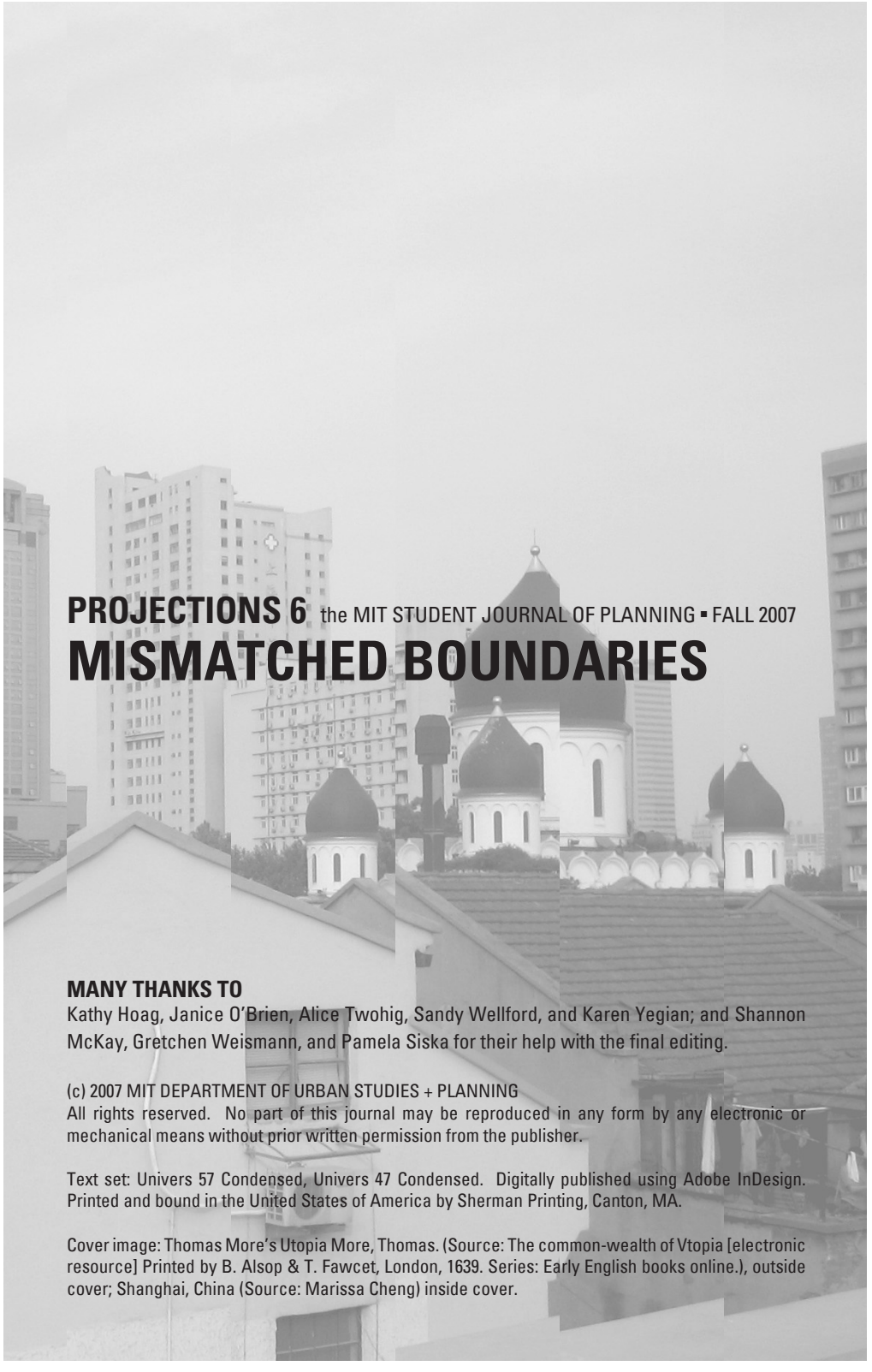


PROJECTIONS 6 the MIT STUDENT JOURNAL OF PLANNING ▪ FALL 2007

MISMATCHED BOUNDARIES

MANY THANKS TO
Kathy Hoag, Janice O'Brien, Alice Twohig, Sandy Wellford, and Karen Yegian; and Shannon McKay, Gretchen Weismann, and Pamela Siska for their help with the final editing.

Text set: Univers 57 Condensed, Univers 47 Condensed. Digitally published using Adobe InDesign. Printed and bound in the United States of America by Sherman Printing, Canton, MA.

Cover image: Thomas More's Utopia More, Thomas. (Source: The common-wealth of Vtopia [electronic resource] Printed by B. Alsop & T. Fawcet, London, 1639. Series: Early English books online.), outside cover; Shanghai, China (Source: Marissa Cheng) inside cover.

TABLE OF CONTENTS

Dr. Nora Libertun de Duren

EDITORIAL

ON MISMATCHED BOUNDARIES

"When are men, living in the same place, to be regarded as a single city - what is the limit? Certainly not the wall of the city, for you might surround all Peloponnesus with a wall. Like this, we may say, is Babylon, and every city that has the compass of a nation rather than a city; Babylon, they say, had been taken for three days before some part of the inhabitants became aware of the fact."

Politics, by Aristotle (350 BC). Book 1:3

The question of how to define the boundaries of a city seems to be both essential and so far unresolved. Statistical reports on urban population, econometrics analysis on the performance of urban nodes, urban and even national institutions hardly map the same cities within the same boundaries. As a consequence, it is increasingly difficult to understand how all these variables are actually interconnected in the urban realm, even less to generate meaningful comparative studies among different cities. But if the blurriness of urban boundaries in the collection of data challenges the validity of inter- and even intra-urban comparisons, it is even more difficult to compare the content and strategies of different social movements that rely on a fuzzily defined polity and a contested geography. Of course, this contestation of urban boundaries is no surprise in a world where urbanization is covering ever more territory, and urban nodes are immersed in a multidimensional global network. Likewise, as more and more people migrate to cities and urban life spreads beyond traditional urban boundaries, urbanization encompasses a wider diversity of social and geographical conditions. The paradox is that, precisely at the moment when urbanization has become one of the most meaningful entry points to understand the transformations that are affecting contemporary societies in both developed and underdeveloped nations — and that can illuminate the connections between local and global forces of change — cities are becoming increasingly harder to map.

But let us go back for a moment to the beginnings of the western twentieth century and we will find that a need for new urban categories is a typical symptom of a rapidly changing society. If we look at cities then, we will find them rapidly growing at the pace of the new industrial economy, with new factories demanding concentrated capital to afford them, crowds of labor to operate them, and masses of products to amortize them. We will also find that the presence of this new crowd is disruptive to the old social order and that sovereign nation-states are creating institutions for managing the rapid growth of industrial cities. Finally, we will find that social thinkers are developing novel theories that can explain the forces behind the social changes that cities render visible. Yet, regardless of the success of these early thinkers in portraying modernization, as the twentieth century progresses, these categories become less and less meaningful. From a social evolutionary perspective, the rapid growth of metropolises in both developed and undeveloped nations questions the assumption that urbanization is a good proxy for national development. In addition, the changing geography of industrial production blurs the Weberian distinction between productive and consumerist cities (Weber, 1958). Likewise, the appearance of new urbanization patterns, such as gated communities, edge cities, urban slums, and hollow urban centers, outdates much of the urban-suburban growth model of the Chicago School (McKenzie, 1925), and the validity of the psychological traits that Stanley Milgram attributed exclusively to urban

dwellers (Milgram, 1970). Moreover, the nation-state sovereignty, which was one of the key enablers of the capitalist economy that fed the growth of modern cities (Tilly, 1988), is being superseded by the multiple transnational networks in which these capitalist cities are embedded. Thus, a century of urban expansion trespassed over the geographical boundaries of cities and gave rise to metropolis of unprecedented size and to a network of instant communication among world cities (Castells, 1996); and, in this process, it forces us to revise many of the conceptual tools we use to describe what does and what does not belong to the urban realm.

As meaningful social, political, and economic exchanges are sustained — or broken — regardless of the proximity of their participants, Durkheim's organic solidarity should be tested at a global scale (Durkheim, 1883). From online communities that flow seamlessly over jurisdictionally boundaries, to gated communities that retrench in a controlled territoriality, a myriad of decentralized, bottom-up — albeit not necessarily democratic — practices are creating a multiplicity of urban boundaries. As a consequence, and as we shall soon see, mapping the urban territory becomes a cause for conflicting interactions. It is not by coincidence that famous utopian and ideal cities have had clearly delineated boundaries. In Utopus, Thomas More imagined a wise and despotic conqueror, who built an artificial island so to prevent his people from abandoning the superior society he created (More, 1624). Also, in their studies of ideal community types, early modern thinkers imagined them with fixed, static boundaries. Ferdinand Tönnies Gemeinschaft was a closed social unit (Tönnies, 1921). Likewise, Max Weber identified the fortress as one of the five defining elements of the ideal western city (Weber). Thus, following Louis Marin's interpretation, the social function of utopias is producing a critique of the actual society in which their authors are embedded, and in that sense utopias are like inverted mirrors of the time and place in which they were created (Marin, 2001). For instance, Tönnies' detailed description of the harmonious life of pre-industrial communities is an evident critique of the capitalist organization that was taking throughout Germany at the end of the nineteenth century. Therefore, by definition, utopian places depend on clearly demarcated boundaries that allow creation of this virtual ideal world, in stark contrast to a real one. This condition of utopian thinking should have been problematic for the modernist designers who wanted to embrace modernism both as a normative practice as well as a transcendental ideal - all

FIGURE 1. Thomas More's Utopia. *Source: More, Thomas. The common-vvealth of Vtopia [electronic resource] Printed by B. Alsop & T. Fawcet, London, 1639. Series: Early English books online.*

the more so when the utopian project of modernism is one that poses continuous and boundless progress as one of its foundational ideals (Tafuri, 1979). Not surprisingly, most paradigmatic modern urban utopias did not address the question of urban boundaries. Both Le Corbusier's Ville Radieuse, and Frank Lloyd Wright's Broadacre

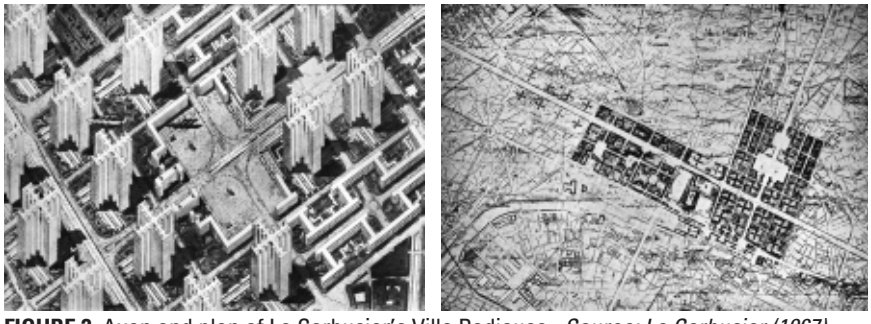


FIGURE 2. Axon and plan of Le Corbusier's Ville Radieuse. *Source: Le Corbusier (1967). The Radiant City, New York: The Orion Press, pp. 204-205.*

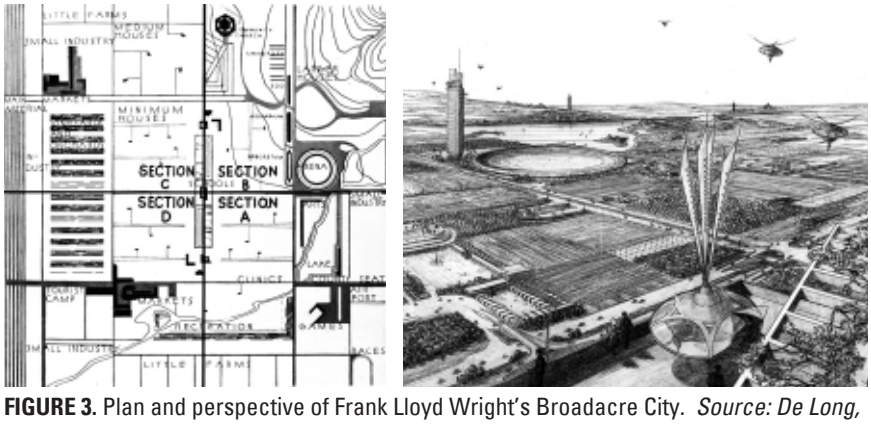


FIGURE 3. Plan and perspective of Frank Lloyd Wright's Broadacre City. *Source: De Long, David G. (ed.) (1999) Frank Lloyd Wright and the Living City, Weil am Rhein, Germany: Vitra Design Museum, pp. 33, 43.*

were quite oblivious to the borders of the ideal cities they proposed, fading them into grids that could be repeated ad infinitum (Le Corbusier, 1929; Wright, 1935).

From the outset, boundaries were both a need and a challenge for the modern urban project, which aimed to show both a patent discontinuity with anything that was non-modern as well as the potential for boundless expansion. But the problem of modern urban designers became a well of theories for modern urban sociologists who saw in the tension between the old and the new urbanization modes the engine that could explain urban expansion. Beginning with the ecological models of the Chicago School, the growth of the city was stylized as a consequence of the changing needs of urban populations. (McKenzie, 1925; Burgess, 1925; Gans, 1962). Only later would political economists suggest that urban expansion was the consequence of the needs of capitalists (Gordon, 1984; Harvey, 1973) or of the 'growth machine' of local politicians

(Logan and Molotch, 1987) Still, it was this continuous expansion of the city that made obsolete many of these urban growth explanations. The expansion of cities beyond the control of their originating institutions and the size of their jurisdictional boundaries (thus merging the capitalist need for ever growing markets with the modernist vision of infinite growth) undermined the effectiveness of the dialectic categories used to describe early modern urbanizations, such as urban-suburban, central–peripheral, or developed-underdeveloped.

In many ways, a frenetic construction and deconstruction of boundaries is one of the characteristics of our early twenty-first century. On one hand, there is an overall sense of living in a boundless, seamless world, one where territorial limits are less and less relevant. By now, we are all aware of the dense and resilient net of instant messages that links people regardless of their physical location. From cell phones to personal blogs, from outsourcing to e-commerce, new social and economical relations are questioning the meaning of national sovereignty. But also, there is an opposite feeling, an awareness of being the subject of heightened surveillance of our bodily movements. Increasingly, territorial boundaries are being enforced with more and more force. Airport checkpoints, visa controls, hidden cameras, state armies, state police, private police, have all increased the limitations on individuals' freedom of circulation. In a way, this has created a division between the geography of the real and of the virtual spaces in which each of us live, where the former is the subject of more and more restrictions while the latter is less and less subject to be controlled. This tension between the virtual and the real geographies of social interaction brings to another dimension: the question of mismatched boundaries, not only because people are participating in these two territorial organizations at the same time, but also because social action is constantly connecting the two of them. As we shall see in many of these papers, local actors are likely to rely on global interactions for advancing their territorial claims, while many local claims have their origins in global or foreign occurrences.

So now, which criteria or institutional hierarchies are being used to demarcate the limits of urbanized territories? What special conditions affect urban boundaries? And finally, how are conflicts of boundaries negotiated in the urban space and its institutions? The papers presented in this issue of PROJECTIONS revolve around these questions. As the seven papers and the three research briefs published in this issue reveal, there are multiple origins for 'mismatched boundaries' that is, having two or more incompatible principles of organization applied to the same space. Mismatched boundaries could be the outcome the geographical ambiguity of borderlands, of a conflict of power between two sovereign institutions, of historical transformations, or simply of the superposition of different spatial planning principles on the same plot of land.

Three papers in this issue focus on the specific planning practices that borderlands demand. In 'Contingency Planning & the Border Space', Sergio Peña presents the case of the frontier between United States and Mexico as one that requires special agencies for the effective management of the unique set of hazards of this bi-national boundary. Issues such as terrorism, economic migrants, and environmental

pollution cannot be solved without a coordinated effort at all institutional levels, from transnational agencies to nation states to local governments. However, since the organization of planning agencies on both sides of the border follows the traditional nation state hierarchy, they lack the flexibility to accommodate the special challenges posed by international boundaries. This same frontier is the subject of study of Giusti, Larson, Ward, de Souza, and May. In their paper on the practice of providing land titles in the *Colonias* along the Texas-Mexico Border, they disclose the multiple causes behind informal urbanizations in these lands. By surveying the impact of a major land title regularization reform on informal households along the Texan border region, the authors show that legality is not the only issue facing these borderland settlements. Although legal titles certainly improved the livability of these communities, the border land condition of these populations brings unique economic and social problems that transcend the issue of land ownership. Once more, there is a need to tailor planning institutions to the special conditions of binational boundaries. The question of binational regions is also the subject of study of Lena Poschet's paper on the case of Dajabón and Ouanaminthe. These two cities on the two sides of the frontier between Dominican Republic and Haiti contain multiple institutions involved in the formation of binational communities. Yet, at the same time, there is a historical resistance to the merging of these two nations into a single entity. As this paper reveals, there is a sharp distinction between the actual shared use of borderland regions and the perception of closed national spaces.

Another take on the question of urban boundaries does not involve binational territories but the historical succession of national identities within single cities. In her essay on transnational spaces, Els Verbarkel explores this notion of the layering of national and transnational identities trough a historical study of the landscapes of battle in Flanders Fields at the start of the World War I. Through examining the architecture of the city, she analyzes how the legacy of nationalist discourses conflicts with and calls into question the current construction of a pan-European identity. This tension between the national symbolism of European urban architecture and the postmodern discourses that promote a transnational identity is also central in the formulation of the imaginary for the rebuilding of war torn cities. In her paper on the reconstruction of Mostar after the end of the Bosnian war, Allison Stewart shows how the end of ethnic violence is followed by the imposition of a foreign, fuzzily defined, global architecture for the city. As she argues, this practice does not heal the scars of war but only denies the conflict of claims within the urban territory. Lastly, this same idea of the urban imaginary as a terrain of contestation appears in Gary Doherty's research brief on the strategies used to demarcate citizenship and public space in Northern Ireland. Paradoxically, the occupation of virtual territories, such as graffitis and street images, may set up the scenarios for political negotiations, and in this sense has the potential of advancing more peaceful outcomes.

But the question of mismatched boundaries does not necessarily imply conflicts of national sovereignty. Other conditions of tensions of urban boundaries can take place even within the national context. In their study of Buenos Aires, Abal Medina, Cingolani, and Romero map the tensions between the actual metropolitan geography and the territorial division of the institutions managing it. While some of these

institutions take as a unit a region of sharp social constraints, others make distinctions among regions that present an almost seamless urban continuity. As a consequence, the management of the metropolis becomes a collection of institutional fragments that lack adequate forms of coordination. The relevance of institutional boundaries in determining urbanization, and vice versa, is also the subject of Fransje Hooimeijer's exploration of the design of Dutch polder cities. By crisscrossing the history of urban design and hydraulic engineering with that of the city map, she unveils how urban boundaries are also the outcome of the professional culture of urban planners.

The role of urban planners in forming and interpreting urban boundaries is the subject of Daniel Hess's research brief on "Incompatible Zone Systems. He finds that planners tend to resolve the discrepancy between divergent geographic zones by overly simplifying spatial data, which leads to inaccurate assessments. Lastly, the idea of borders and cities has another connotation, which is that of the last frontier, an exotic realm, an escape from the ordinary. In Midori Taki's research brief, "Desirescapes/ Borderscapes,' this notion is present in the geography of international tourist destinations. Through mapping of the tourist-landscapes of Venice, Barcelona, Tokyo, and Las Vegas, her brief depicts urban borderlands as sites where the everyday local and the exoticism of tourist destinations get negotiated. Hence, the demarcation of urban boundaries varies according to the user, either the foreign visitor or the city resident.

To conclude, each of these essays presents a particular interpretation of urban boundaries, of mismatches, and of territoriality. Together, they allow us to better understand the multiplicity of variables and institutions that shape urbanization, such as nation-states sovereignty claims, the geography of transnational networks, the symbolic realm of national identity and consumption culture, and the technologies that can modify the environment. Often, as these essays reveal, the practice of drawing boundaries constitutes an act of violence against the surroundings, which therefore brings contestation and hence mismatched boundaries. Yet, for all the confusion and pain they may trigger, the blurriness of urban boundaries also carries the promise of change and improvement; the messy juxtaposition of different logics and institutions open possibilities for innovations, and therefore the possibility of transcending existing conflicts. Ultimately, only by accepting the messiness of real urban life can we move beyond the walls of utopia.

BIBLIOGRAPHY

Burgess, Ernest [1925] (1967) "The Growth of the City: An Introduction to a Research Project." Pp. 47 -62 in Robert Park, Ernest Burgess, and Roderick McKenzie, *The City*. Chicago: University of Chicago Press.

Castells, Manuel. (1996) "The Spaces of Flows." In *The Rise of the Network Society*. Blackwell Publishers.

Durkheim, Emile [1883] (1993) Division of Labour in Society. Excerpts in Gordon Baily and Noga Gayle (Eds.) *Sociology An Introduction: From the Classics to Contemporary Feminists* (pp. 121-134). New York: Oxford University Press.

Gans, Herbert. (1962) "Urbanism and Suburbanism as Ways of Life." *Human Behaviour and Social Processes*: 625-48.

Gordon, David. (1984) "Capitalist Development and the History of American Cities." In *Marxism and the Metropolis: New Perspectives in Urban Political Economy.* Edited by William Tabb and Larry Sawyers. Oxford University Press. New York and Oxford.

Harvey, David. (1973) "Urbanism and the City. An interpretative Essay". In *Social Justice and the City*. The John Hopkins University Press.

Le Corbusier, [1929] (2000) "A Contemporary City". Excerpts from The City of Tomorrow and its planning. In *The City Reader*. Richard Le Gates and Frederick Stout London and New York: Routledge.

Logan, Jonathan and Molotch, Harvey (1987) "The City as a Growth Machine." In *Urban Fortunes: The Political Economy of Place*. University of California. Berkeley.

Marin, Louis. (2001) *On representation /*; translated by Catherine Porter. Stanford University Press. Stanford, California.

McKenzie, Roderick. [1925] (1967) "The Ecological Approach to the Study of the Human Community." Pp. 63-79 in Robert Park, Ernest Burgess, and Roderick McKenzie, *The City*. Chicago: University of Chicago Press.
Milgram, Stanley. (1970) "The Experience of Living in Cities". *Science* 167: 1461-1468.

More, Thomas. [1624] (1953) "Utopia". In *Three Renaissance classics: Machiavelli, The prince. More, Utopia. Castiglione, The courtier*. With introd. and notes by Burton A. Milligan. New York, Scribner [1953].

Tafuri, Manfredo and Francesco Dal Co. (1979) *Architettura contemporanea*. Translated from the Italian by Robert Erich Wolf. H. N. Abrams, New York.

Tilly, Charles. (1988) "Misreading, then Rereading, Nineteenth-Century Social Change." Pp. 332-58 in *Social Structures: A Network Approach*, edited by B. Wellman and S. Berkowitz. Cambridge: Cambridge University Press.

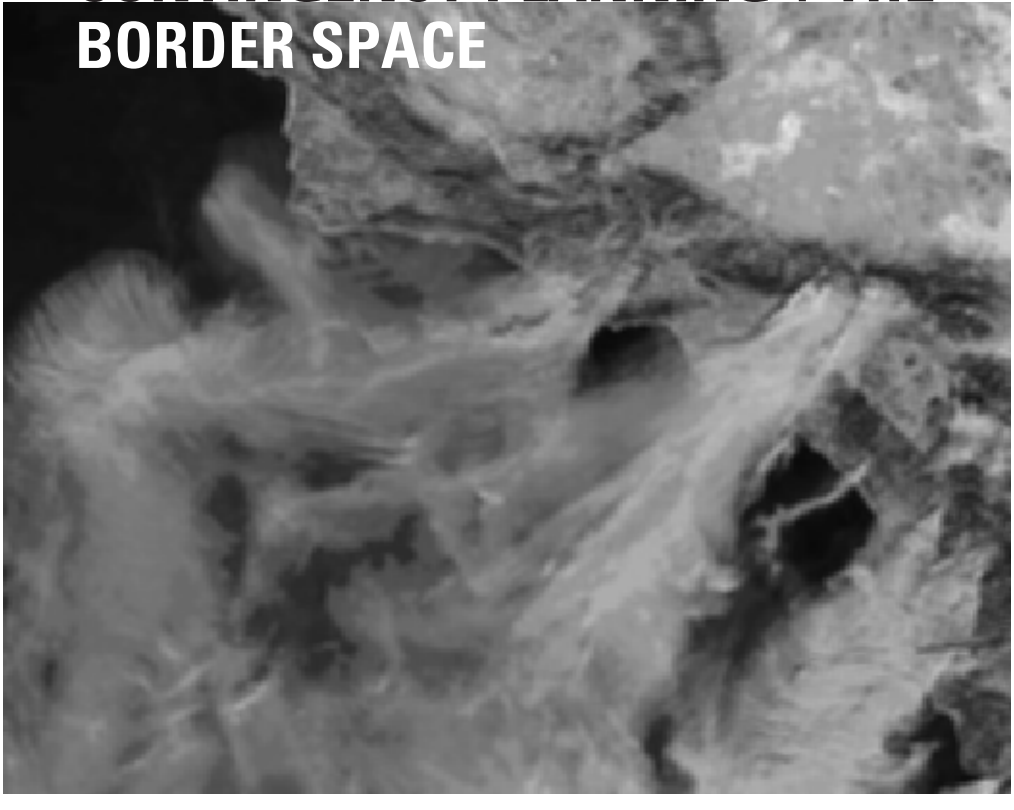
Tönnies, Ferdinand. [1887] (1957) *Community and Society (Gemeinschaft und Gesellchaft)*. Translated and Edited by Loomis Ch. Michigan University Press. East Lansing. Michigan. Part One. Pp. 33-102.

Weber, Max. [1921] (1958) *The City*. Translated by D. M. a. G. Neuwirth. New York: Free Press; 1st Collier Books edition.

Wright, Frank Lloyd. [1935] (1996) "Broad-Acre City: A New Community Plan." The City of Tomorrow and its planning. In *The City Reader*. Richard Le Gates and Frederick Stout London and New York: Routledge.

Dr. Sergio Peña
The University of Texas at El Paso, Institute for Policy and Economic Development

CONTINGENCY PLANNING + THE BORDER SPACE



ABSTRACT

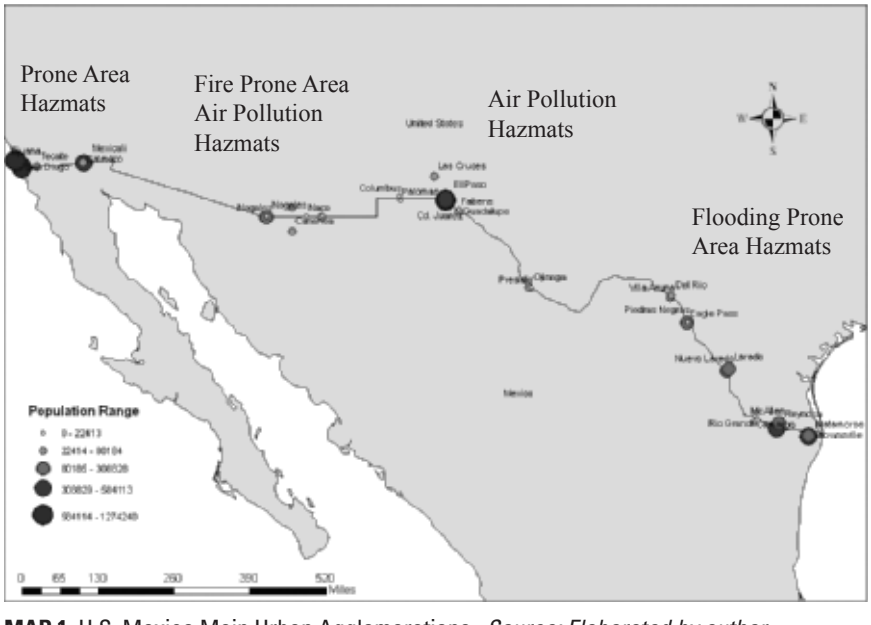
The following questions are the focus of this article: How have the U.S. and Mexico managed the risk of old and new threats at the border? What is the process that contingency planning at the border has followed? What are the main challenges that contingency planning faces at the border? It is argued that the U.S.-Mexico experience with crossborder planning best resembles an incremental approach to planning, where new institutions, in addition to the existing ones, emerge as a way to respond and adapt to new circumstances, contexts, and societal values. Contingency planning is analyzed through a comparison of levels of analysis starting at highest level of analysis, which is the global or transnational, then specific binational agreements, and, finally, national, state, and local efforts to implement crossborder contingency planning. It is concluded that the institutional framework is complex at border areas because borders add another layer of institutions (international), which makes the institutional design especially difficult and lengthy and raises transaction costs. Another conclusion is that risk management is more difficult when populations with different incomes, tastes, and preferences live side by side, as in the case of the U.S.-Mexico border. Therefore, defining and prioritizing risks and hazards around which plans can be developed is particularly difficult and complex. Finally, the border space and its resources need to be seen as a binational public good in which both countries have a stake and, therefore, cooperation is seen as a necessary although not sufficient condition to successfully manage future natural and anthropogenic risks.

INTRODUCTION

Urban planners face greater obstacles than usual when trying to implement crossborder[i] planning. Crossborder planning in this article is conceptualized as an institution-building process in which actors cooperate to achieve mutually beneficial outcomes. The objective of these institutions from the perspective of contingency planning is to facilitate and improve collective decision making in regard to how the built environment (i.e., binational conurbations) can best be organized to prevent, react, and recover from a natural or man-made disaster.

Key questions to be analyzed in this article are: How have the U.S. and Mexico managed the risk of old and new threats at the border? What is the process that contingency planning at the border has followed? What are the main challenges that contingency planning faces at the border? It is argued in this article that the U.S.-Mexico experience with crossborder planning best resembles an incremental approach to planning (Lindblom, 1996). In other words, new institutions, in addition to existing ones, emerge as a way to respond and adapt to new circumstances, contexts, and societal values (Bromley, 2006).

The specific objective of this article is to analyze crossborder planning with regard to natural and man-made contingencies and the challenges that urban planners encounter when improving the quality of life for millions of people living in binational conurbations[1] along the U.S.-Mexico international border (see Map 1).



MAP 1. U.S. Mexico Main Urban Agglomerations. *Source: Elaborated by author.*

To accomplish the above objective, the remainder of the article is divided into four sections. The first section offers a contextual account of the main policy changes in

the two countries and their spatial effects with emphasis on the U.S.-Mexico border. The next section focuses on defining and conceptualizing contingency planning and identifying the main natural and anthropogenic threats or contingencies that exist at the border. An analysis of the institutional framework by levels of analysis follows. Finally, the article demonstrates the importance of contingency planning and illuminates the challenges that mismatched borders pose to urban planners.

THE U.S.-MEXICAN BORDER CONTEXT

In the last three decades, Mexico's northern border has experienced dramatic demographic, economic, and urban changes as a result of two unrelated processes: 1) the creation of the Border Industrialization Program (BIP) in the mid-1960s and 2) structural adjustment policies (SAPs) in the 1980s in Mexico. The BIP, which started the maquiladora[2] program, was created as a strategy to diversify the border region economy and to create employment. The economic crisis that Mexico experienced at the beginning of the 1980s due to mismanagement of public finances forced the government of President Miguel de la Madrid (1982-1988) to undertake SAPs, which were continued by his successor, Carlos Salinas de Gortari (1988-1994).

SAPs were an important causal factor in the transformation of Mexico's economy from an import-substitution model into an export-oriented model. International trade and foreign direct investment (FDI) expanded substantially on the U.S.-Mexico Border. The maquiladora industry not only served as a source of employment, but played a critical role in the economic strategy. Maquiladoras employed only 67, 214 workers in 1975 but, by 2000, total employment had multiplied 19 times (1,261,261), faster than any other economic sector. Mexico's border states and cities concentrate about 77% (INEGI[3]; Lorey, 1990) of the maquiladora employment; manufacturing has shifted from central Mexico to the north (Garza, 1994).

The boom of Mexico's northern border cannot be explained without taking into consideration the economic changes that took place in the U.S., the main source of FDI in Mexico. The oil embargo of the 1970s and the stiff competition American corporations faced during the 1980s forced them to re-evaluate their business practices. Terms such as "just on time," "lean manufacturing" and "outsourcing" became part of the lexicon in the business world. Corporations adopted the strategy of relocating some functions of production process overseas to areas where labor costs could be more advantageous, to give them an edge. American corporations and others around the world seeking easier access to the biggest consumer market in the world were eager to invest in Mexico when it opened up its borders to FDI and embraced globalization. In summary, globalization gave a locational advantage to the U.S.-Mexico border.

The new strategy strongly impacted not only the social and economic spheres, but also the ways that activities and populations were redistributed in the territorial space. The economic and demographic changes in the border region have had a substantial impact on the natural, social, and built environments. Negative externalities in the natural environment (air, water, etc.) have been the primary focus of attention on the U.S.-Mexico border (Blatter, 2000). However, few scholars (Herzog, 1990, Herzog, 2000, Herzog, 2000a) of the U.S.-Mexico border have paid attention to the built environment

and even fewer to the linkages among the built, natural, and human environments and how urban planning can help to mitigate and manage the externalities and possible contingencies.

The border region shared by Mexico and the U.S. has played a key role in the economic integration of the two economies. The integration has intensified the flows of goods, services, people, investment and capital between the two countries (see Figure 1). The flows taking place at the border put the population that lives in the binational conurbation at high risk to such things as exposure to spills of hazardous materials that cross the international border. Contingency planning needs to play a key role to mitigate the exposure of the border population to natural and man-made contingencies.

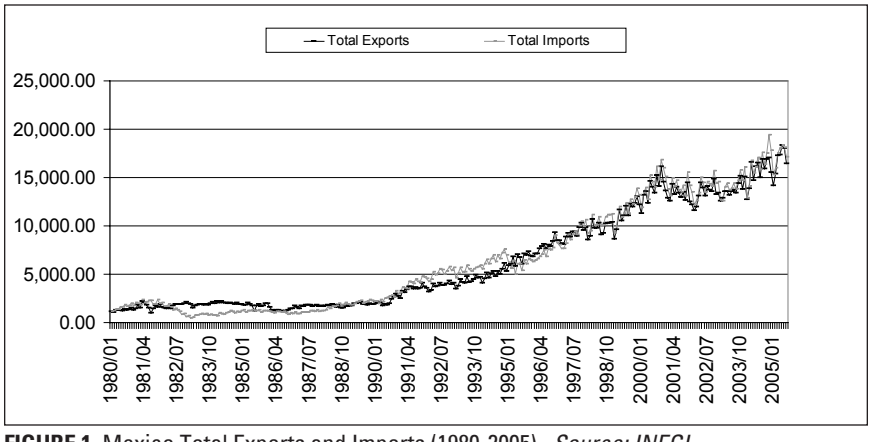


FIGURE 1. Mexico Total Exports and Imports (1980-2005). *Source: INEGI.*

RISKS, THREATS + CONTINGENCY PLANNING AT THE U.S.-MEXICO BORDER

In this section, contingency planning is discussed. First, contingency planning is defined, with an emphasis on why it is important to discuss it from the perspective of crossborder planning. Second, possible natural and anthropogenic hazards along the U.S.-Mexico border are identified.

Contingency planning relates to the institutional response to an event, natural or human-made, having effects on public health, safety, property and the environment that can be of extraordinary dimensions. The institutional response could be private, public, or social. An example of a private response might be emergency plans developed by a specific corporation. The different plans and programs that governments have in place to prevent, act upon, and react to an extraordinary event are an example of a public response. The social response refers to the role that civil society plays, either organized or spontaneous (see Figure 2). Furthermore, the institutional response can be of two types — proactive or reactive (Siegel, 1996). A proactive institutional response focuses on the preventable aspects of a possible event by minimizing the risk — *ex ante* — whereas the reactive response focuses on dealing with the effects in the best way possible — *ex post*.

FIGURE 2. Institutional Response.

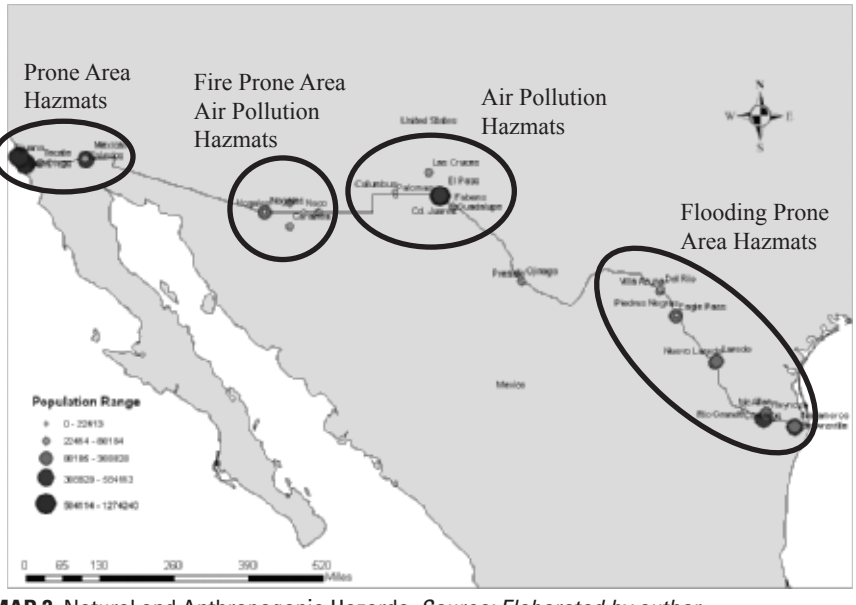
Various authors (Delgadillo-Macías, 1996; Perez-Campos, 1999; Rodríguez-Velazquez, 2001; Rodríguez-Estevez, 2002; Benson & Clay, 2004) have emphasized the relationship between disasters, urban settlements, and development. Natural events such as hurricanes, tornadoes, etc. have always existed, but what makes the difference regarding the magnitude of vulnerability is the built environment. Delgadillo-Macias (1996) and Rodríguez-Esteves (2002) have demonstrated the different effects of natural hazards on developed and developing countries in terms of the loss of human life and economic impacts. The difference lies in the fact that developed countries not only have more resources to allocate to mitigate the impacts but also more effective institutions to prevent and respond to contingencies. Land use policies, building codes, and enforcement of the laws make the difference between a chaotic vulnerable urban space and a well-planned and less vulnerable urban space capable of resisting natural forces.

Natural hazards can be classified into two broad groups — hydrometeorological (e.g., drought, rain, hurricane) and geophysical hazards (e.g., earthquake, volcanic eruption). Anthropogenic or human-induced hazards can be grouped into a few categories: 1) originating from waste disposal, 2) derived from alteration of land and water, and 3) derived from industrial and agricultural activities. These hazards can also be classified in terms of their geographic scope (local, regional or global). They can be rapid-onset (explosion) or slow-onset (water pollution) events. The impact of the anthropogenic

hazards depends on several factors such as population concentration, magnitude of the event, ecological sensitivity, poor decision-making or ineffective institutions, and technical or human error (Siegel, 1996).

ANTHROPOGENIC HAZARDS ALONG THE U.S.-MEXICO BORDER

The literature on hazards along the U.S.-Mexico border focuses primarily on anthropogenic hazards, especially hazardous materials (Sanchez, 1990; Guhathakurta et al., 2000; Rubio, 2003), and, to a lesser degree, on natural hazards such as rain (Bocco et al. 1993). The work of Rodríguez-Esteves (2002), who calls attention to contingency planning for geophysical hazards, specifically earthquakes, merits special distinction. The likelihood and location of these hazards are presented in Map 2.



MAP 2. Natural and Anthropogenic Hazards. *Source: Elaborated by author.*

The focus on hazardous waste materials (HAZMATS) as a primary contingency issue at the U.S.-Mexico border is understandable because of the exponential growth the maquiladora industry has experienced since the adoption in 1965 of the BIP. The strong relationship that exists between HAZMATS and the maquiladora industry can be explained based on the type of production and the legal regime that regulates the industry. The generation of hazardous waste is proportional to industrial output simply because certain industrial inputs (e.g. chemicals) needed to produce output are transformed into byproducts or hazardous waste — ceteris paribus. More importantly a large percentage of the inputs, some of which become HAZMATS, used by the maquiladora industry are brought into Mexico with very little control over their transportation, treatment, disposal, and storage, thereby posing a high risk to public health, safety, the environment, and property of the border communities (Guhathakurta et al. 2000; Reed, 1998).

According to a progress report produced under the Border XXI Program, a cooperative effort of the U.S. Environmental Protection Agency and Mexico's environmental ministry SEMARNAT, 38 cases of chemical accidents were reported through the Emergency Response Notification System in 1996 and 77 in 1998; the binational conurbation of El Paso, Texas-Ciudad Juarez, Chihuahua was the most vulnerable region[4].

Contingency planning for HAZMATS is perhaps the most complicated issue because it requires a series of actions involving a broad spectrum of actors and agencies. For example, it requires developing a better information system to track shipments across the border. Although maquiladoras are required to return HAZMATS for disposal to the U.S. in accordance with Annex III of the La Paz agreement — this issue will be discussed in length in the last section of this article — there is a gap between what comes in and what is being returned. According to Reed (1998) the ratio of what comes in to what goes back is about 20 to 1 or 30 to 1; according to the same author, citing Mexican authorities, about 75% to 88% of HAZMATS are confined with very little regulation. That is, the public institutional response, mainly on the Mexican side, has been surpassed by the magnitude of the problem of HAZMATS.

Contingency planning also requires building facilities capable of managing the storage of HAZMATS, facilities that are in short supply in Mexico. In other words, the private/market response in Mexico to the management of HAZMATS also has been slow to respond to the challenges posed by increasing trade. Reed (1998) identified only three HAZMATS storage sites: Monterrey, Nuevo Leon; Torreon, Coahuila, and Hermosillo, Sonora. According to SEMARNAT (2002), only 10% of the HAZMATS generated are disposed of properly; oils, lubricants, and acid solutions are the materials most commonly received. Complicating matters, there is strong public opposition, such as in Hermosillo, Sonora, to construction of HAZMATS storage facilities in Mexico due to the perception that Mexico has become a dumping ground for HAZMATS from the U.S. (Sanchez, 1990). Better institutions are needed to monitor and enforce the disposal of HAZMATS as is adequate planning for the transportation of the materials within the city and across the border by designing routes and times in such a way as to reduce the risk of an accident.

Contingency planning for HAZMATS would involve local government officials from *Proteccion Civil* (civil protection) in Mexico, emergency response teams housed under the U.S. Homeland Security, Customs and Border Protection (CBP), the Federal Emergency Management Agency (FEMA), environmental agencies such as the Environmental Protection Agency (EPA) and its Mexican counterpart *Secretaria del Medio Ambiente y Recusos Naturales* (SEMARNAT), transportation planners, health officials, maquiladoras, and private entrepreneurs to mention a few. HAZMATS are of particular interest in San Diego, California-Tijuana, Baja California, Nogales, Arizona-Nogales, Sonora; El Paso, Texas-Ciudad Juarez, Chihuahua; and Laredo, Texas-Nuevo Laredo, Tamaulipas. These regions concentrate the largest number of maquiladoras (mainly Tijuana and Ciudad Juarez) and are where international trade plays an important role. Within the NAFTA framework the Hazardous Materials Land Transportation Standards Working Group, Group 5 of the NAFTA Land Transportation Standards Sub-Committee under the Office of Hazardous Material Safety, is responsible

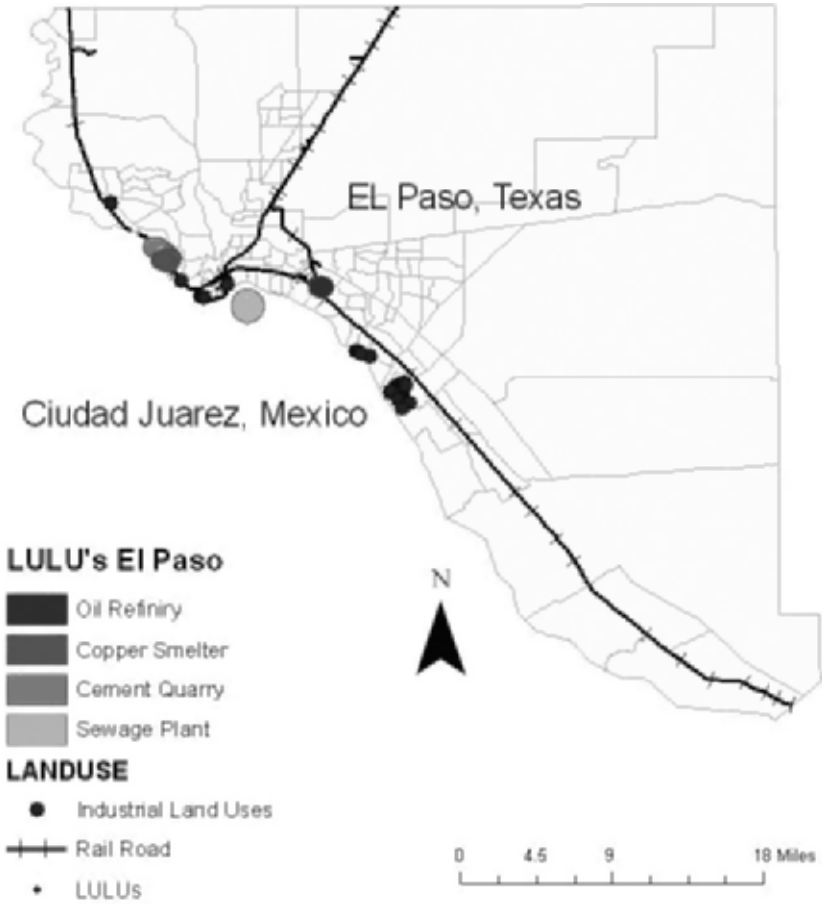
for implementing a work program to make compatible the relevant hazardous materials standards within the United States, Canada and Mexico, including transportation[5].

Human-induced hazards are the area where planning can have the most impact in terms of managing the risk and likelihood of the event taking place. An increasing number of old tires have been imported into Mexico from the U.S., many of them improperly disposed of. According to the EPA, there are an estimated 40 million waste tires along the border in Mexico. This issue has caught the attention of border authorities and environmentalists in Ciudad Juarez, Chihuahua; Mexicali, Baja California; and Tijuana, Baja California, the largest Mexican cities at the U.S. border. According to information from the Border Environment Cooperation Commission (BECC), there are 3 million scattered tires in Ciudad Juarez alone, constituting a public health and safety hazard[6]. The Centinela site near the City of Mexicali has a pile of about 1.2 million tires. The main concerns regarding the inappropriate disposal of tires are the possibility of fire and of becoming potential breeding grounds for mosquitoes and other organisms such as West Nile virus[7].

The cause of the problem is multi-dimensional. Importation of used tires to Mexico responds to economics, providing a cheap alternative to new tires for many border residents and businesses. Laxity in applying the laws by customs authorities in Mexico has contributed to the problem as well, by allowing a larger number of than allowed by law. Recently, an effort has been made by Mexican authorities to solve the problem by signing an agreement with the environmental agency in Mexico (SEMARNAT), Cementos Mexicanos (CEMEX), one of the main cement producers worldwide, and the municipal authorities to clean up tire sites. CEMEX will be allowed to use the old tires as fuel. This is a typical case of the law of thermodynamics, where matter is not destroyed, only transformed; burning old tires would solve the problem of solid waste disposal, but it would transform it into an air quality problem.

Planning can be the best preventive alternative to this type of human- induced hazard. Land use planning plays an important role in this area; the most proactive approach can be to relocate the local undesirable land uses, also known as LULUs, as far as possible from the border. There are several examples of LULUs located within a short distance of the border. In the binational conurbation of El Paso, Texas-Ciudad Juarez, Chihuahua alone there are several facilities. On the El Paso side, at the border, ASARCO, a copper smelter that has been closed since 1999, is applying for the proper permits to reopen. A cement quarry and a petroleum refinery are also located less than a mile from the river that forms the international boundary, and railroad tracks along the border transport HAZMATS (see Map 3).

In Ciudad Juarez, one of the sewage treatment plants is located a few hundred meters from the border, affecting air quality on both sides. There are no agreements between local governments to receive input from their counterpart across the border regarding the location of LULUs close to the border; efforts to coordinate land use policy across the border are limited due to legal constraints (Peña, 2002). In this regard, the Border Environment Cooperation Commission (BECC) has played a very important role to facilitate crossborder communication and planning; in addition to



MAP 3. Location of LULUs in El Paso-Ciudad Juarez. *Source: Elaborated by author.*

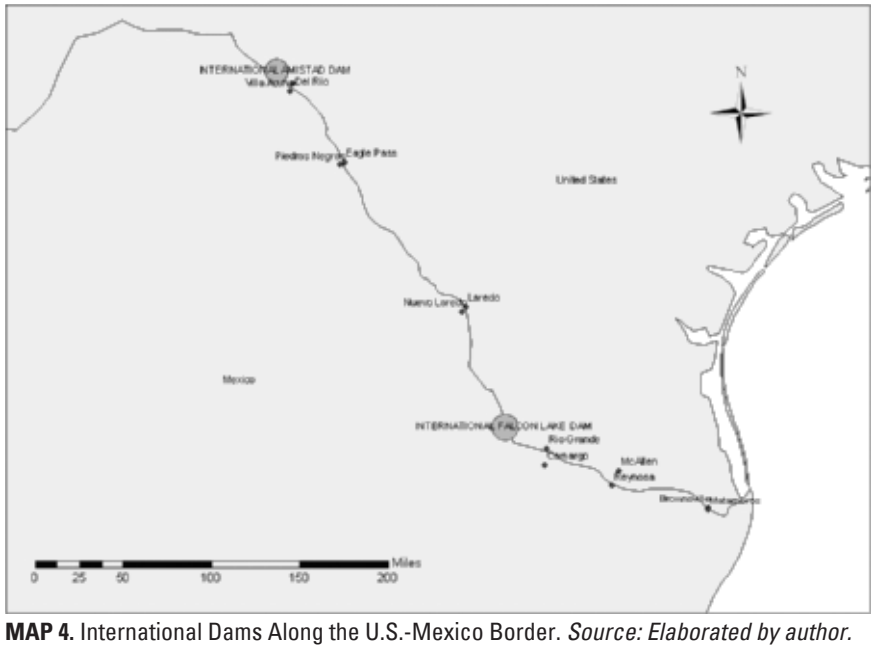
requiring transborder environmental impact statements BECC provides technical assistance to border communities to implement infrastructure projects related to air quality, sanitation, drinking water, solid waste disposal, and sewage. BECC, a binational institution, certifies the projects, making them eligible for funding through the North American Development Bank (NADB). Both institutions were created as the result of a side agreement of the North American Free Trade Agreement. Out of 105 certified projects a great majority deal with wastewater, followed by drinking water and conservation, and a small minority deal with air quality[8]. BECC since its creation has granted technical assistance equivalent to $30.24 million dollars and benefited a total of 131 communities in the U.S.-Mexico border[9].

NATURAL HAZARDS ALONG THE U.S.-MEXICO BORDER

Institutional efforts related to contingency planning along the U.S.-Mexico border have paid more attention to HAZMATS and less to other hazards such as earthquakes or massive floods, technical failures, human error, and the new threat of a terrorist attack. The administration and allocation of water is perhaps one of the most studied

and analyzed aspects of crossborder planning because the desert climate makes water a very scarce and valuable commodity for the region (Mumme, 1986; Mumme & Brown, 2000; Mumme, 2000).

However, very few academic studies have focused on natural and anthropogenic hazards related to water, such as the contingency protocols and plans in place to prevent or deal with a scenario of a hurricane, technical failure, or terrorist attack that could severely damage the dams located along the Rio Grande, the river that forms the international boundary for 1254 miles, a scenario that would put border cities and residents at risk. There are two main reservoirs on the Rio Grande, Amistad and Falcon (see map 4) that could affect the border region in case of a massive failure; combined, these reservoirs have a capacity of 10,000 million M^3 (about 8.1 million acre feet), enough to flood a large area[10]. Amistad is located less than 10 miles from Ciudad Acuña, Coahuila and Del Rio, Texas, with a population projected to be close to a quarter of a million by 2010; Falcon is located about 60 miles from the binational conurbations of Reynosa, Tamaulipas-McAllen, Texas with a population projection of 1.3 million by 2010 (Peach & Williams, 2000). The impacts that a major failure of a dam could have on the people, property, and environment of the U.S.-Mexico border would likely include a disruption to drinking water supply, energy supply, agricultural production due to lack of irrigation, as well as property loss, among others.



MAP 4. International Dams Along the U.S.-Mexico Border. *Source: Elaborated by author.*

Different agencies with different functions would most likely coordinate to respond to this scenario. The International Boundary and Water Commission, United States (IBWC), and its Mexican Section, known as CILA, is responsible for managing the Rio Grande flood control projects, including levees and the two international dams

on the Rio Grande. IBWC reported that in 2002 it conducted a series of operation and maintenance activities at both dams with special attention given to security issues by providing training to power plant personnel (IBWC, 2002). The Critical Infrastructure Protection Group (CIPG) is an interagency group on dam safety that has responsibility for dams in the U.S. In addition, CIPG has the responsibility of developing contingency plans. In the likelihood of an event taking place, the response such as evacuation plans, rescue missions, and medical services, would involve local emergency services teams. The Critical Infrastructure Protection group for critical infrastructure in the border region is binational, with participation from Mexican agencies as well.

An earthquake of severe magnitude is another catastrophic scenario in the border region related to a natural hazard. Both the U.S. State of California and the Mexican State of Baja California are located on the San Andreas fault, which makes the area prone to earthquakes. Rodríguez-Esteves (2002) is one of the few border scholars who have written about the possible impact in the case of Mexicali, Baja California. Rodríguez-Esteves (2002:134-135) reports that in a 40 km radius from Mexicali, from 1950 to 2000 there have been about 1,301 movements with an intensity greater than 3 on the Richter Scale and 43 of these have exceeded the 4.5 mark.

Various events not only in Mexico and the U.S. but across the globe have shown the devastation of an earthquake; the 1985 earthquake that devastated Mexico City is just one example that put contingency planning in the mind of public agencies. Because earthquakes are difficult, if not impossible, to forecast, the best approach is a preventive one and urban planning is perhaps the best preventive measure. Urban planning as a preventive measure relates to regulating the location of urban development away from high-risk areas; building codes and supervision complement the preventive measures. Mexican cities are more vulnerable than U. S. cities to natural hazards due to the lack of strong and effective institutions to regulate urban development and prevent substandard housing and the development of squatter settlements in high-risk areas. Azuela and Duhau (1993) and Duhau (1998) have analyzed the weakness of planning institutions in Mexico and shown how squatting has become an option for the poor to have access to land. Llera-Pacheco (2004) analyzed the differences in the planning regimes that Mexico and the U.S. have followed, concluding that the U.S. decisions follow more closely a rational model, whereas Mexico's model is more discretional.

Finally, wildfire is another type of hazard that is latent along the border. A wildfire could pollute the common airshed and induce loss of life and property. Fires in the southwestern U.S. and northern Mexico are a common summer seasonal occurrence and there is always the threat of a wildfire on one side of the border moving across the border. In addition to wildfires crossing the border, wildfires in Mexico also have had effects reaching well into the United States. For instance, one of the most devastating fires along the U.S.-Mexico border took place on October 25, 2003 near San Diego, California when, according to NASA, one wildfire grew 10,000 acres in only six hours (see Figure 3), The final estimates are that the wildfire destroyed 500,000 acres and 1100 homes. Communities living along the San Pedro River and areas around Forth Huachuca and Sierra Vista, Arizona are well aware of this natural hazard. In 1999, the U.S. Department of the Interior and the environmental protection agency in

Mexico, SEMARNAT, reached an agreement to address this issue. The purpose of the agreement was to facilitate, coordinate, and share resources needed for firefighting activities across the border.

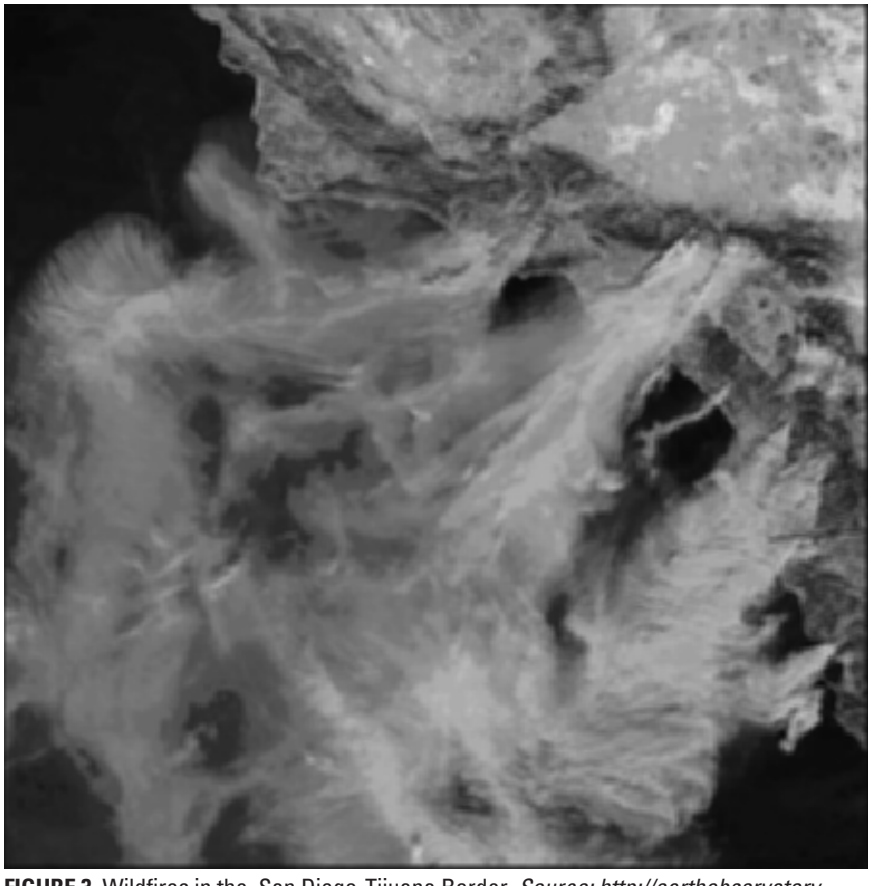


FIGURE 3. Wildfires in the San Diego-Tijuana Border. *Source: http://earthobservatory.nasa.gov/NaturalHazards/natural_hazards (Figure 1).*

Authors such as Sanchez (1990) and Rubio (2003) have pointed out the institutional differences between the two countries in responding to and managing a contingency event, which makes the Mexican side of the border and its cities more vulnerable to exposure and to bearing the costs of possible accidents. This situation has already been recognized by the two countries, which are moving toward closing the institutional gap; that is, toward developing new institutions and protocols that would respond in a timely and effective way, as discussed in the next section.

THE INSTITUTIONAL FRAMEWORK OF CONTINGENCY PLANNING + THE BORDER

This section presents a discussion of the current institutional framework regarding contingency planning in the U.S. and Mexico as well as a discussion of international and binational treaties that frame contingency planning at the U.S.-Mexico border.

As previously stated, contingency planning at the U.S.-Mexico border best resembles an incremental approach because various institutions have been created to respond to new challenges; the institutional framework of crossborder planning is a layer of

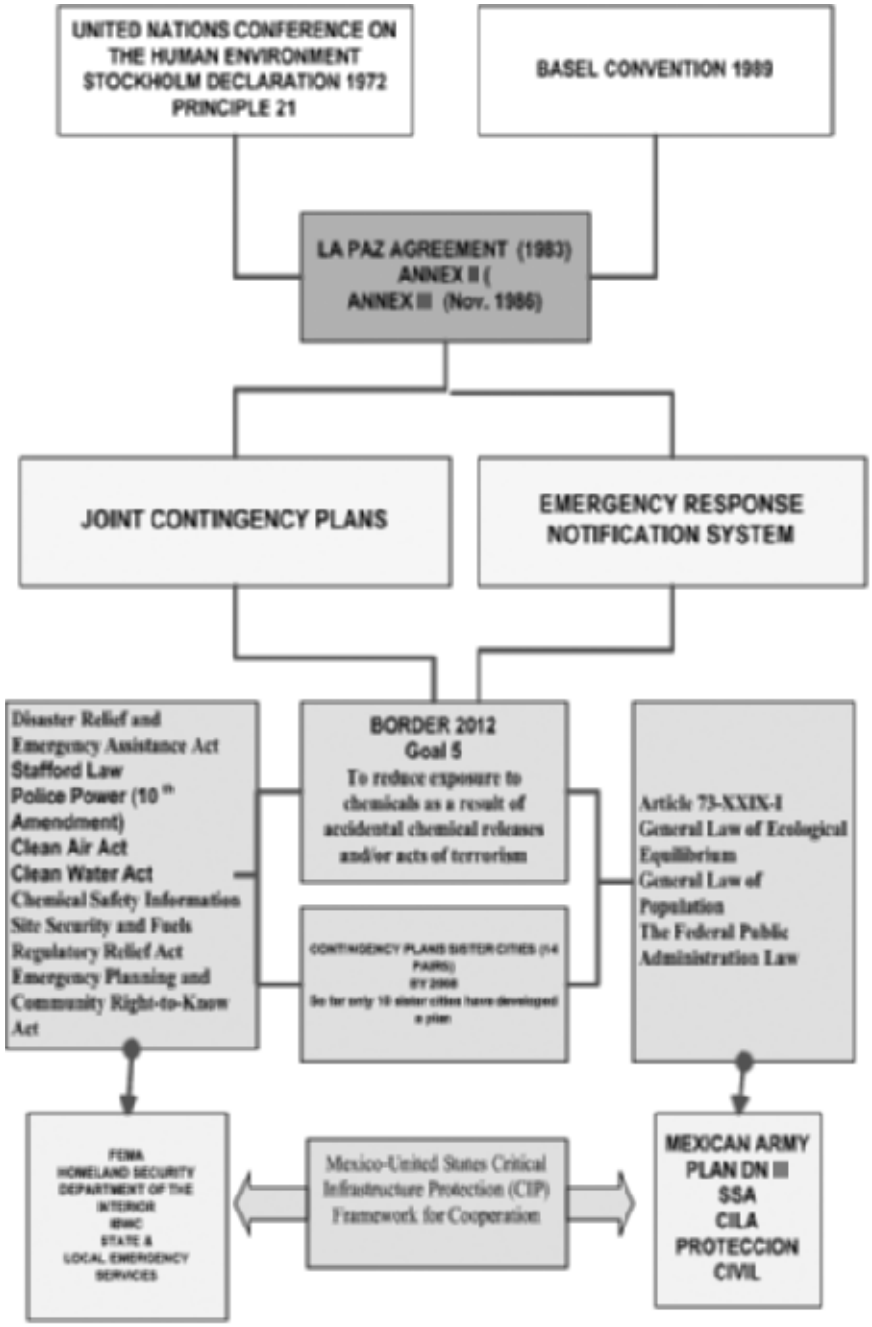


FIGURE 4. Institutional Framework Contingency Planning. *Source: Elaborated by author.*

multiple agencies and institutions with specific functions converging in the border space.

Using level of analysis is perhaps the best way to understand the institutional framework of crossborder contingency planning. Such analysis means that we begin with the highest level of analysis, which is the global or transnational, then we move to specific binational agreements, and, finally, to national, state and local efforts to implement crossborder contingency planning (see Figure 4).

TRANSNATIONAL LAYER

The Declaration of the United Nations Conference on the Human Environment adopted in Stockholm in 1972 is one of the most relevant multilateral treaties that directly relate to crossborder externalities. Principle 21 of the Declaration recognized the sovereign right that each nation has to exploit its resources according to its laws but also its responsibility to ensure that its activities will damage the environment of other states beyond its political jurisdiction. The Stockholm Declaration was used as the reference treaty for Annex III of the La Paz agreement, which is discussed below, signed by the U.S. and Mexico to deal with externalities at the border. The export of hazardous waste material, typically from industrialized to developing countries, has been one of the main focuses of attention of the international community. This issue is extremely relevant for the context of the U.S.-Mexico border, considering the exponential growth of international trade and the maquiladora industry (see Figure 5) as shown by the number of tons returned to the U.S. from Mexico. It is important to recognize that the program in charge of monitoring the flow of HAZMATS between Mexico and the U.S.

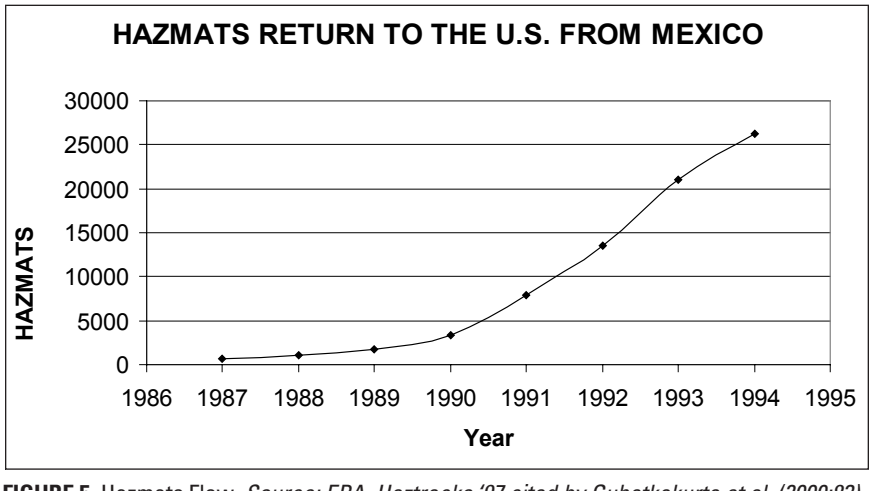


FIGURE 5. Hazmats Flow. *Source: EPA, Haztracks '97 cited by Guhatkakurta et al. (2000:83).*

known as haztracks, was cancelled by the administration of U.S. President George W. Bush in 2003.

The Basel Convention in 1989 is the main international treaty regarding the control of the movement of hazardous waste materials across borders. According to Sanchez (1990), the negotiation of the text resolution of the convention showed the divide that existed between industrialized and developing countries. On the one hand,

the developed world was reluctant to accept any measure that would prevent the relocation of polluting industries and the export of hazardous waste to other countries. On the other hand, developing countries were reluctant to become dump sites of hazardous material from the developed world.

There exist two competing paradigms regarding international relations, transnationalism and realism, which are also relevant to understanding crossborder planning. *Transnationalists* have emphasized institution building and international cooperation as the premise of international relations. In essence, the nation-state surrenders partially its sovereignty to international institutions and organizations. The transnationalist approach made substantive progress with the rise of globalization. Scholars such as Elkins (1995) began questioning the notion of nation-state and sovereignty with the emergence of non-territorial political organizations in the form of interest groups on a global scale (e.g., anti-globalization groups). Another issue raised by transnationalists is the emergence of corporations and individuals as global players with power to bring down an entire nation-state. Globalization, it has been argued, is making the nation-state obsolete, replacing it with transnational organizations.

Realists consider the nation-state as the main unit of analysis in international politics. Realists start from the premise that nations are self-interested and selfish organizations whose main goal is to maximize the benefits that the national interest determines. This approach puts a strong emphasis on the concept of territorial sovereignty; therefore, the fundamental function of the nation-state is to guard the integrity and defense of its territory and the security of its citizens. Realists engage in cooperation as long as it furthers the national interests, international trade being one of those areas (Russett and Starr, 1992). Realists' perception of borderlands is in tune with the idea of borders as demarcations where the sovereignty of a nation begins and ends. The realist approach limits local government activism in international relations due to the fact that international relations are performed by national governments.

The internationalists' approach to deal with environmental problems that affect border regions is at a crossroads. The resurgence of neorealism, headed by the administration of President George W. Bush, has tossed aside the commitment of the U.S. to international agreements related to environmental issues, such as the Kyoto Protocol, which would set limits on greenhouse gas emissions. Neorealists prefer an *ad hoc* or case by case approach to international agreements. Thus, unilateral solutions and *ad hoc* binational agreements and accords between the U.S. and Mexico are more likely to play a far more important role than multilateral agreements in the post 9/11 era.

BINATIONAL / CROSSBORDER LAYER

Already there exists a long history of international diplomacy and agreements between the U.S. and Mexico, and the creation of institutions where boundary and waters, narcotics, and telecommunications account for the largest number of agreements by far[11]. The earliest binational agreements between the two countries concern boundary and water issues and these became institutionalized, first with the creation of the International Boundary Commission (IBC), which was later reconstituted as the International Boundary and Water Commission (IBWC) with expanded responsibilities

related to water. However, it was not until the signing of the La Paz agreement that the two countries began to address environmental and contingency planning in a comprehensive way. The agreement, signed in La Paz, Baja California Sur in Mexico in August 1983, states that:

> the objectives…are to establish the basis for cooperation…for the protection, improvement and conservation of the environment and the problems which affected it, as well as to agree on necessary measures to prevent and control pollution in the border area, and to provide the framework for development of a system of notification for **emergency** situations[12].

The La Paz agreement in essence serves as an umbrella agreement that gives wide latitude to build upon to address crossborder environmental issues. Subsequent annexes to the La Paz agreement have been signed; of particular importance for contingency planning is annex II, which addresses the discharge of hazardous substances. Article II of the same annex is the one that specifically concerns contingency planning in which the two countries agreed to establish the "United States-Mexico Joint Contingency Plan." The agreement also designated the environmental agencies of each country, EPA and SEMARNAT, to function as the coordinators.

Annex III is also relevant because it specifically deals with transboundary shipments of hazardous waste and substances. Article III in the same annex provides the framework to develop notification and tracking systems for the importation of transboundary shipments of hazardous waste. This tracking or accounting system, known as Emergency Response Notification System (ERNS), provides for the determination of the difference between what comes out (export) of the U.S. and what comes in (imports) as hazardous waste to Mexico.

The La Paz agreement has become the main referent to develop plans to address transborder environmental issues. Relevant to contingency planning is the *Border 2012: U.S.-Mexico Environmental Plan*, announced in September 2002, which replaced *Border XXI*. *Border 2012* outlines six interrelated goals. Goal five, the most relevant to contingency planning, notes, "[to] reduce exposure to chemicals as a result of accidental chemical releases and/or acts of terrorism."[13] Goal five concurs with Annex II of the La Paz agreement regarding the creation of a Joint Contingency Plan (JCP). The objective of goal five is to complete by 2008 joint contingency plans for all 14 pairs of sister cities[14]. As of January 2003, only 10 sister cities have developed plans. El Paso-Ciudad Juarez is among those with plans still in development.

NATIONAL LAYER

The above initiatives are in compliance with legislation at the national level. Two main legislative initiatives in each country address contingency planning. In the U.S., the relevant statute is the Disaster Relief and Emergency Assistance Act known as the Stafford Law[15], which is in accordance with the police power that the U.S. Constitution grants to local governments under the 10th Amendment. The Stafford Law provides the legal framework that defines emergency, preparedness, and mitigation assistance as well as the parameters under which federal funds should be allocated through FEMA.

As a complement to the Stafford Law, there exist other laws relevant to contingency planning; for instance, the Clean Air Act, Chemical Safety Information Site Security and Fuels Regulatory Relief Act, and Emergency Planning and Community Right-to-Know Act (EPCRA), to mention a few.

In Mexico, the 1985 earthquake in Mexico City and its devastating effects triggered legislation regarding contingency planning and management. In 1986, a national system of civil protection was established by decree. In 1999, Article 73-XXIX-I of the Mexican constitution was reformed to give Congress the power to legislate in civil protection matters. Complementary to this law are the General Law of Ecological Equilibrium, General Law of Population, the Federal Public Administration Law, among others (see Figure 4)[16]. Several authors (Delgadillo-Macias, 1996; Macias, 1999) have agreed that contingency planning in Mexico is mostly reactive; as a matter of fact, one of the responses to natural disasters is the Plan DN III implemented by the Mexican army. The objective of this plan is primarily to respond to contingencies by evacuation, search and rescue, first aid, food, and clean-up. Plan DN III was visible during the clean-up of hurricane Kathrine in the Gulf Coast in Mississippi and in the feeding of evacuees in the Kelly Air Force Base in San Antonio, Texas.

STATE + LOCAL LAYERS

At the state and local level, contingency planning cannot be more contrasting between the two countries. In the U.S., state and local governments have not only the legal tools but also access to more resources to implement contingency planning compared to their Mexican counterparts. In Mexico, *Protection Civil* was created after the earthquake in 1985, responsible at the local level for coordinating the response to emergency situations. Throughout this article the role that urban planning plays has been emphasized as a proactive contingency planning tool that is mainly implemented at the local level. Even though an institutional framework to respond to disasters (natural or anthropogenic) exists in both countries, if local governments do not have the resources and capacity to plan effectively, contingency planning will be doomed to fail. In short, using the planning tools available (e.g., strong land use regulations, enforcement of building codes, regulation of time and routes to transport hazards) is a necessary condition, although not sufficient, to successful contingency planning; that is, if joint contingency plans at the sister city level do not take into account this fact, their success will be doubtful. BECC's charter allows it to become engaged in "institutional capacity building" in which not only contingency planning could fall but others areas as well. BECC is an agency that may be able to facilitate coordination efforts across local governments, focusing on making the border cities safer.

CONCLUSIONS

This article has shown that there is an institutional framework in place to deal with contingency issues at the border. Several issues are important to highlight regarding contingency planning that are unique to borders and that planners must be aware of during the planning stage:

- The institutional framework is more complex than at non-border areas because borders add another layer of institutions (international), which makes the institutional design more difficult and lengthy, raising what

economists call transaction costs.

- Federal agencies have a far more active role at the borders than otherwise. This causes their functions to overlap with those agencies at the state and local levels, making it confusing to determine what each agency is supposed to do and making coordination complex.
- The goals and objectives of contingency planning may not be the same in both countries. In the particular case of the U.S.-Mexican experience, this is a fact. The U.S. since 9/11 has seen contingency planning as part of preparedness and response to terrorism, making the border the first line of defense. Contingency planning in Mexico has been more reactive than preventive. The result is that resources are allocated to different priorities, thereby reducing the effectiveness of contingency planning.
- Contingency planning is based on risk assessment and resources are allocated to manage risk. Risk management is more difficult when populations with different incomes, tastes, and preferences live side by side, as in the case of the U.S.-Mexico border. Therefore, defining and prioritizing risks and hazards around which plans can be developed is difficult and complex.

This article is a first attempt to identify the existing natural and anthropogenic hazards. The discussion of the legal framework has shown that the border poses a great challenge to the institutional design of contingency planning. Contingency planning has been a process of "muddling through" (Lindblom, 1996), of adapting and creating institutions in response to new challenges.

An analysis and history of institutions provides a good sense and understanding of this process. Prior to the La Paz agreement (1983), most of the crossborder contingency planning experience dealt with natural hazards, such as flooding in the Rio Grande, and the IBWC was instrumental to solving the problem by building dams and other water projects. It was not until the signing of the La Paz Agreement (1983) that contingency planning received more attention and particularly focused on anthropogenic hazards related to the transport across borders of hazardous waste.

The terrorist attacks of 9/11 put at the forefront a new type of risk and posed new challenges. The U.S. has set the tone and priorities with regard to contingency planning at the border, and Mexico has cooperated to a great extent; the Critical Infrastructure Group is an example of binational cooperation and crossborder contingency planning. The challenges ahead for contingency planning at the border are twofold: first, designing new institutions or re-equipping existing ones to deal with the new risks in the post 9/11 era; second, fostering cooperation so that Mexico and the U.S. are on the same page.

A future research agenda needs to focus not only on the institutional setting and design but also on incorporating crossborder impact models of natural and anthropogenic hazards such as flooding, wildfires, and earthquakes. Dynamic systems models and geographic information systems could offer an important venue to incorporate institutional design into this type of analysis. The border and its resources need to be seen as a binational public good in which both countries have a stake and, therefore,

cooperation is seen as a necessary although, not sufficient, condition to successfully manage future natural and anthropogenic risks.

ENDNOTES

i Crossborder refers to the flows (labor, goods, capital, services) that are local or regional in nature and that are dependent on a border location. For instance, the flows of hazardous material that is moved across the U.S.-Mexico international border is particularly important from the perspective of crossborder planning. For more on crossborder processes see Alegria (1992).

1 1) Tijuana, Baja California-San Diego, California; 2) Mexicali, Baja California-Calexico, California; 3) San Luis Rio Colorado, Sonora-Yuma, Arizona 4) Nogales,Sonora-Nogales, Arizona; 5) Agua Prieta, Sonora-Douglas, Arizona; 6) Naco, Sonora-Naco, Arizona; 7) Palomas, Chihuahua-Columbus, New Mexico; 8) Ciudad Juarez, Chihuahua-El Paso, Texas; 9) Ojinaga, Chihuahua-Presidio, Texas; 10) Ciudad Acuña, Coahuila-Del Rio, Texas 11) Piedras Negras, Coahuila-Eagle Pass, Texas; 12) Reynosa, Tamaulipas-McAllen, Texas; 13) Nuevo Laredo, Tamaulipas-Laredo, Texas; 14) Matamoros, Tamaulipas-Brownsville, Texas

2 Maquiladoras are foreign-owned assembly plants that import all the inputs and take advantage of low-cost location to assemble the inputs, which then are exported. The BIP restricted maquiladoras to within 30 km of the northern border, but in the 1980s the restriction was lifted and maquiladoras could locate anywhere in Mexico.

3 http://www.inegi.gob.mx/inegi/default.asp

4 U.S.-Mexico Border XXI Program: Progress Report 1996-2000: Contingency Planning and Emergency Response.

5 http://hazmat.dot.gov/regs/intl/nafta.htm

6 http://cocef.org/aproyectos/ExcomCdJuarez2001_07ing.htm

7 http://www.epa.gov/usmexicoborder/

8 http://www.cocef.org/pcertified.php

9 http://www.cocef.org/tstatistics.php

10 http://www.ibwc.state.gov/wad/flowdata.htm. Amistad has a maximum capacity of 6025 million of M^3 and Falcon a top capacity of 3,897 millions of M^3.

11 For a history and list of treaties see http://www.usembassy-mexico.gov/bbf/bftreaties.pdf

12 Bold added by the author. A copy of the agreement can be obtained at http://www.epa.gob/cgi-bin/.

13 http://www.epa.gov/usmexicoborder/

14 The 14 pairs of sister cities are: San Diego-Tijuana, Calexico-Mexicali, Yuma-San Luis Río Colorado, Ambos Nogales, Ambos Nacos, Douglas-Agua Prieta, Columbus- Puerto Palomas, El Paso-Ciudad Juárez, Presidio-Ojinaga, Del Rio-Ciudad Acuña, Eagle Pass-Piedras Negras, Laredo-Nuevo Laredo, McAllen-Reynosa, and Brownsville-Matamoros. Source: U.S.-Mexico Border XXI Program: Progress Report 1996-2000.

15 U.S. Code, Title 42, The Public Health and Welfare, Chapter 68 Disaster Relief. Amended Oct. 30, 2000.

16 See Macias, 1999 for a more detailed explanation of the different laws.

BIBLIOGRAPHY

Alegría-Olazábal, T. (1992). *Desarrollo Urbano en la Frontera México-Estados Unidos*. Consejo Nacional Para la Cultura y las Artes (CONACULTA): México.

Azuela, A. & Duhau E. (1993). En Torno al Cambio Institutional: Tres Reformas Jurídicas y su Impacto en la Gestion. Antonio Azuela & Emilio Duhau (eds.). *Gestion Urbana y Cambio Institutional*. : Mexico. UAM, UNAM & ICAL.

Benson, C. & Clay E.J. (2004). *Understanding The Economic and Financial Impacts of Natural Disasters*. Washington, D.C:The World Bank.

Bocco, G.; Sánchez, R.A. & Riemann, H.. (1993).Evaluacion del Impacto de las Inundaciones en Tijuana (Enero de 1993): Uso Integrado de Percepción Remota y Sistemas de Información Geográfica. *Frontera Norte*. 10, 53-84.

Bromley, D. (2006). *Sufficient Reason: Volitional Pragmatism and the Meaning of Economic Institutions*. Princeton, NJ: Princeton University Press:.

Delgadillo-Macias, J. (Coord.). (1996). *Desastres Naturales: Aspectos Sociales Para su Prevención y Tratamiento en México*. Mexico: UNAM.

Duhau, E. (1998). *Habitat Popular y Politica Urbana*. Mexico: Miguel Angel Porrua & UAM.

Elkins D. J. (1995). *Beyond Sovereignty: Territoriality and Political Economy in the Twenty-First Century*. Toronto: University of Toronto Press.

Guhathakurta, S. Pijawka, K.D. & Ashur, S. (2000). Planning for Hazardous Mitigation in the U.S.-Mexico Border Region: An Assessment of Hazardous Waste Generation Rates for Transportation. *Journal of Borderlands Studies*: 2, 75-90.

International Boundary and Water Commission. Annual Report 2002.

Lindblom, C. (1996). The Science of 'Muddling Through. Scott Campbell and Susan Fainstein (eds.) *Readings in Planning Theory*. Malden, MA: Blackwell Publishers, 288-304.

Llera-Pacheco, F. (2004). Transborder Urban Regime in the El Paso-Ciudad Juarez Region. In Vera Pavlakovich-Kochi, Barbara J. Morehouse and Doris Wastl-Walter (ed.). *Challenged Borderlands: Transcending Political and Cultural Boundaries*. Ashgate, Border Region Series.

Mumme, S. (1986). Engineering Diplomacy: The Evolving Role of the International Boundary and Water Commission in U.S.-Mexico Water Management. *Journal of Borderlands Studies*: 1(1), 73-108.

Mumme, S. & Brown, C. (2000). Decentralizing Water Policy on the U.S.-Mexico Border. Paper submitted to UCSD Monograph, Protecting a Sacred Gift: Change in Water Management in Mexico. Submitted September 2000.

Mumme, S. (2000) Minute 242 and Beyond: Challenges and opportunities for Managing Transboundary Groundwater on the Mexico-U.S. Border. *Natural Resources Journal*. 40, 341-378.

Peach, J. and Williams, J. (2000). Population and Economic Dynamics on the U.S.-Mexican Border: Past, Present, and Future. Ganster, P., (Ed.). The U.S.-Mexican Border Environment: San Diego: SCERP Monograph Series. 1, 37-72.

Peña, S. (2002). Land Use Planning on the U.S.-Mexico Border: A Comparison of the Legal Framework. *Journal of Borderlands Studies*. 17(1), 1-20.

Perez-Campos, J.A. (1999). Reflexiones y Propuestas Sobre Legislación Para Prevenir Desastres y Sobre Asentamientos Humanos. J.M. Macias (coord.) *Legislar Para Reducir Desastres*. Mexico: UNAM-CIESAS; México. 85-97.

Reed, C. (1998). Hazardous Waste Management on the Border: Problems with Practices and Oversight Continue. *Borderlines*: 6(46).

Rodríguez-Esteves, J.M. (2002). Los Desastres Naturales en Mexicali, B.C.:Diagnóstico Sobre el Riesgo y la Vulnerabilidad Urbana. *Frontera Norte* 14, 123-153.

Rodríguez-Velazquez, D. (2001). El Desafio de la Planeación Para Prevenir Desastres en México. *Ciudades*. Puebla, México. RNIU 52, 10-18.

Rubio, N. (2003). *The Problem of Hazardous Substances Across the Border of El Paso, Texas and Ciudad Juarez, Chihuahua*. [M.A. Public Administration] University of Texas at El Paso.

Russett, B. and H. Starr.(1992). *World Politics: The Menu for Choice*. New Cork: W.H. Freeman & Company.

Sanchez, R. (1990). Manejo Trasfronterizo de Residuos Toxicos y Peligrosos; Una Amenza Para Los Países del Tercer Mundo. *Frontera Norte* 3, 91-114.

SEMARNAT. (2002). *Informe de la Situación del Medio Ambiente en México*.

Siegel, F.R. (1996). *Natural and Anthropogenic Hazards in Developing Planning*. San Diego, CA: Academic Press Inc.

Dr. Cecilia Giusti
Department of Landscape Architecture and Urban Planning, Texas A&M University

Jane Larson, J.D.
Land Tenure Center, University of Wisconsin–Madison

Dr. Peter M. Ward
The Lyndon B. Johnson School of Public Affairs, University of Texas at Austin

Dr. Flavio de Souza
Institute of Latin American Studies, UT-Austin / Universidade Federal de Alagoas, Brazil

Dr. Marlynn May
School of Rural Public Health, Health Science Center, Texas A&M University

LAND TITLING IN STARR COUNTY *COLONIAS* ALONG THE TEXAS-MEXICO BORDER : PLANNING + STABILITY ISSUES

ABSTRACT

The impact on planning of one major land title regularization program in Starr County *colonias* in the Texas-Mexico border is discussed. This program, which ended in 2002, was undertaken by the Community Resources Group (CRG) and resulted in about 1,000 titles being cleared and formally assigned to their proper owners. To analyze this program we used a comprehensive approach involving new empirical data. In this paper we present data gathered from a survey of 260 households and interviews as well as focus groups organized with affected residents in *colonias*. The data revealed that the new legal owners expressed in many different ways the positive results in terms of their self-worth, sense of belonging, and feeling of being respected citizens as they pay property taxes. We also found that *colonia* residents are choosing (either freely or determined by fragile markets) to stay and live in these communities, thereby exercising the use value of their property and not its exchange value. We also observed that the implications of this intervention are limited. New owners are not entering financial markets due to their new ownership. Residents worked hard to buy their lots and make improvements and they are not willing to risk losing them through the financial system. Besides, "titled" *colonias* do not differ dramatically from "untitled" *colonias*: they still lack basic infrastructure and are still isolated communities. New owners are still low-skilled workers who have no access to financial markets. Proper ownership is a positive policy but it alone can result only in limited impact in *colonias*. There is an urgent need for a comprehensive planning approach in the whole border region to allow *colonias* and their residents to continue improving their communities with more institutional and legal support.

INTRODUCTION[1]

The border area between the United States and Mexico can be characterized as a distinct economic region because it shows unique characteristics that are clearly different from the rest of the country. From Texas to California on the U.S. side and from Tamaulipas to Baja California on the Mexican side, this region has frequently been a focus of study. During the last decade, this border region has grown dramatically in terms of economic activity, trade, and population compared to the rest of the United States and Mexico, in part due to the North American Free Trade Agreement (NAFTA). As trade between the U.S. and Mexico has increased dramatically, the border areas have become extreme examples of the benefits and problems arising from such trade agreements.

It is important to note that the Texas border is not a homogeneous region (Boudeville, 1966; Giusti, 1988). Within it, there are both rich, dynamic areas and poor, stagnant areas. Poor *colonias* are often the undesirable side effect of this increased dynamism. As border cities become more appealing to new investors and residents due to trade expansion, the cost of living increases and the low-income population tends to move away from the city in search of more affordable housing. Few developers or state programs build housing for low-income residents; as a consequence, *colonias* are among their few options. Texas border cities such as Laredo, Brownsville, and El Paso that have grown considerably show signs of economic dynamism and offer more and better services, but at the same time, find low-income settlements such as *colonias* visibly growing on their fringes.

Colonias represent all the elements that can go wrong in a community where there has not been a concerted planning effort. They emerge and grow as the result of powerful forces regardless of the lack of regulation and or public intervention. They can be seen as one of the results of a "free market in the making" (Larson, 1995). The informal, unplanned way in which these communities emerge has been changing and improving since the late 1990s, partly due to policies and programs enacted by the Texas legislature. Land title has been a key element in this reform. One of the immediate objectives of such legislation has been the conversion from an informal *contract for deed* (discussed in the next section) to a more formal legal instrument called *warranty deed*. The objective is to assign legal ownership and responsibility for property taxes, to reduce insecurity, and to resolve tenure conflicts.

This paper focuses on the effects of one major land title regularization program in some fifteen *colonias* outside of Rio Grande City in Starr County in the Texas border region between the U.S. and Mexico.[2] Here about one thousand titles were cleared and formally assigned to the proper owners. Our focus is to analyze to what extent this policy, as it was implemented in Starr County, has cleared the path from informality to formality, enhanced property values, encouraged a more dynamic land market, promoted home investment and improvements, and activated credit and mortgage markets. In dealing with these issues we aim at having a better understanding of their implications in terms of planning, in a border — isolated — low-income community like Rio Grande City.

This paper will present, first, an overview of *colonias*; second, a discussion of the relevant literature; third, our data sources, methodology, and research results; and fourth, conclusions and policy suggestions.

GENERAL CONDITIONS IN *COLONIAS*

Starr County is mainly composed of *colonias*, areas with substandard housing and inadequate plumbing and sewage disposal systems, where there is a high concentration of low-income residents. *Colonia* is a Spanish term for neighborhood or community. In Texas, following the definition of the Office of Attorney General (OAG, 1993, 2005), *colonia* refers to a residential area along the Texas–Mexico border that may lack basic water and sewer systems, electricity, paved roads, and safe and sanitary housing. *Colonias* can be found in other areas in the U.S. (Ward, 1999), mainly in New Mexico, Arizona, and California, but Texas has both the largest number of *colonias* and the largest *colonia* population.

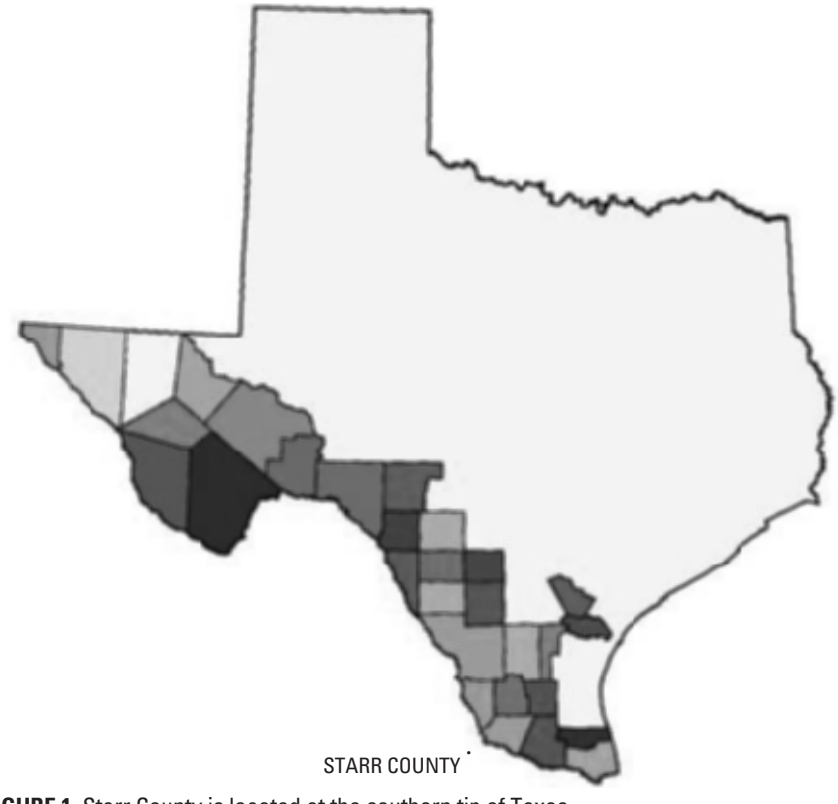


FIGURE 1. Starr County is located at the southern tip of Texas.

According to the latest (2000) census, Texas contains 1,450 *colonias*, a 21.5 % increase

from 1,193 *colonias* recorded in 1992. Currently, 350,000 residents (280,000 in 1992) live in *colonias*, an increase of 25% in eight years. Clearly, the population of U.S. *colonias* is growing (US Bureau of the Census 2005). The large majority of residents are Spanish-speakers of Mexican descent. Contrary to common belief, many of them are legal residents or full citizens.

Texas *colonias* date back to at least the 1950s, but the 1980s and early 1990s show the largest growth. From the supply point of view, developers created unincorporated subdivisions from agriculturally worthless land that lay in floodplains or other rural properties. They divided the land into small lots, put in little or no infrastructure, and then sold them to low-income individuals seeking affordable housing. In the beginning, this marginal land was divided and sold with little control by local and state authorities. For a variety of reasons, regulations operating in most urban and rural developments in the U.S. were not mandatory, and *colonias* started with very little control over their legal status or the basic services provided to them (Ward, 1999; Doebele, 1994; Wilson & Menzies 1993).

From the demand point of view, a growing number of low-income, low-skilled workers with very limited budgets became incapable of paying city housing costs. As the border economy expanded as a result of NAFTA, cities along the border grew and became less affordable to low-skilled workers, especially when confronted with demands from low-income residents with high expectations of owning property. Many of those who became *colonia* residents came from Mexico with high economic expectations and the belief that one's most important asset is a piece of land that gives security and a sense of belonging (Ward et al., 2003). This is the bulk of the demand at the very low end of the income level. Perhaps it is closer to what we call "need," and there was a supply for this need.

The accessibility of "useless" land and its commercialization by local developers, coupled with the rising need for low-income housing, contributed to the formation and expansion of *colonias*. As there was little regulation on the subdivision of lots, the legal transactions regarding them were also minimally regulated. *Colonia* residents bought their lots through a contract for deed, a property-financing method whereby developers typically offer a low down payment and low monthly payments but no title to the property until the final payment is made (Larson, 1995; Ward, 1999). Although this arrangement is very dubious, it has been an affordable alternative for thousands of families who could not afford formal financing systems (Mettling, 1997). Payment was often not a fixed amount and a common practice was that residents paid "as money was available." It was also, most of the time, the only option available to them, given their inability to obtain loans from financial institutions. Their poor or non-existent credit history made them unqualified for a loan from local banks.

Unfortunately, this contract for deed, the only alternative for many low-income residents along the border, was used fraudulently by some of the sellers (Larson, 1995). For instance, residents said, as it is documented in the Receivership legal case, that even though they continued making monthly payments while they were away doing migratory labor, developers sold their temporarily empty lots to other residents. It is common practice that new lot owners do not immediately move to their property.

There is usually some time between the date of the first down payment and the date that individuals are able to move onto these underserviced lots. In some such cases, these lots were improperly oversold — that is, sold to more than one buyer.
Another factor of *colonia* life that appeals to low-income people is incremental construction: they are able to build their houses in phases on their lots. Residents gradually build their homes as they can afford materials and keep adding features as finances allow. This self-construction (*auto-construcción*) is considered a problem in low-income communities in the U.S. because minimum construction standards are not usually met. This is not the case in developing countries where, with very limited resources, housing programs not only tolerate these practices but in many cases they are much promoted as the only option for the poor.

DISCUSSION OF THE LITERATURE

Property entitlement is one of the most cherished rights in the United States. Land is a very distinctive type of property and is the basis for urban growth. Access to land and its benefits is one of key ingredients in any development. Planning is generally done on the basis of a legal system that protects and promotes legal rights to land. Planning, however, becomes more complex and blurred in a context where land is not legally owned, as is the case of Rio Grande *colonias*.

Regularization of land tenure into formal property has been a major policy goal of the Texas legislature since the late 1990s. While irregular — out of the legal framework — land markets are not the common model in the United States, they are very common in developing countries. Informality in land markets is a well-discussed topic in the literature related to developing countries. There we find prolific fieldwork for research because spontaneous appropriation of land has been a common way for low-income groups to obtain property, especially around big metropolitan areas (United Nations, 1995). Several studies have discussed the perception of these *invaders* and the process by which they have become part of the legal market system — or not (see Azuela, 1998; Hardoy & Sattherthwaite, 1989; Romero et al., 1994; Gilbert & Ward, 1985). A common theme in these cases is the illegality of land acquisition and the parallel market activity away from the formal financial system. Likewise, several studies have reported the process of bringing informal settlements into the framework of a legal system, and the policy recommendations that emerge from them (Buckley & Kalarickal 2005; Calderon 1999).

In *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails in the Rest of the World* (2000), De Soto discusses the consequences of informality and the positive outcome expected from giving full legal title to informal settlers. De Soto argues that non-owners — people in developing countries who are occupying land without proper formal title — are not taking full advantage of the land on which they live. They are incapable of using their property as the asset that it actually is. This argument has strong policy implications because it expects that formality will not only result in a more dynamic land market but will also bring new owners into the financial market and allow them to participate more actively as asset owners. These arguments have been broadly criticized by Gilbert (2002), mainly on the basis of De Soto's assumptions — for example, that title is a financial asset and implies market participation and that lot owners are financial participants. Woodruff (2001) points out several cases in

which titling programs have not had the desired effects, as this is not the only variable needed for re-orienting the so-called informal or illegal settlements. This argument is supported by several more studies on developing countries (Deininger & Binswanger 1998, Payne 2002, Gilbert 2002, Cole & Grossman 2002, Varley 2002, Buckley & Kalarickal 2004, 2005, Perlman 2002) that demonstrate that there are more elements than titling involved when designing land market policies. Specifically, they mention access to well-paid jobs, access to institutions dealing with land and housing businesses, access to property, and family income, among other variables discussed below.

Nevertheless, there are policymakers who support De Soto's arguments, and the debate is still open. In this line of argument Carter & Olinto (1998, 2000) and Paulson & Townsend (2000) show that there is empirical evidence showing a positive association between formal title and access to credit.

Varley (2002) minimizes the relevance of a legal/illegal dichotomy and suggests that the polarity between formality and informality does not illuminate the issue but clouds the process. The issue under discussion is not just the search for a formal legal system, but how the actual process of legality and formality is perceived by low-income groups. In her study on Mexico, she argues that legalization was relevant when residents perceived public recognition of their achievements in housing their families and building a home. In other words, legality did not imply a change in the way these families perceived themselves or how they acted in terms of home improvements. The important role of legalization was the *public* recognition of such accomplishments.

Buckley and Kalarick (2004), in a review of land and housing policies in developing countries, argue that titling programs need to be applied in a more comprehensive way (see also Woodruff 2001). They point out specific practical problems (p.22) as the high cost of titling and other social conditions as the access to legal instruments (as in the case of women in Kenya, who have no right to access to property [Lee-Smith 1997]) and the incapacity of using title as collateral. This incapacity is due to the fact that to get a loan there are more requirements that just a property title; it is also necessary to show proof of income, which is not always easy in a context of informal settlers in an informal economy.

These arguments are very much in line with studies done by De Souza (1999, 2001) on land tenure security in low-income settlements in Brazil. While the issue of land tenure is not underestimated in terms of the relevance of giving proper title to *invasores* (invaders), it is also accepted that among low-income groups the meaning of title is somewhat blurry. They are already out of the market in many ways — for instance, they are not considered credit-worthy by most financial institutions and in general and they are not part of the labor force. Their status in terms of land tenure is just one more area in which they are not part of the formal system. While this fact is widely accepted in developing countries, the issue in a developed country such as the United States remains uncertain.

Another element discussed related to title in the context of *colonias* is related to title and population mobility. A concern discussed in the Texas legislature was that when

given proper title, new properties' owners would promptly sell them and move out from these depressed areas. As *colonias* were perceived to be transitory communities in a migratory process, this type of intervention was perceived as a waste of resources. However, there is research coming from studies done in developing countries suggesting that this is not the case. For instance, Varley (2002) reports that in the case of low income settlements in Mexico, about 90% of people interviewed had no intention to move after receiving proper title on their properties. That was not the crucial element in the decision to sell or move out.

A distinctive characteristic that differentiates the U.S. from developing countries is a well-established sophisticated financial system. In the U.S., markets (including land markets) are more developed and financial institutions play a more active role than in developing countries. Thus, when planners in the U.S. are confronted with an informal economy operating in a *colonia*, they are often not at ease. It is true, though, that since the late 1980s the Texas legislature has intervened to provide these communities with the most essential basic services such as water, wastewater, electricity, and some paved roads[3] as well as with more institutional and legal support. However, the needs of *colonias* often exceed the investments and interventions made. Nevertheless, there has been an observable improvement in the last fifteen years due to intervention from the public sector. While basic infrastructure has dramatically improved, there is still far to go in terms of several services available in *colonias*, such as health, education, and public transportation just to mention some. The major discussion that has not been resolved yet, is which organization leads the effort in *colonias*. As planning needs a holistic approach from a long-term perspective, it requires a great amount of coordinated effort among the several agencies currently involved in the region.

Another critical service lacking for residents of *colonias* is financial services. Financial institutions, in the form of banks, credit unions, or cooperatives are just out of the reach of these populations, and there is little or no capacity to access their services. Planners and policymakers need to frame issues of land markets within a more comprehensive approach, involving also access to basic services working with institutions that support these communities.

STARR COUNTY : A CASE STUDY

Starr County, one of the 29 border counties along the Texas-Mexico border and one of the poorest counties in the U.S., is where our research takes place. Whereas the U.S. as a whole has less than 13% of its population living below poverty, almost 51 of Starr County's population lives in this condition. In our study, one typical *colonia*, Las Lomas, shows 70.7% of persons living below what is considered the poverty line in the U.S.[4] In spite of this, we observed that many times and against all odds, through their labor and investment, these impoverished people created economic resources in the form of housing.

From the mid-1980s to the early 1990s, two corrupt developers, Blas Chapa (a local judge) and Elias López, sold over 2,500 underserviced lots to nearly 2,000 families. During these years, land around Rio Grande City was subdivided and sold to low-income individuals, mainly under contract for deed. The process of subdivision

and selling was rife with gross irregularities, resulting in lawsuits against the two developers. The wrongdoings they were accused of included selling lots to more than one buyer, not identifying the lots correctly, selling lots on flood-prone areas, and not paying local taxes on their land. This last issue was a major factor in subsequent legal actions, especially because the school district is a beneficiary of local taxes and thus was being denied income from these lots.

Due to increasing complaints and rallies in Starr County as well as in Austin, the state capital, the Texas Attorney General's office initiated legal action against these two corrupt developers, and a state lawsuit began in September 1993 and concluded in January 1995, resulting in separating these individuals from the *colonias* they created. Following this decision, the state appointed the Community Resources Group (CRG), a non-profit organization working with low-income groups in the U.S., as the "Receiver" for all *colonia* property still owned by those developers. CRG was in charge of giving proper legal title to all claiming residents and it went through a complicated legal process that started by having bankruptcy declared on the lots just transferred. (For a detailed explanation of the legal framework, see Ward et al., 2003.) Problems to be solved by the Receivership went beyond proper title. The issues they needed to resolve included lots that had been sold more than once, lots that were located in flood-prone areas (it is not legal to sell property in such areas), lots with no plats available, and lots whose descriptions did not coincide with actual characteristics of the terrain.

Fieldwork for our study was done primarily in 2002-2003, when most lots had already been assigned. However, findings of the report were revised after supplemental interviews and focus groups were done in 2004.

Currently, 85% of *colonia* households in Texas and 79.5% of Starr County residents own and occupy their own home. This makes these settlements a model context for piloting an economic development strategy based on asset accumulation and security among the poor. These are, in fact, mostly "communities of owners" but, in some ways they do not portray the same image this type of community has in other parts of the country.

DATA SOURCES + METHODOLOGY

We gathered three major sources of data: first, we identified an extensive database of more than 1400 records of affected residents who were served by CRG in *colonias* in Starr County; second, we created and administered a survey (followed by interviews); and third, we conducted focus-group discussions in specific themes that emerged from our survey analysis. Most of the information used, including the surveys, interviews, and focus groups, were in Spanish, as this is the main language spoken in *colonias*.

The database we used was created by CRG and includes general information needed for the Receivership program in the fifteen *colonias* were they intervened. Specifically, it contains the owners' basic information, dates of transaction and prices paid by lot and/or improvements, lot sizes and basic information on the property.

We developed and administered a purpose-designed household survey (a copy of

which can be requested directly from the first author) to collect a variety of variables not available in the database. We used the CRG database to create the list from which the sample was collected, and the households were randomly selected from that pool for our detailed household interviews. The survey specifically collected new data on: 1) the value owners input into their property to compare with the price recorded in the database; 2) whether receiving a title in the "regular" way (through a developer) was perceived as qualitatively different from when receiving it through CRG's legal intervention; 3) whether there is a difference in the way individuals were using their new "formal" title compared with how they had been using their "informal" contract; 4) finally we included specific questions related to residents' perception of their communities, to compare their "formal" status with their previous one.

We administered the survey in the ten largest *colonias* that fairly represented the affected population. There were 303 cases where households had their land title cleared with CRG's assistance; these were designated the *Study Group*. Given the relatively modest number, we decided to include them all rather than select a sub-sample, recognizing that we were unlikely to succeed in interviewing everyone. In order to have a comparative group of those who had not been affected by CRG intervention, we drew up a sample of households from a list of 400 cases from the CRG database and randomly selected 133 cases (one-third of the total); these we designated the *Control Group*.

In total, 266 individuals (of a total of 436) or 61% of the total sample were interviewed in the study. Among those, 195 individuals (or 64% of the total of 303 pre-selected cases) in the Study Group were interviewed, while in the Control Group, 71 of a total of 133 individuals (or 53%) were interviewed. Having both a Study Group and a Control Group in our survey was important to our objective of analyzing the extent to which attaining title in the "normal" way was perceived as qualitatively different from obtaining it through the CRG receivership program.

Some elements need to be addressed to validate our sample selection and sample size. First, we purposely gathered our random sample from the same constituency — namely the CRG database — to minimize bias in our sample. This dual approach resulted in two main advantages: first, it allowed us to triangulate the larger CRG database; second, we were able to undertake a more in-depth analysis of variables not included in the database. Because the CRG database and survey respondents came from the same pool with similar socio-economic and cultural characteristics, we find no reason to speculate the presence of a serious bias in our sample. Second, we were concerned about the possible problems introduced when working with small samples. We compared some of the socio-economic variables from the CRG database and from our survey with those of the 2000 census whenever these *colonias* coincided with census defined "places" (CDPs)[5]. Our comparison was encouraging as our findings coincided with census information, thereby providing greater veracity to our sample survey results. Third, we needed to address the issue of non-responses. While open refusal rates were very low, in spite of multiple attempts-backs, it proved impossible to interview everyone in the originally assembled sample. However, based on the characteristics of the CRG database and the random sample selection criteria

used, we have no reason to suspect that our findings were affected by this reduced sample.

The 10 focus groups of about 100 residents generated more in-depth information about the process of getting title and the perception of legal owners about their new status. The general themes discussed in the focus groups resulted from an initial analysis of the surveys. However, the researchers also allowed for other topics to emerge when participants raised new ones. None of the participants in the focus groups had filled out the survey, so the sample of the focus groups represented new sources of data. We purposefully created targeted groups consisting of randomly chosen individuals filling pre-determined characteristics. In 2002 we conducted two women-only groups of 8 each; three couples groups, totaling 60 individuals; and two individuals groups, totaling 13 individuals. In 2003 we came back and conducted three more focus groups including one that included re-located individuals totaling 14 participants. Altogether we gathered 103 individuals in all focus groups. Different settings in these focus groups contributed to more detailed and expansive conversations. For example, women were more eager to participate in a women-only setting; they also seemed to be more at ease because the focus groups were conducted in Spanish and led by a woman (Giusti).

All this information was analyzed using qualitative analysis techniques. First we performed a transcription and detailed coding for each and every focus group. After extensive discussion among the researchers involved, we carefully, and in stages, re-defined our original major themes. Next we proceeded to re-evaluate our transcripts, re-defining areas of analysis. After re-coding the transcripts we finally arrived at the main themes that emerged more clearly from these discussions. We present in the next section some of the themes that more visibly exemplify our main findings.

Finally we need to be aware of a limitation in our analysis. Our survey originally considered a margin error of 5%, a confidence level of 95% with a response distribution of 50% (see Utts 2004); however, we ended up reaching a smaller sample than originally designed. While the research sample is still within the margins of acceptable size (Bartlet et al, 2001) some generalizations cannot be made. The sample on each variable was limited, as some questions did not get enough answers to be statistically sufficient, and this resulted in an additional complication in our study. We decided not to present here a complex statistical analysis but rather to suggest the major themes and trends observed from our initial analysis of this limited sample.

Nevertheless, we are confident that this combination of tools and techniques definitively provides a reasonable source of new data to be able to set major trends, as well as to make a broad characterization of the existing conditions and constraints from the point of view of residents in the *colonias* under study. We do not expect that our results can be generalized to every low-income community in the U.S., as *colonias* represent many particular circumstances. We expect our findings to be limited to areas with similar characteristics as defined by isolated low-income communities that characterize large areas along the U.S.-Mexico border region.

DATA FINDINGS

Bringing homeowners into the framework of the legal system has resulted in some expected and other unexpected results. Next we present the major four areas we believe are relevant in terms of the efficacy and relevance of planning:

1 Population Stability

The first finding that has direct implications in the planning field is that residents who got their proper title neither moved out of the colonia nor had immediate plans to move out. Although the general perception was that new owners in colonias would be ready to "sell and leave" these communities as soon as their legal status was cleared, we did not observe this behavior. In our survey, we specifically asked whether they planned on staying in the colonia after getting the title. The response was overwhelming: 93.13% said that they were likely to stay where they were. This response was valid for both the Study and the Control Groups. This finding was also confirmed in our focus group:

> *Q:… you are all owners…. Can you sell it for more?*
>
> *A: Before we did not have title, or before we had a possibility of getting title, that land was bad, we were cheated, no one wanted to return to see us, we could not even rent! If I wanted to sell, there was no one to buy because people said it was not valid. If I did not have title, then the person I sold it to would not have title. Now that we have title, we could sell. But now we do not want to sell. That is exactly it.*

To justify this opinion most respondents expressed that their property was their main — and in most cases their only — asset, and after working so hard to obtain it, they were not willing to sell and leave.

2 Comprehensive Meaning of Title

We found that the meaning of property goes beyond just having a legal title to the property. This was observed as residents of *colonias* were making improvements in their lots even without being fully owners. While this is unlikely in a wealthier, formal settlement, this was the only option available for *colonia* residents.

Most residents of *colonias* believed themselves to be "owners" of their lots even before receiving a deed. Within the study group 68% felt themselves to be owners of their property since the moment they began paying for the land. This response came from those who had contract for deed (49%) and those who only held receipts as the proof of purchase (40%). As long as they were making payments they had this "sense of ownership." This explains why residents in these colonias were making home improvements even without a deed on their properties. This perception, however, was not validated by the "legal" system. This "misguided" appreciation is also found in developing countries where the sense of ownership has no direct correlation with legal systems, to which low-income individuals do not feel they belong.

However, the CRG intervention prompted owners to rely on a legal system to protect their rights. Before, when *colonia* residents held contract for deed or only payment stubs, they could not take advantage of the privileges that title warrants. Moreover, when *colonia* residents became legal owners, they did not fear eviction from their lots.

Indeed, one resident in a women-only focus group expressed the difference between "before" and "after" ownership in this way:

> *For example, the property title is like a marriage certificate. If you are not married with that person [with whom you cohabit], well, it does not exist. Even though you are living together, keeping the union together, you are nobody. You have no rights over that person. If you are married, you have more rights in all aspects. The same with property. We have rights in everything. Simply now that [inaudible] either you are the wife or you live together. I am the husband. ... I am his owner. My property. My marriage is my property of him. I have all the rights with him. It's the same with the house. The title is my right to it. It's yours."*

Besides expressing a very particular understanding of marriage, the resident is clear about how important this piece of paper is. Title is the "property of him (lot)." The issue of right is essential in this view.

> *Having your title, being secure, you can say, it is my house and it is my solar [lot]. I can do whatever I want with it in case of an emergency or anything else. …. If you have a little piece of paper, as we say, the paper speaks for you. (laughter) Yes, the paper talks. It says that it is yours. Well, it is mine.*

Another consequence of legality is the fact that most new legal owners are very willing to pay taxes. They expect that, by doing so, their claim on their lot is even more secure because it ultimately proves they are the rightful owners of the property. Moreover, paying taxes also has important implications in their self-perception and in their perception of *colonias*. As taxpayers, residents are starting to change their perception of their right to request basic infrastructure from county officials and to improve the provision of services such as water, sewage, and paved roads.

We also observed that having legal title has had an empowering effect on current owners and has changed their self-perception dramatically, as individuals and as members of their communities. In terms of self-perception, having legal ownership of their lots was expressed as a turning point for most people interviewed. Their worthiness as individuals and as family members improved dramatically. As one of the residents expressed, "It was hard. But we owned the land. I could say, 'Esto es mio.'" This pride does not come from the fact that they own the land (as we observed that they acted as "de-facto" owners) but from the recognition of that fact by others. This outside validation resulted in a considerable redefinition of who they are in their communities.

3 Use Value VS Exchange Value of Title
This theme is closely related to our previous finding. As new owners actually live in

their properties, make improvements, and stay in their communities, they are actually taking advantage of the "use-value" of title as they feel the security and peace-of-mind title brings along. Paying taxes to assure their rights contributes to this fact. This finding is now addressed in our theoretical discussion on the capacity of new owners to use the exchange value of their property.

In terms of real market value, our research shows that the price was fifty cents per square foot, about the same from the beginning of the 1980s until 2003. Getting proper title did not change market conditions or *colonias*' lack of basic services and isolation from main cities (see Ward et al., 2004 for a detailed analysis of land market performance in the *colonias* under study). Lots with proper title and lots without it did not show statistically relevant differences in terms of price. Title as a variable did not seem to be correlated with land price. From our survey, we found that the market was not operating well in these *colonias*, and that resale of lots were difficult. Almost four-fifths of survey respondents stated that it would not be easy to sell their properties, even if they wanted to. The impediment to such transactions does not seem to be possession of title but the fact that demand is low. Demand is not the same thing as need, as demand implies need and financial capability to pay to satisfy it.

Another aspect was also explored: to what extent new owners were willing to use this new asset to enter the financial system, and to use title as collateral to back loans. Without title, there are no legal rights over the land that *colonia* residents occupy, so they cannot use this asset in the financial market (De Soto, 2000). Following this argument, residents who became new owners were expected to start using their lots as collateral for loans. However, this is not what we observed.

One third of the 162 respondents in the Study Group claimed that in the past they had applied for a loan (for any purpose, not just home improvements), but only 5% indicated that they used property as collateral. The majority in both groups (87%, N = 228) expressed fearfulness about losing their homes if they failed to repay the debt. The Control Group showed similar results. This group has held a warranty deed for a longer period of time than the Study Group and therefore was more aware about the ability to use title as collateral for a loan (53% compared to 42%). However, our findings show that they, too (82%), feared losing their land and homes should they default on their loans.

Very few residents expressed their intention to use their lots as collateral. This could be explained from two different standpoints. From the demand point of view, in most cases new owners are very reluctant to jeopardize their only asset and do not want to risk losing it. Most *colonia* residents do not qualify for traditional loans; they had poor credit history, unstable jobs, and low incomes before *and* after getting title to their property. From the supply point of view, financial institutions are not actively pursuing these clients because the financial status of the residents does not change radically just because they have become "proper owners." They are still characterized as low-skilled workers who do not have stable or well-paid jobs. And because the market value of these lots is not growing significantly, it is not profitable for the banks to give loans to individuals who, in their perception, are still high-risk clients. Finally, as the value of the property has not increased dramatically, banks do not see this as an

attractive investment, as the re-sale value of those properties is not significant.

Use-value of title is what matters, according to our observations. This conclusion came from our survey and from our focus groups. Homeowners are actually living in their property and making the most out of the fragile and many times unsafe environment in which they live. Accepting this fact is a "must" for planners who need to approach the needs of these communities from a holistic view.

4 Title and Informality

When this study was conducted title had been given across *colonias* and therefore we expected that almost all our respondents were going to claim to have a deed on their properties. The Warranty Deed is the evidence of title that the CRG granted to all residents in the Study Group, and those in the Control Group already had received deeds from the developers when they completed their payments.

However, our survey showed a slightly different picture: 82% of respondents (218 of 265, combining both groups) said they currently held a Warranty Deed; most of the remainder (10% or 27) stated they held a written Contract for Deed; and the rest claimed to have only a letter or receipts to prove ownership, had no title at all, were unsure, or declared some other form of title. No major differences appeared in this respect between the Control and Study Groups.

While it is always possible that these may be non-results reflecting "noise" within the survey questionnaire and/or misreporting and misunderstandings, we have reasons to believe that this data may genuinely portray what is happening in *colonias*.

This was one finding coming from the survey that needed to be addressed in the focus groups and with our key informants in the area. One fact is that holders of a warranty deed may sell property in subsequent exchanges since titling, whether it was granted by the developers or by the CRG, using the written contract for deed or payment schedule when they sell (*traspaso* in Spanish). Thus, people may be reverting to the older mechanisms of lot sale and title transfer rather than working through the formal exchange of Warranty Deeds.

This phenomenon is explained by the fact that the purchaser only receives a warranty deed if the full purchase price is paid outright at the time of sale, whether it is financed by a loan or from savings. As most *colonia* residents do not qualify for outright purchase of the lot, the contract for deed or an unwritten payment schedule is their most practical option. The contract for deed or payment schedule, in fact, replaces a formal selling process and dramatically reduces transaction costs such as attorneys, mortgage set-up, and title searches.

Indeed the conditions that created informality in *colonias* have not changed dramatically, so we observe a tendency to return to a situation very similar to the one that the intervention intended to rectify. Before the receivership program was applied in these colonias, these were the conditions that moved them into informality: lack of access to legal instruments explained both by their lack of information and of financial resources; lack of a legal framework for *colonias* who happened to fall into the inconsistencies of Texas legislation related to their status. While the CRG

intervention has addressed the last factor, the other ones are still present and it is very likely that the future will see a re-appearance of similar problems. This is an issue that needs further consideration.

CONCLUSIONS

This paper has argued that land titling in *colonias* has resulted in a positive effect on feelings of efficacy and belonging and a neutral effect on access to financing through the use of title as collateral to secure loans.

Colonias are characterized by substandard housing units in a land market with very little regulation. Initially, the Texas legislature disregarded their existence, assuming that these border communities were just transitory. Most policymakers failed to see or accept that this was not the case. In the case of Starr County, legal intervention happened only after a spectacular fraud case involving a corrupt county judge — and only after media coverage of resident unrest and several protests in the state capital of Austin.

This study shows much more stability in the population in *colonias* than was expected by Texas officials. The majority of residents expressed their willingness to stay in these communities even when having the possibility to legally sell their properties. It is not totally clear whether this is just the result of the lack of demand in a mostly lagging land market, but whatever the cause may be, the fact is that residents are there for the long-run and that we need to start planning accordingly.

Several regulations have been enacted to stop the *colonia*-growing process and make developers comply with state minimum standards. However, *colonias* still exist and new *colonia*-type developments are emerging along the border and in the rest of the country. Indeed, the conditions that resulted in the initial emergence of *colonias* still persist. Low-income, skill-less individuals cannot afford increasing housing prices, and if land — one way or another — is available and regulations are not clearly defined or not always enforced, the problems presented here will persist.

We have presented the many positive results of the titling program, but we also observed that the implications of this intervention are limited. In terms of making communities more livable, which is essence of why we do planning, titling has been very positive. New legal owners have expressed in many different ways the positive results in terms of their self-worth, sense of belonging, and feeling of being respected citizens as they pay property taxes. Ultimately, planners aim to improve people's lives, and it is observed in this research that formal ownership is one way to do that, especially when the alternative is not renting but total insecurity.

Title has not had an immediate impact on land markets. We observed that, as theory suggests, ownership is a necessary but not a sufficient condition. What is needed for a healthy market is supply and demand. And demand is not equivalent to need. Need, together with financial capability, results in demand. We found a pressing need in *colonias* but household incomes are too low to generate a strong demand out of that need. While having proper title is positive, other elements are required for robust and dynamic land markets.

Some authors have suggested that new owners have the *new* capacity to use their title to back loans, but we did not observe this. We did observe that residents worked so hard to buy their lots and make improvements to them that they were not willing to risk losing them through the financial system. In our view, this reflects how rational the residents are. The cost of not being able to pay a debt and then losing their most valuable asset is too high.

Colonia residents are taking advantage of the use value of their property rights and are not, by now, realizing its exchange value. After all, they are choosing (or freely or determined by fragile markets) to stay and live in these communities. Planners need to recognize this fact in order to recommend policies that will improve these communities in the long-term.

It is important to note the limitation of this study and the need of further research. We have studied some of the poorer regions in the country under very adverse economic and legal circumstances. It is still a work in progress as more empirical research is needed in a very active border region.

The establishment of informal un-regulated settlements is not accepted by the legal system in the U.S. However, as observed in this study, they are happening and planners need to understand that just by giving title to property owners, the complex array of problems they confront are not solved. We observe that this is a move in the correct direction, but much more is needed in a long-term to creating livable, sustainable communities in the border region.

Planners and policy makers need to approach these communities from a holistic view. It is clear from our study that giving title is a positive policy but alone can only result in limited impact in colonias. There is a cry for a comprehensive planning approach in the whole border region that will allow *colonias* and their residents, who are already working hard to attain the American Dream, to continue working with more institutional and legal support.

ENDNOTES

1 This paper greatly benefited from the comments and suggestions of two anonymous reviewers.

2 This paper derives from a final report these researchers presented to the Community Resources Group in 2002-2003 related to an evaluation of their role in the Receivership Program in Starr County, Texas. However CRG is not responsible for the opinions cited in this paper.

3 Perhaps the most important agency investing in infrastructure in colonias is the Texas Water Development Board (TWDB) that has been in charge of major water and wastewater projects.

4 The U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is poor. If a family's total income is less than that family's threshold, then that family and every individual in it is considered poor. The poverty thresholds do not vary geographically, but they are updated annually for inflation using the Consumer Price Index (CPI-U). For the year 1999, one person with an annual income below $8,501 is considered poor.

5 In the 2000 Census this is the way in which *colonias* information was collected.

REFERENCES

Azuela, A. & Duhau, E. (1998). Tenure regularization, private property and public order in Mexico. In E. Fernandes and A. Varley (eds.), *Illegal cities: law and urban change in developing countries*. London: Zed Books.

Bartlet, J, Kotrilk, J. & Higgins, C. (2001). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal*, 19 (1) 43-50.

Bell, C. (1990). Reforming Property Rights In Land And Tenancy. *World Bank Research Observer*, 5: 143-166

Buckley, R. & Kalarickal, J. (2004). Shelter Strategies for the Urban Poor: Idiosyncratic and Successful, but Hardly Mysterious. World Bank Policy Research Working Paper 3247.

Buckley, R. & Kalarickal, J. (2005). Housing Policy in Developing Countries: Conjectures and Refutations. *World Bank Research Observer*, 20(2):233-257.

Bureau of the Census. (2005). Census 2000, http://www.census.gov.

Calderon, J. (1999). Algunas consideraciones sobre los mercados ilegales e informales de suelo urbano en América Latina. Lincoln Institute Research Report. LP99Z16

Carter, M. & Olinto, P. (1998). Do the 'poor but efficient' survive in the land market? Capital access and land accumulation in Paraguay. *Mimeo*, University of Wisconsin-Madison.

Cole, D. & Grossman, P. (2002). The meaning of property rights: law versus economics? *Land Economics*, 78 (3), 317-330. LP99Z16

Davies, C. & Holz, R. (1992). Settlement evolution on '*colonias*' along the US–Mexico border: The case of the Lower Rio Grande Valley of Texas. *Habitat International*, 16 (4), 119-142.

Deininger, K. & Binswanger, H. (1998). The evolution of the World Bank's land policy: principles, experience, and future challenges. *World Bank Research Observer*, 14 (2), 247-276.

De Soto, H. (2000). *El misterio del capital: por qué el capitalismo triunfa en Occidente y fracasa en el resto del mundo*. Lima: Empresa Editora El Comercio.

De Souza, F. (2001). Perceived security of land tenure in Recife, Brazil. *Habitat International*, 25, 175-190.

De Souza, F. (1999). Land tenure security and housing improvements in Recife, Brazil. *Habitat International*, 23 (1), 19-33.

Doebele, W. (1994). Urban land and macroeconomic development: moving from access for the poor to urban productivity. In Jones, G & Ward, P. (eds.), *Methodology for land and housing market analysis*. Cambridge, MA: Lincoln Institute of Land Policy.

Gilbert, A. & Ward, P. (1985). *Housing, the state and the poor: policy and practice in three Latin American cities*. New York: Cambridge University Press.

Gilbert, A. (2002). On the mystery of capital and the myths of Hernando de Soto: what difference does legal title make? *International Development Planning Review*, 24, 1-20.

Hardoy, E. & Satterthwaite, D. (1989). *Squatter citizen: life in the urban Third World*. London: Earthscan.

Larson, J. (1995). Free markets deep in the heart of Texas. *Georgetown Law Journal*, 84 (2), 179-260.

Lee-Smith, D., Trujillo, C. & The Huairou Commission, (1999) Land Management , CSD Women's Caucus http://www.earthsummit2002.org/wcaucus/Caucus%20Position%20Papers/land/land.htm. (accessed on August 23, 2006)

Mettling, S. (1997). *The Contract for Deed*. Chicago: Real Estate Education Company.

Office of the Attorney General, State of Texas. (1993). *Socioeconomic characteristics of colonia areas in Hidalgo County: what the 1990 Census shows*. Austin, TX: Office of the Attorney General.

Office of Attorney General, State of Texas. 2002. http://www.oag.state.tx.us/index.shtml.

Paulson, A. & Townsend, R. (2000). Entrepreneurship and financial constraints in Thailand. *Mimeo*, Northwestern University.

Payne, G. (ed.). (2002). *Land, rights and innovation: improving tenure security for the urban poor*. London: ITDG.

Perlman, J. (2002). Metamorphosis of marginality: Rio's favelas 1969-2002. Paper presented at the World Bank, May 7, Washington D.C.

Romero, G., Nava, P., & Palacios, L. (1994). Community participation in the sustainable development of settlements in Mexico City. *RRA Notes 21* (special issue on participatory tools and methods in urban

areas), 70-77. London: International Institute for Environment and Development.

United Nations Centre for Human Settlements. (2001). *Cities in a globalizing world: global report on human settlements*. London: Earthscan.

Varley, A. (2002). Private or public: debating the meaning of tenure legalization. *International Journal of Urban and Regional Research*, 26 (3), 449-61.

Utts, J. (2004). *Mind on statistics*. Belmont, California: Thomson-Brooks/Cole,. 2nd edition.

Ward, P. (1999). *Colonias and public policy in Texas and Mexico: urbanization by stealth*. Austin, TX: University of Texas Press.

Ward, P. (2000). *Residential land market dynamics, absentee lot owners, and densification policies for Texas colonias*. LBJ Policy Report. Austin, TX: LBJ School of Public Affairs, The University of Texas at Austin.

Ward, P. & Carew J. (2001). Tracking land ownership in self-help homestead subdivisions in the United States: the case of Texas "*colonias*." *Land Use Policy*, 18 (2), 165-178.

Ward, P., De Souza, F., Giusti, C., Larson J., & May, M. (2003). *An evaluation of the Community Resources Group (CRG) colonia lot titling program in Rio Grande City, Starr County, Texas*. Report presented to the CRG.

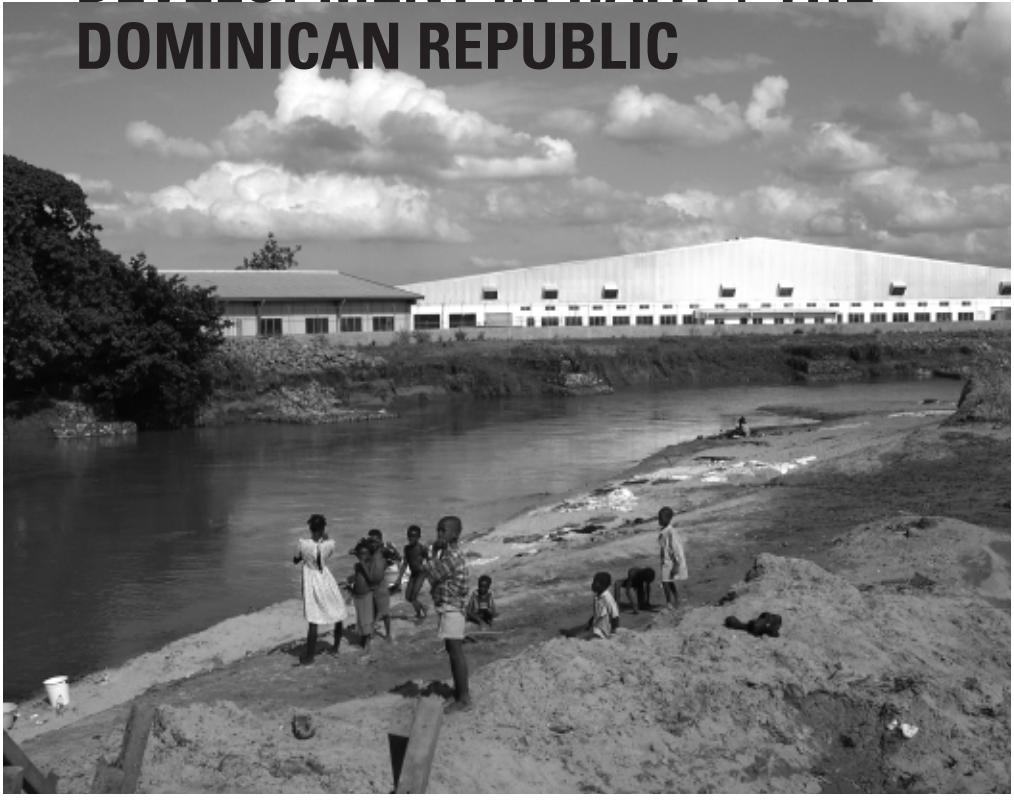
Ward, P.. De Souza, F., & Giusti, C. (2004). '*Colonia*' Land and Housing Market Performance, and the Impact of Lot Title Regularization in Texas. *Urban Studies*, 41 (13), 2621-2646.

Wilson, R. & Menzies, P. (1993). The *colonias* bill: communities demanding change. In Wilson, R. (ed.), *Public policy and community: activism and governance in Texas*. Austin, TX: University of Texas Press.

Woodruff, C. (2001) Review of de Soto's "The Mystery of Capital" *Journal of Economic Literature*, 39 (4), Dec., 12115-1223.

Dr. Lena Poschet
Ecole Polytechnique Fédérale de Lausanne, Laboratoire de Sociologie Urbaine

ACROSS THE RIVER : DAJABÓN + OUANAMINTHE : A CASE OF URBAN BORDERLAND DEVELOPMENT IN HAITI + THE DOMINICAN REPUBLIC



ABSTRACT
Border cities have to cope with divergent interests more than other cities, because in the same place protection of national sovereignty clashes with local practices and international cross-border movements. The question of how economic, political, and societal transformations linked to the globalisation process shape the urban space of border towns should thus be answered through a multifaceted analysis. This article introduces the analytical framework of border intermediation, dealing with the internal characteristics of the city, its function in national and transnational networks, its relation to the direct rural environment and the ways in which the border conditions these dimensions.

The two towns studied, Ouanaminthe and Dajabón, are located on the Haitian-Dominican border, which is strongly marked by its complex history since the times of French and Spanish colonization. This case study is based on qualitative methods — such as mapping use of urban space and interviewing local stakeholders and residents. Cartography and other primary and secondary sources complement these observations.

Following the economic opening of the border, the remarkable demographic and spatial growth of both towns has dramatically changed ground property values. Urban development remained principally in the hands of landowners. Cross-border exchanges and the establishment of a "maquiladora" industry have had a different impact on the relations between both towns. At the local level, recognition of common problems has built some basic cross-border solidarity, supported by civil society and local governments. But this apprehension is not shared by the central governments and transnational economic actors, and it is undermined by strong prejudices of people on both sides. Both towns develop, following their own inherent characteristics, and despite the fact that they play common roles in cross-border networks, no bi-national urban space exists. The links between both towns are mainly functional and not strong enough for creating the sentiment of belonging together.

INTRODUCTION[1]

Few borders exist that separate two countries as dramatically disparate as the Dominican Republic and Haiti. Both share the territory of the island of Hispaniola[2], but a profound process of differentiation rooted in the colonial division of the island between France and Spain, and ideologically maintained by both modern nations, has led to what Théodat (1998, 2003) calls "twofold insularity," where each country behaves as if it were located on a separate island.

In spite of all prejudices and ethnic, historical, linguistic, social, economic, or religious differences (see Table 1 below), people living in the border regions have established cross-border relations, which, even if largely based on economic interests, are much more frequent and important to both nations than officially acknowledged (Cerdano and Dilla, 2005; Sillé & Segura & Cabral, 2002).

TABLE 1 Basic data of Haiti and Dominican Republic

	Haiti	Dominican Republic
Population	8.4 million	8.7 million
Surface area	27,750 km^2	48,442 km^2
Density of inhabitants	299 habitants/km^2	176 habitants/ km^2
GNI per capita (Atlas method)	450 USD	2,470 USD
Life expectancy at birth	52 years	67 years

Sources: Worldbank 2005, IHS 2003, ONE 2002

The local dynamic created by this exchange becomes palpable when one observes the busy bi-national market in the border towns of Ouanaminthe (Haiti) and Dajabón (Dominican Republic) that are, as showed by Figure 1, located in the north of the island. Twice a week, people from almost the entire northern region of both countries travel to these towns, located on either side of the Masacre River, to buy and sell goods or offer services in the market of Dajabón. The other days of the week, tons of cargo are transported to Haiti, to the extent that the once small borderland settlements have become an important junction in the economic subsystem of the northern part of the island. Moreover, the 2002 construction of a free zone in Ouanaminthe — to produce textiles for the U.S. market — has connected the borderland towns to the international economy. The uneven relation between Haiti and the Dominican Republic shows how the socio-economic differences between the countries have become fertile ground for cross-border trade and transnational production systems. On a much smaller scale, the Haitian-Dominican relationship is thus comparable to the existing economic exchange and the "maquiladora" industry in urban centers at the Mexican-United States border.

How has this recent growth of cross-border economy affected the urban development of the two border towns Ouanaminthe and Dajabón?

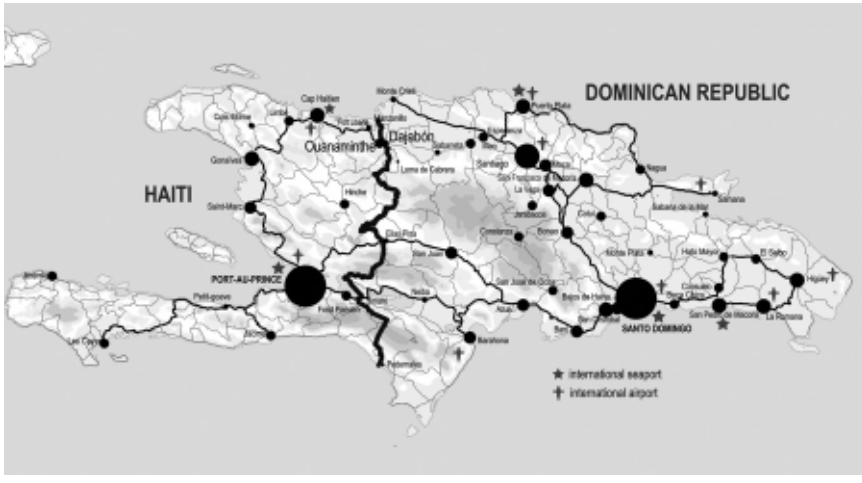


FIGURE 1. The transit point Ouanaminthe and Dajabón within the network of urban agglomerations of the island.

The first section of this article introduces the analytical framework of "border intermediation" that guides the empirical part of this study. The second section, mainly sourced on statistical and historical data, will provide a profile of the relations between both countries. The next two sections deal with the spatial and social transformation of Ouanaminthe and Dajabón: their demographic and spatial growth, their function as economic interfaces and the cross-border relations of the local population. This part is largely based on data collected during four periods of fieldwork from 2002 to 2004;(4 months overall) using principally qualitative methods: observation and mapping of occupation and use of urban space (photography, sketches, notes), cartography of new urban extensions using GPS and qualitative interviews with 1) local stakeholders (30 politicians, representatives of civil society, entrepreneurs, landowners and educators on both sides of the border) and 2) residents of marginal neighborhoods (15 residents of Ouanaminthe and 15 residents of Dajabón).

The article concludes with a discussion of the bi-national perspective of the urban space as a result of the role that both towns have in the cross-border interactions.

URBAN BORDER INTERMEDIATION

The development of two opposite border cities must be seen in the context of the economic, socio-demographic, and legal discrepancies that separate the two adjacent countries. Their development is also the result of their geographic insertion in infrastructure networks that makes the place attractive for settlements. This means that we have to understand the status of the border that conditions their relations, but also their history, their genesis, and the relations that borderland cities maintain with the border and within the national and international network of cities (Bennafla, 2002; Buursink, 2001; Ehlers, 2001; Reitel et al., 2002; Vaneph, Revel et Mouzoz, 1994).

More so than other cities, borderland cities are situated at the crossroads of "territorial space," based on the protection of national integrity and "reticular space," which

implies cross-border movement of goods and people. This spatial particularity makes the analysis of interactions especially complex and blurs the perception of different territorial scales, for instance, when national interests of territorial defense mingle with local cross-border interactions.

I addressed this issue of the intervention of different geographical scales in a local context through the analytical framework of urban intermediation (Ajuntamenta de Lleida, UNESCO UIA-CIMES, 1999, Bolay and Rabinovich, 2004). Intermediate cities either have central functions in relation to their immediate environment (local or regional administrations and places offering services and goods, centers of social, cultural and economic interaction) or play a central role within the infrastructure networks on the regional, national, or international level. In my approach, I focused on the practices and politics of endogenous and exogenous stakeholders in politics, economics and civil society. In this way, the framework becomes principally a guideline for the analyses of complex processes that link the transformations of a local environment to the national and international context. In borderlands, this also means that the motivations behind economic strategies, policies, and social practices should be analyzed according to the relations they have with and across the borderline. Consequently, the characteristics of the border play a central role in these relations that are also described in Figure 2 :

- *Political implications* such as the existence of bi-national or international treaties, but also unofficial cooperation of political stakeholders at the local level.
- *Economic interest* of the border to create economic activities (legal and illegal) due to the disparities between the two countries (economic, socio-demographic and regulatory).
- *Identity formation* through the border by the definition and delimitation of the national identity, but also as federator of a regional "borderland identity."
- *Social permeability* of the border to social contacts between borderland societies.
- *Territorial defense* role of the border as physical barrier and military presence at the borderline.
- *Geographic integration* of the border in the regional and national context and its connection through infrastructures.

THE BORDER : A PARADOX OF PERMEABILITY + OBSTRUCTION

BRIEF INCURSION IN THE HISTORY OF HISPANIOLA : THE TWO-FOLD IDENTITY OF THE ISLAND

The history that shaped the island of Hispaniola is complex, and in order to understand the issues that currently characterize this country's division, it is necessary to go back to the 17th century, when the former colonial powers, France and Spain, negotiated its division. The Spanish arrived first when in 1492 Christopher Columbus dropped anchor near the island and set up the first settlements on the eastern part of the island. The arrival of foreign troops contributed to the decline of the indigenous population.

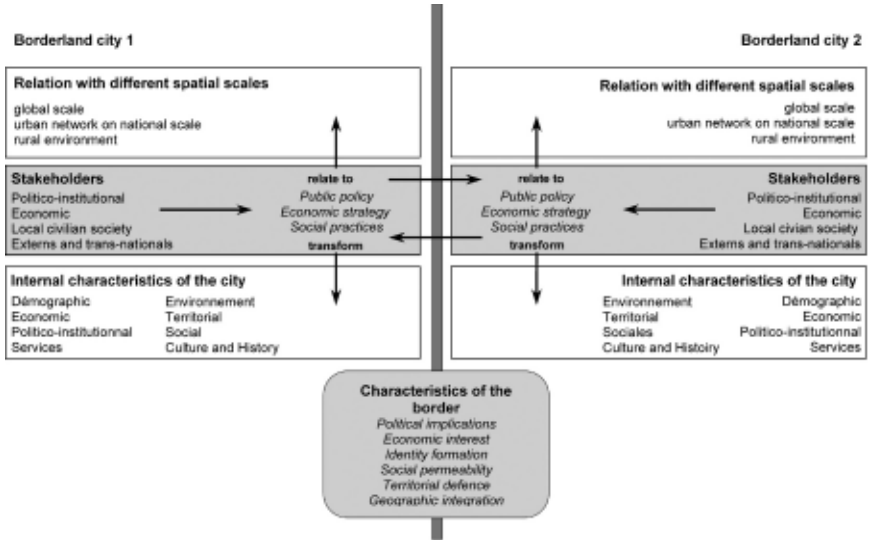


FIGURE 2. Framework for border intermediation.

French settlers arrived around 1625 on the western part of the island and proclaimed it a French colony in 1665, a status that was officially confirmed thirty-two years later by the Rijkswik Treaty. The final determination of the demarcation line between colonial powers took place in 1777 through the Aranjuez Treaty. With the exception of a few later modifications, this delimitation matches the current border between the two now independent nation states. Before and even after this treaty, frequent territorial disputes in the borderlands resulted in military excursions organized by the central governments.

Spain and France organized the exploitation of their colonies from completely different perspectives. The French set up a system of intensive plantations that exported production directly to the metropolis, while the Spanish occupied their territory through extensive agriculture based on livestock. The French extensively employed African slave laborers, while slavery was less present in the Spanish colony.[3] In spite of the territorial disputes between the colonies, trade was more or less tolerated. It consisted mainly of the export of livestock from the Spanish side to the French side, and the transit of goods imported from Europe in the opposite direction (oil, textiles, instruments, and luxury articles). Throughout this period, the border region was both the object of military interventions and a place of contact and exchange, vital to the population that lived through trade. This paradoxical situation is also reflected in the foundation of the two cities of Ouanaminthe and Dajabón. Ouanaminthe, located on the French side of the Masacre River, became an independent parish in 1758 after a struggle for recognition. It was described by Moreau de Saint-Méry (1796) as pleasant small town. The relative prosperity of the town also continued after the independence of Haiti, and a fair picture of it can be perceived nowadays by looking at the few remaining historical buildings, although they are in a state of advanced decay. Dajabón, the Spanish counterpart, was founded sometime between 1771 and 1776

as a military outpost. In comparison to Ouanaminthe, it was described by the same author as a rather modest, uninteresting town. Even if the Spanish colony's military objectives were the prevailing function of Dajabón, its inhabitants were heavily involved in the then-illegal cross-border trade. By the end of the 18th century, the parish of Ouanaminthe consisted of 7,500 inhabitants and the parish of Dajabón 4,000 (Moreau de Saint-Méry, 1796), a rather significant number of inhabitants that indicates the importance of the trade for both colonies.

The independence of Haiti in 1804, the episode of Haitian occupation of the entire island (1822-1844), and finally Dominican independence in 1844 did not dramatically alter cross-border relations, as the production in each part of the island did not change significantly and cross-border trade continued. During this period, both cities maintained their place in the cross-border networks.

Later, during the American occupation of the island (1915-1924 in the Dominican Republic and 1916-1935 in Haiti), the strict control of cross-border trade by the occupying administration drove the elites that dominated this commerce to resist and reinforce bi-national contraband networks. This resistance to the occupying force fostered a bi-national solidarity movement and a borderland identity, which resulted in relative independence from the occupiers, especially in the northern part of the island (Baud, 1993). The Americans altered the established balance between the two agricultural production systems by starting the intensive exploitation of sugar cane plantations on the Dominican side. As there were not sufficient numbers of Dominican workers, the plantations hired mainly Haitian laborers, which started the Haitian immigration to the Dominican side that continues to this day (Muñez, 2003). This period was also marked by the departure of Dominican settlers from the border to other parts of the island and their replacement by Haitians. The arrival of large numbers of Haitians in the Dominican Republic revived anti-Haitian and racist resentment, which had been latent since the occupation of the island by the Haitians a hundred years previously. Some years later, this anti-Haitian ideology culminated with the establishment of the superiority of Dominican people under the regime of Rafael Trujillo (1930-1961) that highlighted its supposed white skin color (70% of the DR population is of mixed race) and the religious practice of Catholicism, in contrast to the black color of the Haitians (95% are of African origin) and the non-Christian practices of Voodoo. The Dominican population was taught this ideology through school manuals, and today the older population still retains the prejudices transmitted by these representations.

Trujillo set in place a policy of Dominicanization of the borderlands in a very systematic manner. One of his first moves was the 1937 massacre of Haitians living in Dominican territory (estimations vary between 15,000 and 30,000). The region around Dajabón was strongly affected by this massacre. This cruel and unforeseeable action created a strong resentment in the Haitian population, thereby establishing the Haitian counterpart to anti-Haitianism — anti-Dominicanism. During the following period, the Trujillo regime militarily strengthened the border and reinforced border settlements through new infrastructure (schools, administrative buildings, churches, military posts, roads, monuments). The border region was repopulated with mainly European settlers. The Dominicanization process of the borderland resulted in a "Dominican"

border landscape that physically distinguishes itself from the appearance of the settlements on the Haitian border (Augelli, 1980).

After the period of dictatorship on the island (Trujillo 1930-1961 in the Dominican Republic; François and Jean-Claude Duvalier 1957-1986 in Haiti) the status of the border changed, progressively opening to economic exchange. Between 1992 and 1994 the embargo on Haiti conferred a particular status to the border, as contraband was one of the only ways to supply the Haitian market.

ECONOMIC RELATIONS

Today the border maintains its role as an interface between two economic systems. Both economies are based on services. In Haiti, agriculture still represents a large part of the national production (27% of GNI), while in the Dominican Republic, a similar share is occupied by industry (24% of GNI). Both rely on imports and remittances sent by migrant workers (Haiti imports three times more than its exports and has weak barriers restricting imports, whereas the Dominican Republic covers up to three-fourths of its imports with exports).

The bi-national trade has become an important source of income for the Dominican Republic. By absorbing goods of minor quality produced in the Dominican Republic unsuitable for export to other countries, Haiti is its second destination for exports after the United States. According to official sources, between 1996 and 2005 the value of these goods (for a large part construction materials and processed foods) grew from USD 24 million to USD 96 million. In the opposite direction, exports grew from close to 0 to USD 9 million (CEDOPEX, 2006). Nevertheless, for Haiti, the Dominican Republic is not an important export destination of goods, but is very important for the export of labor. Haitian migration to the Dominican Republic is estimated at 500,000 people working in agriculture and construction (OIM/FLACSO 2004).

Ouanaminthe and Dajabón are actively taking part in these bi-national movements, as more than 30 percent of the officially registered trade transits through its customs, and the bi-national market that takes place in Dajabón is the most important in the island (during one market day about USD 1 million of goods are exchanged). The market represents an important source of income for the inhabitants of both cities. These economic exchanges offer opportunities for businesses to start organizing export of goods from the Dominican Republic to Haiti by setting up warehouses on both sides of the border. The same businesses also introduce a transnational dimension to trading as they re-export merchandise imported from third countries (for example, rice).

Even if the population of both towns takes advantage of the growing trade, the majority of profits are reaped by the exporting and importing companies located in the larger urban centers, Cap Haitien in Haiti and Santiago de Caballeros in the Dominican Republic.

Haitian migrant workers are regularly expelled to Ouanaminthe, where some then settle. The occasional revelations of illegal networks organizing cross-border transit of migrants in Ouanaminthe or Dajabón also show that these cities play a particular

role in the system that supplies the Dominican Republic with labor. In this context, the installation of a free zone in Ouanaminthe by a Dominican entrepreneur (supported by both central governments), using cheap Haitian labor to sew textiles for the international market, is a logical development of the unequal relationship between both countries.

DISCONNECTION BETWEEN CENTRAL STATES + LOCAL SOCIETY

Confronted with the reality of such an unequal relationship, reactions of both governments are feeble. In public, the presidents of each county affirm the importance of collaboration, but to date hardly any mutual agreements exist at central government level, and those that do exist are not operational. The main concern for the Dominican government regarding the border seems to be migration, which creates conflict between the governments and populations of the neighboring countries.

Symptomatic of the relations between the governments is the enduring strong Dominican military presence, regulating and administrating the border in absence of the Haitian counterpart. (Haiti has had no military force since 1995.). The absence of support by the central state leaves local governments confronted with a complex situation where policy orientation, financial resources, administrative and organizational setups, language, and culture differ on each side of the border. On the local level, the growing trade has contributed to a revival of cross-border relations that are mainly the result of individual practices and civilian society. The latter is gradually organizing cross-border networks aimed at reacting to arbitrary administration of transit at customs, human rights infractions, and environmental issues. These organizations also have relationships with international solidarity networks. In Dajabón and Ouanaminthe, they play an important role in local governance, as they are currently the only organizations that have relative credibility regarding cross-border relations. International development agencies present in the borderland have initiated projects of bi-national interest, but they are disconnected from local institutions and are strongly influenced by their direct relationship with the central governments. For example, the free trade zone in Ouanaminthe that has been set up by a Dominican entrepreneur with the approval of both governments received financial support from the International Monetary Fund and the European Community financed the construction of a covered market in Dajabón, without involving the local governments.

Disconnection from the central government is common in the borderlands, where governance models frequently outside governmental action are invented to regulate and supply services in bi-national regions. They are often precursors of more formalized treaties (Sparrow 2001). For instance, in the present case, the mayor of Dajabón decided of his own accord in 2003 to help Ouanaminthe with waste elimination and continues to do so. As in other border cities, the relations that link Ouanaminthe and Dajabón to their national context are shaped by the contradictory objectives of top-down dynamics of the central state, which focuses on territorial integrity, and the bottom-up dynamics initiated by local populations and governments, whose existence and development depends largely on the opportunities offered by cross border-relations.

This conjunction of different types of spatial logic results in a constant adjustment

between different demands, for example when application of rules is altered by the pressure from economic stakeholders who act on an international level, but also from the local milieu, as was the case in Ouanaminthe and Dajabón when women involved in the bi-national market succeeded in their demand to continue exporting used clothing. There is also the case of cross-border practices that constantly test the imposed territorial limit by taking advantage of the existence of the border and the junction of two national territories, such as the contraband of gasoline or rice. An important capability of the local population is their expertise in getting around the official rules and adapting them to their needs in daily cross-border relations.

URBAN DEVELOPMENT

DEMOGRAPHIC GROWTH

The urban population of Ouanaminthe increased from 7,200 to 39,700 between 1982 and 2003, while Dajabón grew from 8,500 to 16,300 inhabitants between 1981 and 2002 (IHSI 1987, 2003, CONAUR - CEUR 1999, ONE 2002). This growth was partially due to the general tendency of urbanization in both countries; however, the borderland situation brought about an additional influx of mainly rural migrants, particularly in Ouanaminthe. The map in Figure 3 shows that both towns have grown in different ways. The major growth of Dajabón took place before 1990, whereas Ouanaminthe's area more than doubled between 1990 and 2004 (from circa 90 hectares to 230 hectares). This period coincides with the embargo on Haiti, when hardship in the country drove migrants to the cities and borderlands, as contraband was one of the ways to assure survival. It also reflects the different economic systems of the counties, as during the 1990s, the Dominican Republic extensively developed free zones close to large agglomerations, making the emerging economy in the border region less attractive.

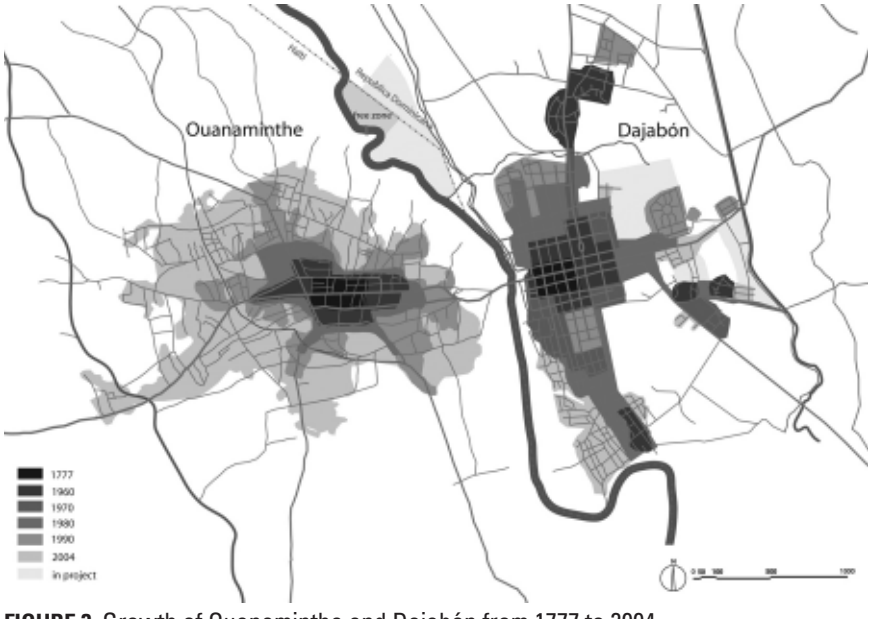


FIGURE 3. Growth of Ouanaminthe and Dajabón from 1777 to 2004

Both towns lack urban planning and adequate application of building regulations that should be enforced by the municipalities under the supervision of the central administration. Thus, spatial growth is entirely governed by landowner structure and land occupation practices. Land around Dajabón belongs mainly to two landowners, whose current strategy to enhance land value by developing well-equipped middle class neighborhoods has restricted urban sprawl. Ouanaminthe land mostly belongs to small farmers. The selling and illegal occupation of quite small plots has led to sprawling urban growth along rural footpaths, with entire areas inaccessible to motor vehicles. Population growth is also absorbed by high densification of existing neighborhoods. Land has become a point of conflict. In Dajabón, land prices have risen from a symbolic value up to USD 40 per m^2 in better locations over the last twenty years. The town center, where the market takes place, is progressively being transformed into a commercial area, with warehouses in former dwellings and improvised food-stands that are only open for the two market days. In both towns, a process of internal segregation has begun, as more and more businesses occupy the town center and the emerging middle class gathers in specific neighborhoods.

Comparative data for both cities makes the unequal situation clear. The cities have common traits, such as a relatively young and female population. However, while both lack infrastructure, Dajabón is at least able to provide a minimum standard, whereas Ouanaminthe lacks nearly all necessary services and infrastructure. A brief study of the budgets of both cities explains the situation: in Ouanaminthe the yearly budget is about USD 30,000, while Dajabón municipality receives a yearly sum from the central government equivalent to USD 360,000 and collects taxes from the bi-national market equal to about a third of this amount. The additional surcharge due to population growth and transit of traffic has had little or no impact on the budgets.

Table 2 shows that Ouanaminthe has a five times higher population density as Dajabón, cumulated with very precarious health care, sanitation and education.

SERVICES FOR A TRANSIT ECONOMY

The boom of the border economy has had a contradictory influence on the development of services. While public infrastructure lags far behind the need, each city has four banks that are branch offices of the most important national financial institutions (before 2000 there was one branch office in each town). The major national and international telecommunications companies are present in Dajabón, and the population of Ouanaminthe frequently uses the Dominican mobile phone network, also available in the Haitian border region. Despite the absence of tourist attractions (although the market regularly attracts a few foreigners), the number of hotels in both towns is rising. This private development, initated by economic players on the national level or by local investors, clearly shows that both cities are consolidating their insertion as a transit point of goods and people in the national city networks.

The location of the two towns, Dajabón and Ouanaminthe, is strategic for the conquest of the Haitian market. This statement by "Magazine Commercial," one of the most important export firms that trades in both towns, confirms this point: *"We started with a small warehouse in Ouanaminthe and today we have one big warehouse in the town centre and a small deposit in front of the market. We also own 50, 000 m^2 land*

TABLE 2 Summarized profile of Ouanaminthe and Dajabón

	Ouanaminthe	Dajabón
Population commune / province	77,319	62,046
Urban population	39,665	16,328
Density of habitants/km^2 in the whole commune /province	347 hab./km^2	61 hab./km^2
Population less than 18 years	50.4%	46%
Number of household members in urban environment	5.5 persons	4 persons
Illiteracy	49.5%	22%
Health centers	1	
General hospital		1
Manual water pumps	63	
Fountains	8 (= one water supply for 550 habitants)	
Households without access to drinkable water	n.a.	18%
Households without sanitation	n.a.	27%

Sources: IHSI, 2003; ONE, 2002; CONAUR/CEUR, 1999; MPCE/PNUD/FENU, 2001.

located on the main road for further business development. We have as well bought warehouses in Dajabón. (…) Our commercial relation is not only a relation between Ouanaminthe and Dajabón, but concerns the trade between the Dominican Republic, Haiti and other countries that can satisfy the Haitian market. We possess 500,000 m^2 of land in Dajabón where we plan to develop the project of a "Zona Multimodal y Fronteriza de Hispanola" including 25 locations for enterprises, a hotel, a free port for the re-exportation of goods to Haiti." (Interview with the Director of "Magazine Commercial," Dajabón, August 2004.) This venture concerns also the development of the now declining seaport of Manzanillo, located at about 30 km to the north.

BORDERING SPACE

UNEQUAL RELATIONSHIPS

The conversion of rural migrants to the service economy and cross-border trade makes crossing over to Dajabón indispensable for a growing number of Haitians seeking income, but also healthcare and education, despite latent racism and mistreatment. With strong feelings of exploitation, Haitians often criticize the capitalist and even colonialist relationship imposed by their neighbors. They criticize not only the fact that the bi-national market takes place in Dajabón, but also that Dominican businesses have developed subsidiaries in Ouanaminthe, taking advantage of cheap labor and the absence of local production: *"The Dominicans need us for the market, that's all. There is no possibility to live together on an equal base. But also we [Haitians] have to develop our infrastructure; in the present situation we cannot share with them – first we have to grow to be stronger and then we can start sharing."* (Interview with a resident of Ouanaminthe, November 2003.)

For the Haitian population, the border represents a formidable barrier, even if it is open for free passage during the two days of the bi-national market in Dajabón. The gate in the middle of the bridge that crosses the Masacre River separating the two countries is thus a significant symbol. It is closed at night and closely guarded by the Dominican military and customs during the days with no market, and only those who have valid papers or offer some money to the military personnel can go through. The unofficial passage over the river (the water is barely knee-high most of the time) is also controlled by the Dominican army. Once in Dajabón, it is difficult to get out of town, as public transport is under military control and the major routes have several checkpoints.

Consequently, the bi-national market seems to be the only space where Haitian and Dominicans mingle (about 10,000 people actively take part). However, this mingling of vendors and buyers is equal only in appearance. Haitian participation depends on the arbitrary attitude of customs and the military and the underlying discriminatory regulations that make permanent installation difficult, such as the regulation that merchandise imported from Haiti (mainly used clothing) may remain in Dajabón only for 3 consecutive markets. It is no wonder that Haitians have less attractive displays and lower prices than Dominican vendors. Haitian products are also considered lower quality. A Haitian merchant describes her situation as follows: *"I used to go to the market in Dajabón every week, but for the moment I stopped going there as I don't find any profit there. There are assassins, and some people steal merchandises – no use to make a declaration to the police."* (Interview with a resident of Ouanaminthe, August 2004.)

Dajabón residents interviewed, on the other hand, do not need to cross the river to make a living. Half of them have never been to Ouanaminthe, but consider it insalubrious, dangerous, and out of control : *"I am scared over there, I have been one or two times to Ouanaminthe, I know the park and the church in the centre of the city, I stayed one hour, not more."* (Interview with a resident of Dajabón, August 2004.)

The simple fact of crossing the river is considered dangerous, as the general perception is that only people involved in illegal activities or with low morals (e.g., seeing prostitutes, participating in voodoo rituals) go to Ouanaminthe.

For these various reasons, space is not appropriated by the population of the other town in either Dajabón or Ouanaminthe. The unequal and complex relationship of both populations and the particularity of the border, that is simultaneously permeable and difficult to cross, have brought about the paradox of their spatial proximity accentuating segregation in both towns. The citizens of both countries can remain in their own environment and commute, if necessary, even daily. In Dajabón, there is no Haitian neighborhood, as is the case in other towns of the same size, even those located at the Dominican border.

In itself the border represents a specific space where Dominican domination is at least partially confronted. As already mentioned, the river that is an important element in the existence of both towns is controlled by the Dominican military, but its space is

occupied by the population of Ouanaminthe that uses it for its daily needs and for leisure. Dominicans are barely seen there and avoid going there.

THE FREE ZONE : A COMMON PROBLEM...BUT ONLY TO A CERTAIN EXTENT

The free zone is located on Haitian territory, but on the Dominican side of the Masacre. Thus, control of this space is easy for the Dominican military, which frequently violates the Haitian border, notably to intervene in protests of Haitian workers for better working conditions. On one hand, its presence creates new tensions between both populations as the workforce is exclusively Haitian but the supervisors and technical personnel Dominican. On the other hand, the fact that this zone has been imposed by the central governments without consulting the local population and governments has resulted in a common struggle against its presence that has mobilized players of the civil society of both towns. After losing the fight, this mobilization has continued with a certain degree of success in the battle for the workers' rights. The commitment of a civil society that also rallied international networks and labor organizations in this cause is thus a poignant example of the struggle for adjustment between local and transnational players in a globalized world that takes place even when power relations remain unequal. *"The story of the free zone is somehow confusing and surrounded by secrets. (…) The consultation of the local population has been done in an arbitrary way. Thus, when the government decided its construction in 2002, everyone hurried to denunciate this on local, national and international level. (…) But the government pursued its enterprise, destroying cultivated area without compensating the farmers. And now that the factory is running, the wages are much too low: 432 gourds (about 11 USD) weekly, in difficult working conditions."* (Interview with the coordinator of the "Comité de défense Pitobé," Ouanaminthe, October 2003.)

In spite of the common solidarity movement, the perception of the free zone is nevertheless different on each side of the border. In Dajabón, economic players and part of the population see it as an opportunity to develop business and attract residents with higher income, but in Ouanaminthe it is clearly perceived as a problem, overburdening the existing infrastructure with additional migration of a mainly unskilled labor force. *"They say that the free zone will create employment, but on our side [Haiti] the government has taken no initiative to help us to cope with this situation. People come from all over the country, Port au Prince, Jacmel, Gonaives, and they do not necessarily find work here."* (Interview with the Mayor of Ouanaminthe, October 2003.)

OUANAMINTHE + DAJABÓN : A BI-NATIONAL URBAN SPACE?

Ouanaminthe and Dajabón are functionally interlinked and their transformation has been undeniably governed by the gradual permeability of the border, but the economic opening of the border has created a contradictory relationship between the towns.

The interest in developing greater permeability of the border, not only in regard to the economic relations but also social and political exchanges, must clearly be located on the local level. For the central governments – especially on the Dominican side - the border remains a source of conflict, principally due to illegal immigration. Furthermore, the lack of transparency in customs administration profits a small part of the influential

entrepreneurs in alliance with central administrations and governments. The small local traders do not benefit from this kind of favouritism.

Even if the ambiguous feelings regarding the neighboring population persist, local governments and local populations are confronted with problems that go beyond borderlines, such as human rights, population growth, and environmental deterioration. The aims of the active local civil society involved with cross-border relations reflect these concerns. Present in both towns is the awareness that the increasing trade can only contribute to their positive development if the disequilibrium in the established relations is not strengthened, even if there are divergences as to how to bring it about and who must take action.

The major common problem for the local stakeholders is that the concerns of the central governments, and the transnational companies, are not a development of the internal characteristics of these urban settlements, but national or entrepreneurial interests that deal with cross-border relations in a manner detached from daily reality, but nevertheless interested. For these stakeholders, a partial permeability, restricted to economic exchange, remains the most advantageous option. Furthermore, the rules that define the border are not clearly established and vary according to the "client," which also means that a change in political direction has an unpredictable impact on the living condition of the local population. Important issues, such as customs regulations, military intervention, installation of transnational companies, and, last but not least, the major part of illegal cross-border activities, are not under the control of the border population. The malaise they feel about the border is also expressed by the aspiration of players in both towns to develop activities independent of the border by revitalizing their links with the rural environment and taking their role as regional centers more seriously.

Dajabón's dominant position can be attributed to a more stable national environment and superior infrastructure, giving the Dominican town the leading role in the border intermediation relations from the start. Opening the border has enhanced this unequal relationship, as infrastructures play a primary role in the economy.

The situation can be summed up by saying that Ouanaminthe is becoming the poorest area of Dajabón. However, this statement does not correspond to reality, as both towns are developing according to their internal characteristics and national environments, and functionally maintain an important role as urban centers for their rural environment. Moreover, for the reasons mentioned above, their role as complementary interfaces does not create a common urban space characterized by a common social and spatial organization that would give to the local population the sense of belonging together. Ouanaminthe and Dajabón can therefore still be characterized as two opposite border towns that will barely converge more than is necessary to efficiently tackle common problems when their social relations remain mainly confined to the organizations of civil society and the border continues under the arbitrary administration of the central states.

ENDNOTES

1 This article is based on my PhD research. The research was sponsored by the Swiss National Foundation for Research through the National Center of Competence in Research "North-South", in the framework of the Laboratory of Urban Sociology (LaSUR) at the EPFL. Poschet, L. (2006) *Villes à la Frontière et transformation de l'espace, le cas de Haïti et la République Dominicaine*. Thèse 3655 (2006). Lausanne : Ecole Polytechnique Fédérale de Lausanne.

2 On the island there is a desire to rename it "Quisqueya," one of its ancient Indian names. Nevertheless, I will use the term "Hispaniola", as this denomination of colonial origin is widely recognized.

3 The population present on the island by the end of the 18th century reflects these differences: almost four times more people lived in the French part on one-third of the territory of the island. The majority were of African origin and used as slave labor on the plantations (500,000 inhabitants, of whom only 30,000 were whites or Creoles). On the Spanish side, the population was very sparsely spread through the territory and there was little slave labor (125,000 inhabitants, of whom only 15,000 were classified as slaves) (Moreau de Saint-Méry, 1796).

BIBLIOGRAPHY

Ajunamenta de Lleida, UNESCO UIA-CIMES, (1999) *Ciudades Intermedias y urbanización mundial*. Ajunamenta de Leia.

Augelli, J. P. (1980). Nationalization of Dominican Borderlands. *Geographical Review*, Vol. 70(1), 19-35.

Baud, M. (2000). State-Building and Borderlands. *Cedla Latin America Studies*, 87 (Towards a Borderless Latin America), 41-79.

Bennafla, K. (2002). Commerce et marchés frontaliers et villes-frontières en Afrique Centrale. In B. Reitel, P. Zander, J.-L. Piermay & J.-P. Renard (Eds.), *Villes et Frontières* (pp. 137-150). Paris: anthropos, Economica.

Bolay, J.-C., & Rabinovich, A. (2004). Intermediate cities in Latin America, risk and opportunities of coherent urban development. *Cities*, 21(5), 407-421.

Buursink, J. (2001). The bi-national reality of border-crossing cities. *GeoJourna*l, 54, 7-19.

Cedano, S., & Dilla, H. (2005). De problemas y oportunidades: intermediación urbana fron-teriza en República Dominicana. *Revista Mexicana de Sociología*(201).

CEDOPEX, & CEI-RD. (2006). Reportes Estatisticos: CEDOPEX.

CONAUR-CEUR. (1999). *Dajabón lineamentos de política de desarollo urbano*. Santiago de los Caballeros: CONAUR-CEUR.

Ehlers, N. (2001). The utopia of the binational city. *Geojournal*, 54, 21-32.

FLACSO, INESA, & LaSUR. (2002). *Las practicas sociales de transformación del espacio urbano : El caso de la intermediación fronteriza en el Caribe y Centroamérica, Proyecto de Investigación*.Unpublished manuscript, La Habana, Santo Domingo, Port au Prince, Lausanne.

Foucher, M. (1991). *Fronts et Frontières, un tour de monde géopolitique*. Paris: Fayard.

Gupta, A. (1992). The Song of the Nonaligned Word: Transnational Identities and the reinscription of Space in Late Capitalism. *Cultural Anthropology*, 7(1, Space Identity, and the Politics of Difference), 63-79.

IHSI (2003) *Recensement national de la population 2003*. Port au Prince : IHSI.

MPCE/PNUD/FENU, (2001) : *Profil communal de Ouanaminthe*. Report. Port au Prince: MPCE/PNUD/FENU.

Muñoz, M. E. (2003). *Apuntes para una Interpretacion Historica de las Relaciones Domenico-Haitianas*. Paper presented at the La Frontera: Prioridad en la Agenda Nacional del Siglo XXI, Santo Domingo.

OIM/FLACSO (2004). Encuesta sobre inmigrantes haitianos en la Republica Dominicana. Santo Domingo: FLACSO/OIM.

ONE (2002) *Encuesta demografica y de salud 2002* retrieved August 31 2006 from ONE Website: http://celade.cepal.org/cgibin/RpWebEngine.exe/PortalAction?&MODE=MAIN&BASE=DHSDOM2002&MAIN=WebServerMain.inl.

Piermay, J.-L., Reitel, B., & Zander, P. (2002). Introduction. In B. Reitel, P. Zander, J.-L. Piermay & J.-P. Renard (Eds.), *Villes et Frontières*. Paris: anthropos, Economica.

Saint-Méry, L. E. M. d. (1796). *Description topographique et politique de la partie espagnole de l'isle de Saint Domingue, Tome premier* Philadelphie.

Saint-Méry, L. E. M. d. (1796). *Description topographique et politique de la partie française de l'isle de Saint Domingue, Tome premier* Philadelphie.

Silie, R., & Segura, C. ed. (2002). *Hacia una nueva visión de la frontera y de las relaciones fronterizas*, FLACSO, Santo Domingo.

Sparrow, G. (2001). San-Diego-Tijuana : Not quite a binational city or region. *Geojournal*, 54, 73-83.

Théodat, J-M, (1989). *Haïti- Quisqueya : une double insularité*. Mappemonde 51 (1998.3)

Théodat, J-M, (2003). Haïti - République Dominicaine. Une île pour deux 1804-1916. Karthala, Paris.

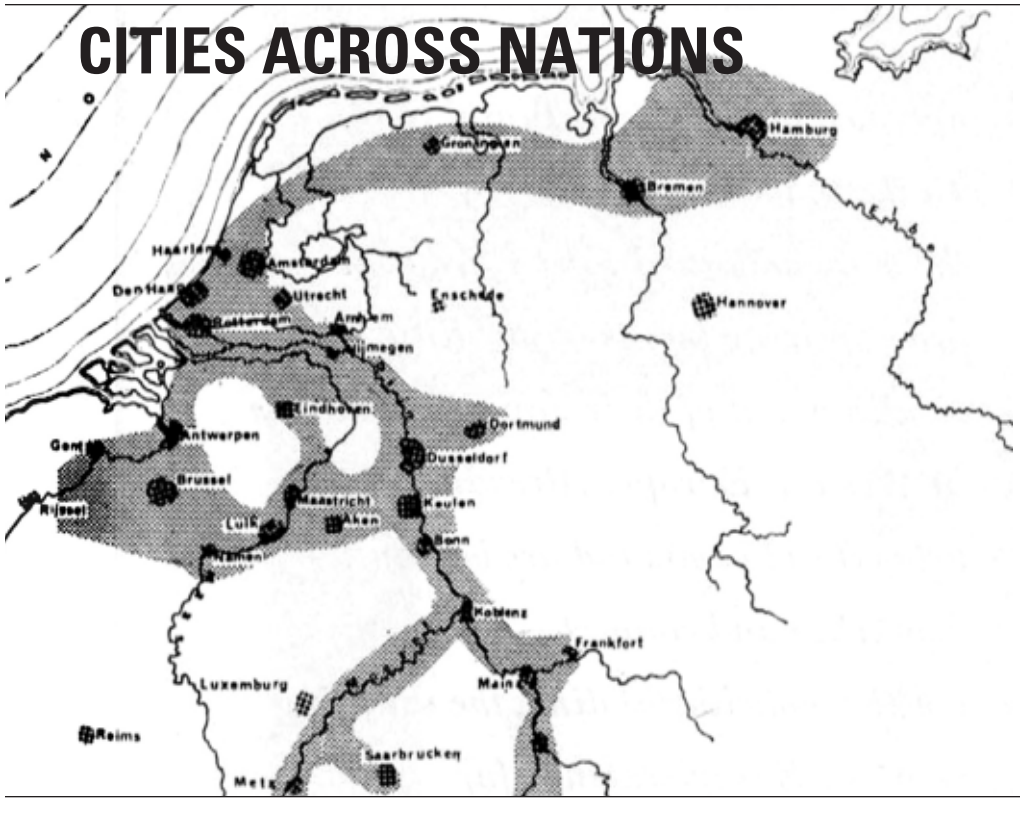
Vaneph, A., & Revel-Mouroz, J. (1994). Villes frontalières Mexique-Etats-Unis. *Problèmes d'Amérique Latine* (La ville et l'Amérique latine), 141-162.

World bank (n.d.) *Dominican Republic country statistics* retrieved August 31 2006 from Worldbank Website: http://devdata.worldbank.org/external/CPProfile.asp?SelectedCountry=DOM&CCODE=DOM&CNAME=Dominican+Republic&PTYPE=CP.

World bank (n.d.) *Haiti country statistics* retrieved August 31 2006 from Worldbank Website: http://devdata.worldbank.org/external/CPProfile.asp?SelectedCountry=HTI&CCODE=HTI&CNAME=Haiti&PTYPE=CP.

Els Verbakel
Princeton University, School of Architecture

CITIES ACROSS NATIONS



ABSTRACT
With the continuous transformation of the architectures, landscapes, and urban spaces of Europe's internal national boundaries, the nature and significance of cross-border territories requires close investigation. Cross-border territories challenging the right of existence of the nation-state now play a crucial role in the European socio-economic landscape. Regional collaborations as well as new and faster international transportation and communication infrastructures constitute a transnational field of operations within the European territory. Recent studies of urbanization trends in Europe have too easily discarded internal national borders as no longer relevant in a hyper-networked transnational world. Urban dispersal has become the privileged model to describe the non-hierarchical spatial organization of European urban space, replacing the national centralized metropolis. Yet crossborder regions and networks are not without hierarchy. Instead of strengthening the large field of sameness, they rearticulate and differentiate Europe's spatial structure. All the more intriguing, transnational space has developed in the form of international zones and districts, most significantly at specific borders, where the spatialities of topography, nation, and culture were never entirely congruent.

This study will take a closer look at the spatial mechanisms of European transnational space and theories of transnational urbanisms that developed during 1960s and 1970s. The first chapter is a phenomenological landscape study of transnational space at a very specific scene both in time and space: the landscapes of battle in Flanders Fields at the start of the Great War. The second chapter extrapolates these violently uprooted spatial mechanisms to larger considerations of transnational space and critically investigates architects' theories of a border-less European urbanism developed during the 1960s and 1970s. In this period of post-war optimism were formed the foundations of more recent theories of transnational urbanisms and architectures. Therefore, it is worthwhile to critically examine the post-war architectural discourse of a united urbanized Europe within the framework of the transnational spatial mechanisms.

Décidés à assurer par une action commune le progress économique et social de leur pays en éliminant les barriers qui divisent l'Europe.[1]
(Treaty of Rome, 1957)

Have we eliminated the barriers dividing Europe? No doubt the architectures, landscapes, and urban spaces of Europe's internal national boundaries have changed since the Treaty of Rome in 1957 and are still transforming. Cross-border territories challenging the right of existence of the nation-state now play a crucial role in the European socio-economic landscape. Regional collaborations as well as new and faster international transportation and communication infrastructures constitute a transnational field of operations within the European territory[2]. Recent studies of urbanization trends in Europe have too easily discarded internal national borders as no longer relevant in a hypernetworked transnational world[3]. Urban dispersal has become the privileged model to describe the non-hierarchical spatial organization of European urban space, replacing the national centralized metropolis. Yet cross-border regions and networks are not without hierarchy. Instead of strengthening the large field of sameness, they rearticulate and differentiate Europe's spatial structure.[4] All the more intriguing, transnational space has developed in the form of international zones and districts, most significantly at specific borders, where topography, nation and culture spaces were never entirely congruent (see Figure 1).

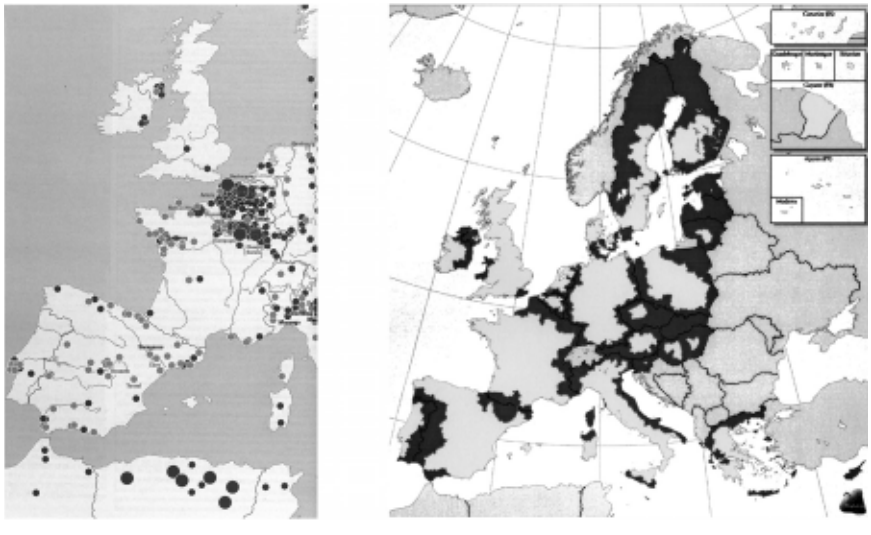


FIGURE 1. *Left*: **Battlefields of the last two centuries.** *(Foucher, Michel (Ed.) (1993). Fragments d'Europe. Atlas De L'Europe Médiane Et Orientale, Maxéville: Fayard, p. 34). Right*: **Bleeding Borders. Interregional collaboration territories.** *(INTERREG IIIA (2004), INTERREG IIIA regions, AeroGeographics Association for the administrative Boundaries).*

This study will take a closer look at the spatial mechanisms of European transnational space and theories of transnational urbanisms that developed during the 1960s and 1970s. The first chapter is a phenomenological landscape study of transnational space at a very specific scene both in time and space: the landscapes of battle in Flanders

Fields at the start of the Great War. The movements of the armies in the territory and the transformations of the landscape during these first months of what would become a global war brought to the surface the very deeply rooted characteristics of transnational space. The second chapter extrapolates these violently uprooted spatial mechanisms to larger considerations of transnational space and critically investigates architects' theories of a border-less European urbanism developed during the1960s and 1970s. These theories investigated the possible application of new brutalist, metabolist, and megastructural building methods as the new tools for universal architectures; in this case to further the cause of a united Europe. In this period of post-war optimism were formed the foundations of more recent theories of transnational urbanisms and architectures. Therefore, it is worthwhile to critically examine the post-war architectural discourse of a united urbanized Europe within the framework of the transnational spatial mechanisms. The more abstract challenge of the border in urbanisms that transcend national boundaries posed by postwar architects such as Yona Friedman[5], Constantinos Doxiadis, Archigram, Reyner Benham, the editors of Forum [ital] magazine and others can be traced back to the ways borders have been most violently challenged, relocated or erased (see Figures 2, 3). Their diagrams and schemes prescribed the transformation of borders into transnational space and implicitly reiterated their intrinsic spatial characteristics.

CHAPTER 1_Flanders Fields, August 1914

If transnational space is the interest of this study, let us briefly investigate its predecessor: national space. Since the birth of the state in the seventeenth century,

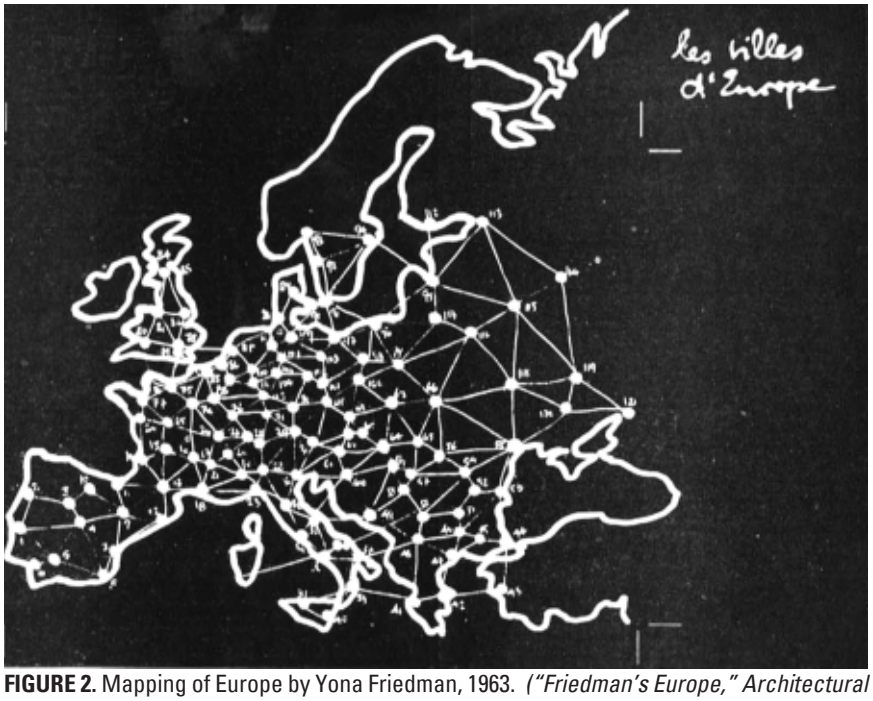


FIGURE 2. Mapping of Europe by Yona Friedman, 1963. *("Friedman's Europe," Architectural Review, May, 1963, p.307).*

the city has become its spatial and organizational model[6]. According to Michel Foucault, a well-regulated state was one that adopted a structural system similar to that of the polis (Foucault, 1984). Following Aristotle's model of the polis as a place where human nature culminates, the new 'polis-state' was a limited territory beyond which the state's regulation would be suspended (Reeve, 1998). However, while the hinterland of the classical polis knew no life but that of beasts and gods, the outskirts of the state did not consist of lawless life, but of another, equivalent system of regulation. The dominant Western urban model with its Greek roots that rendered culture versus nature was thus no longer able to fully describe incongruent border conditions. Thus, as soon as the state became an instrument for controlling a vast territory, its borders turned to a reciprocal condition of 'otherness.' This state of reversibility between one side and the other, especially in incongruent borders, formed a considerable threat to the legitimacy of the state.

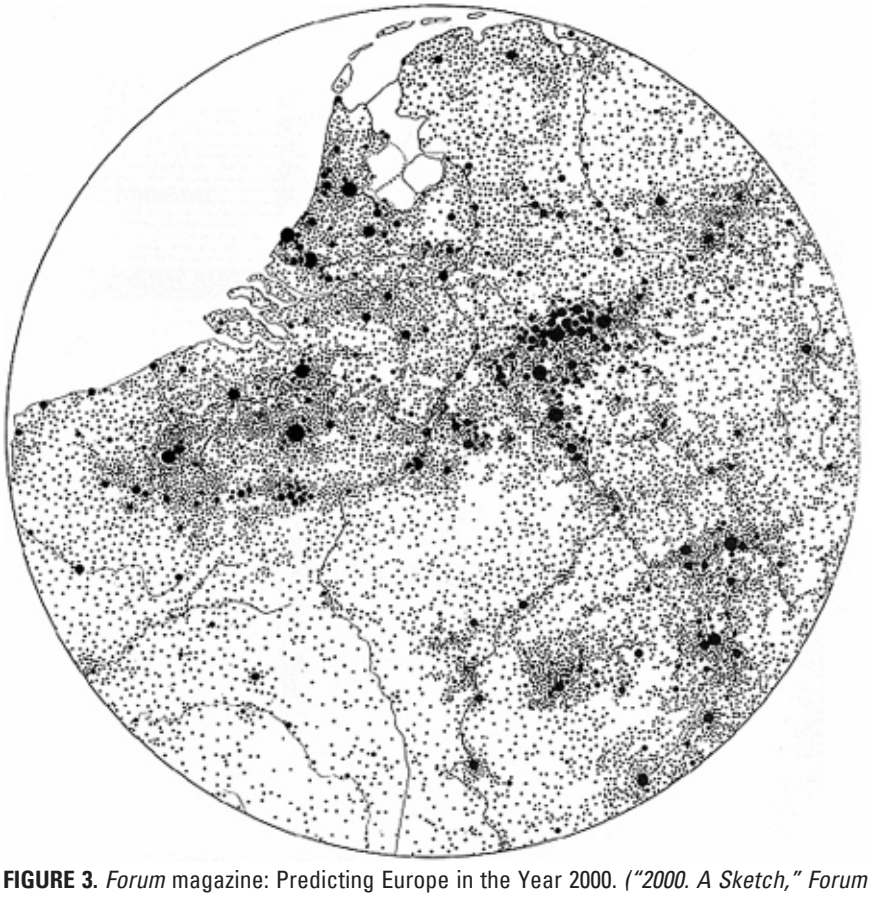


FIGURE 3. *Forum* magazine: Predicting Europe in the Year 2000. *("2000. A Sketch," Forum magazine, N1, 1964).*

In many ways, the Great War was an outburst of the crisis of the state. Although the turn of the century had witnessed a new intensity in international relations, the

condition of exchange and cooperation was accompanied by the rising power of nationalism. Minorities pressured for their own states; existing states were looking to expand. This nationalist impetus emphasized and expanded the easily combustible incongruities — existing or pursued. The incongruities between the space of control and their spaces of resistance — using Foucauldian terminologies — have been explained by the influential political theorist Ernst Gellner as the difference between bottom-up nations and top-down states (Gellner, 1983)[7]. In these theories, a national entity was seen as formed by the shared characteristics and common will of its members, a principle of political legitimacy rooted in eighteenth century theories of natural law. However, recent theorists of nationalism such as Benedict Anderson, Eric Hobsbawm and Terence Ranger have emphasized the artificiality of the idea of a nation, formed by invented traditions (Baycroft, 2004). Taking into account the more recent skepticism, incongruities might still exist between socio-cultural constructs such as nations and states, rather than between so-called natural conditions such as tribes and mountains. However, the more a nation is not intrinsically embedded in human nature, the more it can be related to larger spatial conditions. Thus one can conclude that transnational space has its roots in the establishment of national space and its intrinsic incongruities.

Flanders Fields — a territory stretching across both sides of the border between France and Belgium — is such an incongruent border zone, comprising the territories of South-West Flanders in Belgium and North-East France. Under this name, it first appeared in a poem written in 1915 by the Canadian military doctor John McCrae, featured as a land of conflict, memories, and death. Only in a condition of crisis did the territory's identity surface as a locatable place. Yet also before and after the First World War, these fields of Flanders operated as a territorial entity stretching across multiple cultural, political, and topographical boundaries.

To designate this border region, I therefore borrow McCrae's term in a search for the historical roots of a territory of increasing importance in the transnational European landscape, with Europe's central high-speed train hub located in its metropolitan heart. "Before being geometric or even geographic, space presents itself first and foremost as scene or landscape." (Foucault, 1988, Vol 1, p.101.)

If, according to Foucault, space is a priori landscape (Foucault, 1988), the panoptical dominance of space over bodies can be reversed to a space constituted by the body (Lefebvre, 1991). Indeed, landscape is the incorporation of the territory by human presence. Instead of being the geometric structure of simultaneity, space is then situational[8]. In the landscape of Flanders Fields, human actions such as military activities, inhabitation, migration, and smuggling molded and inscribed a cross-border territory[9]. Custom control stations, smuggling hideouts, taverns for commuter workers, and other border spaces together created a widened strip of land on both sides of the actual border line. At first more or less ignored in the eighteenth century and first half of the nineteenth century, the separation between two nations gained strength until the mid-twentieth century, now again losing its strength as a boundary, yet not rid of its spatial ambiguities.

It is hence the situation, inhabited by a social body, that brought about the transformation of a line between one state and the other into a wider margin[10].

This study highlights a range of instances where the landscape of Flanders Fields played an important military role in the first months of the First World War. However, these military tactics appear not isolated or invented, but symptomatic of underlying and continuous spatial processes. The study of a spatio-temporal instance — Flanders Fields at the start of WWI — will be used to establish a phenomenological model of border space, with an impact far beyond the specificity of the instance. In what follows I will elaborate three mechanisms of space-making specific to incongruent border zones. Here, different types of boundaries coexist: between land and sea, between languages, between nations, between enemies. The mechanisms that produce, modify, or erase these boundaries will be investigated by pairing the momentary "ontogenic" timeframe of battle with an evolutionary, "phylogenic" timeframe looking at forms of inhabitation, social practices, and migration. In this way, Foucault's understanding of battle as a model for society can gain new meaning. War time is a window to longer lasting spatial practices, from inhabitation over centuries, social oppositions confirming the border's existence, to economic exchanges reconnecting one side to the other.

1 FLUID SPACE

After a series of battles along the Western Front from August to September 1914, the Allied Forces and the German Army started a northward race to the sea with several mutual and unsuccessful attempts to outstrip the enemy. Meanwhile, in order to protect the last piece of defensible Belgium, King Albert I responded by opening the flood gates at the mouth of the river Ijzer, submerging the polders and keeping the Germans on the east side of the river (see Figure 4). The Belgian army took position behind the embankment of the railway connecting the towns of Nieuwpoort and Diksmuide, canceling the last possibility for the German army to cross the French-Belgian border. It was, however, no coincidence that precisely this piece of land would prevent the movement of both armies by returning to its former underwater state. Once 'wrested' from the North Sea, these polder lands were surrendered back to 'nature.'

FIGURE 4. *Left*: **British Military Map of flooded Ijzer plains with German trenches in black**. *("Zwartegat Inundation" Map at 1/10000, 17.12.17, Documentatiecentrum In Flanders Fields). Right*: **Soldiers in the flooded plains of the Ijzer river.** *(Documentatiecentrum In Flanders Fields).*

Over centuries of struggle against and symbiosis with the sea, the Flemish coast inhabitants and conquerors had adapted tactics of inhabitation in a constantly changing landscape. During the Roman period, the Flemish coastal plains were

frequently flooded due to large scale sea transgressions. In the eighth century the sea withdrew once again, creating areas of salty soil used for sheep and cow breeding, called saltings. Occupation of these saltings caused their dehydration, compaction, and a level decrease of the local topography, which then again created new flooded depressions. This topographic inversion overturned the settlement patterns, forcing inhabitants to move elsewhere. Villages relocated for want of better soils to former creeks, now filled with sand. The battle for inhabiting these violent territories shaped a fluctuating and instable relationship between inhabitable land and uninhabitable water. Between 1014 and 1042 A.D., a new sea transgression took place, causing frequent floods at two weak spots along the coast line: *Kadzand* and the plains of the river *Ijzer*. In response, the inhabitants built a series of long embankments to avoid future flooding and invaded the plains of the Ijzer river to create new plots of land, called polders (Verhulst, 1964). The first records using the word 'polder' in these areas date from the second quarter of the twelfth century, to indicate land conquering over water by building embankments. The inhabitants thereby moved from defensive strategies against flooding to offensive strategies of conquering land over sea for economic expansion. The polder lands acquired the status of being an act of aggression against nature, endowing the land with a value of illegitimacy. In the Ijzer Plains the first polder was built by the Dunes Abbey of Koksijde in order to expand its territory (see Figure 5). The abbey's records describe how, with hard labor, the monks 'wrested the earth from the heart of the sea' (Verhulst, 1964, P.21).

FIGURE 5. *Left*: **Ijzer Polders.** *(Verhulst, Adriaan (1964). Het landschap in vlaanderen in historisch perspectief. Antwerpen: De Nederlandse Boekhandel, p. 49). Middle*: **Ijzer Flood 1914.** (http://www.westhoek.be/wo1/index.html). *Right*: **Ijzer Front Line.** *(Keegan, John (1998). The First World War, London: Hutchinson, p. 134-135).*

In order to create profit, the polders were developed as fenlands for the extraction of peat for salt and fuel. Because of a new concern with the decrease of woods as a source of fuel due to a growing urban population, the local count encouraged peat digging in the second half of the twelfth century. Systematic peat digging took place in the area of the French-Belgian Moeren, an area of lees fields on both sides of the border at Adinkerke. After a process of peat exploitation, the Moeren naturally turned into a sweet water lake surrounded by a marshy strip. Under archdukes Albrecht and Isabella, court engineer Wenceslas Cobergher undertook a large scale project to dry the lake to create new land for agriculture. This five-year process, completed in 1627, was again reversed in the 1640's when the Moeren were intentionally flooded by the Spanish ruler to create a protective strip of water around the by then important military seaport city of Duinkerke. In 1760, the Count of Hérouville obtained permission to dry the Moeren, which he accomplished six years later. Only four years later the dikes gave way and the Moeren flooded once again. The count's creditor Vandermey

continued the efforts to regain the land and by the end of the 1780's the terrains of the Moeren were brought back to the surface. Subsequent flood problems due to dike failures were more easily met by more advanced pumping methods and by the First World War the Moeren, fulfilling their strategic value, turned into a military airbase by King Albert I (see Figure 6).

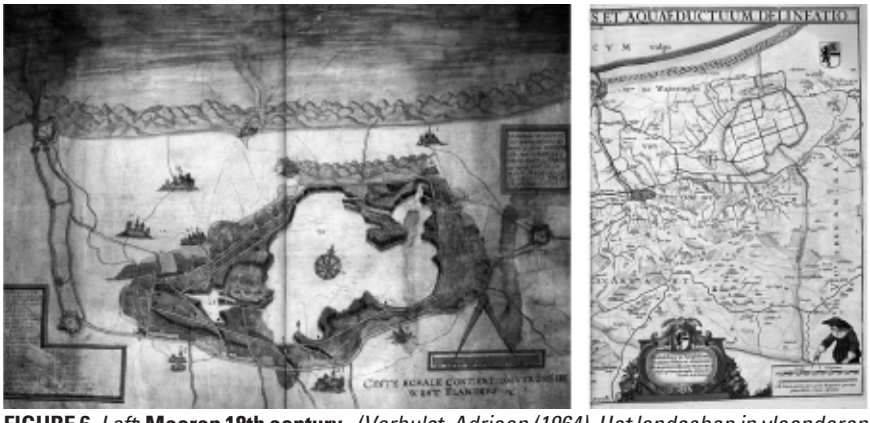


FIGURE 6. *Left*: **Moeren 18th century.** *(Verhulst, Adriaan (1964). Het landschap in vlaanderen in historisch perspectief. Antwerpen: De Nederlandse Boekhandel, p. 86-87). Right*: **Moeren 1644.** *(Verhulst, Adriaan (1964). Het landschap in vlaanderen in historisch perspectief. Antwerpen: De Nederlandse Boekhandel, p. 84-85).*

This continuous cycle of land returning to water and vice versa prevents a permanent definition of these territories as one or the other. While the conquering of land was a slow process, floods happened quickly and frequently. Land was the exception to the rule and settlement patterns fluctuated following the caprice of the sea. Even more permanent housing typologies were frequently abandoned and rebuilt. An inhabitation logic of trial and error formed in close dialogue with the movement of the landscape itself, the formation of a fluid space.

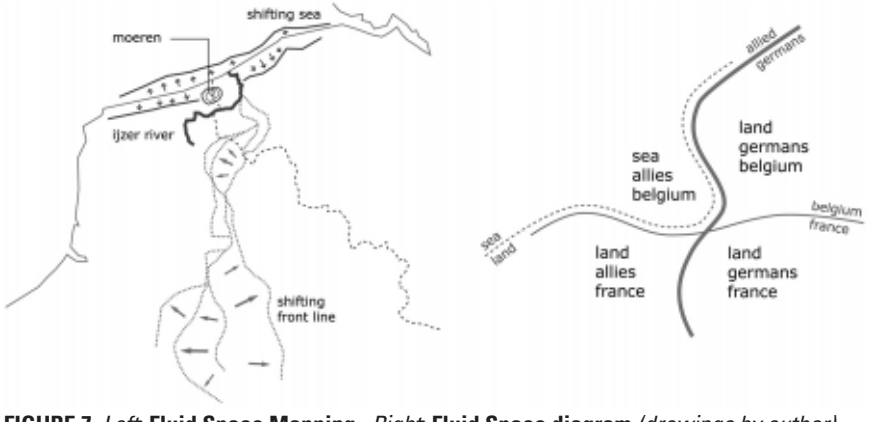


FIGURE 7. *Left*: **Fluid Space Mapping.** *Right*: **Fluid Space diagram** *(drawings by author).*

When King Albert I submerged the Ijzer Plains, three boundaries intersected: the edge between land and sea, the frontline between enemies and the border between nations, a triple intersection which multiplied territories into four different zones, each with a unique combination of topographic, national and political characteristics (see Figure 7). Not only in war, but also in calmer periods, did different boundaries intersect, such as the incongruence of language, topographic and national boundaries. The territory's fluidity replaced singular boundaries between self and other by more complex and intersecting boundaries, whereby nature was simultaneously self and other, hence no longer opposite civilization.

2 SOLID SPACE

Throughout the nineteenth century, the exercise of power moved from the static defense to the mobile offensive, cancelling the need for frontier fortifications and trench wars. The new trust in mobile wars led to the emergence of abstract military plans prepared in advance and kept strictly secret. The German invasion in Belgium was the implementation of such a military plan conceived years earlier by German Chief of Staff Count Alfred von Schlieffen. Based on a strong trust in road and railroad transportation networks, the Schlieffen plan would provide a way to outflank the French by ignoring Belgium's and Luxembourg's neutral statuses, obtained from Britain, France and Prussia in 1839. Encouraged by the extensive industrial network of railroads laid out in this region throughout the nineteenth century, the plan predominantly focused on mobility, speed, and timing. Unexpectedly, as early as the first months of the Great War, the strategic plans of mobility and large scale military strategies inspired by modernity and technological advancement were abandoned and replaced by an ad hoc battle with and against the landscape. Modern strategies of mobility stagnated in the double line of trenches and the mud of Flanders Fields (see Figure 8). The intertwining of modernity

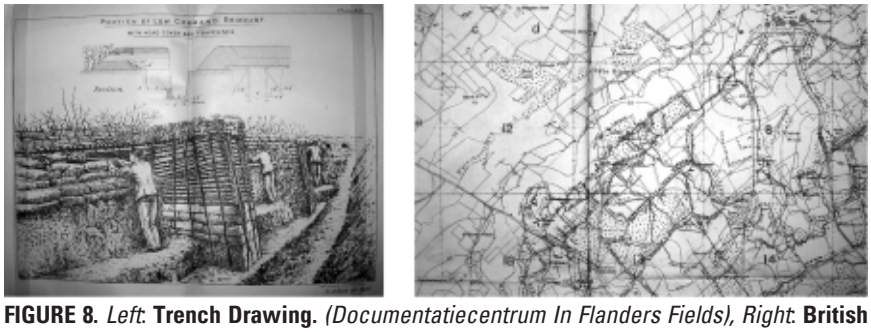


FIGURE 8. *Left*: **Trench Drawing.** *(Documentatiecentrum In Flanders Fields), Right*: **British Military Map of enemy trenches.** *("Kemmel" Map at 1/20000, 1.4.17).*

such as advanced war technology and transportation infrastructure with seemingly[11] anti-modern phenomena such as stagnated army movements was nevertheless a direct consequence of the evolution of battle strategies over the past two centuries. Martin Warnke demonstrates how the military landscape evolved from a level ground in which only cowards took advantage of the characteristics of the landscape to a field for military operations in which the terrain became identified with the enemy (Warnke, 1995). With the introduction of firearms, the distance between soldiers increased and suits no longer offered enough protection. The land thus became the

new shield whereby trees, ditches, woods, or walls became extensions of the military uniform. With the development of great strategic plans, the landscape moved from the actual battle field to a chessboard, a tableau on the wall, allowing the commanders to withdraw from the scene of action. The combatant, however, as opposed to the strategist, was forced to merge his body with the earth by digging himself into the ground and using camouflage to blur the distinction with the landscape (see Figure 9). For instance, during the Great War the German army wore field-grey uniforms

FIGURE 9. *Left*: **Bodies in Trenches.** *(http://www.klm-mra.be/engels/collecties/dodengang.html). Right*: **The antagonistic landscape.** *(Fragment from Gravenstafel Panorama, D9(c), N.58, 8.3 Sheet 28, 17.4.15, Documentatiecentrum In Flanders Fields).*

specially designed for the landscape of Northwestern Europe. As Warnke has argued, the modernist paradigm did not get rid of the connection between bodies and land, but created a disconnection between strategy and physical battle, which in the case of Flanders Fields proved to be disastrous. A space of movement was confronted with its own viscosity in which stagnation became the unavoidable last rescue, blurring the distinction between bodies and land. At the scale of the region, this stagnation of movement led to a double line of trenches distorting the former national border

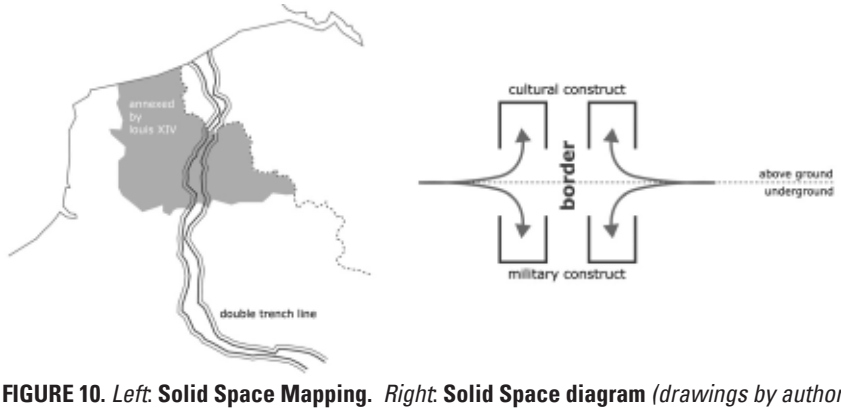


FIGURE 10. *Left*: **Solid Space Mapping.** *Right*: **Solid Space diagram** *(drawings by author).*

into a new actual boundary between two opposing army forces. Not the border itself materialized into trenches but the edge on either side. As opposed to edge conditions in former urban models such as city gates, metropolitan peripheries, and suburban fabric, this edge was double-sided (see Figure 10). One side fulfilled the role of mirror image of the other.

3 OSMOTIC SPACE

The rains and floods of December 1914 quickly filled the double line of trenches — which ran from the English Channel to the Swiss frontier — with mud. That month, the armies suffered more casualties from frost bite, rheumatism, and trench foot than from war injuries (Keegan, 1998). In *Rites of Spring*, Modris Ekstein suggests that these dreadful conditions encouraged the feelings of commonality between different sides, reinforced by a general disappointment with the war strategies of those in command. On the evening of December 24, 1914, colder temperatures hardened the mud. Soldiers came out of their trenches and in the no-man's land between two enemy lines, parties were held with exchanges of alcohol, tobacco, food, and songs. Weather and land had become common enemies for both armies and the zone of land between the trenches became the only possible space for the enemies to temporarily be in peace.

> *Gradually firing ceased almost everywhere along the line that Christmas Eve. Men got up and sat on their parapets and shouted greetings across to the "enemy." Conversations began. Opposite the Queen's Westminster Rifles a Saxon challenged the British to come across and fetch a bottle of wine. (…) When dawn came the next morning, the ground was frozen solid. In some areas a sprinkling of fresh snow lay on the ground. In Flanders the sudden freeze had produced a thick fog, which began to light only gradually under the glare of a strong sun. The sudden change in the weather brought astonishment and cheer. In comparison with the monsoon conditions of the preceding month, the day was glorious.(…) Soldiers moved into no man's land, or in some cases even into each other's trenches, and celebrated. Some were shy. Others were more open. They talked, sang, and exchanged stories and gifts. (Ekstein, 1989, P.110-111)*

The exchange of specialty products such as tobacco and alcohol was not a new activity in these territories. The more the state border in Flanders Fields materialized, the more a range of new social behaviors of resistance emerged, destabilizing the clear separation between two sides. Specialty products such as tobacco, alcohol, spices, butter, sugar, and embroidery crossed the border in both directions depending on fluctuations of the market price (Figure 11). Comparable to the principle of osmosis, a biological term whereby a difference in substance composition causes a fluctuation across the membrane between both sides, these exchanges created a relationship of reciprocity. One side of the border promised to complete the other. So were the Belgian Flemish able to compensate the sugar shortage at the beginning of the twentieth century by crossing over. Smuggling and labor migration created a zone of solidarity, reaching its peak in the period between the two world wars. State power eroded before it reached the border line.

FIGURE 11. *Left*: **Two tobacco smugglers caught.** *(Tabaksmuseum, Wervik). Middle*: **Smoking tobacco in Trenches.** *(Tabaksmuseum, Wervik). Right*: **The announcement of a Christmas Truce, December 1914.** *(Documentatiecentrum In Flanders Fields).*

As soon as a solidification of both sides of the border took place, new cross-border movements were facilitated by the landscape itself. Both sides of the border interpenetrated, thereby inhabiting the space between two sides, a land that does not belong to one or the other, yet is accessible and needed for economic and social exchanges to take place (see Figure 12). The mirror-space between one side and the other became inhabitable as a third space, not self or other, but unclaimed and able to provide a platform for latent interactions between friend and foe, between humans and nature, to materialize.

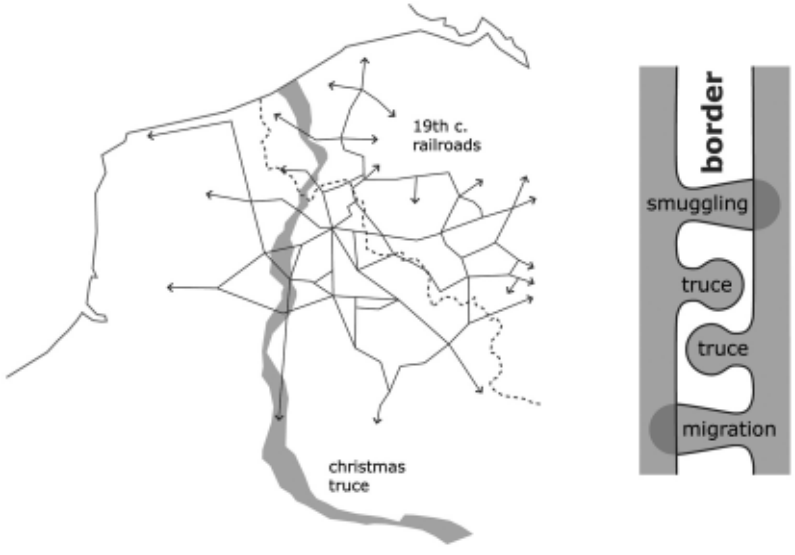


FIGURE 12. *Left*: **Osmotic Space Mapping**. *Right*: **Osmotic Space diagram** *(drawings by author).*

This no-man's land that exists beyond the times of war is a result of the overlaps between fluid space, solid space, and osmotic space and yet waiting for new layers to be added. The three mechanisms of space-making I have depicted here have guided

the evolution of transnational space throughout history in war and peace, into a complex landscape now evolving toward a borderless land, in which opposite sides no longer exist. In addition, they reveal the importance of the close encounter between humans and the land in the context of the development of transnational space at national borders. As shown, the landscape plays an active role in the production of space and the urbanization of transnational territory, which becomes literally and metaphorically informed by geographic terms such as fluctuation, stagnation, and erosion.

CHAPTER 2_Visions for a United Europe_1960s-1970s

In the decades following the Second World War, a series of architecture publications attempted to envision the new Europe, with 2000 as its year of completion. The architectural discipline took upon itself the daunting challenge of 'shaping' Europe as a united space, a task formerly performed by statesmen and monks[12]. In a time when the modernist vow entered a stage of revisions and adjustments, these visions for a united Europe explored new urban models based on mobility and sprawl. Thereby they implicitly applied notions of transnational space as developed in the first chapter, yet without questioning the complexity of transforming national into transnational urbanisms. As borders are already transnational in nature, they played a double role in these schemes. On the one hand, they were obstacles to be erased, but on the other, they formed the base for transcending the nation. In a search for these implicit assumptions of transnationalism embedded in the mappings of a new European territory, I will study a cross-section of articles published in architecture magazines of the 1960s and 1970s.

1 MOBILE EUROPE

In November 1962, *Architectural Design Magazine* published a thesis project by four students of the Architectural Association School of Architecture (Bridges et al, 1962). The scheme they proposed had been strongly influenced by British planning tradition. They especially and explicitly referred to the MARS Group's 1942 plan for London, which they had now modified to accommodate the connection across the Channel with the European continent. The MARS (Modern Architectural Research) Group, formed during the interbellum, envisioned the future growth of London to follow thirteen tentacles reaching out to the countryside (Gold, 1995)[13]. The linear organization of these new urban units would allow easy access to the surrounding countryside. Based on the MARS ideas, the AA students' map of Europe showed a territory in which most national borders had vanished. The map laid out a transportation network across Britain and the European continent, constructed out of straight lines of varying widths (see Figure 13). Especially on the continent, the network lines were drawn in disregard of local topographies. A black skeleton, foreign to the territory, emerged as a new layer on the map, as a notational device, rather than geographically located. Expressing the need for a stronger physical connection between the British Islands and the mainland, the students drew three concentric circles centered on the Channel crossing. The drawings that accompanied this map showed how the new network, titled 'Euroway' would be implemented (see Figure 14). Their audacious design required a *tabula rasa* of existing conditions, replaced by a new mobile city, its shape derived from the black skeleton. The assumption that transnational space would only prevail by erasing not only existing boundaries but also existing organizational systems such as cities came

FIGURE 13. Diagram for a transnational city by AA students, 1962. *(Bridges et al, "Euroway," Architectural Design, N11, Nov, 1962, p. 536).*

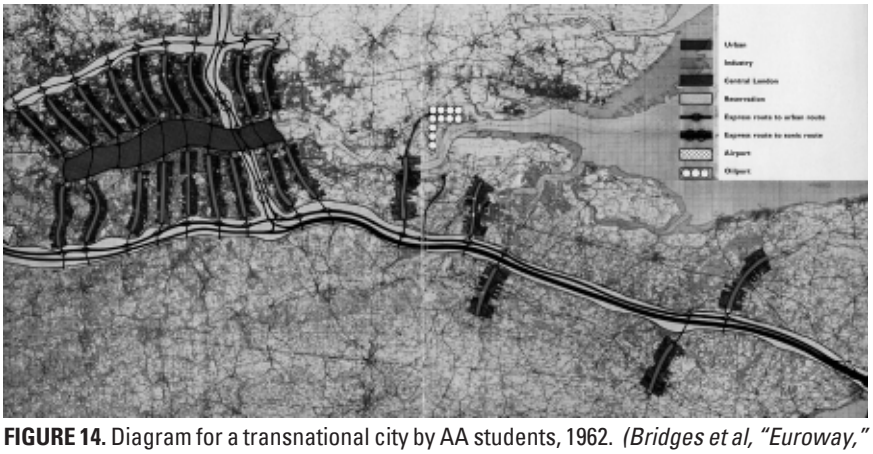


FIGURE 14. Diagram for a transnational city by AA students, 1962. *(Bridges et al, "Euroway," Architectural Design, N11, Nov, 1962, p. 536).*

from a discontent with obstacles such as clogged metropolitan cities and topographic boundaries. Instead, transnational movement was channeled into a highly controlled mechanism creating its own artificial topographies and boundaries, ignoring already existing territorial articulations such as urban and natural transitions from one place to another. Although this and similar proposals[14] used the principle of fluid space as their principal goal, they also contradicted the fluidity of transnational space by confining its directionality, by literally turning an abstract diagram into a building (see Figure 15). Cross-border movement therefore does not happen according to the principle of

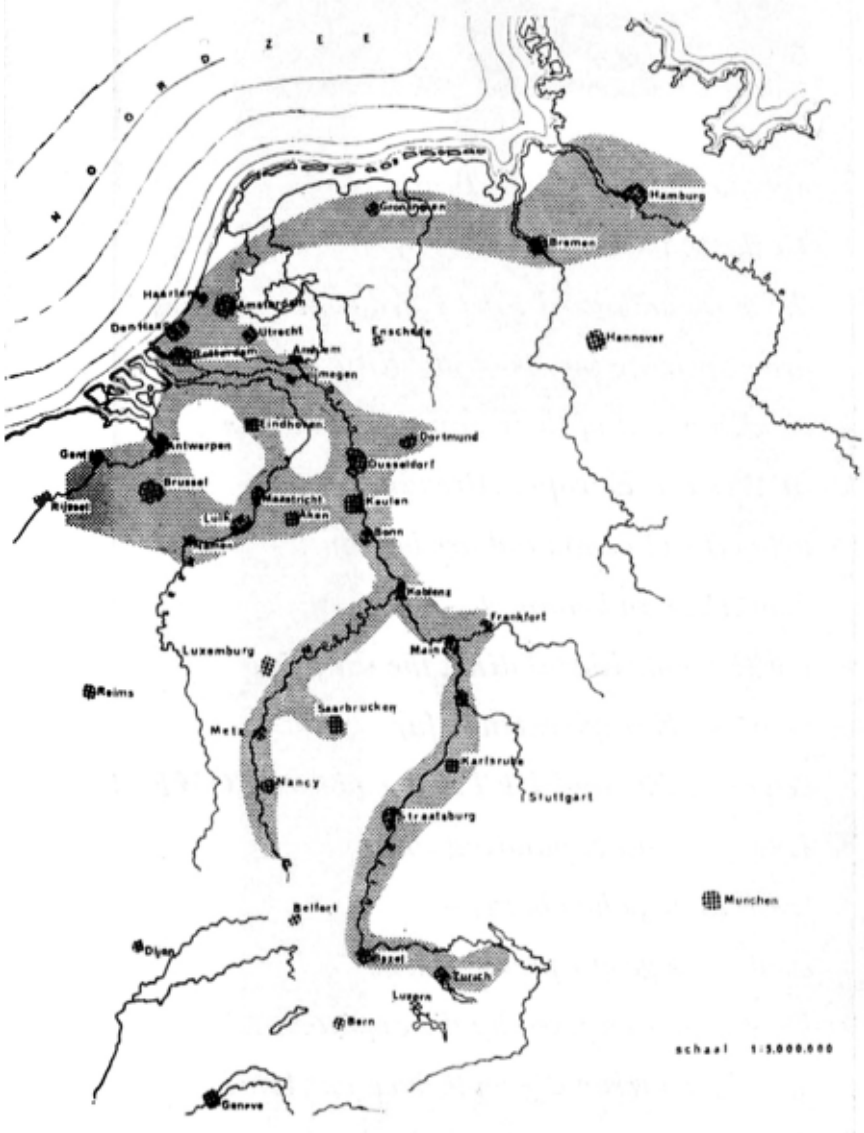


FIGURE 15. Linear Cities in a United Europe published by *Architectural Review*, 1963. *("United Cities," Architectural Review, N133, May, 1963, p. 367).*

unstable and flexible territories but rather by creating hard, impenetrable, and non-ambiguous boundaries between the new linear urbanism and its hinterland. Reyner Banham's three-dimensional map of Europe upside down was a less bold imagination, yet it emphasized as well the importance of mobility in the Europe of tomorrow (Banham, 1963). The special May 1963 issue of *Architectural Review* titled AR EUROMART, edited and compiled by Banham featured an image of Europe seen from the U.K. (see Figure 16) This image was an oblique photograph of a printed map, with additional three-dimensional components such as flags of international organizations, folded ribbons representing arrows, and wrinkled paper mimicking significant topographies. The angle, as Banham points out, shows Europe upside down, whereby England no longer seems closely linked with the continent, but rather isolated and disconnected, with only a few ferry linkages to the mainland. At the same time, the image proposed an idea of a mobile Europe, united by the movement of goods and people. Banham's map presented the natural border between England and the continent, the Channel, as a membrane that allowed multiple crossings, depending on the amount of international attractors on either side (represented by the flags). Banham's argument for a transnational European urbanism was thus based on the principle of osmosis and the creation of spaces for economic exchange within existing territorial divisions and topographies. Although at a rather preliminary level, Banham's intuitions promoted a more complex understanding of mobility not as a cleanly channeled traffic but as a more dispersed condition of possible interfaces and crossings between nations. However, the view of an urbanization of Europe based on highway and rail infrastructure crossing borders has played and continues to play an important role in the formation of a transnational Europe. New boundaries emerged between spaces of movement and their hinterland, whereby highly connected places alongside underdeveloped and peripheral areas.[15]

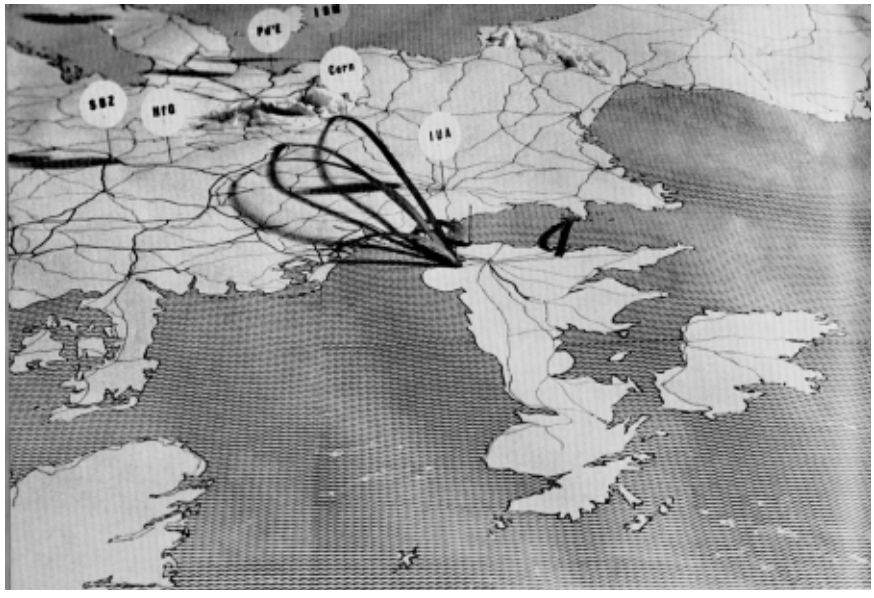


FIGURE 16. Reyner Banham's three dimensional map of Europe, 1963. *(Banham, Reyner, (ed.) "Euromart," Architectural Review, N133, May, 1963, p. 312).*

Thus the more complex and democratic alternatives for mobile transnational space, such as Banham's three-dimensional map, remain worth investigating.

2 EUROPEAN MEGALOPOLIS

Other schemes found their model in the American city, superimposing urbanities of the new world onto those of the old[16] . The March 1969 issue of the visionary magazine 2000 published Constantinos Doxiadis 'ecumenopolis,' a system of regional conurbations that would together form a world-wide city (Doxiadis, 1969). In a historical graph Doxiadis described the birth of Gottman's *Megalopolis*, soon to turn into his own *Ecumenopolis*,

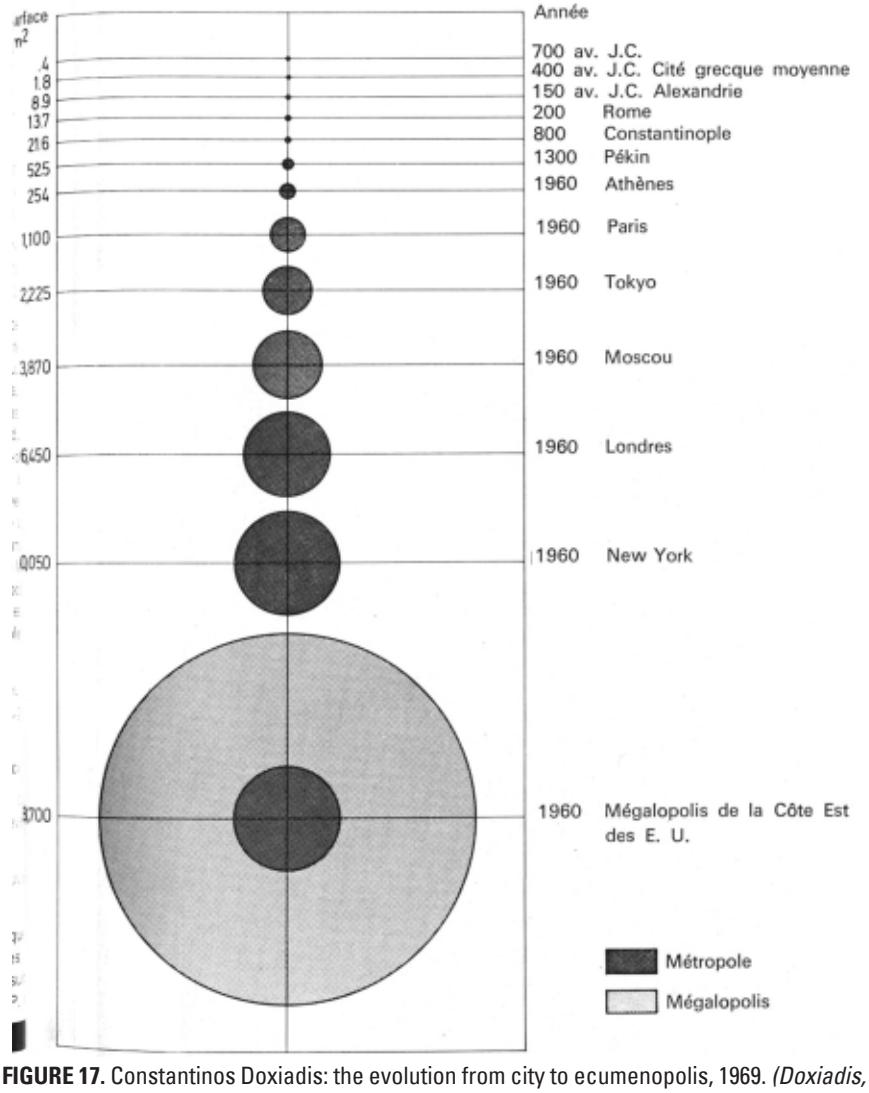


FIGURE 17. Constantinos Doxiadis: the evolution from city to ecumenopolis, 1969. *(Doxiadis, Constantinos, "L'Ecuménopolis," 2000; Revue de l'Aménagement du Territoire, March, 1969, p. 23-31).*

a universal city accessible to all (see Figure 17). Doxiadis' map of the world at the end of the twentieth century showed uninterrupted linear zones of high density, a universal city structured no longer by national divisions, but by different degrees of density, independent of their specific location (see Figure 18). Doxiadis thus extrapolated the urban model of the American East Coast, identified as Megalopolis by Jean Gottman in 1961, to cover the globe. In a series of evolutionary diagrams, Doxiadis explained how the existing condition of transportation axes and inherent population densities would constitute the base for a series of 'forces' that would form the final amoebic-looking but only seemingly irrational Ecumenopolis (see Figure 19). Therefore, Doxiadis' scheme also put forward mobility — in the form of transportation — as a primary condition for the development of transnational urbanity. Yet simultaneously, he redirected attention to densities and density attractors as the materials that would constitute a transnational city. In the case of Europe, these ecumenopolitan densities were based on the existing

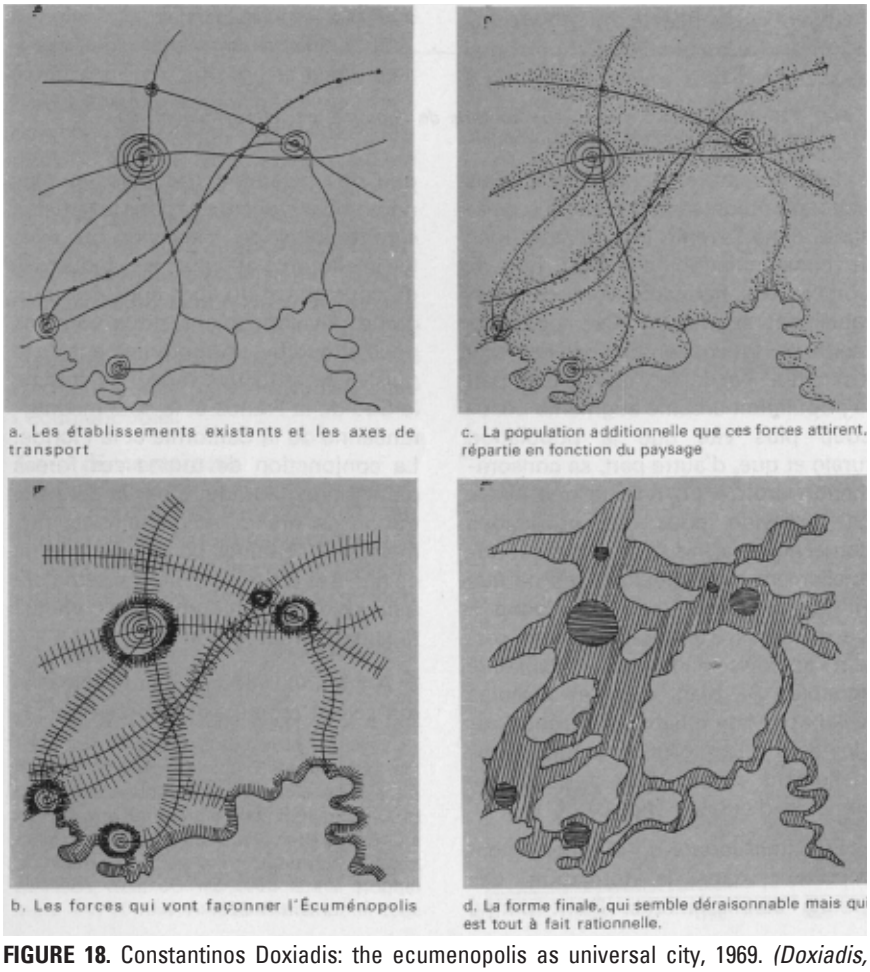


FIGURE 18. Constantinos Doxiadis: the ecumenopolis as universal city, 1969. *(Doxiadis, Constantinos, "L'Ecuménopolis," 2000; Revue de l'Aménagement du Territoire, March, 1969, p. 23-31).*

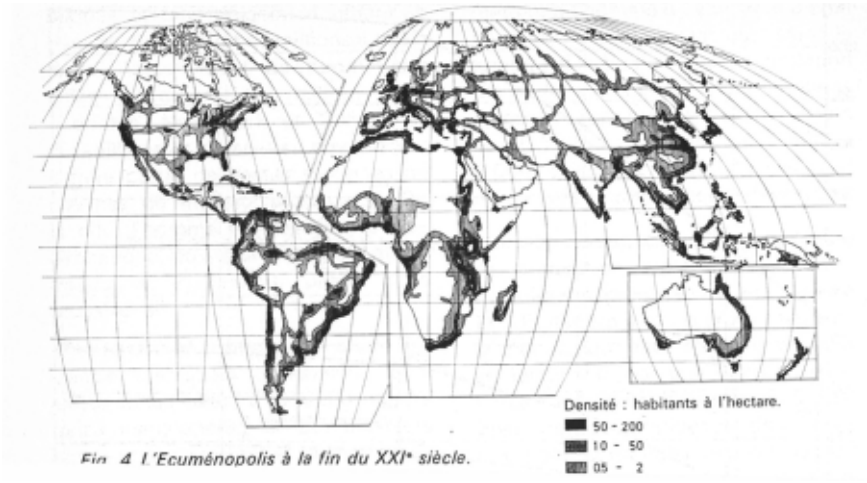


FIGURE 19. Constantinos Doxiadis: process diagrams to achieve ecumenopolis, 1969. *(Doxiadis, Constantinos, "L'Ecuménopolis," 2000; Revue de l'Aménagement du Territoire, March, 1969, p. 23-31).*

distribution of zones of urbanization. Therefore, it remained unclear how Doxiadis' universal city would be any different from the existing urban conditions of Europe, as had been the case with Gottman's megalopolis. Like Megalopolis, Ecumenolopolis only seemed to identify an existing condition without a larger consideration of the difference between existing space, which was based on national divisions, and the universal or transnational space he proposed. However, the drawings suggested an amoebic urbanism that could sustain itself by redistributing densities within itself and with its surroundings. Also the Dutch magazine *Forum* published a study in 1965 comparing the Northwestern part of Europe with the Northeastern part of the United States (Wijers, 1965). These images were supported by the assumption that the high population density in this area of Europe indicated a potential to grow into a regional city (see Figure 20). The two accompanying comparative drawings showed American borders between federal states and European borders between nations using exactly the same line type. Not only did these drawings promote a radical idea for the spatial organization of Europe, but at the political level they seemed to suggest that Europe – like the United States – would become a federal state. The schemes based on the American model were confronted with the question of the physical and political meaning of national borders. If they were to disappear, nations would have to be abolished. In order to superimpose American models, borders would have to become mere administrative boundaries. However, as opposed to the American model, in which borders between states did not grow out of long term territorial relationships embedded in the landscape as demonstrated by their geometric forms, the European city did not lend itself easily to the extrapolation of the American megalopolis. Hence the mappings they produced represented Europe as a highly abstract territory, erased from its specificities. However, the returning importance of density and sprawl as components of cross-border urbanities suggested a belief in the potential of osmosis and fluidity as a prerequisite for transnational space.

Certain ideas presented by the maps above have proliferated into the built world, with highly developed transnational transportation networks, cross-border regional cities, and the establishment of free trade zones. Nevertheless, borders did not disappear and instead became part of the transnational city. Therefore, the implicit notions of fluid, solid, and osmotic space remain important as critical tools for understanding transnational space not only as a space of movement and fluidity but also as a solid space in which transitions are tangible yet not impenetrable.

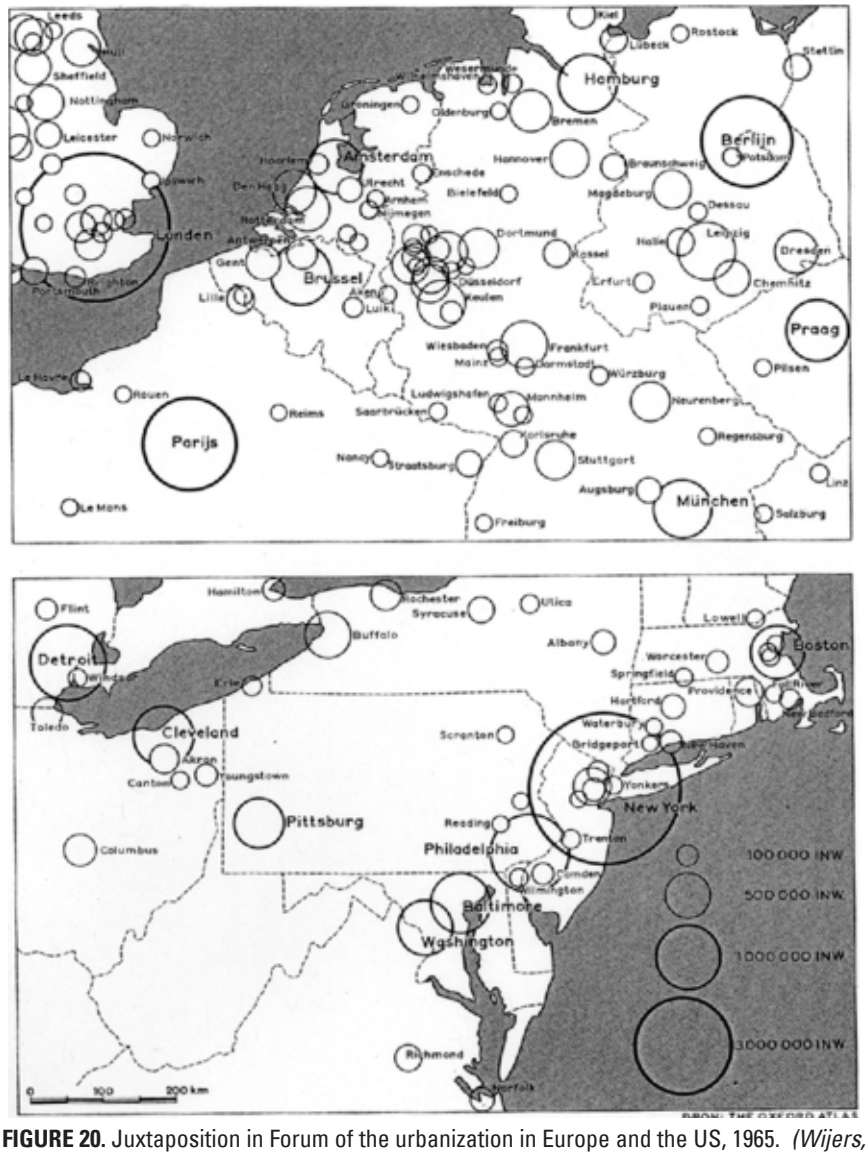


FIGURE 20. Juxtaposition in Forum of the urbanization in Europe and the US, 1965. *(Wijers, "2000, A Sketch, Additional Data," Forum voor Architectuur en daarmee Verbonden Kunsten, 1965, p.1).*

ENDNOTES

1 Fragment from the preamble of the Treaty creating the European Economic Community in 1957, as cited in De Rougemont, D. (1961). *Vingt-huit siècles d'Europe. La conscience Européenne à travers les textes d'Hésiode à nos jours*. Paris: Payot.

2 See INTERREG IIIC, http://www.interreg3c.net, EU program promoting cross-border, transnational. and interregional corporation, see also EUREGIO, http://www.euregio.nl collaboration between Netherlands and Germany, EURALILLE, http://www.saem-euralille.fr, intermodal transportation node in the North of France.

3 See studies such as After-sprawl (Xaveer de Geyter), Uncertain States of Europe (Stefano Boeri), Citta Diffusa (Francesco Indovina), New Territories (Paola Vigano).

4 See studies such as After Sprawl, Uncertain States of Europe.

5 The May 1963 issue of *Architectural Review* reported the attention Yona Friedman had attracted in France with his scheme for a triangulated spatial city grid for Paris, to be extended all over Europe (Architectural Review, May, 1963). The magazine reported the growing fame of Friedman's work, which had been broadcast on television and which had been considered as a valid plan for Paris by the local government. As a tool to deal with increasing traffic jams, this new scheme expanded all over Europe as an easily accessible network of compact space-frame cities.

6 See Michel Foucault, "Space, Knowledge and Power," *The Foucault Reader*, ed. Paul Rabinow, 1984.

7 See Ernest Gellner, 1983. Gellner writes that nationalism can lead to war when the political boundary of a state fails to include all members of a nation or when the rulers of a political unit are not part of the nation's majority, as in large empires.

8 Therefore, to call Foucault's contribution to historiography the spatialization of history does not fully grasp the complexity of his approach. More precisely, it is Foucault's addition of the spatiotemporal unit — the event, the situation or the battle — that allows a more accurate description of mechanisms of space-making.

9 Michel Foucault replaced a structuralist approach with the model of battle, which profoundly affected the importance of the relationship between bodies and land in the historical research of social space (Foucault, 1984). From a system of sign and signified in which nothing exists outside of language, he moved to a realm of body practices in which a discourse can exist before and beyond the author or the subject, and thus, where spatial configurations can function as statements. As example, Foucault points out that the most important aspect of disciplinary practice in the rational age was the arrangement of tactics, which he links directly to the birth in the eighteenth century of great military strategies and at the same time the rise of meticulous army tactics that disciplined the soldier's body (Foucault, 1977). See also Foucault's theory of discursive formations as described by Paul Hirst in "Foucault and architecture." *AA files* (Autumn 1993): 52-60.

10 This follows the Lefebvrian understanding of space as lived, as an entity constituted by the movement of bodies (Henri Lefebvre, 1991 and more recent feminist theory).

11 See Didier Gille's *Maceration and Purification*.

12 As extensively described by Denis de Rougemont in: De Rougemont, D. (1961). *Vingt-huit siècles d'Europe. La conscience Européenne à travers les textes d'Hésiode à nos jours*. Paris: Payot.

13 Formed as the British section of CIAM after a request from Sigfried Giedion to create a body that could represent Britain at future CIAM meetings, it was the first successful attempt to create

a platform for those British architects, engineers, and theorists who sympathized with the European modern movement and felt isolated by what they saw as the English conservatism of the 1930s. In 1938, the group organized an exhibition titled "New Architecture" at the New Burlington Galleries, which Le Corbusier characterized as a "charming display of youth" in a review of the show published in *Architectural Review*, February 1938.

14 In special issue of May 1963 of *Architectural Review* called AR EUROMART, an article titled 'United Cities' included two maps drawn by a Dutch urbanist. While the first map showed the major highway connections in Europe, a second one showed how this could transform into a linear city following the most important highways (Banham, 1963). Again, mobility became Europe's glue, and therefore the future of Europe's urban condition would be characterized by a linear urbanity.

15 See for example the development of the high-speed train station Euralille in Lille at the French-Belgian border, surrounded by rural and poorly developed areas on both sides of the border.

16 Many articles of the period published articles about the American condition as a model, or sometimes an unavoidable, future, for Europe. Especially the Independent Group and Team 10 were interested in exploring American culture as a possibility for renewing the architectural and urban condition of the old world. For example, *Architectural Design Magazine* published frequent articles on the American city in that period. This confrontation between a problematic English reality versus American advancement was part of a discourse in the pages of the magazine.

BIBLIOGRAPHY

Banham, R. (1963). Europe – the relevant continent. *Architectural Review*, 133 (795), May, 312-316.

Bridges, R. (1962). Euroway: a plan for a balanced community in Britain. *Architectural Review*, Nov, 536.

De Certeau, M. (1985). Microtechniques and panoptic discourse: a quid pro quo. *Heterologies. Discourse on the other*. Minneapolis: University Of Minnesota Press.

Despriet, P. (1979). Het historisch patrimonium van de Westhoek in Frans-Vlaanderen, Kortrijk: N.V. Groeninge.
Dijkstra, IJ. S., Habraken, N.J., Pennink, P.K.A., Wijers, L. (Eds.) (1964). 2000, a sketch. *Forum voor Architectuur en daarmee Verbonden Kunsten*, 1, 1-30.

Doxiadis, C. (1969). L'Ecuménopolis. 2000; *Revue de l'Aménagement du Territoire*, March, 23-31.

Eksteins, M. (1989). *Rites of spring. The Great War and the birth of the modern age*. Boston & New York: Houghton Mifflin Company.

Elden, S. (2001). *Mapping the present, Heidegger, Foucault and the project of spatial history*. London and New York: Continuum.

Foucault, M. (1984). "Des espaces autres", Une conference inedite. *Architecture Mouvement Continuite*, 5. 46-49.

Foucault, M., (1977). *Discipline and punish. The birth of the prison*. New York: Vintage Books.

Foucher, M. (Ed.). (1993). *Fragments d'Europe. Atlas de l'Europe médiane et orientale*. Maxéville: Fayard.

Friedman's Europe. (1963), *Architectural Review* May, frontispiece.

2000+.(1967), *Architectural Design Magazine*, Feb, 64.

Gellner, E. (1983). *Nations and nationalism*, Ithaca & London: Cornell University Press.

Gold, J. R. (1995). The MARS plans for London, 1933 – 1942. Plurality and experimentation in the city plans of the early British modern movement. *Town Planning Review*, 66 (3), 253-256.

Hirst, P. (1993). Foucault and architecture. *AA Files*, Fall, 52-60.

Kant, I. (1996). An answer to the question: what is enlightenment. *What is enlightenment* (J. Schmidt, Ed.), Los Angeles: University Of California Press.

Keegan, J. (1998). *The First World War*, London: Hutchinson.

Rabinow, P. (Ed.). (1984). *The Foucault reader*. New York: Pantheon Books.

Reeve C.D.C. (Ed.).(1998). *Aristotle. Politics*. Indianapolis: Hackett Pub.

Teyssot, G. (1980). Heterotopias and the history of spaces. *A+U*, October, 78-106.

Urbach, H. (1998). Writing architectural heterotopia. *Journal of architecture*, Winter, 347-354.

Verhulst, A. (1964). *Het landschap in Vlaanderen in historisch perspectief*. Antwerpen: De Nederlandse Boekhandel.

Verhulst, A. (1995). *Landschap en landbouw in middeleeuws Vlaanderen*. Gent: Gemeentekrediet.

Warnke, M. (1995). *Political landscape. The art history of nature*. Cambridge, MA: Harvard University Press.

Wijers, L. (1965). 2000, A Sketch, Additional Data, *Forum voor Architectuur en daarmee Verbonden Kunsten*, 1, 15-20.

ELECTRONIC RESOURCES

Grensoverschrijdend Atelier. (2005). Retrieved January 10, 2005, from http://www.copit-gpci.org/nl/.

In Flanders Fields Museum. (2005). Retrieved January 10, 2005, from http://www.inflandersfields.be.

De Westhoek. (2005) Retrieved January 10, 2005, from http://www.westhoek.be.

Belien, P.,(2004, July 31). Surrender monkeys. *The Spectator*. Retrieved January 10,2005 from http://www.spectator.co.uk/newdesign/article.php?id=4861&page=2.

Royal Army and Military History Museum, Belgium. (2005) Retrieved January 10,2005, from http://www.klm-mra.be/engels/collecties/dodengang.html.

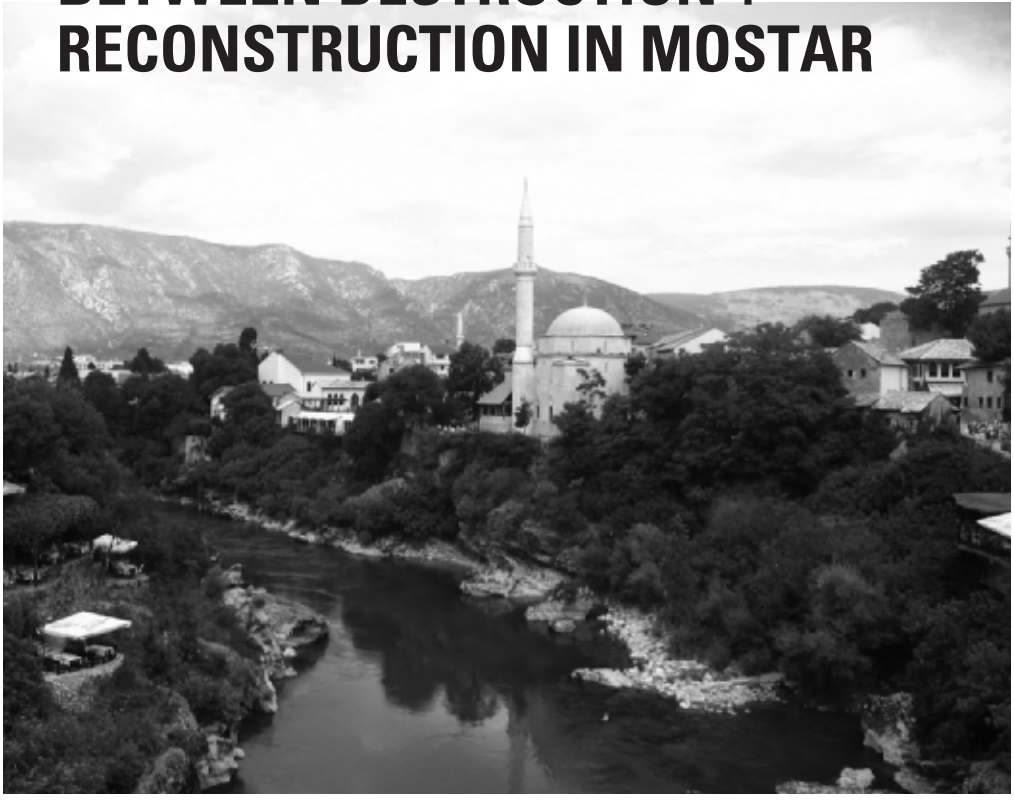
MAPS

Carte de Promenade. Lille – Dunkerque (2). (2002).Institut Geographique National: Paris, 1:100000.

Topografische Kaart van Belgie. Poperinge – Mouscron (104). (1987). Nationaal Geografisch Instituut, Brussel, 1:100000.

Allison H. Stewart
London School of Economics, City Design and Social Science

REMNANTS OF SYMBOLS : THE DISCONNECT BETWEEN DESTRUCTION + RECONSTRUCTION IN MOSTAR



ABSTRACT

This essay looks at a specific, fundamental element of post-war reconstruction, the disconnect between the nature and intention of destruction, and the nature and outcome of reconstruction. In failing to understand and conduct reconstruction in a way that appreciates the intricacies of architectural destruction, often called "warchitecture" or "urbicide," the international community fails to address the complexities of multi-ethnic existence and conflict. While the destruction of architecture was a premeditated weapon against multi-ethnicity during the war in Bosnia, reconstruction efforts have not, in general, taken a strong stance on reversing the destruction of symbolically significant buildings, and, in turn, have not fostered the reconstruction of multi-ethnic life in Bosnia. In Mostar, this failure by the international community has directly led to a spatial and social entrenchment of the ethnic divisions which, in theory, were the original target of conflict resolution and reconstruction. While post-war Bosnia is used as a case study to outline the failures of the international community to understand the effects of housing-centric reconstruction, this essay raises further questions about the prevalence of this kind of non-contextual post-war reconstruction in Afghanistan, Iraq, and throughout world. The essay concludes that post-war reconstruction practices and policies, especially in relation to multi-ethnic societies, need to be shifted to address the isolation and inequalities created by war. Furthermore, current reconstruction projects artificially separate architectural and infrastructure reconstruction from social and cultural reconstruction, further neglecting the opportunities afforded by a more holistic approach to rebuilding post-war countries.

"Why do we feel more pain looking at the image of the destroyed bridge (in Mostar) than the image of the massacred people? Perhaps because we see our own mortality in the collapse of the bridge... We expect people to die; we count on our own lives to end. The destruction of a monument to civilization is something else. The bridge, in all it's beauty and grace was built to outlive us. It was an attempt to grasp eternity. It transcended our individual destiny."

– Slavenka Drakulic (Balic, 2004, p. 5)

The brutal war in Bosnia in the 1990s not only shocked the world but gave us a new vocabulary of violence (see for example Coward: 2002). The ethnic nature of the conflict not only led to mass population displacement but also the destruction of "symbolically significant" buildings and urban environments. The brutality of the war generated an international effort to end the conflict; in turn, the international community contributed to the reconstruction of Bosnia after the war. This pattern of individual states or supra-national organizations helping to rebuild war-torn countries is common when they are involved in resolving a local conflict. Some theorists place grave importance on the initial "conflict resolution" role of the international community and miscalculate the importance of rebuilding efforts. In Bosnia, Iraq, Afghanistan, and many other countries, well-intentioned foreign states and organizations have attempted to rebuild cities and societies torn apart by war. The process of conflict resolution is well documented, but the process of reconstruction and the economic, civic, and social implications of rebuilding have been less completely explored, and are therefore less understood. This essay looks at a specific, fundamental element of post-war reconstruction: the disconnect between the nature and intention of destruction, and the nature and outcome of reconstruction. While the situation in Bosnia serves to highlight the intricacies of the issue, this essay is meant to raise questions about the practice of post-war reconstruction all over the world.

After a brief historical overview of the conflict in Bosnia, I will explain existing theories of architectural destruction and use the broad understanding of "warchitecture" to highlight the multiple expressions of destruction. This broader definition allows us to understand the over-simplicity of the international community's reconstruction efforts. Although Mostar was in part rebuilt by different actors than in the rest of Bosnia, it is nevertheless a striking example of the disconnect between destruction and reconstruction. Reconstruction by the international community in Bosnia has failed to account for the multiple types of destruction employed by warring armies. In failing to understand and conduct reconstruction in a way that appreciates the intricacies of architectural destruction, the international community fails to address the complexities of multi-ethnic existence and conflict. In Mostar, this failure has directly led to a spatial and social entrenchment of the ethnic divisions the international community intended to address through resolution and reconstruction.

HISTORICAL BACKGROUND

Bosnia and Herzegovina was a multi-ethnic unit of Yugoslavia with a complex and complicated reality of religion, identity, politics, history, and patterns of settlement. Yugoslavia and its republics, particularly Bosnia, were generally seen as successful

examples of heterogeneous polities capable of overcoming difference. Some authors overemphasize the extent of ethnic integration and intermarriage in pre-war Bosnia, and ignore the divisions that did exist, especially in rural areas. However, in larger cities like Mostar, there was virtually no residential, social, or institutional segregation. Indeed, a large percentage of residents had mixed backgrounds or marriages (Bose, 2002). Perhaps more importantly, Mostar served as a symbol of multiculturalism not only through its diversity, but also through its cultural life and architecture. These symbols had developed over hundreds of years, through Ottoman and Austro-Hungarian occupation, war, migration, and Titoist socialism. Over time, Kaiser writes, "a sense of integration had developed though a common attachment to places and shared space" (Kaiser, 2000, 7).

In the early 1990s, Bosnia rapidly descended into war following the secession of Croatia, Slovenia, and Bosnia from Yugoslavia. After Yugoslavia disintegrated, there was a panic throughout the region over the future of ethnic minorities in the newly independent states (Bose, 2000; Hayden, 1999). Some Bosnians wanted an independent state, while minority groups, like Bosnian Serbs and Bosnian Croats, wanted to be part of Greater Serbia and Greater Croatia, respectively. Serbia and Croatia supported the dissident groups within Bosnia both materially and morally. Within each ethnic group, however, there was a range of positions and opinions, and some armies, particularly the "Bosnian" Army, which defended the new state, were ethnically mixed. Despite some exceptions, complications, and compromises, the Serb and Croat intentions were to create ethnically homogenous territories that were to be annexed by their respective "homelands."

These ambitions led directly to the most distressing characteristic of the war, "ethnic cleansing." Ethnic cleansing is generally understood as the violent removal of a people from their homes and towns via forced migration or killing. This type of warfare creates massive numbers of "internally displaced persons" (IDPs), in nearby towns or across the line of conflict, and refugees to other countries. By the end of the war, there were approximately one million IDPs and one million refugees from the pre-war population of 4.4 million (Yarwood, 1999, p. 4). The intention of ethnic cleansing, according to Coward (2002) is to destroy heterogeneity and establish homogeneity. The expulsion of minorities from Bosnian towns (allegedly perpetrated by all sides of the conflict) was accompanied by a less understood but important phenomenon: the intentional destruction of architecture. This phenomenon was not separate from ethnic cleansing; rather, it was a related and premeditated weapon against the presence of multi-ethnicity in contested spaces.

THEORIES OF DESTRUCTION

It is as if the protagonists, unable to strangle the last living representatives of what they see as an alien culture, seem to think that with the destruction of place, an architectural cleansing, as it were, they can eradicate the people who inhabit that place.... Mosques, churches, synagogues, markets, museums, libraries, cafes, in short, the places where people gather to live out their collective life, have been the focus of bitter attacks.

(Adams, 1993, ¶ 3)

Warring armies throughout Bosnia, particularly Bosnian Serb and Croat forces, destroyed whole towns and targeted culturally significant buildings for destruction. The massive number of destroyed cultural buildings has been well documented and, according to Bevan, includes "over 1,100 mosques and other Muslim buildings, 309 Catholic churches and monasteries and 36 Serbian Orthodox churches" (Bevan, 2001, p. 2). The destruction of the built environment, or "urbicide," has been hotly debated by architects and historians. Coward outlines the three prevailing theories used to explain the destruction of buildings and cities. These theories are "(a) collateral damage, (b) the destruction of cultural heritage, and (c) a metaphor for certain concepts or values" (Coward, 2002, p. 13). Collateral damage refers to accidental damage to buildings as a result of military action. The cultural heritage theory (see for example Adams, 1993; Kaiser, 2000; Riedlmayer, 1995), Coward notes, satisfactorily highlights the importance of the built environment in cultural identity but ignores the destruction of non-heritage buildings, like schools, hospitals, or houses. Finally, some theorists argue that the destruction of buildings acts merely as a metaphor for the ideas behind the war, namely, the desire for homogenous ethnic states (Coward, 2002, p. 28). Coward, however, argues that none of these theories gives a complete understanding of the destruction of Bosnia's urban fabric. He believes the destruction of the urban fabric to be an intentional destruction not only of heterogeneity, but also the conditions that allow for heterogeneity (Coward, 2002, p. 35).

By focusing on the "urban fabric," Coward deemphasizes actual spaces of heterogeneity (e.g., city centers or markets) or buildings with cultural importance (e.g., libraries or religious buildings) in favor of potential spaces of heterogeneity (anything "urban"), thereby devaluing the symbolic significance of individual pieces of architecture. Coward updates the discussion of urban destruction by illustrating that the destruction of physical spaces of heterogeneity is also the destruction of any theoretical or future spaces available for heterogeneity. However, this definition of urbicide neglects the importance of symbolism in the destruction of "culturally significant" buildings. This term generally refers to libraries, museums, theatres, places of worship, and historic buildings (Council of Europe, 1995). However, this term generally excludes less obviously "cultural" buildings, such as houses or infrastructure.

These unexceptional pieces of the urban fabric are nonetheless symbolically significant. Ordinary buildings, as much as cultural institutions, bear the weight of everyday "heterogeneity," especially in rural areas where there are generally fewer grand architectural gestures of diversity, culture or religion. It is useful to look at Torsti to understand this broadening of the term "culturally significant" to mean symbolically significant. Torsti uses the term "history culture" to mean "that part of public culture where people are confronted with claims about the past in their daily lives" (2004, p. 142). This approximates the sense of "symbolically significant" I wish to convey; that is, any part of the built environment that demonstrates, refers to, evokes, or symbolizes a particular culture or multiculturalism. This would include the churches, monuments, houses, bridges, schools, etc., that are neglected by Coward's spatial heterogeneity theory and often excluded in the theories he dismisses.

In this essay I will therefore approach the destruction of symbolically significant buildings and monuments as "warchitecture," the "deliberate destruction of architecture" (Herscher, 1998, p. 1). I use this broad definition because it does not distinguish between urban/rural and ordinary/heritage. Although these are important distinctions, this essay posits that destruction in Bosnia was not limited to "cultural heritage" or to a vague destruction of the conditions of urbanity. Rather, "warchitecture" had multiple expressions in different contexts. Mostar provides a good example of the different expressions of warchitecture and the failure of reconstruction to deal with these distinctions.

DESTRUCTION OF MOSTAR

According to Yarwood, the European Union Administration in Mostar (EUAM) Director of Reconstruction, pre-war Mostar was highly mixed, institutionally integrated, residentially integrated, with good schools, well known universities, and a healthy tourist industry. The 1991 Mostar census reported a population that was "29 per cent Croats, 34 per cent Muslims, 19 per cent Serbs, 15 per cent Yugoslavs and three per cent other groups" (Yarwood, 1999, p. 2). Mostar was a vibrant city, known to all "as a paradigm of a harmonious multi-ethnic society, modern, sophisticated and agreeable" (p. 3).

In 1992, war came to Mostar when Bosnian Serbs launched an attack, which Croats and Muslims fought off, side by side (Yarwood, 1999, p. 4). While Croats and Muslims worked together to defend the city, the Serb population fled. While the Bosnian Serb army withdrew after a three-month siege, the Croats soon "turned on the Moslems, assembling them in detention camps, putting them on buses to leave the area, or subsequently expelling them to the ghetto on the east side, which they then bombarded from previously prepared artillery positions" (Yarwood, 1999, p. 4). When the Muslim population was forced to move to east Mostar or out of the city altogether, their empty houses were often occupied by Croats, some who fled from east Mostar. This area, which had before been a typically integrated neighborhood, became the Muslim part of city, the ghetto.

With the remaining Muslims living in the eastern part of the city, the Croats focused on destroying it. Thus the majority of destruction in Mostar occurred in the east, which received over 80% of the heavy damage (Yarwood, 1999, p. 6). Throughout the city, Yarwood writes, "the view is widespread that historic monuments, cultural property and religious buildings were deliberately targeted" (p. 6). He lists the following buildings as damaged or ruined: Austrian baths, Ottoman baths, the bazaar, the Symphony Orchestra building, the Museum of Herzegovina, the Church of St Peter and St Paul, the Bishop's Palace (and its library), the Catholic Cathedral, as well as other churches and "almost all of the mosques." In one instance, Yarwood notes, the Orthodox Cathedral was dynamited in direct "retaliation" for the destruction of the Koski Mehmet Pa,ša mosque's famous minaret. Just outside the city, entire towns were blown up after the locals had been forced out (p. 6).

The bridges of Mostar, which connected east to west, were systematically destroyed during the conflict. Initially, Stari Most, a famous bridge built by the Ottomans, was

spared, although no one really knows why. However, in November, 1993, this iconic and beautiful structure was heavily shelled by the Croats. Armaly, Blasi and Hannah write that the bridge was "deliberately destroyed for its symbolic significance rather than its military value." This final blow left Mostar with no bridges, a sad and paradoxical situation in the town whose name means "bridgekeeper" (Armaly, Blasi & Hannah, 2004, p. 9).

Thus the destruction of urban Mostar was characterized by the deliberate targeting of shared historic and cultural buildings as well as ethnic or religious architecture. In addition, as Coward notes, the urban fabric itself was attacked through wholesale targeting of residential areas and bridges. In the rural villages around Mostar, warchitecture was characterized by a systematic destruction of the homes of expelled residents as well as the destruction of shared or ethnic architecture. All of these buildings were symbolically significant, but the reasons for their destruction varied widely. The multiple rationales of destruction included military maneuvering, expelling residents, creating a homogenous city, humiliation, destruction of public or cultural buildings, preventing expelled residents from returning, instilling fear, and attempting to destroy a specific or shared culture. Early reconstruction policy in Mostar, however, focused largely on one aspect, rebuilding the houses people were living in at the end of the war, a precarious foundation for the reconstruction of Bosnian's multicultural society.

RECONSTRUCTION POLICY

It is an immense challenge to reconstruct cities, and indeed societies that have been systematically destroyed in this way. In their reconstruction policies, the international community, specifically the European Union, Technisches Hilfswerk and the United Nations, has not adequately addressed the nature of Bosnia's war-time destruction in their reconstruction policies. They have mistakenly focused on housing repair as the primary and most potent solution to conflict settlement and reintegration. This is a regrettably limited outreach to Bosnians, because they witnessed a much greater destruction of their city far beyond the destruction of their housing stock. The international community does not seem to understand the impact of these policies, in particular the choice of housing reconstruction as their first goal as well as their policies on where and how to rebuild housing. What international actors do and what they choose to rebuild act as symbols and examples for further reconstruction, as well as serving to begin or prevent the healing of a torn country.

The reconstruction efforts of the international community in Bosnia have a number of important characteristics. First, returns of refugee and internally displaced persons (IDP) have been politically, morally, and financially linked to reconstruction. The Dayton Peace Agreement officially ended the conflict in Bosnia. The document outlines the legal role of returns in Annex 7: Agreement on Refugees and Displaced Persons, stating, "the early return of refugees and displaced persons is an important objective of the settlement of the conflict in Bosnia and Herzegovina" (1995, chap. 1, Article 1). Sokolovic adequately sums up the psychological and political importance of refugee returns in the context of reconstruction. He writes,

> *Although repaired buildings and cities never fully replace those that were destroyed, at least the visible evidence of renewal send a message to everyone- other victims, bystanders, and perpetrators- that those who were expelled have not been defeated. For these reasons, as well as for the very practical reasons of providing shelter and stability, return and rebuilding programs are at the center of efforts to strengthen Bosnian society and democracy. (2001, p. 181)*

The majority of reconstruction funding was tied to refugee and IDP returns, to the extent that "housing represented the largest single category of international expenditure... ranking above expenditures on peace implementation activities, landmine clearance, government institution building, and social support" (Black, 2001, p. 183). He stresses that refugee returns could minimize the nationalist character of the political system, by reintroduction of minorities, thereby encouraging political progress (p. 183). One example of the importance of returns in reconstruction was the 1,000 Roofs for Bosnia program, where more than 30% of the program recipients were returnees. Black notes that as reconstruction continues, it is increasingly common for projects to require 100 per cent of "returnee" recipients. While it is true that minority returns could positively impact political progress, using the general term "returnee" allows these programs to overlook who they are returning, and to where. For example, under this definition, a "returnee" could be a Muslim from west Mostar who fled during the war and is now being "returned" to the homogenous, Muslim east Mostar. These policies could thus serve to entrench ethnic homogeneity in neighborhoods that used to be integrated.

The second important characteristic of reconstruction is its inherently political nature. Multiple sources of funding and implementation, political elites with nationalist agendas, grieved populations and continued low-level conflict after the Dayton Peace Accords all contributed to the difficulty of adequately and responsively conducting reconstruction projects. The goals of the international community are to ensure returns, provide shelter, and rebuild the economy, while the local elite's endeavored to solidify their territories, gain political currency through returns (but not minority returns), and rebuild their districts (Yarwood, 1999, p. 7 and 11). Local residents, and those wishing to return, may want to regain a pre-war standard of living, including shelter, heating, electricity, plumbing, schools, hospitals and, for some, ethnic reintegration or getting their property back. As Kaiser notes, the competing moral, physical, political, psychological and economic demands on reconstruction efforts are extremely intense. He writes, "in this context, the restoration and rebuilding of cultural heritage can take on political and downright divisive dimensions: it is no longer a question of rebuilding what was held in common, but only 'what was ours' " (2000, p 8). Thus nationalist goals of local residents can compete or even overpower the desires of residents and the international community. However, the lack of foreign commitment to minority returns and reintegration made it easier for nationalist objectives to be met.

The third dimension of reconstruction policy is the scarce funds and willpower for cultural reconstruction. Based on international and internal accounts of reconstruction, there is a disparity between the nature of destruction (destroying symbolically

significant buildings to eliminate heterogeneity) and the reconstruction efforts, which are largely nationalist in intention or outcome (and reinforce the imposed homogeneity of the war.) The international "outrage" over images of the destruction of libraries and museums in Bosnia did not result in a coordinated funding effort to rebuild those cultural institutions or their collections (Donia, 2004, p. 22). While the Dayton Peace Agreement recognizes the importance of cultural heritage in Annex 8: Agreement On Commission To Preserve National Monuments by establishing a multi-ethnic Commission to Preserve National Monuments, this body is essentially non-functioning and has no real role in reconstruction in Bosnia (1995, Article 1).

RECONSTRUCTING MOSTAR

Reconstruction in Mostar began in 1994, about a year and a half before hostilities ceased in the rest of Bosnia. In May 1994, the Washington Agreement (essentially a ceasefire agreement) established the European Union's role in the reconstruction of Mostar through the European Union Administration of Mostar (EUAM). Thus the initial reconstruction of Mostar was not under the mandate of the Dayton Peace Agreement, but under its own mandate, which lasted until 1997 (Yarwood, 1999, p. 8). Some of primary goals of the EUAM were freedom of movement, public security, refugee returns, returning homes to their original owners, and infrastructure reconstruction (p. 7). Because the EUAM officials were appointed by the EU and not elected, the Administration was not accountable to anyone in Bosnia, least of all local residents (p. 22). Despite this, the EUAM worked with local elites and politicians in an attempt to be relevant and transparent. However, these attempts at addressing local desires often diminished the impact of projects because of the nationalist objectives of some local leaders. This is especially apparent in the failure of the EU to meet their goal of returning IDPs to their original homes.

Other key international actors in the reconstruction in Mostar have been Technisches Hilfswerk (THW) and the World Bank. Although the bulk of reconstruction was conducted and funded by international (and non-aligned) organizations, a handful of significant projects were conducted by aligned or internal actors, which influenced the reconstruction of Mostar. In particular, the Aga Khan Trust for Culture and the World Monuments Fund have been significant actors in Mostar's reconstruction since 1998. Their approach will be discussed later.

The majority of the EUAM reconstruction work established shelter, infrastructure, and basic facilities, what Yarwood calls "humanitarian" development (1999, p. 26). Yarwood notes that housing repair constituted a majority of EU reconstruction efforts in (p. 46). In some respects, this was a successful project, as the EUAM repaired over 6,000 houses. However, most repairs were external and did not include electricity, heating, water, or plumbing (p. 48). The EU housing repair project had two goals: to improve living conditions and to facilitate refugee returns (p. 48). According to Bose, however, Mostar has a "poor record of returns by refugees and displaced persons to their homes" (2002, p. 113).

Although the bulk of reconstruction focused on housing, the first "major" project EUAM carried out was replacing a bridge across the Neretva. Rather than rebuild

a permanent bridge, the EUAM replaced the Musala bridge with a Bailey Bridge, a temporary military structure. Yarwood recognized the symbolism of rebuilding the bridges, and noted, "Bridge-building was a fashionable metaphor at the time" (1999, p. 13). Rather than connect the isolated ethnic neighborhoods created by the war, the new bridge connected two Muslim enclaves, angering the Croats. Thus EUAM's first big project was stripped of its capacity to act as either unifier or symbol. During their mandate, EUAM replaced five of the ten destroyed bridges across the Neretva, mostly with Bailey Bridges (1999, p. 7). Yarwood notes how he came to understand the impact of rebuilding, rather than replacing, one specific bridge. He highlights

> *the psychological and political dimension. I had criticized the Administrator for his decision to rebuild Carinski Bridge to its original Austro-Hungarian design at a cost of DM5 million [3.2 million US dollars]. I said a Bailey Bridge would suffice. He listened politely, but stuck to his view. At the opening ceremony, I saw I was wrong. The bridge became a symbol of both hope and continuity. It was visually stunning and a tremendous affirmation of the faith of Europe. (p. 50)*

The EUAM's budget included urban Mostar but did not include historic monuments or anything outside the city (Yarwood, 1999, p. 7). Thus EUAM excluded from reconstruction (with a few discretionary exceptions) the villages that had been systematically cleared of minorities and were burned down or dynamited, as well as intentionally targeted cultural and historical buildings. Although EUAM made significant advances in restoring the city's functional capabilities, these projects were conducted in a parallel manner and did not extend across the river. Bose writes, "utilities such as water, electricity, gas and telephones were restored fairly quickly, although with separate systems for the two zones. Schools and hospitals also reopened in due course, once again on a segregated basis" (2002, p. 107). The reconstruction of Mostar, rather than foster integration through shared facilities and spaces, entrenched the ethnic divide and actually created a new possibility of complete ethnic isolation, through the construction separate facilities. The siege of Mostar, Bevan writes, "left a legacy of bitterness and division that is being made physical by the reconstruction" (2001, ¶ 11).

The European Union Administration did restore some symbolically significant facilities, albeit for their use, rather than their symbolism (Herscher, 1998, ¶ 3). These buildings included the theatre hall, post office, fire station, court house, airport, railway station, bus station, and three libraries. The scale of restoration was rather limited, however, as cultural buildings received only approximately 1% of the EUAM's budget (Yarwood, 1999, Appendix 1). This budget included the stabilization of three mosques to prevent further deterioration, but did not fund restoration (Wenzel, 1994). Yarwood and his colleagues understood how important symbols were in the reunification of Mostar. However, their policies and process of reconstruction directly contributed to the consolidation of ethnic groups into isolated, segregated areas of post-war Mostar. By reconstructing utilities and public buildings as two separate systems, the EUAM practically ensured ethnic consolidation. Of particular concern are the twenty-eight schools restored by the EUAM, which serve only their respective, segregated parts of the city, without any integration of students from other ethnicities. These schools have

no common curriculum, allowing nationalist ideas to be taught unchecked, further securing a segregated future for Mostar. The reconstruction of Mostar, financed and guided by the European Union, lacked a deep understanding of how reconstruction can and should reverse the tangible, symbolic, and physical inequalities created by ethnic conflict. A colleague of Yarwood wrote to him that "in Mostar it is the buildings that are being reconstructed, not the life in the city" (Yarwood, 1999, p. 90).

Another organization, the German-funded Technisches Hilfswerk (THW), also conducted humanitarian-driven reconstruction in Mostar during this time (Yarwood, 1999). THW conducted a self-help program, providing materials for housing repair but not funding any labor for repairs. As with the EUAM, the initial repairs were largely cosmetic. THW operated almost exclusively in east Mostar, because, Yarwood writes, "political leaders did everything they could to resist free movement and positive political development in the city" (p. 54). Rather than fight for integrated reconstruction, or even conduct parallel efforts, THW concentrated its efforts on the more badly damaged east side. Since the east side was artificially homogenous, and THW did not encourage or insist on a program of minority returns, repairing homes only in east Mostar encouraged the geographic entrenchment of ethnicity in the city. THW did have one interesting project that challenged the simplistic nature of reconstruction. The Ad Hoc Programme provided rapid assistance in reaction to exceptional incidents. In one instance, "just an hour after a grenade had exploded in the city, the damage had been surveyed, and the day after the material [for repairs] was delivered" (p. 57). This small program was important because it reflected ongoing problems in the city, rather than approaching reconstruction from the static position of housing repair. If this program had been more widely implemented or replicated, it could have been used to reconcile the reality of segregation in the city.

The most visible and renowned international project was the reconstruction of Stari Most. The project was initiated in 1998 by the World Bank, UNESCO, and Aga Khan Trust for Culture, together establishing a Pilot Cultural Heritage Project (PCHP, 2000). What PCHP called the "new Old Bridge" was intended to be a symbol to the world of the international community's efforts in, and hope for, Mostar. The bridge was rebuilt with original techniques and materials after an intensive study of the original construction techniques. Reconstruction began in 2001 and was completed in 2004 with a large opening ceremony attended by the UN's High Representative and Prince Charles, as well as local officials (Armaly, Blasi & Hannah, 2004, p. 7).

The international focus of this project was intentional and fundamental. Wimmen writes that the "popular image" of the bridge as unifier,

> *…probably reveals more about the Western need to reduce complex and multi-layered structures of ethnic interaction to clear-cut oppositions (which then can be, as it were, "bridged"), and also provides a symbol for easy media consumption, rather than reflecting actual local realities. (2004, p. 4)*

Kron also writes about these assumptions of symbolism by the international community. The intention of the bridge, he notes, is to "reinforce a general Mostar

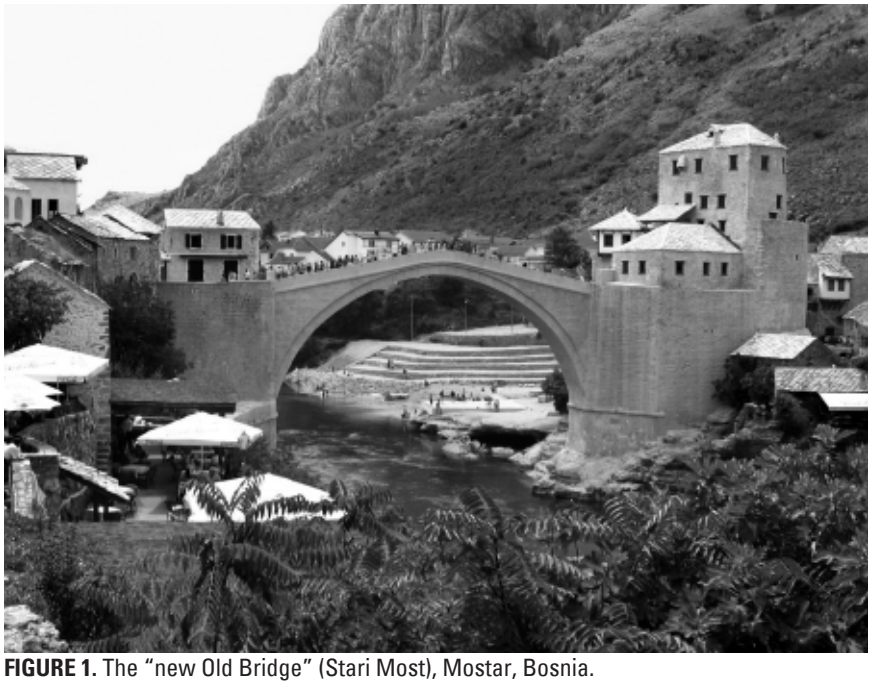


FIGURE 1. The "new Old Bridge" (Stari Most), Mostar, Bosnia.

identity by refocusing the attention of residents on a physical place, the river and the bridge. These projects are quite literal in their approach" (n.d., p. 32). This project, he theorizes, misses the reality of Mostar's identity. He highlights this misunderstanding in reference to a proposal of a new community center near Stari Most. He writes that the international community assumes

> *A space designated for public gathering coupled with proximity to the symbol of Mostar will buttress the unique Mostar identity. However, the community center itself, even as a conceptual design, is in a global, if not purely Western or even American style of architecture. Mostar's civic identity was, in the past, defined by a much more complex set of relationships, such as the bazaar, the mosque, the hamam, and the spaces generated between them. (p. 32)*

The reconstruction of the bridge with original Turkish construction techniques was a positive move away from the poor EUAM model of rebuilding. However, if there were an inherent symbolism or healing power in rebuilding Stari Most, it is likely that these powers would have decreased over time. Based on the accounts available of those involved in reconstruction, as well as those observing or experiencing reconstruction, it seems that the most important reconstruction works are the initial ones. The first reconstruction projects not only set an example for consequent work, they immediately serve as a visible symbol of the objectives of those who rebuild, whether it is the EUAM, UN, an inter-governmental or non-governmental organization.

In contrast to EUAM and THW's cosmetic "humanitarian" projects, some international

organizations are helping Mostar rebuild in a more holistic way. The Aga Khan Trust for Culture (AKTC) and the World Monuments Fund (WMF), working together, "realised that the reconstruction of the bridge without an in-depth rehabilitation of the historic neighbourhoods flanking it on the picturesque Neretva riverbanks – its matrix as it were – would be devoid of context and meaning" (AKTC, 2004). This contextual, holistic approach by AKTC and WMF is characterized by their city-wide conservation plan and their designation of twenty-one "priority" sites. These sites are essentially marketed for rehabilitation by highlighting them as important "focal points" and "anchors" to secure further investment for rebuilding. Unfortunately, this partnership did not start working in Mostar until 1998, however. Had their involvement begun earlier, it could have significantly altered the post-war landscape of Mostar. Nonetheless, their work

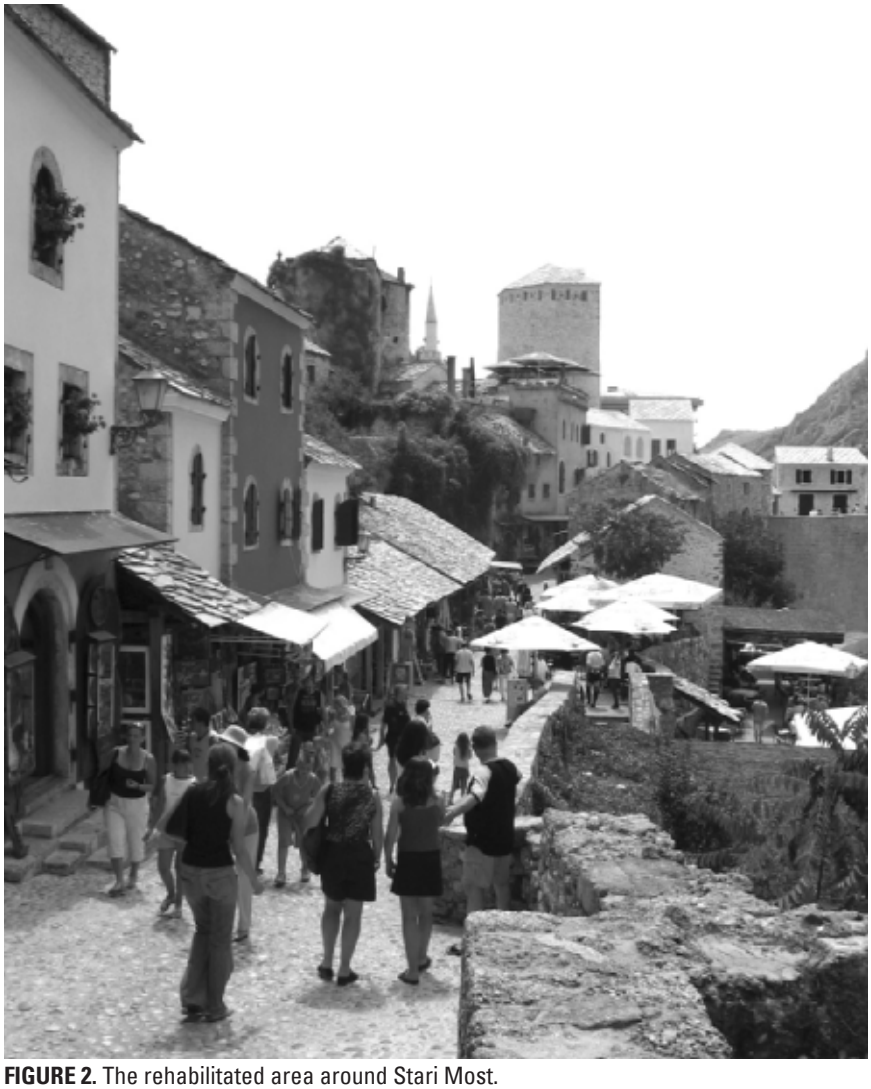


FIGURE 2. The rehabilitated area around Stari Most.

is an important progress away from the problematic EUAM approach and is a positive example for reconstruction projects in other post-war cities.

Other actors in Mostar's reconstruction are local (though sometimes internationally funded) organizations who conduct religious rehabilitation projects. These projects have been generally undertaken by one ethnic/religious community to restore, expand, or establish new religious buildings. The most important of these, symbolically speaking, is the construction by Bosnian Croats, in 2000, of a huge cross that overlooks all of Mostar, but is directly perched above the Muslim east (Bose, 2002, p. 141). This religious/nationalist claim of space and territory characterizes much of the local reconstruction efforts. Bose writes, "the most striking aspect of Mostar's partition consists of visual symbols used to mark zones and boundaries of territorial control," including mosques in the new Muslim territory and an "enormous Catholic cathedral" (p. 141). While this may be justified in light of the international community's general neglect of communal and religious buildings, Torsti emphasizes, "just as destroying a mosque greatly injures and influences Bosniac historical consciousness, so the reconstruction of that mosque at twice its original size has significant meaning for the construction of Serb historical consciousness" (Torsti, 2004, p. 153).

FIGURE 3. View of mosque and riverside cafes, from the top of Stari Most.

These nationalist claims on space through reconstruction eliminate both the possibility and the reality of heterogeneous, shared space, which Bose stresses was the "key to coexistence in Bosnia for centuries" (2002, p. 141). The actions of the international community, furthermore, have encouraged an entrenchment of ethnic division and neglected symbolically significant buildings, both historic and functional. Parallel or

exclusionary reconstruction efforts, in tandem with a lack of sensitivity regarding shared space and complex pre-war multiculturalism, have done little to remedy the deep damage done by warchitecture in Mostar. On the other hand, a thoughtful combination of the holistic "matrix" approach, the housing-centric approach, a solid policy of minority returns, and a consideration of both everyday and sacred symbolism, could rebuild a divided city in way that not only addresses wartime inequalities but also can approximate the pre-war city.

THE CONSEQUENCES OF RECONSTRUCTION

Reconstruction by the international community in Mostar has predominantly focused on rebuilding, foremost, housing and infrastructure, and, almost as an afterthought, religious and civic sites. Houses and churches are, respectively, private and public spaces for the expression of individual or group identity. This kind of reconstruction fails to recognize the importance of reconstructing shared space, such as multinational or supranational institutions (e.g. museums, libraries, concert halls) and spaces (e.g., markets, cafes, sports fields).

Pre-war Mostar was well known for its diversity, social life, cosmopolitanism and *joie de vivre*. The destruction of Mostar intended to both symbolize and actualize the removal of certain ethnic groups or, at the very least, the division of ethnic groups into homogenous areas. The pragmatic (if political) reconstruction of houses by the international community restores shelter, raises morale, encourages returns, and allows the city to be re-inhabited. However, without a program to return minorities and previous residents, this approach allows for ghettoization and ethnic entrenchment. It sends a signal to residents, and those wishing to return, that the international community is primarily concerned with their basic needs and not social reconstruction, reintegration, or reconciliation. Although many people have returned to Mostar, minority returns, where Croats return to east Mostar, Muslims to west Mostar or Serbs to the city in general, are rare, reinforcing the unnatural homogeneity of the wartime ethnic zones. In addition, the parallel reconstruction of facilities and housing in east and west Mostar further strengthens the residential, institutional, and ethnic divisions.

The reconstruction of symbolic, singular monuments by other actors additionally reinforces the wartime divide of the city, rather than its pre-war patterns. Adams questions "whether the new masters of Bosnia-Herzegovina will have any interest in rebuilding the monuments they have so recently torn down?" Adams, 1993, p. 7). According to Donia, the answer is no, as demonstrated across Bosnia by the lack of will to rebuild non-nationalist buildings (2004, p. 12).

The disparity between destruction and reconstruction is not unique to Mostar. Some of the most potent symbols of cultural destruction in Bosnia, the Parliament and National Library in Sarajevo, are still burned-out shells ten years after the end of the war. Mosques and churches in Sarajevo are gleaming and bustling but important symbols of Sarajevo's historically multi-ethnic identity lie ignored. Higueras writes that "Sarajevo has received most of the funds in Bosnia for the restoration of its old town and monuments. Rightly so, it continues to be a thriving multi-ethnic city where the coexistence of the three ethnic groups maintains pre-war patterns" (2002, p. 15). The

idea that Sarajevo deserves more funding for cultural reconstruction has two basic flaws. First, if the community and residences are as integrated as before the war, it follows that the most grievously damaged cities, the most divided, should receive more funding for cultural and multi-ethnic projects, to help them rebuild the integration that was lost during the war. Second, although funding for Sarajevo has made great strides, particularly in the rehabilitation of the old Ottoman section of town (also the center of Sarajevo's cultural offerings and nightlife), it has neglected important symbolic buildings like the Library and Parliament. Letting important symbols lie in ruin is foolish because their reconstruction can serve as powerful reminders of shared history as well as re-establishing space for shared culture and politics (Riedlmayer, 2002, p. 2)

> *These cultural symbols, targets of warchitecture, need to be addressed in a way that reflects the nature of their destruction. Wenzel writes, Few people seem to have considered the disastrous social effects which will result from international indifference towards Bosnia's cultural monuments. In a war where symbols of cultural identity have played such an important part, the psychological benefits which would follow from the restoration of these damaged symbols would be huge. Bosnians themselves understand this. Unfortunately, the decisions about priorities in the reconstruction budget are being made not by Bosnians, but by outsiders. (1994, p. 7)*

The consequences of the international community's inattention to cultural heritage have recently become evident. In just one of many instances, the National Museum in Sarajevo has been funded only intermittently for the last ten years; employees and utility bills are only paid occasionally. According to Plazonic, collections are beginning to deteriorate and the international community is thinking of passing a law to protect them (2004, p.14). Plazonic places blame largely on the Bosnian government for not funding the museum. However, the international community led the way in reconstructing Bosnia, and the government, still guided with a heavy hand by the international community, is simply following their apathetic and irresponsible example.

By focusing on cosmetic housing repair, allowing for parallel construction and failing to address minority returns, the international community has sent a strong message to Bosnians about the Bosnia they believe in and are willing to rebuild. Deemphasizing cultural, historical, and social reconstruction entrenches this problem, despite the efforts of secondary actors to intervene. The continued neglect of multi-ethnic buildings, culture, society, and spaces imperils Bosnia's ability to heal the ethnic divisions entrenched by warfare and reconstruction. Riedlmayer writes, "a generation of Bosnians is coming of age while we speak, and if we want them to play a part in rebuilding their society, they will need educational and cultural resources" (2004, p. 6). Those resources, weakened by war, are disintegrating with each passing year of neglect. The international community, represented by the EUAM in Mostar and the UN institutions which replaced it, seriously misjudged the opportunities, symbolism and importance of reconstruction. Perhaps as a consequence, Friedman writes,

> *The cream of Bosnia's youth, those with a multiethnic point of view, are voting with their feet. Large numbers of them are leaving Bosnia for the US or Europe, unwilling to sacrifice their lives while Bosnia tries to become a viable state. A 2000 survey found that 62 percent of Bosnia's youth would leave if they had a chance. (2004, p. 124)*

The flight of youth, educated people, and skilled workers from Bosnia cannot be attributed solely to mismanaged reconstruction efforts. However, the symbolism of the international community's insensitive reconstruction efforts in Bosnia is not lost on young people in Bosnia. One young woman from Sarajevo, whose family moved to the U.S. during the war but returns to Sarajevo every summer to visit, wrote to me:

> *It really bothers me to see five hundred cafes and clubs opening in Sarajevo while our museums and libraries are not getting fixed. It sends the wrong message to the world and our whole community. It shows what we value and find important. Our society can go down hill if we put no importance into education and preservation of history. (J. Arsic, personal communication, June 21, 2005)*

While ethnic cleansing was perhaps the most visible characteristic of the war in Bosnia, it brought with it the widespread destruction of symbolically significant buildings and spaces. Despite well intended and well funded international efforts to rebuild Bosnia, most reconstruction projects did not address the complexity of destruction and thereby contributed to ethnic entrenchment, particularly in Mostar. Independent, local actors with nationalist agendas in Mostar have exacerbated the failings of the international community. Organizations like Aga Khan and World Monuments fund understand the severity of the problem and are beginning to have greater involvement in Mostar's reconstruction. Unfortunately for Mostar, ten years have passed with no real physical, social, or cultural reintegration. In a city with such a long history of diversity and multi-ethnic interaction, it seems that the international community has grievously erred if they could not encourage the reestablishment of shared space.

LESSONS FOR POST-WAR RECONSTRUCTION

Pre-war Bosnia was not a paradigm of harmonious multi-ethnicity. However, Mostar, Sarajevo, and other Bosnian cities had a high level of social and cultural integration that was admired around the world. The nature of the conflict in Bosnia intended to destroy integration and thereby multi-ethnicity. Some scholars might argue that it is not the job of the international community to reverse the social upheaval caused by the war. Reconstruction will either support or suppress social rebuilding, however, so it follows that the international community must be responsible for whichever path reconstruction takes. Therefore, how can the international community not take steps to include social reconstruction in their post-war rebuilding efforts?

During the recent U.S. involvement in Iraq, museums were looted and cultural buildings were ruined. U.S. reconstruction policy is focusing on infrastructure and security, important elements of post-war stabilization. But what of the valuable and

unique museum collections that have been lost? What of the mosques that are being blown up every week? These buildings and collections need to be attended to, as an important element of post-war stabilization. Without a focus on rebuilding cultural monuments, museums and other symbols like shelled-out buildings, it is exceptionally difficult for a society to rebuild itself. As a multi-ethnic but troubled country, Iraq is like many other nation-building and post-war reconstruction situations. After the fall of a unifying government, however repressive (as in Bosnia [Yugoslavia] and Iraq,) local ethnic differences become more apparent and more important. The U.S. is quickly losing the chance to foster multi-ethnic interaction in Iraq, and this could be contributing to the massive post-war increase in ethnic violence. While it cannot be expected that Iraq, or Bosnia, or any other multi-ethnic country will rejoice in its multi-ethnicity after a bitter war or period of repression, it is important to understand that post-war reconstruction will contribute or hinder social and cultural integration. One tiny project funded by the National Endowment for the Arts, intended to help secure or return pieces of Iraq's cultural heritage, is a small step forward in the mass of infrastructure, oil. and security expenditures in Iraq (Johnson, 2005). The U.S. and other organizations in Iraq, Afghanistan and other post-war societies would do well to reconsider their reconstruction priorities. At the very least, they should understand the relationship between physical and social reconstruction, rather than funding the reconstruction of civil society separately from "rebuilding."

While it may be disheartening that the EU failed to foster reintegration in Mostar, a city famous for its diversity, it must not be used as an example of the futility of trying to restore pre-war society. Instead, we must use Bosnia to show that international reconstruction efforts lack a contextual understanding of how reconstruction must reflect and overcome the conditions created by war. To foster social and physical reintegration, post-war reconstruction must go beyond "humanitarian" projects and take a firm stand on minority returns and integrated facilities. In addition, buildings and spaces that serve as symbols of multi-ethnicity: marketplaces, neighborhoods, athletic fields, government offices. or museums- regardless of their "cultural" importance- must be completely restored. These visible and prominent investments in multi-ethnicity must be made, at the expense of nationalist or homogenous projects. The restoration of symbolically significant buildings and spaces should not supercede the basic needs approach to rebuilding. Nevertheless, if post-war reconstruction is to have the maximum possible positive effect, it must be a fundamental element of any reconstruction policy. When billions of dollars are being spent to "reconstruct" a country, it is the duty of the architects to make maximum use of the opportunities afforded by the process. As we have seen, these opportunities were lost in Bosnia and are being lost in Afghanistan and Iraq. However, the basic underpinning of reconstruction is a belief in the future of the country, and it is my hope that future reconstruction efforts can have a more contextual, and ultimately beneficial, approach to rebuilding.

BIBLIOGRAPHY

Adams, N. (1993). Architecture as the target. *Journal of the Society of Architectural Historians*, 52, 389-390. Retrieved September 15, 2005 from http://odin.let.rug.nl/CB/artt/jsah-ed.html.

Aga Khan Trust for Culture and World Monuments Fund. (2005). Historic cities support programme: Conservation and revitalisation of historic mostar. Retreived June 10, 2005 from http://www.wmf.org/html/PDF/mostar.pdf.

Armaly, M., Blasi, C., & Hannah, L. (2004). Stari Most: Rebuilding More Than a Historic Bridge in Mostar [Electronic version]. *Museum International* 56 Issue 4 Available from http://www.blackwell-synergy.com/.

Balic, Admirela. (2004). First person: A story from Mostar: The new "Old Bridge." UN Chronicle Online Edition. Retrieved September 15, 2005 from http://www.un.org/Pubs/chronicle/2004/issue3/0304p77.asp.

Black, R. (2001). Return and reconstruction in Bosnia-Herzegovina: Missing link, or mistaken priority? [Electronic version]. *SAIS Review 21*, Number 2, 177-199. Available from http://muse.jhu.edu/.

Bevan, R. (2002). Bricks and mortar. *The Bosnia Report*. Retrieved September 15, 2005 from http://www.bosnia.org.uk/bosrep/report_format.cfm?articleid=885&reportid=155.

Bose, S. (2002). *Bosnia after Dayton: Nationalist partition and international intervention*. London: Hurst.

Council of Europe. (1995). War damage to the cultural heritage in Croatia and Bosnia-Herzegovina eighth information report, Doc. 7341. Retrieved September 14, 2005 from http://assembly.coe.int/Documents/WorkingDocs/Doc95/EDOC7341.htm.

Coward, M. (2001) Community as heterogeneous ensemble: Mostar and multiculturalism. Paper prepared for ISA Annual Convention, Chicago. Retrieved September 14, 2005 from http://www.isanet.org/archive/coward.html.

Coward, M. (2002). Urbicide in Bosnia. Paper prepared for conference Cities as Strategic Sites: Militarisation, Anti-Globalisation and Warfare, November. Retrieved September 15, 2005 from http://www.sussex.ac.uk/Users/mpc20/pubs/urbicide.html.

Donia, R. (n.d.) Archives and cultural memory under fire: Destruction and the post-war nationalist transformation. Retrieved September 15, 2005 from http://www.arhivsa.ba/ica2004/robert.htm.

Friedman, F. (2004). Bosnia and Hercegovina: A polity on the brink.

Hayden, R. (1999). Blueprints for a house divided: The Constitutional logic of the Yugoslav conflicts.

Herscher, A. (1998). Remembering and rebuilding in Bosnia [Electronic version]. *Transitions*, 5 No. 3.

Higueras, A. (2002). Post-war landscapes: Cultural heritage and politics in the ex-Yugoslavia." Presented at the 67th annual meeting of the European Association of Archaeology.

Johnson, I. (2005). The impact on libraries and archives in Iraq of war and looting in 2003 - a preliminary assessment of the damage and subsequent reconstruction efforts. *The International Information & Library Review*, vol. 37, issue 3, 209-271. Retrieved June 18, 2006 from http://www.rgu.ac.uk/files/Int%20Inf%20%20Liby%20Rev%20paper%2005.DOC.

Kaiser, C. (2000). Crimes against culture. *The Courier*, September. Retrieved September 15 2005 from

http://www.unesco.org/courier/2000_09/uk/signe2.htm.

Kron, Z. M. (n.d.). Post-War urban conservation and rebuilding: Mostar, Bosnia-Herzegovina. Retrieved September 15 2005 from http://web.mit.edu/akpia/www/AKPsite/4.239/mostar/mostar.html.

Özkan, S. (1994). The destruction of Stari Most [Electronic version]. Development Network, no. 14, 5-7. Retrieved September 15 2005 from http://www.kakarigi.net/manu/ozkan.htm.

Plazonic, M. (2004) A culture served cold. Retrieved September 15 2005 from http://www.bosnia.org.uk/bosrep/report_format.cfm?articleid=2958&reportid=167.

Riedlmayer, A. (2002). Destruction of Cultural Heritage in Bosnia-Herzegovina, 1992-1996: A Post-war Survey of Selected Municipalities Retrieved September 15 2005 from http://archnet.org/library/documents/one-document.tcl?document_id=9281.

Torsti, P. History culture and banal nationalism in post-war Bosnia [Electronic version]. *Southeast European Politics* 5, No. 2-3. 142-157. Retrieved September 15 2005 from http://www.seep.ceu.hu/archives/issue52/torsti.pdf.

Wenzel, M. (2000). The Reconstruction fraud. *The Bosnia Report*. Retrieved September 15, 2005 fromhttp://www.bosnia.org.uk/bosrep/report_format.cfm?articleID=1938&reportid=106.

Wimmen, H. (2004). New nations, imagined borders: Engineering public space in postwar Mostar/Bosnia & Herzegovina. Prepared for the Beirut Conference for Public Spheres. Retrieved September 15, 2005 from http://www.ssrc.org/fellowships/gsc/publications/fellows/wimmenbeirut.pdf.

Aga Khan Trust for Culture. (2004) Conservation and revitalization of historic Mostar. Retrieved September 15, 2005 from http://archnet.org/library/documents/one-docment.tcl?document_id=9121.

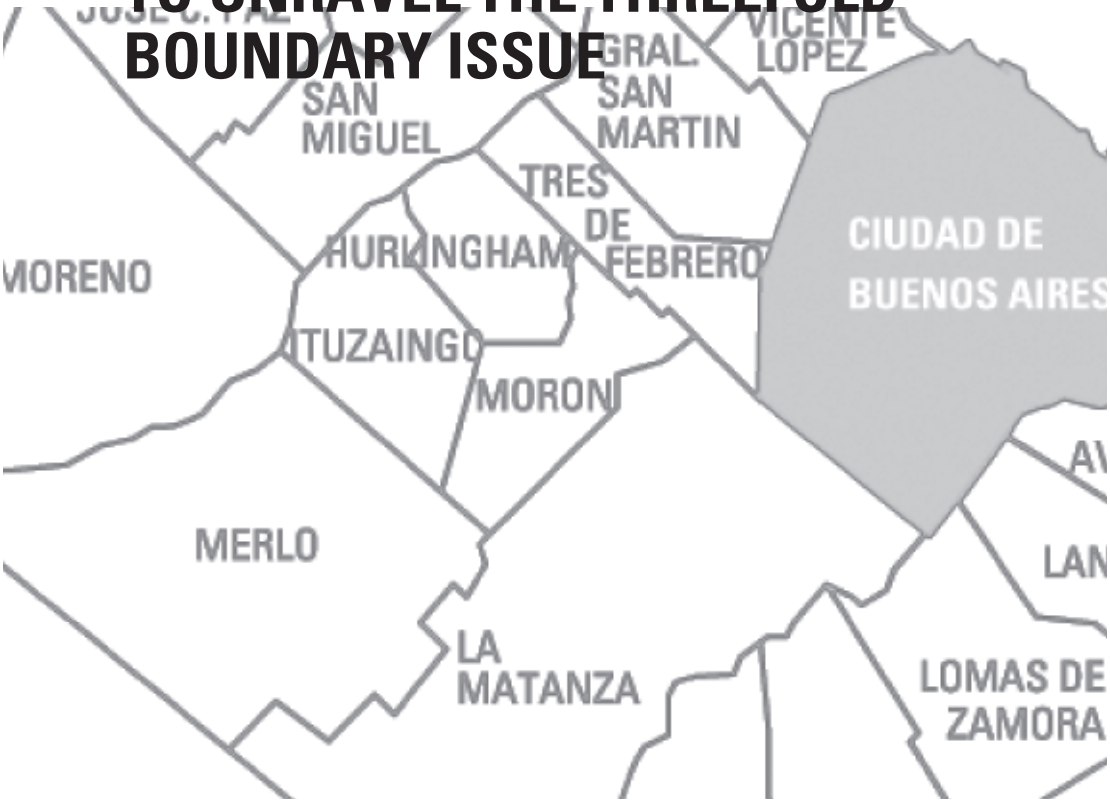
Yarwood, J. (1999) Rebuilding Mostar: Reconstruction in a war zone. *Town Planning Review* Special Studies, Number 3.

Dr. Juan Abal Medina
Executive Director, Strategic Planning Office, City of Buenos Aires
San Andrès University

Luciana Cingolani
Administration + Public Policy, San Andrès University

Francisco Romero
Strategic Planning Office, City of Buenos Aires

STRATEGIC PLANNING + THE METROPOLITAN AREA IN BUENOS AIRES : GUIDELINES TO UNRAVEL THE THREEFOLD BOUNDARY ISSUE



ABSTRACT

The article aims to explore and present management alternatives for the juxtaposition of three different types of hard constraints on metropolitan integration in Buenos Aires, namely, the social, territorial, and political boundaries. The social boundary denotes the gap between southern underdeveloped indexes and high quality of life standards in the north. The territorial or jurisdictional boundary elicits the contrast between Buenos Aires as a single megalopolis and Buenos Aires as the sum of 20 different jurisdictions often with definite physical limits, as is the case of General Paz Avenue and the Riachuelo River. Finally, the political boundary refers to the non-completion of the political competence transfer from the federal government to Buenos Aires City, given the fact that it holds the double status of being an autonomous city and Argentina's capital city. The paper introduces the question of how political authorities should coordinate and govern through this fragmentation in an effective manner. It uses a socio-historical approach that examines different metropolitan governance experiences in recent history, grouping them into two conceptual models: the Metropolitan Focalized Public Intervention Approach and the Metropolitan Comprehensive Public Intervention Approach. While the first model champions the idea of designing specific policies and special administrative procedures for each metropolitan issue, the second aims to conduct work through supra-municipal structures, seeking common solutions for all municipalities. Although the second approach is always more comprehensive, it has proved unsuccessful due to political economy problems. This leads us to present a third alternative, one that emphasizes the relevance of coordinated and participative strategic planning in all jurisdictions. This long-term strategic planning relies more on the idea of mutual cooperation and horizontality, which involves higher coordination costs at the beginning but guarantees a longer sustained action over time.

1.0 INTRODUCTION

While nourished by a limited array of options, every decision-making process is, at the same time, strongly biased by the overall conditions in which it evolves (Giddens, 1995). Although knowing as many options as possible is of critical importance in order to evaluate the different alternatives for any given policy, being aware of the restrictions allows decision makers to sharpen the resulting analyses.

Designing policies for Buenos Aires City requires taking into consideration the plurality of boundaries that impose restrictions on its core capabilities, and its manifold interrelations. This requirement suggests that we adopt a holistic perspective, from which one can visualize Buenos Aires City as part of a broader metropolitan unit and design mid- and long-term policies through a series of methodological devices provided by strategic planning.

By exploring these boundaries we will enter a wide and intricate dimension, which gives rise to the diverse socioeconomic aspects intrinsic to the city's development and its interaction with various external factors, such as the metropolitanism phenomenon; the functional superposition between its constitutional autonomous status and its national capital status; the strongly enrooted social fragmentation between the northern and the southern zones of the City; the progressive aggravation of the social gap after the last decades' market-oriented reforms — which included privatizations and an adverse distribution of public investment — or the long-lasting political tensions between Buenos Aires and other Argentine provinces.

Which boundaries are shaping the metropolitan area in Buenos Aires? We believe they can be conceptualized as three analytically different categories: social boundaries, territorial boundaries, and political boundaries.

The social boundary refers to the historical "symbolic wall" that runs in an east-west direction, separating high poverty levels on the southern side of Rivadavia Avenue[1], from developed-world levels on the northern. The territorial boundary (which can be also understood as an administrative or jurisdictional boundary) elicits the contrast between Buenos Aires as a megalopolis and Buenos Aires as an exclusive urban center with definite limits set by the General Paz Avenue and the Riachuelo River[2]. Although the city's territorial boundaries were clearly reasserted by the 1996 Constitution, Buenos Aires is the center of a greater metropolitan area that comprises 24 other municipalities belonging to the Buenos Aires Province. This area hosts 13 million people on a daily basis — more than 30% of Argentina's total population — who face common problems and difficulties. Finally, the political boundary denotes the non-completion of the transfer of jurisdictional competences from the federal government to Buenos Aires City, given the fact that it holds a double status, one of being an autonomous city (as *if* it were one more province) and the other of being Argentina's capital city. The city's autonomy was acquired during the 1994 national constitutional reform, which granted it the prerogative of electing its own executive head of government (called *Jefe de Gobierno*), who was formerly appointed by the President. Additionally, its legislative branch abandoned its subordination to the National Congress, and became functionally independent. Soon after its autonomization, in 1996, the legislature brought

forth the Buenos Aires City's Constitution, which sealed its novel political status. The city left behind its legal condition of being a federal territory, even if it continued to serve as the seat of government for both local and national authorities.

Although we have mentioned three specific boundaries, these categories are complex, since all of them involve an inherent relation with multidisciplinary factors. For instance, the stark contrast between north and south can also be witnessed in salient infrastructure inequalities (as an example, note that most of Buenos Aires' shanty towns or *villas* are located in the south). Furthermore, the territorial boundary that divides the city from the province can be traced back to the city's federalization in 1880, and to a great extent it is explained by political confrontations as well[3]. Finally, the autonomy issue has its origins in the old cleavage between the urban Buenos Aires bourgeoisie and Argentina's rural periphery, which explains why the city's social and economical origins cannot be overlooked.

2.0 HOW TO DEFINE THE METROPOLITAN ANSWER

When dealing with the metropolitan area, one of the main problems is its very definition. Different parameters can be taken into account when assessing the key elements that demarcate the metropolitan scope.

One definition could be based on the urban sprawl that spans several political units, and is determined by the continual linkage of material elements with a homogeneous physical morphology (Pírez, 1994, p. 58). Another option would be to consider not just the urban sprawl, but the sum of all the jurisdictions that totally or partially enclose that urban sprawl (Sabsay et al., 2002, p.17).

Finally, it is also possible to define the metropolitan area as a greater unit that is determined by functional criteria: it would cover the central urban built-up area and the adjacent urban centers, according to their present or potential interrelations, including, thus, agricultural units and empty spaces (Sabsay et al., 2002, p.17). In this last definition, the Metropolitan Area would be conceptualized as a territorial unit determined by functional criteria and not merely territorial ones.

On the basis of this analytical framework, the INDEC (Instituto Nacional de Estadísticas y Censos) has offered two definitions of the metropolitan area. On one hand, they gave the name *Región Gran Buenos Aires* (GBA) to the area that comprises Buenos Aires City plus the 24 municipalities of Buenos Aires province (see Map 1). On the other hand, they gave the name *Aglomerado Gran Buenos Aires* to the geographic area defined by demographic criteria, where the indicator is the density of urban buildings. This agglomerate is made up of Buenos Aires City and the 30 municipalities of Buenos Aires province (the ones which totally or partially conform to that territory) (INDEC, 2003).

We understand that what characterizes the metropolitan scope is not only its size, but also the functional importance of its activities, independent from their geographic proximity (Castells, 1999, p. 28). But although we adopt a vision where economic, social, and political factors are in mutual interdependence, for the purpose of this work we shall present data corresponding to the GBA, since the lack of readily available data

corresponding to the agglomerate leaves no alternative. We now explore the three boundaries issue.

MAP 1. Región Gran Buenos Aires (GBA). Buenos Aires City plus 24 municipalities. *Source: Dirección General de Estadísticas y Censos, (Buenos Aires City Government) and INDEC (Instituto Nacional de Estadísticas y Censos).*

3.0 THE THREE BOUNDARIES

With over 3.600 km^2, the GBA represents a small percentage of the country's territory: only 0.15%. In spite of this, it concentrates 31% of the country's population: 12.8 million inhabitants (2390 inhabitants per km^2). The economic importance of this unit is also remarkably greater than its geographical extension. Its economy represents 40% of the country's GDP, and its territory concentrates 45% of the manufacturing activities, 38% of commercial activities, 44% of services, and 34% of financial activities (INDEC, 2001). At the same time, the GBA's average income is approximately 30% higher than the national one. However, 42.7% of its population is under the poverty line, and 15.2% under the extreme poverty line (INDEC, 2004).

This immense unit, then, is far from homogeneous. As we advanced in our first section, the metropolitan area is an open umbrella that shelters noticeably different physical, social, economical, and political scenarios.

3.1 THE NORTH-SOUTH SOCIAL BOUNDARY

As Argentina's political and cultural heart, Buenos Aires witnessed much of the mutually incompatible ideas of the opposing hegemonic projects for the nation, whose legacies left an imprint on today's urban configurations. Hence, Buenos Aires of late nineteenth and early twentieth century encompassed within its impressing buildings and monuments the self-confidence of the most empowered sectors, and their high expectations based on the insuperable times to come for Argentina.

As the twentieth century went by, the egalitarian principles of political movements such as *yrigoyenism* and *peronism* promoted the symbolic and material construction of a more homogeneous urbanity. This fact accounted for Argentina's singularity among other Latin American countries: the existence of a widespread middle-class and low poverty levels. This made Buenos Aires an atypical case, closer to the European model of metropolis than to other major urban centers of the subcontinent such as San Pablo or Mexico DF, characterized by a strong social polarization, more comparable to the U.S. model.

However, there did exist a considerable social and economical gap within the city. After several regressive policies implemented by the military elites during the 1970's, and the 1990's pro-market reforms, the difference between south and north grew bigger (Rovere, 2003).

This gap can be observed when comparing Buenos Aires City's northern and southern administrative units (see Map 2), locally known as CGPs or CGPCs (*Centros de Gestión y Participación*), and which will soon be called *Comunas*, as well as Buenos Aires City and GBA's municipalities, and GBA's inner and outer municipalities.

MAP 2. Buenos Aires City's Centros de Gestión y Participación (CGPs). *Source: Dirección General de Estadísticas y Censos, (Buenos Aires City Government).*

Data extracted from the 2001 National Census shows that the population with Unmet Basic Needs (UBN) corresponding to the southern units (CGPs 3, 4, 5 and 8) was between 15% and 18%, while in the northern CGPs (2N, 14E, 14O and 13), this figure was two-thirds lower:between 2 and 5%. The average UBN level for Buenos Aires City was of 7.8% (see Table 1). Something similar is seen in the unemployment and underemployment rates for the year 2003: while the average rate for the city was of 10.5% and 12.5%, respectively, in the southern CGPs these rates were about 21.6% and 14%, while in the northern they were about 10.2% and 10.5% (see Table 1). There exist analogous levels of inequality in all other social indicators (health care, housing, and environmental conditions) (INDEC, 2003).

TABLE 1 Comparison Between Northern and Southern CGPs in Buenos Aires City — General Socio-economic Indicators

	North*	South**
Unemployment Rate (%)	10.2	21.6
Average Income (Argentine pesos)	1200	490
Basic Unmet Needs (%)	0-5	15-20
Level of Education (%)		
Health Insurance (only public hospital insurance)	14.5%	51.5%

*Data corresponding to CGP 14e (neighborhood of Palermo).
**Data corresponding to CGP 8 (neighborhoods of Villa Lugano, Villa Soldati, Villa Riachuelo).
***Basic Unmet Needs refers to the existence of series of living conditions in a given household: overcrowding, lack of sanitary conditions, one or more children out of school and few members (1 out of 4) with regular income.

Source: INDEC, 2003.

Also, if we compare Buenos Aires City with the all GBA's municipalities taken as a single unit, indicators show similar results (see Tables 2 and 3). For the 1st semester of 2004, 51% of the population residing in GBA's municipalities lived under the poverty line and 16.2% under the extreme poverty line, but only 15% and 5% respectively in Buenos Aires City (EPH INDEC, 2004). Similarly, for the 3rd quarter of 2003, 15.6% of the economically active population of GBA's municipalities was unemployed, but only 9.7% of Buenos Aires City's population (see Table 4).

TABLE 2 Population Under the Poverty Line (%)

	2nd semester 2004	2nd semester 2005
Buenos Aires City	14.7	11.5
GBA's municipalities	44.4	36.9
Total Argentina	40.2	33.8

Source: EPH INDEC.

When comparing provincial municipalities, we can see that poverty levels increase the further we move from the central area. While the inner suburbs have only 13.6% of

TABLE 3 Population Under the Extreme Poverty Line (%)

	2nd semester 2004	2nd semester 2005
Buenos Aires City	4	3.2
GBA's municipalities	16.9	12.5
Total Argentina	15	12.2

Source: EPH INDEC.

TABLE 4 Employment Status (for 1st quarter 2006)

	Buenos Aires City	GBA's Municipalities
Activity Rate	53.3%	47.4%
Employment Rate	48.4%	40.9%
Unemployment Rate	9.1%	13.6%
Underemployment Rate	9.8%	13.2%
Inactivity Rate	46.7%	52.6%

Source: EPH INDEC.

their urban households under the extreme poverty line, in the outer suburbs this level doubles, reaching 28.3% (INDEC, 2004).

Various causes converge when it comes to explaining this social fragmentation. The first one holds responsible the notorious absence of state planning during the first stages of expansion of the central built-up area in the city. As a consequence, the northern zones were chosen by the upper classes to reside, which favored the extension of goods and utilities supply nets and infrastructure, while relegating the south to be increasingly populated by immigrants and inhabitants from the Argentine periphery. The decision to leave the development of communications and utilities supply in hands of the private sector only helped to augment the levels of social fragmentation.

A second key explanation deals with the Yellow Fever epidemic outbreak that had a serious impact on the city in 1871. The southern, densely populated neighborhoods of La Boca, San Telmo and Monserrat were nearly depopulated and abandoned. The northern neighborhoods of Recoleta, Barrio Norten and Palermo started then to expand their construction and received important shares of public investments. After a while the south was progressively reoccupied, although not by its former inhabitants, but by new social groups coming from the periphery. This situation created a disgraceful image for the south, while the north embodied an abundance of positive connotations that pretended to represent the entire country through the wealthy, cosmopolitan, erudite, and liberal Buenos Aires, or, as it was called, the "Paris of Latin America."

These conceptualizations, far from being suppressed by the authorities, were continually encouraged, making the virtuous circle of the north parallel to the vicious circle of the south.

3.2 THE TERRITORIAL BOUNDARY

The territorial boundary is the one that poses most constraints when it comes to evaluating the development of mid- and long-term comprehensive policies. On one side and the other of General Paz Avenue and the Riachuelo River lie the two major jurisdictions of the metropolitan area: Buenos Aires City and the province of Buenos Aires (see Map 2). At the same time, there are 24 municipalities in the metropolitan area belonging to the province that have governmental powers, especially for matters related to urban maintenance (waste management, lighting system, street paving, etc.). Finally, the federal government is in charge of the railway lines and their contiguous terrains, the federal buildings, the port, the local airport, and the subways. The centrality of Buenos Aires City and the province of Buenos Aires as political actors lies in their greater capabilities in terms of urban administration, when compared with the municipalities and the federal government.

The main issues affected by this boundary are the ones related to transportation, environment, waste management, and the articulation of a metropolitan health care and educational system. These subjects have raised more problems than solutions, and the confrontation between local and provincial authorities only generated more discontent and distrust, even among their civil societies. As an example, the fact that thousands of people from Buenos Aires province use the health care and educational system financed by residents of Buenos Aires City generates negative feeling toward their neighbors. Inversely, province residents experience the same type of negative reaction, as the city deposits most of its waste on provincial land.

Additionally, there are severe problems with mobility. The different processes of demographic concentration and dispersion verified in the urban centers and their adjacencies intensify and complicate the supply of public utilities. Furthermore, Buenos Aires City and the provincial municipalities do not hold legal prerogatives to regulate the transport system, since transport is a federal juridical competence, which impedes the possibility of implementing durable solutions. Any design of policies aimed at building an efficient system of transshipment terminals and logistic support centers need some sort of political articulation between all the relevant actors.

Although the 1990s witnessed a significant dynamism in infrastructure investments, as soon as the privatization process took place, the inequalities became more and more pronounced, leaving a great portion of the population without these facilities (Coraggio, 1997). It is possible to observe that the farther one moves away from Buenos Aires City, the higher the degradation of the sanitary, transportation, and security systems, to name a few. While in Buenos Aires City, as well as municipalities such as Vicente López, almost 100% of the population has access to potable water and sewage treatment, in others like Merlo these percents are of 37.2% and 20.9%, respectively (Fundación Ciudad, 2002).

Finally, the various environmental issues that the metropolitan arena faces show the need to promote all sorts of jurisdictional cooperation. Again, the coexistence of federal, provincial, and municipal jurisdictions generates the overlapping of numerous duties and obligations. This is also the case of several environmental offices, as we shall see below.

3.3 THE POLITICAL BOUNDARY

As we first stated in the introduction, the political boundaries issue stems from the present and past political confrontations between the federal government and Buenos Aires City regarding the latter's continual search for greater degrees of autonomy. On one side the city acquired its autonomy from the federal government after the 1994 and 1996 national and local constitutions, respectively, and on the other, it retained its status as Argentina's capital city, with the subsequent conflicts emerging from federal interests that still lie within its scope. This contradictory scenario becomes blatant when comparing the transferred prerogatives to those retained by the national administration, which configures a blurry and chaotic legal framework.

Until 1994, the Argentine Constitution stated that the territory delimited by General Paz Avenue, the Riachuelo River, and the De la Plata River belonged to the country's capital city. Its legal status resembled that of the other 2100 Argentine municipalities, except in a few aspects: although the city had a mayor (*intendente*) and a legislative council, it could also choose national senators and participate in the Federal Fiscal Office as all provinces did; it could be federally intervened by the national Congress; and finally, the mayor was not elected by the people, but appointed by the President (in fact, many times the mayor was not even a native of Buenos Aires). These features generated several contradictions, such as the fact that since the democratic transition of 1983 the Peronist party had never won an election in the capital city (except for the 1993 legislatives) and still the mayor belonged to that party for seven years (1989-1996).

The constitutional reform of 1994 ended with this hybrid situation. Article 129 establishes that *"the City of Buenos Aires will have an autonomus political regime, with legislative and jurisdictional prerogatives, and its Chief of Government will be elected by the people of Buenos Aires."* In observance of this, the Constitutional Convention of Buenos Aires signed the first Constitution of the City on October 1, 1996. But the total autonomy was not fulfilled. Although Article 129 guarantees the city's autonomy, it also establishes that there must be passed a law guaranteeing the preservation of the federal interests within the city, as long as it remains the capital. That law was approved by the Congress in 1995: it is commonly known as "Cafiero Law" (Ley Cafiero). Soon after being approved, its constitutionality was questioned by well known jurists, and even the city's Constitutional Convention resolved to reject the restrictions on autonomy imposed by this law.

The existence of this piece of legislation prevents the capital from having ordinary justice courts — which contradicts the legal prerogatives granted by the Constitution — and restrains its competences from creating local security forces (police and fire services), the regulation and control of local public utilities, the Registry of Real Property (Registro de la Propiedad Inmueble) and the Superintendency of Corporations (Inspección General de Justicia).

Today, the decisions regarding these issues — which basically affect people from Buenos Aires City — have a rather weak institutional endorsement, and lack adequate ways to allow representation, participation, and accountability.

The three basic sectors affected by this are penal justice, federal public utilities, and local public utilities.

The signing of inter-jurisdictional agreements between the federal state and the city is contemplated in Article 6 of the *Cafiero Law*, which established that *"the national state and the city of Buenos Aires will create agreements in order to transfer public agencies, duties, competences and utilities."* To this end, in 2003 the Congress approved Law 25.752, which ratified an agreement for the transfer of penal competencies (Convenio de Transferencia Progresiva de Competencias Penales de la Justicia Nacional al Poder Judicial de la Ciudad Autónoma de Buenos Aries), subscribed in 2000 between the President and the local Chief of Government (Jefe de Gobierno). This agreement determined that the bearing of arms (by civilians) and their improper utilization within sporting events belong to Buenos Aires City's ordinary justice jurisdiction. The importance of this agreement is that the law's 'desideratum' is to achieve the completion of the autonomy process, granting Buenos Aires City an equivalent status to all other provinces.

The control over residential utilities (electricity, gas, communications) also requires an agreement between the city and the federal state, since this competence belongs to the federal jurisdiction.

The relationship between the federal state and the city determines that there exist exclusive competences for the latter, concurrent competences, and exclusive competences for the city (those that do not refer to policy planning, the establishment of general guidelines and inter-provincial connections), but until now the city has not had control over most of them.

The National Constitution allows Buenos Aires City to participate in all Federal Utility Regulatory Institutions (Article 42), except for the case of the ETOSS (Ente Tripartito de Obras y Servicios Sanitarios), the regulating entity for sanitary utilities. This general disposition is not actually implemented.

Even in the case of the local public utilities (local buses and subways) the federal state has competences that should be transferred to the city. Although these utilities were licensed by the federal state, this was not due to its federal competences, but to the fact that when the concession was done, those competences were in hands of the federal executive branch. However, the 1994 constitutional reform transferred these competences to the city. Therefore, -and given the fact that these utilities are fully supplied within the limits of the city-, its authorities should rule over their regulation, auditing and control. The exercise of these prerogatives is legally obstructed by anything but a *de facto* retention of them by the federal state.

The case of Buenos Aires' port also evinces how far restrictions on autonomy go. Although Law 24.093 established that the ports would be transferred according to the province's demands (and those of the formerly called Municipality of Buenos Aires City), Decree 1029/92 partially vetoed the articles of the law that referred to Buenos Aires City's port. On its legal grounds, this decree manifested that the Municipality

was a decentralized branch of the federal state, and hence, it was convenient that its jurisdiction remained under the federal scope. However, after the city's change of juridical status in 1994, there were no longer sound reasons to deny the transfer.

4.0 INSTITUTIONAL EXPERIENCES IN THE METROPOLITAN AREA (GBA)

The attempts to administrate the metropolitan arena as a single unit have been characterized by a strong political centralization, which explains their impossibility to configure lasting institutional arenas. Additionally, there do not exist uniform criteria in the definition of the scope of the different initiatives. Although there is a certain degree of uniformity for many policies, the specification of what is a "metropolitan issue" varies according to each particular topic.

FThe initiatives aimed to administrate the metropolitan area can be classified under two basic models. On one hand, there is what is known as the Metropolitan Focalized Public Intervention Approach (Modelo de Gestión Metropolitana Específica), which champions the idea of designing specific policies and special administrative procedures for each metropolitan issue, according to the topic it attempts to manage. As a consequence, although interjurisdictional in essence, these thematic actions are taken in a fragmented manner and often remain isolated from other policy fields, since they are undertaken by public agencies exclusively dedicated to and trained in specific issues. On the other hand, there are more comprehensive approaches that intend to weigh the various complexities that exist in the metropolitan scope. This is the case for the Metropolitan Comprehensive Public Intervention Approach, which aims to conduct work through supra-municipal structures, in search of adequate metropolitan governance. The most important characteristic of this model is not only that it seeks common solutions for all municipalities, but also that it intends to engage in multiple issues in a coordinated manner, such as sanitation, transportation, and environment An extreme version of this modality would be to find a long-term solution by transforming the legal status of the area into one single jurisdiction.

The institutional experiences corresponding to the first model are:

- Central Market Corporation of Buenos Aires (Corporación del Mercado Central de Buenos Aires): created by an agreement between the federal government, the province of Buenos Aires, and the former Municipality of Buenos Aires City, as a public entity with private and public legal competence.
- Environmental Co-ordination of the Metropolitan Area (Coordinación Ecológica del Área Metropolitana Sociedad del Estado - CEAMSE), in charge of GBA's solid waste management and the environmental co-ordination between its jurisdictions.
- Tripartite Entity of Sanitation Works and Services (Ente Tripartito de Obras y Servicios Sanitarios - ETOSS): was constituted as an autarchic institution with public and private legal competence, and is made up of representatives of the federal executive branch, Buenos Aires City Government, and the province of Buenos Aires. Its purpose is to regulate water supply and sewage treatment.

- Environmental Committee for the Matanza-Riachuelo River Basin Management (Comité Ejecutor del Plan de Gestión Ambiental y de Manejo de la Cuenca Hídrica Matanza-Riachuelo). It was created by the federal executive branch by a decree that now has been abrogated, which assigned to the CEAMSE the management of the sanitation program for the river basin.
- Transport Regulation Entity for the Metropolitan Area (Ente para la Regulación del Transporte en el Área Metropolitana - ECOTAM). This body is made up by the federal executive branch, the executive branch of Buenos Aires province, Buenos Aires City Government, and the municipalities of the GBA. It acts at the request of any of the jurisdictions to solve controversies over specific issues, without retaining any legal competence.
- Joint Air-monitoring Agreement for Dock Sud's Petrochemical Complex (Convenio Plan de Monitoreo Conjunto del Aire para el Área del Polo Petroquímico Dock Sud). Its goal is to establish a coordinated net of actors for monitoring the quality of the air coming from fixed sources and the management of the National Environment Information System (Sistema de Información Ambiental Nacional) for Dock Sud's Petrochemical Complex.

Among the institutions that correspond to the second model we can cite the case of the National Commission for the Metropolitan Area (Comisión Nacional del Área Metropolitana Buenos Aires - CONAMBA), created with the purpose of undertaking policies and actions for the different jurisdictions, in search of a greater level of functional institutionalization.

This experience can be traced back to the 1984 agreement entered into by the province, the Municipality of Buenos Aires City, and the federal government, named Area Metropolitana de Buenos Aires (AMBA). This agreement stated precise ends and functions for its first stage of development, which emphasized policies of waste management and the organization of all the information concerning the metropolitan area as well as the setting of general guidelines to carry out infrastructure initiatives, among others.

In 1987 the federal government made the settlement official, institutionalizing the CONAMBA and granting the Ministry of Interior the responsibility for directing pertinent actions. It was then that it was constituted the Public Committee for the AMBA (Comité Político del AMBA), made up by one representative of the province, the Government Secretary (Secretario de Gobierno) of Buenos Aires City, and the Subsecretary of Institutional Affairs of the Ministery of Interior. Although the CONAMBA is able to develop duties of planning with guidelines and execute concrete projects, it has not carried out any of these activities (Pírez, 1994, p. 120).

5.0 CONCLUSIONS

Buenos Aires City, the province of Buenos Aires, the federal government, and the various national and inter-jurisdictional bodies created for developing specific policies, along with all municipalities, total more than 20 jurisdictions that comprise the metropolitan area. Its economic, social, and cultural characteristics configure a

complex territorial unit that is not fully contained by any institutional framework. Today they coexist in a multiplicity of jurisdictional levels, presenting serious obstacles to governance. This seems to evidence that whenever public intervention copes with topics such as transportation, health care, safety, or the environment, it necessarily requires a special interjurisdictional approach.

This point may be easily illustrated when assessing transportation policies, for instance. The city hosts several millions of incoming citizens from the adjacencies, including three million passengers that use public transportation (Plan Estratégico, 2005). To implement adequate policies in this field for such a number demands a great effort at jurisdictional coordination.

The case is no different for the health care system: 35% of hospital users in Buenos Aires City come from GBA (Gobierno de la Ciudad de Buenos Aires, 2004), which in turn poses constraints on the quality of the services supplied.

Also, criminality indexes in Buenos Aires City are closely determined by the socio-economic situation and the specific policies that are carried out in the Province. We can hardly think of reducing those indexes by taking only local and circumscribed actions for the city, especially considering that its government does not even legally control and lead its own police forces.

Finally, the environmental issue merits coordinated work as well. The southern boundary of the City, the Riachuelo River, is thoroughly polluted by more than 3000 factories located on the bank, corresponding to provincial territory. Since these factories play a crucial role in municipal economic activities, the path toward combining a healthy environment with sustained growth has special relevance, and it can only be reached through a joint effort of jurisdictions.

Hence, it is possible to affirm that the main factor affecting the three-fold boundary issue is the institutional fragmentation of the metropolitan space. This lack implies that problems are faced in a segmented territorial manner. The overlapping of different governmental agencies reduces, in turn, the possibilities for integration, the same way it affects the actors' abilities to carry out policies. Often, metropolitan policies favor urban interventions that put an emphasis on merely technical aspects, subordinating other political criteria. As a result, this type of management is incapable of understanding its own functioning within an aggregate political unit.

Fortunately, not everything is discouraging when dealing with Buenos Aires' metropolitan issues. After several years of controversy, there exists today a fairly accurate diagnosis of the issues that need to be solved exclusively by metropolitan concerted strategies. The various actors involved have reached a consensus that denotes the complexities of the area, and admit that the 'three-fold boundary' issue requires comprehensive policies.

Its institutional materialization, however, does not share the same status. For example, whether or not to create a centralized authority in order to overcome the situation

has been profusely debated. A series of failed attempts in this respect, along with the difficulties such an approach is prone to bring in terms of enforcement, raise serious doubts as to its pertinence. On the other hand, organisms established for specific issues, such as ECOTAM, CEAMSE or ETOSS, have not proven to work efficiently concerning the metropolitan issues.

Most likely, the horizon will show the persistence and proliferation of mutual cooperation institutions, as has happened in the past. It is at this point that strategic planning becomes a critical device to build the necessary capabilities to develop comprehensive policies. This means, in first place, accepting the idea that current jurisdictions are the most important actors holding the power to intervene in the area, and that a suprajurisdictional district is not likely to succeed. Secondly, this means that mutual cooperation agencies seem not to gather enough momentum to induce the needed changes. As a consequence, the most effective institutional arrangement seems to be the conformation of an open and participative strategic planning arena, capable of instigating joint action, without forcing manipulation of each district's legal competences. This alone is a permanent source of conflict and political impasse.

Strategic planning guarantees a sustained action over time, one that prevents public policies from lacking coordination and being only partially enforced or having an impact as merely isolated initiatives. Participation provides the legitimacy that any democratic governance procedure demands, fostering views that are amicable to conciliatory principles, for both public and private interests.

Argentina's institutional and political scenario is favoring the rebuilding of state capacities, largely undermined during the last decade. In order to dissipate, or at least attenuate, the multiplicity of boundaries in the metropolitan area, strategic planning can operate in two basic dimensions: time and space: time, by setting long-term policy guidelines, and space, by promoting concerted actions between all the actors involved. To overlook any of these dimensions is equivalent to risking the possibility of finding any kind of reliable solution.

ENDNOTES

1 Rivadavia Avenue is a traditional urban corridor that runs in an east-west direction, traversing the entire territory of Buenos Aires City, and dividing it into two roughly equal parts. It was built in

colonial times in order to connect the center with the neighborhood of Flores (in the city), and now connects also Morón and Moreno (in the province). It is recognized as the most important avenue within the metropolitan area.

2 The Riachuelo River runs in a west-east direction, from Cañuelas (a small town of Buenos Aires province, 64 kilometers west of Buenos Aires City) to De la Plata River, and demarcates the southern limit of Buenos Aires City. Along with Reconquista River these are the two biggest basins in the GBA. The bridges that connect the southern municipalities with the city are not properly distributed, which has historically caused numerous problems for access and mobility.

3 For further details on the evolution of Buenos Aires City's federal status, see Abal Medina, 2003.

BIBLIOGRAPHY

Abal Medina, J. M. (2003) "Análisis comparado del desempeño institucional de tres gobiernos locales: una propuesta metodológica" in *Desarrollo Económico*, Nº 169, Vol. 43. April-June. Buenos Aires.

Badía, G. (2004) "Cambiando el foco: la descentralización de Buenos Aires y la Región Metropolitana, in Escolar M., Badía G. and Frederic S. (Eds.), *Federalismo y descentralización en grandes ciudades: Buenos Aires en perspectiva comparada*. Buenos Aires: Prometeo.

Castells, M. (1999) *La cuestión urbana*. México: Siglo Veintiuno Editores.

Consejo del Planificación Estratégica de la Ciudad de Buenos Aires (2005) *Plan Estratégico de la Ciudad de Buenos Aires*, Gobierno de la Ciudad de Buenos Aires. Buenos Aires.

Coraggio, J. L. (2003) "La gobernabilidad en grandes ciudades: sus condiciones económicas (con especial referencia a la Ciudad de Buenos Aires)," version of the article presented at the Simposium "Metrópolis, desigualdades socio-espaciales y gobernanza urbana: reflexiones comparativas", XXI National Meeting of ANPOCS, Caxambú, Minas Gerais, October, 1997.

Giddens, A. (1995) *Bases para la Teoría de la Estructuración*. Buenos Aires: Amorrortu.

Instituto Nacional de Estadísticas y Censos (2004) Encuesta Permanente de Hogares, segundo trimestre.

Pírez, P. (1994) *Buenos Aires Metropolitana*. Buenos Aires: Centro Editor de América Latina.

Rovere, M. (2003) "La Planificación Estratégica y la Ciudad como Sujeto," *Revista La Gran Ciudad*, Nro. 2. Buenos Aires: Fundación Metropolitana.

Sabsay, D. et al (2002) *Región Metropolitana de Buenos Aires. Aporte Jurídico-institucional para su construcción*. Buenos Aires: Fundación Ambiente y Recursos Naturales.

Various Authors (2003) *Encuesta Anual de Hogares de la Ciudad de Buenos Aires. Aspectos Laborales.* Dirección General de Estadística y Censo. Gobierno de la Ciudad de Buenos Aires, Buenos Aires.

Various Authors (2003) "La regionalización. Una alternativa para el área metropolitana Buenos Aires" in *Revista La Gran Ciudad*, N° 2, Summer. Buenos Aires: Fundación Metropolitana.

Various Authors (2002) *Buenos Aires, el agua y la salud*. Buenos Aires: Fundación Ciudad.

Fransje L. Hooimeijer
Delft University of Technology, Faculty of Architecture

MISMATCHED BOUNDARIES BETWEEN THE DISCIPLINES OF CIVIL ENGINEERING + URBAN DESIGN CONSIDERING POLDER CITIES IN THE NETHERLANDS

ABSTRACT

The Dutch have a rich and internationally renowned tradition when it comes to the intimate relationship between urban design and hydraulic engineering. Their expertise and knowledge of hydraulic laws and ingenious technology have helped them successfully make land out of water: polders. This is the story of how Dutch polder cities are hydraulic constructions made by both civil engineers and urban designers, and the changing boundaries between these disciplines.

The design of Dutch polder cities has been a combination of technological prosperity and understanding of the rules of water management: the 'fine tradition.' But the more problems civil engineers could solve, the less water management became a spatial task. This cumulative development can be ordered into six phases that are characterized by specific boundaries between design and technology of polder cities: acceptation (-1000), defensive (1000-1579), offensive (1579-1814), early manipulative (1814-1886), manipulative (1886-1990), and adaptive manipulation (1990-). In the current situation wherein the change of the climate causes flooding in polder cities, the solely technical approach is insufficient. Reintroducing the fine tradition, the spatial approach and a larger acceptation, is required. Our heritage provides evidence of the Dutch talent with regard to the design and construction of water. This research gives a representative idea of historical, current, and future relationships between urbanization and water management in the polder cities. The main hypothesis that structures this research states that 'the fine tradition' was based on a self-evident relation between design and technology. Innovative design of the new Dutch polder city is only possible if this aspect of the fine tradition is reinstated. There is a need for mismatching boundaries, to strengthen coherence between the disciplines of urban design and civil engineering, and to be able to go on living with the water.

But cities are given shape by all sorts of people, by military engineers, for example ships' gunners (like those who laid out the early British port cities of India), and by administrators and state officials, from the oikists (leaders of colonizing expeditions) who gave us Greek towns of Sicily and the medieval lords of England and France and Spain who planted hundreds of new towns or bastides within their territories, down to modern planning commissioners like Robert Moses of New York and Edmund Bacon of Philadelphia. […] A survey of this extraordinary crowd, their writings and the tools of their trade, would make a first-rate story.[2]

FIGURE 1. Peat polder structures. *Source: Karel Tomeii.*

The Dutch have a rich and internationally renowned tradition when it comes to the intimate relationship between urban design and hydraulic engineering. Their expertise and knowledge of hydraulic laws and ingenious technology have helped them successfully to make land out of water: polders. This is the story of how Dutch polder cities are hydraulic constructions made both by civil engineers and urban designers, and the changing boundaries between these disciplines.

The peat polder city, the oldest polder city, has as its base higher grounds of river, coast, burcht, dike, mould and dam cities. This base is the first important characteristic of the peat polder city: the higher levelled 'dry core' on which the settlement started. Prosperity and growth led to expansion of the surrounding wet soil, derived from peat or already prepared for cultivation but not yet prepared to be built upon. To be able to

expand, there was a need for 'strict control,' which was the result of the cautiousness with which an expansion of the polder city needed to be realized. First, the size needed to be determined, which did not need to comply only with the requirements of that time, but also with those of centuries to come. A technical plan as a second aspect was required to ensure that water could be discharged and controlled, and that the water in the city canals would maintain a constant level. In most cases first an encircling canal was built, which was connected through the expansion area by means of a sequence of parallel canals. Primarily the outer canal was for drainage, but it also had a military function (defence) and a transport function (access to warehouses).[3] By means of sluices and windmills the water level of the canal system was regulated and the excess water discharged. Subsequently the reclaimed land needed to be raised in order to obtain the required protection level, and it then had to be consolidated and prepared for building. Mud excavated from the canals was used for raising the level, and it was supplemented by earth, which often needed to be transported from far away locations. In the ground prepared for building, long foundation piles were driven in order to stabilize the housing in the deep-set stratum of sand.

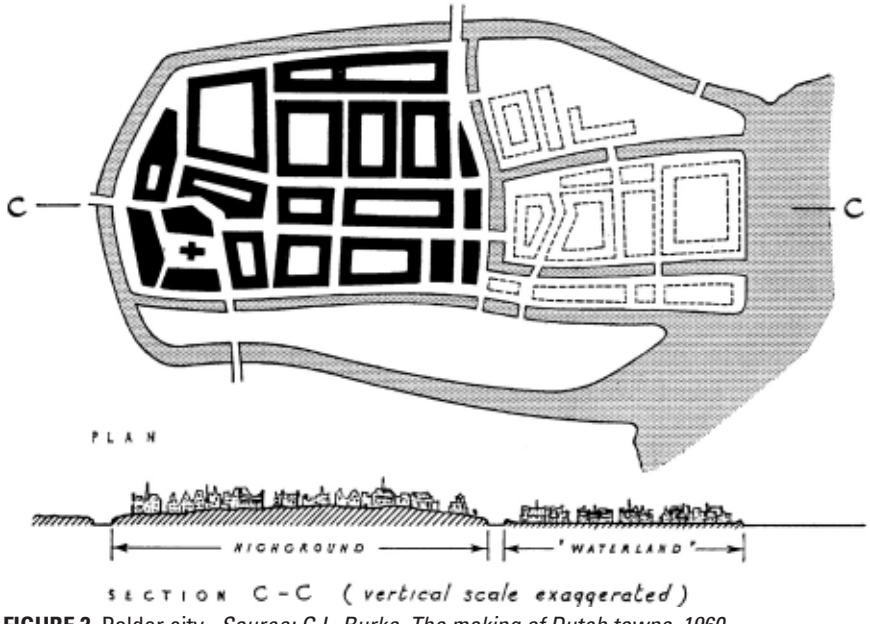


FIGURE 2. Polder city. *Source: G.L. Burke, The making of Dutch towns, 1960.*

It is superfluous to observe that in the case of polder cities random development is absolutely out of the question when land has been reclaimed, raised, drained, and protected with so much effort. In polder cities one cannot speak of so-called 'chance growth' and due to the costs and efforts of building the reclaimed land, an optimal use was demanded[4].

Dutch polder cities are a combination of what Kevin Lynch calls the practical and the organic model (the third is the cosmic model)[5]. The practical model, or the city as

machine, is factual, functional, and cool, not in the least bit magical. It is the concept that motivates colonial cities and company cities, speculative grid cities of the United States, Le Corbusier's 'Radiant City,' and, more recently still, the inventions of the British Archigram group and the arcologies of the Italian Paolo Soleri. The organic model, or the biological city, sees the city as alive rather than as a machine. It has a definite boundary and an optimum size, a cohesive, indivisible internal structure, and a rhythmic behaviour that seeks, in the face of inevitable change, to maintain a balanced state. The creators of this model were the likes of Frederick Law Olmsted, Ebenezer Howard, Patrick Geddes and Lewis Mumford.'[6]

The magical combination of these two models - the practical model adapts all hydraulic rules and the organic model is the blueprint of the social order - is seen in the design of the polder city Amsterdam[7]. The practical issues of hydraulics and the social engagement of the organic model represent the work of people (engineers and surveyors) who understood both worlds, persons on the verge of the mismatched boundaries. The making of Dutch polder cities is, as Burke emphasis, not a matter of only architecture, but foremost a visionary way of dealing with the hydraulic demands of the wet territory[8].

Over time, the designing and technical world became segregated, as mirrored in the design and construction of polder cities. The changing climate puts pressure on these cities, wherein the water system is not flexible enough to adapt to these changes. The question is how to bring these worlds back together and build urban hydraulic constructions of the future; how to mismatch the boundaries again?

The discipline that owns the knowledge to build polder cities, civil engineering, has a crucial part in the design, because the civil engineer is responsible for the building site preparation. It is obvious that the relation between the civil engineer and the urban designer (a discipline that arose only in the twentieth century) is of great significance. In this relationship, different attitudes toward dealing with the water are recognizable.[9] The following phases are used to order the relationship between civil engineering and urban design, the state of technology in building site preparation (source of power, soil mechanics, hydraulics), and the effect on the design of cities: I. Acceptance (until 1000)[10], II. Defensive (1000-1579), III. Offensive (1579-1814), IV. Early Manipulative (1800-1886)[11], V. Manipulative (1886-1990) and VI. Adaptive Manipulation (1990-today).

ACCEPTATION, DEFENSIVE, + OFFENSIVE PHASES

The dynamics of the regional water system, which include groundwater and rainwater in combination with surface water, are crucial for the process of development and urbanisation of the Dutch polders. In the phase of acceptation the inhabitants were subjected to the forces of water and wind and lived on higher grounds: they simply accepted the situation as it was.

The defensive phase started around 1000 A.D. and is also referred to as the 'great reclamation' of agricultural grounds. Measures of defence against the water were taken, the most important condition of the creation of cities. The most conceptually interesting type of city is the dam city, like Amsterdam and Rotterdam, because of its tectonics: the integration between economics, technology, and beauty.

FIGURE 3. Still the highest mould in the Netherlands, Hegebeintum. *Source: Fransje Hooimeijer.*

The first generation of large-scale dike rings was built in the thirteenth and fourteenth centuries. On the location where a dike crossed the watercourse, a dam was built. Apart from this dam function, the dam ensured discharge of the river water into open water by means of a drainage sluice. Together with tidal movements, drain water was used in a practical way in order to ensure the depth of the harbour as well as city access for sea-going vessels. The drainage sluice could support only smaller ships, so goods from larger vessels had to be hauled or sold on the dam. The dam turned into a trading market, and the estuary outside the dikes of the peat river became a sheltered harbour. The dam city and polder become hydraulically as well as economically connected.

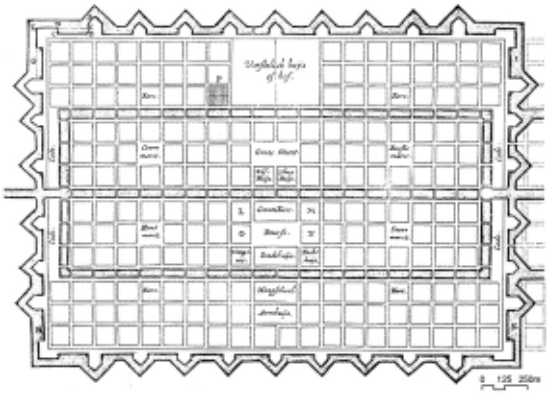
Besides the dikes, the raising of grounds to drain and strengthening the wet and weak soils and foundations under buildings were demands that needed to be met to enable urbanity. All technology used was developed from experience-based knowledge that was passed down from father to son in the guilds.

The offensive phase marks the change from guilds to a more organized approach toward building up a body of knowledge. The beginning of this phase is situated in the erection of the 'Republic of Seven United Netherlands' in 1579 because it meant the installation of an organized army where first knowledge build-up was done in building fortifications, canals, bridges, surveying, etc. This way the military engineers became experienced in dealing with building fortifications and building on the wet and weak grounds of the Dutch territory. Also in this period appeared the first scientific writings

about soil mechanics by Charles-Augustin Coulomb (1736-1806) and Bernard Forest de Bélidor (1697-1761) and about flow mechanics by Daniel Bernoulli (1700-1782).

DUTCH RENAISSANCE

The seventeenth century was a Golden Age for the Republic, when cities flourished through the economic growth, and the period wherein polder expansions were built. The cities stepped off their "dry core" and, under "strict control," raised and drained their expansions. The characteristic of modern civil society is that the future is consciously planned on the basis of rationality, mutual consult, and decision-making. The political independence is accompanied by a flourishing of science, technology, and art: the Dutch Renaissance. The expression of this flourishing in regard to urban design is Simon Stevin's (1548-1620, an important military engineer!) Ideal City, as he described in 'Designing Cities' (1649), which was published posthumously. His design is based on existing size and structure principles of agricultural engineering and urban design. The perspectives of water management, derived from the pattern of the polders, are directly applied in his city.



FIGURES 3-4. *Left*: **Simon Stevin (1548-1620)**. *Source: C. van den Heuvel, De Huysbou, 2005. Right*: **City by Simon Stevin**. *Source: C. van den Heuvel, De Huysbou, 2005.*

Simon Stevin is the first example *par excellence* of the capability to integrate hydraulics and urban vision: urban engineer, technically trained and autodidact urban creative thinker, he marks the excellence that mismatching boundaries can produce.

An important characteristic of both the Dutch Renaissance and polder cities is the result of the strict control: the absence of any idealistic expression. Vision and beauty have to be paid for, and the entire budget was used preparing grounds for city expansion. The individualistic citizens did not see the need for an urban composition based on central authority, like the monumental plans in other European cities, simply because it did not exist in the Dutch society[12]. The Dutch tradition of always trying to reach group consensus, the so called 'polder politics,' is directly related to the fight against water. A count can own a lot of land but it is useless when there are no farmers working for him to keep it dry. This dependency the farmers are well aware off and they make sure that the count on the other side is aware of their interest[13].

The ideal City of Simon Stevin was not built, but a city of the same conceptual calibre is the *grachtengordel* (ring of canals) of Amsterdam (build around the 1620s). It is an integral design of land restructuring, surveying, and water management joined into through the cooperation of the merchants for whom the city expansion was built, the city carpenter Hendrik Jackobzn Staets and the surveyor Lucas Jansz. Sinck, who drew up the plans. Amsterdam did not try to follow the idealistic view of a capitalistic city as other European cities did, but implemented this design as a blueprint of social and economic life, making use of technological possibilities[14].

EARLY MANIPULATIVE (1814-1886)

The phase starting in the beginning of the nineteenth century, after the French occupation, is characterized by an exploding population growth and industrialization through the transformation from hand to machine labour, made possible by the introduction of the steam engine. This altered strongly the shaping forces of the (urban) landscape[15]. Also, it changed hydraulic technology. It became easier to control the water, make it do things it would not naturally do: i.e., to manipulate it. Civil engineering became a more defined discipline (with clear tasks, education, and a discourse) at the end of the eighteenth century.

TECHNOLOGY

The building of cities on wet and instable soil is dependent on three fields of knowledge that emerged in the previous phase. The first field is the general hydraulics of water management considering larger water systems like rivers, lakes, and sea. The second is soil mechanics, which studies the characteristics of soil to determine the carry-capacity and to understand ground water flows and soil. Parallel to soil mechanics is the development of pile foundations and of drain systems. The third field considers the development of engine power important for the movement of soil and water and is crucial to the two other fields.

During the French occupation (1795-1813) the bureaucratic and centrally organized governmental structures were superimposed on the Dutch administration. The engineers in the nineteenth century had a military education at the Royal Military Academy (started 1805) and a civil education at the Royal Academy in Delft (started 1842). The first reference book was published in 1842 by D.J. Storm Buysing. Besides the formal education engineers also organized themselves in the Royal Engineers Society (1847) and the Society of Civil Engineers (1853).[16] General water management was the prime interest of the engineer because it was considered of national importance. Theory and use of technology were closely interwoven in regard to the Ministry of Transport and Water Management and civil engineering. Both disciplines were focused on technical planning according to an established pattern, with the difference that the military way of thinking had always been strategic.

In soil mechanics the first publication was written by C.L. Brunings (1775-1816) about the side pressure of soils and the measurement of walls. The article breathes of the Enlightenment because Brunings was convinced that the time had come wherein the distance between theory and practice was shrinking. This was due to the use of the same language in and a greater understanding between the theory of observation

and the practice of blind searching. An important step forward in the hydraulics of groundwater flow and soil mechanics was the publication of the Law of Darcy in 1856, with its linear relation between velocity and hydraulic gradient, by Henri Philibert Gaspart Darcy (1803-1858).[17] However, the union of all these fundamentals in a coherent discipline had to wait until the 20th century[18].

The building of foundations was also influenced greatly by the industrialization at the end of the 19th nineteenth century because for the driving in of foundation piles, man-power was replaced by steam, making it possible to work faster and cheaper. The technology of driving piles, however, hardly changed, and this is true even up to this day[19].

Especially in pumping water, the steam engine has been crucial. Often it is said that without the steam engine the Netherlands would still be more water than land. After Thomas Newcomen designed the first practical steam engine (already in 1705!), and James Watt the first working steam engine (1765), the first steam machine in the Netherlands drained the polder Blijdorp in Rotterdam (1787). After the mill this was the most significant change in technology and crucial for the early phase of manipulation[20].

URBAN DESIGN

The spatial organization of the cities in the nineteenth century characterizes itself by the separation of conflicting functions and the bundling of functions that belong together.[21] Through professionalized technicians, urban design increasingly obtained a more technical instead of an administrative basis. The ideas about urban design were made to be of secondary importance, incorporated by urban engineering, and degenerated into a technical profession within the municipal Department of Public Works. The first issues on the scale of the urban design were the introduction of the railway (1837) and hygiene issues of cities (e.g., water, housing)[22].

After the completion of the *grachtengordel* and partially due to a period of architectural silence (1700-1850), no further large-scale city expansions were realized. The first planned expansion of Rotterdam after 1850 managed to reach the conceptual calibre of the Ideal City and the *grachtengordel*. City architect and military engineer W.N. Rose (1801-1877) designed an urban water system independent from the polder water system, referred to as the Water Project, assisted by landscape architects J.D. Zocher and L.P. Zocher. The plan served four purposes: flushing of the city water, lowering the groundwater level so that the polder expansion could be built, building a city walk, and developing of a residential area for wealthy citizens[23]. The plan is a perfect example of how water management, the structure of ditches and dikes, determined the layout of the expansion.

In this phase the city architect was the director of Public Works. Instead of being an architect he was technician and manager of a government service. His task was so complex and extensive that he operates almost independently of the city council. Rose was the first city architect expanding a polder city with the crucial use of steam engines to be able to manipulate water. Rose is the second excellent example of an urban

engineer. The way he combined hydraulic knowledge with city design is still a great example; furthermore, he marks the end of a tradition of spatial design of hydraulic constructions and the beginning of matching boundaries between the disciplines of civil engineering and urban design.

FIGURES 6-7. *Left*: **Water Project 1854, Rotterdam.** *Source: Municipal Archives Rotterdam. Right*: **Willem Nicolaas Rose (1801-1877)**. *Source: Municipal Archives Rotterdam.*

MANIPULATIVE (1886-1990)

The combustion engine, electricity, and the development of the soil mechanics at the beginning of the twentieth century were the changing forces of the manipulative era. Besides the shifting sources of power (from steam to diesel, oil, gas, electricity) in the technology of draining, the hydraulic technology also changed. The scientific research in soil mechanics added to the development of better and more refined ways to building site preparation, and the enlargement of machines to move grounds made it possible to realise them. The control became absolute: manipulation.

The architectural discipline took shape around the 1850s and became defined in 1905 in the architecture faculty at the University of Technology in Delft. It is only then that the urban designers (trained architects like H.P. Berlage) became more visible within the spatial order. But it took until 1947 before they were well accepted as players with their own discourse and university department. Also, a great change in the building and appearance of cities was the change from building for private persons to building for the free market[24].

BUILDING SITE PREPARATION

In the former phase three fields of knowledge in building site preparation were defined. The field of general hydraulics of water management professionalized in this phase. Different associations came about and at the universities the different departments for specialized knowledge development were established. The development of new sources of energy provoked a discussion about electrical vs. diesel drainage of the

polders. During the period 1930-1939 there was a consolidation of the achievements and a further development of civil engineering technology, based on model-based and mathematical analyses and prognoses[25].

The development of soil mechanics started in the beginning of the twentieth century. The need for the analysis of the behaviour of soils arose in many countries, often as a result of spectacular accidents, such as landslides and failures of building foundations[26]. Important pioneering contributions to the development of soil mechanics were made by Karl von Terzaghi (1883-1963) and A.S. Keverling Buisman (1890-1944). Confronted with new challenges, new instruments to measure and to construct were developed and international exchange came about. The flight that development in methods to improve soil conditions for city building took after World War II was institutionalized by the establishment of the department of soil mechanics in the Royal Society of Engineers in 1949. Building on territories with an insufficient and unknown soil condition, wet and weak soils, was done much more, due to the great expansions of cities.

Another step in the development of building on wet and weak soils was the introduction of the enforced concrete pile, the Franki-pile. The improvement over the wooden piles witnessed the reduction of the number of piles and the larger carry-capacity of concentrated weight, so the buildings could rise higher[27]. Also, drainage technology improved over the years with the use of foils and plastic drains.

Engine power became an important subject in the pumping of sites when buildings were under construction. The movement of sand to use as stabilization material to raise building sites, so that they could be built 1.20 meters above ground water level, was profoundly improved by the method of 'flushing'. This meant a scale enlargement in building site preparation that was used in the huge building tasks after WWII.

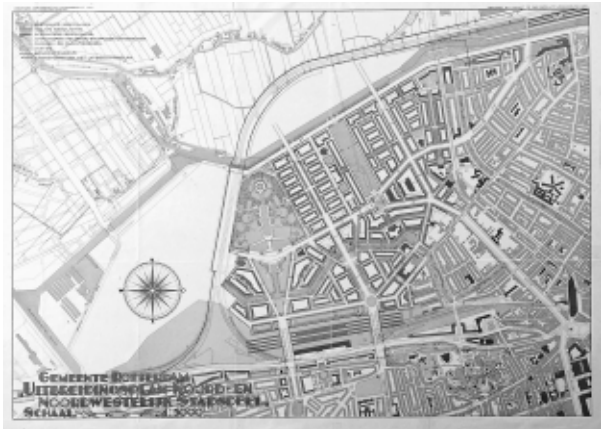
THE URBAN DESIGNER

Much faster than urban design did the profession of architecture slowly become a discipline within the spatial order. The Royal Academy in Delft offered architecture courses as a specialisation of the department of Road and Civil Engineering. When the Polytechnic School became the University of Technology in 1905, architecture became an independent faculty. The first associations were established: the Society to Enhance the Art of Building (1841) and Architecura et Amicitia (1855).

Within the bounds of the architectural writings there were ideas and ideals about the city, however, not as a specific discourse. The discourse of urban design and the building of a theoretical foundation, started under pressure of an enormous urbanization tasks first in Germany and England with publications R. Baumeister, Camillo Sitte, Joseph Stübben and Raymond Unwin[28]. Baumeister's ideas about city expansions, were dominated by traffic and public health. Stuben was the first to approach urban design in its own processes and spatial context and Sittes' argument aims at the artistic principles of city expansions[29]. Unwin emphasized scale and the relation between city and landscape in his designs for garden cities.

In 1880 the first Dutch publication on city expansion appeared: 'Adding to knowledge

of urban design, a study' by the engineer-architect H.W. Nachenius[30]. He introduced the Dutch term for urban design 'stedebouw' and applied it to new expansions and old inner cities. He was concerned with the quality of plans: *'Thank god there is already a fruitful co-operation…between professionals of different disciplines..' because '..technical, sanitary, economical and aesthetic demands are interwoven in the urban design…'.*[31]



FIGURES 8-9. *Left*: **Water Project 1854, Rotterdam.** *Source: Municipal Archives Rotterdam. Right*: **Willem Nicolaas Rose (1801-1877)**. *Source: Municipal Archives Rotterdam.*

It is not a coincidence that the discourse of urban design departed at the same time that the discussion of the hygienic city came up, guided by the health commissions concerned with the hygienic conditions of cities. One important result of the fight for a hygienic city was the Dwelling Law (1901), also one on the most important administrative impulses for the discipline of urban design to become an independent profession with specialized tasks and in need of separate services, schooling, and associations[32].

Even though it was foremost written to ensure the quality of new dwellings, the Dwelling Law also demanded an expansion plan and provided the means to prohibit building and to claim grounds. The expansion plan was gradually developed during the first decades of the twentieth century into plans of usage.

Independently from Public Works, the municipal departments of urban design were set up in The Hague (1918), Amsterdam (1928), and Rotterdam (1931) to develop new aesthetical and/or scientific fundamentals for the discipline. In the 1920s another issue came up: urban design as a science. In Amsterdam and Rotterdam there was an argument to set up a department independent from the technology of building and constructing cities (Public Works). The argument was premised on the consideration that urban design went beyond technical issues, and was more a social-economical, political, and cultural profession[33]. Urban design, was the general consensus, developed itself from a purely technical discipline into an art, the art of composing different components of the city in an harmonious unity. This should be done through the synergy of scientific research and designing skills.[34].

MOVING BOUNDARIES

The Second Industrial Revolution erected strict boundaries between engineering and the maturing urban design discipline. The scale of water management, mechanical moving of sand, new materials (reinforced and pre-stressed concrete, riveted and welded metal structures), electrification and rationalized building processes changed the organisation of water management and the building industry significantly.[35] Different organisations were set up that represented different interests and different fields of knowledge. In the years 1913-1914 the *Architectural Weekly Magazine* reported the discussion of the division of labour between engineer and architect with regard to urban design: the engineer supplies only the utilitarian facilities, and the architect, an aesthetic framework[36].

Emerging from engineering, around 1900 urban design was mainly connected to the worlds of architecture and housing - in the 1930s economics, geography and landscaping were added to the curriculum. In the discussion about an independent urban design department within the University of Technology in Delft, it was made clear that the urban designer had to be in charge of the more general design of the city, while calculating, construction, and producing had to be left to the engineer. The urban designer had to be well informed about engineering (roads, bridges, railway, sluices, channels, rivers, polders, drained lakes and harbours), but in relation to city design[37].

In the period that the discipline became emancipated, different discussions with – and claims from – architecture and civil engineering came up. The architects were afraid that their artistic expression would be bound by the rules the urban designers set up. But the common idea was that besides the aesthetic architects (busy with nice facades) and engineers (specialised in geodesy and theoretical mechanics) social engineers were necessary to handle questions about sewage and water supply, the building of schools and improvement of labourers' dwellings[38].

When urban design moved from engineering to social issues and to a larger scale, the clear boundary between the disciplines of urban design and civil engineering became a fact.

MATCHING BOUNDARIES

In the meantime the urban designers were philosophizing about the city, stimulated by various groups of architects, such as De Opbouw (1920), The 8 (1927), and the 'Congrès Internationaux d'Architecture Moderne' or CIAM (1928). At several conferences of the CIAM, the functional city was brought into question, containing a spatial division of functions. The objective was to create light, air, and space in the city.

According to Webber and Rittel (1973) the industrial age and the idea of planning, in common with the idea of professionalism, was dominated by the pervasive idea of efficiency. Drawing form eighteenth century physics, classical economics, and the principle of least-means, efficiency was seen as a condition in which a specified task could be performed with low inputs of resources. This powerful idea became the guiding concept of civil engineering, and even though the disciplines were separating,

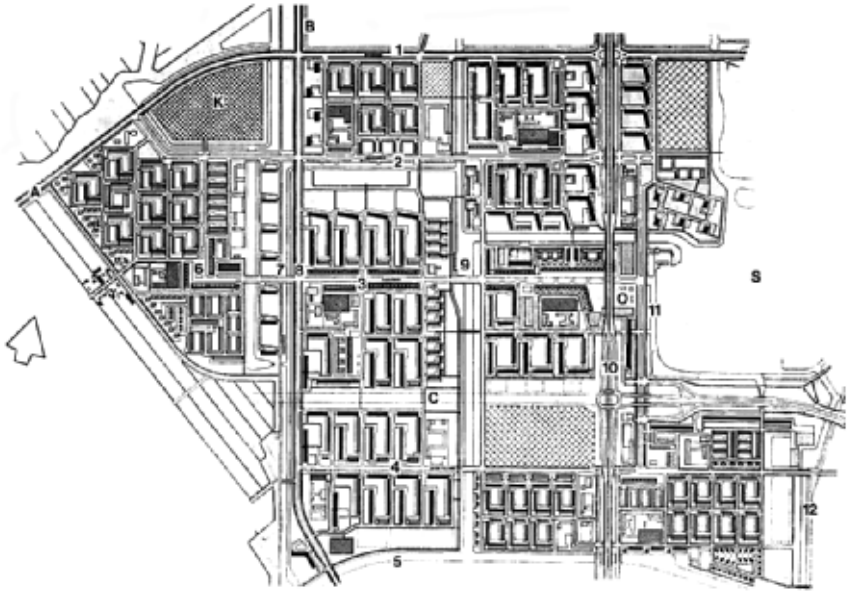


FIGURE 10. Osdorp 1950s, Rotterdam. *Source: Municipal Archives Amsterdam.*

it was also attached to the idea of cities. Urban design was seen as a process of designing problem-solutions that might be undertaken and operated cheaply[39].

Because it was fairly easy to get a consensus on the nature of problems during the early industrial period, the task could be assigned to the technically skilled, who in turn could be trusted to accomplish the simplified end-in-view[40]. This classic paradigm of science and engineering has underlain modern professionalism, but is not applicable to problems of open societal systems. *"We shall want to suggest that the social professions were misled somewhere along the line onto assuming they could be applied scientists – that they could solve problems in the way scientists can solve their sorts of problems."*[41] Webber and Rittel define the problems that scientists deal with as 'tame' ones, the problem is clear and it is clear when the problem is solved. In contrast, the urban designer deals with open societal systems and therefore 'wicked' problems, which have no clarifying traits[42].

What is fascinating about this perspective is that the master of Dutch modern urban design and member of CIAM, Cornelis van Eesteren, designed the General Expansion Plan for Amsterdam (AUP, 1934) that fit perfectly into this scientific approach, while at the same time he did place great emphasis on the (hydraulic) context because it had so much impact on the design of the city.

Van Eesteren stated in his explanation of the plan that *"everything is controlled by the level of raising: the layout of the waterway system, the water storage surface, the sluice system, and pumping stations. A city laid out as an outlet waterway city must be designed differently than a polder city that lowered its groundwater table."*[43] The lower levelled polder city was to be connected to the outlet water level of the

grachtengordel of Amsterdam. Van Eesteren mainly considered the connection of the road and water system a complex design assignment (as in all the later designs of the area [car] mobility was the primary starting point). The ongoing roads needed to be connected by means of slopes, canals needed to be connected by means of sluices, and a solution had to be found to refresh the lower levelled water.

The person of Van Eesteren, an architect who approached his task scientifically, marks the matching boundaries between civil engineering and urban design (even though as an exception in the field) and is the third example of an urban engineer: aware of the influence of hydraulics on the realization of an urban vision.

URBANISM

The key words of the second half of the twentieth century were advanced technology, welfare state, and disintegration. Old religious, political, and moral values and certainties started to waver. Technology became more and more dominated by measurement and prognosis.

Besides the boundaries drawn between the disciplines, the construction of the city and its structure fell apart in housing, infrastructure, and green areas. In the *grachtengordel* and the Water Project all these structures together orchestrated the city's ensemble. Now the main structuring element was (car) mobility.

The breaking up of the various structures illustrates the segregation between engineering and urban design[44]. The designers of the *grachtengordel* and the Water Project were military engineers, and they developed their own vision of urban design. At the beginning of the twentieth century urban design became an autonomous discipline and the tasks were divided. Civil engineers solved the water issues in such a fashion that the urban designer never even knew that they had been dealt with. Technological progress, such as improved pumps and calculation methods, made the preparation of a larger site possible by raising it with sand. This meant that in combination with an underground drainage system, significantly less surface water was needed.

In the end the urban designer considered water a waste product, to be situated on the outskirts of districts or integrated into the infrastructure or the green space system. The water system as designed by civil engineers cannot be recognised as such, since underground pipelines alternate with the surface water. Moreover, the sand package provides urban designers with a *tabula rasa* on which each required urban design can be realised without any concern for the water system. Where in cities up until 1940 the total surface of the city contained 12%-15% water, in post-war city expansions, this percentage was often reduced to less than 5%.

TOWARDS ADAPTIVE MANIPULATION (1990-TODAY)

The refinement of technology in the last decades of the twentieth century has made it possible not only to maintain that which is threatened, but also to elect for an increasingly vulnerable place in the game between water and land. The awareness that this high technology makes us lose sight of what is vulnerable marks a cultural change at the end of the 1970s towards greater attention to the environment and

FIGURE 11. Too much water, *Source: Volkskrant 14 august 2006.*

ecology. The notion of integral water management is brought up and it is assumed that ground and surface water must be managed in a physical sense as well-founded systems (physically, chemically, and biologically). Integral water management means a shift in regime for civil engineering. It leads to new objectives requiring new designs and working methods. It also means a strategic regrouping, as together with civil engineers, biologists, and ecologists have also become players in the field[45].

In many countries there are similar institutes and consulting companies that specialize in soil mechanics. Usually they also deal with foundation engineering, which is concerned with the application of soil mechanics principle to the design and the construction of foundations in engineering practice. Soil mechanics and foundation engineering together are often denoted as Geotechnics.

Many different piles and techniques to drive them in have been developed, and new techniques for building preparation have come into use. The use of lightweight materials such as polystyrene foam and granules has the advantage that building can start immediately and that little subsidence occurs afterwards.

Webber and Rittel mark the change, the end of the idea of efficiency, at the end of the 1970s when the urban context was reintroduced. In response to the technocratic approach to urban design in the 1950s, it was in the 1970s that the ecology of water returned to the attention of the urban designer.

This phase started in the 1970s but from the 1990s on, due to the fact that the climate changes caused many problems, an awareness arose that the Netherlands is a water machine that needs to be approached spatially, not only technically. Urban designers took great interest in working with the water task as the basis of their urban design. On

FIGURE 11. Too much water. *Source: Volkskrant 14 August 2006.*

the other side civil engineers needed to let go of their strict control and start to adapt to the natural rules of the water.

MISMATCHED BOUNDARIES

Surveying the historical relationship between technology and the design of polder cities one can only observe a closeness that has been dominated by technological prosperity. The more the civil engineers could solve, the less water management was a spatial task. Also, the urban designers were happy to work on a layer of sand, offering them the *tabula rasa* on which they could draw any ideal urban plan.

This technical approach of management has led to the current situation wherein the change of the climate (with more extreme storm water) causes flooding in the polder cities. The days of the use of pipes and pumps (the work of the civil engineers) are over. The water needs to be reintroduced into the urban design of the cities. The water system of the future should be flexible and self-cleaning. This requires a spatial approach where fluctuations in water supply and ecological water systems have to be taken into account. A larger acceptation is required with regard to the rules and regulations related to water: return to the first phase of acceptation. We shall need to adapt to even more wet surroundings and to use this to our advantage. The Netherlands is a water machine all of whose cogs are connected to each other.

Projects like the *grachtengordel* and the Water Project illustrate that the ancient Dutch talent with regard to the design and construction of water does find its base in a combination of urban vision and civil engineering. There is a need for mismatching boundaries, to strengthen coherence between the disciplines urban design and civil engineering and to be able to go on living with the water.

FIGURE 12. Grachtengordel Amsterdam. *Source: Fransje Hooimeijer.*

ENDNOTES

1 The term "urban design" is used as the most direct translation of the Dutch term 'stedenbouw' and the Dutch practice so it must be seen from a specific Dutch perspective. The profession in the Netherlands uses the design of the built environment to orchestrate and facilitate urban forces (economics, politics, social issues, etc.), instead of planning and adding form in two separate worlds, as in the U.S., where urban planning and urban design are two separate contributions to the city. For more information on the American situation, which is not elaborated in this article, see Jerold S. Kayden, *What's the mission of Harvard Urban Planning program?* In: *Harvard Design Magazine* spring/summer 2005, and most articles in the spring/summer 2006 issue of *Harvard Design Magazine*.

2 Kostov 1991, 11-12.

3 Burke 1956.

4 Burke 1956.

5 Lynch 1981.

6 Kostov 1991, 15.

7 Mumford (1961): It was '[…] a miracle of spaciousness, compactness, intelligible order. It accepted all that was valid in baroque planning, with just sufficient variation in the individual unites, combined with the rich tracery of trees boarding the canals, to take the curse off the military regimentation of baroque classicism. The successful breaks in the direction of the spider- web plan keep the distant vista from being empty and oppressive.'

8 Burke 1956.

9 Based on Van der Ham 2002.

10 Alvin Toffler.

11 Based on Van der Ham author has refined his defined periodic in the following three phases.

12 De Wit 2003 p. 11.

13 Lendering 2005

14 Wagenaar 1993, pp. 9-12.

15 Van der Ham 2002

16 Lintsen 1980, 39-58

17 $v = k \cdot i$

v = total specific flow rate m/s
k = Effective permeability coefficient m/s
i = gradient of water pressure

The Law of Darcy describes the flow of a fluid through a porous medium. The model predicted that the extravasation risk was decreased when the cement viscosity, bone pore size, bone permeability and bone porosity were increased, and when the diameter of the extravasation path and the viscosity of the marrow were decreased. Experimentally, the effect of marrow viscosity and extravasation path could be evidenced. Therefore, the model was believed to be an adequate approximation of the experimental behaviour. In conclusion, the experimental results demonstrated that the model was adequate and that

the best practical way to decrease the risk of extravasation is to increase the cement viscosity.

18 Verruijt 2001.

19 De Vet 1994, 21-22.

20 The Industrial Revolution (mass production and steam driven engines) took over the Netherlands much later than the neighbouring countries. It started after 1850 (in England 1760) and took a flight in the 1890s after the depression (1880s). More than 150 years after its actual invention, the steam engine, in the 1850s, ended the era of the windmill and made large scale pumping and dredging possible by the construction of a high-pressure steam engine.

21 Van der Woud 1987.

22 Van der Woud 1987, 377.

23 Hooimeijer and Kamphuis 2001.

24 De Vet 1994, 10.

25 Schot 1998, 178 and 203.

26 De Vet 1994, 10.

27 De Vet 1994, 8.

28 Respectively 'Stadt-Erweiterungen in technischen; baupolizeilicher und wirthschaftlicher Beziebung' (1876), 'Die Städtebau nach seinen künstlerichen Grundsätzen' (1889), 'Städtebau' (1890) and 'Town planning in practice, An introduction to the art of designing cities and suburbs' (1909).

29 De Jong and Meyer 1999, 17.

30 Nachenius emphasises the functional aspects, like technical sanitary and economical, of urban design. The publication titled 'Contemporary urban design', written by J.P. Fockema Andreae, appears in 1912 and a year later a dissertation by W.B. Peteri about the intervention of the government, both not as complete as the German and English literature. 'Urban Design' (1926) by J.M. de Casseres also does not match the conceptual quality of the foreign books.

31 Nachenius 1880.

32 Ibelings 1999, 6-20.

33 De Jong and Meyer 1999, 23.

34 De Jong and Meyer 1999, 30.

35 Schot 1998, 59-63.

36 Ibelings 1999, 22.

37 Van Lohuizen 1942.

38 De Jong and Meyer 1999, 39.

39 Webber en Rittel 1973, 158.

40 Webber en Rittel 1973, 158.

41 Webber en Rittel 1973, 160.

42 It is interesting for this story that Webber and Rittel made the connection to the military system-approach, since that is one of the foundations of the discipline of urban design: "The classical systems-approach of the military and the space programs is based on the assumption that a planning project can be organised into distinct phases: 'understand the problem or the mission', 'gather information,' 'analyse the information', 'synthesize information and wait for the creative leap', 'work out solution' or the like. For wicked problems, however, this type of scheme does not work. One cannot understand the problem without knowing about its context [..]."

43 Van Eesteren 1934, 159.

44 Van Eijk 2002.

45 Schot 1998, 63 and 181-192.

BIBLIOGRAPHY

Arends, G.J. (1994), *Sluizen en stuwen. De ontwikkeling van de sluis- en stuwbouw in Nederland tot 1940*. Delft: Delftse Universitaire Pers.

Burke, Gerald L. (1956) *The Making of Dutch Towns: A Study in Urban Development from the Tenth to the Seventeenth Centuries*. London: Clever-Hume.

Dubbelman H.(1999) *Maatschappelijke golven in de waterbouwkunde*. Delft: Delftse Universitaire Pers.

Eijk, Paul van (2002) *Water in de stedelijke vernieuwing*. Boxtel: Aeneas.

Ham, Dr. W. van der (2002) "De Historie, Een wijd perspectief; een historische verkenning van het Nederlandse landschap in relatie tot het waterbeheer" in: *WaterLandschappen de cultuurhistorie van de toekomst als opgave voor het waterbeheer* (work document). Lelystad.

Hoeven, Casper van der, Jos Louwe (1985) *Amsterdam als stedelijk bouwwerk. Een morfologische analyse*. Nijmegen and Amsterdam: SUN.

Hooimeijer, F.L., and M.I. Kamphuis (2001) *The Water Project; a nineteenth century walk through Rotterdam*. Rotterdam: 010 publishers.

Ibelings, H. (1999) *Nederlandse stedenbouw van de 20ste eeuw*. Rotterdam: 010 publishers.

Jong, M.I. de, and V.J. Meyer (1999) *Stedebouw: techniek, sociaal werk, wetenschap of kunst?* (work document). Delft

Klevering Buisman, A.S. (1940) *Grondmechanica*. Delft.

Kostof, Spiro (1991) *The City Shaped: Urban Patterns and Meanings through History*. London and Boston: Bulfinch Press.

Lendering, Jona (2005) *Polderdenken. De wortels van de Nederlandse overlegcultuur*. Amsterdam: Athenaeum.

Lynch, Kevin (1981) *Good City Form*. Cambridge, Mass., and London: MIT Press.

Lintsen, H.W. (1980) *Ingenieurs in Nederland in de negentiende eeuw. Een streven naar erkenning en macht*. Den Haag: Stichting Historie der Techniek.

Lohuizen, Th.K. van (1942) *Over opleiding voor stedebouwkunde*. Delft.

Mumford, L. (1961) *The City in History*. New York: Routledge.

Musson, A.E., and E. Robinson (1969) *Science and technology in the industrial revolution*. Manchester: University of Manchester Press.

Nachenius, H.A. (1880) *Bijdrage aan kennis van de stedebouw, eene populaire studie*. Haarlem.

Rittel, H.W.J., and M.M. Webber (1973) *Dilemmas in a General Theory of Planning*. Policy Sciences 4, 155-169.

Schot, J.W., et al. (ed.) (1998) *Geschiedenis van de techniek in Nederland in de twintigste eeuw. Vol. i, Techniek in ontwikkeling, Waterstaat, kantoor- en informatietechnologie*. Zutphen: Walburg Press.

Verruijt, Arnold (2001) *Soil Mechanics*, Delft University of Technology.

Woud , Auke van der (1987) *Het lege land, de ruimtelijke orde van Nederland 1798-1848*. Amsterdam: Meulenhof.

Gareth Doherty
Harvard University, Graduate School of Design

RESEARCH BRIEF

DERRY/LONDON + LONDONDERRY : CITIZENSHIP + PUBLIC SPACE IN NORTHERN IRELAND

ABSTRACT
Politically charged symbols such as place names, signs, and murals have had hugely potent effects on Northern Ireland's territorialized urban landscape. As ideas of citizenship evolve with the Northern Irish peace process -- as exemplified in the revision of the Irish Constitution to redefine the Nation from territory to the people living in that territory -- so the signs and symbols that frame public spaces begin to change and be changed, and so too their effects on society. The efficacy of signs and symbols to shape landscape should not be underestimated: their power lies in staging and setting up frameworks for public negotiations rather than in neutralizing or negating them.

FIGURES 1-2. Signs to Londonderry, 2005.

It is not unusual for road signs to Londonderry, Northern Ireland's second city, to be shortened with spray paint to "derry" (see Figure 1). Typically, those who support the union with the United Kingdom — Unionists — refer to the city by its official name, Londonderry, while those sympathetic to the goal of a United Ireland — Nationalists -— prefer to call it Derry[1]. On the road from Belfast to Derry today, the driver is confronted with several signs directing him or her toward "London" (see Figure 2) even though London is in the other direction and on another island. The satirical spirit behind spraying out "derry" in favor of London and the fact that these signs have not been cleaned or replaced for at least two years is illustrative of an emergent post-conflict Ireland. The conflict, commonly known as the "troubles," which had plagued the province for over thirty years, was firmly rooted in ideas of national allegiance and cultural identity, and it produced very definite spatial consequences[2].

FIGURE 3. The six counties of Northern Ireland are part of the United Kingdom.

The struggle over the place of Northern Ireland within a United Kingdom or a United Ireland was played out on a local level not just with place names as in Derry/Londonderry but through political murals, national flags, painted curbstones, and marches. Society was divided and this division was reflected in public space. Derry is a very graphic illustration of the divided landscape: the western bank of the River Foyle became almost exclusively Catholic, and the eastern bank, mostly Protestant. Today the territorial boundaries are breaking down (see Figure 4).

Derry/Londonderry became segregated; the boundaries are, however, blurring.

The "troubles" began in Derry in the late 1960s and it is where my mother would take my brother and me to watch the regular Saturday afternoon riots in the 1980s, albeit from a safe distance. Public space in Derry can be very powerful, taking much of its power from political murals that frame, and even create, public spaces.

FIGURE 4. Curbstones are often painted with the colors of national flags defining respective territories: green, white, and orange indicating Nationalist areas and red, white, and blue Unionist areas.

FIGURE 5. Unionist Mural, Waterside, Derry.

If anyone needs proof that a wall painting can have as much an effect in transforming public space than, say, a ten-million dollar project, then that person should come to Derry. The painting of a mural has the power to radically transform a space. A gable wall in an impoverished housing estate, for example, suddenly becomes a focus of attention, a rallying ground, a meeting place. Often a mural is used as a backdrop for television interviews with politicians anxious to promote and identify with its message. Using sometimes sinister graphics (see Figure 5), murals vie for attention as they assert or attempt to assert control over the physical, political, and cultural landscape. New murals were at times a

response to provocations of the other tradition: if murals could speak, they would be having a heated dialogue over space and time[3].

Since the 1998 Peace Agreement, the debate over whether or not to neutralize existing murals has intensified. Some see their touristic value, and "alternative" tours of segregated areas are popular[4]. Meanwhile, newspaper reports announce a Government-funded scheme to depoliticize the most extreme murals: "They are about our troubled past. We are a society moving forwards", said a representative of the Northern Ireland's Arts Council.[5] Terrorist heroes are being replaced with cultural heroes. Bill Rolston, who has extensively documented Northern Ireland's murals, observes that although murals are adopting a new language, their power to shape society remains: "They were a product of conflict … However, it appears they have the potential to become part of conflict transformation".[6.]

Commercial advertisements now adopt the media of murals. The famous "Free Derry" mural (Figure 6) has been the prototype for the "You Are Now Entering Derry Journal Country" - the language of the iconic mural has been borrowed to promote sales of a local newspaper. Across the province, commercial murals now promote alcohol, businesses, and newspapers, using similar language and style as their political forebears and reflecting a society based more on the conflicts of consumption than those of political allegiance.

One of the main bones of contention of the Northern Irish conflict was the Republic of Ireland's territorial claim over Northern Ireland. Until 1998, Articles 2 and 3 of the

FIGURE 6. Free Derry Corner.

FIGURE 7. *Derry Journal* advertisement.

Republic's Constitution stated that: "The National territory consists of the whole island of Ireland, its islands and the territorial seas," clearly including Northern Ireland, a position Unionists naturally found offensive. Following the 1998 Agreement, a Constitutional amendment was carried in the Republic with 93% of the vote, redefining the concept of nationhood from territory to - critically - the people born in a territory. The Constitution was changed to read: "It is the entitlement and birthright of every person born in the island of Ireland, which includes its islands and seas, to be part of the Irish nation."[7] The territorial claim over Northern Ireland was lifted but Irish citizenship is still available to those who want it.

Not unlike the German 1913 *Auslandsdeutche* law that changed the criteria for German citizenship from territory and residence to a community based on descent, Irish citizenship is now a cultural rather than a territorial construct[8]. Unlike the German case, where naturalization necessitated giving up original citizenship[9], in Northern Ireland one can choose to be British or Irish, or both. Citizenship has become a matter of choice, convenience, or opportunism. Indeed, Irishness and Britishness are increasingly being rediscovered as a part of each other's identity.[10] As the British-Irish national conflicts are deflected and the economy grows, the recent influx of foreign workers into Ireland, many from Eastern Europe, will perhaps in time feel the need to create and demarcate their own territories.

The politically charged and polarized community that emerged during the thirty years of Northern Irish "troubles" is perhaps synoptic of contemporary urban society: full of

contradictions and disparity (albeit an extreme example). Political murals demonstrate the efficacy of landscape not just to be shaped by culture and identity, but also to shape them. Strategic interventions like murals point toward ways of managing and intervening in urban landscape, not by attempting to resolve urban differences, but by staging them or shifting their focus. Because once urban conflicts are negated, what type of public space do we have?

ENDNOTES

1 Derry is the anglicized version of the Gaelic name, *Doire*, which means Oak Grove. Derry was given the prefix of London in honor of the Guilds of London who, in the seventeenth century, rebuilt the Gaelic settlement in the style of an English garrison. The new city form allegedly was an inspiration for William Penn when he laid out Philadelphia.

2 See: Brubaker, R. (1992) *Citizenship and Nationhood in France and Germany*. Cambridge: Harvard University Press. Brubaker discusses the difference between French citizenship law, which is based largely on territory (jus soli) and the polar opposite of Germany's laws, which are based on descent (jus sanguinis). French citizenship can be achieved through cultural assimilation, whereas German citizenship is mostly conferred by one's lineage. Some parallels can be drawn to Irish citizenship, which is closer now to the German concept.

3 Jarman, N. (1998) Painting Landscapes: The Place of Murals in the Symbolic Construction of Urban Space in Buckley, Anthony D. (ed.) *Symbols in Northern Ireland*, Belfast: Queens University Press, pp 81-98.

4 See: http://www.freederry.net (accessed July 14, 2006). Brown, J.M. (2005, August 27). Bus Trips Shed Some Light on the Dark Side of Northern Ireland. *Financial Times*, London. p.4: John Murray Brown cites Philip Robertson, a tourism lecturer at the University of Ulster, who studies what he terms "dark tourism," and maintains that for every tourist who wants to see the political murals, two tourists are repelled by them.

5 Bowcott, O. (2006, July 12). Gables' End Murals to be Replaced. *The Guardian*, London. p.4.

6 As cited in: McKay, S. (2006, March 4). Taking Paramilitaries off the Walls. *The Irish Times*, Dublin. p.4. Also see, Rolston, B. (1992) *Drawing Support: Murals in the North of Ireland*. Belfast: Beyond the Pale Publications.

7 Bunreacht na hÉireann/Constitution of Ireland was further changed by referendum in 2004 to restrict citizenship to those who have at least one parent lawfully resident in the State for three of the previous four years.

8 Brubaker (1992), p.115.

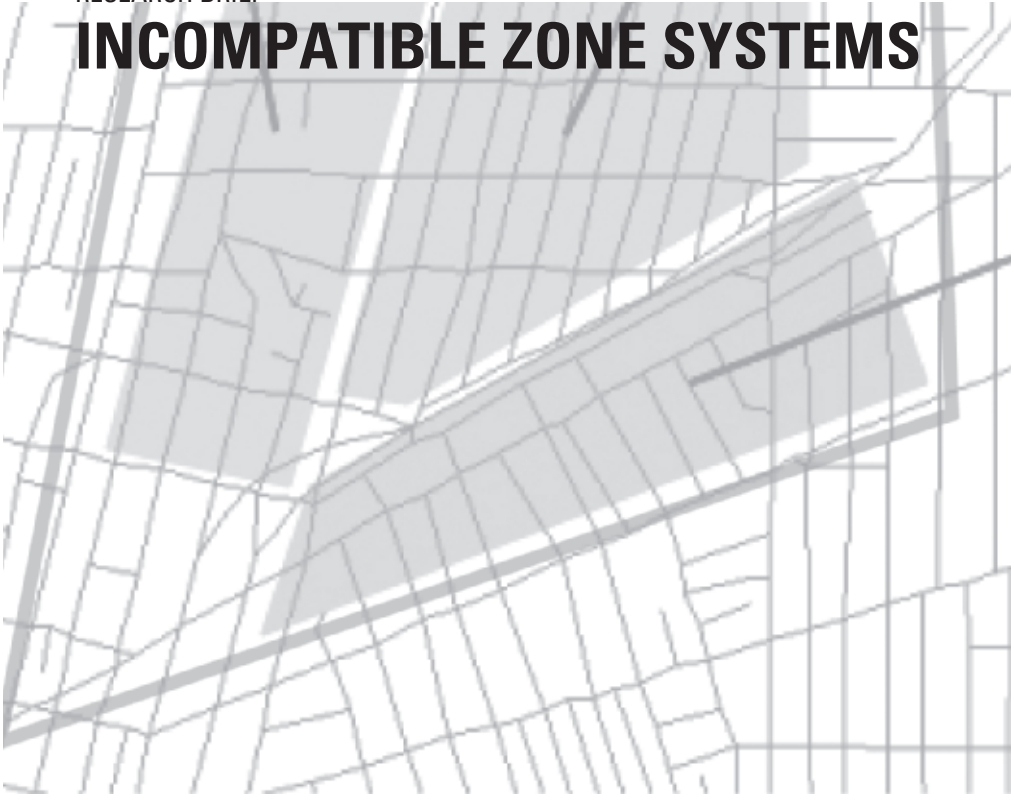
9 Ibid. p.144.

10 Recent examples of this rediscovery include the Belfast City Council officially celebrating St. Patrick's Day for the first time in 2006 with a 90,000 GBP ($166,000) carnival parade and open-air concert. The Council has traditionally had a Unionist majority. See: Kennan, D. (2006, March 18). Thousands Turn Out for Fanfare of Noise and Colour. *The Irish Times*, Dublin. p.8. Meanwhile, the Irish Government commemorated on a large scale for the first time the World War I Battle of the Somme. This was once unthinkable in the Republic since the 3,500 Irish who died fought for the British Army (even though it was pre-independence). See Marlowe, L. (2006, July 3). Surprises at Somme Commemoration. *The Irish Times*, Dublin. p.6.

Dr. Daniel Baldwin Hess
University at Buffalo, State University of New York

RESEARCH BRIEF

INCOMPATIBLE ZONE SYSTEMS



ABSTRACT

Artificial zonal boundaries superimposed over complicated social systems and built environments impel planners to perform "spatial data transformation" — the practice of transforming geographic data from one set of zones to a different set of zones with incompatible boundaries — to analyze and present data for targeted local analyses. The findings of a survey of Metropolitan Planning Organizations (MPOs) — which confirm an assessment of the literature — suggest that practicing planners tend to use simple Geographic Information Systems (GIS) methods for performing spatial data transformation in lieu of more complex geographic procedures that have greater accuracy. To help close the gap between research and application in the use of GIS in practice, planners should seek more advanced GIS training and education about geographic theory that underlies common GIS procedures.

INTRODUCTION

The use of artificial boundaries masks the uniqueness of the social landscape and the built environment within a given geographic area. Consider the example of three distinct neighborhoods enclosed within the same census tract: a world-class medical campus located adjacent to a low-income neighborhood and a struggling industrial corridor (See Figure 1). Medical campus employees, low-income neighbors, and business owners visualize the places and surrounding communities differently due to the neighborhoods' various social and economic trajectories, and the artificial demarcation of boundaries can introduce political tensions when various groups lay claims to resources or contemplate divergent urban planning interventions.

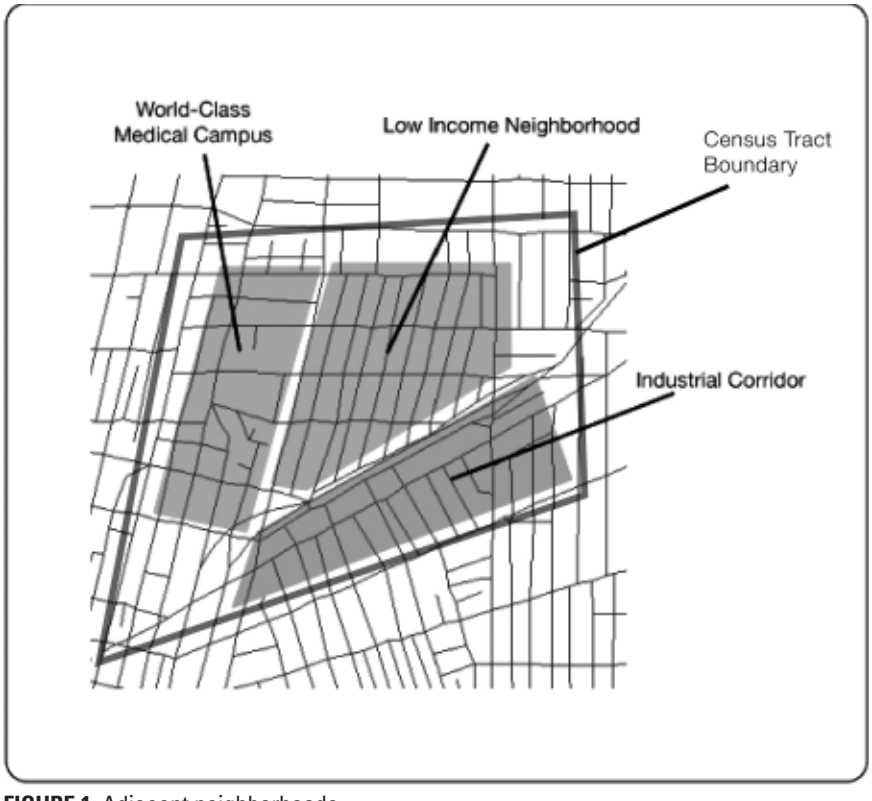


FIGURE 1. Adjacent neighborhoods.

Such artificial territorial demarcation routinely causes places to be divided into communities, neighborhoods, districts, and regions according to a wide array of spatial dimensions. Planners may wish to study the effects of urban and environmental phenomena on various polygons — for example, census tracts, zip codes, transportation analysis zones (TAZs), air quality districts, planning districts, elections wards, school districts, water districts, soil regions, emergency response areas, land use zones — containing population and housing. The zonal boundaries of such "incompatible zone systems" rarely coincide and their configurations often change over time, making

it difficult to directly compare or combine data collected or aggregated by various agencies.

The complexities that arise from combining data that use incompatible zone systems are encountered regularly in urban and regional analysis. Procedures to integrate data from disparate zone systems, however, can be complex because of differences in underlying zonal geography. To overcome the problem of incompatible zone systems, planners and geographers perform "spatial data transformation" to interpolate or derive data for a desired set of zones (the "target" zones) from data that are available only for a set of incompatible zones (the "source" zones)[1] (See Figure 2).

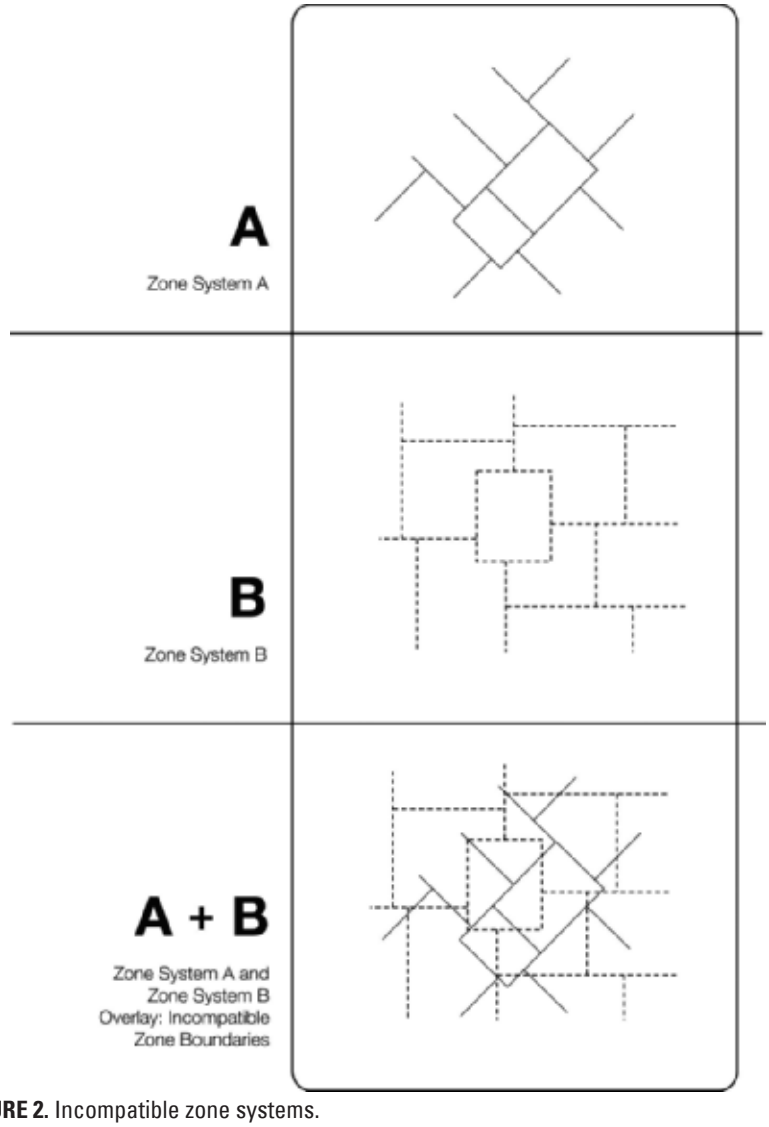


FIGURE 2. Incompatible zone systems.

BACKGROUND

Geographic analysis is complex, and previous literature about spatial data transformation suggests an apparent disconnect between knowledge and practice. On the theoretical front, sophisticated approaches for allocating data from source zones to target zones are evident in the geographical and regional science literature, and various methods — including control zones, raster modeling, surface modeling, fuzzy logic, and advanced spatial modeling methods — are used alone or in combination (Anas Arnott and Small 1998, Bracken and Martin 1995, Flowerdew and Openshaw 1987, Flowerdew and Green 1994, Flowerdew et al 1991, Goodchild et al 1993, Openshaw 1996, Waddell 2002, Wegener 1994). Most studies published in scholarly journals include evaluations of various spatial data transformation methods, comparing the merits of a chosen method with more rudimentary or less time-consuming approaches. These studies usually attempt to evaluate the outcome of a spatial data transformation procedure by comparing interpolated values to known values as a means of measuring error and to provide insight into strengths and weaknesses of various spatial analysis methods and suggestions about appropriate circumstances for their use.

Such theoretical approaches, however, differ from applications of spatial data transformation methods reported in urban planning literature and in conference proceedings. The planning studies tend to undertake simpler approaches involving point-in-polygon conversion, polygon overlays, and re-aggregation from smaller spatial units.[2] For example, spatial data transformation is frequently used to create buffer polygons for measuring access to public transit or identifying "walkable zones," to characterize land uses in pedestrian sheds surrounding transit corridors to evaluate pedestrian safety, and to quantify the intensity of commercial development around neighborhoods. The planning studies often rely upon uncertain geographic theory, such as an assumption of uniform distribution of elements in source zones, and they seldom provide evaluations to determine whether a chosen method produces the least error among alternative methods.

Lacking knowledge about appropriate procedures for performing spatial data transformation, planners may inaccurately assign data from source zones to target zones, miscalculate the sociodemographic characteristics within zones, or incorrectly designate buffer areas for measuring access to basic needs (Clifton and Handy 2001). Inaccurate spatial data transformation, or spatial analysis that fails to account for fragmented land uses within zones, poses the threat that planners may unknowingly misrepresent data used to justify capital and operational improvements. This misrepresentation could potentially result in ill-informed policy and funding decisions that cause some populations to be underserved by urban infrastructure.

Prior to the popular use of geographic information systems (GIS) for performing spatial analysis, Nina Siu-Ngan Lam (1983, p. 138) argued that "ironically, the abundant use of interpolation procedures found in the field of cartography is associated with scanty research on the reliability of the specific interpolation method used." This problem persists in urban planning research and practice. Many planners perform spatial analysis using commercial GIS software packages without knowing the underlying theory of a spatial data transformation method or whether there is an alternative method better suited to the analysis at hand.

A SURVEY OF PLANNERS

A return-mail questionnaire was sent to all 346 metropolitan planning organizations (MPOs) in the United States, and 154 completed surveys were returned, for a response rate of 45 percent (Hess 2002, Hess forthcoming). The 13-page survey included questions about the structure of zone systems, compatibility of various zone systems used for spatial analysis, and the frequency and nature of spatial data transformation. Using survey results, models were developed to explain MPOs' proclivities for performing spatial data transformation using various methods.

The survey results support the argument that there is a disconnect between more sophisticated methods and methods commonly used in practice by planners. More than 60 percent of MPOs perform spatial data transformation more than once per year, and the simplest, most error-prone methods for performing spatial data transformation are used far more frequently than the more sophisticated methods, despite previous research that demonstrates that sophisticated methods result in greater accuracy and less error for spatially interpolated data. More than any other method, transportation planners simply reallocate smaller spatial units to form equivalencies that approximate new, larger zone systems to produce data for aggregated polygons that are usually noncoterminous with a new zone system. The next most frequently used method is the area ratio method. However, while the assumption that households and people are evenly distributed within source zones may be valid for parts of urban areas, it likely obscures important variations in an urban landscape.

In urban planning research, scholars — motivated to improve planning practice — often investigate barriers to improved planning methods. With this in mind, the credibility and effectiveness of GIS analyses can be improved when planners use the most accurate spatial analysis procedures to inform decision-making. There is room for improvement in the methods that practicing planners use to perform spatial data transformations, and more sophisticated methods of spatial data transformation can lead to high-quality analyses with the least possible error. For example, area-based spatial data transformation has only limited relevance in applied policy analysis contexts; to overcome this weakness, planners should seek to develop custom solutions to spatial data transformation for particular applications, and results from these custom methods should be validated regularly as part of the practice of spatial analysis (Anselin 1998).

Although GIS is now widely used in urban planning, planners tend to use GIS in relatively simple ways that fall short of its analytical potential. Given the lag in application of new GIS techniques among planners, it is perhaps not surprising that practicing planners tend to favor simpler methods of spatial data transformation despite the widely documented shortcomings of such techniques. To help close the gap between research and application in the utilization of GIS in planning practice, planners should seek more advanced GIS training in addition to education about geographic theory that underlies common GIS procedures.

ACKNOWLEDGMENTS

This article benefited from helpful suggestions made by Alex Bitterman, Beverly McLean, Seth Spielman, and two anonymous reviewers.

ENDNOTES

1 Methods commonly used for assigning spatial data from source zones to target zones include reassembling from small spatial units (data is assigned to an intersecting target zone only if the target zone overlays in part or in whole the source zone), area ratio transformation (data is assigned based on the ratio of the area of a source zone-target zone overlap to the area of the source zone in assigning data to a target zone) area ratio with auxiliary variable (the ratio of the value of an auxiliary variable (such as street network density of land use designation) in an overlap area to the value of the auxiliary variable in a source zone is used to estimate the amount of the source zone attribute assigned to a target zone) and the raster method (data from a source zone is allocated to raster cells, a fine-grained grid in continuous space, based on the area ratio of overlap area, and then the data in the raster cells are re-allocated to target zones).

2 Comparative studies of various spatial analysis methods are provided in Hess (1999), Lam (1983), O'Neill et al. (1992), Openshaw and Taylor (1981), Openshaw (1996), Peng and Dueker (1993), Schlossberg (2003), Zhao (1998), and Zhao et al. (2003).

BIBLIOGRAPHY

Anas, A., R. Arnott, and K.A. Small. (1998.) "Urban Spatial Structure." *Journal of Economic Literature*. vol. xxxvi. pp. 1426-1464.

Anselin, Luc. 1998. "GIS Research Infrastructure for Spatial Analysis of Real Estate Markets." *Journal of Housing Research*. vol. 9. no. 1. pp. 113-133.

Bracken, I. and D. Martin. (1995.) "Linkage of the 1981 and 1991 U.K. Censuses Using Surface Modeling Concepts." *Environment and Planning A*. vol. 27. pp. 379-390.

Clifton, Kelly and Susan Handy. (2001.) "Limits on Access in Low-Income Neighborhoods and the Travel Patterns of Low-Income Households." Center for Transportation Research Report No. 167502-

1. Austin, Texas: Center for Transportation Research, University of Texas at Austin.

Flowerdew, R. and S. Openshaw. (1987.) "A Review of the Problem of Transferring Data from One Set of Areal Units to Another Incompatible Set." Northern Regional Research Laboratory, Universities of Lancaster and Newcastle-Upon-Tyne.

Flowerdew, R., M. Green, and E. Kehris. (1991.) "Using Areal Interpolation Methods in Geographic Information Systems." *Papers in Regional Science*. vol. 70. pp. 303-315.

Flowerdew, R. and M. Green. (1994.) "Areal Interpolation and Types of Data." in Fotheringham, S. and P. Rogerson (eds.) *Spatial Analysis and GIS*. Bristol, Penn.: Taylor & Francis.

Goodchild, Michael F., Luc Anselin, and Uwe Deichmann. (1993.) "A Framework for the Areal Interpretation of Socioeconomic Data." *Environment and Planning A*. vol. 25. pp. 383-397.

Hess, Daniel Baldwin. (1999.) "Using GIS to Evaluate a New Source of Transportation Census Data: The American Community Survey." Washington, D.C.: Bureau of Transportation Statistics.

Hess, Daniel Baldwin. (2002.) *Reconciling Incompatible Zone Systems in Metropolitan Planning*. (Doctoral dissertation.) Los Angeles, Calif.: University of California.

Hess, Daniel Baldwin. 2007. "Transformation of Spatial Data to a New Zone System: A Survey of U.S. Metropolitan Planning Organizations." *Environment and Planning B*. (forthcoming in the spring 07 or summer 07 issue of the journal.

Lam, Nina Siu-Ngan. (1983.) "Spatial Interpolation Methods: A Review." *The American Cartographer*. vol. 10. pp. 129-149.

O'Neill, Wende A., R. Douglas Ramsey, and JaChing Chou. (1992.) "Analysis of Transit Service Areas Using Geographic Information Systems." *Transportation Research Record* 1364. pp. 131-138.

Openshaw, Stan. (1996.) "Developing GIS-Relevant Zone-Based Spatial Analysis Methods." in Longley, Paul and Michael Batty (eds.) *Spatial Analysis: Modelling in a GIS Environment*. New York, New York: John Wiley & Sons, Inc.

Openshaw, S. and P.J. Taylor. (1981.) "The Modifiable Area Unit Problem." in *Quantitative Geography: A British View*. eds. Wrigley, N., R.J. Bennett. London: Routledge & Kegan Paul. pp. 60-70.

Peng, Zhong-Ren and Kenneth J. Dueker. (1993.) "Error and Accuracy in Spatial Data Allocation." *Proceedings of GIS/LIS Conference*. 1993, Minneapolis, Minn.

Schlossberg, Marc. (2003.) "GIS, the U.S. Census and Neighbourhood Scale Analysis." *Planning, Practice & Research*. vol. 18. no. 2-3. pp. 213-217.

Waddell, Paul. (2002.) "UrbanSim: Modeling Urban Development for Land Use, Transportation, and Environmental Planning." *Journal of the American Planning Association*. vol. 68. no. 3. pp. 297-314.

Wegener, Michael. (1994.) "Operational Urban Models: State of the Art." *Journal of the American Planning Association*. vol. 60. no. 1. pp. 17-29.

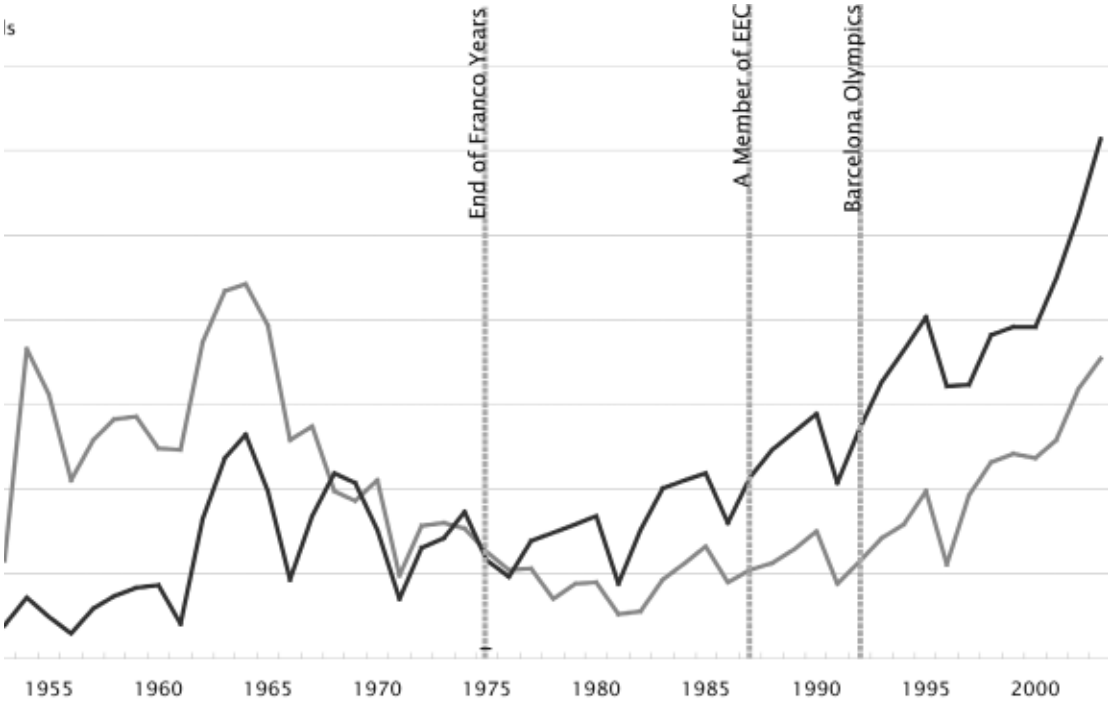
Zhao, Fang. (1998.) "Analysis of the Impact of Community Design on Transit Accessibility." *Proceedings of the ACSE South Florida Sectional Annual Meeting*. Sanibel Island, Florida. September, 1998.

Zhao, Fang, Lee-Fang Chow, Min-Tang Li, Albert Gan, and Ike Ubaka. (2003.) "Forecasting Transit Walk Acessibility: A Regressional Model Alternative to the Buffer Method." Presented at the 82nd Annual Meeting of the Transportation Research Board. Washington, D.C., January, 2003.

Midori Taki
MIT, School of Architecture

RESEARCH BRIEF

DESIRESCAPE/BORDERSCAPE : TERRITORIES CREATED BY URBAN TOURISM



ABSTRACT
Desires of dynamic populations resulting from urban tourism have marked territories in cities: "Desirescapes" and "Borderscapes." Desirescapes fulfill the infinitely expanding desires of tourists in urban settings and facilitate the daily desires of residents. Borderscapes provide boundary conditions that direct and keep tourists within Desirescapes as well as secure residents who produce, nurture, and develop the Desirescapes. In this research brief, the tension between Desirescape and Borderscape and the implicit negotiations between tourists and residents through major urban destinations (Venice, Barcelona, the Ginza district in Tokyo, and the Strip in Las Vegas) are revealed.

INTRODUCTION

The desires to experience an alternative lifestyle, to visit historical monuments of a past civilization, or to shop for rare finds in a city, are the forces driving tourists to visit urban destinations. The number of tourists, those who visit a place for pleasure for a short period, significantly increased in urban cities in the 1990s (statistics). The territory of the cities' dynamic population keeps expanding to accommodate their ever-growing desires as well as disposing of anything but desires. In this essay, the territories that fulfills these desires in urban settings is described as "Desirescapes," where "Borderscapes" are boundary conditions such as street signs or structural forms to direct and keep tourists within Desirescapes (Figure 1).

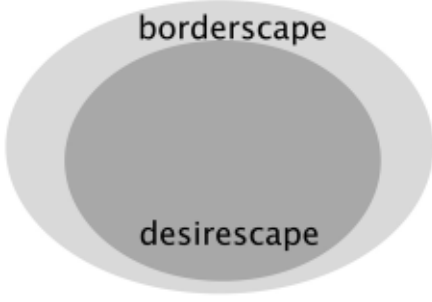


FIGURE 1. Desirescape/borderscape diagram.

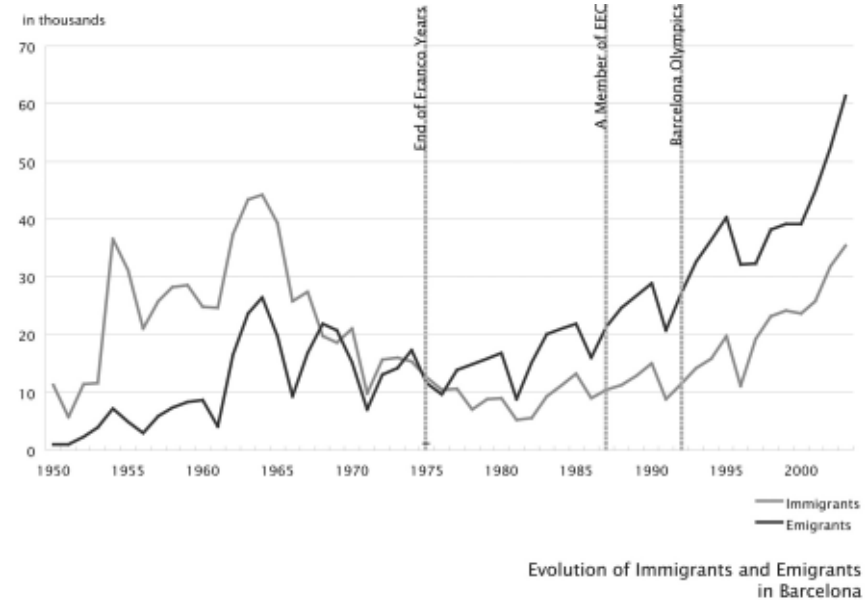
A desirescape not only facilitates the desires of tourists but also of residents, those who see a place as a daily base for the long term. According to urban economists, successful cities "need to think about providing lifestyle, or consumption, advantages to their residents (Glaeser, 2004, p.2)." Thus, a Desirescape enriches the experience of tourists as well as of residents. The elements of a Desirescape — history, entertainment, culture, and nature — are discovered and constructed through the passage of time by residents. A fourteenth century historian, Ibn Kahn, claims that the Bedouins who stay in one place for the short term as tourists leave little culture for the city, compared to a sedentary culture that remains for a long time. Because of their limited time of stay, tourists rarely contribute to production but instead contribute purely to consumption.

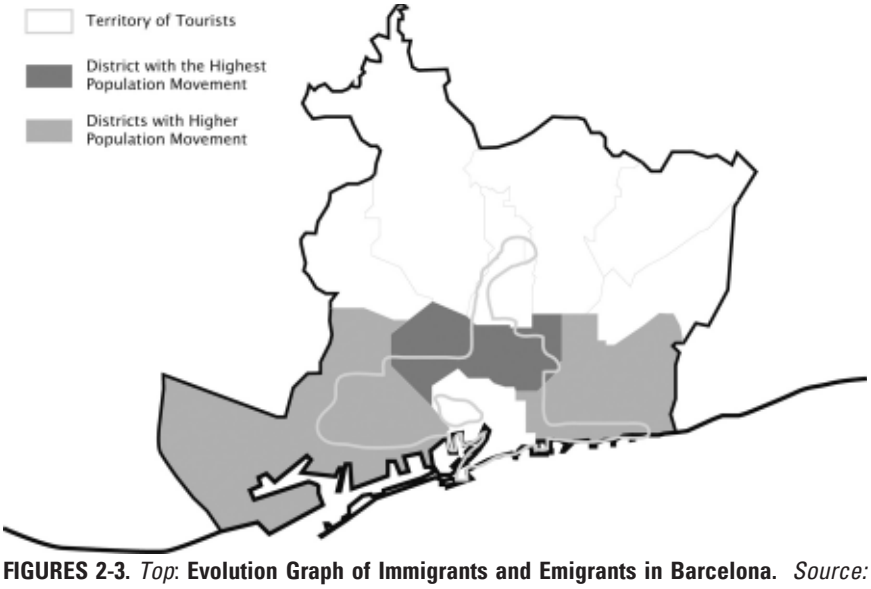
Even though more people wish to live in urban areas today, there has been documented and sustained urban flight (Glaeser, 2006, p2.). In the case of Barcelona, where urban tourism rapidly grew after the Olympic Games in 1992, the increase in the number of emigrants has been greater than that of immigrants (Figure 2), especially in areas with a high density of tourist attractions (Figure 3). Urban tourism has led to dynamic population movements in the touristy cities, which are increasingly at risk of being overconsumed.

In order to avoid being completely consumed and thus rendered obsolete, cities not only need to continue to foster Desirescapes but also to create a distinct boundary, a Borderscape, to secure residents who produce and nurture the elements of a Desirescape.

In this essay, I attempt to reveal the tension between Desirescapes and Borderscapes and the implicit negotiations between tourists and residents. I chose three urban destinations, Venice, Barcelona, and the Ginza district in Tokyo, where the cities utilize existing infrastructure for tourism, and one destination, The Strip in Las Vegas, where tourism led to the growth of the area. They all display the major elements of a

Desirescape and the tension and negotiation between residents and tourists in their own ways.





FIGURES 2-3. *Top*: **Evolution Graph of Immigrants and Emigrants in Barcelona.** *Source: Statistical Yearbook of Barcelona City, 2005. Bottom*: **Map of Population Movement and Tourists' Territory.** *Source: Statistical Yearbook of Barcelona City, 2005.*

CASE STUDIES

VENICE, ITALY

Venice, given its rich history, has always been a major tourist destination. In this city, the tension between tourists and residents is upfront and visible. Due to the high cost of accommodation, the majority of tourists are day-trippers from neighboring suburbs, which makes the temporality of dynamic tourists even greater. The territory of residents is often claimed through objects related to daily life such as clotheslines and

FIGURE 4. Play Toys at the Plaza Claiming the Territory of the Residents. *Source: Nicole Vlado.*

FIGURES 5-6. *Top*: **Clothesline Claming the Presence of the Residents, Venice, Italy.** *Source: Nicole Vlado. Bottom*: **Arrow Signs Funneling Tourists, Venice, Italy.** *Source: Midori Taki.*

play toys (Figures 4, 5). Urban spaces are negotiated by residents allowing tourists to experience and glimpse into their lives. Signage indicating major monuments funnels tourists along certain set paths (Figure 6).

Due to the difficulty of living with water as well as the overflow of tourists, a significant number of residents who have shaped Venetian life are moving out of the city. Losing its highlight of tourism — visiting Venice to experience the daily life of a Venetian (Figures 7, 8), the city is challenged against reproducing their own cultures for the sake of fulfilling the tourists' desires (Figure 9).

FIGURES 7-8. *Top:* **Restaurant along Canal Simulating Venetian Life, Venice, Italy.** *Bottom*: **A Market on the Boat Giving a Glimpse of Venetian Life, Venice, Italy.** *Source: Midori Taki.*

FIGURE 9. A Souvenir Store Selling Reproduced Carnival Masks, Venice, Italy. *Source: Midori Taki.*

BARCELONA, SPAIN

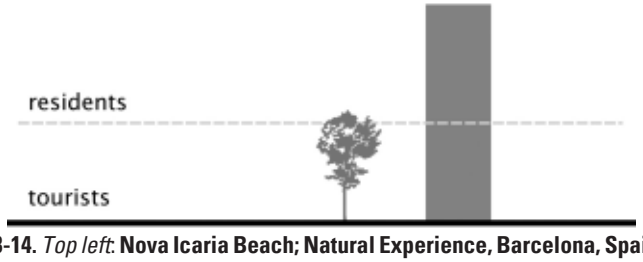
Since Barcelona began to receive significant numbers of tourists after the Olympic Games in 1992, the impact of the tourism on the city has become more apparent. Barcelona possesses a rich history represented by different styles of architecture, fine cultures that world-renowned artists once enjoyed and cultivated (Figure 10, 11). The city is bounded by the natural features of the Mediterranean Sea on the south and Tibidabo Mountain on the north (Figure 12). Moreover, the city offers various entertainments such as shopping, a theme park, and soccer games. Tourists are directed through the town by wide streets with wide sidewalks and lines of trees (Figure 13). Trees also create a vertical separation between the ground-oriented activities of tourists and the upper floors of residences (Figure 14).

In 2005, the city invented the event Culture Forum, with the hope of reproducing the phenomenon of the 1992 Olympics, where the city rejuvenated underdeveloped parts of the city. At the time of the Forum, however, the city erected walls between the Forum venues and the nearby underdeveloped areas that did not represent appropriate desires for the city (Figure 15).

GINZA, TOKYO, JAPAN

The Ginza district in Tokyo is a place for experiencing unlimited consumption of any architectural style from traditional to contemporary and of any form, including the forms of flowers and plants (Figures 16, 17). New residential constructions in the district, which are greatly desired despite their high price, are promoted, as their

FIGURES 10-11. *Left*: **Cathedral; Historical Experience, Barcelona, Spain.** *Right:* **Sagrada Familia; Cultural Experience, Barcelona, Spain.** *Source: Midori Taki.*



FIGURES 13-14. *Top left*: **Nova Icaria Beach; Natural Experience, Barcelona, Spain.** *Top right:* **Lines of Trees in the Avenue Marking Desirescape in Barcelona, Barcelona, Spain.** *Bottom:* **Diagram of Vertical Borderscape in Barcelona, Barcelona, Spain.** *Source: Midori Taki.*

FIGURE 15. The Wall at the Forum Excluding Anything but Desirescape, Barcelona, Spain. *Source: Midori Taki.*

FIGURES 16-19. *Top left:* **Kabuki-za for Historical and Cultural Experience, Ginza, Tokyo, Japan.** *Source: http://homepage.mac.com/kohatchan/iblog/images/about/kabukiza.jpg. Retrieved November 17, 2006. Top right:* **Retail Stores Offering Infinite Consumption, Ginza, Tokyo, Japan.** *Source: Midori Taki. Bottom left:* **Raised Highway Marking Borderscape, Ginza, Tokyo, Japan.** *Source: http://www2s.biglobe.ne.jp/~kaoruhme/photo/photo5.htm. Retrieved May 3, 2006. Bottom right:* **The River Marking Other Borderscape, Sumida River, Tokyo, Japan.** *Source: http://www2s.biglobe.ne.jp/~kaoruhme/photo/photo5.htm. Retrieved May 3, 2006.*

neighboring shops and entertainment satisfy not only visitors but also residents. The raised highway, considered a distraction from the view, contributes to contain the Desirescape within the district as well as to create a border (Figure 18). The river creates another border, beyond which the residential areas are located (Figure 19).

THE STRIP, LAS VEGAS, USA

Unlike the previous three cities, where tourism grew after their cultures had matured, the Strip in Las Vegas was developed specifically for tourism, especially entertainment. Desires are contained within a series of hotels, which include all the forms of entertainment and amenities one could imagine, from gaming to shopping to high-end shows (Figures 20, 21). Night illuminations create a distinct boundary of the Desirescape, which is evident from night aerial photographs (Figure 22). Moreover, the public monorail connecting the hotels at the back runs along the boundary (Figure 23).

FIGURES 20-21. *Left*: **Casino; Entertainment Desire, Las Vegas, USA.** *Right:* **Fine Cuisine; Cultural Desire, Las Vegas, USA.** *Source: Midori Taki.*

FIGURES 22-23. *Left:* **The Lines of Light Marking Desirescape, Las Vegas, USA.** *Source: http://www.chuckhawks.com/strip.jpg. Retrieved April 24, 2005. Right:* **The Monorail Running at Borderscape, Las Vegas, USA.** *Source: http://www.matthewweathers.com/year2004/images/lv_mono2.jpg. Retrieved May 5, 2005.*

This entertainment town has begun to shift its focus from kitsch attractions to high-quality consumption. It is evident in the architecture forms that the hotels were once

reproductions of historical monuments, but the new hotel by MGM Mirage Inc. was designed by a respected architect, Cesar Pelli, with pure architectural aesthetics. With this shift began an authentic urban experience, which attracts people to live in Las Vegas. In fact, the town has started to receive residents who are able to shape and define it. The Strip is challenging whether a Desirescape can grow and be nurtured in a place where nothing was originally from the town but all things were imported or reproduced.

CONCLUSION

A Desirescape, which infinitely expands and discards anything but desires, is necessarily contained by a Borderscape to limit its territory and maintain a balance between tourists and residents in the cities. The residents include not only those who produce and consume desires but also those who serve desires, who are mostly paid low wages and largely immigrants. However, the workers are often considered invisible since their presence is not desirable. Nevertheless, indefinite desires link people beyond social and economic status, which provides the fundamental fabric of an urban environment.

The impact of urban tourism on the built environment is evident, yet neither urban planners nor architects have critically responded to it. It seems imperative to respond with expertise to enhance the territorial structure for a better environment. John Habraken, an architect and educator who has investigated methods and theory of architecture and urban design, states, "We cannot shape the world, but we may help cultivate it" (Andrews).

BIBLIOGRAPHY

Andrews, C.J. "Security and the Built Environment: An Interview with John Habraken." Retrieved August 5, 2006, from IEEE Technology and Society Magazine web site, http://ieeessit.org/technology_and_society/.

Eurostat. Retrieved March 5, 2005, from http://epp.eurostat.cec.eu.int/.

Glaeser, E. (2004). "Book Review of Richard Florida's *The Rise of the Creative Class*." Retrieved July 2, 2006, from Harvard University, Department of Economics web site, http://post.economics.harvard.edu/faculty/glaeser/papers.html.

Glaeser, E., & Gottlieb, J.D. (2006). "Urban Resurgence and the Consumer City." Retrieved July 10, 2006, from Harvard University, Department of Economics web site, http://post.economics.harvard.edu/faculty/glaeser/papers/html.

Statistical Yearbook of Barcelona city, 2005. Retrieved March 5 2005, from City of Barcelona web site, http://www.bcn.es/estadistica/angles/dades/anuari/index.htm.

PHOTOGRAPHS

BARCELONA
Midori Taki
http://www.barcelona2004.org/eng/
http://www.staff.brad.ac.uk/sardouin/chronology.html
http://www.bcn.es/guia/welcomea.htm

VENICE
Marjetica Portc
Daniel Fouad
Nicole Vlado
http://artonline.co.uk/gallery/view_photo.php?set_albumName=Venice-2004&id=Murano_Glass_Manufacture_2

GINZA
Midori Taki
http://www.ginza.jp/index.html
http://www2s.biglobe.ne.jp/~kaoruhme/photo/photo5.htm

LAS VEGAS
Midori Taki
Vegas, March 2005

AUTHORS' BIOGRAPHIES

DR JUAN ABAL MEDINA holds a PhD in Political Science (FLACSO Mexico - Georgetown University), is Professor at the Universities of Buenos Aires and San Andrés, and a researcher for the National Scientific and Technical Research Council (CONICET). He has served as Executive Director of the Strategic Planning Office of Buenos Aires City, and he is currently Under Secretary of Public Management of the Argentine Republic.

LUCIANA CINGOLANI is a Master's candidate in Public Policy and Public Management at San Andrés University in Buenos Aires, and researcher for the National Scientific and Technical Research Council (CONICET). She has worked for the Buenos Aires' Strategic Planning Office, and assisted several national and subnational agencies on policy analysis and implementation.

GARETH DOHERTY is a Doctor of Design candidate at Harvard University Graduate School of Design where his research focuses on contemporary landscape and urbanism in the Persian Gulf. Originally from Ireland, Gareth previously studied at the University of Pennsylvania (M.L.A. and Certificate in Urban Design) and University College Dublin (B.Agr.Sc. and M.Agr.Sc. in Landscape Studies). He has worked with Chora/Raoul Bunschoten London, and taught design studios and workshops, and lectured in the U.K. and around the world.

DR CECILIA GIUSTI is Assistant Professor in the Department of Landscape Architecture and Urban Planning at the College of Architecture, Texas A&M University. Dr. Giusti received a U.S. Department of Urban Development post-doctoral grant for conducting a research on the contribution of micro-businesses to local economic development in colonias. She is a HUD Urban Scholar. Her research focuses on sustainable development, with emphasis on economic issues, microbusinesses, empowerment, land tenure, land and housing markets, and housing financing issues. Her research interests are also related to Latin American development.

DR DANIEL BALDWIN HESS is Assistant Professor in the Department of Urban and Regional Planning at the University at Buffalo, State University of New York. He earned a doctorate degree in Urban Planning from the University of California, Los Angeles, where he received a Dwight D. Eisenhower Fellowship for Transportation from the Federal Highway Administration. His research focuses on public transportation policy and finance and the inter-relationships between travel behavior and urban form.

FRANSJE HOOIMEIJER graduated with degrees in Architecture (BA) and Art and Culture Science (MA) and has worked as an independent researcher in architecture, urban design, and landscape architecture since 1997. Besides various publications and exhibits, she has done research for government and corporate clients. She has been working part-time toward a PhD since 2003 at the Faculty of Architecture at Delft University of Technology, in the department of Urbanism. This research, under the title "The New Dutch Polder City," focuses on the relationship between the laws of water, the technology of water management, and the urban design of Dutch polder cities.

DR JANE E LARSON is the Voss-Bascom Professor of Law, University of Wisconsin-Madison. She researches and writes on issues concerning housing and land at the

U.S.-Mexico border. She has written extensively on the colonias of South Texas, including "Informality, Illegality, and Inequality," 20 Yale L. & Pol'y Rev. 137 (2002) and "Free Markets Deep in the Heart of Texas," 83 Geo. L. J. 179 (1995). Professor Larson has also worked with Community Resources Group, an NGO in Starr Country, Texas, on issues of legal titling in informal settlements.

Dr. NORA LIBERTUN DE DUREN is a recent PhD graduate from the MIT Department of Urban Studies and Planning, and an Adjunct Assistant Professor at the Columbia University Graduate School of Architecture Planning and Preservation. She holds a Master of Architecture in Urban Design from Harvard University, and a Master of Architecture from the University of Buenos Aires. Among other prizes, she has been awarded the Fulbright Fellowship, the Harvard Fortabat Fellowship, the MIT Presidential Fellowship, and the University of Buenos Aires Gold Medal. She has teaching and research experience at Harvard University, at MIT, and at the University of Buenos Aires; and professional work experience in designing urban projects for Buenos Aires, London, Vienna, Beijing, and Doha.

DR MARLYNN MAY: Associate Professor, Social and Behavioral Health, School of Rural Public Health, Texas A&M System Health Sciences Center and Associate Director of the Texas A&M Mexican American U.S. Latino Research Center. Practice and research interests focus on community development and community based participatory research. Current research includes: evaluation of a Robert Wood Johnson Foundation "Integrated Health Outreach Services (IHOS)" project in Hidalgo County, Texas; PI and Director of "Building Research Capacity within Community Based Organizations — Transforming Research Capacity into Social and Organizational Change."

DR SERGIO PEÑA is Professor of Public Administration at The University of Texas at El Paso and teaches urban and regional planning, research methods, policy evaluation, and comparative public administration. His research agenda focuses on the role institutions play in the development process at the local, national, and international level. He is the co-editor of a book entitled *Binational Planning and Crossborder Cooperation in the USA-Mexico Border*.

DR LENA POSCHET holds an MA in architecture and management of logistics systems and a PhD in sciences at the "Ecole Polytechnique Fédérale de Lausanne" (EPFL). Her research at the "Laboratoire de Sociologie Urbaine" of the EPFL is focused on urbanization processes in relation to social and technological evolution. Besides her PhD work on the Haitian-Dominican border, she participated in various international research projects on metropolitan regions, transportation infrastructure, teleworking, and collective housing.

FRANCISCO ROMERO has graduated with a degree in Political Science from the University of Buenos Aires and serves as a teaching assistant for Philosophy and Methodology of Social Sciences at the same institution. He has worked for the Buenos Aires' Strategic Planning Office and is currently a consultant at the Under Secretariat of Public Management.

ALLISON H STEWART Holds an MSc in City Design and Social Science, London School of Economics and a BA in Political Science and Government, University of North Carolina at Chapel Hill. Her areas of study include comparative politics, ethnic conflict, literature, education and urban design. She is currently working as an Urban Planner in northern Florida.

FLAVIO A M DE SOUZA: Architect and Urbanist, Professor of Urban Studies, and Director of the School of Architecture and Urbanism at Universidade Federal de Alagoas, Brazil. Recent publications include "*Colonia* land and housing market performance and the impact of lot title regularization in Texas," with Dr. Peter M. Ward. and Dr. Cecilia Giusti; "Urban land tenure in Brazil: from centralized state intervention to market processes of housing land delivery," with Roger Zetter; and "Security of land tenure revised: the case of CRRU in Recife and Porto Alegre, Brazil."

MIDORI TAKI is a recent graduate from the School of Architecture and Planning at the Massachusetts Institute of Technology. She currently works for a small architecture design firm in New York City, where one of her projects includes developing a low-cost housing prototype that socially, economically, and environmentally sustains and gives residents a sense of pride. Her academic thesis for her Master's degree in architecture at MIT, "Intermediacy; Extracting Vitality from Intersecting Areas," proposes an alternative perspective and resolution for an intersecting area between urban and suburban areas with series of intermediate-scale projects.

ELS VERBAKEL is a Belgian architect and co-founder with Elie Derman of Derman Verbakel Architecture, with projects in New York, Israel, Morocco, and Belgium. In New York City, she was an Adjunct Assistant Professor at Columbia University from 2003 to 2005 and a Visiting Professor at Pratt Graduate School of Architecture in 2003 and 2005. She is currently coordinating and teaching the final semester of the Master of Urbanism and Strategic Planning at the University of Leuven, Belgium. Els has taught design studios and seminars in architecture at Princeton University, where she is currently writing a doctoral dissertation.

DR PETER M WARD has been a tenured professor at University College London and Cambridge University, and since 1991 has been a Professor in the Department of Sociology and the LBJ School of Public Affairs at The University of Texas at Austin, where he holds the C.B. Smith Sr. Centennial Chair in US-Mexico Relations in the College of Liberal Arts. At UT he served as Director of the Mexican Center of LLILAS (1993-97, 2001-2005), and between 2002-2006 he was Editor-in-Chief of the *Latin American Research Review*.

SUBSCRIPTIONS

PROJECTIONS is published annually.

Subscription rates are (one/two years):

Institutions $30/$55
Individuals $12/$20
Students $6/$10
International rates: add $5

To become a subscriber, please send your name and address, along with a check in US dollars to:

Projections - MIT Student Journal of Planning
Department of Urban Studies + Planning, Room 7-337
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge MA 02139

email: projections@mit.edu

Visit http://web.mit.edu/dusp/projections for information on recent ***Projections*** journals.

PROJECTIONS 7

Projections 7, proposes to highlight the role of institutional innovations in developing countries that have played an important role in economic and social development. The volume will focus on empirical studies as well as theoretical discourse regarding institutional changes and how they might facilitate development in developing and transition countries. We are interested in papers relating to three broad tracks for this volume and welcome contributions focusing on different regions of the world. Cross-country or regional comparisons are encouraged but are not required. The tracks are as follows:

1) Role of Technological Innovations in Development
2) Role of Land Markets in Development and Poverty Alleviation
3) Role of Infrastructure and Trade Facilitation in Economic Development

Visit http://web.mit.edu/dusp/projections for information on recent ***Projections*** journals.