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PERSONAL FASCINATION

My personal fascination consists mainly of large, complex public buildings like airports, train stations, skyscrapers, etc. This kind of complexity must be organized to a large extent by architecture. For me, this is a challenge which I would like to implement in my project.

Furthermore, I’m in favour of abstract but also realistic art. This also refers back to my drawings where I try to represent an idea as realistic as possible, or the other way around, much more abstract to only show the very essence of the idea without distraction.
During the first weeks, I had the idea to design a community/educational centre. Therefore, I have gained some information about education and schools in both cities.

Besides that, a more general research have been conducted about violence and prosperity in the metropolitan area.
Figure 1: Diagram of El Paso - Juárez showing the imbalance of Mexico to the USA. It also points out the few affordances in the city.

Figure 2: First analysis of affordances for the Chamizal zone.

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Inhabitants

- Ciudad Juárez
  - Metropolitan area: 1,532,004
- El Paso
  - Metropolitan area: 836,698

El Paso

- Less than 9th grade: 17.6%
- High school degree or higher: 71.4%
- Bachelor degree or higher: 19.7%

Netherlands

- Only elementary school: 7%
- High school degree or higher: 93%
- Bachelor degree or higher: 28%

More indirect connections and corporation with El-Paso new links between the cities in the "transition zone"

"Transition zone" = safe haven in Mexico to catalize social improvements that benefits Juárez.

Increasing the quality of life in Juárez is needed to create a less tense border region. Improving the city quality and the living conditions of the inhabitants will eventually lead to economic opportunities for both the US and Mexico.
El Paso

Ciudad Juárez

Proposed location

800 meter

10 min walk
Figure 3: The location of public libraries in El Paso and Juárez. The map clearly shows that the ratio of libraries are lower in Juárez than in El Paso while Juárez has more inhabitants. This proves that there is an imbalance in public services between the both cities.
Figure 4: The location of schools and universities in El Paso and Juárez. The difference between the two cities is less visible. On the other hand, the appearance of each school and university in the US is much better than in Mexico. Schools in Juárez are depleted and old while schools in El Paso seem to be very new.
Figure 5: Homicides in ciudad Juárez. It’s clearly visible that most homicides are concentrated in the city centre and the border region. Therefore, this part of the city deals with the biggest problems, caused by the ongoing violence.

Figure 6/7: Being murdered is death cause number one in Juárez. Murder rates peaked in 2010.
Figure 8: Prosperity on the other hand, is mainly located in El Paso on the northeast side of the city. The neighbourhoods in the vicinity of the border are relatively poor.
Figure 9: Area’s/cities with many drug-related murders. The bigger the circle, the more victims.

Figure 10: Major drug trafficking routes over land and sea. Most routes lead towards the USA and in particular a few border cities.
Figure 11: Major drug trafficking routes and areas with many related murders are inextricably connected. The city of Juárez is apparently the city which suffers the most from the drug trafficking.
In general and in contrast to American cities, Mexican cities don’t have many public facilities as Theatres, Museums and other cultural institutions. Also, Parks are lacking in many cities. This is striking, because social life is mostly takes place outside in the open air, just as sports and leisure.

An example of this outside life is the central square and e.g. the Chamizal zone where sports and fairs are being held. These places are popular and are appreciated by the local citizens, but are also non-existent in most cities.

Conquer prejudices and stimulate American involvement in Juárez is therefore needed.
People in Juaréz are in general poor and don’t have much. In contrast to that, they seem to have a rich social life and tight families. Social interaction seems to be more intensive and occurs on the streets and squares. Social interaction in the public realm is clearly lacking in the US, where cars have taken over the public space and where neighbours are not as easily to approach as in Juaréz. US streets are anonymous and especially their shopping malls, whereas markets in Mexico are a source of social interaction.

Fig. 11: Mexicans hanging out on the main square of Juárez.

Fig. 12: The main square of Juárez.

Fig. 13: A typical abandoned street in El Paso.
Some Mexican families live in the USA. Other family members have to stay in Mexico. For the ones who stay behind, it can be impossible to visit their family or friends at the US side of the border because of e.g. a criminal record or if they have once illegally crossed the border. Once in a while, families are being reunited for a few minutes in between the border. This is an emotional and also tragically event for many families who haven't seen each other for years.

There is a need for a space where families can meet and interact, without crossing the border.

Also, a memorial for the acknowledgement of the people who didn't survived their border crossing is missing.
The small city centre of Nogales is orientated on price conscious US citizens who are looking for a cheap dentist or medicines. Also, people go to Nogales to go out, have a cheap dinner or buy souvenirs.

On the other hand, due to the presence of the border fence, people are being reminded every day of the fact that they're not 'welcome' in the USA without a good reason. Others are even not permitted to go to the USA due to a (criminal) record. This hopelessness and enviousness creates an environment where people don't take the right decisions. An environment and facilities that help those people make their lives more bearable in Mexico will improve the prosperity and social cohesion on both sides of the border.
Proposal and ideas

Twofold project

Based on the previous findings, I would like to propose a political neutral strip (no official neutral area) in between the two countries where citizens of both cities can benefit from. Americans should be encouraged to do voluntary work and participate in social activities here.

This space should embrace the strong Mexican sense of community/social interaction, and the American values on safety and respect in order to create a better understanding of each other.

Because of the fact that almost every citizen of Juárez wants to immigrate to the USA, a place where they can prepare themselves for emigrating is needed. This place should also have a positive impact on the people who are left behind in Juárez. But in order to do that, first the past needs to be left behind and must be accepted. A memorial space or cemetery for the victims of the violence and female homicides is required to give consolation.
The determined functions that are required in Juárez/El Paso should be divided in two categories: **Past and Present**.

Functions that can be placed in past are a **monument** to remember the innocent victims of the drug related violence and a **cemetery**.

Functions for the present building can e.g. be a **teaching facility** or a place where American citizens can interact with Mexicans to take away prejudices.

Suitable functions can be **sport facilities, event places, a theatre, or a shared community centre.**

For the masterplan, aspects which make other parts of Mexico attractive for tourists and elderly people are good to be implemented on the site. This could be services like good restaurants, healthcare centres and nature (e.g. the beach in Tijuana).

**Volume and space**

Orientated on US runshoppers

Fig. 21: American and Mexican people should interact more with each other. The architecture and urban design should enable a self evident route to the site.

Fig. 22: The building blocks should be in equilibrium with each other.

Fig 23: Building blocks located on both sides or only the Mexican side?

Fig 24: Functions and interaction between the blocks.
Embassies always have to deal with border conditions because they are actually countries within another country. Since the first embassies have been built, questions were raised on how to deal with, among others, the border, culture, building traditions of the two countries. The solutions architects provided for those buildings are very applicable for a bi-national building on the USA-Mexican border.
Embassies, border or bridging building?

Design policy announced by the State Department’s Office of Foreign Building Operations (FBO) in 1953. Challenge: how to combine widely disparate building traditions while pleasing an array of users and on-lookers like clients, foreign hosts, local critics and critics back home.

Aim: building abroad to serve both countries
- Respecting local sensibilities
- Reflecting local history and tradition
- Adapting to the vagaries of local climate and site

Figure 1: The Dutch embassy in Berlin, designed by Rem Koolhaas (OMA)

Figure 2: Embassies before WW I had often mirrored American landmarks like the embassy of Finland (after a Virginia plantation house). The map above is the French embassy.

Figure 3: The US embassy in Havanna was interwoven with the public. Courts and gardens where free and accessible.

Figure 4: The US embassy in Frankfurt: openness by using glass. Semi-public courtyard.
Figure 5: The architect of the US embassy in Ghana was inspired by African spears when designing. The building has been described as a glass box raised on stilts and wrapped in wooden shutters. It's open, accessible and features design details with regional connection. The ground floor is completely open and accessible for the public.

Figure 6: The US embassy in Greece by Walter Gropius. The design was highly influenced by the Bauhaus and the Parthenon as a reference. The garden around the building used to be a public space but is now fenced for security reasons.

Figure 7: The US embassy in New Delhi was designed by Edward D. Stone and by Frank Lloyd Wright regarded as one of the finest buildings in the last hundred years. The building is known for its collaboration in design and craftsmanship between India and the US. The two story glass building is wrapped in a white sunscreen and cantilever to deal with the Indian climate in the best possible way. Local materials have been used like stones from the Ganges for the pavement.
Figure 8: The embassy was designed by Marcel Breuer, an Hungarian-American architect. He designed a very formal, compelling diplomatic building, opposite to most of the embassies being built around that time. The building was designed as a functional modernist object. The building exists of three major volumes, connected by walkways. This functional arrangement is being expressed in a clear floor plans and a monolithic external facade, only interrupted by well-placed voids for i.e. the entrance. The American modernism is being expressed by a more open, expensive and decorative design.

Critiques after completion were mainly about the lack of conductance with the direct surroundings and the alienation of the building with the adjacent build environment. Only the building heights and dimensions are aligned with the surrounding buildings.
Figure 9: The former US embassy in Mogadishu, Somalia was in use between 1960 and 1991. In 1991, a civil war meant the evacuation of the embassy. The embassy has been built as a big enclosed garden where the staff could work and live. The embassy itself was located within an extra secured and fenced area.
Nowadays, Embassies have become fortresses. Embassy architects can no longer enjoy the luxury of borrowing foreign themes as a way of expressing goodwill. They now face the challenge of finding ways to couple the demands of diplomatic representation with adequate defence.

Figure 10: The USA embassy in The Hague after 9/11. Clearly visible are the huge fences and police surveillance.

Figure 11: USA embassy in Havana. This embassy used to be very open for the public, but nowadays it is enclosed by high fences.

Embassies, border or bridging building?

After 1970 and 9/11
The Dutch embassy is in contrast with many other contemporary embassies and representative buildings. Its aim is to be transparent and open to the city. Voids in the urban block and transparent materials enable an open design.

Due to safety, the building is not easily accessible, but it has formed itself in the surroundings with respect to the city.
The angled ascending staircase can be regarded as the leading route through the building. It shows the user/visitor the river Spree, the Fernsehturm and the surroundings. Its detached from the facade structure. All functions in the building are organized along this route.

Also the material refers to the city itself. For example the concrete refers to the Berlin wall.
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Borders are no longer reduced to the location of political entries

Third dimension border: the sky
Leaving/entering a country within the county itself.

Only traversable at the location of the political border

2D border
Leaving/entering the country at the physical border

Borders evoke a feeling of emotion: Freedom/despair/etc.

Borders become more easily to cross, but are by no meaning trivial or insignificant.

Tedious waiting

Figure 20/21 Diagrammatic visualization of possible border crossings around the world.
Our guided tour through Juárez made me realize that despite the decreasing criminality and relative safeness, the city is still not a place where most people wish to live. The city itself doesn't provide much opportunities for its citizens to increase their prosperity level. Inhabitants see the city as a stop-over for their legal or illegal immigration to the USA. Very few people have their roots in the city. Francisco part of the small group of inhabitants who has lived in Juárez his entire life. Most of his fellow citizens are immigrants from all over Mexico in search of a better life. The fact that many people don't desire to live in the city results in temporary low quality build houses. If people manage to get a USA permit or decide to cross the border illegally, they will abandon their houses. This leads to ghost neighbourhoods in Juárez.

In order to understand this current urban situation better and how to deal with it was the reason why I conducted a small research on the urban grid. An intervention in the urban design can decrease the cities problems.
The city grid of Juárez is (according to Francisco) not planned by the local government itself. Although the grid looks very planned and drawn, it’s constructed by the inhabitants themselves. The city of Juárez elaborates further on this informal grid when constructing city utilities.
The city centre of Juárez has become a cosy and beautiful place for social interaction since the road has been buried underground. The historical buildings still mark the centre of the city. Due to these kind of government interference, the main shopping street from the border to the square has been refurbished and looks relatively appealing.
Nogales

Nogales has a planned city centre adjacent to the border. Informal slums are being built in the direct surroundings where tourists usually don’t go. The tourist-dwelling areas are clearly defined by the striking difference in building typology.

Tijuana

The city centre of Tijuana is bigger and seems to be better planned. A significant part of the city is relatively properly built. The tourist, shopping and retirement industry has probably a big impact on the urban planning in this town. Nevertheless, slums are still in abundance around the city. The city is in general more focussed on the city centre and it’s tourists.
Qualitative public spaces are key factor for each lively and attractive city. I’ve done a brief research on public squares both in El Paso as in Juárez in order to find out what the main characteristics are for a successful public space in a bi-national environment.

The conclusions of this brief research are:

- Safe public spaces are popular
- Music, events and social ties are key factors in Mexican social life
- American public spaces mostly lack these activities because social life takes place at e.g. malls or at home rather than on the streets
Plaza de Armas

The oldest and most popular square in town

Qualities of this square:

- Shade
- Social interaction due to vicinity of the church, market and shops.
- Benches
- Music, performance

Important aspects why people gather here:

- Social meeting point, landmark
- Church is important in Mexican daily life
- Shops, markets in the surroundings
Qualities of this square:

- Neat
- Shade

Missing qualities:

- Not being used often
- City centre is abandoned
- Park needs ‘entertainment’
  (Crocodiles?)
Plaza Benito Juárez

Event square

Qualities of this square:

- Shadow
- Public transport
- Public toilets
- Event place
- Benches
- On route to the market

Missing qualities:

- Not popular when no events take place
Plaza Misión de Guadalupe

Former parking lot

Qualities of this square:
- Openness
- Public transport
- Public toilets

Missing qualities:
- No shade
- Impersonal
- Too big
- No relation with surrounding social places
- No public events here
Two interior models have been made in order to emphasize some critical design features of the future building. The models show some possible starting points for the building design.

Routing on multiple levels enables views throughout the building.
roof structure provides indirect light

closed parts orientated towards the south
My P1 presentation focussed on first restoring the original glory and qualities of how Ciudad Juárez used to be before the violence. Following on that, I've pointed out the violence problem and the specific site problems where the future building will be located. At the end of the presentation I proposed a possible building program and some inspirational references.
The city has a rich history since it was founded in the 18th century. Periods of economic growth, stabilisation, and decline characterize the history of the city. Hence, the city has always been benefit from the trading routes between the US and Mexico. Immigrants, labour, tourism and eventually drugs have formed the city over time.

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**History of Ciudad Juárez**

**Figure 1**: Graph illustrating the number of employees working in the maquiladoras in Ciudad Juárez. This increase coincides with the economical growth of the city.

**Figure 2**: A chronological timeline of the development of Ciudad Juárez.

**Figure 3**: Former glory of the city of Juárez.

**Figure 4, 5, 6, 7, 8, 9** (next two pages): Juárez as it used to be and the current situation: the city lost its charm and quality.

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Since the 90’s, Ciudad Juárez encountered many violence related problems. Nowadays, this has resulted into the lack of a proper memorial site, acknowledge from the government, lack of safe and secure spaces for woman and families and separated families on the other side of the border.

58,1% / 38,7%

of Cd Juárez citizens feels unsafe

of Mexican citizens feels unsafe

Death toll Mexican drug war

60,000 - 120,000

Estimated victims between 2006-2013

Innocent victims of the Mexican drug war

1000 children

395 - 532 servicemen

58 Reporters

4020 policemen

Femicides

370 - 1000

And many more missing

First five murderers convicted in 2015

Deceased immigrants on the Southwest border

Since 1990

971

Unidentified remains found
Six women murdered each day as femicide in Mexico nears a pandemic

by Judith Valtierra | January 4, 2016 8:08 AM ET

The carnage isn’t just in border town Juárez, with the largest number of victims in province of Mexico state.

Topics: International, Mexico, Crime

Q&A with Molly Molloy: The Story of the Juárez Femicides is a ‘Myth’

For years, a specter hung over Ciudad Juárez, the largest city on the Texas-Mexico border, known for its gruesome “femicides”—the murder of hundreds of women. The murders, held to be predominantly mysterious and sexual in nature, grew in the public’s imagination. Juárez developed an international reputation as a place of horrific violence against women, a reputation that has become an internationally dominant narrative about the city. The femicides of Juárez have sparked artistic and academic study, and become a major part of artistic and cultural depictions of life in Juárez—from the Troy Aiken song “Juárez” to Roberto Bolívar’s novel 2009, to Fox’s recent drama The Bridge.

Femicide in Juárez is Not a Myth

A vocal group of American critics claims that Juárez is not a place of disproportionate violence against women. Here’s why they’re wrong.


Site problems

Figure 13: proposed site in between the border bridges

Figure 14: Main shopping streets in dark green and the city centre in light green

Figure 15: Infrastructure and proposed city centre connection.

The two cities are segregated by a huge void in between the cities. The border is just a fraction of this void. Furthermore, an extensive network of infrastructure is obstructing the view between the two cities and a physical connection consists of only two bridges. Those bridges are not inviting and are responsible for long waiting times.

Reduce the amount of segregating elements and infrastructure

Decrease the physical distance
Site problems

Border region in between the city centres

A new physical connection allows the both cities to connect in a more qualitative way and it relieves the pressure on existing border crossings. Furthermore, a new bridge will stimulate the development for the underdeveloped areas in the vicinity of the shopping streets.
The two city centres are in the vicinity of each other, but don’t act as one

The infrastructure (roads, railways, water channels, bridges) amplify the segregation

Shopping streets act as autonomous areas and don’t interact
Program proposal

Family memorial centre

Considering the shortcomings of both cities and especially the needs of the city of Juárez, I propose a family memorial centre where families can gather in safety and can be reunited with their love ones from the United States. In order to document and exhibit the dark history of the city (violence, femicides, etc.) an information/documentation centre is needed. Here, people can reconcile and mourn. Workshops, music and performance will stimulate the spread of the positive aspects of the Mexican society.

Figure 19: programmatic diagram shows in what way the functions will interact with each other and the border.

Figure 20: Proposed program

Figure 21 (next page): collage of references for my program proposal.

Family memorial center  +- 10.500 m²

Documentation/information center  +- 2000 m²

Chapel  +- 500 m²

Gallery & workshop space  +- 2000 m²

Music/preformance facilities  +- 3000 m²

Social spaces  +- 3000 m²

Cafe/restaurant/living room/child care facilities/meeting rooms/resource center
In order to solidify a programmatic proposal and learning from similar buildings a few buildings have been examined. The case studies provide me a more in depth knowledge about the type of building I would like to design.
With this building, the architect wanted to achieve a powerful design. Due to the extraordinary long volume and the use of just a few key materials, the architect achieved to design his powerful architecture.

The building is located in the middle of a forest, and traces the original road witch was there before the concentration camp. Visitors always walk over this path witch is now implemented in the design. It is possible to pass by the building without entering it, but the pedestrian always feels the presence of the building. The path is open towards the skies but is enclosed by concrete walls.

The place where the building ends is a few meters on the former concentration camp site. Here, the building is raised just above the ground out of respect to the victims and site. A big wide window allows a panoramic view over the site. The concept is that the building itself is on the background and that focus can be laid upon the documents inside. This is also the reason why colour is lacking in this design. In this way, the building is appropriate for the site and history.
Figure 5/6: The section clearly shows the longitudinal design of the building. The openness of the interior is strengthened by the horizontal architecture.

Figure 7/8: The end of the building hangs a few meters over the former concentration camp site. This emphasises the dark history of the site. The open windows on the other hand enable a panoramic view, to get a full insight on the surroundings.

Figure 9: The longitudinal architecture is parallel to the former road used to build the concentration camp. This road is reused as an access path to Bergen-Belsen concentration camp.

Figure 10/11: Reduced diagram of the floor plans

Figure 12/13: Functional diagram of the floor plans.
It’s striking that the left side is the serving part with offices and a restaurant, while the right side is mainly designed as a documentation centre. This is also emphasized by devising the two sorts of programs in two volumes.

Figure 14: North view of the building. This is the place where the building cantilevers over the historic site.
The concept of this memorial is not to be a formal memorial site. Visitors are asked to experience the site by their own on their own way. Therefore, there is no entrance. When entering, the blocks become more impressive. The noise from the street will fade away and disorientation will overcome the visitor. The homogeneous colour, cement, and aseptic matter create a feeling of loneliness and emptiness.

Below the concrete blocks, a memorial centre is located. This underground space is dedicated to historical documents which are exhibited in the four square rooms. The room dimensions are aligned with the blocks above. Light grey walls and glass flooring also reflect the patterns of the ceiling. After the first room which functions as an introduction room, three themed rooms follow: Room and Family, Room of Names and Room of Sites.
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**FACULTY OF LAW, UNIVERSITY OF SYDNEY**

Architect: FJMT  
Location: Sydney, Australia  
Area: 32000 m²  
Constructed: 2009  
Number of students: 1700 (undergraduate)  
1500 (postgraduate)  
100 (postgraduate Research students)

With this newly designed faculty, the architects tried to bring back the dialectical relationship between the campus and the city. The goal was to expand the public domain and open the university to the community and the surroundings beyond. Therefore, the building had to be carefully balanced on the plot.

In order to create the visual connection, the building exists of a podium and superstructures above. This creates the extended public domain. The library and teaching spaces are placed within this podium. The superstructures above splinter the remaining functions into separate parts. These parts are only visual connected or with a suspended glass bridge witch acts as a threshold of city and campus.

The design process had a focus on the process of learning. Important aspects where the combination of the structured/unstructured, formal and informal, expected/unexpected and the physical with the virtual. Together with the strive for an uplifting environment made possible by fresh air, comfort and natural light, the architect aimed to enable and inspire students.
Figure 25: Ground floor (library) including program and functional diagram

Figure 26: First floor including program and functional diagram

Figure 27: Second floor (on the university ground level) Here are only staircases, elevators and a restaurant located to keep the view as much open as possible.

Figure 28: The floors above are meant as office, workspace and seminar rooms. There are four of these kind of levels.
2360 m² Library (incl. work tables) 175 m² Compactus 430 m² Open reserve & stack

76 m² Dual or individual 135 m² Reading room 165 m² Group workroom 580 m² Common workroom

900 m² Seminar room(100m²) 840 m² Seminar room(120m²) 80 m² Seminar room(40m²) 140 m² Computer room (40m²)

480 m² Lecture hall (4 x100 pp) 300 m² Lecture hall (300 pp) 337 m² staff pace library 40 m² Library information

1520 m² staff office

120 m² Lounge 200 m² Restaurant 400 m² Staff workspace 144 m² Board room 120 m² Mock court
Figure 29/30: sections of the university building and surroundings. Clearly visible is the relation between the park and the other university buildings. Much effort has been made to connect them in the best possible way.

Figure 31: Visually, the campus and the park are connected by the voids in the design. Walking between the areas is also stimulated by giving back area to the public realm.
Over 6 million people in Colombia have died because of the internal conflicts of the country. The special thing about this project is that this conflict is still ongoing. During the construction of this project, victims and involved people in the internal conflict where asked to contribute to the complex. Over 2000 people contributed to the construction. Objects, memories, notes etc. where implemented in the building by glass tubes.

The main volume of the building has two symbolic meanings. One is the fact that land ownership was the origin of the Columbian conflict. Therefore, the building doesn’t stand out of the site, except for the tower. Secondly, the tower corresponds to (by its twenty layered facade) the 200 year old Colombian Republican history.

The complex as a whole is accessible from the west, east, north and south, but without obstructing the view. This because the majority of the building has been constructed underground. A big water pound has been placed on top of the roof so the park continues over the site.

After completion, the remembrance centre has become a symbol for the peace process which is going on in the city/country. The building also disseminates a culture of peace, social pedagogy actions and respect for human rights. This is done by hosting cultural and academic events. The complex has become a hub for peace activists.
Figure 35: Simplified floor plan -1, where most functions are located. The courtyard is located in the middle and leads towards the monolith in the middle. The space on the right is a parking lot.

Figure 36: The ‘ground floor’ where the auditorium and dressing rooms are located.

Figure 37: Diagrammatic section shows the relationship with the surroundings. On eye level, the building is almost completely invisible. Only the memorial monolith is visible. Visitors can freely walk through the complex.

Figure 38: Diagrammatic section in the other direction also shows the invisibility on eye level. An intimate space unfolds itself when walking though the courtyard/walkway on level -1.
Figure 39: Eye level view towards the Memorial centre

Figure 40: View on the courtyards and water ponds above it

Figure 41: The facade is made out of 20 layers. Each layer represents a decade in the history of Colombia. The 20 layers altogether symbolize the 200 anniversary of the republic Colombia.

Figure 42: Diagram of the creation of the design volume: The monolith consists of 200 layers of history from the ground, therefore the volume is raised from the ground. In order to create an unobstructed view; the main volume is lowered down to -1.
9/11 memorial and museum

Michael Arad, Davis Brody Bond

Architect: Michael Arad, Davis Brody Bond
Location: New York, United States
Area: 15,000 m²
Construct: 2011 (opening)

The 9/11 memorial is being opened 10 years after the 9/11 terrorist attacks. When entering the museum, the visitor will first go through the Snohetta designed pavilion. This pavilion bathes in natural light. After that, the visitor will decent to the first memorial hall which is slightly sloped. Views and spatial interventions give the visitor many different impressions along the route. The viewing platform will enable the visitor to understand the vast scale of the underground building. The lowest level of the museum consists of two big halls, where the last remains of the original WTC are visible. Exhibitions below the waterfall boxes give the visitor a more in-depth experience and provides information about 9/11.
Figure 45: The building consists of four levels. The entrance level is on the ground floor. Visitors can go to the auditorium and cafe first if they like. The visit of the actual museum will start when the visitor goes down the staircase next to the facade fragment of the WTC. When going down, the ramp will lead to the underground spaces where the exhibitions are.
Figure 46: Serving spaces are located around the museum route. Most spaces are underground.
This memorial is located in one of the most well-known parks in Mexico City. The ministry of defence donated the ground in order to construct a new memorial. The memorial memorizes one of the most contemporary issues in Mexico: the drug related violence and the innocent victims. The openness resembles an open wound, but it also strives to open-up the city and an appropriation by the citizens.

Violence is visualized by voids and masses. The trees in between conserves the forest identity of the surroundings. The voids reminds the visitor of the absence of the victims. The steel walls show that we can lose ourselves, or multiply ourselves. The rust means the marks and scarves in our lives, while the stainless steel is used to reflect on the living elements like humans and nature. Concrete pavements are used for walking and reflection.
Figure 50: Scale comparison of various memorial buildings on site.
Figure 51: programmatic comparison of the researched case studies.

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<th>serving sp.</th>
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<td>exhibition space</td>
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<td>theatre/lecture hall</td>
<td>staff/serving coffee bar</td>
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<td>victims attention center</td>
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<td>changing rooms</td>
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Due to the conducted case study and problem statement, a programmatic scheme and building can be proposed. This resulted in the proposal of building the border institute of justice & commemoration:

The border institute of justice & commemoration

A co-operation between the University of Texas, El Paso and the Mexican government

1. Chronicle the violent past and committed crimes by preserving and analysing data and information

2. Heal and reconnect the city and country

3. Raise awareness, reconciliation, and pursue public involvement

4. A permanent hub for violence studies and conflict resolution
Stakeholders

The Institute for International Criminal Investigations (IICI) is an independent, not-for-profit, non-governmental international organization constituted for the purpose of providing criminal justice and human rights professionals with training in the techniques and knowledge necessary to impartially investigate and adjudicate egregious human rights violations, war crimes, crimes against humanity, and genocide, and for the purpose of quickly deploying multi-disciplinary teams to investigate such violations or crimes. IICI courses are designed after extensive consultation with experts in the field of international investigations and prosecutions. The Institute offers both a comprehensive International Investigator Course, covering various aspects of international investigations, and specialized courses in specific skills such as interviewing, analysis, documentation of crime scenes and investigation of sexual and gender based violence.

The university of Texas, El Paso will be the second stake holder. The idea is to add an additional faculty of conflict resolution, human rights & violence in Ciudad Juárez. This enables students, teachers and other researchers to operate in the field and apply their gained knowledge immediately.

Mexican government: Governmental institutions like schools, the police and the court will benefit and use the border institute of justice & commemoration.
Figure 1: A diagram showing the relation between functions and the degree of privacy.

Figure 2: Connectivity and routing are displayed in this image. Several routes intersect, which allow visitors, students and employees to meet and interact with each other.
VOLUME STUDY

In order to determine the perfect shape, orientation, size, etc. I have conducted several studies. These studies were carried out with Sketchup, foam blocks, and on paper.
Figure 1, 2, 3, 4, 5: clockwise: Long rectangular volumes obstruct views and the extend of the site. A tower might functions, but is very alienated from existing buildings. The huge open space and the high density at one spot are in big contrast with each other. Zoning the volume also doesn’t really help solving the problem. The sketch shows that a tall building will be 15 times higher than 90% of the surrounding buildings. On the other hand, some high rise buildings in El Paso are higher but are farther away than the adjacent buildings.
Figure 6, 7, 8, 9, 10, 11, 12, 13: clockwise: A more organic shape refers to the mountains that surround the two cities. On eye level, this form feels more gentle and joins the building to the cities.
Volumetric proposal #1

Volume studies

Because a longitudinal/horizontal volume obstructs views and people, and because a vertical tower alienates itself from the site, a more open volume was proposed.

Figure 14: The sketches show a volume that is lowered down one elevation into the ground to enable an unobstructed view towards each direction.

Figure 15: Same volume, which enables an unobstructed and accessible view from all directions. In the middle, a 'special' can be created (monument, statue, etc.)
Figure 16, 17, 18 clockwise: a eye level view enables a visual connection with the city and the surrounding mountains. Differences in volumes and a lowered ground floor allow the building to form itself towards the city and the landscape.

Figure 19:
1) four volumes
2) creating a central midpoint/square
3) differences in height to get the required floorspace
4,5,6) a gradual opening towards the both cities will work as a funnel.
Figure 20: Bird eye view

Figure 21: Eye level view from El Paso

Figure 22: Eye level view from Juárez

Figure 23 (next page): collage of the proposal. Public functions are visible in the plinth of the building. Different materials are chosen for the outermost facade and the innermost facade.
Volumetric proposal #2

Volume studies

Shifting volumes and programmatic boxes allows to freely design a volume while taking into account the required spaces and square meters.

Figure 24: Sketch of a volume divided into a horizontal and a vertical part.

Figure 25: Programmatic solidification of the program.
Figure 26: Several sketches about a possible building configuration. Key elements are the tower with a memorial route, and the theatre, auditorium and library on the ground floor. The elevated middle square connects all the functions of the building.
Figure 27: Sketches emphasising the memorial route and programmatic configuration of the tower.
Figure 28: The idea was to break-up the tower into offices and research, and on the other hand an integral memorial route through the entire building.

IICI + Faculty
195 m² per floor (incl. serving)
Total of 975 m²

Museum and memorial
225 m² per floor (incl. serving)
Total of 1300 m²

Museum + IICI + Faculty
15m x 15m
225 m² per floor
Figure 29: The tower proposal with the determined program. The memorial route can be seen on the right. Below, the whole building can be seen. The entire complex clearly exists of a horizontal more public part and a more private part with offices, interwoven with a memorial route to the top.
In this proposal, the programmatic boxes are arranged along an elevated walkway between the cities. This walkway is elevated because much of the obstructing elements like trees, infrastructure are on ground level. The elevated walkway enables visitors to see and experience the whole environment. In this early proposal, the tower is still implemented in the variants. The idea was to place the university/IICl annex in it.

Figure 30: Schematic model of the elevated walkway and the functions adjacent to it.

Figure 31/32: Possible programmatic configurations.
Figure 33: Volumes aligned in a row. The walkway is located in between the volumes. The total complex covers the whole site.

Figure 34: Here, the volumes are gathered around an elevated square where most functions have their entrance. Mexican orientated parts of the volume are orientated on the south, while American volumes are on the US side of the elevated walkway.

Figure 35: In this variant, the volumes are concentrated as close to the border as possible.
Figure 36: A volume close to the border can offer a view on the border itself, which can be meaningful for a memorial centre/museum. Overhanging volumes will increase the effect of relating to the surroundings.
Figure 37: Carving out volumes enabled me to relate to the site in an intuitive way.

Figure 38 (next page): The carved-out volume has an overhang over the border ditch to relate to the border conditions. A sloping form has been created to make the museum and the memorial a continuous walkway upwards. When the visitor ends up on top, they will have a wonderful view over the city.
Figure 39: another study about a volume bridging over the border ditch. By integrating an elevated walkway in the volume, the building can embrace it and allow visitors to exit this walkway to enter the museum/memorial.

Figure 40 (next page): Another option is that the museum/memorial route will begin at ground level on the Mexican site, all the way up to the top in the middle of the border.
Programmatic proposal #1

Volumes adjacent to walkway

Figure 41: accessibility for visitors is displayed in this image. Illegal immigrants can also enter the memorial due to the neutral zone.

Variant 1 consists of a volumetric proposal in between the two political borders (The building is actually constructed on the Mexican side of the border). The idea is that functions like the auditorium, museum and restaurant are accessible for everyone. Therefore, they can be reached from Mexico. Functions build in the neutral zone are easily reachable for Americans and enable a certain safety level.
Figure 42: The idea is that the car border crossing is underground in a tunnel. This will lead to an open and accessible site on the ground. Memorial routes are visualized in red and blue lines. The green lines resemble entrances.

Variant 1: First level in neutral zone between USA - MEX, ground level in MEX
- Ensures safety for visitors and investigators (security zone)
- Enables illegal Mexicans in the USA to visit the memorial center.

Two border checks don’t allow multiple level interaction

The renewed permit holder border crossing will also function as supply route and staff parking space.
Programmatic proposal #2

In this proposal, all the building components are on the Mexican side of the political border. This leads to an open design which is easily accessible for Mexicans.

Figure 43: the political border is located on the geographical border. All the volumes can be accessed from all directions.
Figure 44: The memorial route will start on the Mexican side, the downside is that it is not in reach of illegal immigrants on the US side.

Variant 2: Complex completely on Mexican soil, so interaction between levels possible.
- arrangements of functions is more flexible
- multiple level interaction

Functions enable multiple level interaction

The renewed permit holder border crossing will also function as supply route and staff parking space.
Programmatic proposal #3

The third proposal consists of a building where the border check is in the middle of the ensemble. The library and university are therefore easily accessible from the US. The museum can be entered on the Mexican side. The museum itself will play with the border conditions by crossing the political and geographical border while on the other hand visitors will not really cross the border.

Figure 45: functions are separated by the border condition. However, the museum will play with the existing border conditions by stretching over, but not letting people cross it.
The renewed permit holder border crossing will also function as supply route and staff parking space.

**Variant 3: Shared bordercheck on Mexican side.** University/IICI, library on USA side, Museum, Restaurant & auditorium on the Mexican side.

- multiple level interaction possible on both sides in each volume.
- Memorial routes for both countries without border check.

**Figure 46:** Memorial routes can start on both sides of the political border. At the -1 elevation, a border checkpoint is on the Mexican side.
Figure 47: The museum volume from programmatic proposal #3
First, a block at the edge of the geographical border was placed. A void to accommodate the road was created. Subsequently, space under the pedestrian bridge will be occupied. A cantilever over the border ditch will give symbolic meaning to the building and enables a better view.
An entrance is added for visitors at the left side (south). A better volumetric connection will be made with the open space in Ciudad Juárez.

Figure 48: Another proposal for a museum volume. Here the volume will cantilever over the pedestrian bridge where visitors can enter the building.
Volumetric proposal #4

Volume studies

This volumetric concept is mainly orientated around the museum/memorial route. Therefore, first a sloping volume was drawn. The auditorium is placed within this winding part of the building. The university and IICI are placed underneath it.

Figure 49: The base of this concept is the sloping museum route. The other functions are placed in between, or underneath it.
Figure 50: Diagrammatic 3D views of the complex showing the sloping memorial and museum route which lead to the top of the building.
Figure 51: Additional study about a form/shape
SITE ANALYSIS/URBAN DESIGN

The chosen location is in between the city centres of Juárez and El Paso. There is only one pedestrian route between the two city centres. The consequence is that only this route has been developed. Behind this lively route, the city is not developed and abandoned. Therefore, this area needs to be improved and stimulated in order to redevelop those areas and to reunite the two cities.
Site analysis

Gaining information and insight on the chosen location

First, some maps were made to define open space and infrastructure. Those maps are useful in order to define the best spot for a new building. It is clearly visible that the empty strip adjacent to the border needs a building to bridge the physical distance between the cities. Good positioned infrastructure can accelerate the development of this area even more.
Figure 2: This study was made in order to determine a proper building height which is in relation to the surrounding buildings.
Figure 3/4: Shortly, I've been thinking about a sloping bridge that covers the border region. This concept has been developed by Rem Koolhaas for the city centre of Almere. Unfortunately, it can't be applied here because of the border condition and visual aspects.

Figure 5: The concept of a sloping site on the map. The dimensions are based on the existing grid of the both cities. Clearly visible is the huge impact of the intervention on the area and city grid. A new site proposal should be more subtle.
Vacant and not very lively shopping streets

Figure 6: The map shows buildings which contain shops and restaurants in blue.

Figure 7: The existing continuous shopping street is highlighted, just as the current problem of the dead end shopping streets at the other border bridge.
Figure 8/9: The idea is to redevelop the green areas by connecting both shopping streets (quite some vacancy). The new building will accelerate the redevelopment aim.
Areas with vacancy, abandoned shops, etc.
Figure 9: A more detailed urban design including the previously shown programmatic concept. The green and black areas on both sides of the border show the regions that will be redeveloped.
Figure 10: A more detailed urban development strategy. Green areas and new developments are accelerated by the memorial centre in the middle of the pedestrian walkway. As a result of this, the area in between the bridges will automatically redevelop itself.