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Landscapes of Convergence
a proposal for exchange at the San Diego-Tijuana border

Michelle Apigian
Bachelor of Arts
Dartmouth College, Hanover, NH 1993


signature of author:
Michelle Apigian
School of Architecture and Planning
January 14, 2000

certified by:
Ann M. Pendleton-Jullian
Associate Professor of Architecture
Thesis Supervisor - Architecture

certified by:
Larry J. Vale
Associate Professor of Urban Studies and Planning
Thesis Supervisor - Urban Planning

accepted by:
Bill Hubbard, Jr.
Adjunct Associate Professor
Chairman, Architecture Department Committee on Graduate Students

accepted by:
Paul J. Smoke
Associate Professor of the Practice of Development and Planning
Chairman, Master in City Planning Program

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thesis committee

thesis supervisors:

   Ann M. Pendleton-Jullian
   Associate Professor of Architecture

   Larry J. Vale
   Associate Professor of Urban Studies and Planning

thesis reader:

   Shun Kanda
   Senior Lecturer in Architecture
for my family -
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a proposal for exchange at the San Diego-Tijuana border

Michelle Apigian
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Submitted to the School of Architecture and Planning on January 14, 2000 in Partial Fulfillment of the Requirements for the Degrees of Master of Architecture and Master in City Planning at the Massachusetts Institute of Technology.

abstract

This thesis addresses the relationship between San Diego, California and Tijuana, Mexico. Although these two cities are part of a single landscape and ecology, they are divided, not only by a physical wall, but very different cultural, social, political, and economic realities.

This thesis is a proposition about exchange. Economic exchange has always been the driving force for interaction between San Diego and Tijuana. Their relationship has operated at a very fundamental level, rooted in a market economy driven by the laws of supply and demand. My goal is to build on this interaction, to exchange beyond the mutual economic interests and to provide a forum for a broadened, more meaningful exchange. Social, cultural and environmental exchange will heighten understanding and mutual respect, and begin to dissipate the psychological barriers that exist between the two sides, serving to better connect the people of this border region.

I believe the foremost place for such interaction is the border region, itself. Currently, it is a painfully disconnected, forbidding, and blighted region that harshly articulates the uneasy relationship between the two sides. The border marks a physical line of convergence that could begin to celebrate intellectual and social convergence.

My proposal offers an east-west solution to this north-south problem. It establishes a new directionality that runs parallel to the border rather than across it. This new corridor uses the landscape to emphasize that which is shared, while establishing points of reflection and dialogue. The intention is to reinvent the border region as a critical juncture between cultures and nations, making the border not a point or a line, but an engagement.

thesis supervisors:

Ann Pendleton-Jullian
Associate Professor of Architecture

Larry J. Vale
Associate Professor of Urban Studies and Planning
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introduction

View looking down the border line toward the ocean
overview

The border between Mexico and the United States offers a physical line of convergence between cultures, languages, economies, and politics. San Diego, California and Tijuana, Mexico are the sister cities at the Pacific edge of this border, two major metropolitan centers with only 17 miles between their respective down-towns. Together, they represent the largest and most economically powerful of the 11 “twin” border towns. Like all of the “twin” towns, they share a common landscape, climate, and set of resources that know no border. The two cities are intrinsically tied: topographically, economically, and perhaps even psychologically. And yet, on the whole, this trans-boundary region continues to operate as two isolated urban forms with separate and independent concerns. In 1974, Kevin Lynch wrote an article entitled “Temporary Paradise?” in which he analyzed the landscape of the San Diego region. The end of the article concluded with a few important questions:

1. Will San Diego and Tijuana continue as border towns, each at the end of its nation’s line of development, and each dependent on an exotic and uncertain economy? Or can they realize their role as a bicultural metropolis, the center of a great natural region, safely sustained by the resources of that region?

2. Will San Diego grow as an extension of Los Angeles, and in that city’s image, or can it find a new form, adapted to its own site and climate, a form which conserves water, air, and energy, and supports the well-being of its people?

3. Will the region make sure that its amenities are available to all its people, regardless of nationality or income, or will present inequities continue to grow at the regional scale?”
In the 25 years since that article was written, the San Diego-Tijuana region has more than doubled in population, developing into a strong and thriving economic engine. In the 1970s, San Diego was a relatively sleepy navy town of just over one million people, with Tijuana only half a million. By 1990, San Diego had become a metropolitan region of nearly 2.5 million inhabitants, while Tijuana counted close to 1.5 million.\textsuperscript{1}

In those three decades, the border began to lose its historical role as a strict edge to the nation-state, becoming more porous. Much of that derives from the fact that production and consumption are no longer restricted within the boundaries of nation-states.\textsuperscript{2} Industrial growth has been among the most important catalysts in the rapid transformation of the economic base and demographic structure of US-Mexico borderland areas. The Border Industrialization Program and the Maquiladora industry that followed were instrumental to this growth.\textsuperscript{3} With the passage of NAFTA in 1992,\textsuperscript{4} the US-Mexico border region has become one of the most dynamic zones in the world. Some 12 million people live there, generating tens of billions of dollars a year in economic activity and playing host to more than $110 billion in annual cross-border trade.\textsuperscript{5} The San Diego-Tijuana region contains almost 50 percent of the US-Mexico border population.\textsuperscript{6}

The San Ysidro port of entry (the westernmost border crossing between

\textsuperscript{4} The Mexican government established the Border Industrialization Program (BIP) in 1965, as a policy initiative aimed at attracting US assembly plant operations to Mexico. The program was fully implemented in 1971, beginning the Maquiladora program, in which Mexico allowed duty-free import of all necessary machinery, equipment, and raw materials, as well as components needed to engage in offshore production. All products had to be exported from Mexico, and 90\% of the labor force had to be Mexican nationals.
the United States and Mexico) is the busiest land border crossing in the world, inspecting more than 40 million persons and 15 million vehicles annually. Among this 40 million, 9 million (almost 25 percent) are pedestrians. For a growing number of people in the San Diego-Tijuana region, crossing the border is part of daily life. Each day, 40,000 people cross the border to go to work. This daily crossing only dramatizes the increasingly interwoven economy. Recent studies have found that visitors from Mexico contribute an average of $3 billion per year in goods and services in San Diego, and show nearly $7 billion a year in two-way trade between Tijuana and San Diego. While the Maquiladoras and NAFTA have spurred cross-border industrial activity that has benefited industries and the production of consumer goods for the entire country, the region profits more directly from those who cross the border to shop. Border traffic represents almost $1 billion to each country's economy in tourist spending and sales tax revenue.

However, this increased interaction has been accompanied by a wave of conservatism regarding the influence of Tijuana and Mexican immigrants on Southern California. Recent policy (such as Proposition 187 and Operation Gatekeeper) illustrates the local fears of immigrant populations draining the economy, lowering literacy rates, and stealing jobs. As Mexico literally pushes up to the fence that divides the two

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8 Proposition 187 was a controversial measure that sought to prevent illegal immigrants and their children from receiving public social services, publicly funded health care services, public elementary and secondary schools, and public postsecondary educational institutions. The Proposition passed overwhelmingly in 1997.

9 Operation Gatekeeper was adopted by the INS on October 1, 1994. This initiative was launched to "restore integrity and safety to the San Diego border, the busiest in the nation." Unprecedented resources were committed in an effort to prevent illegal border crossing.
cities, San Diego continues to pull away, putting miles of agriculture and military no-man’s land in between. Development in San Diego continues to be focused on North County, leaving the South County region along the border ripe for attention. While there has been more recent development to the south, most efforts are piecemeal, serving to further fracture this region. San Diego is still economically and socially stratified north to south, placing the south on the lowest end of the spectrum.

Nowhere is this attitude more clearly visible than at the San Ysidro border crossing itself. In spite of the region’s massive growth, the area surrounding San Ysidro looks almost the same as it did 10 years ago. The world’s busiest land border crossing currently stands as a forbidding concrete conduit for the crossing of pedestrian and vehicular traffic. Iron bars, concrete walls, and blighted surroundings covered in parking lots reveal the utility and functionality that were the guiding principles behind its original design. This lack of vision or ability to look beyond freeway lanes and checkpoints emphasizes the failure to recognize the importance and potential of this crossing, both as a social statement and an urban symbol. Even on a utilitarian level, it fails to process cars and people in a safe and efficient manner. Culturally, socially, and economically the crossing does not invite people to move back and
convergence in an increasingly multicultural and polarized economy. Such a development attitude would represent a critical shift in perception and future planning.

My thesis operates at two levels as a means of addressing collaborative planning and urban design along the border. I begin with an urban design proposal for the border region that suggests patterns of growth and appropriate programmatic choices. I have chosen a six-mile east-west cut of land running from the Pacific Ocean to the hills east of the Interstate 5 crossing. This strip provides a unique opportunity to address landscape from both an ecological and a cultural perspective.

Within this urban landscape, I then focus on a particular site and architectural program that might act as a provocative catalyst for this new direction of future development and change. The site is situated at one end of the urban landscape, on the edge of the hills to the east. Its location is adjacent to the entrance of the existing pedestrian crossing. It is also at the southern terminus of the trolley line running from San Diego. This positioning affords maximum visibility and access to a broad range of visitors, from locals and tourists on both sides of the border. It also provides an opportunity to use the natural landscape as a means of elevating the visitor's view and playing with perception of the border and the borderlands.
method of inquiry

This is not an abstract exercise, nor is it a rhetorical project. I used extensive research and quantitative data to understand the nature of the region today. With this as an underpinning, I began to explore the physical realities of the border region in an effort to find opportunities and relationships that would connect the region and root the project. I see the site and the program as crucial vehicles for addressing the multiplicity of issues and connecting a single architectural project back to the broader intentions.

I also come at this with a bias, as one who grew up in San Diego. This project is grounded in what I know and who I am, and consequently accepts there are perspectives I will not consider. Through this honesty, I hope to better illuminate the living culture that is the San Diego-Tijuana region.
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conceptual analysis

Map of the borderline between the United States and Mexico
border town analysis

There are eleven sets of paired border towns along the 2100 miles of border between the United States and Mexico. Having experienced San Diego and Tijuana extensively in life and through research, I felt it important to get a sense of some of the other border town relationships. I selected four other pairs that were representative of the range of relationships. In each case, I analyzed both the physical and geographic relationship and the socio-economic statistics. The four pairs selected were: Yuma-San Luis Colorado, Nogales-Nogales, El Paso-Ciudad Juarez, and Laredo-Nuevo Laredo. This study revealed that San Diego and Tijuana represent a very particular relationship: geographically, socially, and economically.
Statistically, San Diego and Tijuana are unique in several ways. Most border towns are small scale with struggling economies. San Diego and Tijuana are each the largest among the border towns in their respective countries. They are also the most economically strong. Jobs in and around Tijuana pay four times Mexico’s minimum wage. Tijuana also has an unemployment rate of 1 percent, the lowest in Mexico, whose national average is 4.2 percent. This economic strength is not only true for Tijuana. San Diego’s median household income is $33,686. The next closest among the remaining border towns is El Paso, at $23,460. Nogales, Laredo and Brownsville are all below $20,000. San Diego also has a dramatically smaller Hispanic population than the other border towns in the US. Where 25 percent of San Diego’s 2.7 million are Hispanic, 74 percent of El Paso’s 700,000 are Hispanic.
There are also interesting issues of topology and the nature of the border. In some cases, the border is formed by a natural element, such as a river or mountains. In others it is a superimposed line. In some cases the link between the two sides is strong, and it seems that the two towns grow toward one another. In others, there is a tension if not a distinct separateness. Laredo-Nuevo Laredo and El Paso-Ciudad Juarez are much more nuclear, seeming to feed off of one another. It is interesting that these two pairs are also the two that are divided by a natural border. Nogales-Nogales seem to be connected by only a thread, the railway and highway crossing, for moving goods back and forth. Yuma, and its twin city, San Luis Colorado, have no direct link across the border at all. At the same scale, San Luis Colorado does not even appear on the screen. San Diego and Tijuana are interesting because they do have both a river and two sets of mountains that function as natural barriers, and yet the border itself ignores these, slicing across the landscape. This creates a unique tension.
binational development:
planning for a shared environment
a shared environment

The border is characterized as a setting where the north-south dialogue takes on a distinctly environmental and spatial character. At the border, two nations and cultures meet physically and, thus, the process of interdependence takes on a uniquely geographic form. This form is ultimately negotiated through the political systems of the two counties. Boundary cities illustrate the problems and opportunities of US-Mexican relations in the borderlands. In these functionally intertwined regions, land-use decisions, normally the exclusive domain of local or national jurisdiction, suddenly have international implications. Externality effects extend beyond the political boundary, burdening two national governments with the task of devising formal procedures for addressing land-use and planning concerns. And Mexico City and Washington D.C. are far more interested in and equipped to handle issues of national security, policy, and budgeting.

Effective collaboration for the planning, financing, and management of the borderlands will be a crucial determinant of San Diego-Tijuana's future position, both economically and environmentally. However, for San Diego and Tijuana, cross-border planning is a relatively new concept. Until about a decade ago, most planning at the border was left to the federal and state bureaucracies, with little or no input by municipal governments or border communities. Despite the sizable inventory of common border issues, most border problems are resolved on an ad hoc basis, addressed by separate bureaucracies in each of the two nations. And while dialogue is certainly the first step, formal decision-making is essential. Expanded and more effective cross-border collaboration requires greater capacity on the part of both local governments to accept and manage their new responsibilities.
collaborative precedents

One of the first places where collaboration began was in the environmental arena. Environmental activists were among the first to point out that the two cities cannot be viewed independently, but rather as part of a single ecology. San Diego and Tijuana share one urban ecology, an environmental landscape that involves some very sensitive issues. They share a common coastline along the Pacific Ocean. They share the Tijuana River, which winds across the border from Mexico into a wetland in San Diego before reaching the ocean. They share the same air, and the same resource concerns.

Treating the sewage of the Tijuana River has received by far the most attention and binational support. However, in spite of three sewage treatment plants built since 1965, and another in process now, the problem remains acute. Air quality control has been largely unresolved. And while there is now discussion of shared power plants and aqueducts for fresh water, it is clear that these endeavors are a long way off.

More recently, the two cities have begun to think together on future transportation concerns. Over the last several years, the U.S. General Services Administration and its counterpart agency in Mexico, CABIIN, have been developing plans to address the growing transportation needs of the San Diego-Tijuana region. Together with the California Department of Transportation (Caltrans), they are working on long-term solutions for traffic at the San Ysidro border crossing. Very little — almost nothing — has been accomplished in the way of new roads, border crossings, better housing, or mass transportation projects.

The first example of proactive cross-border planning was Otay Mesa. Otay Mesa (in San Diego) and Mesa de Otay (in Tijuana) are located on both sides of the international border, about seven miles inland from the ocean. In 1985, the city of San Diego decided to plan future
development of Otay Mesa but wanted cooperation from Mexico to do so. The goal was to have the two sides of the Otay Mesa industrial complex complement each other in a joint master plan. However, while coordinated planning has been the intention, the reality has been far more fragmented. In the late 1980s, Mesa de Otay realized a frenzied development, becoming a very productive but inhospitable industrial zone. Otay Mesa, has taken a slower road, with much of the land still in the planning phases.

Today, there is a new border development proposal on the table. The project is called “The International Gateway of the Americas.” Proposed by the cities of Tijuana and San Diego, this plan can redefine how we look at the border. The Gateway plan is about more than freeways, checkpoints and fences. It is conceptually about building a link between cultures, creating a commercial and cultural connection between Tijuana and San Diego. Visitors and tourists would be encouraged to move through the border in a safe and dignified manner, enjoying it as a destination in and of itself, not simply a place of transit. This vision is the result of an unprecedented show of cooperation and unity, with a long process of open dialogue and discussion.

There are two particularly unique aspects of the Gateway proposal. The first is a new pedestrian bridge to Tijuana. The bridge would connect from Virginia Avenue (on the San Diego side) through the red-light district of Zona Norte (in Tijuana), linking with the main tourist street in Tijuana, Avenida Revolución. The other important aspect is the idea of a zone in which citizens of each country can mingle in a shopping plaza and entertainment complex, free of current trans-border hassles. The proposal plans to take advantage of airport advancements in security and people moving. The plaza would be patterned after open airport security zones, in which travelers are screened with security devices and enter “sterile” zones prior to flight.
reactions

Thus far, most cooperation has come retroactively, attempting to deal with problems arising from earlier, haphazard efforts. Otay Mesa and the Gateway project are among the first attempts to work proactively - to think together before acting. This is a good sign, particularly given the vast amounts of open land on the US side of the border. Much of this land has avoided disaster only because it has currently avoided development. The future will undoubtedly see much more built activity here, and proper planning can ensure that it works to enhance and maintain the existing landscape.

While environmental and infrastructural concerns have begun to find formal mechanisms, issues of urban development and cultural exchange have been largely neglected. Cooperation as a means of efficient and ecological planning is not sufficient. The social and cultural implications of this meeting point between North and South must be addressed. The Gateway project is the first to recognize this and to attempt to develop a symbol of connectivity that celebrates this exchange. However, it is also a highly commercial venture, being dubbed a "tourist
playground." Thus far, economics has been the primary impetus for joint decision-making and cooperation, with little concern for issues of people, culture, or identity.

Inevitably, new development will only occur with a promise of financial reward. But this does not mean that it must become a playground or shopping mall. Architects, planners, and developers might look to the artist community of the region, which has been a leader in addressing cultural similarities and differences as a means of raising awareness. Commercial architecture intended only as a tourist mecca will cheapen the borderland. Innovative programmatic and architectural designs might make us think about and feel the layers of meaning embedded in this point of convergence. My thesis will explore these issues at the San Ysidro Border crossing, where development is beginning to boom, with little long-term planning or coordination. The goal is socially responsible, but provocative, development that can foster a sense of community while inciting reflection.
site analysis

Aerial photograph of the site, with Tijuana on the left and San Diego on the right
designing on the US side

After analyzing the border region, I chose to focus my exploration on the US side of the border. This is counter to most of the border related projects I researched, which emphasize building on both sides or at least building perpendicular to the border to physically suggest crossing. However, in seeking to establish an engagement, the crossing itself becomes less important than the experience and the attraction on the other side.

My intention is to begin to change attitudes and perceptions from both sides. From the US perspective, this requires new design and development on the US side that embraces this region and welcomes dialogue. This makes my sitting crucial as a catalyst for change. However, it is also important to create positive and more meaningful opportunities for Mexicans on the US side. This region can begin to offer a neutral ground that provides different modes of interaction.

It is important to note that tens of thousands of people cross at San Ysidro coming from Mexico every day. My research indicates that many in Tijuana perceive San Diego as a back yard, to which they can escape now and then. So being on one side or the other is in some ways less significant than what happens when you get there.

The sitting was also a response to existing development patterns. While Mexico is densely developed right up to the border fence, regardless of topography, San Diego's development has been very patchy and disjointed. This leaves the region feeling like the neglected back alley. It encourages one to quickly and blindly pass through, making this a thoroughfare, not a place. It is critical that the border region becomes a place. The US side provides ample opportunity to do this without disrupting the fully built-out fabric on the Mexican side.

Finally, I come from the US side of the border and am more aware of the attitudes and perceptions associated with San Diegans. This strengthens my resolve to address such attitudes as a critical component in bringing about change.
plan

The site is a six-mile stretch of land along the border. It extends from the hills east of the San Ysidro crossing to the Pacific Ocean. There is clearly a powerful funnel effect as the natural and infrastructural systems converge in the narrow wedge between the two sets of hills. This dynamic crossing point has the potential to reach an enormous population of tourists and locals from both sides of the border.

movement

Within this site are three very important movement systems:

- The westernmost border crossing, San Ysidro
- The last stop on the developing trolley line (part of a transit-oriented development scheme that Peter Calthorpe has been working on)
- The Tijuana River, which crosses from a concrete channel in Mexico into San Diego where it flows freely to the ocean

territories

Within this site are also three important zones:

- The urban piece where the traffic and the people cross. This zone is frenetic and intense.
- An in-between piece between the actual borderline and the edge of the Tijuana river, which acts as the perceived border from the US side. This is a zone rarely experienced, and offers a unique opportunity to bring people into contact with the physicality of both the border and the shared landscape.
- The natural piece of the flood plain, which begins to lose site of the border. This piece makes the transition from land, much of which is cultivated for agricultural use, to wetland with wildlife sanctuaries and national preservation.
section

In an attempt to understand the physical and conceptual relationships of the site, I cut a series of exaggerated sections. This sectional study helped me to identify layers and zones that I had not seen as clearly in plan. It also magnified the tensions and the perceived experience of the border.

The natural elements of the mountains, the river and the ocean immediately reinforce the three territories observed in the plan. Here, however, they are not based on program, but on experience. The urban piece is very compressive, wedged between the hills and the river. The in-between piece is clearly contained and has a distinct separateness. The natural piece is expansive and feels no sense of immediate edge.

Then built elements define or create new edges. The freeways cut the landscape into pieces, creating new experiential borders. The residential neighborhoods in San Diego cut distinct boundary lines, which identify the end of the wetland. The scales and rhythms of this development start to identify neighborhoods and communities, versus the erratic development near the freeway. Objects placed within these new boundaries start to behave as identification markers and orientation devices: a flag, radio towers, a tall parking structure. In Tijuana, color is another means of calling out particular buildings.

The sections revealed that there could be different experiences of the border that were distinct from its actual location. While in Tijuana, the fence is continuously the clear and visible separation line, this is not the perception in San Diego. In some cases it is a line, in others a habitable territory. In still others, it is a nebulous zone with distinct edges, but no real sense of border within. Again, this perceptual change correlates with the three territories. At the actual crossing, it is the border crossing buildings that identify the border. As the river crosses, it is the river’s edge that begins to mark the border. This is accentuated by the second layer of fence on the north side of the river, which prevents viewing or crossing. Further west, it is the mountains that create the perceived border between north and south. However, because the wetland is undeveloped, Imperial Beach, the residential community to the north, begins to define the line between North and South.
Sectional Layering: topography

Sectional Layering: cultivated landscape

Sectional Layering: infrastructure
Sectional Layering: development  Sectional Layering: landmarks  Sectional Layering: layer montage
reactions

architectural insertions

From these initial studies, I selected three potentially important sites for organizing and weaving together the larger context. Each site corresponds to one of the three established territories.

The urban site is highly visible and accessible, adjacent to all major transportation systems and the border crossing itself. However, it has two distinct faces: an urban edge that addresses this nexus, and a landscape edge that faces the hills. The landscape edge is a currently subordinated element waiting to be recognized.

The in-between site is distinctly disconnected and currently inaccessible. It also has an urban edge and a landscape edge. However, in this case, the urban edge is in Tijuana, and is physically and visually cut off by the border fence. The landscape edge is the river, but because it is contained in a concrete channel and bounded by another fence, it is in fact more urban than natural. This site is extremely tense, pushing to reach out to both Mexico and San Diego. It also offers opportunities to address ecological concerns.

The recreational site sits at the edge of the wetland and Imperial Beach. It reinforces the existing development edge, but projects into the wetland to suggest an engagement. This could begin to formalize some of the open space for recreational use. It also offers another opportunity to educate about the local ecology and problems of pollution.

development

Future development must be carefully planned so as to protect and enhance. This begins with a new attitude in planning and design that recognizes San Ysidro as a place, with neighborhoods and families. The site suggests that areas of existing development should become more dense and mixed use to generate a stronger, more sustained neighborhood. The local communities bordering this region must be reinforced, knitted together and made more coherent. Added housing and civic buildings can begin to achieve this. Wetland areas should be carefully protected, but might be constructed as a park system. This immediately focuses development on in-fill rather than sprawl.
program analysis
intention

The goal of the thesis is to reinvent this region as a critical juncture between cultures and nations. The border region should be synonymous with exchange of ideas, of cultures, and of experience. The program and sequencing should highlight both the gaps between the two cultures and the points of convergence. It, therefore, has a unique opportunity to initiate a dialogue about the social and cultural implications of this point of exchange.

The program is the vehicle for attracting and communicating to people. It offers various public and educational components that provide both a destination and a place of discovery. The main goal is to educate and provide a forum for cultural and informational exchange. However, in order to reach people, you have to get them there. So the program includes retail components to build off of the economic relationship that is already strongly embedded. The strategy is hybrid programs for a hybrid environment. This means environments that attract people so they might engage them. It must build off of the fundamental point of exchange (commerce) and then lure that population. This is why I accept the Gateway mall project and incorporate other commercial activities. Beyond this superficial gesture is the heart of the program. If it proves to be profitable, it can happen.

Education is the critical role that this region can begin to play. The program becomes a forum for dialogue, opening new and varied channels of communication. This can occur formally through programmatic means, and informally through architecture and sequencing that heightens awareness of this meeting point. This awareness extends beyond the cultural and social interaction to the ecological relationship that lies fundamentally beyond these differences. The point is to highlight commonality while celebrating difference. This is not a theme park, not intended to be the main attraction, but rather to draw on the population already crossing and provoke a deeper level of thought and engagement.
user

The project is intended to communicate to as broad an audience as possible. The goal is to capitalize on the high volumes and diversity of people crossing at this point and begin to engage them on a variety of levels in this zone. The trolley should be emphasized as a major transportation network. The site should be visible as a landmark from the freeway and the pedestrian crossing. It should also command attention from the pedestrian point of view when arriving by trolley. This sight is easily accessible from both Interstate 5 and the San Diego Trolley. Just 400 feet to the west is the next Gateway project. I chose to build on the assumption of the Gateway project's new pedestrian border crossing, which is a more natural connection to Tijuana's Avenida Revolución, the primary tourist hub of Tijuana. This can help promote interaction between people and their environment.

education

the world wide web

Technology can be an important part of this exchange, establishing a common ground plane and expanding opportunities. However, this equal footing is only as good as the accessibility of technology. This access is something in particular that the US side can offer. It can act as a link to the world on the one hand, and to local opportunities on the other. More specifically, the web could be used by both the Mexican and the local Latino populations to find opportunities for employment, education, and development.

educating one another

With such a range of users, I wanted to encourage new relationships and learning paradigms. This means that those who are often considered students have a great deal to offer as teachers. Young people are more technology savvy. Mothers know how to care for kids. There are important skill-sets that can be shared in new ways as a means of further dissipating barriers. These various forms of formal education begin to expand the school day. Children being taught during the day can in turn teach adults in the evening. And adults, busy working and caring for families during the day, can then take advantage of classes for personal enhancement, job training, and English as a second language. These role reversals allow new people to be needed. People are not just receiving care but giving care. This heightens the connections between age groups, cultural groups, and socio-economic groups.
environmental awareness
The landscape is the underpinning for commonality. It is critical not only as a link between the two nations, but because it is endangered. Efforts to thwart the impacts of pollution to the air and water have been limited. The program must begin to take on the challenge of creating awareness of these issues. It should provide a forum for shared dialogue as well as information about the state of the local ecology and the natural habitats. This kind of education is essential for the health of the region. However, it is also essential as a means of connecting us to the place we come from, its richness and uniqueness. With a diverse landscape ranging from desert to wetland, there are a wealth of opportunities and lessons to draw on.

art in the landscape
It is critical to find ways of bringing people together, methods for giving them a voice and new reasons to cross. I have used existing linking mechanisms as a model for programmed exchange. In particular, the arts seem to be far more experimental and collaborative in raising issues and communicating. The San Diego-Tijuana region has begun this dialogue through art.

There is an existing pattern of graffiti in the landscape on both sides of the border. Signs and murals raise questions and frustrations about the existing tensions, prejudice, and inequities. More formal examples also exist. A binational art show called in-SITE4 features art placed in the landscape and urban fabric of both cities to express the issues associated with the north-south dialogue. I am also motivated by the example of Chicano Park, located in a predominantly Mexican-American neighborhood called Barrio Logan, near downtown San Diego.5 When an overpass was developed through the heart of this neighborhood in 1969, the neighborhood petitioned to use this concrete insertion as a canvas for expression and personalization.

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4 inSITE is a binational art festival involving numerous artists and nonprofit art institutions. The festival takes place on both sides of the border in San Diego and Tijuana. It involves numerous installations - both indoor and outdoor - that deal with border related themes. It first took place at a limited scale in 1994, and was followed in 1997 with a significantly better funded and orchestrated event.

5 Chicano Park is a 7.9-acre piece of land beneath a bridge and freeway interchange in a predominantly Chicano section of San Diego known as “Barrio Logan.” It represents an attempt by a previously ignored ethnic group to take control of and personalize an ugly and intrusive institutional landscape. Residents occupied the site for twelve days in April 1970 and stopped construction of a highway patrol headquarters beneath the bridge. The city eventually acknowledged that this community had been ignored and agreed to support the park.
urban design strategy

1 hills
2 educational center
3 overpass
4 gateway mall
5 community park
6 civic building
7 river channel
8 amphitheater
9 artist’s canvas
10 eco-center
11 river valley
12 habitat center
13 beach
Sketch of access points and interactive territories

Sketch of proposed development patterns

Collage of similarly scaled projects on the site

Model of the border cutting across the topography
framework

The site is organized into a coherent network of paths and places that connect the trolley stop to the east, with the ocean to the west. The three zones – urban, in-between, and natural – are woven together to establish a strong east-west pattern of movement that counters the typical north-south rhythm. The journey begins at the point of confluence and moves laterally, along the border and out into the open landscape. With this framework, I have given particular attention to the sequence and programming within the urban and in-between zones. This two-mile stretch of land lies between the two sets of hills, and allows opportunities for direct visual and physical connection between the two sides.
velocity

The network is punctuated by nodes. The changing velocities within the site establish the spacing between the nodes. In the first two zones of the site (which are more urban in character) the nodes are spaced every quarter-mile. This translates into about a five-minute walk between each node, making the journey coherent, accessible, and legible. The speeds shift as one moves from this dense urban environment, which is geared toward the pedestrian, to the recreation environment. The punctuation starts to stretch out, relating to a more recreational pace of biking, jogging, or horseback riding.
the experience
Collage close-up of the urban piece
the urban piece

To the east, the urban zone is comprised of two animated nodes. The educational center, which will be the focus of my architectural exploration, is the easternmost entry-point into the project. The second is a mega-mall project that is currently being developed. I have accepted this development, called the Gateway to the Americas, because it will serve as an important nexus point, drawing increasing numbers of people from both sides. It will also become the entry-point for the new pedestrian crossing.
the in-between piece

The in-between zone offers an important transition point from this urban nexus to the natural piece of the project. This is perhaps the most provocative piece of the proposal. Here elements of the border, typically inaccessible or imperceptible, are highlighted. The physical wall can be experienced both obliquely and frontally. Visitors will have a unique opportunity to engage it as an edge, as well as a threshold. They will walk along it, and then through it, to reach the constructed riverbed that forms a unique border zone, rather than an edge. The river channel, which is bounded by a fence on both sides, is made accessible. The concrete basin becomes an artist's canvas, offering a piece of landscape for communication and exchange from both sides. The slope of the basin offers potential for an amphitheater, seating people facing north or south as they share the performance between them.
Collage close-up of the landscape piece
the landscape piece

The natural piece is anchored by an ecological facility tied to an existing water treatment plant at the point where the concrete channel ends, allowing the river to flow naturally. This project serves as a research and educational facility that highlights the ecology, both visually and environmentally. Dry during the majority of the year, it is prone to flash floods during winter rains in the mountains. This landscape and environmental arm of the project serves as a different venue for education. The ecology of the place is the first and foremost point of convergence. From here, the recreational piece of the project begins, providing another means of enjoying and emphasizing the shared landscape of the Tijuana River Valley.
sequence

1 hills
2 educational center
3 overpass
4 gateway mall
5 community park
6 civic building
7 river channel
8 amphitheater
9 artist's canvas
10 eco-center
11 river valley
12 habitat center
13 beach
**educational center**
In addition to punctuating the path, the nodes correspond to important moments on the journey. The Education Center marks the easternmost edge, and the entry point for trolley and pedestrian traffic from San Diego. It looks west, toward the sequence ahead, but stretches north to south reflecting the major axis.

**overpass**
From here, pedestrians move into the border patrol facility to an overpass that reaches across the freeway to the Mall. While this may sound harrowing, it is the only means of moving from between north and south by foot.
**gateway mall**
The Gateway Mall acts as a conduit in two directions. On the one hand, it connects to the new pedestrian border crossing between the two nations. However, its primary axis runs parallel to the border, tying back to the Educational Center and out to the artist’s landscape. The Gateway project has proposed conference facilities, making it conceivable that a civic component could anchor the western end. This would reflect the existing neighborhood that emerges at this point.

**community park**
The Community Park gives a formal edge to the residential community and a distinct counterpoint to the intensity of the Gateway project and the border crossing. I have proposed additional housing to knit together this neighborhood and give it a sense of place. The park acts as a transition between the urban zone and the open landscape. It also provides a much-needed recreational space. The channelized river runs along the southern edge of the park. Here a second layer of fence wraps the entire northern edge of the river. This fence, which is rarely seen at close proximity becomes the first sculpture.
civic building
Within the Park is another civic building, marking the heart of the community to the north and acting as an entry point to the park. This building serves as the third node, pushing into the path system, to redirect movement toward the river.

river channel
The River Channel, which is dry during the majority of the year, becomes the next piece. An elevated path would allow it to be experienced during the wet season. At this higher position, both sides of the border can be clearly viewed.
amphitheater

An amphitheater carved into both banks of the concrete basin would create the next node. This creates a forum for outdoor performances that could be viewed by both sides of the border. Here, viewers would be facing one another across the channel, sharing the performance. Concerts, theater, and speeches would carry sound to the neighborhoods across the border, allowing them to engage in the performance.

artist's canvas

The channel itself offers a unique canvas for installations. I have proposed that the channel be subdivided along the lines of the grid in Tijuana. Pulling Tijuana's ordering system into San Diego is another way to communicate exchange and a desire to weave the two cities together. This canvas stretches about a half mile to the west where the river opens up, running freely into the landscape.
**eco-center**
Here, the next node would mark this transition to the natural. An ecological center would provide a venue for discussion and education about the state of the local ecology. An existing water treatment plant (adjacent to the proposed eco-center) can help illuminate these issues.

**river valley**
At this point, the natural landscape becomes the experience. As it moves toward the ocean, it transforms from arid, desert scrub to a more fertile, cultivated region, and finally a wetland habitat.
habitat center
The journey toward the ocean would be punctuated by the final node, which would also relate to local environmental issues. This facility would be easily accessible from the Imperial Beach neighborhood to the north and could highlight the local habitats and preservation.

beach
And finally, we reach the beach. While the beach near the border in Tijuana (visible through the fence) is highly populated, San Diego's beach is desolate and underutilized.
architectural catalyst: designing a point of convergence
design concept

My strategy has sought to infuse this border region with cultural and educational elements to supplement the commercially based programs that currently epitomize this region. I believe that a single visionary project can begin to shift perceptions through its form, program, and intentions. In turn, this can foster investment and continued reinforcement.

To demonstrate these ideas, I have focused on one key project to act as a catalyst for this new direction of future development and change. The architectural investigation is a suggestion intended to provoke current attitudes about design in this region. At any level, the project begins to speak about the meaning and substance of this region. If it evokes something other than fear, alienation, and decadence, we are on the right track.

Like the urban strategy, the catalyst intends to celebrate this region as a point of convergence rather than separation. It builds off the same elements that inform the urban strategy: programs that captivate and educate, multiplicity that responds to the broad range of potential users, and sequencing that emphasizes the landscape. San Ysidro is made a more complete, well-rounded community, while simultaneously becoming a part of a broader urban strategy.
forces on the site

The project is sited at the easternmost edge of the urban site. It sits against the hills that rise to the east of the San Ysidro border crossing. This site is both an entry-point and a terminus. The rising hills offer an opportunity to look out across the rest of the sequence to the ocean. From that vantage, it is the common landscape that dominates the view. There are several significant forces acting upon this site.

climate
Climate is a fundamental attribute of this shared region. It is key to finding a design language that is appropriate, resonant, and efficient. This is a dry region, technically desert, with less than 10 inches of rainfall per year. Only 5 miles inland from the ocean, the air is dry from winds blowing off the desert mountains to the east. The roofs are intended to maximize natural ventilation. Screening devices would be incorporated for shading and glare reduction. With a bit of irrigation, the climate will support a wide range of plant life, which can help shade and humidify the air for cooling.
landscape
Landscape is the second given attribute of this shared environment. It acts as a critical form-maker, both in terms of topography and orientation. The design attempts to bring the hills into the project as a means of continually connecting back. This is particularly true where the gorge (between the hills behind) is pulled through the building at the northern entrance. The roofs begin to formally reflect the topography of the hills. The design was also influenced by the opportunity for views from the hills back out across the valley.

directionality
Directionality should have meaning and consistency. North-south movement refers one back and forth between the two cultures and social constructs. The east-west direction reinforces the converging landscape, moving from the ocean to the desert hills.

transportation systems
Transportation systems are critical to placement and entry-points. The freight train, the trolley line, the freeway, the pedestrian crossing, and the various access roads begin to form the openings and lines of the project. These networks are also influential in the massing of the project. The roofs rise and float at particular points to address important view corridors.
initial responses

Sketch about the relationship to the landscape and to view corridors
Collage study of program pieces to understand the scale and relationships of the program
View along the ramp
study model 1

Plan

Roofplanes

Entry plaza
View along the ramp
study model 2
View along the ramp
study model 3

Plan  Roofplanes  Entry plaza
program

The program is again used as a means of creating points of exchange, places for dialogue, and new methods of educating. It is designed to draw on existing uses as a means of enticing further exploration. Supplemental programmatic choices are intended as specific destinations. These destinations pull the intended user to opposite extremes of the project as a means of increasing overlap and education.

infrastructure
1. transport stop
2. retail

education
3. cyber-center
4. galleries
5. auditorium
6. school
7. daycare

connections
8. outdoor plaza
9. indoor plaza
10. paseo

vantage point
11. hillcrest discotheque
organization

activities
At the street level, the program is geared toward the public in transit and shopping. This layer deals with the fundamental services. At the south end is the transit center, where people wait for the trolley or bus, rent a car, and change money. This facility is two stories, with a food court above. Directly in front of the trolley stop is an informal retail structure that builds on the barter and exchange at the root of this region. The retail is intended to be very accessible and fluid, maximizing interaction.

The cyber-center is at the northern end of the project. This is a connective hub for education, employment opportunities, and other networking. This is a cornerstone of the project, fueling exchange at a variety of levels. The cyber-center is a more introspective piece, surrounded by a wall that wraps around the building to the north. This wall begins to operate as a billboard, addressing the southbound trolley while screening the activity inside. Because it would be a primary destination for the Mexican population, it begins to pull them further north.

The gallery spaces, rising up the hill, provide a flexible venue for installations that address border issues and other local concerns. These formal spaces are a counterpoint to the art in the landscape.

The auditorium can serve different components of the project, as well as the region. It provides a more formal gathering place as a counterpoint
to the amphitheater in the river channel.

The school is geared toward the local community of San Ysidro during the day, but can be opened up for a range of adult education and extension classes in the evening. It is directly adjacent to the cyber-center, maximizing the tools available for teaching and learning. This piece can be directly accessed from the neighborhoods to the north by way of the paseo. The school has a strong relationship to the hillside with multiple terraces and view corridors designed to establish a strong sense of place.

The day care center provides a safe and instructive environment for hard-working parents to leave their kids while they use the facility. This piece is carefully removed from the intensity of the program. It sits on the more private end of the project and is further screened behind the cyber-wall. Both natural and constructed outdoor spaces are accessible for outdoor play.

A final piece further up the hill provides an entertainment spot that offers a clearer view across the valley to the ocean, and across the border to Mexico. This was important to me as a means of reassembling or discovering the whole of the journey across the valley. People attracted to this entertainment spot might begin to see the region differently from this new perspective.
access

The project has three primary access points. To the south, a formal plaza offers a grand entrance for auditorium users, ramping up to the paseo, and connecting to the rest of the cultural pieces above. The second access point is through the informal plaza, which gently rises to the paseo in a series of terraces. This is the main entrance for the cyber-center. It is important to point out that the cyber-center, a major draw for the Mexican population, is sited at the north end of the project, while the auditorium, an important draw for the US population, is located at the southern end. Thus, the program is designed to encourage more overlap between the two populations. The third access point is at the end of the paseo, to the north. This entrance addresses the local community and gives a more immediate access to the educational facilities.

The project uses ample plaza and interstitial spaces, meant to encourage lingering and further interaction with the facilities. At the north entrance, the outdoor plaza is an informal, constructed landscape that draws on the ravine pulling through the building. It is terraced to encourage sitting, reading, or waiting for friends. The indoor plaza is a more formal space that marks the main entrance to the auditorium behind. This double-height opening reveals the roof of the auditorium to the passerby on the street. The paseo is the spine of the project, connecting the multiple elements while relating to the landscape.

interactions

There are three layers of engagement with the project. The street level is the most public, focusing on services and economic transfer. The second layer is also very public, but begins to be more about a cultural barter. This band wraps up and behind the service pieces, turning its back to the street. The final strand is more locally oriented and very removed from the street front. It pulls away to the north, reaching out to the local community, giving them a sense of privacy while connecting them to a rich set of opportunities.
sequence of views approaching and moving along the paseo

sequence of views approaching and entering the outdoor plaza
spatial experience

My ultimate intention was to explore aspects of form, space, and place as a means of heightening understanding of this region with respect to topography, environment, flows, and social issues. In this way, architecture becomes a tool for education. While I was unable to investigate this, I would like to mention some of the elements that I think are important in communicating these issues.

materials
Materials relate functionally to the climate and the environment. They should communicate exchange, overlap and visibility in their detailing, connections, and texture. Materials differ in speed and scale, speaking to us in varying ways, affecting our pace and comfort. They must be carefully selected to communicate at different scales and to different audiences within the program.

building edges
The building edge is about layers and filters. On the ground floor, the building opens to the street, but begins to focus on the hills and the landscape as one rises.
roof
The roof is a symbol from afar and a shelter from within. Its design must send a message about the unity and variety of the project. It must also reflect the climate, considering light and ventilation. In this way, it helps inform us about this place. Finally, the roof should work as a composition against the topography and the sky, complimenting the landscape.

views
Views are important as a means of relating to the landscape and to the social issues attached to this region. Design must focus on both view corridors from within and visibility from the outside. Most of the views of the project will be oblique rather than frontal. This offers interesting opportunities.

color
Color can begin to highlight particular movements and elements. It should be used to register important points, particularly as a contrast to the washed-out tones of the natural landscape and typical development.
final thoughts
reflections

This thesis has been several years and multiple classes in the making. During this period, I was in search of a site and a program. At the outset, I had in mind a building—a building that would try to accomplish all that has been mentioned. But as the thesis drew closer, I failed to come to any deeper conviction about the site or program. I felt certain it would come to me as an inevitable given.

I toured around the border in a VW "bug" convertible, kicking up dust in search of the appropriate site. The border patrol kept a close eye as our little bug went on-and-off-roading, boldly going where few, if any, had gone before. And in the dustbowl of chaos, I selected the most toxic, tortured, intense site I could find—planning to fix it all.

What began as a specific site evolved into a regional strategy that emphasized an experience, a life-style, an attitude. Those aspects of my thesis are the inevitable givens for which I had been searching. There are many aspects of the strategy that are intentionally unresolved, reinforcing the strategy rather than the resolution. I would like to have gone further into the design of the building. But this proposal is in many ways about a state of mind rather than an artifact. I absolutely believe in the potential for this mental transformation and am convinced of the opportunities for future engagement.
jury comments

The jury raised a number of very important points that must be left for the continuation of this research. Generally speaking, the comments focused on the architectural scale, where there was less resolution, but at the same time, enough to see and ask questions.

jury members

Carol Burns
Associate Professor, Harvard University Graduate School of Design

Renee Chow
Professor, University of California at Berkeley

Amadeo Petrilli
Architect, Milan
process
Because the process I used to understand the urban scale was so effective, there was unanimous agreement that this methodology be applied to the architectural site as well. Both the sectional analysis and the velocity study would be very helpful in connecting the programs and determining the joints and nodes. Perhaps I did leap a bit too quickly into the building scale, not arriving at it in the same studied way. This led to the recognition that perhaps a middle scale of this study would be useful as a means of making the transition from the urban to the architectural.

border
How does the building engage the border and the issues associated with it? This is a crucial question, and, in some ways, the most difficult aspect of the design. At the moment, the project reaches north and south to symbolize a desire for connectedness. However, architecturally, I have not yet explored this in depth. In some ways, I have ignored the actual border, in the belief that the physical wall is less significant than the cultural barriers. My project, then, addresses the border more from a programmatic standpoint than an architectural one.

topology
Development in southern California tends to be very grounded. Buildings tend to reach out horizontally, rather than climb vertically. It is important to understand this notion of groundedness in the design of both the urban and architectural pieces. My desire to reconnect with the landscape has magnified this low-lying quality of the project. Recognizing the need to punctuate and anchor the building, I developed vertical moments related to significant pieces of the project. However, given my stated desire to get up and look across the valley, some wondered if it might not be interesting to make a stronger vertical statement for this purpose.
resources

software
Adobe Illustrator, Adobe Photoshop, Adobe Pagemaker, Form Z

fonts
Garamond

editing
Carolyn Apigian

site photographs
Joel Apigian

maps and aerial photographs
USGS/EROS Data Center

remaining images
Michelle Apigian
organizations

American Friends Service Committee (AFSC)
US-Mexico Border Program
PO Box 126147
San Diego, CA 92112
Phone: (619) 233-4114
Fax: (619) 233-5247

Colegio de la Frontera Norte (COLEF)
Blv. Abelardo L. Rodriguez 21
Zona del Rio
Tijuana, B.C. 22320
Phone: (66) 30-04-11
Fax: (66) 30-00-50
UW Mailing Address:
PO Box “L”
Chula Vista, CA 92912

Institute for Regional Studies of the Californias (IRSC)
San Diego State University
San Diego, CA 92183-0435
Phone: (619) 594-5423
Fax: (619) 594-5474
Contact: Paul Ganster

San Diego Geographic Information Systems (SANGIS)
1010 Second Avenue, Suite 130A
San Diego CA 92101
Phone: (610) 702-0400
Fax: (610) 702-0410
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adaptation


migrant networking


literature


web sites

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RAND
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San Diego Association of Governments
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endnotes


3 Herzog, 1990, p. 163.


7 Ibid., p. B-6.


Ibid., p. 193.

Ibid., p. 61.


“Boldest Plan Gaining Way Along Border as Front Door.”

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