic and/or social innovations on the basis of new ideas, private and/or public organizations are of course necessary: let's call them the *upperground*. There are many obstacles for bridging the loose communities of the underground with formal hierarchies of the upperground. That communication is a central issue for innovation. The role of intermediate actors or spaces is important to make the bridge. Such "*middle-ground*" is a specific component of creative regions or cities. Supporting business services, organizing fairs, festivals and exhibitions, implementing interactive websites, are possible forms of policies leading to the establishment of such *middelground*. These various forms of cognitive platforms to link heterogeneous actors can be either physical (*places*) or virtual (*spaces*).

Several famous types of creative urban/regional development like those of Barcelona or Montréal can be considered as applying the general idea of *middelground*. In every case, there is a particular place (physical location like a building or a city area) or a space (networking system, cyberspace, virtual arena) where different agents have the opportunity to get together, collectively create new norms of expression that eventually transit from the local scene to the global economic world (Cohendet et al., 2010a). There are also attempts to deliberately construct places of collective creation linking professional innovative actors (firms, public agencies) and ordinary citizens or representatives of various underground communities. Sometimes such an experience is called *ideas' lab*. The concept is not yet very well defined and there are not two examples in the world that are similar (evoREG, 2010), but the general principle is to develop a cognitive platform allowing the communication and the test of new ideas between representatives of different social, professional and cultural origins.

The creativity of territories

A creative territory (region or urban area) must not be defined in a static way, solely characterized by a high con-

centration of creative people. It is a set of places where people are placed in adequate position for creation (new ideas) and innovation (implementation of new ideas). The territory's governance scheme is central in this respect. Policy-makers cannot "produce" creative people, but they can organize the creative *atmosphere* – using Marshall (1920) famous expression as he introduced the concept of what is now called *knowledge externalities*. But knowledge is not all that must be taken into consideration when speaking of creativity policy. Non-formal culture, urban amenities and quality of life are part of the game as well. The latter dimension is important for exogenous development, based on the attraction of new talents, as well as for endogenous creativity-based development. Public amenities, cultural heritage, and social cohesion, are important factors favoring individual and collective creation. Public policy, as a local initiative and as a multi-level governance system (Crespy, Héraud, & Perry, 2007), has therefore a crucial role to play.

Amenities and quality of life are favorable conditions for creativity. Such territorial advantages are built by the multi-level policy framework in the long run: national institutions and regulations, as well as local/regional policies of physical and intangible infrastructures, environmental policies, cultural investments, social inclusion programs, etc. Developing functional spaces and concrete places for connecting citizens and talents of every kind, and supporting the improvement of the local level of tolerance (one of R. Florida's three T's) are also considered as key success factors. We want to underline here the fact that increasing the degree of cultural tolerance is not only the basic instrument of an attraction policy, but more fundamentally the best action in order to provide good conditions for creativity in the long run. Supporting tolerance is considered as crucial for attracting external talents (Florida, 2002), but better social inclusion of poor immigrants – or their angry children – is essential as well, if we try to provide quality of life and proper environment for creativity! The most visible creative cities of the world, like New York, London, Paris or Berlin, are not always optimal locations from that point of view.

The debate about quality of life and socio-economic development of territories within the national setting has been particularly influenced in France by the statistical and analytical work of Laurent Davezies. It is now largely recognized that the most competitive regions in terms of GDP per head – like the French capital region Ile de France around Paris – are not the best ones in terms of general conditions for everyday life, and even in terms of real revenues: revenues linked to added-value creation in a given territory are increasingly spent in other territories (Davezies, 2008). Furthermore, the spending by residents in those other places creates a "residential" economy with various and sometimes interesting characteristics: from personal services to cultural industries and other creative activities. All the advantages of large urban agglomeration for factor productivity in ordinary production as well as creative activities can be offset by the negative influence of poor quality of life and working conditions generated by such agglomerations. That lost of competitive advantage gives room for the development of creative potential in regional capital towns and even in medium-sized creative

cities exploiting niche opportunities as shown by Chantelot (2010). As Leriche and Daviet (2010) underline in their introduction, researchers in the field of territorial development increasingly question the “big city pattern” and show that less agglomerated forms of cultural production must be positively considered – although being a medium-sized city with nice amenities is not sufficient for becoming a new world focus of creativity and innovation!

What makes some territories particularly creative? Innovative outcomes are not coming at random throughout geographical space. An important issue is the perception of science, technology and any other sort of knowledge, which is contextualized by the historical and cultural characteristics of the territory. Innovation is not only a question of pure inventiveness: it has to do with the way novel ideas and products are received. *Absorptive capacities* as defined by the economists (Cohen & Levinthal, 1990) can be reinterpreted from a cultural viewpoint (in a post-modernist perspective): all knowledge is self-referential and then, when actors are confronted with a new concept or reality, they perceive it and play with it in a reflexive way though their own cultural identity which is linked to regional history. In a multilingual and multicultural environment the issue of understanding and interpreting novelties is even more complex and potentially fruitful. Creation is often the result of understanding things differently. Multiple cultural roots can be transformed into an asset. This happened in the past on the shores of river Rhine and the present challenge is to restore such opportunities (Muller et al., 2010).

Creativity and cultural roots in the Upper Rhine Valley polycentric metropolitan area

In this section we will present the city of Strasbourg and its historical and geographical context: the cross-border area between France, Germany and Switzerland (see Fig. 1). It is one of those European co-operation zones that are considered as smaller models for European integration, and benefit from the support of the European Commission. Other examples in Western/Central Europe are: the Saar-LorLux area across Belgium, France, Germany and Luxembourg; the Euregio Maas-Rhine across Belgium, the Netherlands and Germany; and the Bodensee Lake area on the German–Swiss border.

Strasbourg, on the French bank of the Rhine, was during several centuries one of the major “free cities” of the Upper Rhine Valley (URV) area, where a large part of the European history was written, particularly during the Renaissance era. It is now the capital town of Alsace, one of the 22 French metropolitan regions. It is also one of the European Union “capitals”, with headquarters of the European Parliament, the Council of Europe and a series of other European institutions. The urban area, including its extension in Germany, just across the river, has about 700,000 inhabitants. The other large cities within URV are Mulhouse (urban area: 270,000) and Colmar (100,000) in Alsace, Karlsruhe (300,000) and Freiburg (200,000) in Germany, Basle in Switzerland (170,000 inhabitants, but 800,000 in the larger three-national Basle agglomeration). All those other cities have also a long and interesting history, specific industrial traditions, leading university centers and/or cultural assets

inherited from the past centuries. No one can be considered as dominating the others within the URV tri-national region. It is actually a typical case of *functional polycentrism*.

The concept of functional polycentrism has been developed by geographers in response to the traditional central place conceptualization that is now considered as outdated and should be replaced by a vision emphasizing the increasing pattern of interdependencies between spatial units (De Goei, Burger, Van Oort, & Kitson, 2010), but polycentrism is sometimes also the geographical characteristics of certain areas from the origin. The German regions around the Rhine are a typical case of such organization of space, to the opposite of Bavaria for instance, historically polarized by Munich.

Within URV, every city has its own right to be considered as a leader. Strasbourg can be proud of its European institutions and has the largest university in the area (43,000 students); Karlsruhe benefits from the oldest technical university of Germany (founded in the 19th century, even before Berlin), which was recently merged with the Helmholtz energy research center to form the Karlsruhe Institute of Technology (KIT), one of the very top “excellence universities” of Germany; Basle is a leading European center of industrial research and production in pharmacy and has the world’s premier international art show for modern and contemporary works (Art Basel); the Freiburg city is a German showroom of renewable energy solutions; Mulhouse, with its eight museums, exhibits the largest grouping of technical museums in Europe, etc.

It is worthwhile noting that none of those cities has the absolute monopoly of any metropolitan function. If Strasbourg hosts many international (mainly European) functions, Basle hosts the Bank for International Settlements; Basle is a world leading market place for arts, but the artistic milieus are elsewhere, for instance in Strasbourg; Strasbourg has the largest multi-disciplinary university of the Upper-Rhine, but in many engineering specialties, Karlsruhe is definitely the leader; Karlsruhe in many respects is the most dynamic and innovative city of the Baden region, but Freiburg is a European leader in sustainable housing and urbanism. . .

What is now a cross-border area split into three countries and two languages still keeps the heritage of a common cultural history. Let us just look at the example of Mulhouse: the city was a free city in the 12th century, then an imperial town (of the Roman–German Empire) in the 15th century; it was a small republic allied to the Swiss federation before voluntarily joining France by adherence to the values of the French Revolution, in 1798. After a long period of troubles due to the border position between aggressive nation-states (from Louis XIV and Napoleon to Bismarck and Hitler), an era of harmonious and coherent socio-economic development has progressively started in the URV area after World War II. The evolution is encouraged by regional authorities, mainly the Regional Council of Alsace, the German Federal state of Baden–Württemberg and five Swiss cantons, as well as by the European Union and the three national authorities.

The recent history of institutional cooperation in URV is marked by several projects at different scales. For instance, the Eurodistrict around Basel was mainly developed for the sake of the Swiss urban agglomeration which is very close

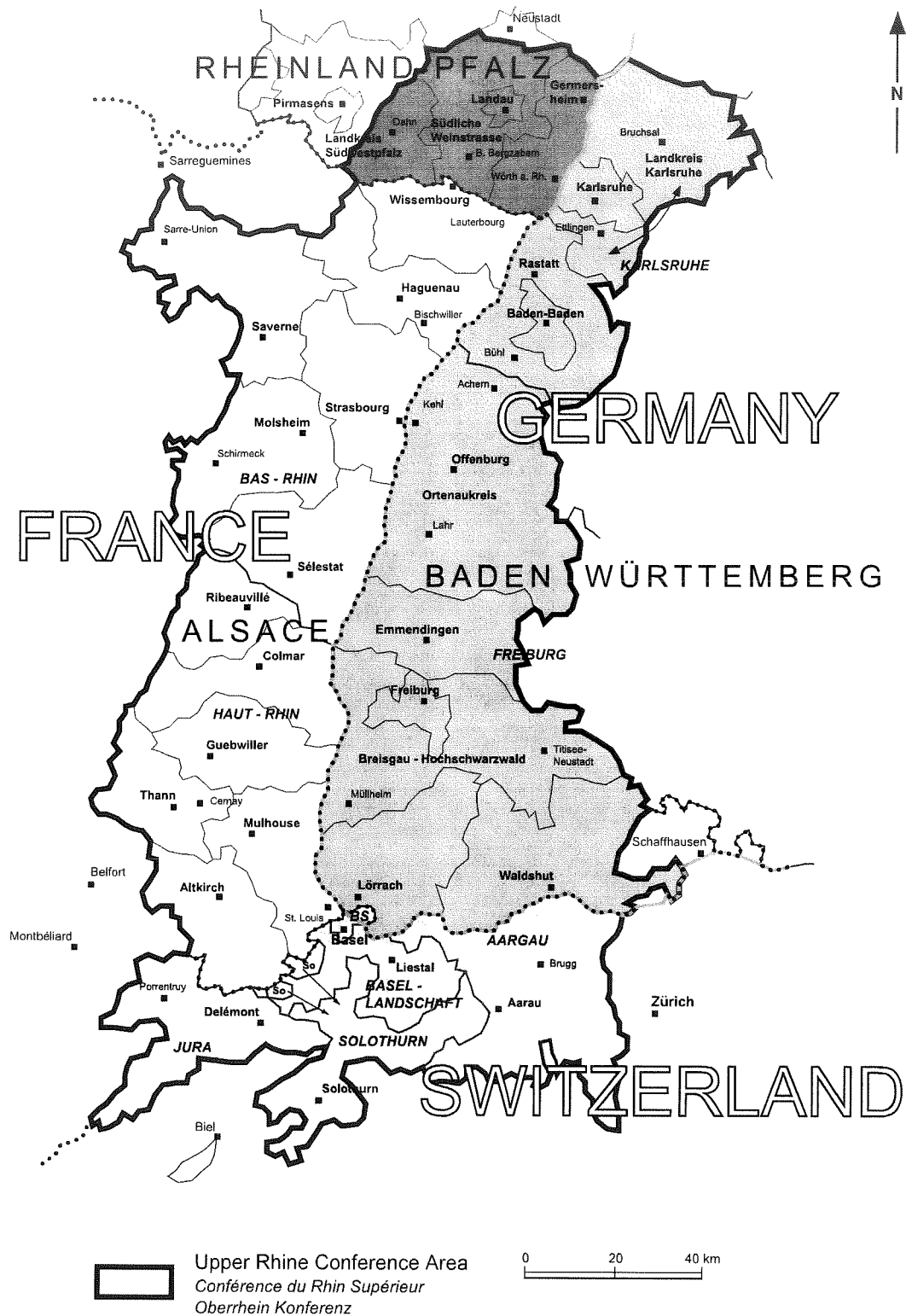


Fig. 1. The Upper-Rhine Valley Area. Document in separate file: UpperRhine_map_CorH (EPS vector drawing). Source: Authors' adaptation of the official map of the Upper-Rhine Conference. Initial cartography by J.-P. Jouhaud, SGARE Alsace.

to the borders of France and Germany and needs space for its development (see Schneider-Sliwa, 2008). In this 0.8

million inhabitants area, 60,000 international commuters cross the borders on their way to work every day. It was

created in 2007 by local authorities belonging to four Swiss Cantons, two German *Lankreise* and three French sets of communities (*communautés de communes*), in order to discuss cross-border issues: from transportation infrastructures to more societal issues, like the enrollment of the population sharing the same living environment, etc. On a larger scale, the Tri-national Upper Rhine Metropolitan Region (regrouping 5.9 million inhabitants from Alsace, the Baden region, the southern Palatinate and the north-west of Switzerland) was officially signed as a tri-national (and four-regional) project in 2010. Its vocation is to be the framework for reinforced cooperation between public and private actors, the different bodies (regional/local administrations) and the citizens of the Upper Rhine, for the realization of innovative projects, economic, social and territorial cohesion, and sustainable development. Two previous institutional agreements corresponding to the perimeter of the Tri-national Metropolitan Region (TMR) must be mentioned: the French–German–Swiss Upper Rhine Conference created in 1993 (through an international treaty) and the Rhine Council, a consultation body created in 1997 by the regional and national representatives, which is a sort of “parliament” of the Upper Rhine.

Regional ambiguities in creative attitudes

In this section we will briefly present the cultural and economic history of the cross-border region, in particular in Alsace, before analyzing the present assets and opportunities for a coherent development strategy based on the concept of creativity.

Johannes Gutenberg, the inventor of the printing press in the middle of the 15th century, stayed in Strasbourg and Cologne. It is a typical example of the role played by the Rhine valley at the time of the Renaissance. Creativity in Science and technology is linked to creativity in other fields like culture, social organization or religion: it is not by chance that Strasbourg and other cities of the URV area were also centers of intellectual and artistic revolutions, of Protestant reformation and economic development in the 16th century. The rise of early industrialization in the middle of the 18th century has marked the Alsace territory in the north (Niederbronn) as well as in the south (Mulhouse) of the region. Several major industrial dynasties can be cited: Dollfus, Schlumberger, Koechlin, De Dietrich, Le Bel. Historians Hau and Stoskopf (2005) have underlined the fact that those founders were also scholars and inventors. At Mulhouse in 1785 was founded the “society for the promotion of good taste and science” (that became the *Société Industrielle de Mulhouse* in 1809) devoted to the progress of industry through the diffusion of discoveries, but also to the support of scientists and the education of workers and local population. Mulhouse is sometimes called the “French Manchester” for pioneering the second industrial revolution, with the introduction of modern chemical industry. Strasbourg became a leading scientific center for Germany between 1870 and 1918, and then for France after World War I, with important public investments in both cases, building on significant cultural attitudes and capabilities.

Alsace's strong regional identity can be considered as a rather favorable factor for cultural, scientific and techno-

logical creativity. Paradoxically, it appeared to be sometimes a disadvantage. As quoted by Kahn and Olivier-Utard (2010), historians have raised that issue for example in the case of the influence of the 18th century enlightenment movement: the region was receptive to new ideas but also a place where they were fought (Muller, 2008, p. 203). For instance, the recognition of religious pluralism (religions considered as legitimate individual choices by the French Revolution) was in principle well accepted in a region marked by the Renaissance humanist thought and the co-existence of several religions in the territory. Nevertheless, Alsace was less open than many other French regions to the atheist trend introduced with the Republic. The region is also still using nowadays a few “old regime” institutions that the rest of France has abolished. Having changed nationality several times, the Alsatians are not welcoming cultural changes and foreign attitudes very easily, and sometimes exhibit very parochial behaviors in relationship with this identity problem. Facing the creativity issue, Alsace also appears a little paradoxical: open to technological novelties and new business opportunities in a very pragmatic and efficient way, and nevertheless reluctant to rapidly embrace new cultural trends or social attitudes. As compared to the average French region, Alsace is still relatively specialized in manufacturing activities. There are many potential factors favoring the development of creative industries, but it is not yet the case. Regional firms with strategic autonomy are of small and medium sizes, efficient in developing incremental innovation but not typically belonging to the “knowledge-based economy”. Statistics of regional patents (comparatively good) and R&D (comparatively poor) prove that the technological creativity of Alsatian firms is more based on informal than formal research (OST., 2010).

Another difficulty on the field of regional development is the mental attitudes of traditional economic actors in Alsace, which are not very keen of building relationships with the academic world, the latter being considered as “alien” to the region (state-driven, cosmopolitan, too intellectual, too concentrated in the sole Strasbourg urban area, etc.). Therefore, the regional innovation system's characteristics are contrasted: good at incremental innovation and technological diffusion, weaker in science-based radical innovation. Reestablishing a link between scientific creativity and economic innovation is clearly one of the major present challenges in Alsace. If the Alsatian system is not fully prepared to embrace the “knowledge-based” (and more generally the “creativity-based”) economy of the 21st century, it is nevertheless faced to the necessity to change its development paradigm and is in fact already involved in such a process. We consider that the paradigmatic change could be considerably boosted by a better integration into the dynamics of the global Upper Rhine Valley trans-border area.

For the Alsace region, the most important challenge is to reinvent the successful development model of the after-war period, based on the attraction of foreign direct investment (cf El Ouardighi & Kahn, 2003) and try to rely on more endogenous development factors: science- and technology-based sectors, creative industries, new services, etc. An important dimension of the future development scenarios is linked to the cultural industries (Héraud & Rafa-

nomezantsoa, 2010). The city of Strasbourg has become an important centre for higher functions in tertiary activities but its socially sustainable development implies also a renewal of the economic fabric as well. An important aspect of its future development is the cross-border Eurodistrict project (Héraud, Woessner, & Muller, 2010) and more generally its embedment into the URV tri-national metropolitan region. Increased integration within the trans-border area seems to be a privileged way to escape some of the ambiguities underlined in the description of Strasbourg's creativity strategy.

The Eurodistrict between Strasbourg and Kehl, across the river, is a local project from the 1960's. It was nationally approved in 2003 by the heads of state Chirac and Schröder in 2003 (40th anniversary of the *Elysée Treaty on Friendship*). For the Strasbourg agglomeration the stakes are about the same as described for the Basel Eurodistrict (see above section "Creativity and cultural roots in the Upper Rhine Valley polycentric metropolitan area"). The idea now is to develop a transborder co-operation area including the whole German district "Ortenaukreis". It is a very logical perspective since this district of Baden, just in front of Strasbourg, is located between the two important districts of Karlsruhe and Freiburg and has no important city, just a middle-sized town: Offenburg. Therefore, it is the natural hinterland of Strasbourg for most of the higher metropolitan functions (culture, university, specialized commerce, etc.). The operation of the Eurodistrict in various fields of economic and social "everyday life" is an excellent test of the possibilities to overcome institutional constraints, a living model for Europe as a whole.

The necessary change of regional development paradigm and the possibilities opened by trans-border cooperation

The Trinational Metropolitan Region (TMR) designed for the Upper Rhine Valley is a project regrouping the French region Alsace, five Swiss cantons around Basel, and in Germany the western part of the Baden-Württemberg federal state and the Southern part of Palatinate. The first idea was launched in 2007 and the TMR was officially founded as an agreement between the relevant regional and national authorities on December 9th, 2010. As previously explained, the expression "metropolitan region" has a very specific meaning in the case of URV, since no one of the existing urban areas can be considered as a major centralization point in the area. Altogether, they gather most of the "centrality functions" of a major world capital, but not individually. There is a century-old history of poly-central organization within the Rhine Valley, even before the constitution of the European nation-states that divided this part of Europe. Therefore, developing links and synergies within URV appears as a central issue for the development of the territory. The official objectives of the TMR are strongly linked to the general European priorities: to come out top in the international economic competition, specifically by concentrating on training, innovation, research (the "Lisbon strategy"); to implement sustainable development and thus reinforce attractiveness ("Gothenburg strategy"); to guaranty the territorial cohesion of the European Community area by encouraging transnational cooperation (Territorial Agenda).

The TMR strategy is developed through four "pillars": science, economy, civil society and governance. Concrete operations are for instance: a science and innovation research fund for the development of trans-border cooperation among research teams; supporting the creation of trans-border science-industry "clusters", promoting common commercial initiatives (e.g. gastronomy), etc.

Considered globally, URV has about 6 million inhabitants and is one of the leading economic, scientific and technological areas in Europe. Measured in GDP units, it weights like Denmark. In terms of academic potential, it regroups several "universities of excellence" in the respective national reference grids, like Karlsruhe, Freiburg, Strasbourg and Basel. The number of students is 167 000. Many innovation clusters are located in the URV, linking research labs, firms and public administrations. One of them is already tri-national: *Biovalley*, which is specialized in life and health sciences.

Biovalley is an interesting example. It is the most known trans-border project of the URV. It is a model of successful communication strategy on the basis of a real common field of expertise, but it also shows the progress still to be done for improving trans-national cooperation (Bureth, 2010). The idea started in 1996, along with the creation (by merging) of the big pharmaceutical firm Novartis in Basel. The aim was to create a sort of Silicon Valley in biotechnologies. In the whole Upper Rhine region, many actors could be linked: specialized SMEs and start-ups, academic teams, competencies in related fields like chemistry, etc. It is a priori a complete "ecosystem" for the drug industry. The project benefited from the *Interreg* European funds in three phases: 1997, 2002 and 2007. The precise analysis of the scientific and industrial relationships among 177 firms proves that the network of the Alsatian part of Biovalley is very open to international cooperation, but not strongly concentrated on the URV. Among the set of collaborations within the territory, scientific links (co-publications) look more convergent than business links. The conclusion is that this biotech cluster is still in an early stage of development.

Let us return to the general presentation of the scientific potential of the Upper Rhine. In terms of scientific production, we have calculated its relative weight in the "27+" set of European countries (the official EU members plus Switzerland and Norway) in Table 1 below. Let us stress the fact that percentages like 2% or 3% are significant figures, given that it is the global national weight of whole nations like Belgium, Austria or Denmark.

Table 1

Scientific production of the Trinational Metropolitan Region Upper Rhine, by scientific fields (hard sciences).

Scientific fields	% of European publications in 2008
Chemistry	2.61
Physics	2.02
Engineering sciences	1.89
Biology (basic research)	1.71
Sciences of the universe	1.59
Medical research	1.46
Applied biology and ecology	1.19
Mathematics	1.11

Source: BETA (Université de Strasbourg) and OST (Paris) on the basis of the Thomson Reuters databank.

What is lacking in such a concentration of scientific and technological assets, to become a model of knowledge-based European territory, a real innovation showroom for the EU? The concept of critical mass means more than the accumulation of active units in a given geographical environment: efficient links between those units are required in order to transform potential critical mass into a real one.

Levy (2005) proved that each national part of the URV area tends to work as a subsystem of its national system of research and innovation: for instance, among 500 firms who developed scientific links with the university in Strasbourg, the Ile de France region around Paris amounts to 25% of the total, Alsace itself only 10% and Swiss and Germany (not restricted to the URV geographical zone) together 14%. The only aspect that can easily be proved is the existence of common specializations in the whole URV area and the good score of global scientific and technological outcomes. We still need political instruments in order to foster public/public, public/private and private/private co-operations across national borders within URV, if we want to get more than a loosely connected set of three national sub-systems.

The *Biovalley* cluster we have presented above is a nice but not yet fully developed example of cluster policy in the trans-national dimension. Another URV cluster could emerge in environmental technologies if the new Alsatian initiative (cluster *Energivie*) develops co-operations across the Rhine. We consider that a cross-border initiative could be also developed in the near future in creative industries, centred on the production and diffusion of images (based on the Alsatian cluster *Iconoval*).

As we have seen, despite common cultural roots in the Upper Rhine area and half a century of European institutional construction, national boundaries still exist. The boundaries manifest themselves by norms and institutional routines that are not unified, by the language (many people speak the neighbor's language, but not well enough for more than tourism, shopping or un-skilled work), and by social and professional networks still nationally organized.

Such issues are at the core of the Tri-national Metropolitan Region's project. During the TMR project preparation period, one of the four "pillars" of the global project, the one dedicated to "science and higher education", proposed to foster scientific co-operation by using a specific incentive instrument: a science funds to which the academic teams (possibly also in association with private R&D teams) could apply to obtain means for joint research in trans-border consortia. The general idea is to set up sort of local "RTD framework programme" at URV level – an imitation of the famous and successful research and innovation European policy. The TMR, now officially founded, has adopted the idea. Three million Euros are to be invested by the regional authorities, supposedly complemented by the same amount from the European *Interreg* program. Now the debate will be about the precise way to implement that science and innovation fund. The regional authorities will be tempted to use it mostly as a technology policy instrument and to channel it into strategic orientations already decided (typically: life and health sciences and environmental technologies), while academic circles would prefer a more science-oriented instrument with neutral calls for tender in order to favor bottom-up initiatives. Adopting a "creativity" vision of the regional policy,

we tend here to defend the academic viewpoint, in particular on the calls procedure which should not a priori be restricted to official priorities. Unfortunately it is difficult to convince political and administrative circles to tolerate a significant degree of uncertainty in operations – which is indeed the main characteristic of creativity!

Conclusion in terms of policies

We advocate the idea that both the proximities and differences across the river Rhine could be harnessed in order to transform this "small Europe" into a model of creative region. Economic and scientific initial endowments are by far enough for a powerful regional development. The absence of any town that could play the role of a world capital is partly compensated by a polycentric organization of middle-sized metropolises exhibiting complementary functions. Of course, the difficulty is to find a political solution for the global governance of this metropolitan system. The TMR institutional project is only a small step in this direction.

The lack of a unique metropolis is particularly constraining for a development model based on cultural creativity, since large cities are generally ideal contexts for the development of creative "undergrounds". The big challenge is to find the right "middlegrounds" for interfacing many small and culturally diversified milieus. As a source or as a consequence of this situation, all the sub-regions of the Upper Rhine Valley have a technology-oriented tradition of development. Here the paragons of innovation, the traditional heroes of the after-war economic boom, are medium-sized industrial firms; and the policymakers are strongly influenced by the "technology-transfer" model of innovation. Nevertheless, the potential of this trans-border area for developing creative activities and becoming a model of European integration is based on the richness and the variety of cultural and scientific assets within its territory. One of the main challenges on that way is the capacity to rebuild a common identity across the river, so that heterogeneity will not be felt as an obstacle but as a creativity factor.

The strategic roadmaps adopted in the recent years by urban as well as regional authorities clearly involve some orientations towards creativity. The Strasbourg urban area (CUS) has published in 2009 a strategic plan ("roadmap") for sustainable development of its territory. One of the four priority sectors to be supported is a set of "creative activities", in the fields of: image and multimedia; cultural productions; traditional and artistic crafts. At regional level, the first of the four key actions of the innovation strategy report released at the end of year 2009 addresses "creativity and innovation culture". One of the projects to be developed as a transversal creativity instrument in Alsace is an "Ideas' and Usages' Laboratory". Initially the concept was influenced by the French model of the *Minatech* Ideas' Lab in Grenoble, but the Alsatian project will certainly be different, after careful analysis of the regional specificities. Such a project is particularly stimulating as a policy instrument for creativity. We will devote some analytical attention to it in conclusion of this article.

In Grenoble the Ideas' Lab is conceived as a sort of top-down transfer platform: looking for new ideas emerging at the level of local research organizations, and testing applications within the industrial fabric. A precondition for success-

ful implementation of the experience is the existence of large public “applied research” institutions like CEA (originally specialized in nuclear technologies but now diversified in a large scope of innovative fields) and multinational firms like ST Microelectronics. The regional science and innovation system configuration is not the same in Alsace, where the bulk of public research is very academic and most of the independent firms are small or mid-sized entities. Other international models have been considered, for instance in “creative cities” like Barcelona and Montreal. The general principle to be adopted in Alsace is to develop a space (a place or a series of places and events) where any novel idea coming from any citizen or institution could be evaluated and possibly tested with potentially interested partners. As a creativity instrument, the future Ideas’ Lab must depart from the linear innovation paradigm and assume the fact that innovation does not systematically come from “science & technology” types of creativity. Furthermore, one of the positive effects expected in the long run from the Ideas’ Lab is to convince local citizens that they have a creative potential: it is also a communication instrument for transforming self-perceptions in Alsace. In other parts of the Upper-Rhine Valley, some projects are also emerging with analogous objectives. For instance, in Karlsruhe, the municipality aims at developing an innovation platform linked to a local specificity: the art, media and design activities, particularly in articulation with a very innovative museum (*Zentrum für Kunst und Medientechnologie*, ZKM). We consider that comparing and designing together all those experiences within the cross-border area would be a very profitable exercise of “creative policy”. Unfortunately, after two or three years of discussion, the Alsatian Ideas’ Lab is not yet clearly defined and there are many uncertainties about the actual realization – not to mention possible international co-operations within the greater region.

The emergence of cross-border communities is a long term process. For the moment, reinforcing the perception of a common identity is possible through political co-operation – and this first step is already well started. In the long run, the development of specific cultural communities across the river is certainly possible, but prerequisites are not only political. Universities can play a role, thanks to their general function of diffusion of knowledge and culture, and more precisely by offering a larger array of international academic degrees, facilitating student mobility, language learning, etc. Let’s consider that the present students are the citizens of tomorrow! The existence of several interdisciplinary universities in the Upper-Rhine Valley (mainly Strasbourg and Freiburg) is a positive factor to help bridging cultural gaps at different levels. Needless to say, this is a vision where universities are not “off-shore”, and will participate to the creative development of their territories in the long run.

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