

Exploring metropolitan borderscapes

Social bridges in public spaces of transnational urban conglomerates

paisaje fronterizo
 flujo de ideas
 exploración
 afamiliaridad
 diseño de espacio público
borderscapes
idea-flow
exploration
unfamiliarity
public space design

Romero Carnicero, Arturo¹

¹ Karlsruhe Institute of Technology, Germany.
 AMUP, École doctorale Sciences Humaines et Sociales – Perspectives européennes, France.
<https://orcid.org/0000-0003-3939-4425>
arturo.romero@kit.edu

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Este artículo aborda la interacción de tres situaciones urbanas diferentes: el espacio público, los conglomerados metropolitanos transfronterizos y el concepto de exploración (Pentland, 2014), profundamente vinculado a la idea de afamiliaridad ("unfamiliarity") descrita exhaustivamente por van der Velde et al. (2020). En primer lugar, se define la idea de paisaje fronterizo y se consideran las oportunidades sociales y espaciales de la frontera. A continuación, se describen y analizan los conceptos de flujo de ideas, exploración y afamiliaridad desde un punto de vista sociológico, con la ayuda de la física social y el análisis cuantitativo de datos. La acción de explorar fuera de nuestro ámbito espacial cotidiano conlleva una serie de beneficios, tanto sociales como económicos. Estas posibles ventajas son más relevantes para los ciudadanos con rentas más bajas, que generalmente no acceden a beneficiarse de ellas. El caso particular de los paisajes fronterizos dentro de los conglomerados urbanos transnacionales se presenta como ejemplo paradigmático (y efecto lupa) para comprender la dinámica de exploración de lo desconocido en las ciudades. Desde la perspectiva de la ordenación del territorio, se investigan las posibilidades de los espacios públicos dentro de los paisajes fronterizos como campo para entrar en contacto con lo desconocido. Para mejorar los índices de exploración en los grupos de renta más baja, se examinan las condiciones urbanas necesarias. Éstas guían a los planificadores urbanos sobre las prácticas de diseño espacial que permiten a estos grupos vulnerables mejorar socialmente.

This article deals with the interaction of three different elements: public space, cross-border metropolitan conglomerates and the concept of exploration (Pentland, 2014), profoundly linked to the idea of unfamiliarity comprehensively described by van der Velde et al. (2020). First, the idea of borderscapes is defined, and the social and spatial opportunities of the border are considered. Then, the concepts of idea-flow, exploration and unfamiliarity are described and considered from a sociological point of view- with the assistance of social physics and quantitative big-data studies. The action of exploration outside our daily spatial scope brings a series of benefits, both social and economic. These possible advantages are more relevant for the citizens with the lowest income, who generally do not get access to profit from them. The particular case of borderscapes within transnational urban conglomerates is presented as a paradigmatic example (and magnifying glass) to understand the dynamics of exploring unfamiliarity in cities. From a spatial planning perspective, the possibilities of public areas within borderscapes is investigated as a field to get in contact with the unfamiliar. In order to enhance exploration rates in lower income groups, the necessary urban conditions are examined. These inform urban planners about spatial design practices that allow these vulnerable groups to improve socially.

METROPOLITAN BORDERSCAPES AS A RESOURCE

National borders attract and generate particular forms of urbanity. Often ancient military enclaves, they turn into opportunistic economic and trade nodes, whose spatiality is strongly driven by their situation in relation to the adjacent nation states. The idea of borders is profoundly spatial, even considering the manifold forms of borders, at the same time territorial, functional or even symbolic, that can be considered increasingly dematerialised. From an ecstatic perception, the cartesian idea of border purely separates different zones or states. A topological comprehension of borders brings a certain spatial dynamic to the idea of the border, as it is not dependent on the cartesian distance, but rather on the notion of the relations established between the parts on both (or several) sides.

These multiple interpretations, from a mathematical perspective, are also present in the etymology of the words used in several languages to refer to the border. Many of them appeared in the 12th and 13th Century, and evolved till the 15th century, long time before the idea of nation-states. Anglo-Saxon culture use the words border and boundary. The former, from the French *bordure*, refers to the edge, to the limit of an entity, while the latter comes from Indo-European origins -bind-, meaning the tie, the physical or conceptual force that joins two different parts. A similar pair is to be found in French, with *confin* -the edge- and *frontier*, that derives from Latin *front-is*, the most outbound part, that faces and relates to the otherness: *faire face*. These paradoxical couples, *border-boundary* and *confin-frontier*, signifying the limit that separates and the interface that joins is a constant in the conceptualisation of spatial borderscapes. Both segregating and holding together.

Even before the production of the first cartographies, it is evident

that different social groups were conscient of the idea of borders. It was not necessary to draw on a document to acknowledge their existence and influence, as it is undoubtedly relational (Raffestin, 1974), thus topological. This idea of belonging, social relation and interaction is evident in border regions of the countries of (and around) the European Union. These zones have become true laboratories of transnational integration and cooperation, that test many dynamics that could be exported to the whole cooperational territory. Despite the fact that nowadays many people consider borders steadfast and immovable, it is unquestionable that they are more of an evolving process than a set of coordinates. It is less important where they are located or *what* they are supposed to be, than *how* are they collectively assembled and culturally constructed.

Collectively imagining the border. There have historically been two different approaches for the development of border situations where they have, de facto, almost disappeared (within the European Union, for instance). One, to make the border invisible, and two, to make it present and valuable. The first one looks for an "ideal" integration, in the sense of homogenisation, where the border is "forgotten" during everyday life, which paradoxically causes serious consequences for the consolidation of a common identity; this is the case of "le grand Genève" (Sohn, 2020). This approach impacts negatively the possibilities of exploration, as it tends to unify both sides. The second approach seeks an imaginary 'state' where the border can bring value to the region and create a sense of a place -even if it implies the need to acknowledge differences between both sides. A shared but distinctive future imaginary is created and mobilised through the reformulation of the spaces of the border: a "re-collage" of the border. Social semiotics are a valuable tool to understand the never-finished evolution of the border. This dynamic comprehension of the border, with no final or stable form,

allows all concerned stakeholders to generate new visions through time. Therefore, borderscapes become spatial configurations where the exposure to the otherness and the constant negotiation with it fosters cultural creation of identities and pushes further the unimagined evolutions of society.

How to define what we understand by borderscapes? Borderscapes are certainly not only spatial. Nevertheless, their spatial configuration does not depend on fixed cartesian distances to a line, or are not isotopically delimited on both (or more) sides. They are neither neutral or homogeneous thresholds that enable a soft and comfortable transition between two differentiated entities. Borderscapes are not based on stereotypes, but on evolving differences and links, outlining the constructions of multiple identities. Borderscapes do not try to make the separation invisible, they rather express the difference. Rather more as a network of superposed and diverse cultural constructions than as a blunt binary opposition of sides. Borderscapes are not a problem to be solved, they are rather considered as a resource or even a playground. A celebration of the experimentation of the otherness. *Faire face*, confront what does not belong to our shared ontologies. The front of a battlefield where the war that is being fought has a main aim: experiment then otherness in order to generate an own selfness (Table 1).

Borderscapes like the "Douane de Moillesoulaz" (CH-FR) or the "Place transfrontalière Jaques Delors" (FR-BE) are examples of the transformation of classic borders between nation state towards an integrative public space that serves as connection node and activity vortex of a metropolitan continuum. The profound failure of the square Jaques Delors, between the communes of Halluin (FR) and Menin (BE) leaves nowadays its almost 5,000 square meters to be used as informal parking. Only fast-food imbiß-like shops have been installed, as it was not interesting for any other kind of business.

Borderscapes are...

- spatial.
- topological.
- present and proud.
- multi-faceted.
- a resource.
- a playground.
- celebrative.
- about us and them.

Borderscapes are not...

- only spatial.
- cartesian.
- invisible.
- binary oppositions.
- a concatenation of stereotypes.
- a problem to be solved.
- competitional.
- about us vs. them.

Table 1. - What are borderscapes and what not? Compiled by the author.

People have not managed to appropriate the public space, and no common imaginary is created. Which factors have driven things to this situation? Which possibilities might offer public space in cross-border metropolitan conglomerates to be attractive from both sides of

the border? Had these places the chance to become a destination to explore an unfamiliarity beyond the otherness, an amalgam of "us and them"? How can those sites be a place for exploration? (Fig.1).

Metropolises segregated by a

border, like the conglomerate of Basel (CH), Saint Louis (FR) and Weil am Rhein (DE), or the *Agglomération Franco-Valdo-Genève*, called "*Grand Genève*", that comprises several Swiss cantons and French municipalities represent paradigmatical case-

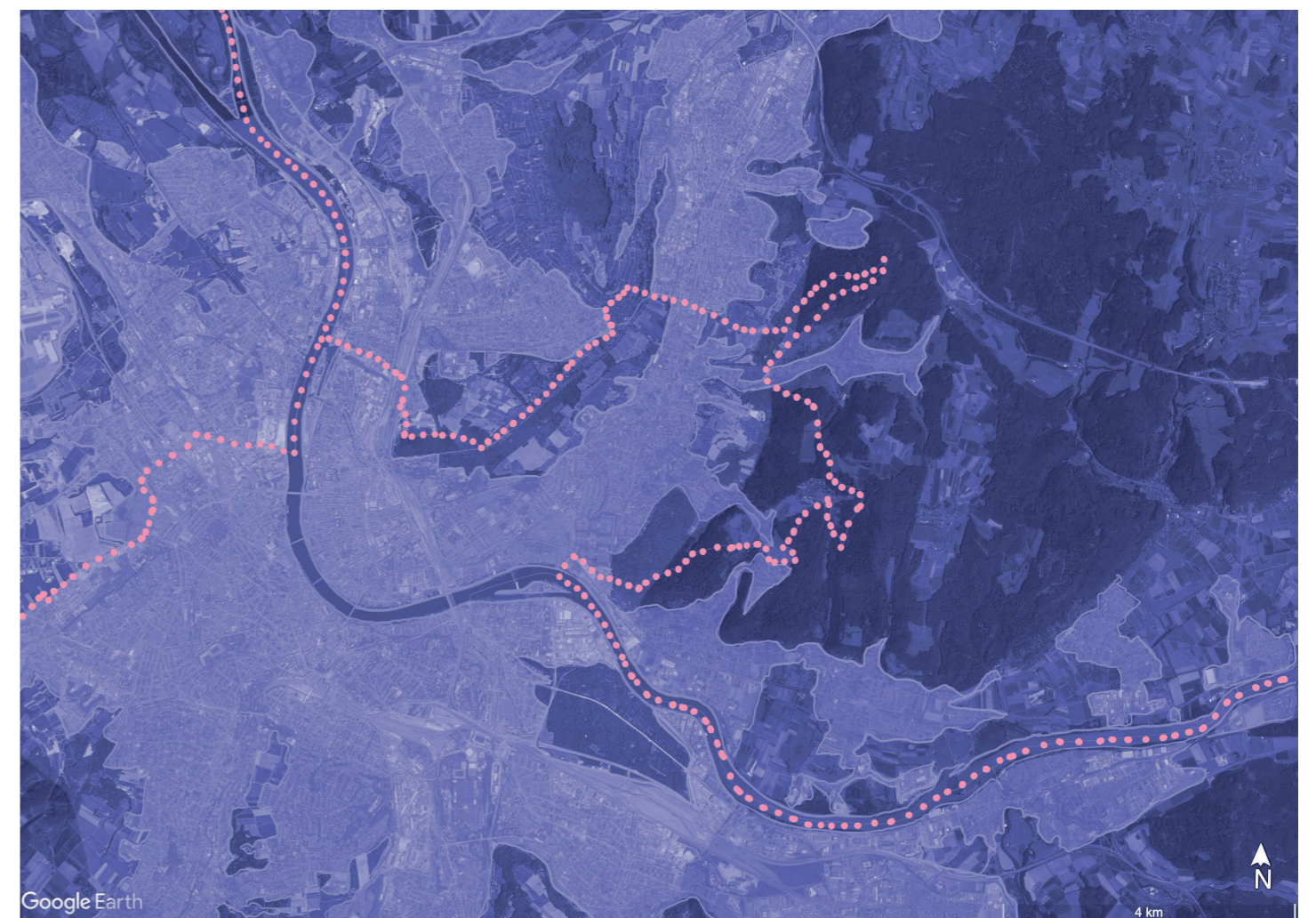


Fig.1. - Metropolitan area of Basel in Germany, France and Switzerland. Google Earth and drawing by the author.

studies for social bridges within different communities. Whereas the latter comprises a central core with an appendix (growing towards Annemasse) and several satellites (St. Julien en Genevois, Archamps...), the Trinational Eurodistrict Basel (TEB) comprises today of extensive areas in each country that compose a certain urban continuum. These EU border regions are test areas for shared policies. Can we consider them as experimental fields for the definition of novel spatial definitions of the future urban commons? The case of TEB is particularly interesting, not because of its doubtful success in the integration of the three countries. It is its urban continuity, that blurs many of the existing administrative borders, what makes this case study particularly similar to many European cities. Urban settlements where different neighbourhoods are different, lively and vibrant. Places worth being discovered.

EXPLORATION AND UNIFAMILIARITY

Commercial dynamics have been key to shaping the form of the world that we live today, and also the borders that we know and their evolution. Nevertheless, Adam Smith's idea of markets is based on a conception of the world of the eighteenth century, where information was centred around a small group of people. In our densely interconnected information society of today, this is not the case anymore. Ideas are, in many cases, quickly shared, contrasted and re-elaborated, which creates a form of shared intelligence. In this sense, some scholars defend a view that we have shifted from a market-driven world to a society where "idea-flow" is the new real driver of the world dynamics (Pentland, 2018).

We learn by imitation, and we modify our habits and adapt to new perspectives through exposure to other's ideas. This "idea-flow" is crucial to avoid populisms and extremisms, while making society move forward and also to generate common cultural grounds. Our habits are shaped by fast thinking

(associative, automatic and parallel), rather than slow thinking (controlled, serial). This means that social influence can even be stronger than our own ideas, rationalisations or personal desires. How do we acquire habits and new ideas, then? When are we exposed to novel concepts? If we rather learn by observation, it is crucial to understand the dynamics of engagement and exploration.

Our everyday life can be predicted quite easily. Using the location data stored in our phones, we could determine with a high precision where would we be most of our time. That is because our life responds to very regular patterns, that correspond spatially to the areas where we spend almost all of our time (Pentland, 2018). It is our community, our regular circles: work, home, supermarkets, coffee shop, our go-to pizza place. These places correspond to the "locus" of our everyday life. In healthy communities, this is the place where engagement within our group happens. But communities that are too closed can generate an echo chamber effect, and may not be as permeable to new ideas. That is why, on top of local engagement, a certain degree of exploration outside our circles is highly beneficial. Exploration could be explained as the wild card where we spend the small percentage of time that is not that easy to predict in our everyday life -because we go to buy a special piece of clothing, or because we want to try an exotic restaurant, or we visit an annual festival. Those are moments where we are most exposed to new ideas, to other forms of life, that we can bring back to our engaged community. This is the perfect environment for idea-flow. This exploration will enhance creativity, and it is documented that neighbourhoods with high idea-flow rates increase their economic prosperity more than those that do not show as much exploration dynamics (Pentland, 2018). That is why people with high rates of exploration are very valuable to the community. They are the social bridges that allow new ideas, habits and cosmologies to enter their closest circles.

Certainly, people with higher income explore more, since they

have their basic necessities easily covered, and they can engage in explorative expeditions. It can also be argued that it is precisely the higher purchase power that allows and increases exploration. Although this is true, it has been proved too, that a higher exploration rate reverts to the wealth of a community, regardless of its wealth (Pentland, 2018). Borderscapes represent here the perfect playground to perform engagement and exploration dynamics, as they host the known and the unknown, the familiar and the unfamiliar in very close distance.

Unfamiliarity. Indifference is identified as one of the drivers of cross-border immobility (van der Velde, 2005). What drives us to investigate the other side of the border? Van der Velde identifies a range of "bandwidth of unfamiliarity" to describe what encourages cross-border shopping, but it definitely could be extended for non-commercial explorations. It is crucial to understand that unfamiliarity is particularly subjective, and it affects different people in radically different degrees.

This idea of the unfamiliar is, of course, interdependent with what is perceived as familiar, and, therefore, to the attachment we feel to a specific place and its culture. How is this sense of belonging generated? And what does it trigger in our exploration rates? Whereas generating a strong sense of belonging to a place can increase commitment with the local community, it may simultaneously enlarge the distance felt to the spaces on the other side of the border. A certain balance between both concepts has to be found in order to stimulate exploration. That is the reason why many cross-border shops offer in their retail experiences a "familiar unfamiliarity". It appears to be attractive for diverse groups of people, fostering cross-border interaction.

In the year 2000, the European Union agreed a common motto: "united in diversity". It signifies how Europeans have come together, in the form of the EU, to work for peace and prosperity, while at the same time being enriched by the

continent's many different cultures, traditions and languages. The idea of exploration encompasses this goal, but raises the question of the meaning of integration. Are two communes on both sides of a border more integrated as they are more similar and uniformed? What builds a shared identity in a cross-border region? Can the attachment to a cross-border region be represented and reinforced by a certain incomprehension, that makes differences explicit? (Durand et al 2018, 2019) Can the awareness of these differences be positive for an integration that does not stand for equalisation or uniformisation?

Social benefits of exploration. As stated before, communities with high idea flow rates, that are locally engaged and take advantage of exploration of non-daily realities show a wide variety of indicators of success: less polarisation and higher integration, innovation and creativity (vital for society of knowledge), economic growth and a fairer distribution of wealth. These contemporary explorers are

active and take part and have a responsibility in shaping the future of the community. As lower income habitants of cities explore less, they do not benefit enough from these advantages. Which urban design practices and approaches foster the exploration rate of this social group?

These principles are not related to a certain "city branding" or urban marketing. They do not try to generate a specific new superficial image for the metropole, but rather serve as a certain infrastructure for lower income inhabitants to increase their exploration rate, and, with it, their life quality. This lecture of exploration of the unfamiliar is therefore diametrically opposed to Richard Florida's "Creative classes" (2002), where "Street level culture" is defined as the stimulation needed by the individualistic way of life of the creative elite, that would seemingly increase the wealth of a city. Furthermore, the creative city policy prescriptions proposed by Florida have proven to exacerbate social and economic inequalities in America (McCaan 2007, Ponzini 2010).

URBAN NECESSARY CONDITIONS

Considering that increasing exploration habits are beneficial to every social group, and knowing that people with the lowest incomes are the least engaged with exploration, the question is therefore clear. How to enhance the exploration rates of this social group? What are the factors that diminish their will to explore, and which ones can enhance it? Is there an opportunity in the design of public space (unexpensive, unprogrammed, open to everybody) to generate a greater attraction for these groups?

Which parameters should these public spaces display in order to allure these social groups? What time and space relationships (Hägerstrand 1975) can guide the design of borderscapes? From an urban planning perspective, it is fundamental to consider three core factors: accessibility, affordability and attractivity (Fig.2).



Fig.2. - The Rhine, Basel's main public space. Photo by the author.

Accessibility. Physically isolated neighbourhoods have worse social outcomes (Smith, Mashadi, and Capra 2013). If the exploration rate of these communities is reduced, its own capacity for development and social improvement is equally reduced. The most common mobility system of these neighbourhoods is public transportation: bus, train, tram.

Therefore, planning transportation networks that promote connectivity allows for an increase in the opportunities of economic and social development. A transport system such as that implemented in the city of Zürich fully corresponds to an infrastructure allowing a balanced combination of engagement and exploration. Nowadays it is easy to collect urban data of transportation in the city that may help us to understand the real everyday fluxes. These data could potentially be used to plan public transportation that promotes more exploration dynamics.

In a cross-border context, spatial mobility and social mobility go along together, much more than in many other contexts. The notion of *"motility"* tries to define the potential of mobility, that is, the possibility of people to go to different spaces (Kaufmann et al. 2004). Three dimensions are crucial to it: access, competences and mobility projects. Access means both contextual (transport offer) as well as personal (reachability to the tools facilitating mobility, as cars, bikes or information and communication technologies).

International motility competences stand for socio-spatial and linguistic competences: cross-border urban agglomerations expose their inhabitants to more frequent confrontation to alterity, and their competences drive the number and the type of explorations. The last dimension, the mobility projects, is addressed from three different angles: the local knowledge, spatial curiosity and the willingness to move or be treated medically on the other side. This idea of spatial curiosity is closely related to Pentland's concept

of "exploration" and Van de Velde's "unfamiliarity".

These three dimensions are used to establish a list of users typologies: the "not very motiles", the "not very interested in space", the "new explorers", the "rooted cosmopolitans" and the "very motiles" (Dubois, 2017). The analyse of the population through the potential of mobility definitely helps to understand the ways of life of cross-border metropolises.

Societies are heading towards a reduced mobility paradigm due to emissions responsible for climate change. It is probable that the social groups that will cut down on "extra" city trips will be those with lowest financial resources, as prices are constantly increasing. This paradoxical situation requires strong urban policies that account simultaneously for the ecological and the social situation.

Affordability. Although many people have genuine interest in what the other side of the border has to offer, like the municipality of St. Louis, that even shows a high identification with the Eurometropole (Dubois, 2017), the fact of the cost of the activities in Basel being much higher than in France, generates an economic border (van der Velde, 2011). Exploration is often identified as a consumer practice: eating out, buying new clothes, going to a concert (Pentland, 2018). This particularly severely affects the groups of society with the lowest income. Those who already take the least advantage of the benefits of exploration. We may infer that the wealthiest parts of the society explore more, which is true, since they do not have to worry about basic needs in their everyday life.

However, it is also true that a higher rate of exploration of a social group is related to an improvement in its economic capacity as a community. A direct impact on specific individuals is more difficult to demonstrate, but the positive evolution of the whole neighbourhood is proven (Pentland, 2018).

In order to understand the manifold forces that shape borderscapes, it is crucial to differentiate in detail the diverse social groups of these regions, beyond the binary distinction of both sides of the border, not only in social classes but also in gender and age groups. These metropolises tend to appeal to a certain cosmopolitanism due to a "natural" international vocation (Adly el Shentenawy 2014) of a city in which no one is a stranger (De Traz 1995). In this sense, the expat communities of metropolises like Basel or Geneva act as a catalyst or a test field, because for them, both sides present the value of exploration. They tend to move through the cross-border metropole as a "post-border" individual, that does not perceive the border as a limit, but as the gate to further and different activities and opportunities. More often than not, their purchasing power is considerable, therefore they have quite different dynamics to the citizens with lower income.

Attractiveness. In order to understand the possibilities to enhance the exploration rate, it is necessary to map the spatial curiosity that drives people to go to other parts of the border, and understand their socio-spatial competences. What is the driver of cross-border visits? From a motivational point of view, there are two main groups, the opportunists and the curious. The former takes advantage of the border to buy cheaper goods, they have a fixed goal and few interactions happen during the visit. Whereas the latter is moved by a curiosity towards a certain exotism, that can be considered as a driver for a shared integration. Both can act as social bridges in different ways and intensities. The opportunistic may have no intention to build up on cultural assemblages. Nevertheless, the sole action of being exposed and confronted with the unfamiliar already generates situations where positions have to be taken, and novel assemblages are generated (Fig.3).

The asymmetry of the interests and explorations has to be taken

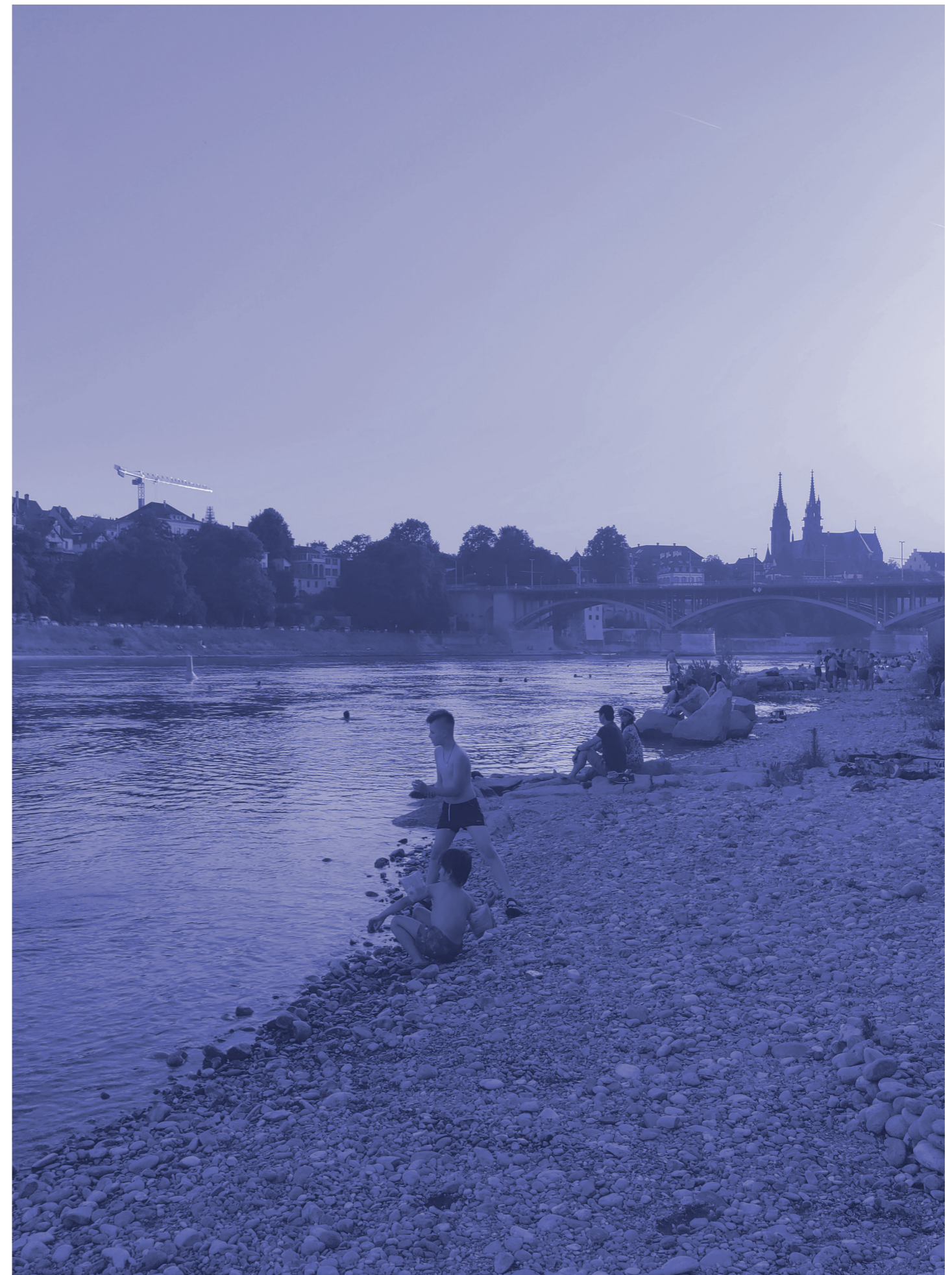


Fig.3. - Basel's borderscape along the Rhine. Photo by the author.

into consideration: they are certainly unequal and are driven by different forces within the three countries of the Basel metropolitan area. In many cases, these forces are modelled by stereotypes and clichés. It is therefore important to find out what is expected from the other side, and how that image was consolidated in their minds. The quest of a shared image of the borderscape is in this case difficult to achieve. Furthermore, it is key to ensure that these places also interesting for all social groups, so that the social mixture is assured.

Space programming. The functional and social specialisation or segregation that follows the Athens Charter can be considered, at the same time, a problem and an opportunity. It leads to a high ecological footprint transportation model, and to a lack of facilities and opportunities for the lower stratus of the population within the neighbourhoods they live in.

Nevertheless, enhancing their socio-spatial competences can lead to exploring experiences that allow a higher idea-flow. The opportunity lies in the specific characterisation of each neighbourhood, in order to become interesting for exploration from the adjacent urban zones. Working with the logic of a densely woven network of neighbourhoods, the attractivity and exchanges between the different communities increase.

Most exploration activities currently take place in a consummation framework. The price of events and activities in Switzerland is one of the drivers for French and German inhabitants not to go to Basel (Dubois, 2017). Public space, like the riverbanks of the Rhine are accessible for almost everybody as they are free of charge.

Nevertheless, a certain activity or event is generally required to be attractive to visitors from other neighbourhoods. This is the case, for example, of Morgenstraich, during the carnival time. A question arises then: how to deal with programming activity in the public space to enhance transnational

explorations? Can the use of public space be reshaped in order to gain the attention of borderscape inhabitants? Could this access and knowledge of superposed cultural approaches guide a new understanding of the urban sphere? As Ábalos and Herreros (1996) perfectly described the nomad sophists:

We could perhaps borrow a historical image, that of the sophists, who were a kind of nomad, and contributed to the transformation of the idea of public space. These pre-Socratic philosophers who travelled from town to town in ancient Greece came to understand that the polis was not the product of natural or cosmic forces, but of treaties and agreements between peoples. Awareness of the contractual basis of society led the citizens of the polis to abandon their myths and to engage in political debate in the agora, which became 'public' space in the fullest sense of the word. This new way of thinking, however, required teaching and training in rhetoric, and the sophists were thus provided with the means of earning an income. Gradually they transformed a region that was geographically and politically fragmented into a cohesive territory unified by a new cosmopolitan culture.

ÁBALOS Iñaki, HERREROS Juan 1996. Areas of impunity and vectorial spaces.

Could contemporary borderscapes-inhabitants and practices be able to reinterpretate the use of public space, as the nomad sophists did? Are they the social bridges that are equally engaged with the local community curious to the exotism of the neighbour and therefore exploring their urban realities? What lessons can we learn about the new definition of these transnational subjects? How should public spaces be designed in order to encourage explorations from other parts of the city? Are the results of a cross-border urban conglomerate exportable to other metropolis?

DISCUSSION AND CONCLUSION

Transnational metropolises often showcase high inequity. Understanding borderscapes as a zone of opportunity to investigate how exploration happens in cities is key for urban planners. In these areas, the design of public space is crucial to promote affordable, accessible and attractive poles that stimulate interaction between different social groups. An inclusive design of public space necessary entails creating appealing explorative destinations for the neighbourhoods with lowest idea-flow ratio. A better comprehension of these processes in borderscapes facilitates a better comprehension of the exploration dynamics of any city with strong differentiated neighbourhoods, as cross-border metropolises can be understood as a magnifying glass of the exploration dynamics of every city.

Cities like London, Berlin or any metropolis that counts itself as having strong and differentiated neighbourhoods present certain similarities to the case-study of Basel. The multi-national context of the latter is surely not present in the former, but the exploration dynamics that foster an increase in wealth operate in a similar manner.

In fact, these cities that are not considered borderscapes are the main object of study for exploration. What could those cities then learn of multinational urban conglomerates? In metropolises like Basel, many actions are taken to enhance exchange and a certain level of integration that does not mean dissolution of identities.

The special attention paid to accessibility, affordability and programming of the public urban spaces reveals mechanics and processes that every city could take advantage of.

BIBLIOGRAPHY

ÁBALOS Iñaki, HERREROS Juan, 1996. Areas of impunity and vectorial spaces: 4 projects for public space. AA Files, No. 31 (Summer 1996), pp.18-30. Architectural Association School of Architecture. <https://www.jstor.org/stable/29543999>

ADJODAL, D, and A. PENTLAND, 2013. "Understanding Social Influence Using Network Analysis and Machine Learning NetSei Conference, Copenhagen, Denmark, June 5-6.

ADLY EL SHENTENAWY, Hossam 2014. Le cosmopolitisme à Genève du mythe aux territoires: une anthropologie urbaine de la "communauté internationale".

BENZIE Magnus, PERSSON Asa, 2019. Governing borderless climate risks: moving beyond the territorial framing of adaptation. <https://doi.org/10.1007/s10784-019-09441-y>.

CHOUDHURY, T., and A. PENTLAND. 2003. "Sensing and Modeling Human Networks Using the Sociometer." In Proceedings of the 7th IEEE International Symposium on Wearable Computers: 215-22. 2004. "Characterizing Social Networks Using the Sociometer." In Proceedings of the North American Association of Computational Social and Organizational Science, Pittsburgh, Pennsylvania, June 10-12. See http://www.cs.dartmouth.edu/~tanzeem/pubs/Choudhury_CASOS.pdf.

CIMADOMO, G. (ed.) 2019. Borders within border: fragmentation, connection and disposition. Book of abstracts for the 2nd Urbanism at borders global conference, 23-25 October 2019, Málaga, Spain. Málaga: Universidad de Málaga.

DELL'AGNESE Elena, AMILHAT SZARY Anne Laure, 2015. Borderscapes: from border landscapes to borders aesthetics. *Geopolitics*, 20:1-10. LLCISSN: 1465-0045 print / 1557-3028 online DOI: 10.1080/14650045.2015.1014284.

DUBOIS Yann, 2017. Frontières et mobilité au quotidien. Modes de vie dans l'agglomération trinationale de Bâle. ISBN:978-2-88930-222-2.

DURAND, F. and DECOVILLE, A. (2020) A multidimensional measurement of the integration between European border regions. *Journal of European Integration*, 42(2): 163-178.

DURAND, F. and DECOVILLE, A. (2018) Establishing Cross-Border Spatial Planning. In E. Medeiros E. (Eds), *European Territorial Cooperation* (pp.229-244). Cham: Springer.

EUBORDERSCAPES Final Report. Bordering, Political Landscapes and Social Arenas: Potentials and Challenges of Evolving Border Concepts in a post-Cold War World. Large-Scale Integrating Project FP7-SSH-2011-1-290775. Final Report WP 1 Deliverable 1.50.

FLORIDA, Richard, 2002. "Bohemia and Economic Geography" (PDF). *Journal of Economic Geography*. 2: 55-71. doi:10.1093/jeg/2.1.55. Retrieved 18 January 2016.

FUDENBERG D. D. G. Rand, and A. Dreber. 2012. "Slow bo Anger and Fast to Forgive: Cooperation in an Uncertain World."

American Fismunic Review 102 (2): 720-49. See <http://dx.doi.org/10.1257/aet.1022.720>.

GUICHONNET, P. and RAFFESTIN, C. (1974) *Géographie des frontières*. Paris: Presses. Universitaires de France.

HARBERS Arjan, 2003. Borderscapes, The influence of National Borders on European Spatial Planning. In book: *Euroscapes*. Chapter: Borderscapes, The influence of National Borders on European Spatial Planning. Must Publishers Aeta.

HÄGERSTRAND Torsten, 1975. "Space, time and human conditions". In Karlqvist, Anders; Lundqvist, Lars; Snickars, Folke (eds.). *Dynamic allocation of urban space*. Lexington, MA: Lexington Books. pp.3-14. ISBN 978-0347010528. OCLC 1364735.

KAUFMANN, Vincent, Manfred Max Bergman, et Dominique Joye. 2004. «Motility: Mobility as a capital »>. *International Journal of Urban and Regional Research* 28 (4): 745-56.

KAWKA Rupert, 2011. *Metropolitane Grenzregionen*. Bundesministerium für Verkehr, Bau und Stadtentwicklung, Berlin.

LEFEBVRE, Henri, Donald Nicholson-Smith, and David Harvey. 1991. *The production of space*. Blackwell publishing.

MARTINEZ O. 1994. *Border People. Life and Society in the U.S.-Mexico Borderlands*. Tucson: The University of Arizona Press.

MELTZAFF, A. N. 1988. "The Human Infant as Homo Imitans." In *Social Learning* ed. T. R. Zentall and B. G. J. Galef. Hillsdale, NJ: Lawrence Erlbaum Associates: 319-41.

OSKAY Gyula, 2019. Changes in the representation of a borderscape. Central european service for cross border initiatives.

PENTLAND Alex, 2012a. "Society's Nervous System: Building Effective Government Foergy, and Public Health Systems IEEE Computer 45 (11-31-38 2012h The New Science of Building Great Teams Harvard.

PENTLAND Alex, 2012b. "Reinventing Society in the Wake of Big Data: A Conversation with Alex (Sandy) Pentland Edge org (August 30). See www.edge.org/conversation/reinventing-society-in-the-wake-of-2013-shength-in-numbers" To appear in *Scientific Americum*. October 2011.

PENTLAND Alex, 2014. *Social physics: how good ideas spread-the lessons from a new science*. New York :The Penguin Press.

RAFFESTIN Claude, GUICHONNET Paul, 1974. *Géographie des frontières*. Collection SUP : Le Géographe. LCCN : 75518113.

RAND, D. G., A. Dreber, T. Ellingsen, D. Fudenberg, and M. A. Nowak 2009. "Positive Interactions Promote Public Cooperation." *Science* 325.

SMITH, C., D. QUERCIA, and L. CAPRA. 2013. "Finger on the Pulse: Identifying Deprivation Using Transit Flow Analysis." In Proceedings of the 2013 Conference on Computer Supported Cooperative Work. New York: ACM: 683-92; doi: 10.1145/2441776.2441852.

SOHN, Christophe 2014. The border as a resource in the global urban space: a contribution to the cross-border metropolis

hypothesis *International Journal of Urban and Regional Research* 38 1697- 711

SOHN, Christophe 2015. Navigating borders' multiplicity: the critical potential of assemblage. Luxembourg Institute of Socio-Economic Research, L-4366 Esch-sur-Alzette, Luxembourg.

SOHN Christophe, SCOTT JW, 2020. Ghost in the Genevan borderscape! On the symbolic significance of an "invisible" border. *Trans Inst Br Geogr.* 2020;45:18-32. <https://doi.org/10.1111/tran.12313>

SMITH Michael Peter 2001. *Transnational Urbanism. Locating globalization*. Blackwell Publishing Ltd. ISBN 0-631-18423-6.

VAN DER VELDE, M., PETERSEN, N., H., DE BOER, D., SPIERINGS, B.2020. The Historical Evolution of Regionalizing Identities in Europe. Lausanne, Schweiz: Peter Lang Verlag. Retrieved Dec 13, 2021, from <https://www.peterlang.com/document/1058722>.

VAN DER VELDE, Martin, Bas SPIERINGS, 2013. Cross-Border Differences and Unfamiliarity: Shopping Mobility in the Dutch-German Rhine-Waal Euroregion. *European Planning Studies* 21(1). DOI: 10.1080/09654313.2012.716236.

VAN DER VELDE, Martin, Bas SPIERINGS, 2013. Cross-Border Mobility, Unfamiliarity and Development Policy in Europe. *European Planning Studies* 21(1). DOI: 10.1080/09654313.2012.716235.

VAN DER VELDE M., JANSSEN M. and VAN HOUTUM H., 2005. "Job Mobility in the Dutch-German Regional Labour Market. The Threshold of Indifference" in Gerrit van Vilsteren and Egbert Wever (eds.), *Borders and economic behaviour in Europe* (Assen: Van Gorcum, 2005) pp.77-96.