

**A Method for Designing Monuments for River Culture: The
Chilean Patagonia Sin Represas Environmental Movement as a
Case Study**

by

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Dalhousie University is located in Mi'kmaq'i,
the ancestral and unceded territory of the Mi'kmaq.
We are all Treaty people.

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Dedicated to the late, brilliant and kind Miloslav Greksak.

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Abstract

This thesis asks how nature becomes a part of identity. It looks to the Chilean Patagonia Sin Represas (Without Dams) movement which halted the building of several hydroelectric dams along the Baker River. Geographical scales are used as a way of showing how a localized infrastructure proposal became a national issue, inspiring protesting far away in the national capital. Design methods and siting strategy are directly derived from this scalar analysis. Abstraction speaks to general national experiences. Complimentary river monuments and rhetorical siting strategies come from different regional identities. The idea of paths and perception show how particular cultures form connections to local landscapes. The result are monuments inspired by each of the protest characters which are situated along the largest protest route in Santiago. These interventions not only give space to the former protestors, but also invite all Chileans to think of the importance of rivers.

Chapter 1: Introduction

Nature is the first setting to the human experience. It offers a set of possibilities and limitations to where and how we live—informing how we think of ourselves (Hussain and Floss 2016, 1169). With us coming to identify with a landscape, a connection is formed and tested whenever there is at threat to that landscape (Greiber and Garkovich 1994, 2).

The Patagonia Sin Represas (Without Dams) movement is used as a case study to understand the connection between people and nature. The movement was a series of protests in opposition to the building of hydroelectric dams mainly along the remote Baker River (Schaeffer Ortúzar 2017, 139–141). It is an interesting case because it started as one gaucho riding from his home along the river to the seat of power, and became a national movement with tens of thousands of citizens protesting nationwide (Burja n.d). This begs the questions, how seemingly one natural element; the Baker River, can mean so much to both those who live along it, as well as those who have no direct contact with it. Thus, the project is structured around the nature-identity relationship at three scales: the national, regional, and local. These scales entail: natural conditions, built environments as well as cultural identities all of which come to inform a design methodology.

At the national scale, Chile is a country with distinct continuous geological patterns. It is a landmass bordered by the ocean to the west, the mountains to the east, and has rivers flowing between the two. Throughout time, various peoples have used this landscape in a similar way. They have settled radially around the watersheds, built trade connections from east to west, and expanded their territories

by moving from north to south. The cultural identities that have resulted from these settlement patterns can be placed into the broad groups of: workers, artists, religious practitioners, indigenous peoples, and conservationists (Schaeffer Ortúzar 2017, 142–145). It is thanks to these identifications that distant Chileans could empathize with those who live along the Baker River.

This thesis recognizes and utilizes these national connections through the use of abstraction as a way of expressing specific connections to landscape in a language which is legible to a wider cultural group (Gombrich 2000, 38).

At the regional scale, built cultures seem to be more similar along each river than they are to built cultures along other rivers. The corporate and political leaders who had the ultimate say on whether dams would be built on the Baker River have their headquarters along Santiago's Mapocho River (Schaeffer Ortúzar 2017, 139). Therefore, this project compares the two rivers as representatives of the Patagonia Sin Represas movement. The Baker has minimal changes to its natural features, and thus has living cultural connections to the landscape. In comparison, the built cultures around the Mapocho have heavily effaced nature and obstructed many potential human connections.

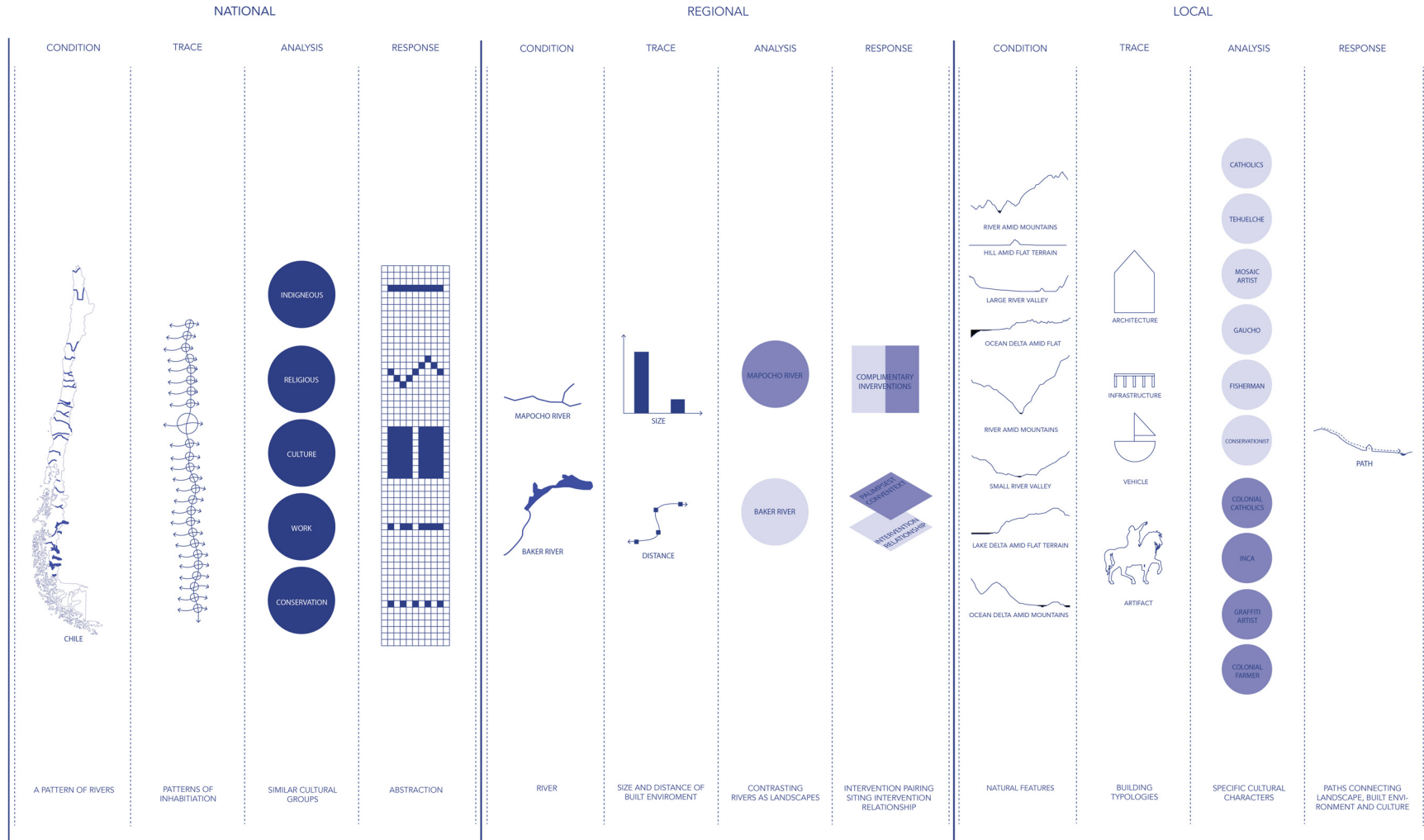
The polarity between the two rivers inspires a methodology of building complimentary architectural interventions. It also feeds into a siting strategy in which spaces along the seat of power's Mapocho River serve as a rhetorical jumping off point for monuments to the Patagonia Sin Represas movement (Tschumi 1996, 193).

At the local scale, each town, or city along the river, has their own set of natural features which have inspired unique building cultures. The general nationwide groups inhabiting and connecting to rivers can be subdivide into specific characters inhabiting both the Mapocho and Baker Rivers. For example, there are different workers in different parts of the Baker River including gauchos, and fisherman. There is also the memory of the colonial farmer of Santiago's Mapocho River.

Methodologically, each character's connection to their specific river landscape and built cultures can be understood through rendering their perception while venturing along their physical paths. Both the perceptual components of these paths represent what the protestors were fighting to preserve whether directing, or by proxy. Building a spatial representation of them is a way of honouring the movement.

The result is a set of interventions dedicated to the specific protest characters of the Patagonia Sin Represas movement which also represent Chile's deep and varied cultural connections to its rivers. These monuments are sited along the largest protest route (which is also a dried up branch of the Mapocho River) in the capital responding to different rhetorical messages embedded in its architecture.

ROAD MAP



A road map to this thesis project showing how scales inform data collection, analysis and become a method for design.

Chapter 2: A Multi-Scalar Analysis of the Patagonia Sin Represas Movement

Nature

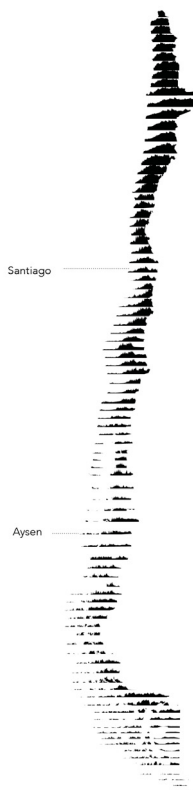
Nature is the first setting to the human experience before the built environment. Natural features dictate where we can travel, how we can communicate, where we might find subsistence or economic bases and where we feel safe (Hussain and Floss 2016, 1169). A variety of natural features can be entangled in the production of these human possibilities including mountains, and rivers. Nature becomes landscape when people give meaning to it within their culture (Greiber and Garkovich 1994, 2). Via cultural processes in nature, our identity develops as the identity we imbue upon nature develops alongside. This means we identify with our landscape (Greiber and Garkovich 1994, 2). When landscapes are at threat, parts of ourselves are at threat. At these critical moments we can learn what parts of nature matters to us most, and what processes go into forming, and communicating about landscape and cultural identities.

The Patagonia Sin Represas Movement

Between 2011 and 2014 protestors throughout Chile took to the streets in opposition to several hydroelectric dam which would be built along the Baker and Pascua Rivers in the Aysén region (Schaeffer Ortúzar 2017, 141). The first act of protest, was the horseback ride of one guacho to the regional capital (Burja n.d.). Along the way the movement grew, with more guachos joining the ride. Then through media coverage, people throughout the country started



The major rivers of Chile.



The natural topography of Chile.

protesting in their own cities. The largest show of support was when tens of thousands of people protested, in the capital city of Santiago (Witte-Lebhar 2011, 3–4). This is where both lawmakers and stake holders in the electric company Enel Generación (formerly called Endesa) would make the decisions on if the project would go through (Casero Serrano 2014, 52). Without the ability of citizens in distance parts of the Chile to identify with each other, the movement would not have been successful.

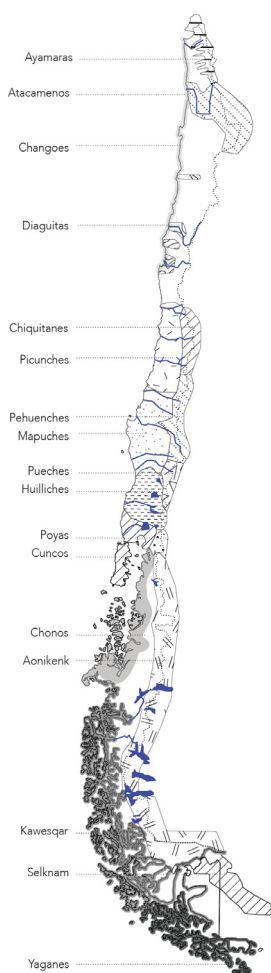
This is why the ensuing analysis of the connection between identity and nature via the Patagonia Sin Represas movement is broken down into scales. First to understand how people identify with nature, at local, regional and national scales, and secondly to incorporate knowledge of these processes into an effective design method.

The National Scale

The national scale of analysis looks to past and present layers of inhabitation throughout Chile in the hopes of identifying a unifying pattern. Boundaries, roads, and settlements are a way of reading people's first reactions to the natural river, mountain, and ocean conditions of Chile. These settlement patterns also support the idea of cultural similarities in interacting with landscapes. Studying these physical and cultural features is a way of gaging what an empathetic connection might be based upon whether existing in the present day or simply in memory.

Indigenous

The consistency in various landscapes along rivers, lakes, mountains and ocean gave rise to different indigenous subsistence strategies in Chile (Museo Chileno de Arte



The pre-Columbian Indigenous territories of Chile with different strategies to inhabiting rivers. (Wikipedia n.d.)

Precolombino n.d.a., n.d.c.; Faron 1955, 135). These resulted in the settlement patterns of agricultural water infrastructures built by the Pichunche peoples at the Mapocho River of Santiago, the canoes and trails the Kawésqar people would make along coastal Patagonia, and the roads and winter camps that the Tehuelche people would make in the interior lakes of Patagonia (Museo Chileno de Arte Precolombino n.d.a., n.d.c.; Faron 1955, 135–136).

Inca

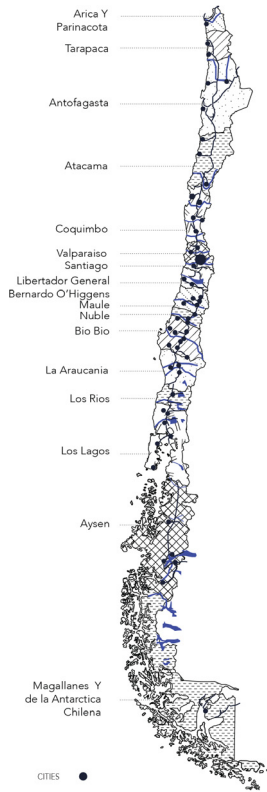
In the Tawantisyu, or Incan empire which extended down to the Maule River, rivers were used as sites of searching for fluvial gold, viable agricultural lands, and as borders (Adamska and Michczyński 1996, 2; Cuadra and Dunkerley 1991, 1157). The siting resulted in architecture on rivers, and infrastructures between rivers in and beside the Andes. The colonial strategy of the Incas sometimes was to displace and resettle indigenous groups according to Inca landscape preferences (Acuto and Leibowicz 2018, 340–341). In other instances, the Inca practiced “implanting,” meaning abiding, and learning subsistence strategies of the people they had conquered (Cuadra and Dunkerley 1991, 1157).

Colonial Spanish

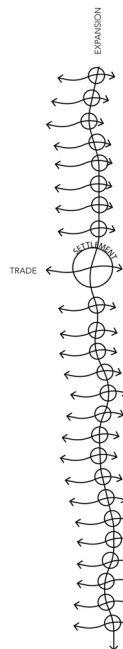
As the colonial Spanish expanded south from Cuzco, in their settlement patterns similar to the Inca, they incorporated some of the initial indigenous irrigation and infrastructure into their own settlement at the Mapocho River in Santiago (Faron 1954, 87). However, they slowly forced indigenous inhabitants into living within the Spanish colonial framework through labor and servitude (Faron 1960, 241–245). The colonial Spanish also used rivers as temporary borders (Rector 2019, 38, 42). Additionally, towns were often built



The Incan Tawantisyu with cities, gold extraction and roads using the rivers. (Cuadra and Dunkerley 1991, 1156, 1158, 1159; Gullberg 2020, 7)



The major cities, roads, and provinces of Chile with relationships to the rivers. (Ministry of Development Department of Lands and Colonization 1929)



A part of settlement.

at rivers which could sustain agriculture, as Santiago did (Rector 2019, 37, 61). Roads then connected from these inland settlements to the coast, and the Pacific Ocean could connect the capital to other towns in Chile, or colonial focal points in the Americas and Spain (Rector 2019, 15; Carmagnani et al. 2011).

Republic and Globalized Chilean

When Chile gained its independence, its border was drawn along the Andes with its eastern neighbours, and the country formalized its control southward through the building of roads and the settlement of towns in Patagonia (Rector 2019, 2–4). These processes have been continuing until now as new industries, including hydroelectric power, have become viable and prominent (Cànoves and Inostroza 2014, 398).

Throughout these various layers of inhabitations, rivers have been used generally as focal points to develop around, as modes of transportation between mountain and ocean, and finally as temporary borders. These similarities help to define and unify Chilean cultural identity in spite of small-scale differences.

Cultural Similarities

Colombina Shaeffer Ortúzar argues that the Patagonia Sin Represas movement was in part successful because certain interests in the landscape could be understood from different parts of Chile (Shaeffer Ortúzar 2017, 133). The similarities in the aforementioned traces of inhabitation, and their patterns are evidence of these cultural patterns. The movement comprising multiple perspectives, and coming from multiple locations means that it is rhizomatic in nature

NATIONAL-SCALE CONDITIONAL PATTERNS

NATURE

TOPOGRAPHY



HYDROLOGY



RIVER BORDERS



SETTLEMENT PATTERNS

INDIGENOUS TERRITORY



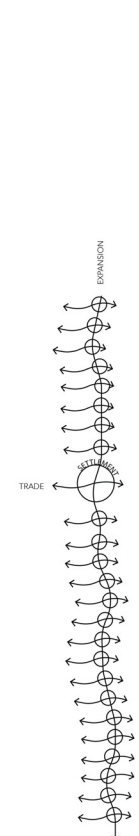
INCAN EXPANSION



COLONIAL PROVINCES

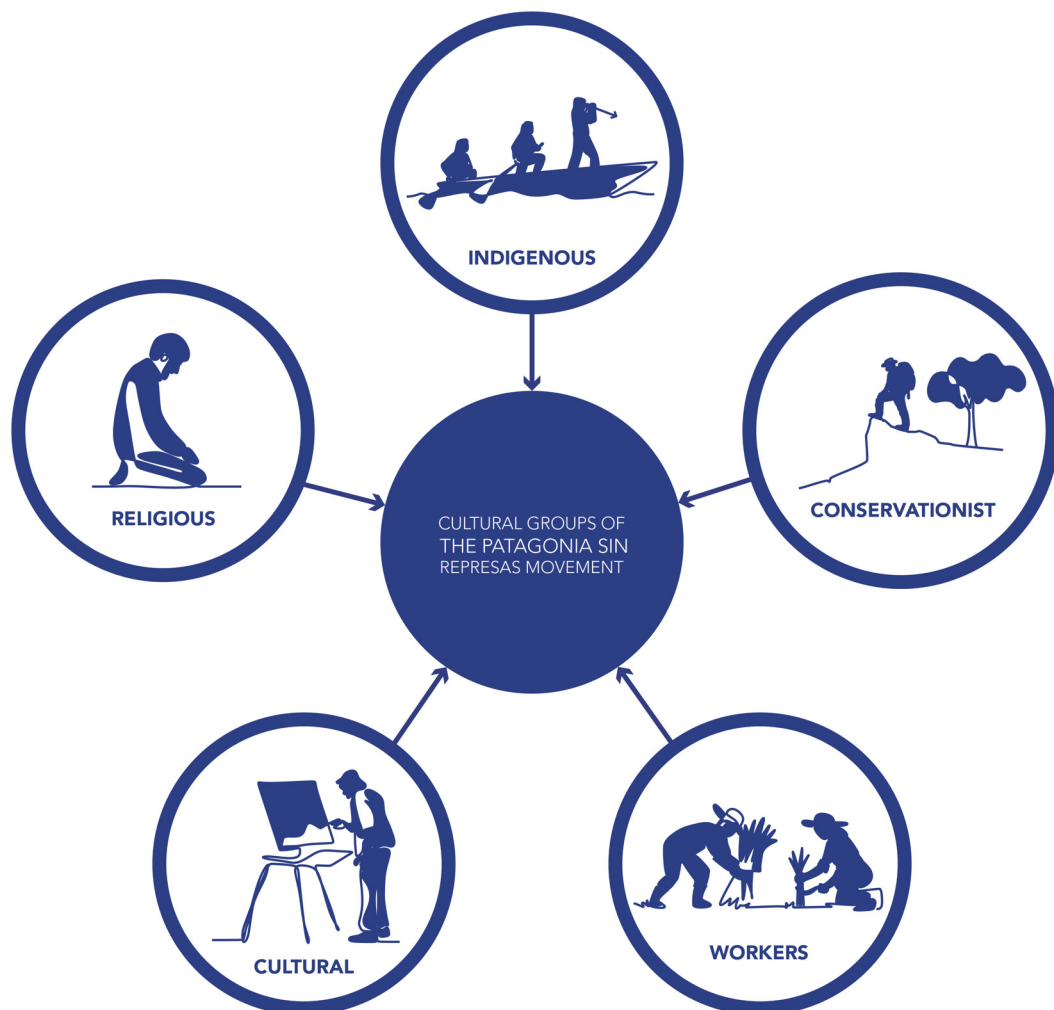


ABSTRACTED POLITICAL GEOGRAPHY



An analysis of landscape patterns with rivers and mountains being continuously present throughout Chile. This is followed by an analysis of historical settlements patterns. Their commonalities are that settlements are focal points along rivers, trade happens from east to west, and expansion happens from north to south.

(Schaeffer Ortúzar 2017, 142–143). The general interest groups can be divided into those with: conservation, work-oriented, indigenous, religious, and cultural, indigenous, and cultural connections to the landscape (Schaeffer Ortúzar 2017, 142–145). The idea of broad similarities speaks to the necessity of an architecture that is general enough to be legible by all constituents of the group as allies.



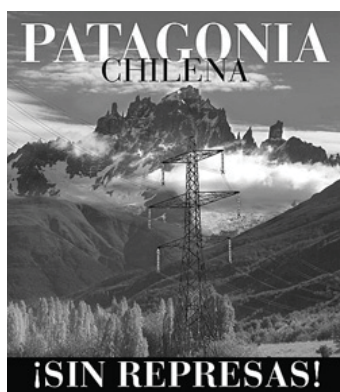
There are broad culture groups throughout Chile. Their narratives fed into the Patagonia Sin Represas movement. They include religious practitioners, indigenous peoples, cultural groups, and workers. (Schaeffer Ortúzar 2017, 142–145)

The Regional Scale

Networks

The cities around the Maipo/Mapocho River basin (the Mapocho River is a branch of the Maipo River), and towns around the Baker River basin, are connected through various types of networks. Networks can start as a means of helping localities meet their needs, and thus can be a very welcome form of connection. Networks, can also have less sympathetic qualities such as being built for a privileged few to profit, being built by people far away whom we don't identify with, and, worst yet, they might destroy existing cherished landscapes.

Besides the rivers themselves, the most obvious network elements along to Maipo/Mapocho and Baker River are the roads. Low density agricultural landscapes also expand far beyond, the town and city centres. Recreation and work opportunities give more reasons for people to travel beyond their localities. Some elements of the network, are all together distinct from the human to human connection, including power line towers. Yet, these are the features which were so prominently placed on Patagonia Sin Represas movement protest banners (Schaeffer Ortúzar and Smits 2015, 152). That is because networks are spatial. They too, have character as they weave within and between localities. People within a network can thus also feel a loose sense of collective identity perhaps in opposition to other network identities.

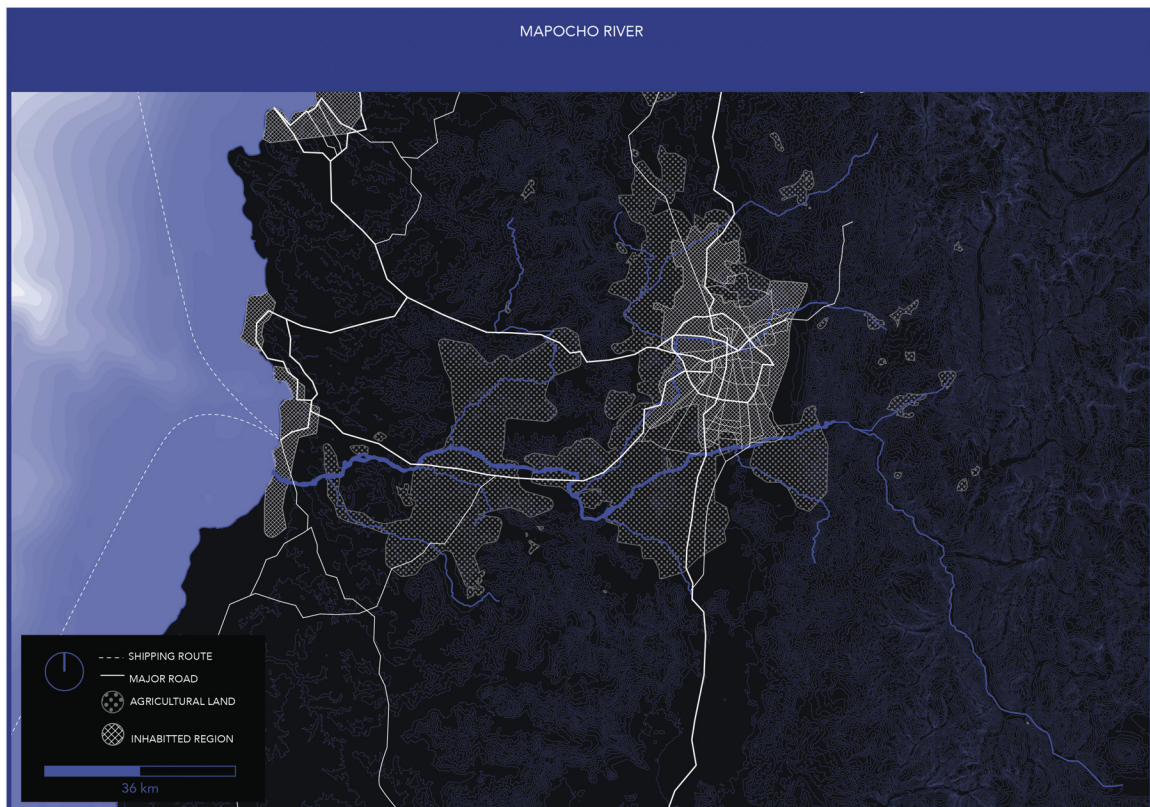


What a new power line tower would look like in the Aysénian Landscape. It is rendered on a protest banner. (Orrego and Rodrigo Salinas 2007)

The Maipo/Mapocho River

Size, in terms of distance, and dimensions can be used as metrics to define the characters of the collective elements in

a network. In general, the architectures and infrastructures around the Maipo/Mapocho are a great deal more extensive and larger than those of the Baker River. Within the vast Maipo/Mapocho network of, long and large canals, urban areas, pollution, mining and agricultural tunnels and mining, perhaps a few more large developments, such as dams, would blend in. In fact, the Maipo/Mapocho has already been referred to as a palimpsest place for lamenting the loss of landscape (Navarro 2016, 447, 454–456).

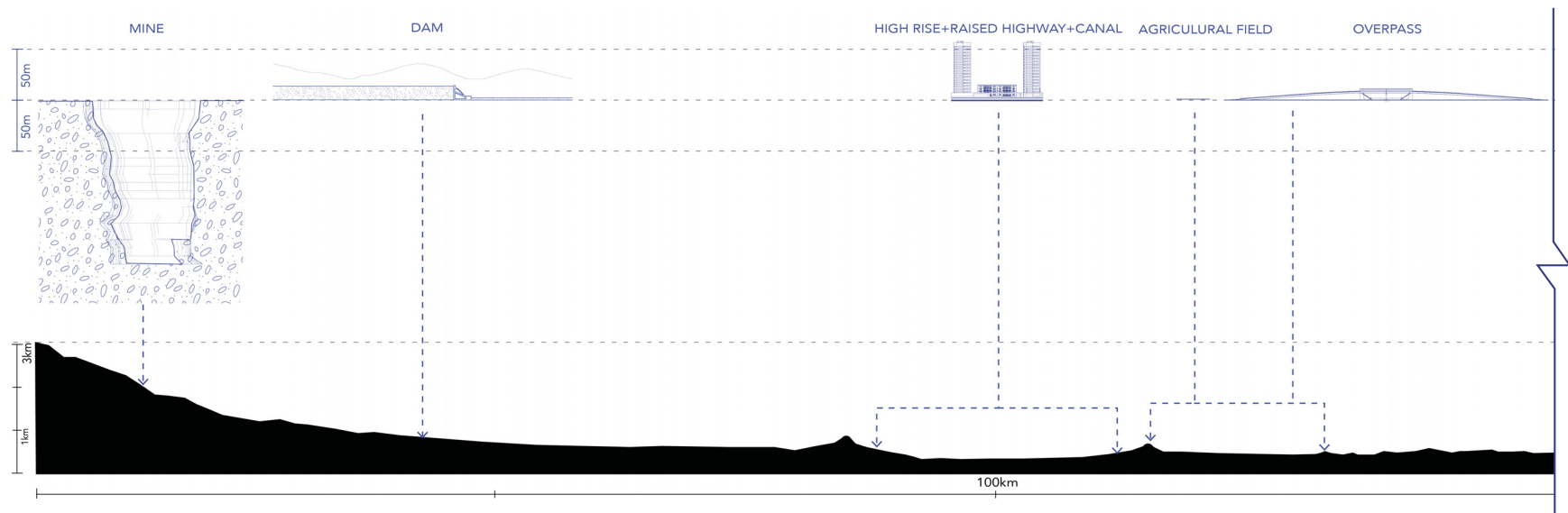


The Mapocho River network connecting multiple inhabited focal points. (data from Google Earth 2022a; data from Melo, Vicuña, and Undurraga 2020, 4)

The Baker River

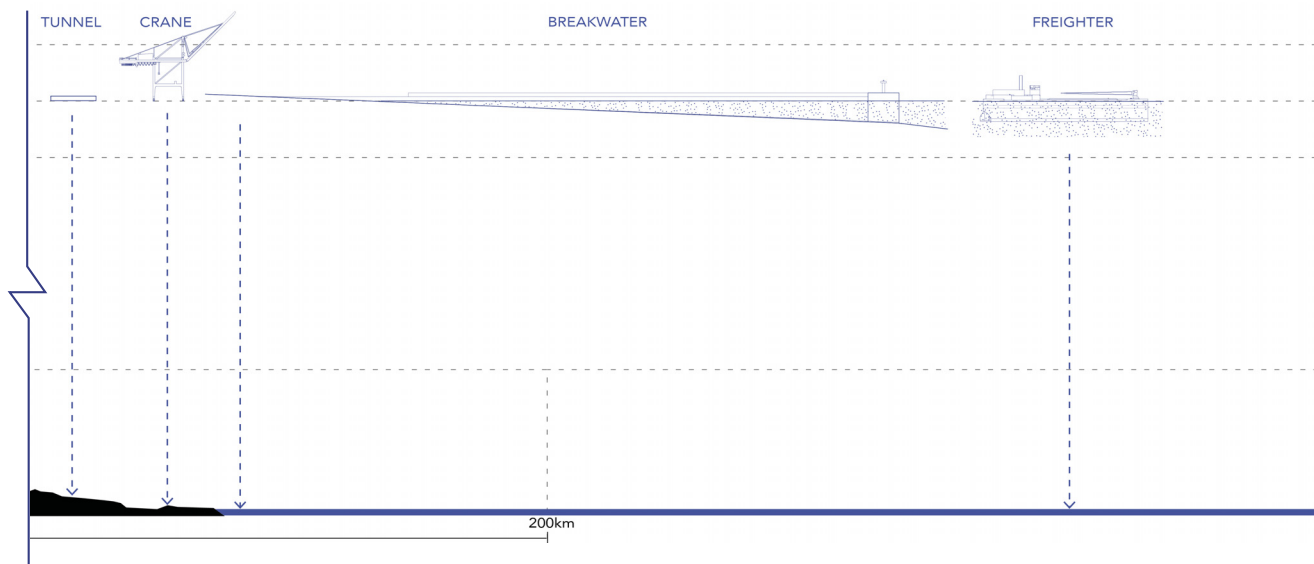
In contrast, the Baker River is mostly surrounded by smaller scale, gaucho farming, fishing, mining, trade along the watershed, and national parks (Blair, Bosak, and Gale

THE SCALE OF ALTERATIONS ALONG THE MAIPO/MAPOCHO PART 1.



The built environment along the Maipo/Mapocho River is characterized by large and long, invasive alterations.

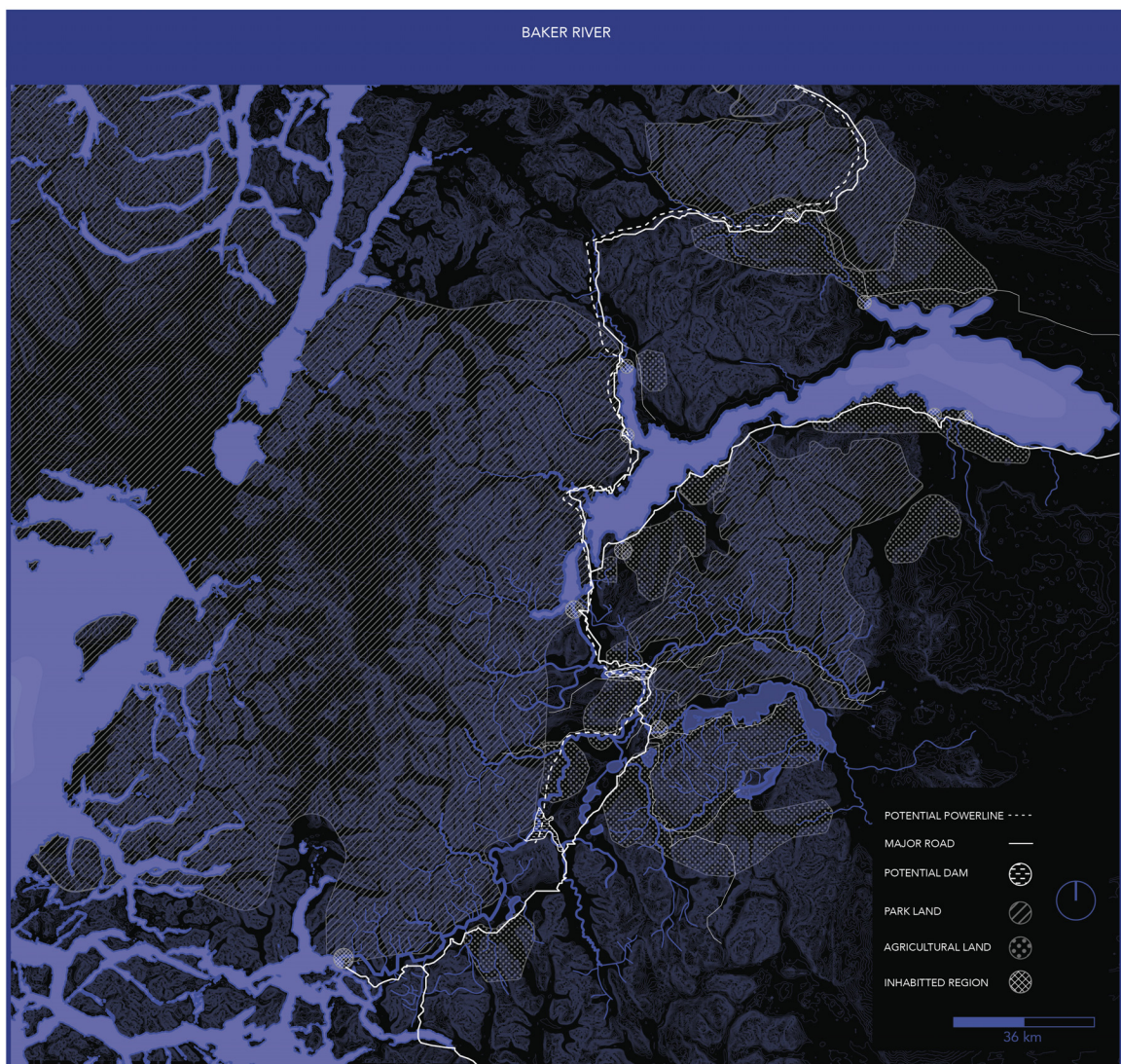
THE SCALE OF ALTERATIONS ALONG THE MAIPO/MAPOCHO PART 2.



The built environment along the Maipo/Mapocho River is characterized by large and long, invasive alterations.

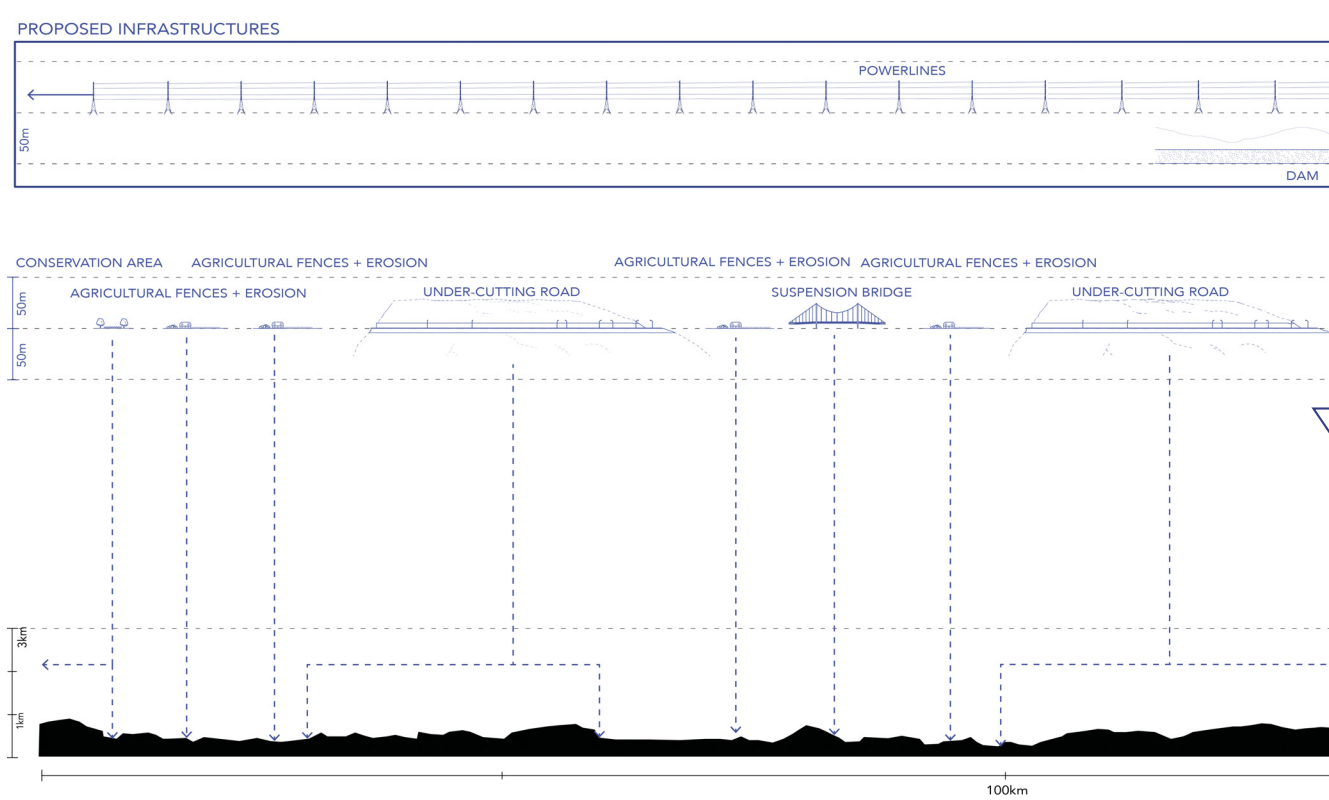
2019, 1–3). The formidable topography, climate, and fjordic conditions, have made the river less accessible, and therefore less densely populated. In fact, Aysén was only connected to the Chilean regions beyond it in 1998 when the Carreterra Austral (highway) was officially opened (Adiego, Trace, and Ednie 2018, 35). Therefore, the network character of the Baker River, is considerably smaller in size and distances.

HidroAysén was not the first large-scale project to have been proposed and negatively received in the area. In



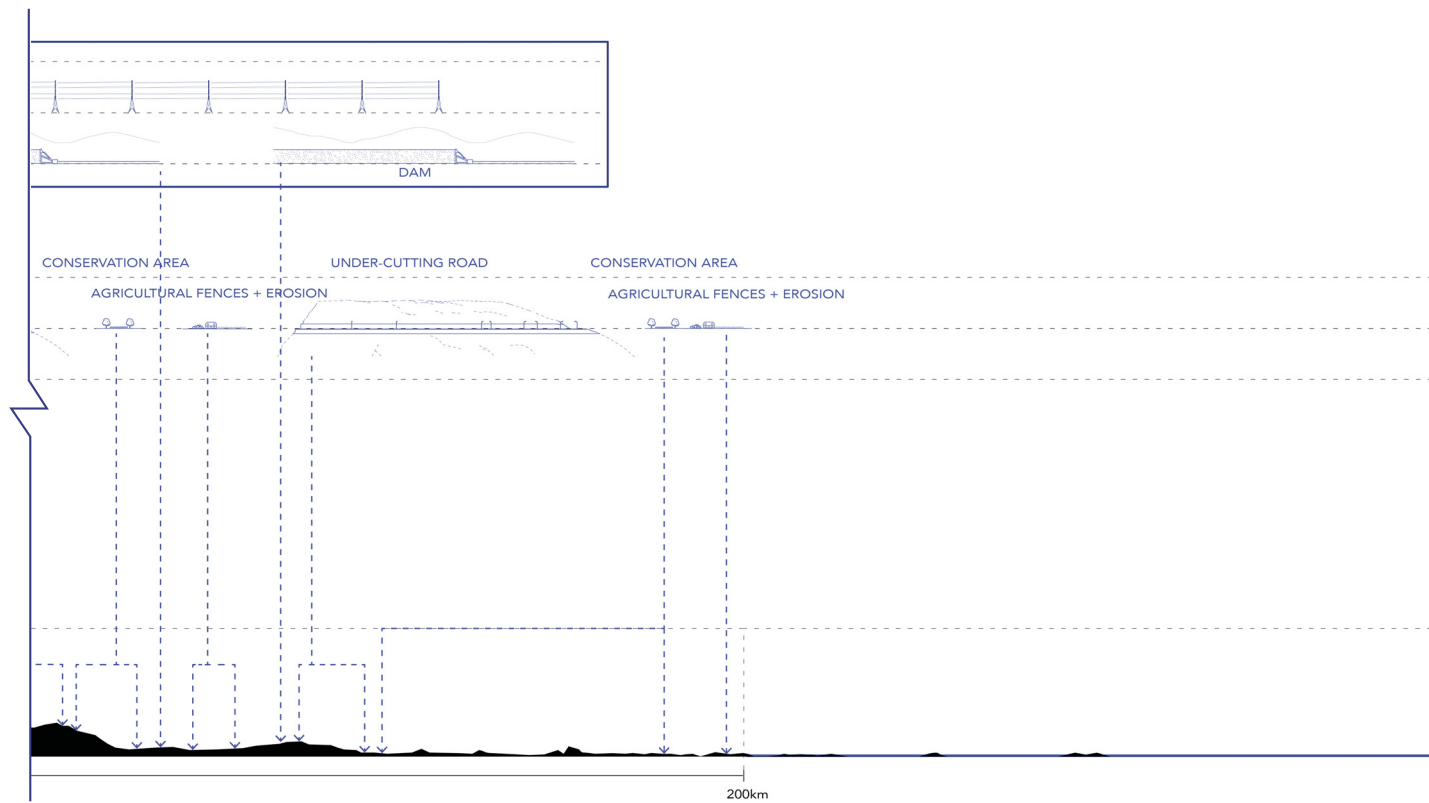
The Baker River network connecting inhabited focal points. (data from Conservacion Patagonica 2011; Google Earth 2022b; Secretaría Técnica: CONAMA Aysén DGA Aysén 2009, 60)

THE SCALE OF ALTERATIONS ALONG THE BAKER PART 1.



The built environment along the Baker River is characterized by small minimally invasive alterations. Here dams and power lines are out of place.

THE SCALE OF ALTERATIONS ALONG THE BAKER PART 2.



The built environment along the Baker River is characterized by small minimally invasive alterations. Here dams and power lines are out of place.

the 1980s a nuclear dumping site, and aluminum refinery incited residents to mobilized, and Aysén took on the motto “Aysén Life Reserve” in reference to its landscape identity (Bachmann-Vargas and van Koppen 2020, 375). As a result of the disjunction between these two interests in the region, those of the residents, and those of policy-makers, Aysénians publicly organized and demanded that the government reform their policies in terms of Aysénian consultation in its own destiny (Bachmann-Vargas and van Koppen 2020, 377). Though evidently, this was still not enough to prevent future large-scale proposal including HidroAysén. This past mobilization reinforces the idea of the importance of regional characters based on differences in scale of the built environments.

Territory and the Patagonia Sin Represas Movement

The HidroAysén project would have entailed the building of two dams along the Baker River, as well as run power line towers from those sites to Santiago, and further north to the mining regions (Schaeffer Ortúzar 2017, 140–141). This is not to mention, expansions to the roads and housing for the worker of the power stations. The utility company which proposed the project was made up of Chilean, Spanish and Italian stakeholders, and had its Chilean headquarters in the Capital of Santiago (Schaeffer Ortúzar 2017, 139). Thus, it was very much a non-Aysénian initiative (Borgias and Braun 2017, 301).

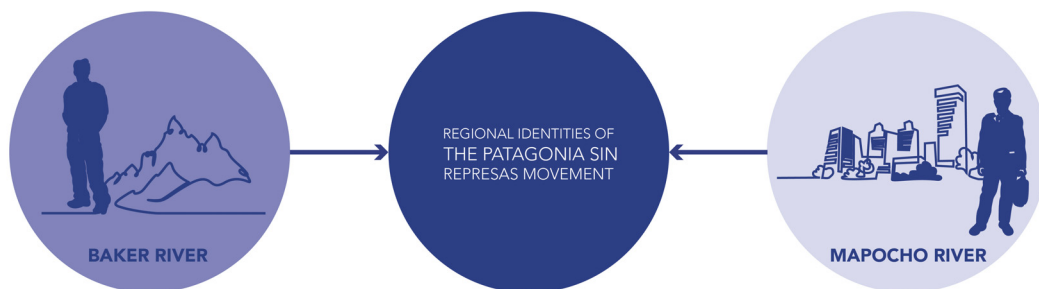
An analysis of protest posters suggests that one of the main concerns was the imported assemblage of spatial elements to the Baker River that would have infringed upon the legibility of existing cultural landscapes (Schaeffer Ortúzar 2015, 152–153). Therefore, the project is a conflict between



The would-be power lines in the Aysénian landscape. “Our Beautiful Patagonia, What savage would do this? HidroAysén would do it” (Rewilding Chile n.d.)

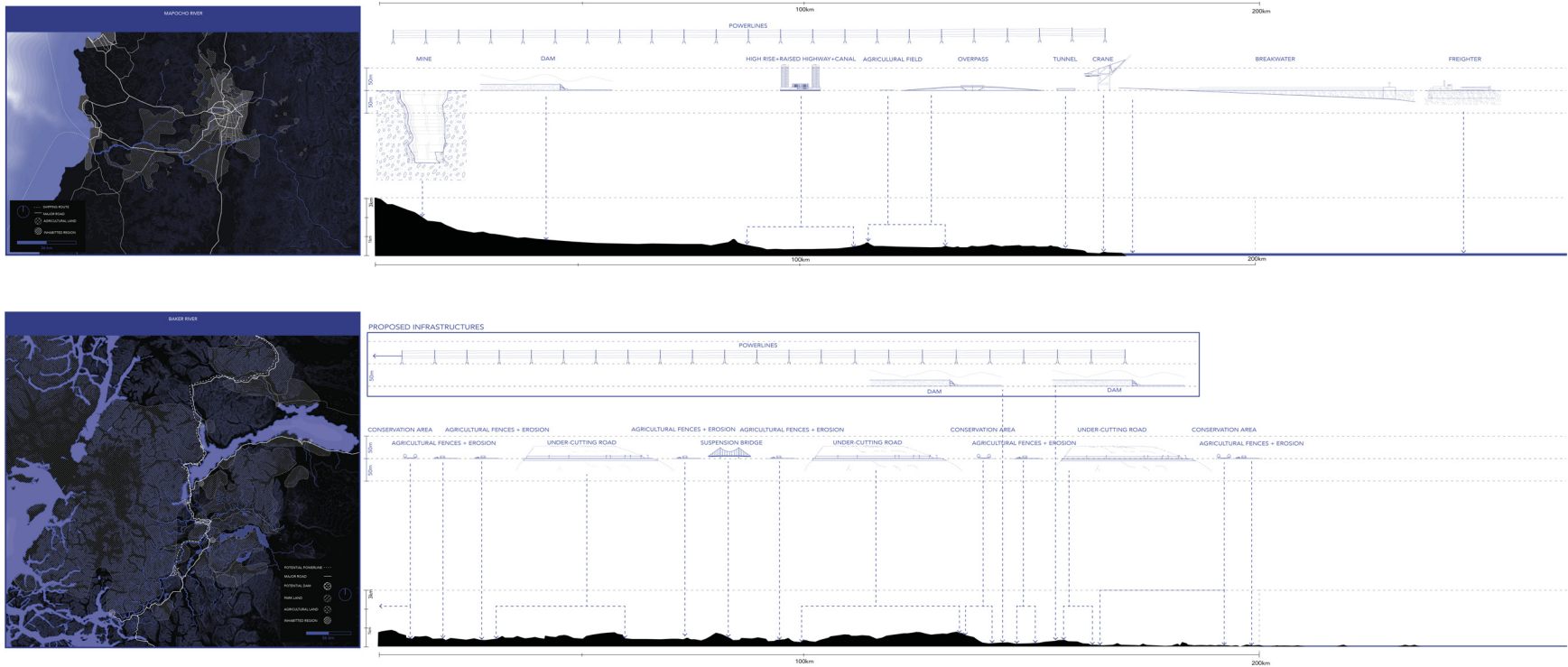
networks in Chile with the Mapocho River culture attempting to extend its territory into the Aysénian River culture territory.

In the larger scheme of Chilean river cultures, the Baker and Maipo/Mapocho River networks offer past and present binary perspectives, with one being conserved, and the other erased. Understanding and expressing both through architecture and siting strategies is a way to highlight the political aspect of the Patagonia Sin Represas movement.



The Patagonia Sin Represas movement is empowered by comparing the conserved Baker River and palimpsest Mapocho River cultures.

THE REGIONAL CHARACTERISTICS OF LANDSCAPE AND BUILT ENVIRONMENT OF THE BAKER AND MAIPO/MAPOCHO IN COMPARISON



The two river landscapes and built cultures contrast each other, in part demonstrating the motivation for, and opposition to the HidroAysén project.

The Local Scale

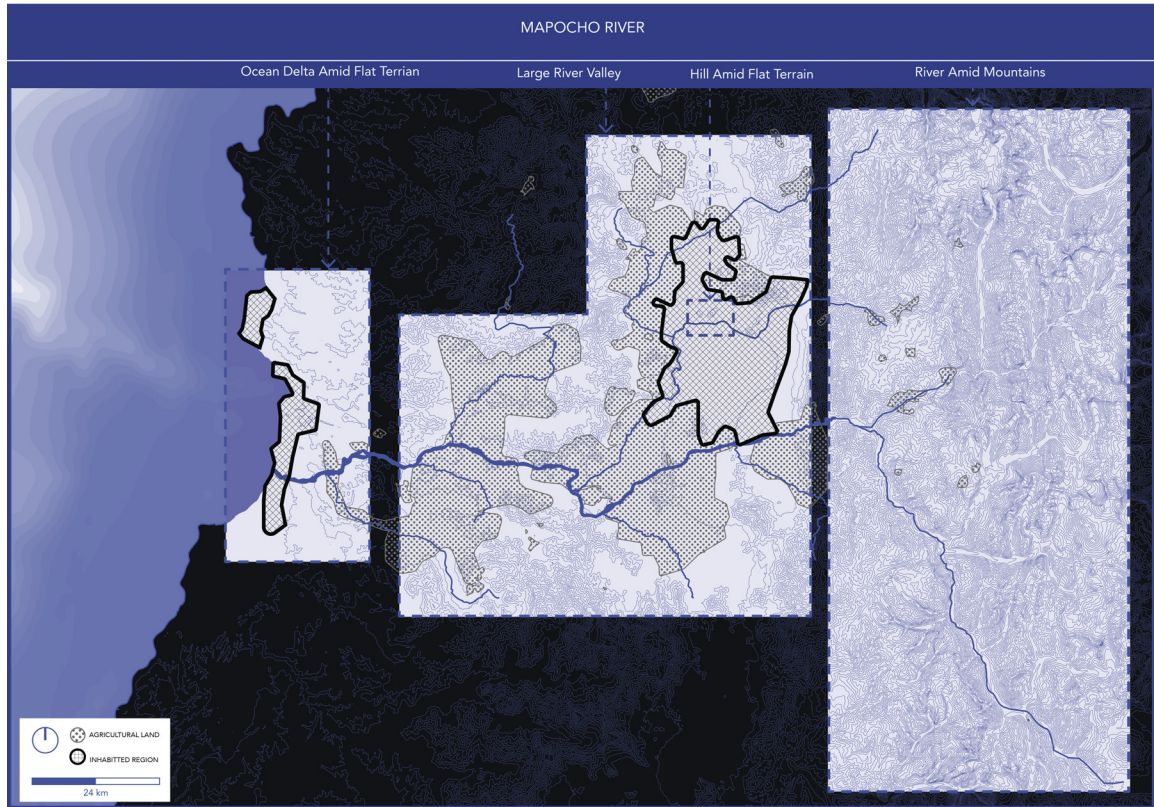
Built Languages of the Landscape

Architecture is a response to its natural environment to various degrees. Through a critical regionalist lens, vernacular buildings have a more direct relationship to the landscape; the building is made with local materials to withstand the pressures of the local physical context (Kaufmann and Zimmer 1998, 4). On the other side of the spectrum, architectural buildings can be designed to communicate ideologies. An extreme example of this, is colonial architecture (Mowla 2000, 4). Spanish colonial towns, for example, share similar plans, including major plazas, the grid layout, and places for churches and government buildings (Mowla 2000, 4). These foreign intensions, however, also have been kept in check in cities like colonial Santiago by the hands of local builder with knowledge of local conditions (Oyarzun and Vera 2002, 110). Though not built with the human experience in mind, resource extraction, and trade infrastructures can also be specific to certain landscapes, and can inform our experiences of them.

To prove the connection between watershed landscapes and architecture, I have drawn a chart of correlations between visibly different topographic conditions, and their apparent local built cultures throughout time.

The Maipo/Mapocho River Typologies

Along the Mapocho River, the ocean amid flat terrain is exploited by infrastructures of trade including cranes, trains, and freight ships. In the large river valley, there have been various large infrastructure interventions to make the valley safe for inhabitation, including levees, bridges and canals,

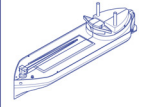
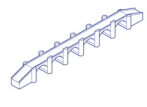
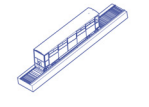
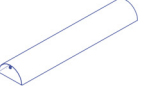
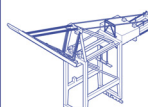
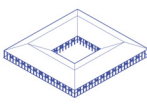
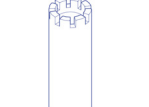
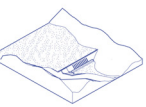
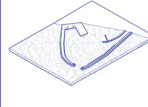
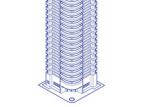
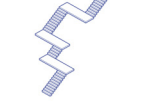

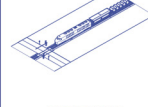

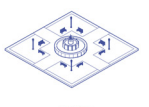
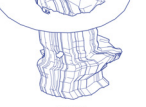
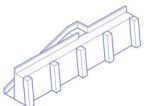
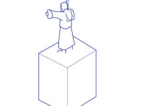
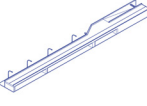

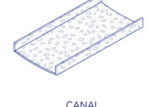


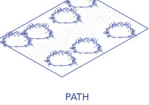


Mapocho River inhabitation divided into areas of similar local landscape types. (data from Google Earth 2022a)

followed by various types of dense housing. The hill amid flat terrain has been exploited for its special elevated position by various ideologies, including observatories, hiking trails, defensive towers, and churches. Lastly, the river amid mountain is exploited by resource extraction infrastructures including mines, and power lines.

The Baker River Typologies

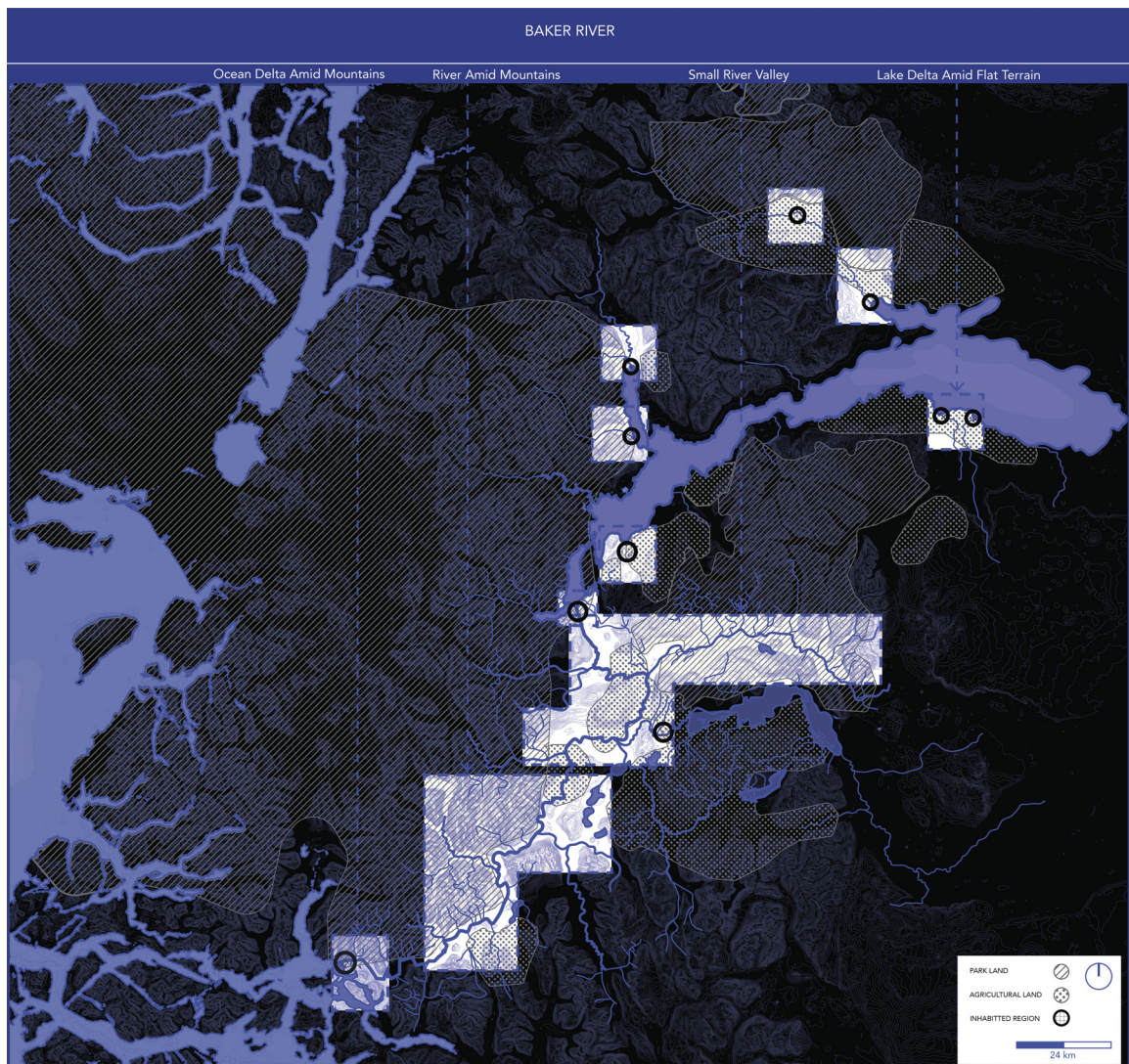
Along the Baker River, there are four topographical types, and along the Maipo/Mapocho River, there are four more. Along the Baker River, much of the built environment of the ocean amid mountains setting, meets the ground through tall wooden stilts, to mitigate flowing waters. In the lake amid flat terrain the built environment is more focused on exploiting the shoreline, with terraces, retaining walls and warehouses. The small river valley has a built culture that

| MAPOCHO RIVER | | | |
|---|---|---|--|
| Ocean Delta Amid Flat Terrain 20km | Large River Valley 50km | Hill Amid Flat Terrain 6km | River Amid Mountains 20km |
|  FREIGHT SHIP |  COLONIAL BRIDGE |  FUNICULAR |  TUNNEL |
|  CRANE |  HACIENDA |  BATTERY TOWER |  DAM |
|  BREAKWATER |  APARTMENT TOWER |  STAIR PATH |  POWER TOWER |
|  FREIGHT TRAINS |  INCA HOUSES |  PLAZA |  MINE |
| |  LEVEE PROMENADE |  IDOL STATUE | |
| |  ELEVATED HIGHWAY |  CHURCH | |
| |  CANAL |  OBSERVATORY | |
| |  PARK PATH |  PATH | |



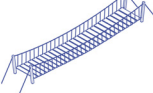




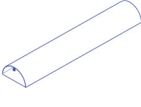

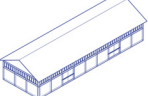
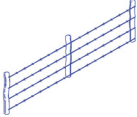




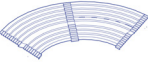
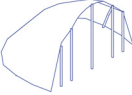
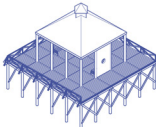
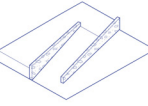
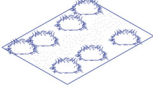



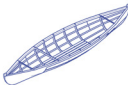
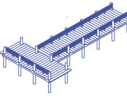

Built cultures arising from different local landscape types along the Mapocho River.

can extend further away from the water sources, via hiking trails, and land for extensive ranching. In the river amid mountains condition, there are mostly roads strung together by tunnels and suspension bridges.

Understanding the local building cultures, and landscape conditions is important because of our experiences of them, which leave a figurative imprint on our minds (Noberg-Schultz 1987, 21). We live the experience of these buildings in both public, and social contexts, which then come to inform our identities (Noberg-Schultz 1987, 21).

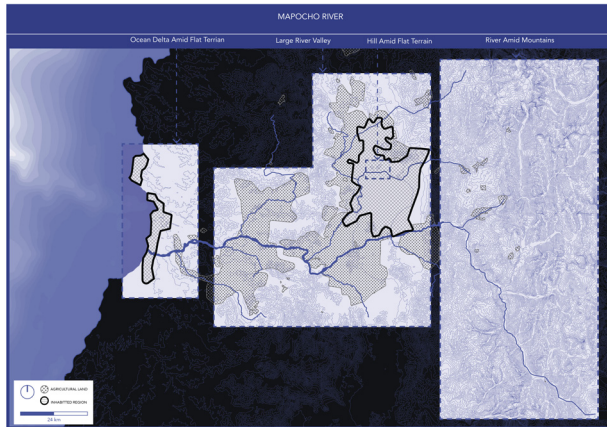


Baker River inhabitation divided into areas of similar local landscape types. (Google Earth 2022b)

| BAKER RIVER | | | |
|---|---|--|---|
| Ocean Delta Amid Mountains 4km | Lake Delta Amid Flat Terrain 4km | Small River Valley 10km | River Amid Mountains 10km |
|  |  |  |  |
| FISHING BOAT | TRADING BOAT | LIGHT SUSPENSION BRIDGE | SUSPENSION BRIDGE |
|  |  |  |  |
| STILT HOUSE | HOMESTEAD FARM | HOMESTEAD FARM | TUNNEL |
|  |  |  | |
| STILT STAIRS | WAREHOUSE | BARBED WIRE FENCE | |
|  |  |  | |
| PASARELAS | SCULPTURE | RECREATIONAL TENT | |
|  |  |  | |
| DOCK | SOCIAL TERRACES | TEHUELCHÉ TENT | |
|  |  |  | |
| STILT GAZEBO | RETAINING WALL PATH | TRAIL | |
|  |  |  | |
| KAWESQAR TENT | PASARELAS | TOTEMIC SIGN | |
|  |  |  | |
| KAWESQAR CANOE | DOCK | TEHUELCHÉ BURIAL | |

The built cultures arising from different local landscape types along the Baker River.

THE LOCAL LANDSCAPES AND BUILDING CULTURES OF THE MAIPO/MAPOCHO AND BAKER RIVERS



| MAPOCHO RIVER | | | |
|-------------------------------|--------------------|------------------------|----------------------|
| Ocean Delta Amid Flat Terrain | Large River Valley | Hill Amid Flat Terrain | River Amid Mountains |
| 20km | 50km | 6km | 20km |
| | | | |
| FREIGHT SHIP | COLONIAL BRIDGE | FUNICULAR | TUNNEL |
| | | | |
| CRANE | HACIENDA | BATTERY TOWER | DAM |
| | | | |
| BREAKWATER | APARTMENT TOWER | STAIR PATH | POWER TOWER |
| | | | |
| FREIGHT TRAIN | INCA HOUSES | PLAZA | MINE |
| | | | |
| LEEVE PROMENADE | IDOL STATUE | | |
| | | | |
| ELEVATED HIGHWAY | CHURCH | | |
| | | | |
| CANAL | OBSERVATORY | | |
| | | | |
| FAIR PATH | BETH | | |

| BAKER RIVER | | | |
|----------------------------|------------------------------|-------------------------|----------------------|
| Ocean Delta Amid Mountains | Lake Delta Amid Flat Terrain | Small River Valley | River Amid Mountains |
| 4km | 4km | 10km | 10km |
| | | | |
| FISHING BOAT | TRADING BOAT | LIGHT SUSPENSION BRIDGE | SUSPENSION BRIDGE |
| | | | |
| STILT HOUSE | HOMESTEAD FARM | HOMESTEAD FARM | TUNNEL |
| | | | |
| STILT STAIRS | WAREHOUSE | BARBED WIRE FENCE | |
| | | | |
| PASARELAS | SCULPTURE | RECREATIONAL TENT | |
| | | | |
| DOCK | SOCIAL TERRACES | TEHUELCHÉ TENT | |
| | | | |
| STILT GAZEBO | RETAINING WALL PATH | TRAIL | |
| | | | |
| KAWESQAR TENT | PASARELAS | TOTEMIC SIGN | |
| | | | |
| KAWESQAR CANOE | DOCK | TEHUELCHÉ BURIAL | |

The built cultures along the Baker and Maipo/Mapocho Rivers are a response to local landscapes, and thus suggest specific and unique experiences of rivers according to locality.

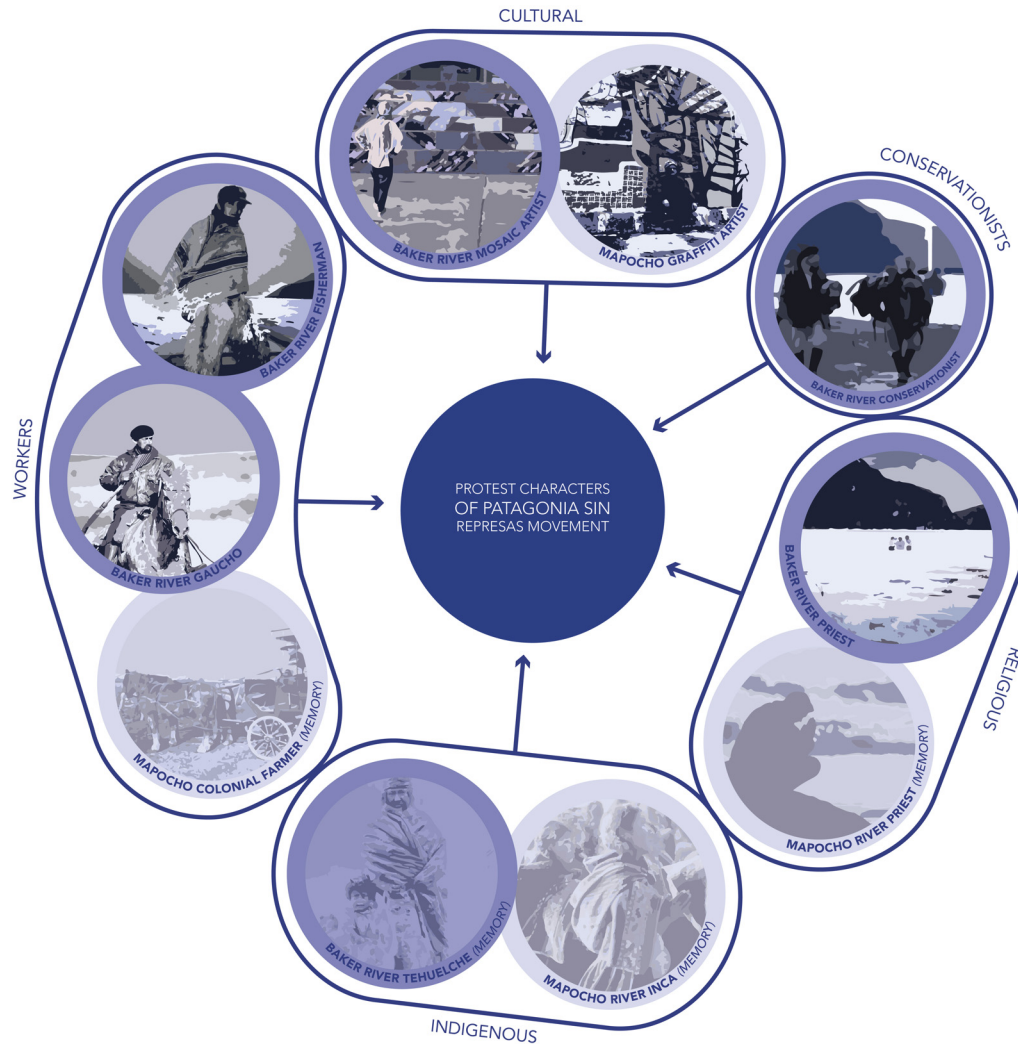
Chapter 3: Method

Imaginary Protest Characters

L.S. Vygotsky says that life is perceived both directly, and through the lens of pre-existing experiences (Pendleton-Jullian and Brown 2016, 60–61). The gaps between sensations and understanding are filled in through the work of imagination (Pendleton-Jullian and Brown 2016, 406–407). The inspiration for designing monuments to the Patagonia Sin Represas movement are the imagined protest characters. They are individual constituents of the aforementioned protest groups who have specific connections to local built and landscape environments along the Baker and Mapocho. They are imaginary because I have never come in contact with these individuals. I have merely investigated their remnants and hypothesize about their motivations and experiences. For the workers they include the fisherman of Tortel, the gaucho of Puerto Guadal, and the memory of the colonial farmer of Santiago. The artists are the mosaic artist of Puerto Ingeniero Ibáñez, and the graffiti artist of Santiago. The indigenous characters are the memory of the Tehuelche of the Lago General Carrera and the memory of the Inca of Santiago. The religious practitioners are the Catholics of Tortel, and the memory of the colonial Catholics of Santiago. The conservationist is the worker or visitor of the Parque Patagonia.

Watershed Paths and Perception

Paths are a way of assembling the aforementioned local landscapes and building cultures according to how they are viewed by the protest characters. They are studied in this project at the edges of the Mapocho and Baker



These are the imaginary protest characters. Each has their own experience of local landscape, built environment and culture. Here the national-scale cultural groups are divided by the region-scale Mapocho and Baker River, and then further into specific river localities.

River watersheds. Cultural activities determine what we deem important. This focused act of viewing can alter our perceptions of our setting, and connect us more deeply to it.

The landscape along a path offers opportunities for how to pursue our subject. The landscape can be a measuring stick to what we seek out. It can be a focal point deemed special and necessary to facilitate a certain cultural act. It can also be an inescapable but familiar footnote in our primary goals in pursuing a path.

The built environment can be an intentional extension to the opportunities a landscape offers in cultural acts. Infrastructure can bring us closer to subjects that are regarded as important. They can formalize a preferred, or safe route to cultural subjects. The building of infrastructure also invites us to use vehicles which can augment ordinary human perception through motion that is not otherwise natural to humans (Girof 2004, 199–206). Architecture can formalize, celebrate and focus attention to cultural subjects (Steenbergen, Reh, and Smienk 2003, 39). Both infrastructure and architecture can also unintentionally obstruct secondary cultural acts leaving other paths and memories as remnants. The destruction of a previous path can lead to backlash, such as in intentional destruction, or the rerouting of an old path. This concept will be discussed further in relation to a siting strategy, and the protest path later on in this thesis.

Paths are the connection between culture, landscapes and the built environments of the entire Patagonia Sin Represas movement. They are entangled in the way we perceive our environment. Due to their importance, they can become the building blocks of a design scheme honoring the imaginary protest characters.

Conservationists' Paths

The path of the conservationist is the trails they make through the Parque Patagonia. They see their landscape in term of following, pacing, and the cardinal directions. The conservation area is spotted with flora, fauna, and little else.

Workers' Paths

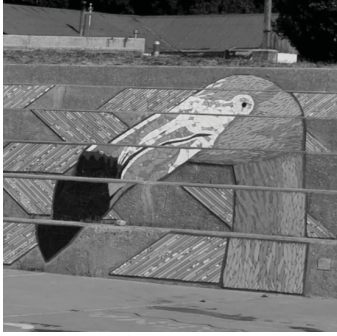
For the workers, their paths are informed by their travels. The colonial farmer of Santiago uses his carriage to get from farm to town. The gaucho of Puerto Gaudal pursues his cattle or sheep on horseback. Meanwhile, the seafaring fisherman of Tortel weaves between the islands of the fjordic context.

Indigenous Peoples' Paths

The path of the indigenous peoples related to their spiritual beliefs. The path of Tehuelche character of the interior region of Aysén is informed by the creator of the cosmos, the Kooch living in the East (Museo Chileno de Arte Precolombino n.d.b.). For the Inca who inhabited the Mapocho River, connection to the landscape revolved around astronomy (Gullberg 2019, 28). They worshiped the sun, with their emperor, Pachacuti being the Sun's son (Gullberg 2019, 23). The Inca ascend to the sky in their afterlife (Roza 2008,17). The sun was particularly important to them during equinoxes and solstices (Gullberg 2019, 23).

Religious Practitioners' Paths

The path of the religious practitioners has to do with getting closer to sacred spaces. For the Tortel religious practitioner it is the decent from stilt home to underwater for a baptism (Tropa 2000). It is performed in the fjord at the mouth of the Baker River. For the path of the colonial Catholic religious practitioners in Santiago, the path is the ascension up to Cerro Santa Lucia for prayer (Parada 2012, 60, 62).



Mosaic at the edge of Lago General Carrera of a member of the local wildlife, a flamingo. (Mirando al Chelanko 2020)

Artists' Paths

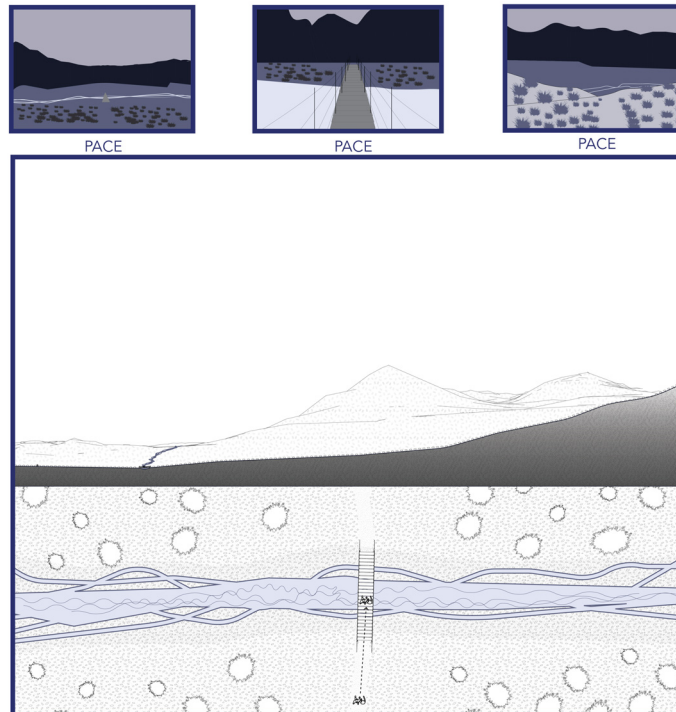
For the path of the artist, the rolling and open landscape, and winding built paths of the public edge on the Lago General Carrera environment inform the opportunities and reflect the culture of the mosaic artist from Puerto Ingeniero Ibanez. They use the landscape to locate and understand the figure of the flamingo which is later recreated elsewhere on the shore. The path of the Mapocho graffiti artist is informed by the blocking of the view of the Mapocho river from the northern—poorer side of the river, by the Costanera highway. For them the river is more lost than for those living on the richer south bank. In response to the erasure of the river, they make political graffiti art on the canal wall.

Abstraction

Abstraction is simultaneously about generality and stylization. Gombrich argues that there is no perfect reproduction of information, every attempted reproduction of information is in fact a symbol (Gombrich 2000, 38). The reproduction of information is about choosing what is important (Gombrich 2000, 38). The process of abstraction makes elements more legible through the creation of patterns (Vidler 2000, 11). Patterns are an arrangement of elements within a framework. This thesis aims to find similarities amongst the language of perception of the general groups of environmental, religious, cultural, indigenous, and work oriented cultures along the Baker River and Mapocho river. This is to include all of Chile in the act of remember the importance of river and mountain. It is the answer to the national scale connection between nature and identity.

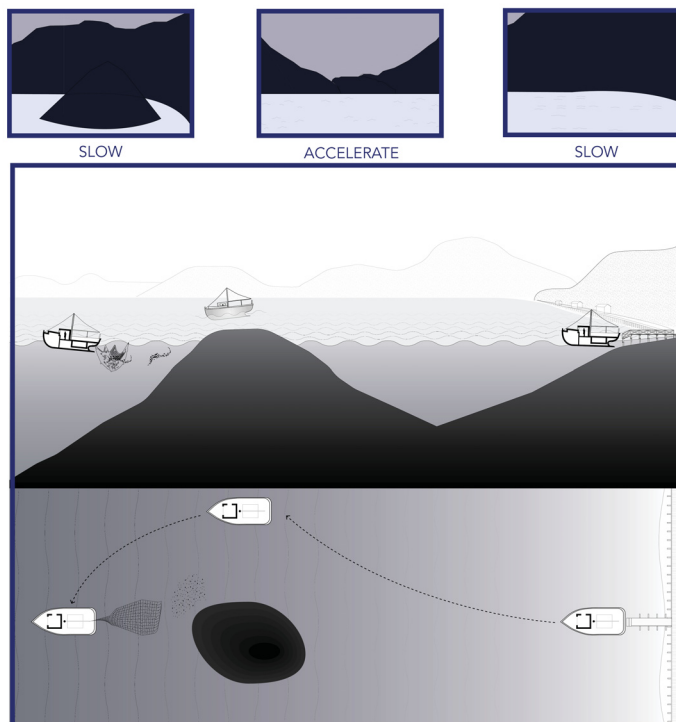
Abstraction is a language already used to render Chilean landscapes through photographer, Pablo Valenzuela

BAKER CONSERVATIONIST



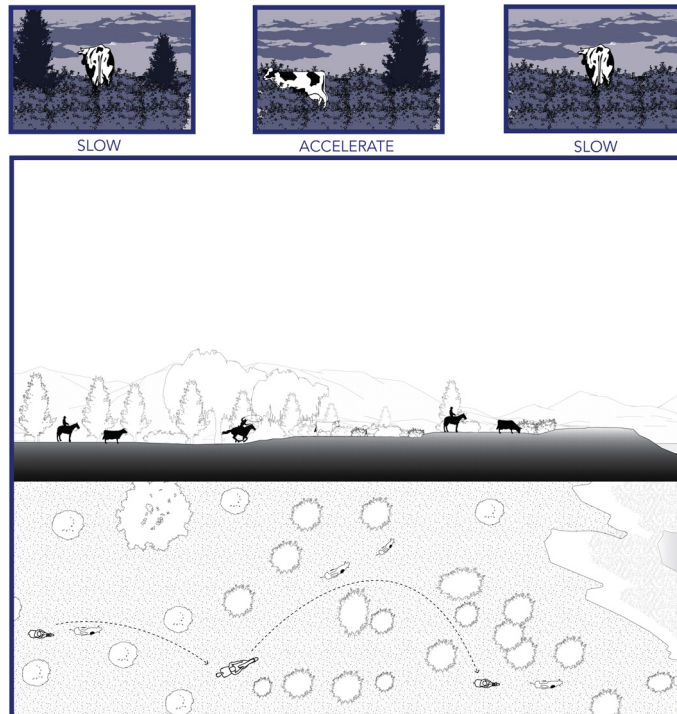
The Baker conservationist reading their river watershed landscape according to natural rhythms.

BAKER FISHERMAN



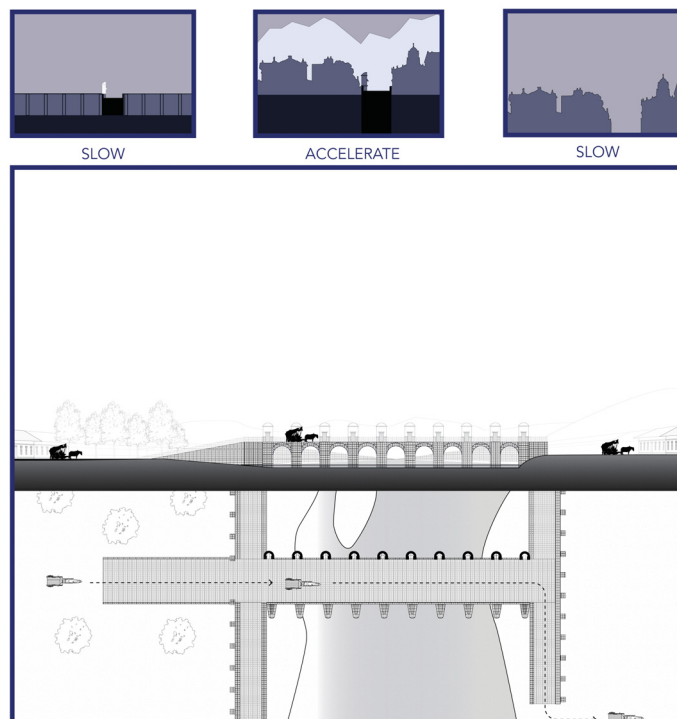
The Baker fisherman reading their river watershed landscape according to navigating a boat.

BAKER GAUCHO



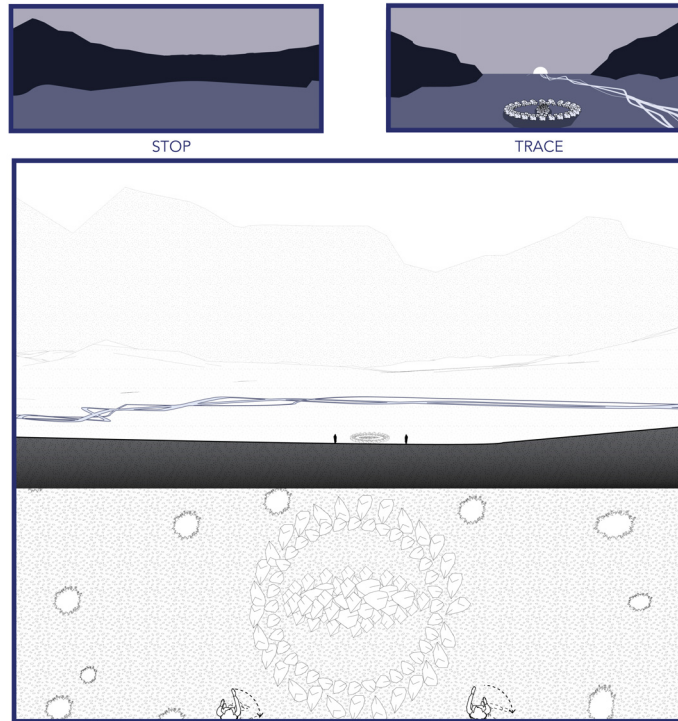
The Baker gaucho reading their river watershed landscape according to navigating on horseback.

MAPOCHO COLONIAL FARMER



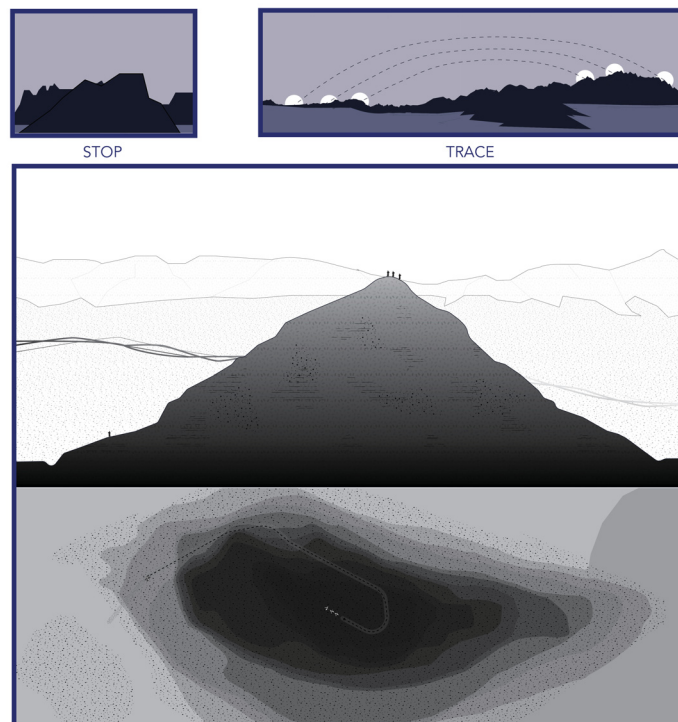
The colonial Mapocho farmer reading their river watershed landscape according to navigating a carriage.

BAKER TEHUELCHES



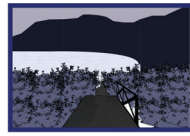
The Baker Tehuelche reading their river watershed landscape according to spiritual connections to the east.

MAPOCHO INCA

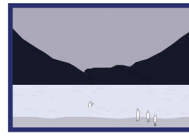


The Mapocho Inca reading their river watershed landscape according to spiritual connections to the sun.

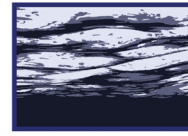
BAKER CATHOLIC



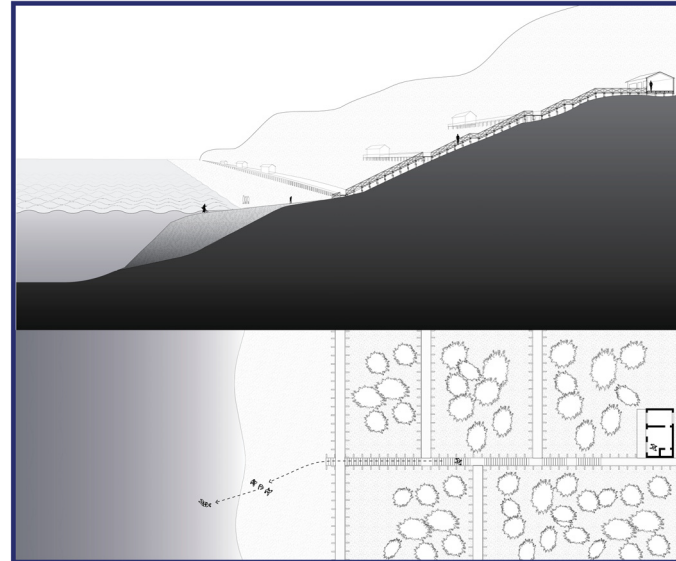
DESCEND



JOIN

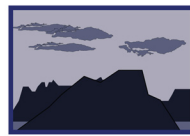


IMMERSE



The Baker Catholics read their river watershed landscape according to spiritual connections to the water.

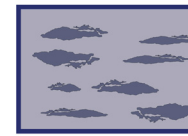
MAPOCHO COLONIAL CATHOLIC



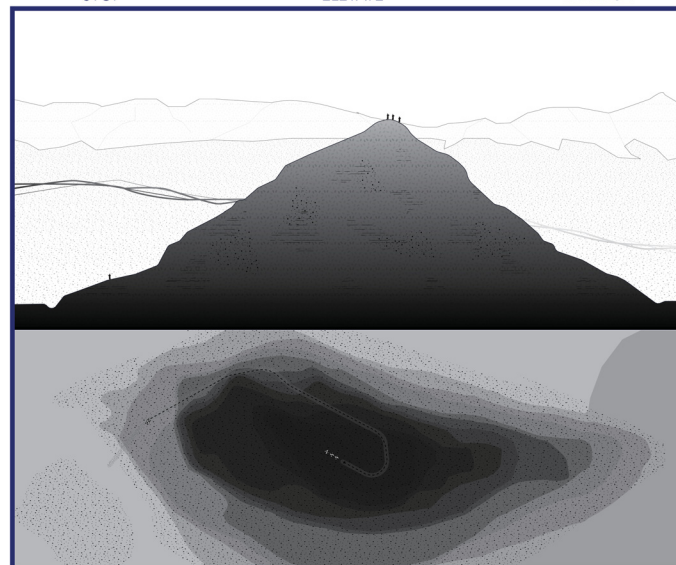
STOP



ELEVATE



IMMERSE



The colonial Mapocho Catholics reading their river watershed landscape according to spiritual connections to the sky.

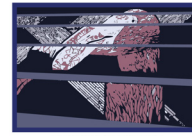
BAKER MOSAIC ARTIST



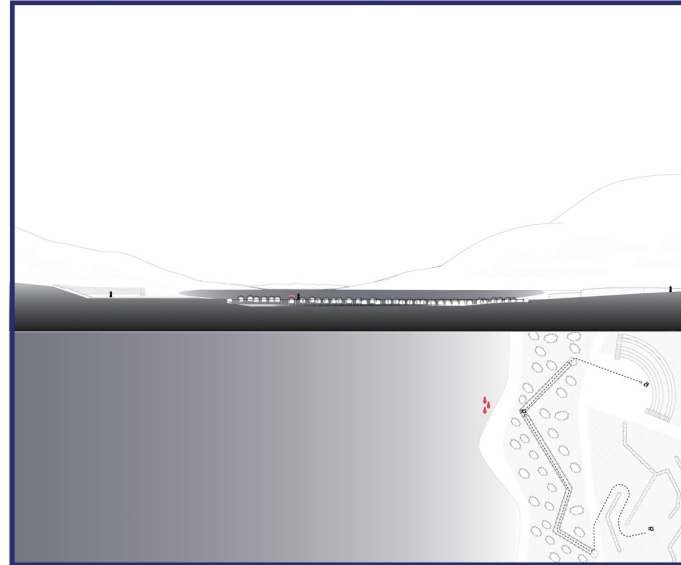
FIND



DECONSTRUCT



RECONSTRUCT

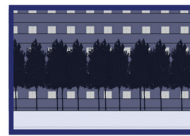


The Baker artist reading their river watershed landscape according to studying a flamingo and constructing a mosaic.

MAPOCHO GRAFFITI ARTIST



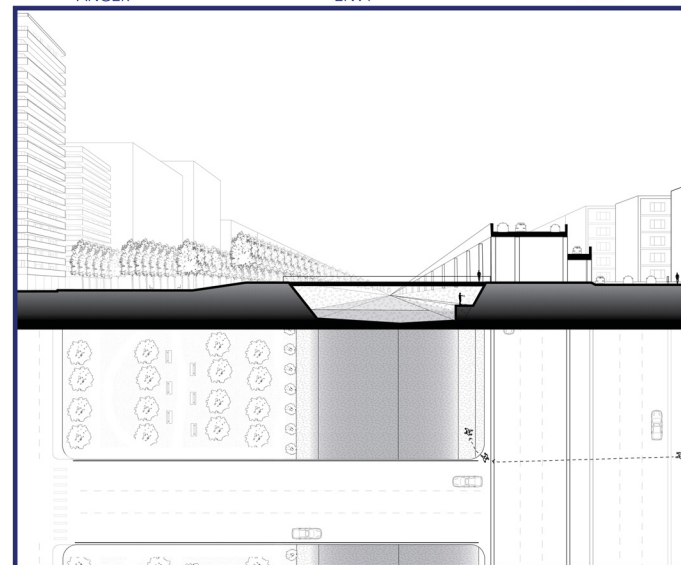
ANGER



ENVY



LAYER



The Mapocho artist reading their river watershed landscape according to constructing graffiti art.

Vaillant (Vaillant Valenzuela 2017). The artist uses selected elements to speak to the particular character of landscape, culture and the built. Elements that he selects and plays with include, colour, shape, light, texture and more. The theme of each photo dictates how the photographer uses and emphasizes certain compositional elements. Similar themes can be drawn from the photographs and the paths of the protest characters. Therefore, the tactics that the photographer used to emphasize these themes, become a basis for an abstract spatial language for the protest groups.

Conservationists' Language

The style of the conservationist is defined by the rhythm of flora along a landscape trail which can be further subdivided by their details. In a natural ecosystem, the scales of these are comparable. The motion of the hiker is relatively consistent until they end up at a view or rest point.

Workers' Language

For the workers, the reading of river landscape is altered by their vehicles' motion (Todd 1995, 204–213). The process of motion compresses and shrinks space according to relative speed and displacement. Here, the movement is defined by different modes of transportation: the steady carriage of the colonial farmer, the rocking and abrupt horse of the gaucho and the rocking boat of the fisherman (Braman 1975, 60; Booth 2013, 58).

Indigenous Peoples' Language

The style of the indigenous peoples is through the lens of spirituality and observing the river landscape horizon during sacred celestial activities. The style of the Tehuelche is about observing the eastern horizon (Museo Chileno de

MAPPING METHODS OF ABSTRACTION VIA THE WORK OF PABLO VALENZUELA VAILLANT

VISUAL EFFECT

| EMERSION | PATH | HORIZON | DECONSTRUCTION | MOTION |
|----------------------|--------------------------|------------------|----------------------|----------------------------|
| | | | | |
| | | | | |
| FRAMING + REFLECTING | REPETITION + PERSPECTIVE | CONTRAST + FRAME | FRAMING + REPETITION | EMPAHSIZED DISTORTED LINES |

ABSTRACTION METHOD

An analysis of the abstraction techniques of photographer Pablo Valenzuela Vaillant. Techniques which highlight similar moments as in the path vignettes are highlighted.

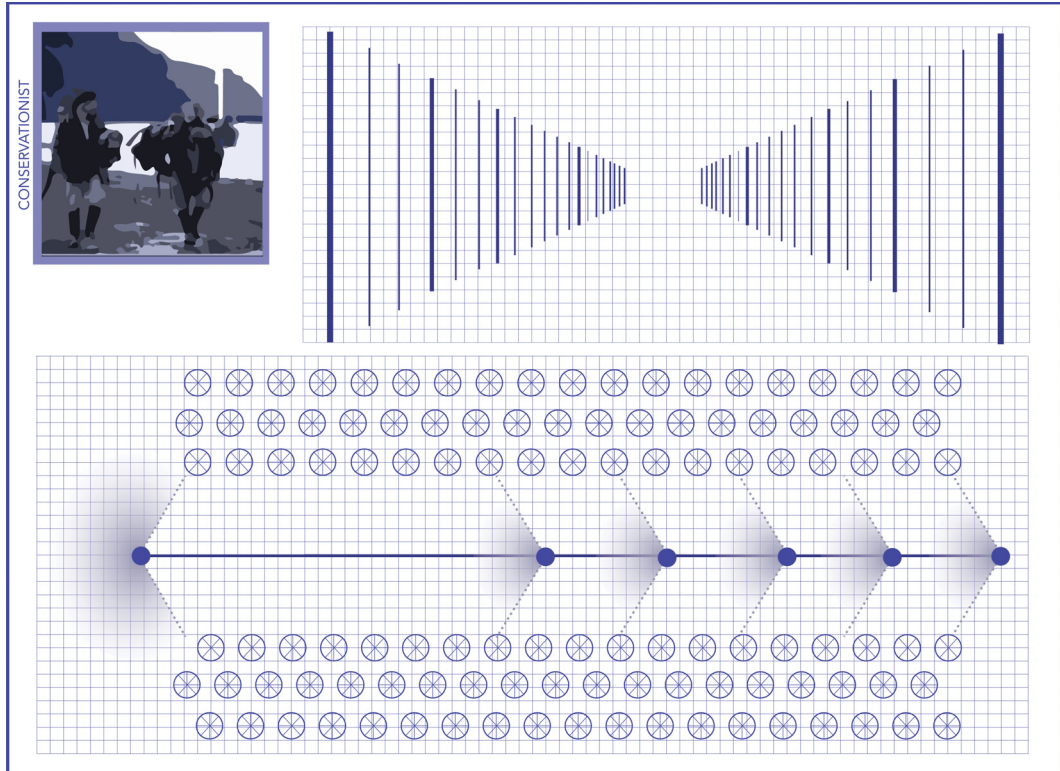
Arte Precolombino n.d.b.). For the Inca solstice and equinox activate the horizon between mountain and sky (Gullberg 2019, 23).

Religious Practitioners' Language

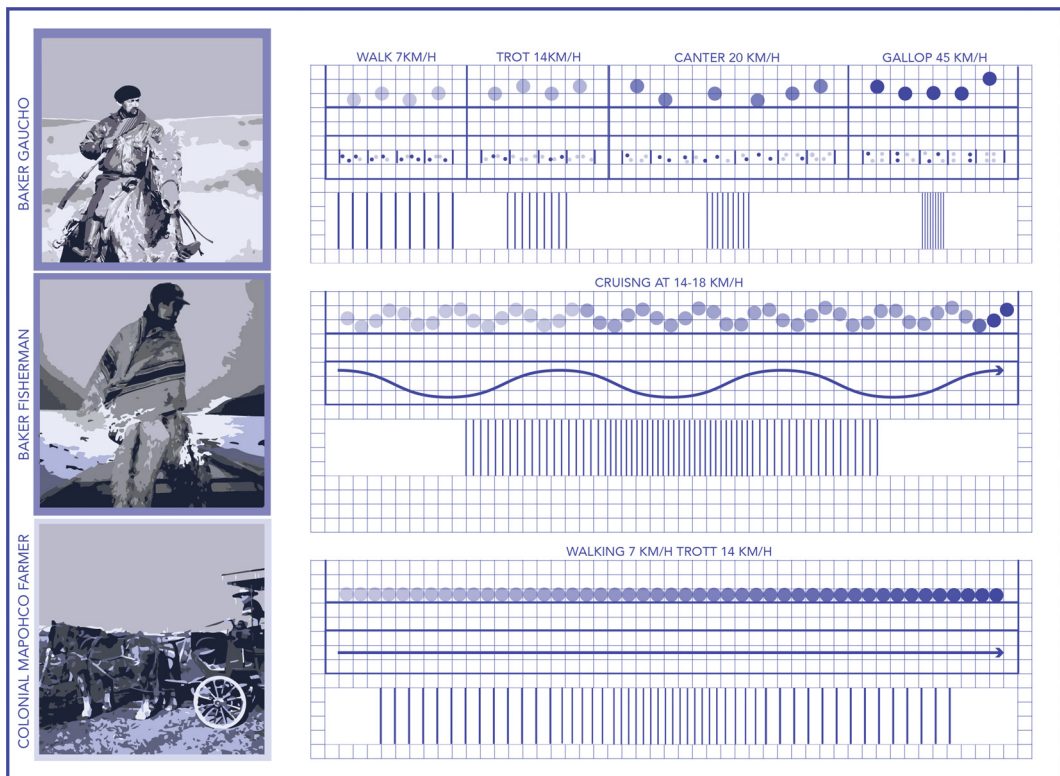
The style of the religious practitioners is about emersion into a single river landscape realm. For the Baker River Catholic being baptized, the experience is about passing into the watery realm. The style of the Catholic Santiago practitioner is about emersion in the divine sky realm.

Artists' Language

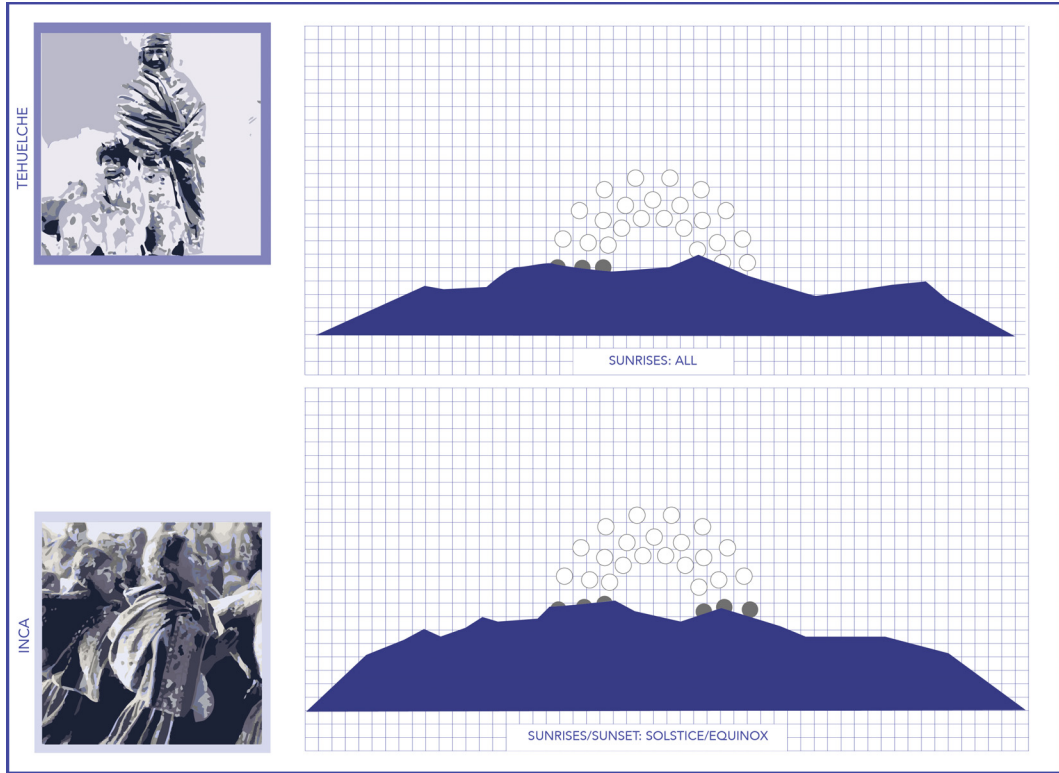
The style of the artists, is about using the river landscape as a compositional aid such as in drawing guides, and reference objects. The mosaic artist uses parallax to locate, and deconstruct the subject. A recording of the deconstruction then aids in the reconstruction of the essence of the subject later. The layered style of the Mapocho graffiti artist is informed by the use of the rocks on the canal wall as a grid and compositional structure.



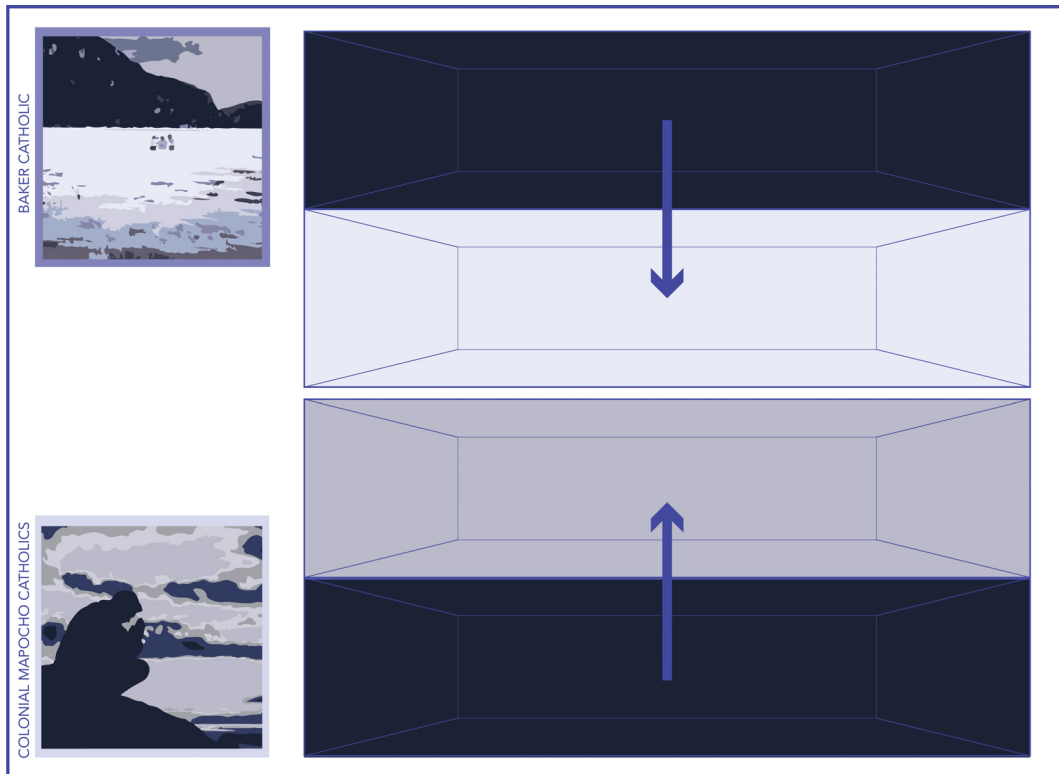
The conservationists' spatial language of reading a repetitive landscape to keep pace.



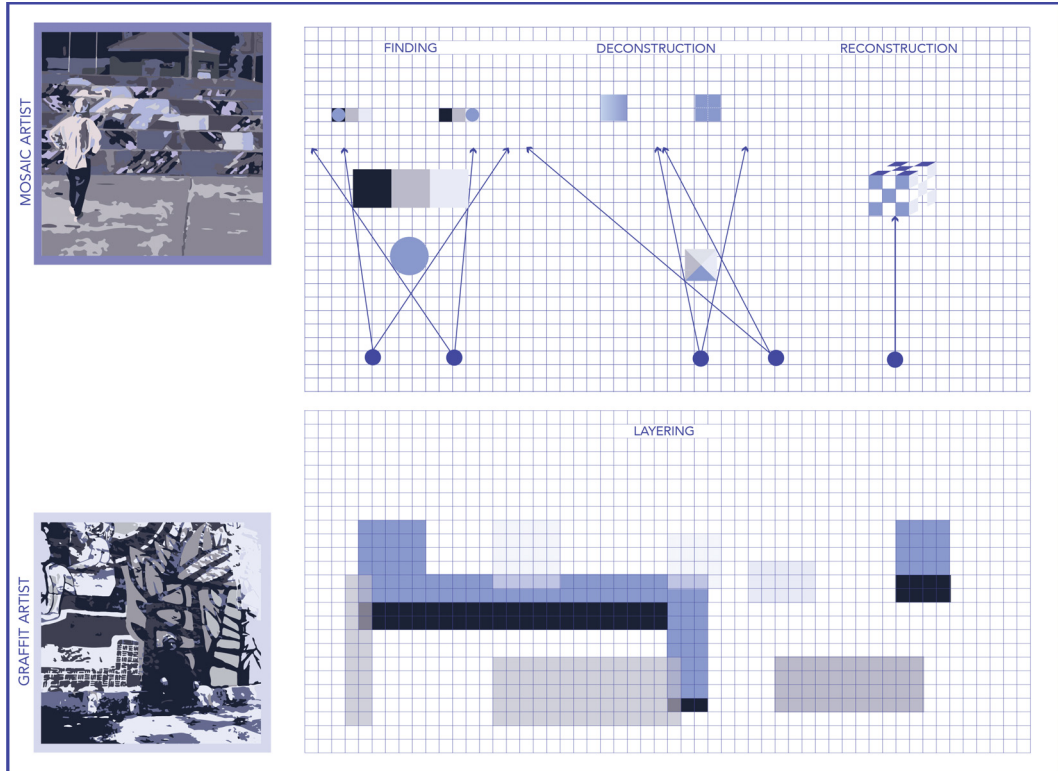
The workers' spatial language of augmentation by vehicle.



The Indigenous peoples' spatial language of reading horizons.



The religious practitioners' spatial language of emersion.



The artists' spatial language of guided viewing and aided reconstruction of a subject.

Chapter 4: Situating

Memory

Huyssen argues that remembering is a political act (Huyssen 2003, 1). Each source can give life to memories in a different way. The different degree to which something is remembered reflects choices to uphold or erase the past (Huyssen 2003, 1–5). This gives rise to the palimpsest in which all sources metaphorically give a partial and political view of the past and direction for the future. Acknowledging the existing and remembered can be used as an important jumping off point in how monuments relate to their context.

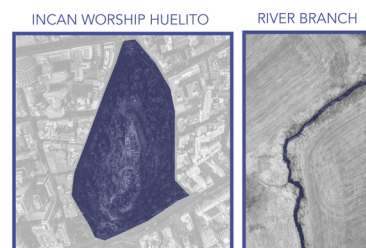
History of the Protest Route

The Avenida Libertador General Bernardo O'Higgins protest route in Santiago led from the current Mapocho River, near the Plaza Italia, to the Palacio de la Moneda which is the current seat of the president (EFE 2011; Witte-Lebhar 2011, 3–4; Casero Serrano 2014, 52). The street has shifted in meaning through time as different cultures have developed its spatial character in different configuration for their goals (Hidalgo Hermosilla and Muga 2015, 192). Streetscapes hold power which is expressed through the organization of public elements such as, elevations, plazas, hills and paths (Alderman, Rose-Redwood, and Azaryahu 2017, 2). Each has its own opportunities to overtly or subtly exert power. Plazas are places to gather and feel a part of a collective. Paths are elements that connection two points together. Elevations can act like billboards to express certain ideologies. Hills are advantageous spaces which can be used for sacred, defensive, and collective reasons. One notable overall trend is that the paths along water and nature elements were

erased as institutional elevations and public plazas were developed along the Avenida. Through understanding the contexts of memory, and current conditions, relationships can be drawn between river, mountain and power in Chile in order to make connections between the protest route, the Baker River and the Mapocho River.

Pre-Columbian

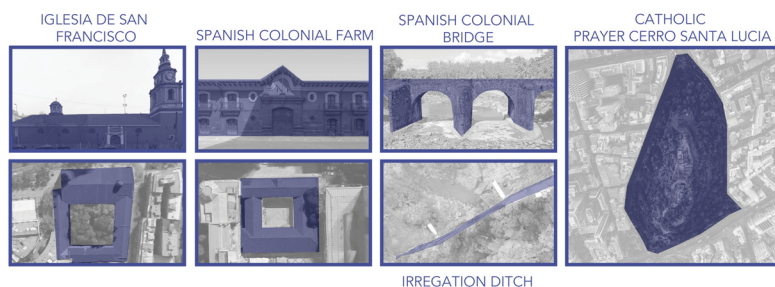
Before the Spanish arrived in the Mapocho river valley, the river forked at the current Plaza Italia, and flowed southwest, in addition to its dominant branch going westward (El Museo Historico National n.d., 2). Little is known of its use to the Inca or Picunches (De Ramon 1992, 11–16). However, due to its scale, presumably the branch would have presented itself as a barrier, which might have facilitated a path walking along the river, perhaps toward the larger Mapocho. Along the northern banks of the branch, Huelito o heutrecan, or what is now known and Cerro Santa Lucía was a place of worship for Incan spiritual practitioners (Besom 2013, 157–158). It would have been a plaza of sorts, supporting the gathering of religious observers.



The protest route Avenida Libertador General Bernardo O'Higgins once held meaning as an Inca place of worship, and as a part of the natural watershed. Both meanings have since been erased.

Spanish Colonial

By the time the Spanish started to colonize the area near the Mapocho river, the branch of the river had dried up (El Museo Historico National n.d., 2). To the colonizers, the space became about religious worship and agriculture. A small irrigation ditch, La Cañada was made to supply the farms nearby (El Museo Historico National n.d., 2). The Franciscans built a monastery on the south side of the dried river bed and a small bridge over it, which serviced both religious and farming needs (El Museo Historico National n.d., 2–3). Thus, the irrigation ditch, and new bridge would have been used as paths; the former connecting the general public to the river and the latter connecting the farmers to more urban inhabitants. Cerro Santa Lucia was similarly used for Catholic worship and thus again was a plaza facilitating gathering (Burdick 2019, 600).



The protest route Avenida Libertador General Bernardo O'Higgins once held importance for the colonial farmers, and Catholic worshipers. Most of these spaces have been erased or altered.

Republic Chilean

After the war of Independence, Santiago remodelled many of its public spaces in an attempt to help define its new character (El Museo Historico National n.d., 3). Director Supremo, Don Bernardo O'Higgins reimagined La Cañada as a boulevard with promenades and clear-water ditches

weaving through poplars (De Castro et al. 2020, 93–95). In this way the paths along the street were formalized.

Additionally, along the boulevard, new political and cultural architectures developed. These include the Palacio de la Moneda which became the seat of the president in the republic (De Castro et al. 2020, 104–06). Other institutions include the Universidad de Chile (1842), and the Biblioteca Nacional 1813. The elevations would have displayed the new power of Chile.

Similarly, Cerro Santa Lucia was reimagined, and turned into a public park containing fountains, terrace plazas, paths, a chapel and fortress (Garces Feliu et al. 2020, 101; De Castro et al. 2020, 99). It was a microcosm of what was happening everywhere in Santiago.



The protest route Avenida Libertador General Bernardo O’Higgins became a place for the public, and expression of political messages. Most, but not all of these spaces still exist.

Globalized Chilean

Within a globalized framework the boulevard again changed. The streetscape became more centralized (De Castro et al. 2020, 106). While a trend in privatization and fragmentation lingered even after the Pinochet military dictatorship, it was also followed by an increase in public and cultural space (Borsdorf and Hidalgo 2013,103; Cuevas and Araya n.d., 13–15). With an increase in car traffic and the addition

of the underground metro, the poplar trees were cut down, the ditches scrapped and the promenade became discontinuous (El Museo Historico National n.d., 4). Thus the paths along the street were restricted to the cramped disjointed sidewalks.

The public places facing the boulevard did grow as the Plaza de la Ciudadanía 2006 was placed on the south side of the Palacio de La Moneda and Paseo Bulnes 1937 stretched out in front of it. To the east, the street was anchored by the Plaza Baquedano 1928 at the edge of the Mapocho. These plazas became places to observe Chilean culture and power.

Additionally on the northern side of the street axis, ministry buildings were developed while on the south it was housing and cafes. The Avenida Libertador General Bernardo O'Higgins additionally began to be flanked by office towers, many with market spaces on the ground floor (Gilbert 1994, 307). All of them have come to communicate the street's and Chile's growing importance as a thriving international economic centre.

At a macro level, the street holds meaning for what is once was, an arm of the Mapocho River that has been erased. This memory feeds into the regional scale dynamic of the



The protest route Avenida Libertador General Bernardo O'Higgins became a place of the public, and the expression of political messages. Most, but not all of these spaces still exist.

binary erased Mapocho and conserved Baker Rivers. Thus, a set of monuments to the Patagonia Sin Represas movement sited along an erased river, which is also a place where people have come to protest the erasing of the Baker River is an appropriate initial move.

At a micro level, there are spatial configurations, and memories still alive which speak to exactly how the Mapocho river transitioned into an urban element which can be addressed more directly and systematically.

Siting Arguments

Bernard Tschumi argues that architecture only exists in the world where it locates itself (Tschumi 1996, 177). Form only speaks as much as it can be read, and it is read according to its context. An intervention which understands the meaning of contextual forms and then reorders them, is a folie (Tschumi 1996, 177). Within this intervention, and context relationship Tschumi discusses the palimpsest as a method of working (Tschumi 1996, 193). The method is the deconstruction of existing context through space and time. A palimpsest design references these layers and even some from other places to create a dialogue.

The language of abstracted perceptual alterations of the protest characters will be composed according to arguments made between various parties in the Patagonia Sin Represas movement. The cultural group fought to preserve the aesthetics of the landscape, and therefore valued the economic gains of the project as lesser (Schaeffer Ortúzar 2017, 142–143). The conservationist fought for an ecological balance, and therefore were against high density extractive urban development (Weld Bell 2017, 48). The workers fought to preserve the environment for their primary industry yields,

and therefore would have wanted secondary or tertiary industry workers' not to forget their extended dependence on river the landscape (Weld Bell 2017, 17). The Indigenous peoples fought for their land rights and continuity of cultural memory, and therefore against losses of land in other parts of Chile (Risley 2014, 426). The religious groups fought for people's rights to access sacred landscapes unimpeded, and therefor were against privileged and restricted land schemes (Schaeffer Ortúzar 2017, 144). Within these rhetorical focal points along the street, there are features at an even finer scale which contribute to the overall argument that will be analyzed further.

SPATIAL AND POLITICAL HISTORY OF THE PROTEST ROUTE

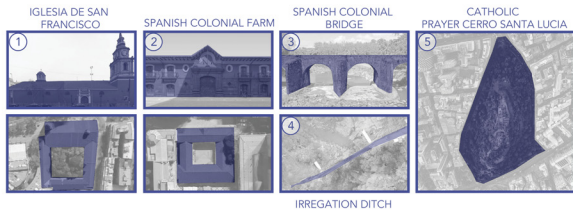
AVENIDA BERNARDO O'HIGGINS: Business + Public



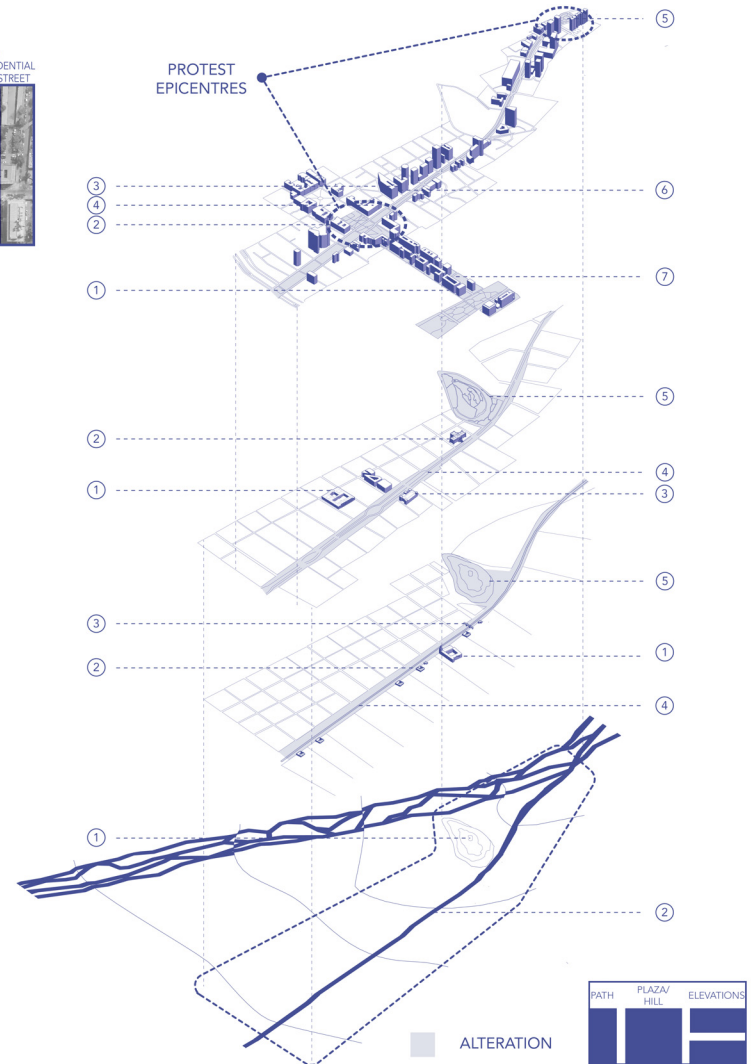
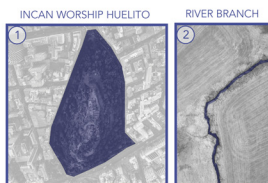
LA ALAMEDA: Paths+ Institutional



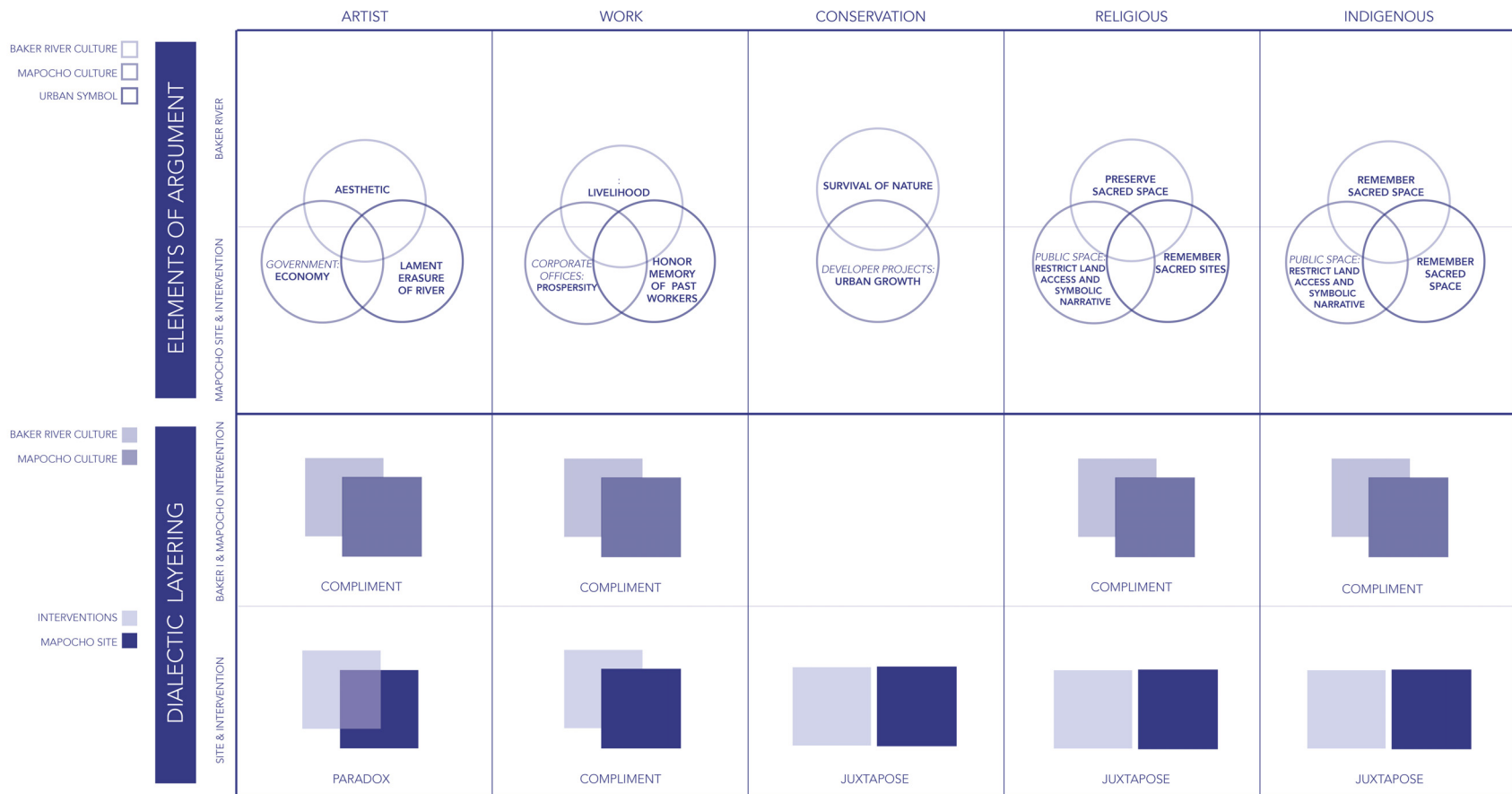
LA CAÑADA: Farm + Sacred



LANDSCAPE: Sacred



This is a study of thematic and spatial alterations along the Avenida Libertador Bernardo O'Higgins (EFE 2011). The protest route started as a branch of the Mapocho River and took on different meanings to the Patagonia Sin Represas movement protest characters.

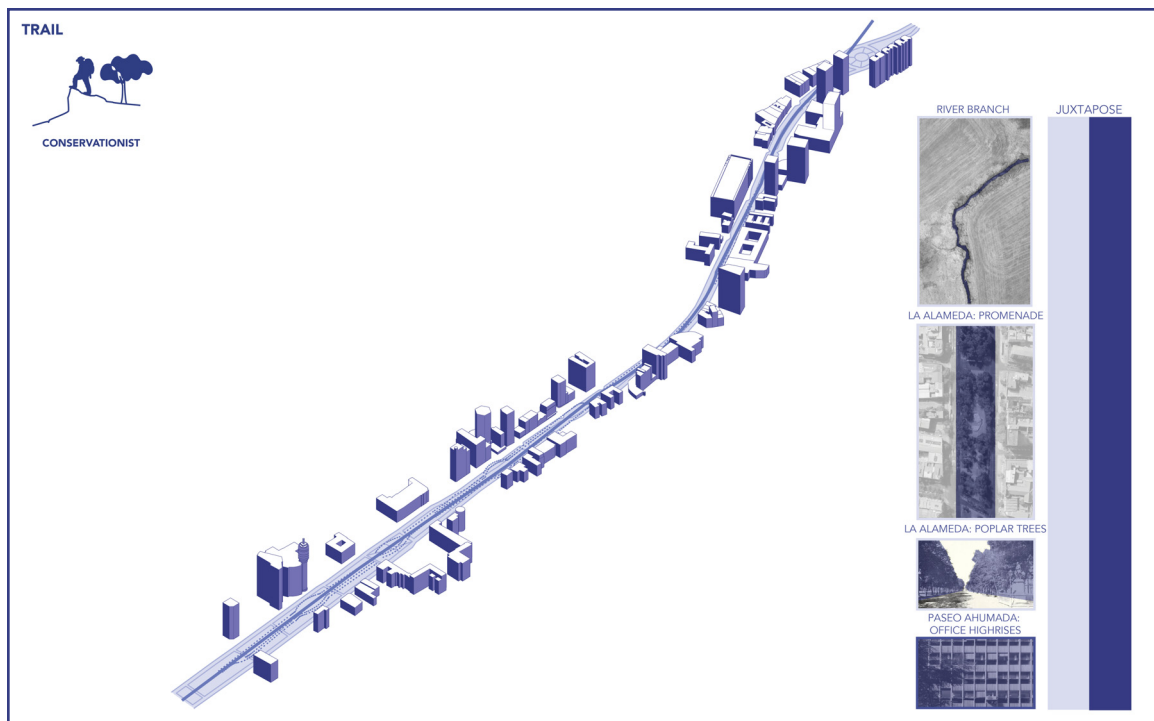


This is a study of how monuments can be orchestrated along the Avenida Libertador Bernardo O'Higgins according to the street's own history. Interventions inspired by the Baker and Mapocho Rivers compliment each others' perspectives. Meanwhile, site and interventions can have a political relationship directed by the arguments in the Patagonia Sin Represas movement. These complicated connections inspire spatial expression.

Chapter 5: Design

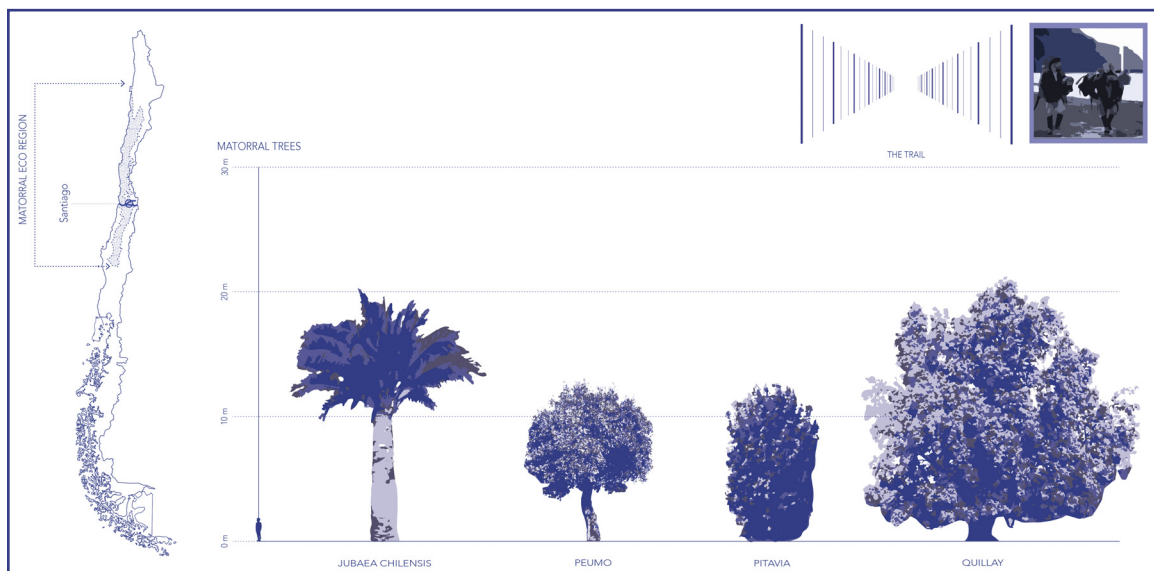
The Trail

The conservationist's perspective seeks to revive the landscape and trail elements of the past of Avenida Libertador Bernardo O'higgins and block out the views of the dense urban current context. The abstracted path of the conservationist is applied to various parts of the Avenida's palimpsest. This is done by referencing the trees indigenous to the matorral eco-region including the *Jubaea Chilensis* and *Pitavia* (Fuentes et al. 1984, 405). The result is a set of monuments showcasing the beauty of the river landscape through the eyes of conservationists which spatially argue against the urban forces that were a reason for the Baker River dams having been proposed.



For the conservationists' trail, the Avenida's past as a river, and promenade are invoked to juxtapose the dense urban context.

The trail starts as a view to the Mapocho River, and Cerro San Cristóbal beyond. This is in reference to the former river branch that connected to the Mapocho. The intervention diverts to, and appropriates two lanes of traffic next to the sidewalk. It plants trees on either side of the lanes in a continuous rhythm. The trail provides an uninterrupted perception of the conservations' path by building a series of overpasses. They are small short-beam, mass-timber structures clad in tightly sequenced wood fins. The mass timber harkens to the thick quality of the *Jubaea Chilensis* while the fins speak to the tectonic experiences of the *Pitavia* trees. Finally, the trail is anchored to a vestigial fragment of the original republic poplar boulevard beside the presidential palace complex.



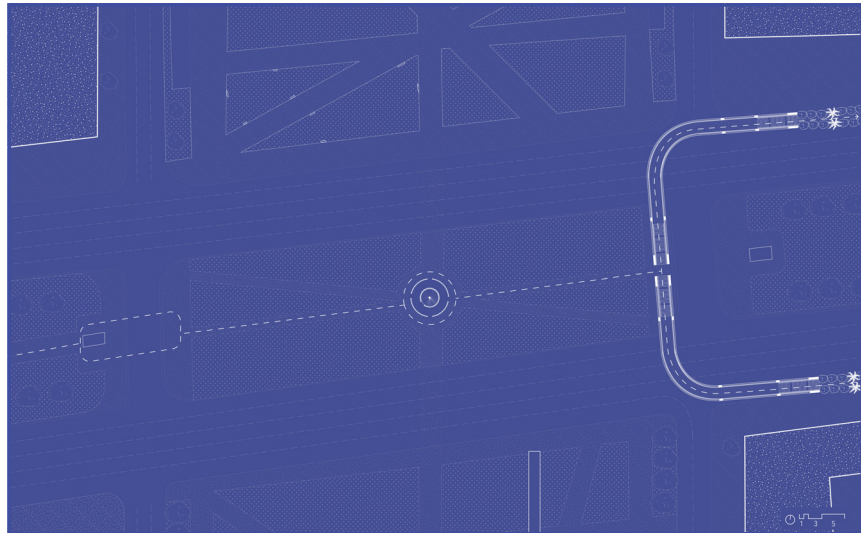
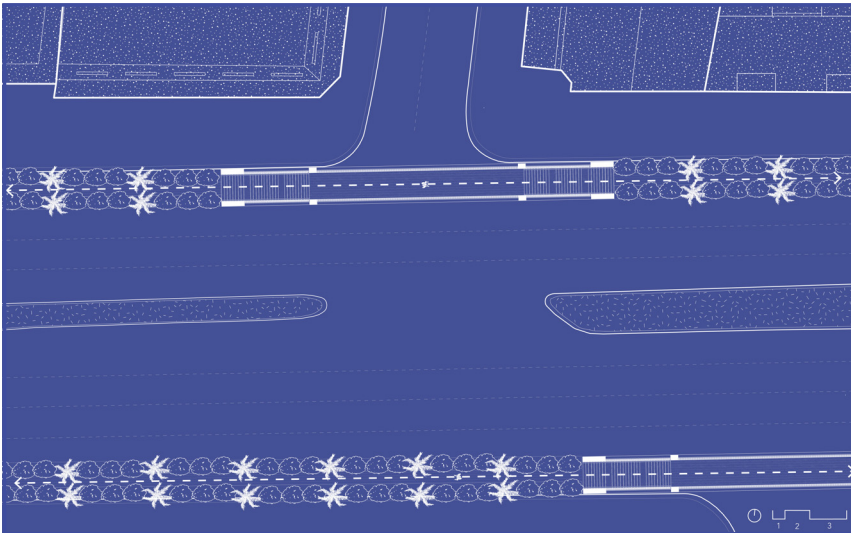
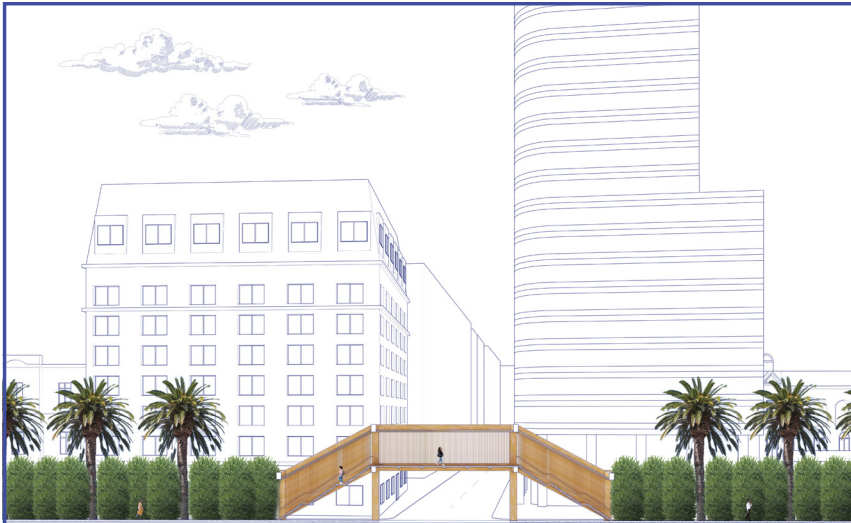
A study of the scales and experiences of the Matorral Ecoregion relative to those of humans. This is used to inform scales of built structure, and cladding.

The Bridge

The monuments to the workers of the Patagonia Sin Represas movement are crossings for the current Avenida workers to go from home to work and experience abstracted perceptions from the lost and distant river landscape. They

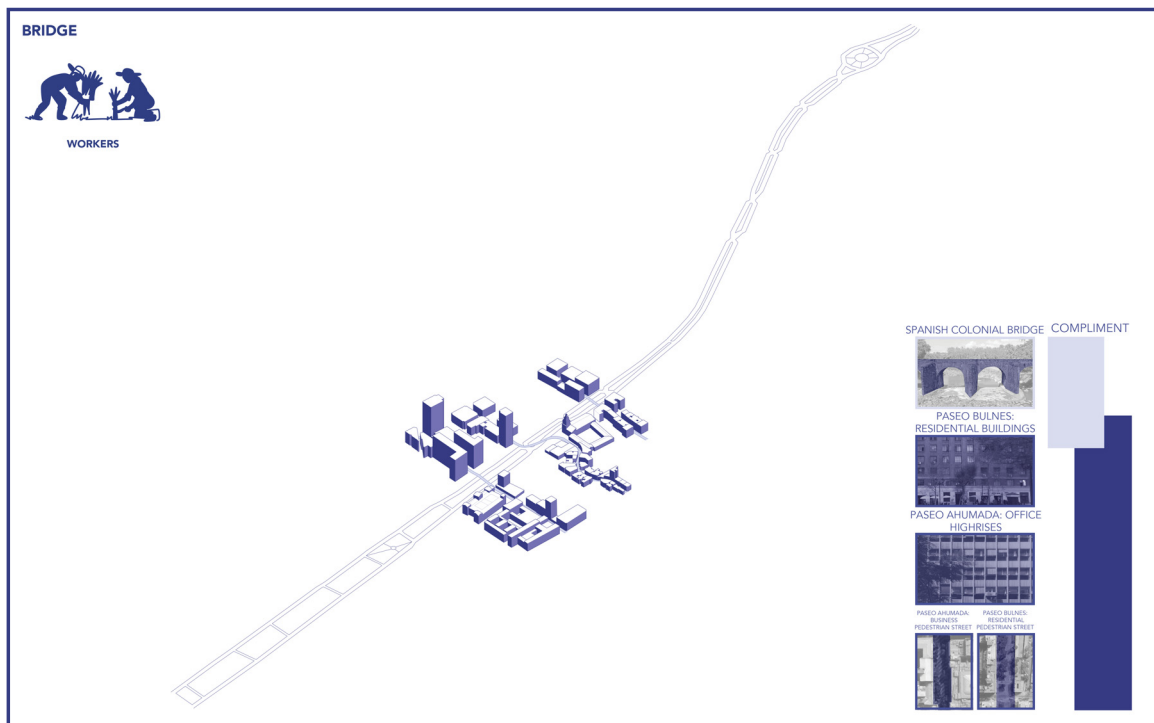


The conservationists' trail connects to the Mapocho River, with a view of river and mountain, while the tightly-spaced fins prevent views to the outer urban context. The trail appropriates two lanes of traffic along the street.



The trail is made continuous with mass timber overpasses and trees. A curve then connects the trails on the outsides of the road to the remnants of the Republic Boulevard era trail.

speak to the history of the Avenida having been crossed by colonial farmers via a bridge given that today only tertiary and quaternary workers exist along the street (El Museo Historico National n.d., 2–3; Gilbert 1994, 307). Currently, there are pedestrian streets leading to the Avenida, and yet there are no uninterrupted crossing opportunities. The result is a set of monuments which augment the reality of the current workers of Avenida, in order for them to empathize with the workers along Chile's rivers.



The workers' bridges invoke the memory of the colonial farmers' bridge to connect the homes and offices of the current inhabitants in order for them to feel a connection to the river landscape.

The Reference Grid

The streets perpendicular to Avenida Libertador Bernardo O'Higgins are lined with facades both from the Republic period and the globalized period— both of which have very repetitive grids of apertures. This grids can be used to measure time and place, given that the walking speed on pedestrian street is a fairly consistent five kilometres

per hour and eye level doesn't shift much when walking. Thus, these contextual grids are used as a conceptual tethering point, from which a change of rhythm feels like the experience of a change of speed or change of type of travel.

The Architecture: Colonial Santiago Farmers' Bridge

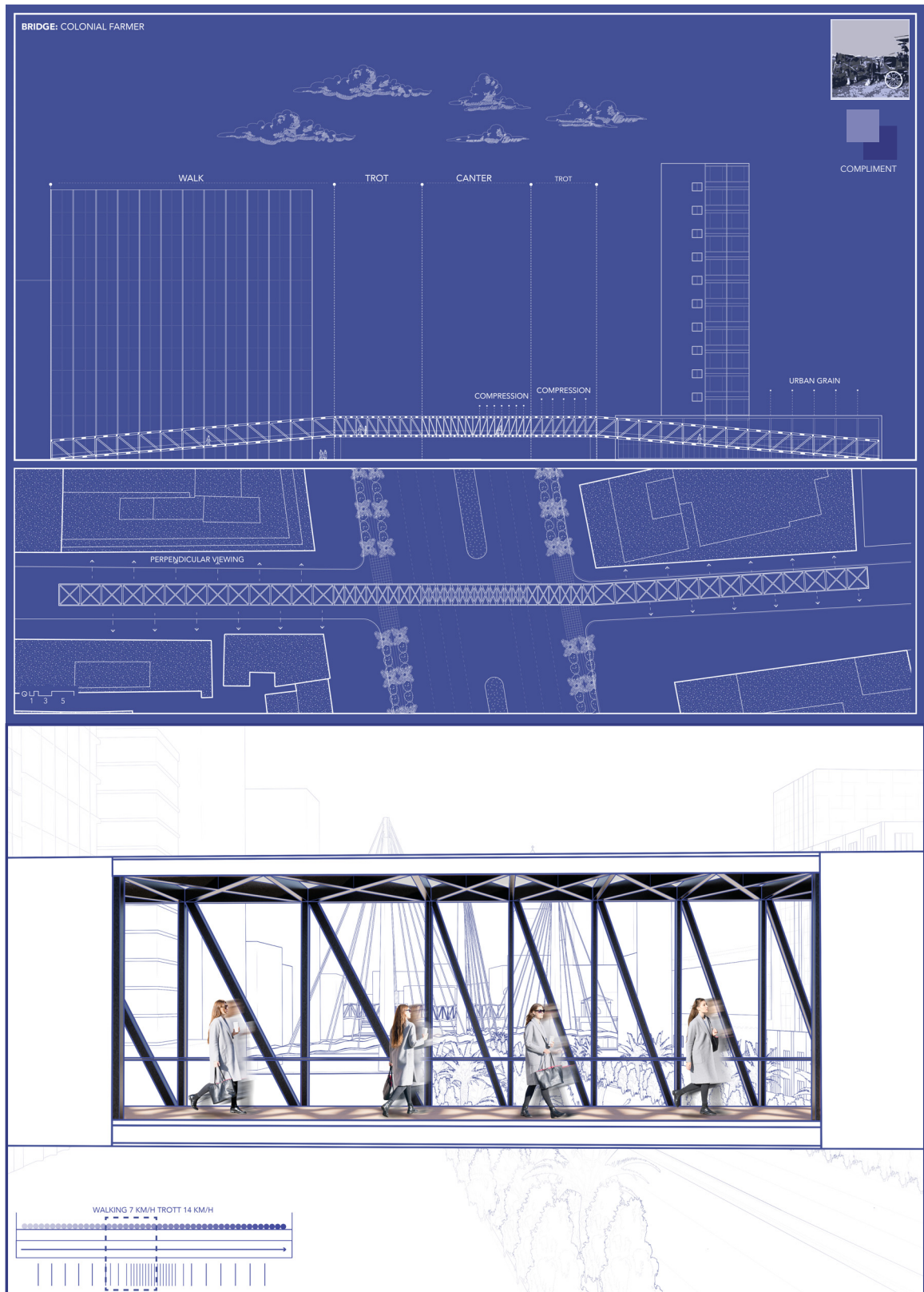
A truss bridge is paired with the experience of the colonial Santiago farmer riding his horse-drawn cart. The reading of the views perpendicular to the bridge are filter through a sequence of steel frames of varying dimensions along the span of the bridge. They compress at the centre representing the experience of a smoothly achieved higher cart speed.

The Architecture: Gauchos' Bridge

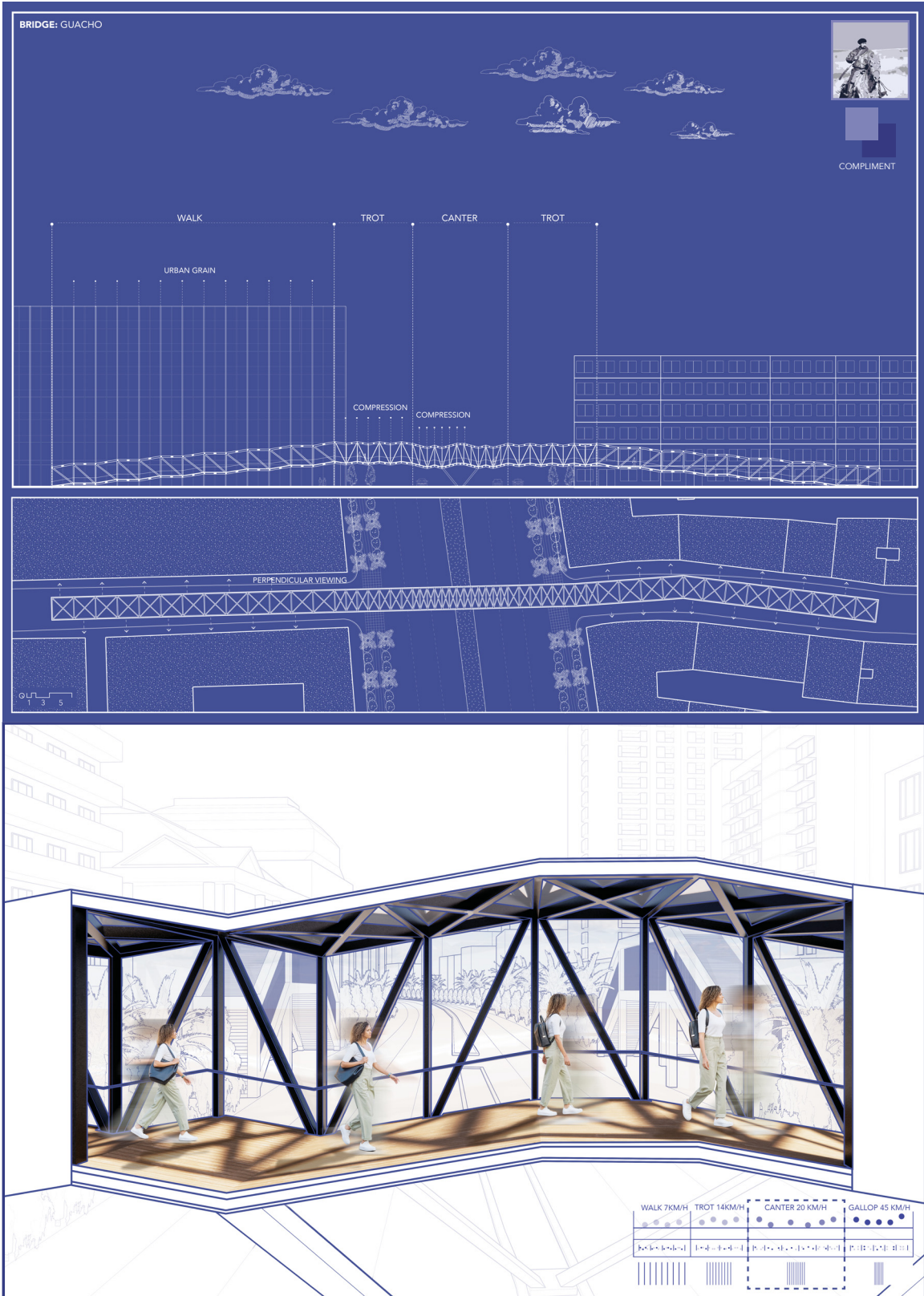
A truss bridge is also paired with the experience of the gaucho. This character rides a horse whose rhythm is felt according to different footwork patterns—or gates. The span of one truss is encoded with the vertical displacements and horizontal compressions of one frames of the gate via the sloping of the truss bay. The sequence of the trusses is more erratic corresponding to the nature of herding cattle or sheep.

The Architecture: Fisherman's Bridge

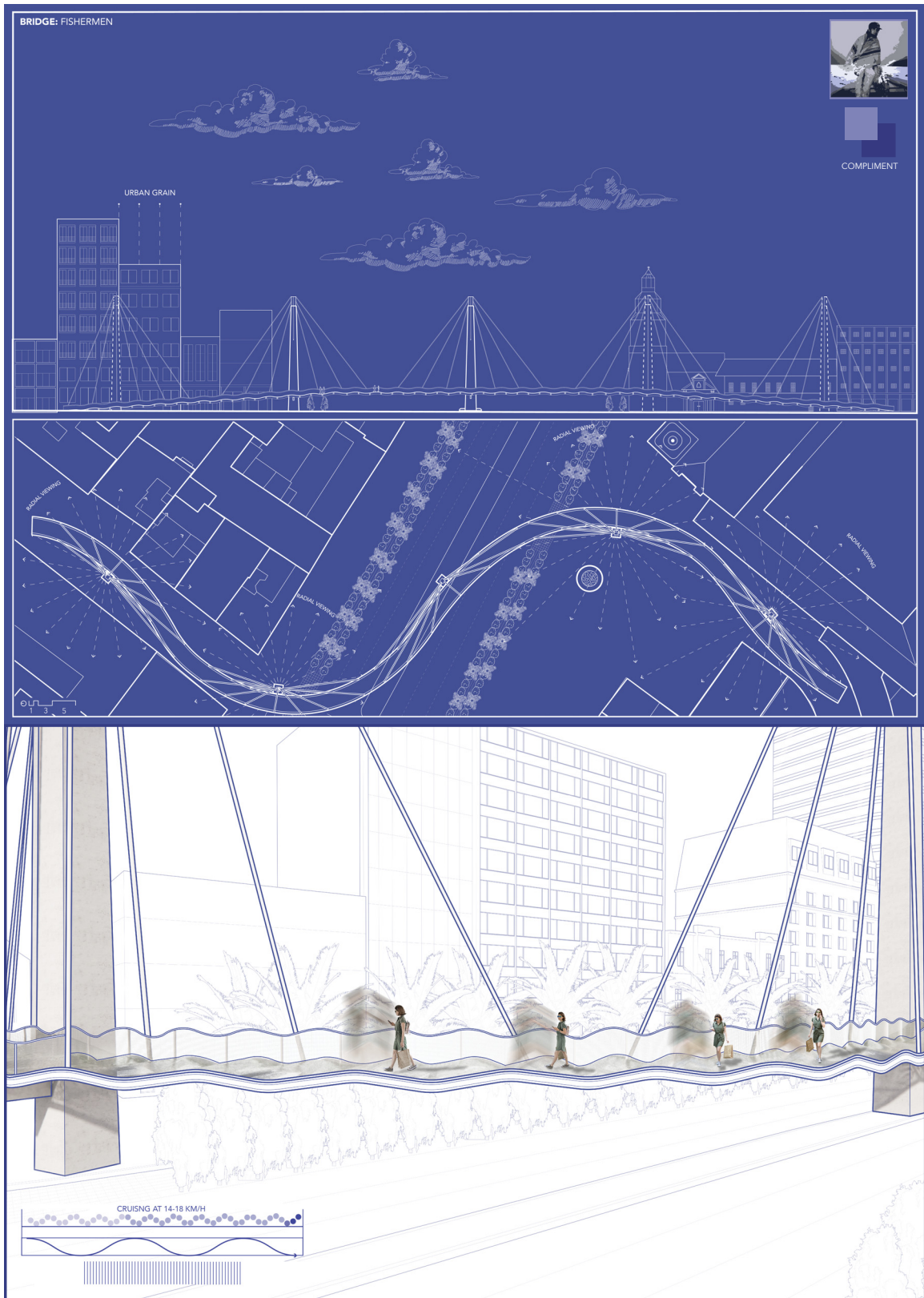
A cable-stayed bridge is used for the fisherman's bridge to allow for the expression of curved paths. The path along the fisherman's bridge waves laterally in keeping with the character of the Londres and Estado Street. The pivoting about the main structural columns of the bridge, harkens back to the lateral curved motion of a boat pivoting to avoid obstacles in the water. Additionally, the floor of the bridge



The Mapocho colonial farmers' bridge compresses the existing urban grid to give the experience of motion on a carriage.



The gaucho bridge has horizontal and vertical moments of compression to give the experience of being on horseback.



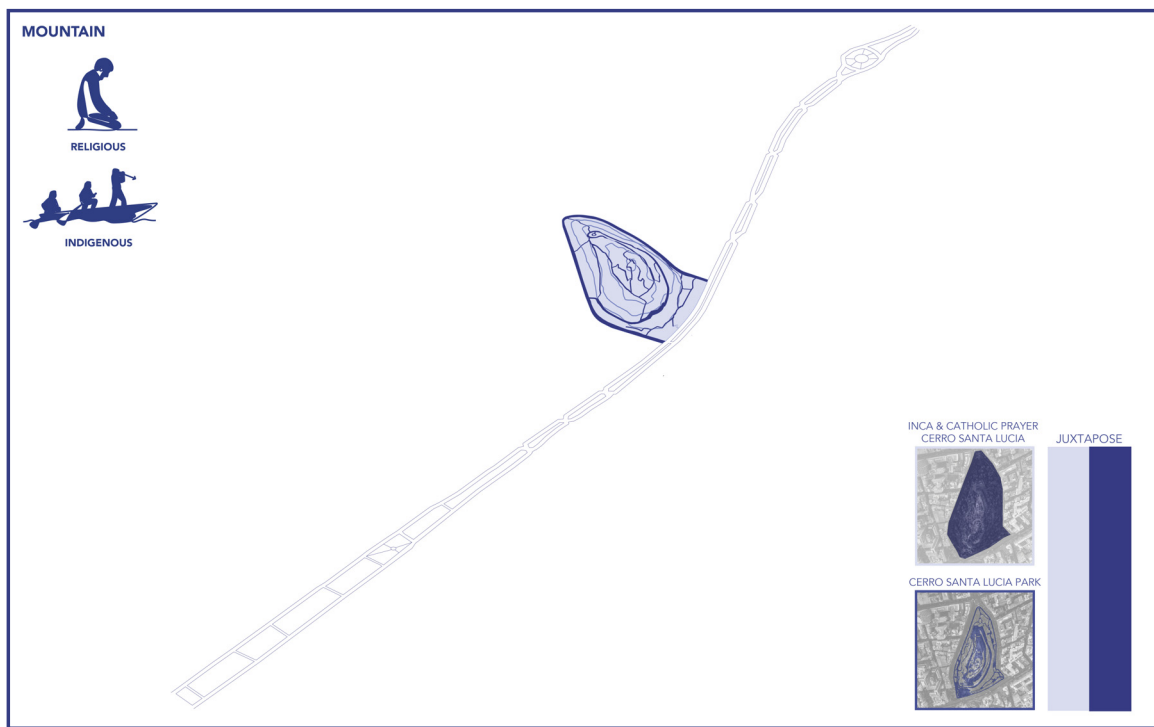
The Baker River fisherman's bridge waves laterally and vertically in the manner of a boat.

waves to mimic the experience of the boat riding along waves.

The Hill

Deeper Inca History

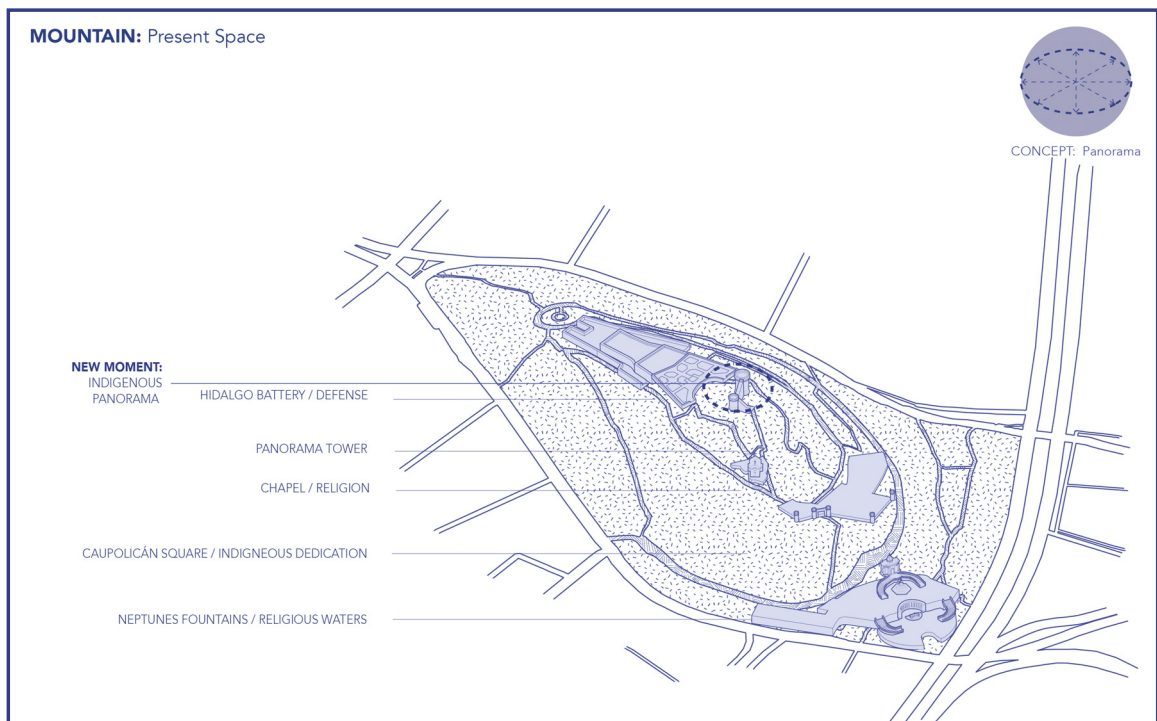
As previously mentioned, Cerro Santa Lucia (Cerro Huelen, or Wangüelen) was used as a place to observe astronomical events (Bustamante Diaz and Moyano 2013, 21–22). During Inca inhabitation, the hill would have provided a 360-degree view of landscape features forming the horizon (Bustamante Diaz and Moyano 2013, 21–22). In this way, the specific mountain peak alignments to sunrises or sunset could have been used to measure the times of the year—specifically during solstices and equinoxes (Bustamante Diaz and Moyano 2013, 15). Today, that 360-degree view is mostly obstructed, due to the building of high-rises (Bustamante Diaz and Moyano 2013, 22). However, the tallest point of



For the indigenous and religious perspectives, spaces on their sacred mountain, Cerro Santa Lucia can be revived and referenced to juxtapose the public spaces which led to their erasure.



In the past, the Incas would have panoramically viewed the landscape beyond during their spiritual practices.



Therefore, the highest point of Cerro Santa Lucia today; the panorama tower is reclaimed as indigenous cultural landscape.

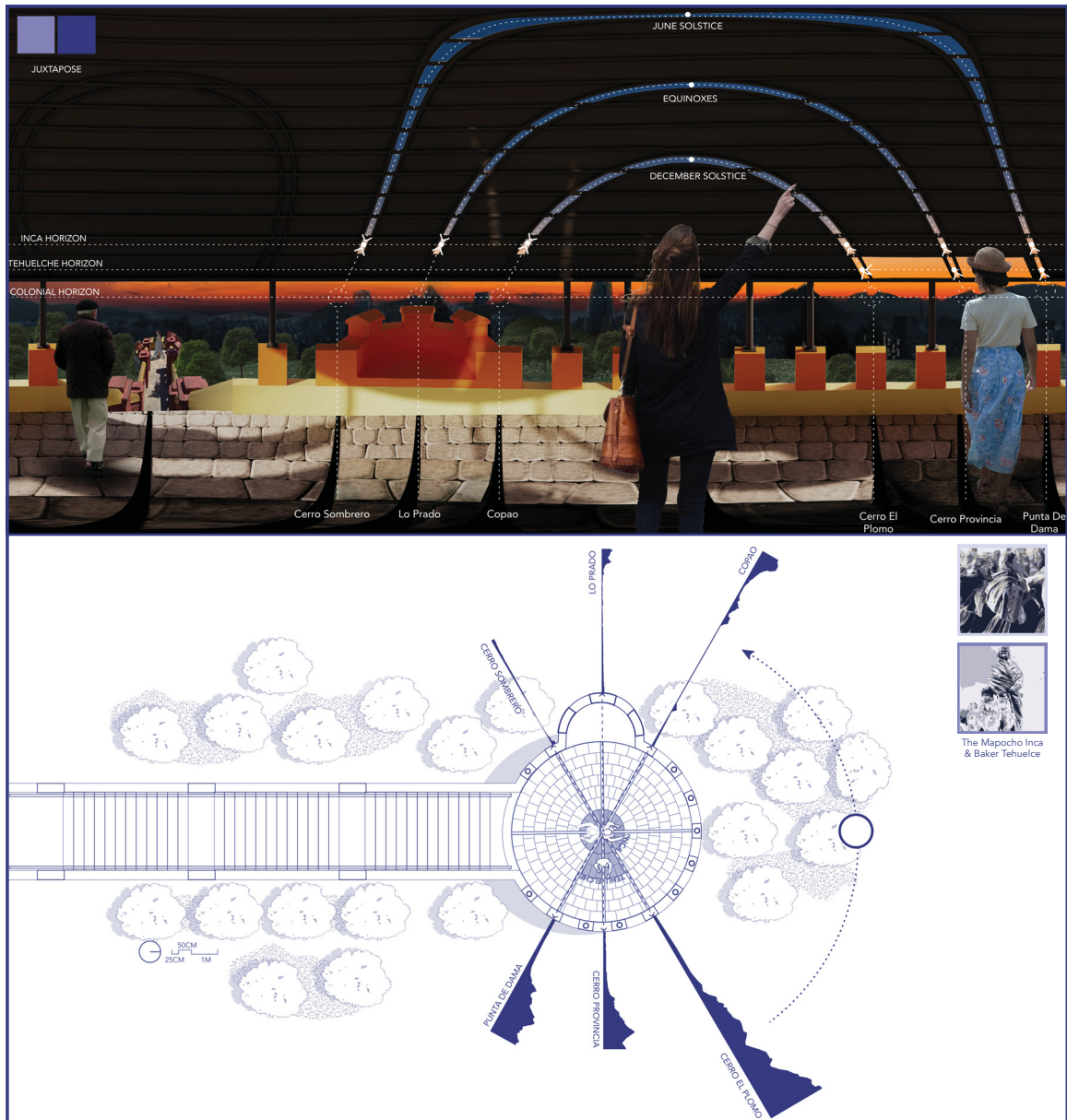
the hill today is a look out tower which gets unimpeded views of the mountains beyond, and is thus the site of the indigenous monument.

The Architecture: Indigenous Observatory

The Indigenous Observatory represents the contributions of indigenous Tehuelche and Incan narratives to the Patagonia Sin Represas movement. Their past abstracted connections to the river landscape based on the idea of horizons are used as a source of formal inspiration. These perceptions are layered onto Cerro Santa Lucia's plazas to reclaim appropriated sacred landscape (Parada 2012, 60; Burdick 2019, 600). The result is a monument which frames important celestial events, and the horizons they touch upon, while also blocking out views to the existing colonial context (Museo Chileno de Arte Precolombino n.d.b.; Bustamante Diaz and Moyano 2013, 21–22).

To correspond to Incan myth, the room has apertures pointing to Cerro Sombrero, Lo Prado, Copao, Cerro El Plomo, Cerro Provincia and Punta de Dama during the sunset and sunrises on the equinoxes and solstices, as well as tracing along the full solar paths during those times of the year (Bustamante Diaz and Moyano 2013, 15). For the memory of the Tehuelche an aperture intersecting the former is made to allow for views of the sunrises during all of the year. For Tehuelche, it was the east that was important (Museo Chileno de Arte Precolombino n.d.b.).

The room is made of a series of steel channel members which are aligned to the oscillating yearly solar paths and landscape. Floor markings reinforce the importance of positioning by indicating where an individual needs to stand



A dome frames the horizon to the east for the Tehuelche and the important solar path during equinoxes and solstices for the Inca.

in order to experience the existing, the Tehuelche and the Incan horizons independent of each other.

Deeper Religious History

During the colonial period Cerro Santa hill served as a sacred refuge and gathering spot, whose elevated position offered a sense of spiritual advantage (Parada 2012, 60, 62; Duarte 2003, 9). It was used by Catholic worshippers as a site

of prayers (Parada 2012, 60, 62). Being closer to the sky would have meant being closer to the divine. The pilgrimage up and down would have heightened the experiences of the plazas. Today, while there is a republic era chapel atop the hill, there are no outdoor spaces dedicated to the spiritual reading of earthly realms. Therefore, the interventions will carve out space from existing plazas to allow for those sacred sensations.

The Architecture: Religious Contemplation Rooms

The religious contemplation rooms are inspired by the contributions of the religious practitioners to the Patagonia Sin Represas movement. Their abstracted perceptions from their river landscapes are based on the idea of emersion. These politically address their context by claiming space in various plazas on the Cerro Santa Lucia in order to rebuild its position as an intermediary between landscape and divinity—and in doing so, blocking out more recent additions to the hill which lessened its sacred function. The result are Baker River baptisms interventions corresponding to the experience of emersion in the water, and complimentary the Mapocho River colonial Catholic prayer rooms corresponding to the experience of emersion in the sky (Tropa 2000; Parada 2012, 60, 62).

The architecture of the prayer room for the memory of the colonial Catholics of Santiago is sited on the highest plaza to correspond with the transformative path which leads up to the sky. The architecture uses mirrors to create a room of emersion into the sky. It is a half-sphere form creating a natural-looking reflection with little potential for seeing oneself. The entry and exit thresholds are extrusions of the walls which grow in scale to compensate for the shrinking

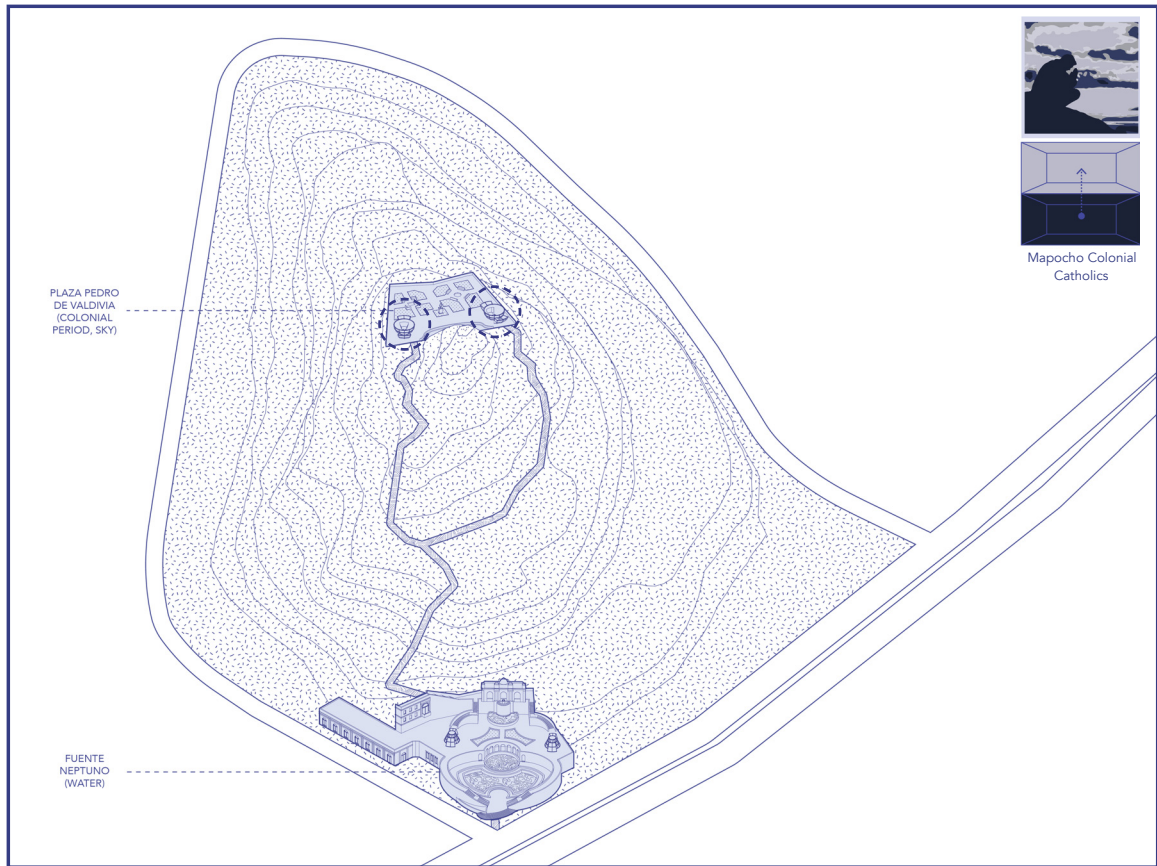
effects of perspective experienced at the centre of the monument.

The baptism room of the Baker River baptism recipient is situated at the Fuente Neptuno plaza at the base of the hill (Tropa 2000). The series of water fountains, and the terminus of a procession downward thematically and processionaly correspond to the act of baptism. The room has a plexiglas floor hover above water. This is inspired by the act of approaching the water. Once within, there is a bed to lay down on. Above, there is a semi-transparent mirror. The conical shape of the room means that the mirror responds to the effects of perspective and frames only the watery floor and viewer. The light let into the room and reflecting off the tops of the walls reinforces the experience of being underwater looking up. From the centre of this monument, the thresholds are also enlarged extrusions of the walls, supporting the immersive experience.

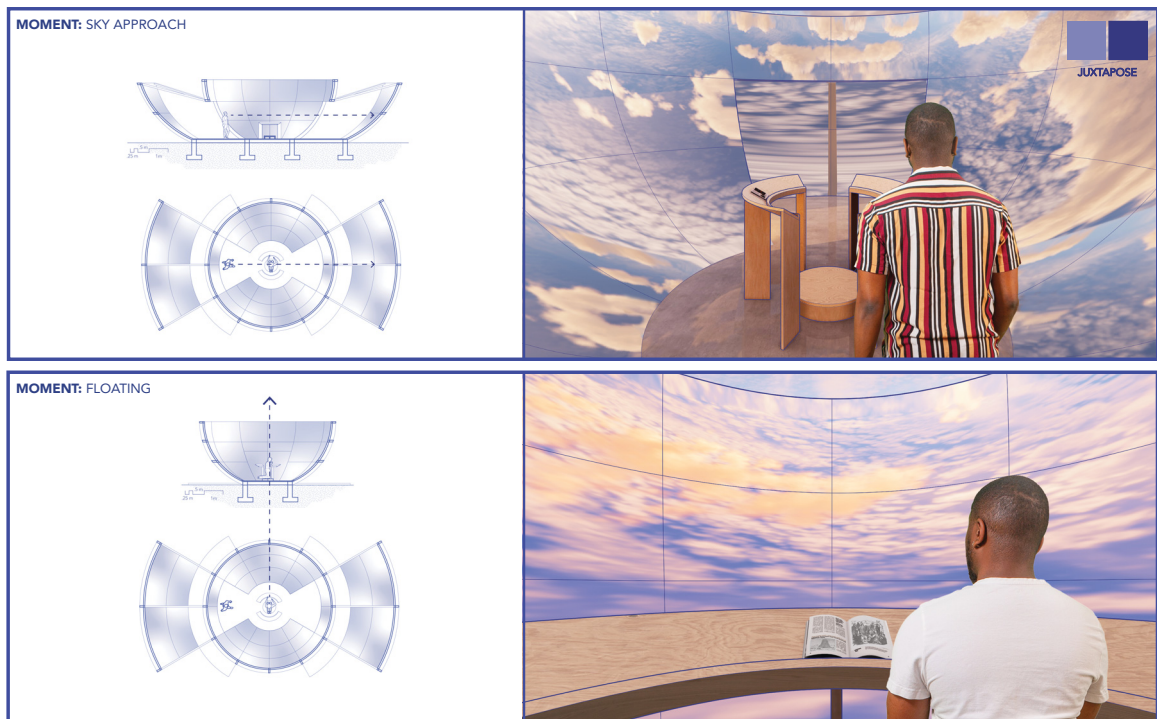
The Plaza

Deeper Political History

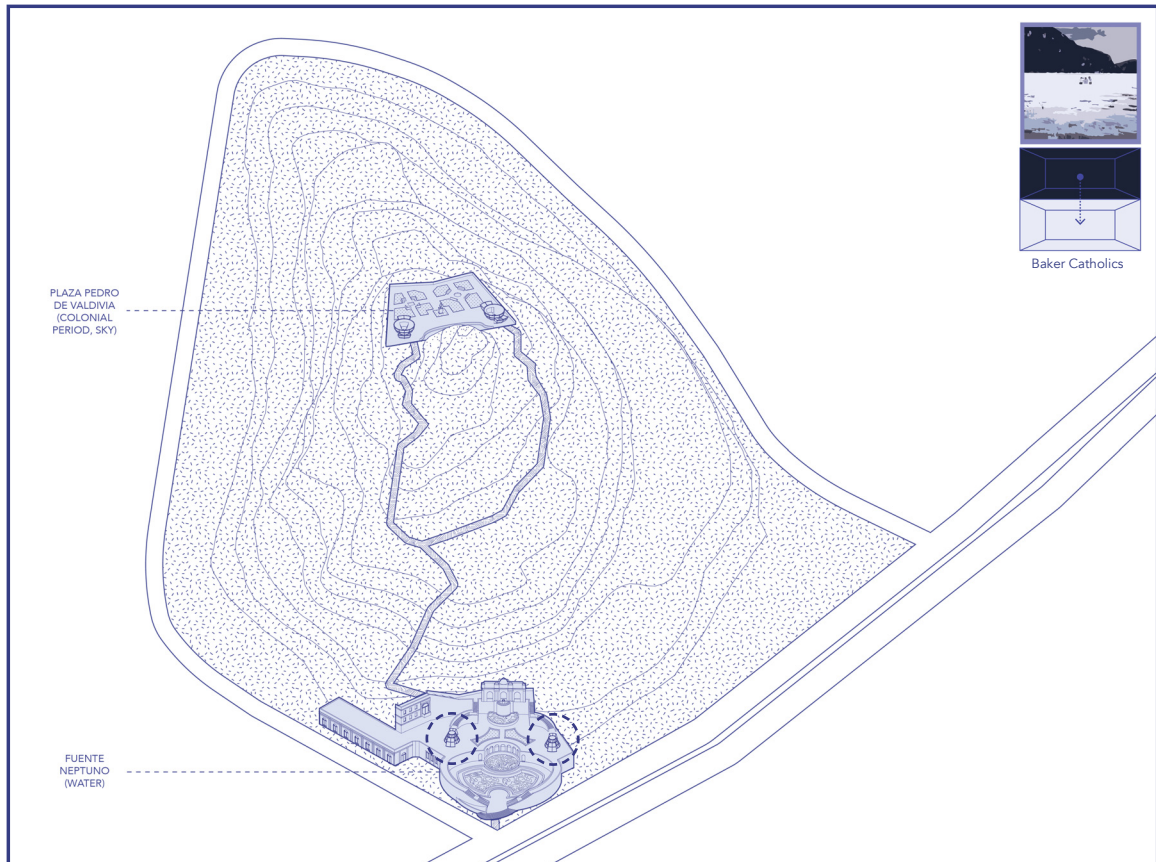
The history of the Palacio de la Moneda reinforces its role as a spatial representation of the type of political power which has shaped the destiny of Chile's rivers. It was designed in 1780 as a royal mint house with an elaborate and ornate exterior expressing the importance of wealth (Garces Feliu et al. 2020, 103–104). It's neoclassical and monumental scale inspired the later president Manuel Bulnes to move the seat of the government to the building after Chile received its independence (Garces Feliu et al. 2020, 103–105). The civic power of the area was solidified with the addition of public spaces and ministry building surrounding it in 1937 (Garces Feliu et al. 2020, 105–106). It is described as the



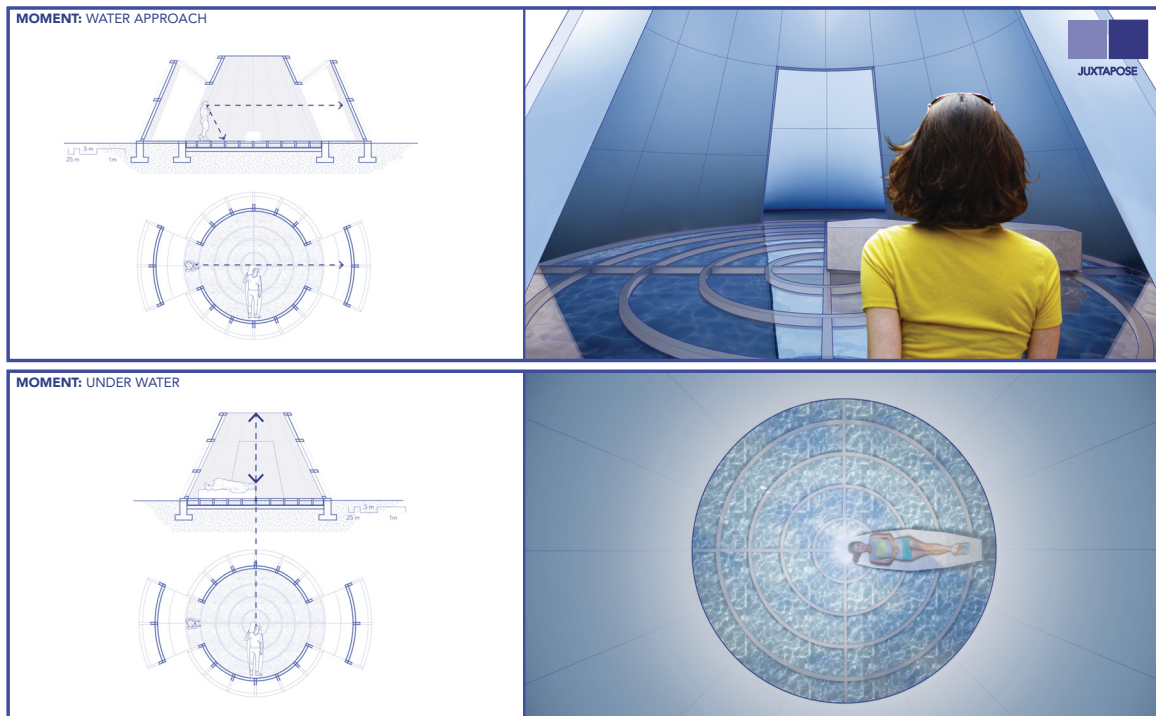
The pavilions for the praying missionaries are located on the highest plaza of the hill.



The pavilions are half spheres pointed up, and clad in mirror. The effect is a natural looking reflection of the sky, with little possibility of reflections of oneself during spiritual contemplation.



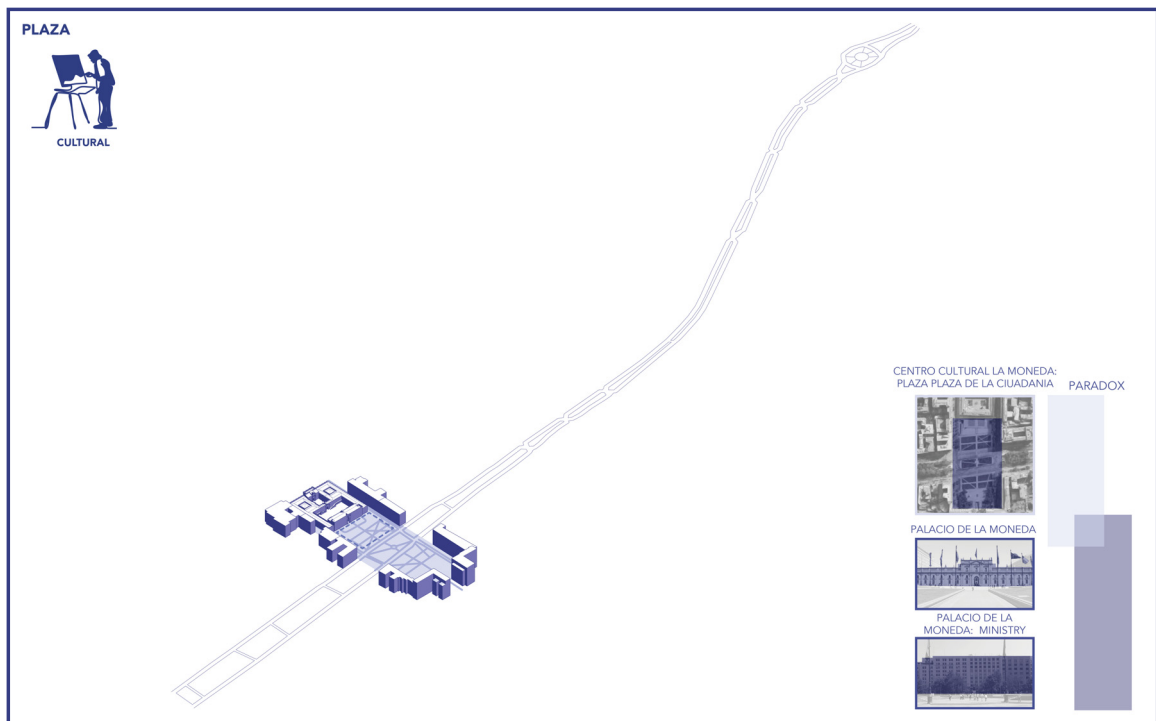
The monument to the Baker River baptism recipient is at the bottom of the hill at Fuente Neptuno.



Their pavilions have water below it symbolizing the decent toward water. Above there is a semi-translucent mirror framing the visitor and water below. This experience corresponds to looking at the surface of the water from within.

materialization of the power of the state, designed with rules and height restrictions in order to respect the centrality of la Moneda Palace (Garces Feliu et al. 2020, 106). It has been declared a historic monument, bombed during the Coup d'État, and since restored to its former glory (Garces Feliu et al. 2020, 106). An example of a recent development which is subservient the power of la Moneda, is the Centro Cultural la Moneda, or Cultural Centre of the Coin, and its art galleries which were built underground (Centro Cultural la Moneda n.d.).

Each facet of the plaza can be used to orchestrate a paradoxical relationship between art and political power. This is achieved by extending the artistic program up to the levels of the Palacio de la Moneda. The paradox is seeing multiple perspectives at once.

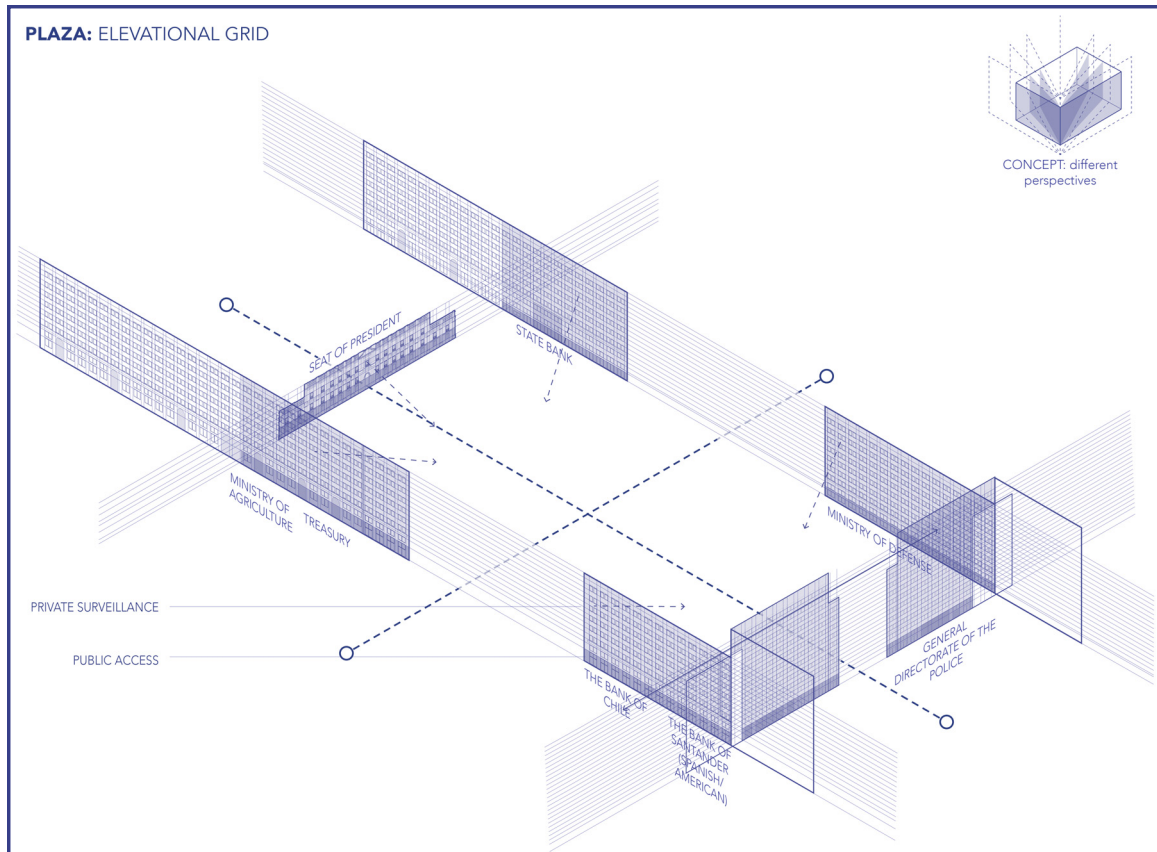


For the protest route plaza, the relationship of the palace and the art gallery below can be challenged, with the art programming rising above to face and augment the reading of political space. Seeing two perspectives at once is a paradoxical relationship.

Thus, the former unilateral and hierarchical manner of decision-making of the Chilean government which has led to Chile's rivers being at threat of being erased has representations in the plaza which can be deconstructed by the architecture of the artists of the Patagonia Sin Represas movement (Latta and Aguayo 2012, 165). The following is a study of these representations, as well as the development of a method by which each type of representation can become a jumping off point for how the perception of the artists can be used to implant arguments in support of Chile's rivers.

Elevational Rules and Grid

One set of rules in the plaza is the grid of apertures which provides a monolithic quality between the buildings, in the Plaza de la Ciudadanía and the Plaza Bulnes (Garces Feliu et al. 2020, 106). In spite of the apparent continuity, there are also hierarchies laden in the facades (Garces Feliu et al. 2020, 106). One is the public and private division. Whereas the lower floors have public thresholds into the buildings and windows through which the public can peer, the higher floors allow for only the government workers to observe the public in the plaza. Additionally, while the ministry buildings have very little changes in grid rhythm, the Palacio de la Moneda rhythm varies when read between left and right. It has 17 structural bays organized in a A, A, B, C, C, C, C, C, D, C, C, C, C, C, B, A, A, scheme. The odd number emphasizes the central bay which functions as the primary threshold between public and private. The repetitive ministry buildings can also be viewed as furthering this centrality (Garces Feliu et al. 2020, 106). This thesis proposes an architecture which challenges the vertical divide by building high enough to provide an opportunity for the public to counter-surveil the governmental workers. It also proposes acknowledging



This is an in-depth look at how the presidential palace plaza complex expresses messages relating to economic interest. It is gridded supporting the hierarchy of the palace, and the surveillance of the ministries of onto the public in the plaza.

and challenging centrality of the space to call attention to the dangers of the mechanism which support political unity.

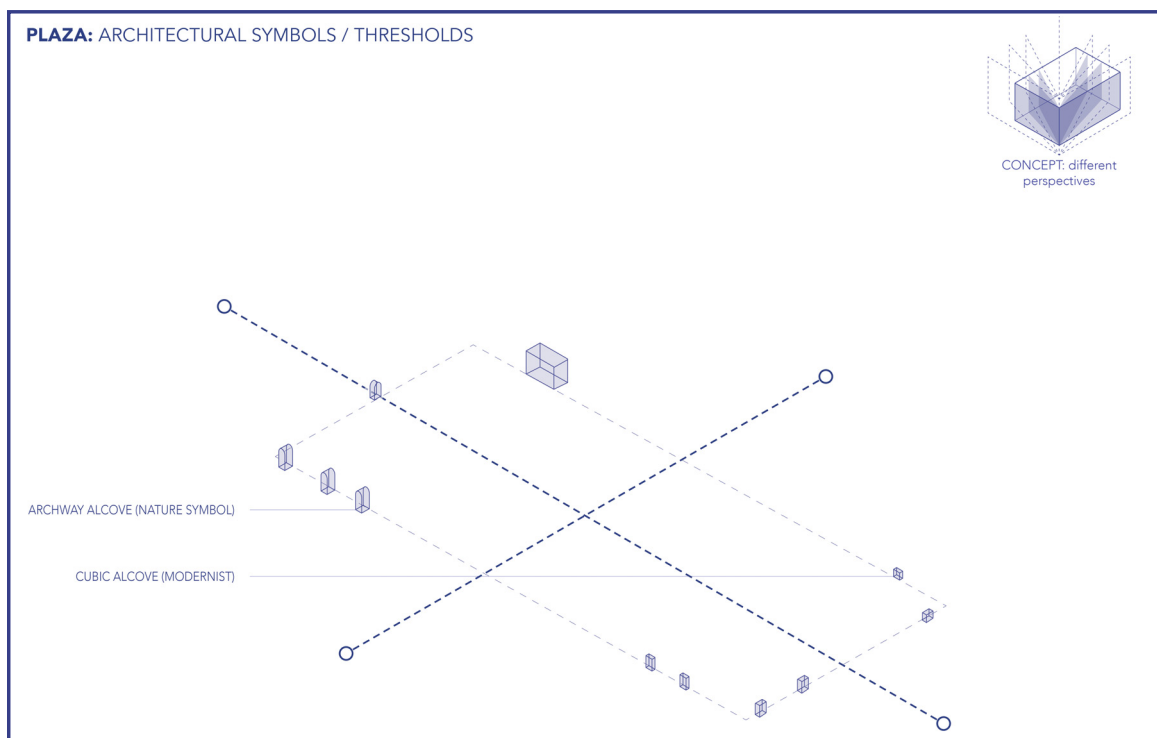
Symbolic Architecture in Elevation

The elevations facing into the plaza also bare symbolic meaning. The focal point and other thresholds around the plaza are spaces defined by the arch. According to Mehrhoff, the arch can symbolize new opportunities, and also connote nature (Mehrhoff 1992, 1). This is in contrast to the rectilinear shapes used more frequently in modernist architecture (Gotzelmann et al. 2005, 67). Modernism was meant to be a more stripped-down approach to architecture with the opportunities of technology informing the rules of designing (Gotzelmann et al. 2005, 67). There is a dialogue

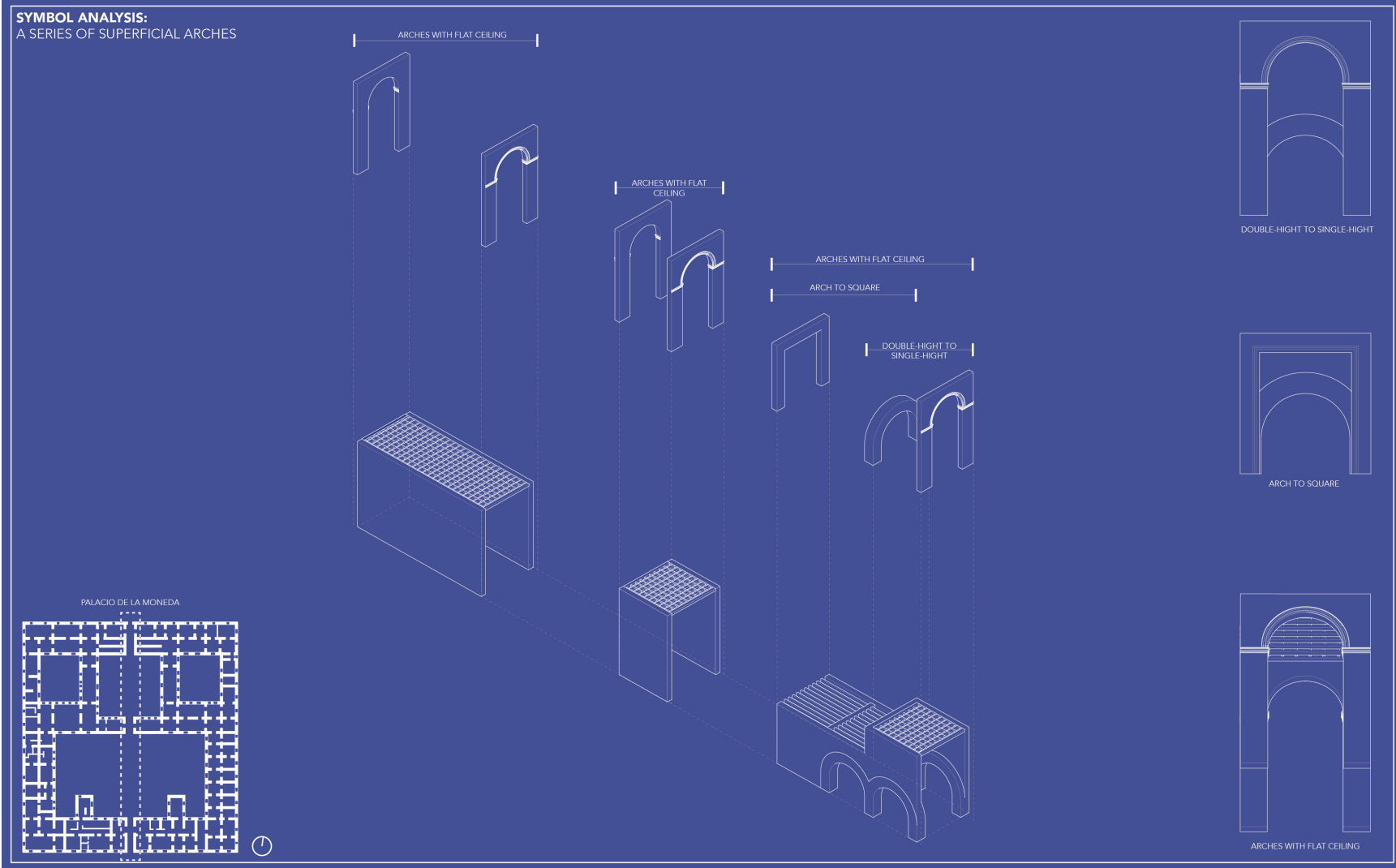
between classical and modernist symbols in the plaza. While their civic functions remain the same, the other modernist arches in the plaza are more devoid of connectedness to nature.

Furthermore, the focal entry into the Palacio de la Moneda entry is riddled with incongruent relationships between types of arches. These included an arch entry followed by a flat ceiling hall, a double-height entry arch followed by a single-height arch in its hall, and finally an arch entry with a hall terminating in a rectangular exit. This spatial transformations lead to incomplete and superficial experiences of the arch—with the symbolic connection to nature being disrespected.

Inspiration is taken from these symbolic focal points which are turned into architectural allies with the artists' perspectives. The Baker River art references the round arch, and the Mapocho graffiti artist references the modernist rectilinear



Architectural thresholds for the public are expressed through circular and square arches connoting nature, and devotedness of nature.

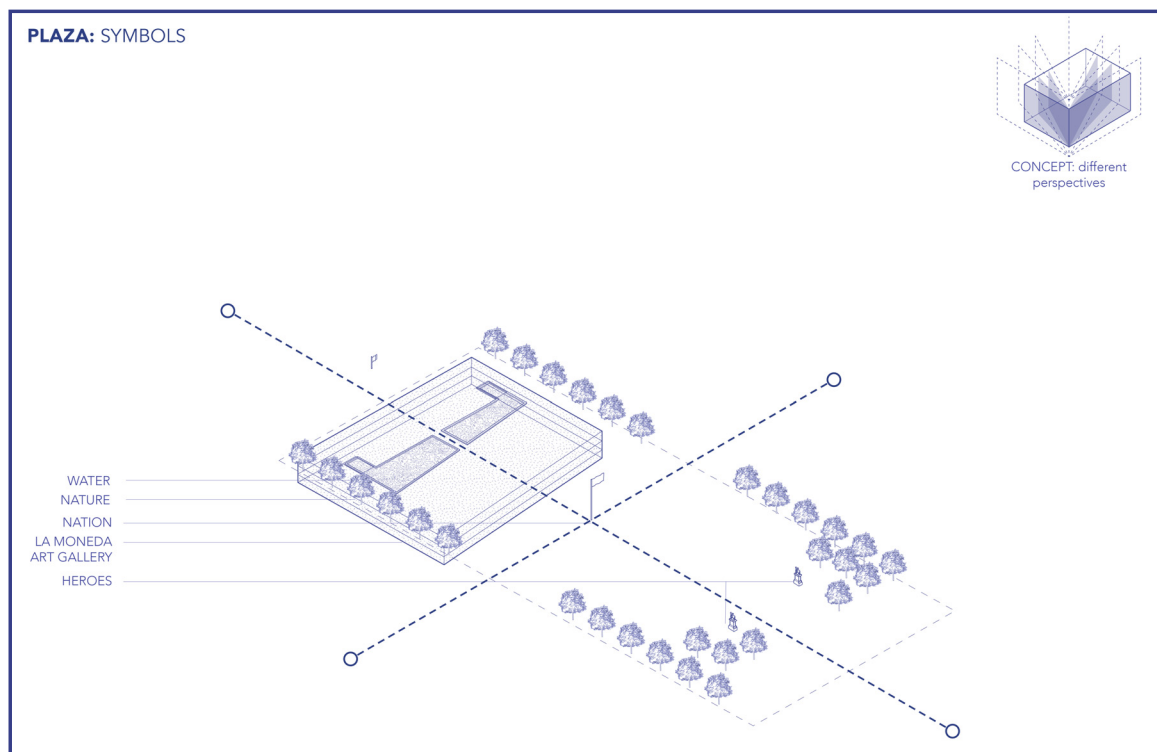


The arch as a symbol is an entry point into designing new public spaces. An analysis of the arches in the Palacio de la Moneda yields a variety of incongruent expressions of the arch including having a flat ceiling, transformations in scale, and conversions to square structural members.

geometry. Both make the connection that these elements signify a blurring of public and private space.

Symbolic Elements

Within the plaza grid, there are also elements of symbolic value. Directly in front of the Palacio de la Moneda, there are two fountains which allude to Chile's historic connection to rivers (Cuevas and Araya n.d., 13). The outer edge of the plaza is lined with rows of trees, speaking to the importance of nature. There is also a towering Chilean flag symbolizing the unity of the country. In the Plaza Bulnes, there are statues of national heroic figures with direct connections to the Avenida. One of them is General Bernardo O'Higgins, a leaders of the Chilean Independence movement, who also heavily renovated the fabric of Santiago (Garces Feliu et al. 2020, 93). This thesis creates different programmatic responses to these symbols in order to implant direct

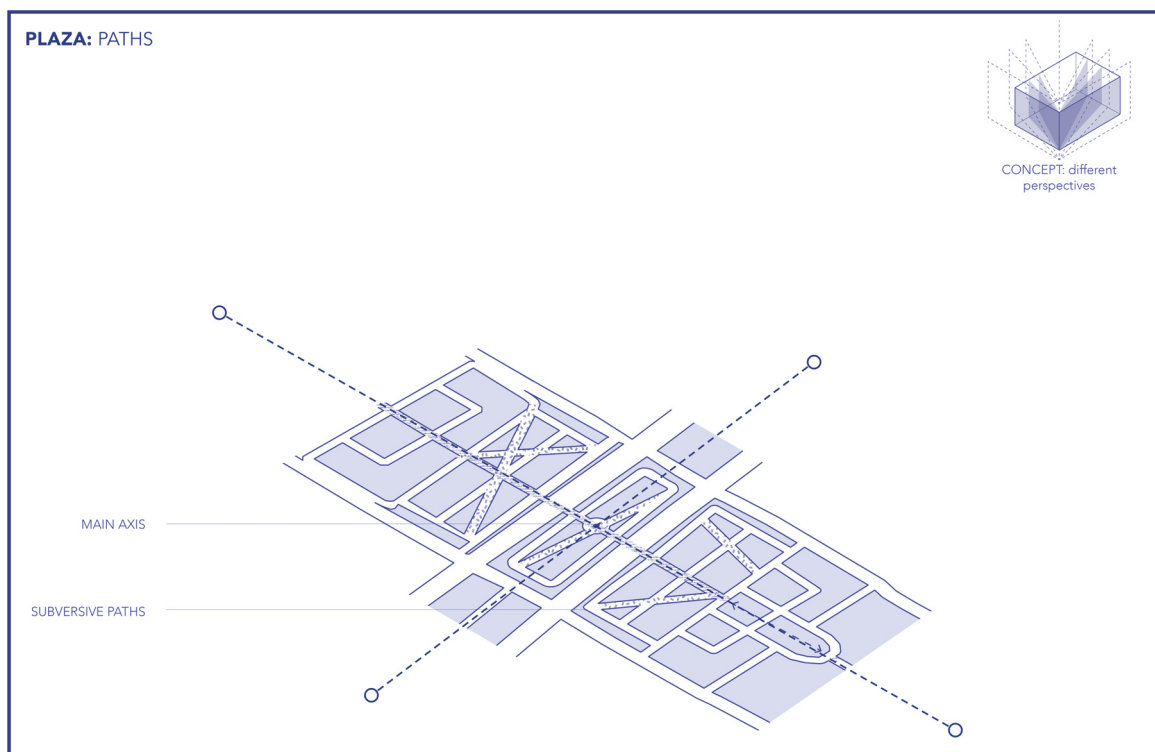


Symbolic objects including the flag, trees, a fountain, and the submerged art gallery of the plaza

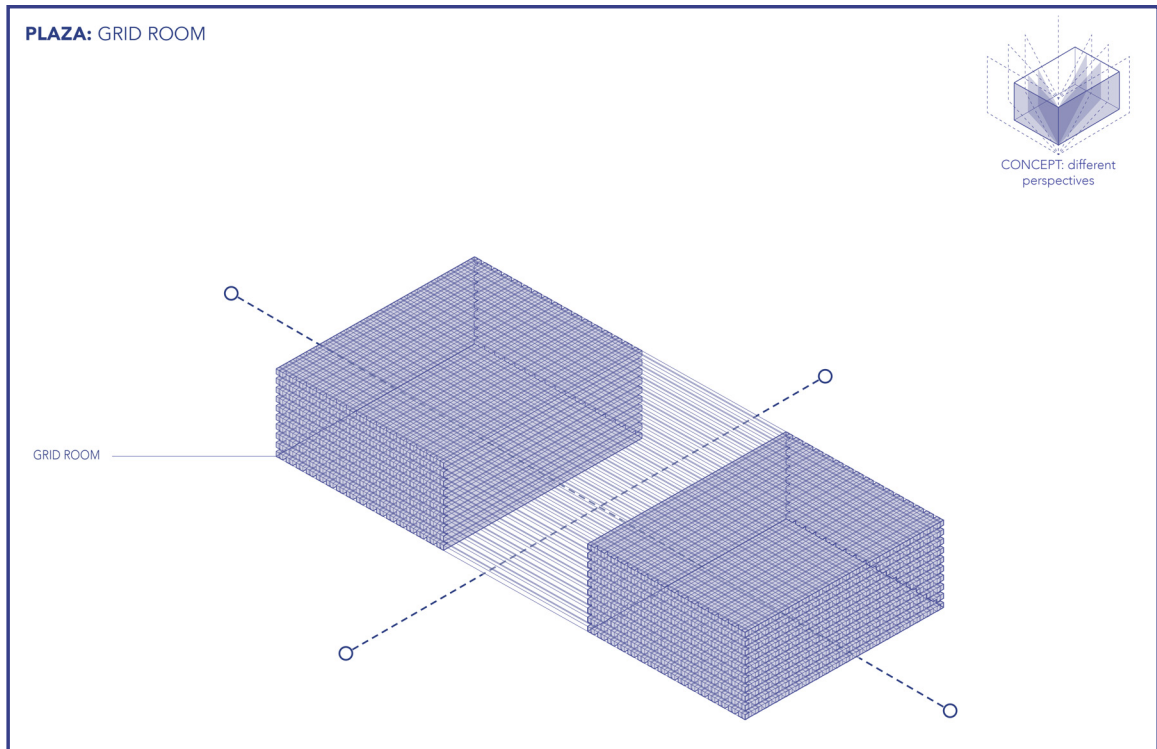
counter-narratives of the Patagonia Sin Represas artists characters into the plaza.

Paths of the Plaza

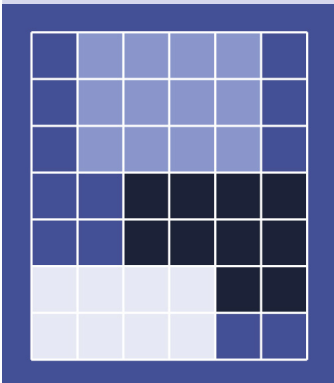
The plaza grid and the symbols which punctuate it, are read according to angles of the transverse paths. The angles act to distort both grid and elements. The main north-south paths reinforce hierarchy, while other paths subvert it and draw attention to the secondary elements. For example, the water fountains reinforce centrality. The flag acts as a focal point standing in the middle of the road, announcing the importance of the plaza to people far away. The heroic statues are smaller focal points of their own which are framed by not only the grid, but also the trees. This thesis proposes an architecture of tethering to and subverting paths in order to strategically emphasize different artistic responses to various expressions of political power.



Most plaza paths reinforce the existing plaza hierarchy, while some subvert it.



Conceptually, the plaza can be thought of as a 'grid room' with the aforementioned elements embedded within. A literal shift in perspective within the grid can alter the reading of symbolic and architectural elements.



The Mapocho graffiti artist and the abstract language of layering.

There are four interventions dedicated to the artists of the Patagonia Sin Represas movement situated in the plaza: the layering art gallery, the way-finding path, the deconstruction drawing room, and the reconstruction tower and beacon.

The Architecture: Layering Art Gallery

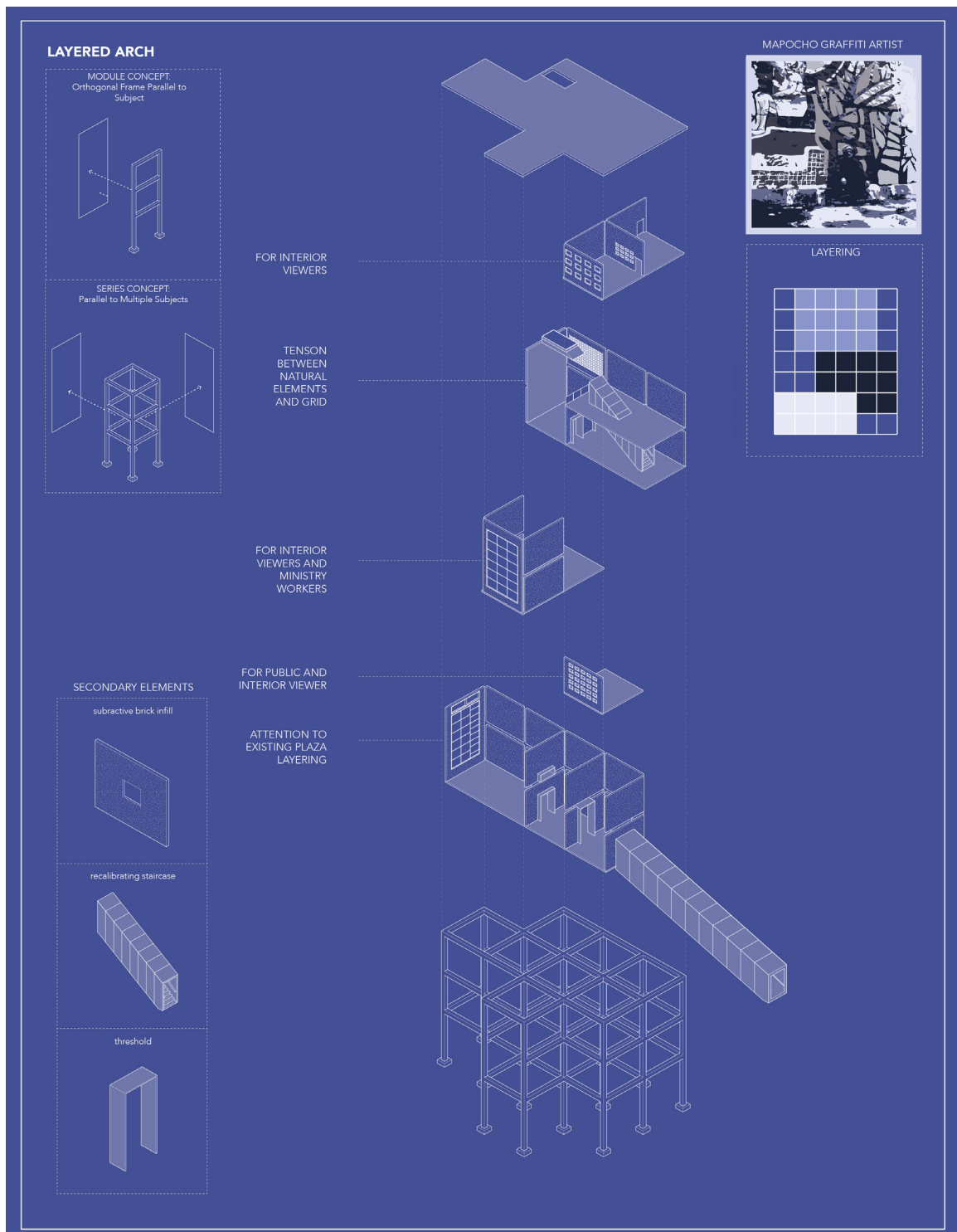
The layering art gallery represents the perspective of the Mapocho graffiti artist protest character. The form of the building takes inspiration from the abstracted perception of the character as they layer their political messages onto the Mapocho River's gridded canal walls. The monument references the modernist architectures of the plaza in order to represent the graffiti artist's own narrative as mourning the loss of the Mapocho River. The structure is oriented towards the existing instances of layering in the plaza, as

well as towards political subjects, so that the artists who display their works within can highlight connections between their river art and elements of the plaza. The result is an art gallery whose political river art works challenge dominant political narratives.

The layering art gallery is situated directly in front of the Bernardo O'Higgins statue who was responsible for changing of the Avenida from river landscape, to orchestrated social space (De Castro et al. 2020, 93–95). The gallery also directly addresses the department of defence and police office facades to highlight both: their potential roles in defending Chile's rivers, and to reflect on their histories of suppressing political activism.

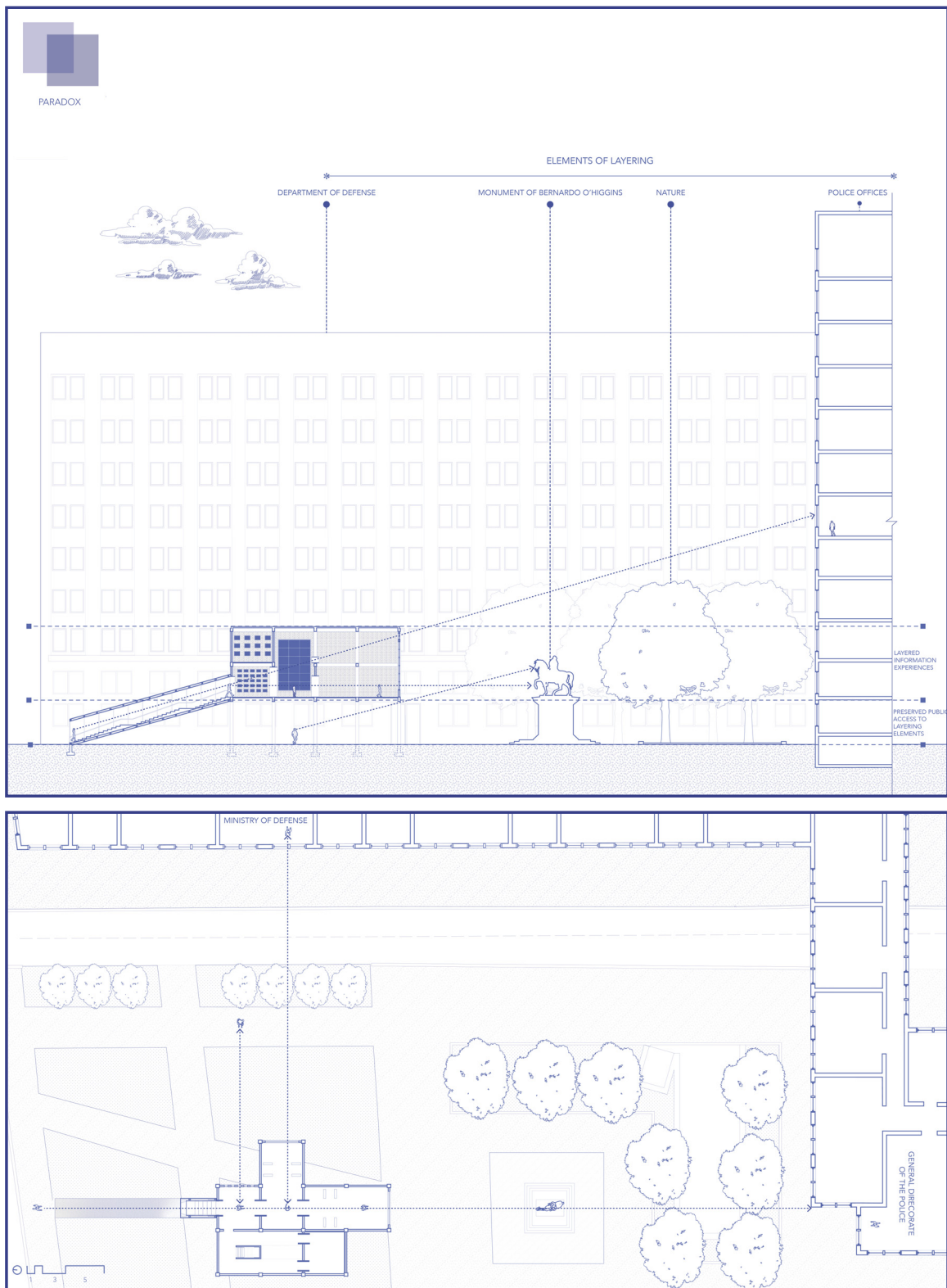
The modernist exposed concrete post and beam structural bays respond to the aforementioned different conditions in their surrounding with the infilling and omitting of masonry at different scales—speaking to different audiences. Additionally, staircases in tandem with extruded thresholds are used to recalibrate visitors' awareness of the existing layered elements.

Upon entry, the staircase parallax is used to reveal the exterior window grid, next walking further along the same line, a threshold frames just the statue of Bernardo O'Higgins. Finally the main room, reveals a window large enough to capture the view of Bernardo O'Higgins and gives an artist the opportunity to layer political information on the statue. In the designed example, Bernardo O'Higgins appears to be riding along the Avenida Libertador Bernardo O'Higgins as it was before his renovations to the street with an irrigation ditch running the middle of it (El Museo Historico National n.d., 2).



The Layering Art Gallery allies the Mapocho graffiti artist with modernist square structural bays. Each bay is in-filled with bricks which are subtracted at different scales according to different types of relationships that the gallery establishes with its context. Thresholds and stairs help visitors to see existing instances of layering in the plaza.

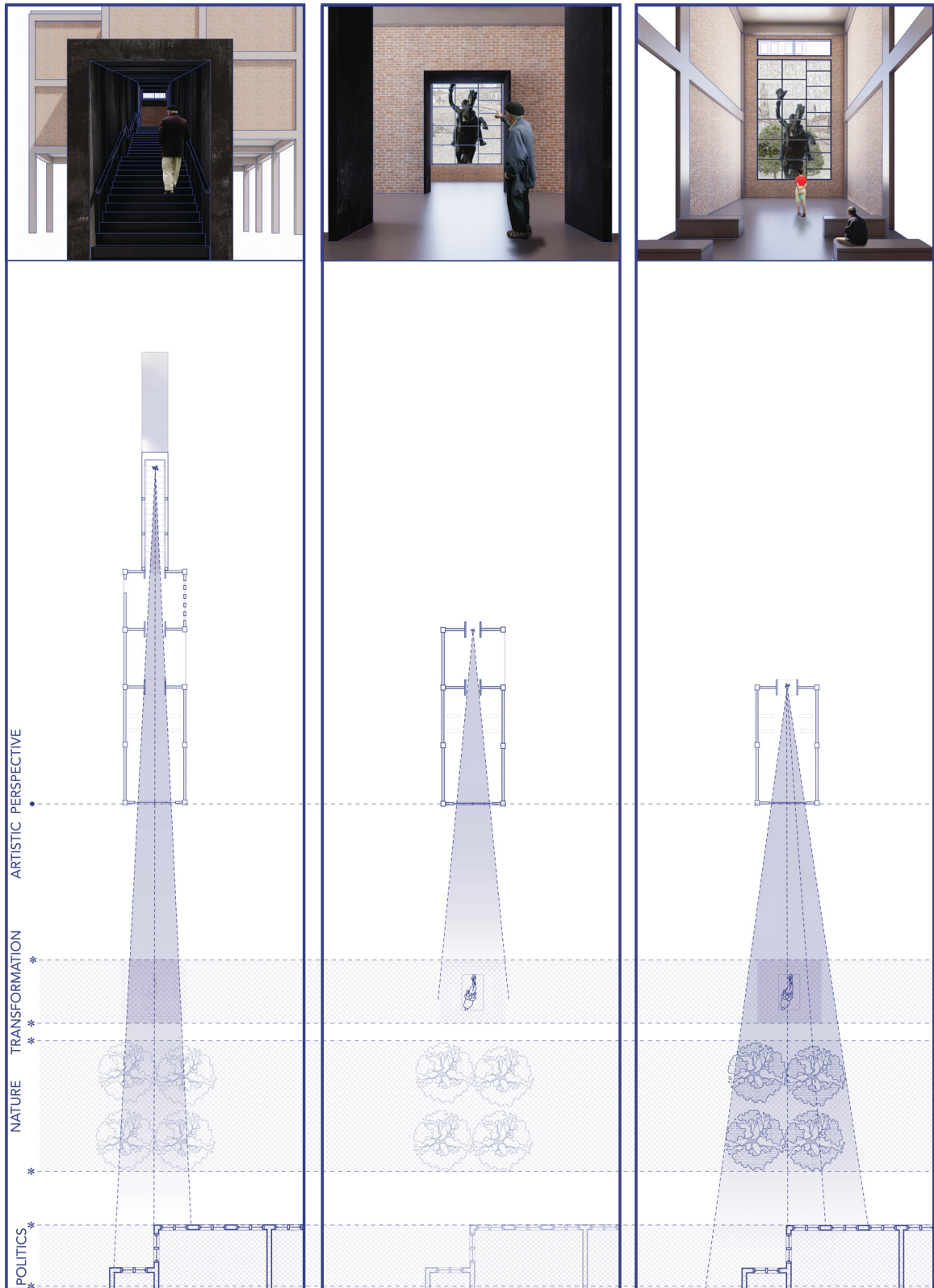
LAYERING ART ON TO POLITICAL AND SYMBOLIC SUBJECTS



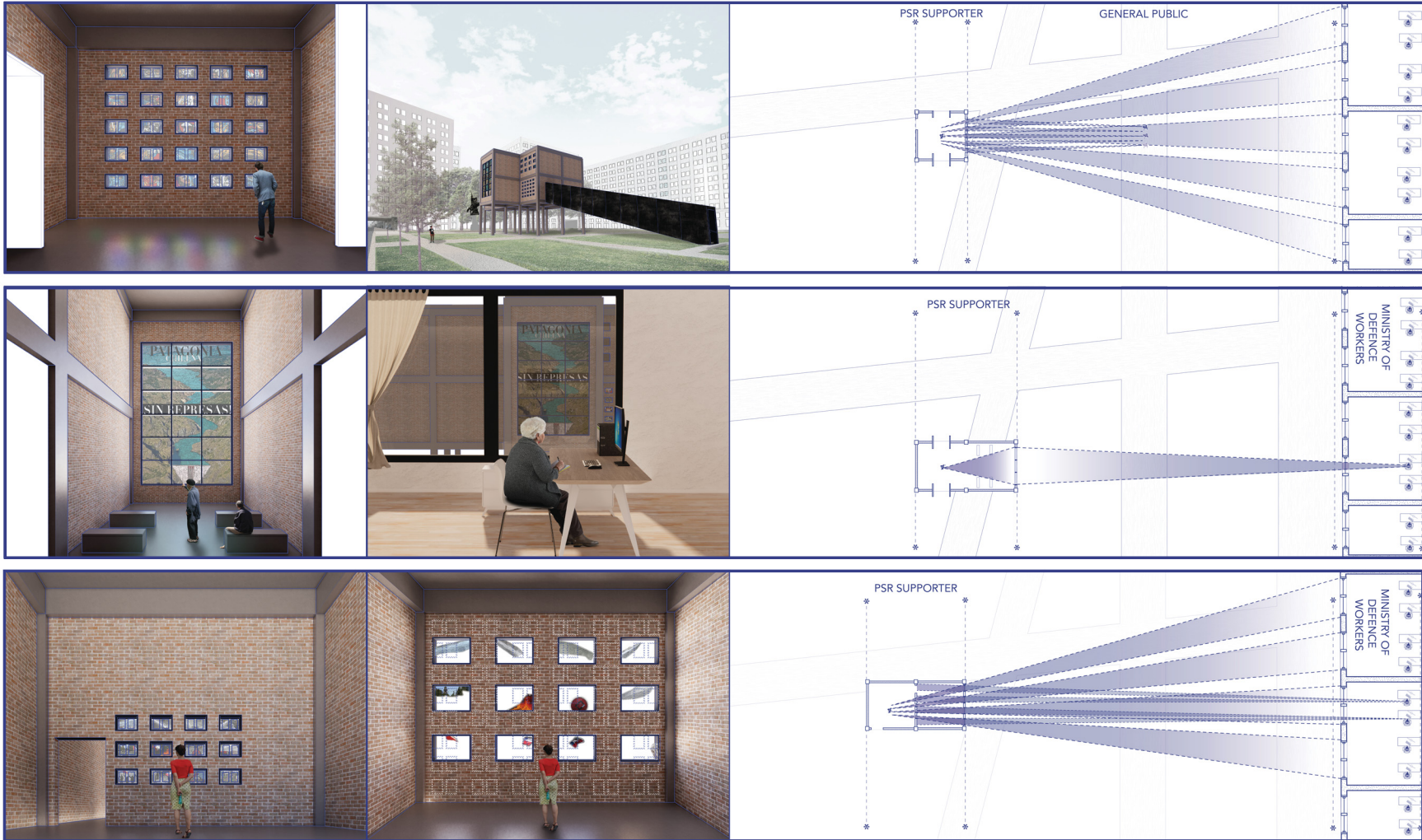
The monument to Mapocho graffiti artist is an art gallery that offers artists the opportunity to layer their political art onto various elements of the plaza. These include the ministry of defense, the police head quarters and the statue of Bernardo O'Higgins.

There are two parallel walls and four lesser rooms facing the ministry facades to the East which offer political art to different groups present on the plaza. One room has windows which appear to match the scale of the exterior facade for the person in the gallery. This allows artists to create works which are intended for the observing public within and outside the art gallery. From within a viewer can connect a politically-motivated art message with the framed view of the department of defense beyond. In another bay, the windows to the outside are large enough to fill the view of the window for the perspective the department of defense workers. Here, protest messages perhaps can be displayed, urging the workers to defend not only national but also regional and local interests in the river. In another bay, the grid of the windows is cut through both sets of walls. This is done as a way to encode messages for the observers within. From any other vantage point the layered message will not be legible due to the effects of perspective. Here, the most politically sensitive art can be displayed, such as photos of the police aggression towards Chilean protestors (EFE 2011).

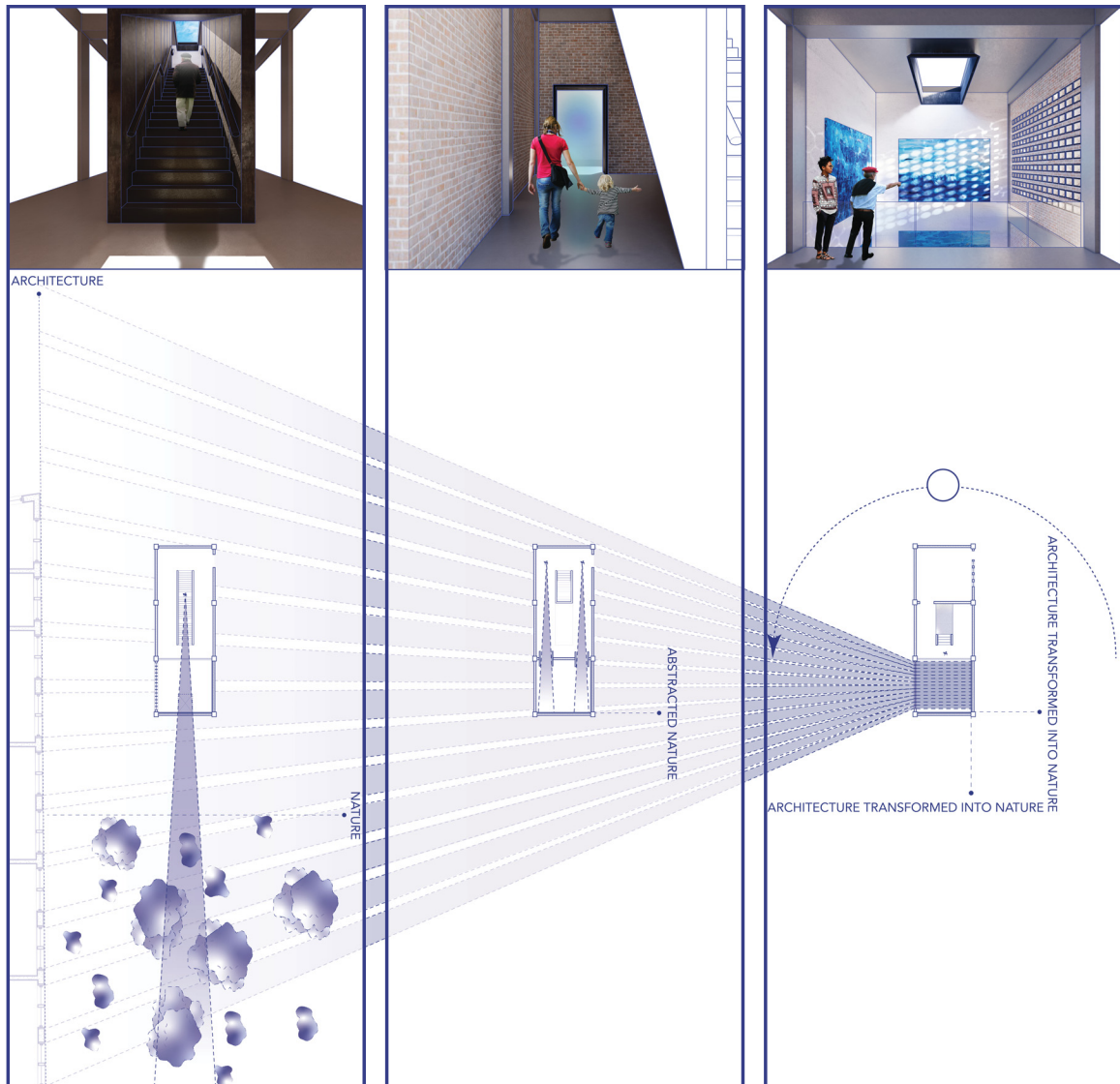
Finally the facade facing the west has apertures cut to the scale of the view of the windows much farther away. The openings are filled with glass blocks. The light which enters in looks like light reflected from water, which is the same experience of water which the Santiago graffiti artist would have standing along the Mapocho canal. Here there is an opportunity for artists to reflect on how the river landscape on the Avenida became an urban landscape, and how now that urban landscape is being transformed back into nature. This being the second most important room, the staircase and lower floor thresholds order the experiences.



The entry set of moments into the monument is about calling attention to existing layered symbols on the plaza. First the grid, then the monument, and finally the artist's response is shown.

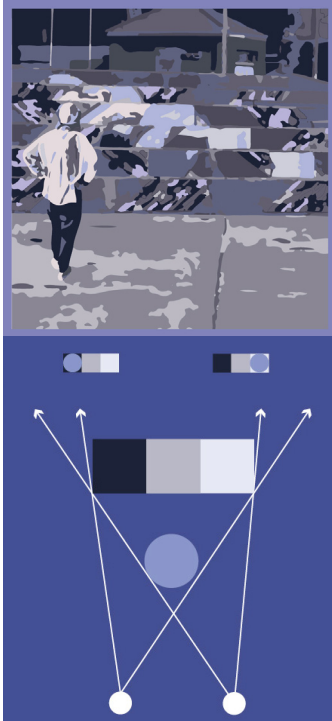


Inside, there are a set of exhibition opportunities shared between those inside and various groups outside. These include art shared with the public, the ministry of defence workers and an encoding of sensitive content through the work of perspective, so that no ministry workers can read messages from the outside.



In the final experience in the monument, there are a set of thresholds which allow artists and visitors to draw connections and responses to both nature and art. These experiences are deepest within the plaza grid and are the most abstract and least political.

The thresholds focus in on the reflected colour of the art within, while the staircase points the nature light, only to after climbing the stairs are the glass block-filter light and art revealed. The result of all of the rooms of the layering art gallery is coming to understand how the Mapocho, and other rivers like it were erased thanks in part to the political institutions of the plaza. The experience is also meant to help inspire Chileans to fight in the future, if ever any other river is at threat again.

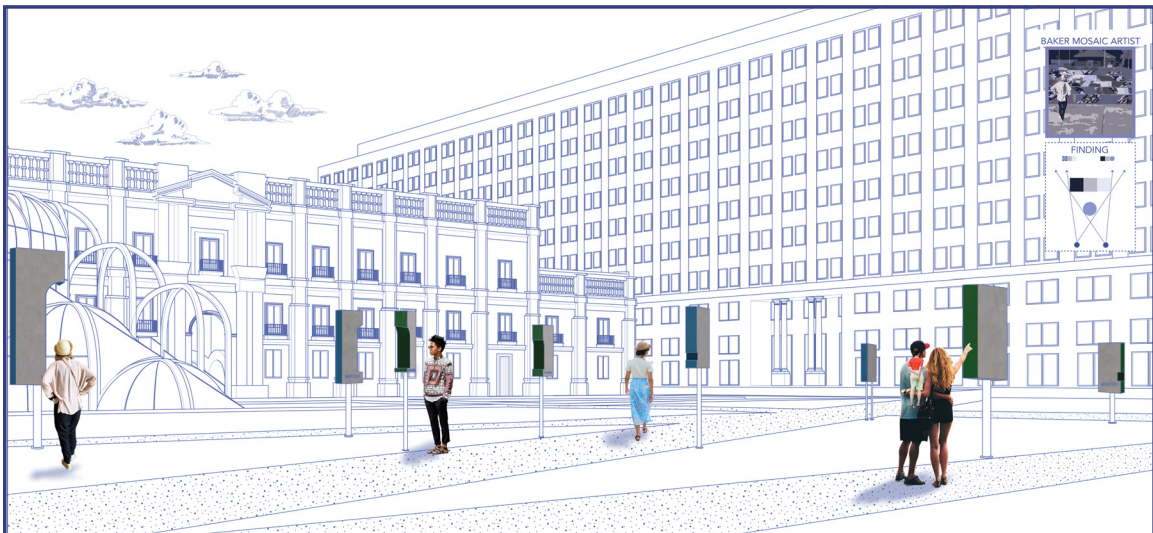


The Baker River mosaic artist and the abstract language of finding.

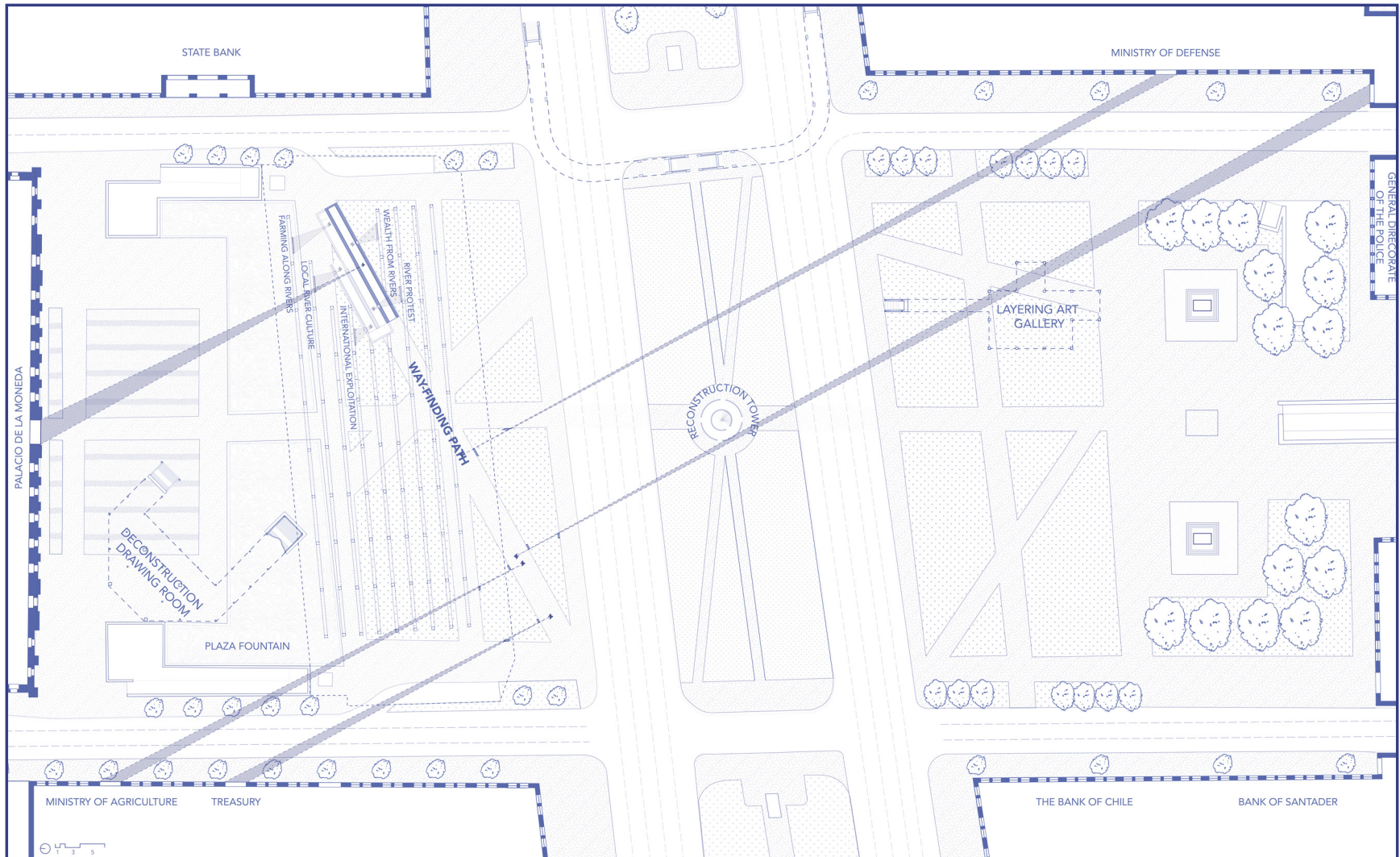
The Architecture: Way-Finding Path

The way-finding path is inspired by the abstraction of the Baker River mosaic artist's path to find and get closer to their subject on the watershed. This abstraction is layered specifically on top of the entry ways of the ministry buildings facing onto the plaza—calling attention to their often overlooked spatial presence. The result is a path of way-finding markers along a path leading into the art gallery of the Centro Cultural la Moneda with additional marker inside corresponding to art of rivers that were influenced by the institutions above. These monuments not only help to spatially situate the ministry buildings, but also help visitors locate the political influence of these ministries in the histories of Chile's rivers.

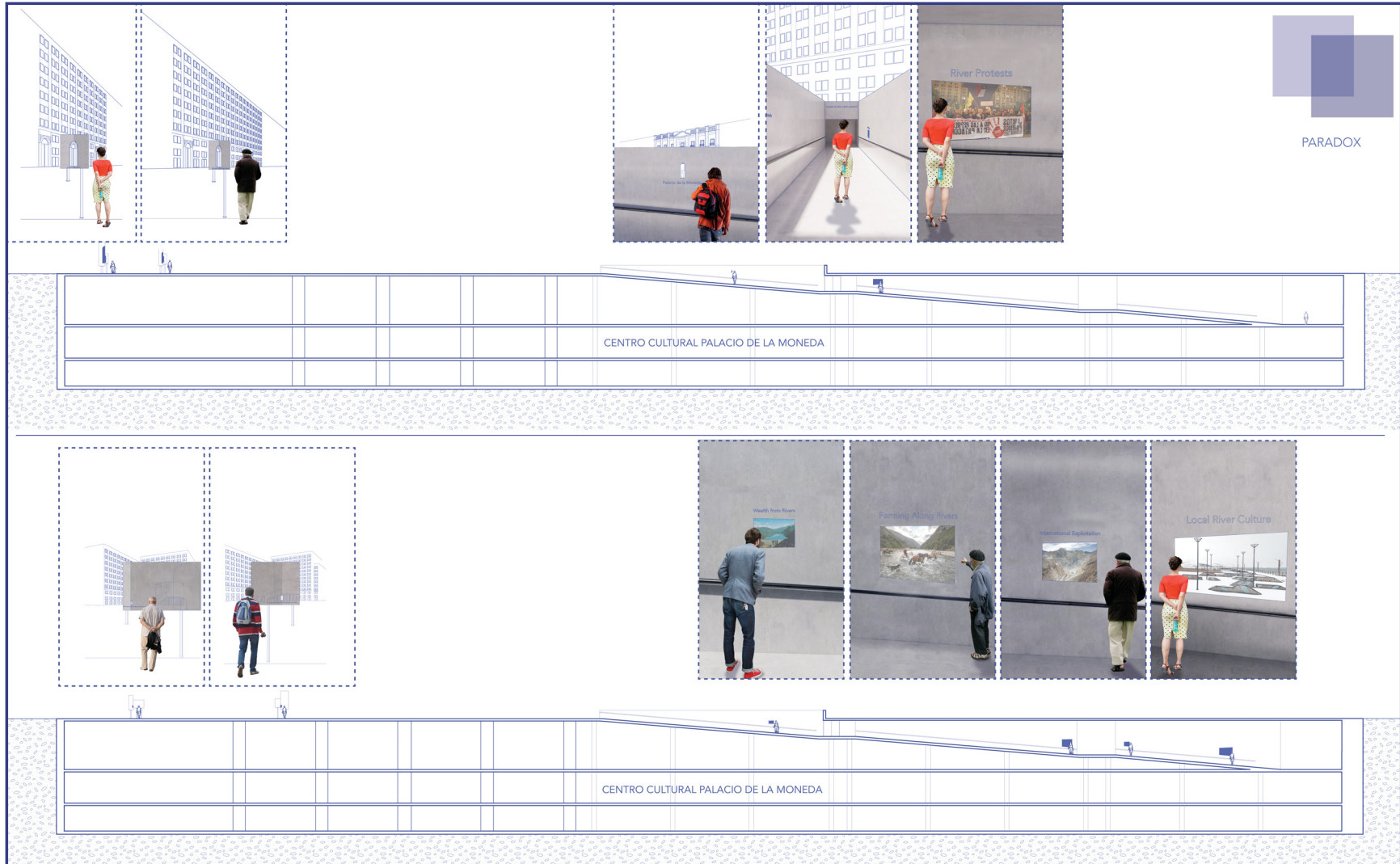
The way-finding monuments use the secondary paths in the plaza which are at non-right angles to the grid inviting visitors to engage with the strange geometries of the arches embedded in rectangular concrete. These concrete



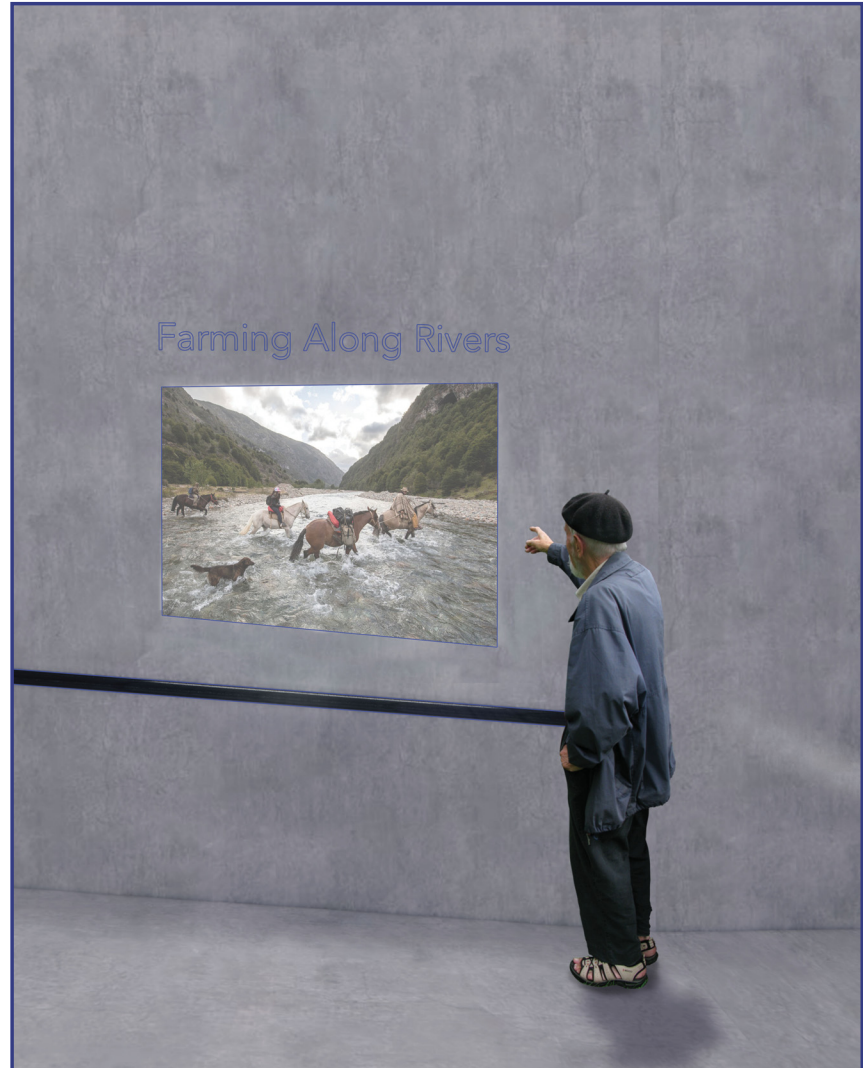
The existing ministry building arches are bedded into way-finding markers. This corresponds to the act finding of the subject of the mosaic artist of the Baker River. The markers are fragmented and have blue symbolizing to water and green symbolizing land.



From the correct position, the colourful sides disappear and lead to a new entry point into the existing art gallery situated below the plaza. Along the way there are views to the entry ways of the ministries facing onto the plaza which otherwise go over-looked.



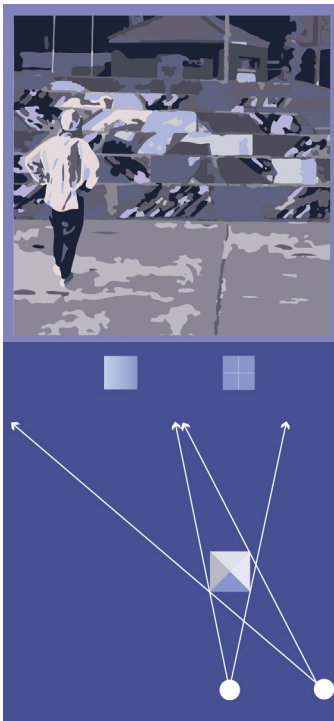
Along the ramp entering to the art gallery (the existing Centro Cultural la Moneda), there are views to art works which correspond to the impact of the choice of the adjacent ministries on rivers of Chile.



An example of a way-finding marker on the plaza thematically connecting to a way-finding marker along the ramp into the Centro Cultural la Moneda gallery. Visitors are encouraged to make the connection between the ministry of agriculture above, and gaucha farming on Chile's rivers.

rectangles are further divided into halves, which have green and blue edges corresponding to the land, and water horizons that the mosaic artist used to align their subject to in trying to locate them on the Baker River watershed. These edges disappear once the alignment of the halves is found exclusively from the path leading into the art gallery.

On the ramp descending into the art gallery, there are selected views to art curated to match each ministry above, and its influence on rivers. The treasury, is paired with wealth along the river, the ministry of agriculture with, farming along rivers, the General Directorate of the Police with river protests, the ministry of defense with international exploitation, and finally, the Palacio de la Moneda is with local river culture. The result is a spatial paradox, a reading of both politics, and rivers at once and in tension with each other.



The Baker River mosaic artist and the abstract language of deconstruction.

The Architecture: Deconstruction Drawing Room

The drawing room is inspired by Baker River mosaic artist as a protest character. It is specifically dedicated to the deconstructive viewing process of their artistic subject on the watershed. Deconstruction, or understanding, is achieved through comparison. These processes are layered onto various subjects including art, institutions, symbols, and architectures. Specifically the deconstructive drawing room links the idea of drawing guides to the window grid of the plaza, as well as to the panel cladding of the interior, in order to help the artists within understanding their subjects. The result is a set of opportunities to more deeply understand past and present connections between rivers, and politics.

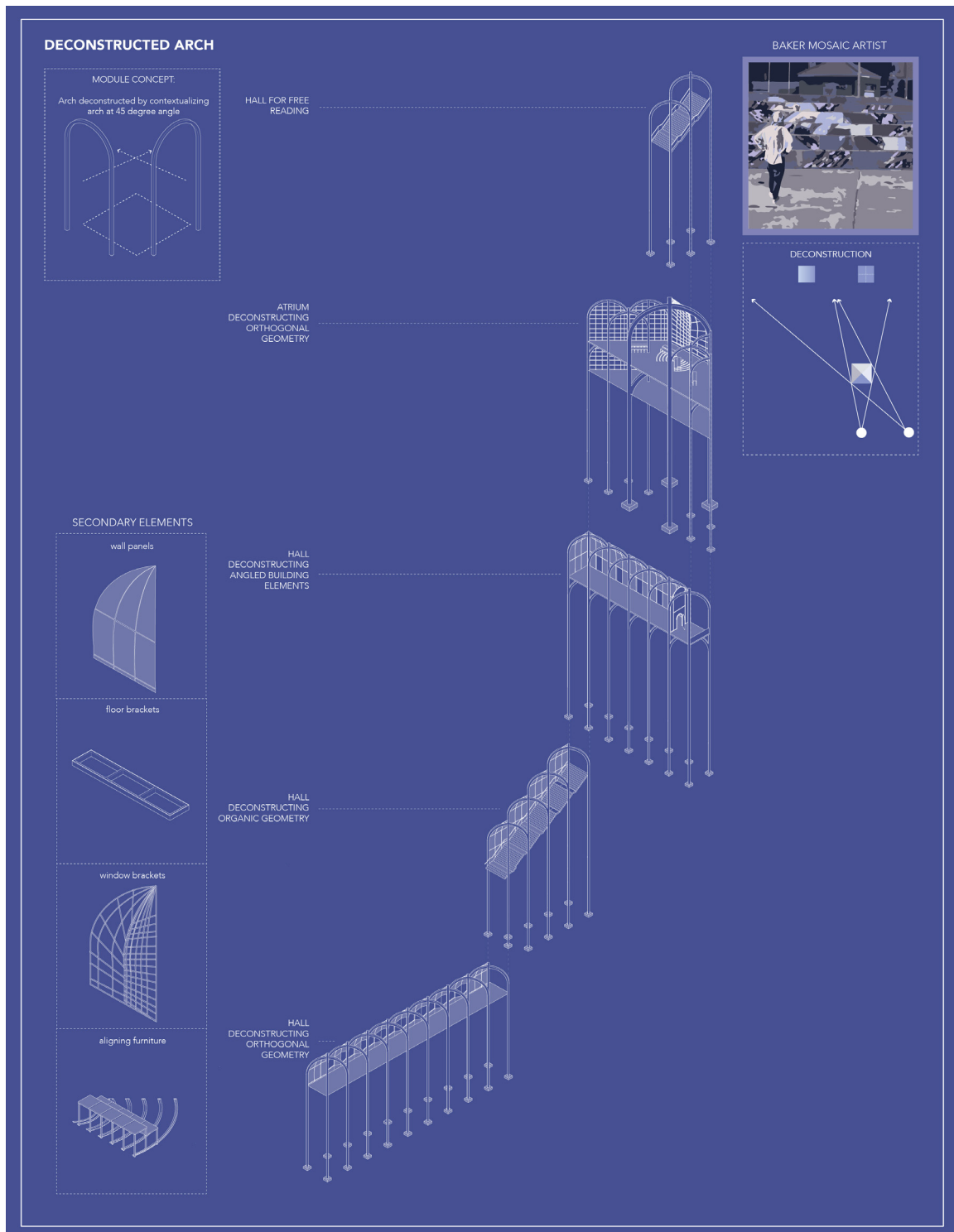
Symbol Becomes Programmed Structure

The arched found along the plaza symbolizing nature and public space is allied with the Baker River artist. The symbol is enriched by being composed for artistic programming to unfold. The deconstruction drawing room is made of arches facing at perpendicular angles to each other and programmatic procession which is at 45 degrees to each of the arches encouraging the viewing of plaza elements from a decentralized perspective. Additionally, each room of the monument has its own assemblage of secondary architectural elements which help in the guided deconstruction of each of the subjects. The assemblage includes uniform wall panels, translucent flooring, window frames deformed to replicate perspective, and pivoting furniture.

Subjects of Deconstruction

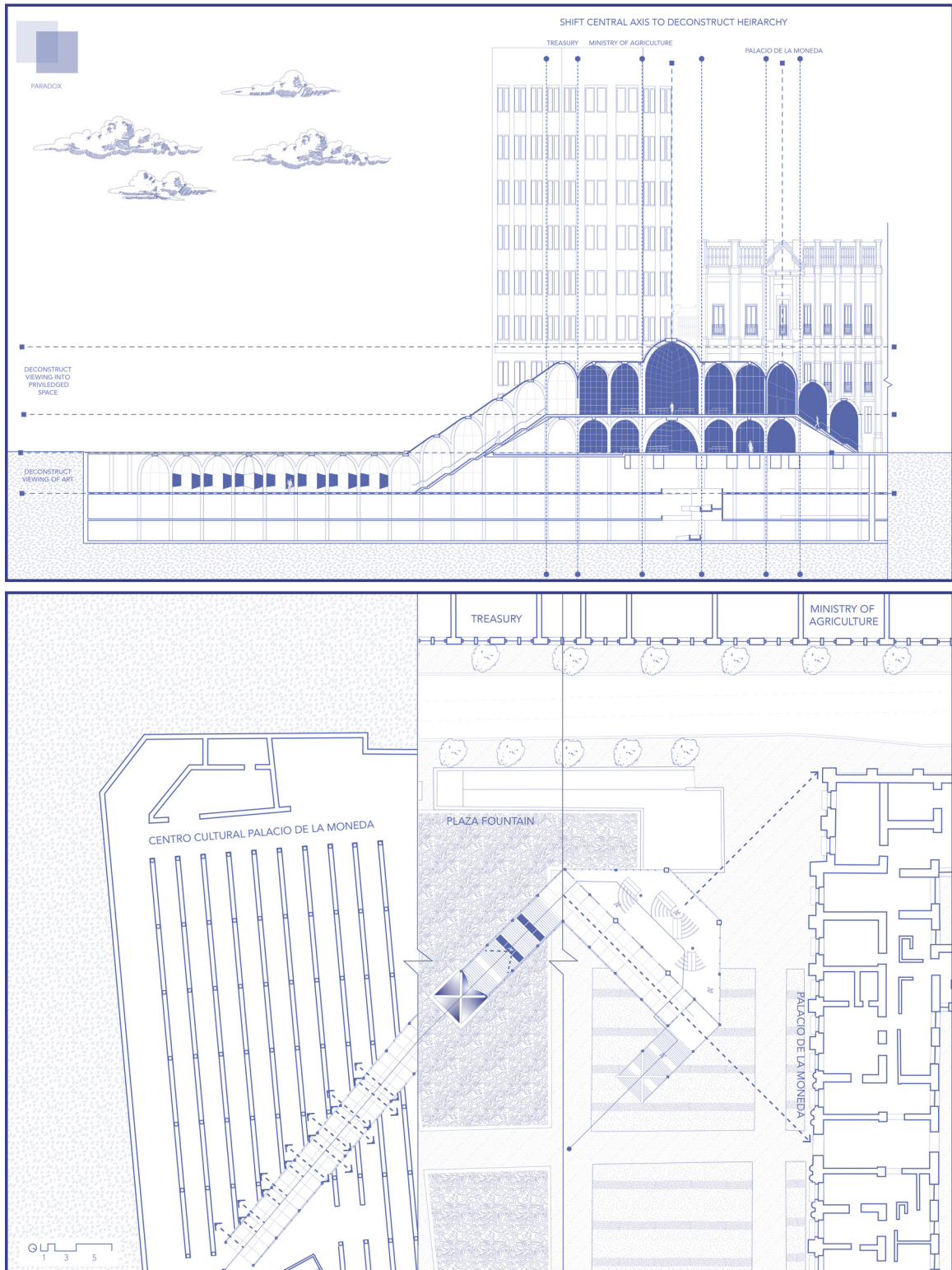
The subjects of the deconstructive drawing and understanding processes aim to show the artists, that there are deeper connections between the political plaza and Chile's rivers. The act of viewing is used to deconstruct the curatorial devices of the Centro Cultural la Moneda. The act of drawing is used as a way of counter-surveilling the ministry workers in the Palacio de la Moneda, the ministry of agriculture and the treasury in the upper private floors. Additionally, the health of the water and trees are monitored through the act of drawing. This is to make sure the political entities in charge of the plaza are taking proper care of these natural features.

The most important orchestration of relationships to exterior subjects, is the shifting of the centre of the drawing room away from the main axis of the plaza, and focusing instead on the meeting place of the ministry buildings and presidential



Deconstruction is achieved through comparing elements. Two arches are placed perpendicular to each other to encourage alignments and alternative positions to existing elements. These opportunities are reinforced with rhythmic wall panels, transparent floor frames, distorted window frames, and pivoting drawing desks.

DECENTRING AND DECONSTRUCTING ELEMENTS OF THE PLAZA



The monument to the Baker River mosaic artist is a place to study via drawing the architectures and symbols of power in the Plaza. This is achieved through skewing the perspective to the central archway, and focusing instead on the meeting point of ministry building and presidential palace.

palace. This calls to attention to the intentional supportive architectural—and by extension political role, that the ministry buildings have to the palace. It is only through calling attention to the spatial representation of the entrenched hierarchies in political processes and representations that the Baker River artist can hope to inspire other artists to fight threats to Chile's rivers.

Drawing as a Way of Designing

The relationship between the various subjects of deconstruction and the drawing room architecture were designed and are now displayed through the literal perspectival drawing process. It is only in going through the process of the artist that we are able to understand how the building can become a part of the act of drawing itself. Perspective lines connecting subjects to the drawing room show more directly how its structure was orchestrated at key moments.

Moment 1: The Drawing Room Intersecting an Existing Gallery

The first moment of the drawing room is the deconstruction of curatorial choices in the Centro Cultural la Moneda art gallery below ground. In this example, the gallery has been curated according to the geography of Chile. Two pieces of river art from different parts of Chile are on two different gallery walls. However, from within the drawing room, they are brought together in one structural bay to show the differences of regional river cultures. The bay has two apertures aligning perfectly to the outline of the works of art from its centre—making it appear as though they are on the same wall. The hypothetical art works are both named “Costanera” after the highway beside the Mapocho

River which erases it, and the pedways in Puerto Ingeniero Ibáñez along Lago General Carrera, which allow artists to get closer to the river watershed's wildlife. Thus, viewers come to understand the polarity of the regional characters of the rivers of Chile.

Moment 2: The Water Threshold

The drawing room rises from the art gallery below ground via stairs to the private levels of the ministry buildings two stories above. This transition penetrates the ground level through the existing plaza fountain and allows for artists to study the water as they hover just above via a transparent landing floor. The reflected wave patterns of the light from the water can be measured by the regular and rhythmic panel cladding of the room.

Moment 3: Confronting the Main Axis

Two storeys above ground, the drawing room gives a view aligning to the arch of the presidential palace at a forty-five degree angle. The drawing room's repetitive interior structure and panels help to measure the perspectival distortion of the palace arch. This new and unusual view of the existing dominant axis allows artists to question its spatial power previously asserted through symmetry. This new perspective to the central archway is that of the artist who acknowledges the role of politicians in the destiny of Chile's rivers, but also seeks their own new position in the plaza.

Set of Moments 4: Anticipating Transformation

There are multiple entry points into the main drawing room. Each entry point's repetitive cladding and structure help to measure the distorted glazing frames on the walls just

beyond. The distorted glazing frames beyond face onto the plaza, and align to elements of the plaza's grid of apertures. This act of comparing is a way of building anticipation for the of new perspectives, geometries, and focal points to that are yet to be explored.

Once inside the main drawing room, a pivoting whiteboard helps the art teacher demonstrate how a flat grid is distorted when positioned at a forty-five angle and how that can be reproduced on a flat surface. This experience is a primer for understanding the transformations in viewing the exterior.

Set of Moments 5: A Deconstructed Centre

In the main drawing room, the abstracted spatial language of Baker River mosaic artist reinterpret the monolithic grid of apertures as drawing guides helping the artist to understand irregularities and other plaza subject. This move challenges the plaza grid's overt political expression.

In an alcove the pivoting of the desks from a parallel to a forty-five degree angles with the plaza facades teaches students how to draw three dimensionally—showing them how a seemingly continuous orthogonal grid, unexpectedly becomes a set convergent lines. The alcove frames views to both treasury and ministry of agriculture workers. This is to counter-surveillance an otherwise privileged space. In both positions, there are also opportunities for the guided drawing of the plaza trees.

Next, the drawing room's main axis is aligned to the meeting place of the ministry building and the palace. This focal deconstructive perspective in the plaza is accentuated by distorted glazing frames simulating perspective on a surface that is parallel to the viewer and is at a forty-five degree

angle to the palace and ministry buildings. These frames help students to draw perspective, as well as their subjects, the trees, workers architectural embellishments of the opulent palace.

The final pivot is a return back to a natural parallel, orthogonal relationship to the plaza and palace. The guided drawing of the palace itself is also a way to reflect on the overt value placed on wealth both through architectural expression and past political policies that have sought to commodify rivers (Latta and Aguayo 2012, 165).

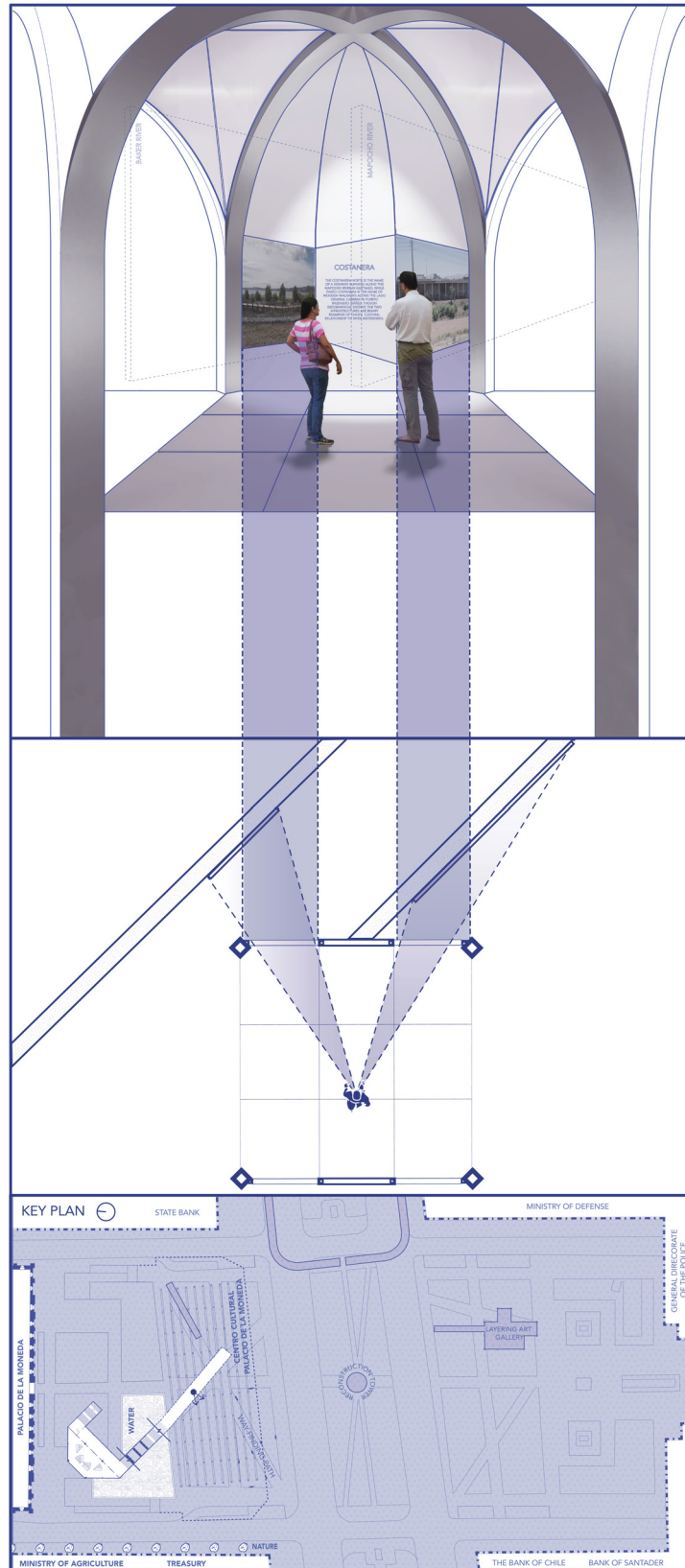
The final element of the drawing room leads to the plaza via stairs and has no frames or cladding, allowing for a literal and metaphoric free reading of the plaza.

Moment 6: A Mutation in the Plaza DNA

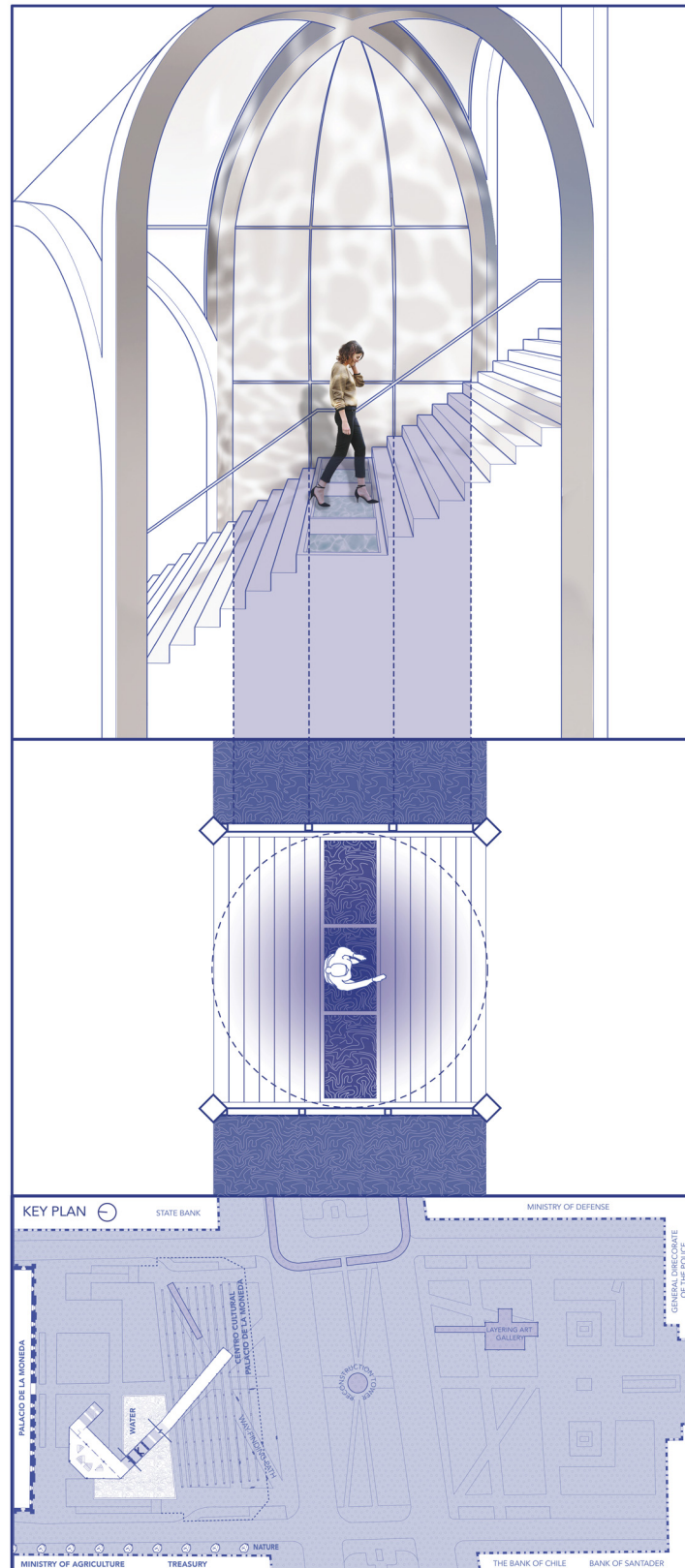
The exterior cladding is a two-way mirror primarily to hide the artists within. Relative to the central axis, the deconstructive drawing room is at forty-five degree angle increments, thus distorting reflections of the context. The gridded DNA of the plaza is thus altered.

This phenomenon also harkens back to the Baker River watershed, and its wave patterns which reflect and distort the subjects that the artist draws. Even a distorted view is an opportunity to come to understand a visual subject.

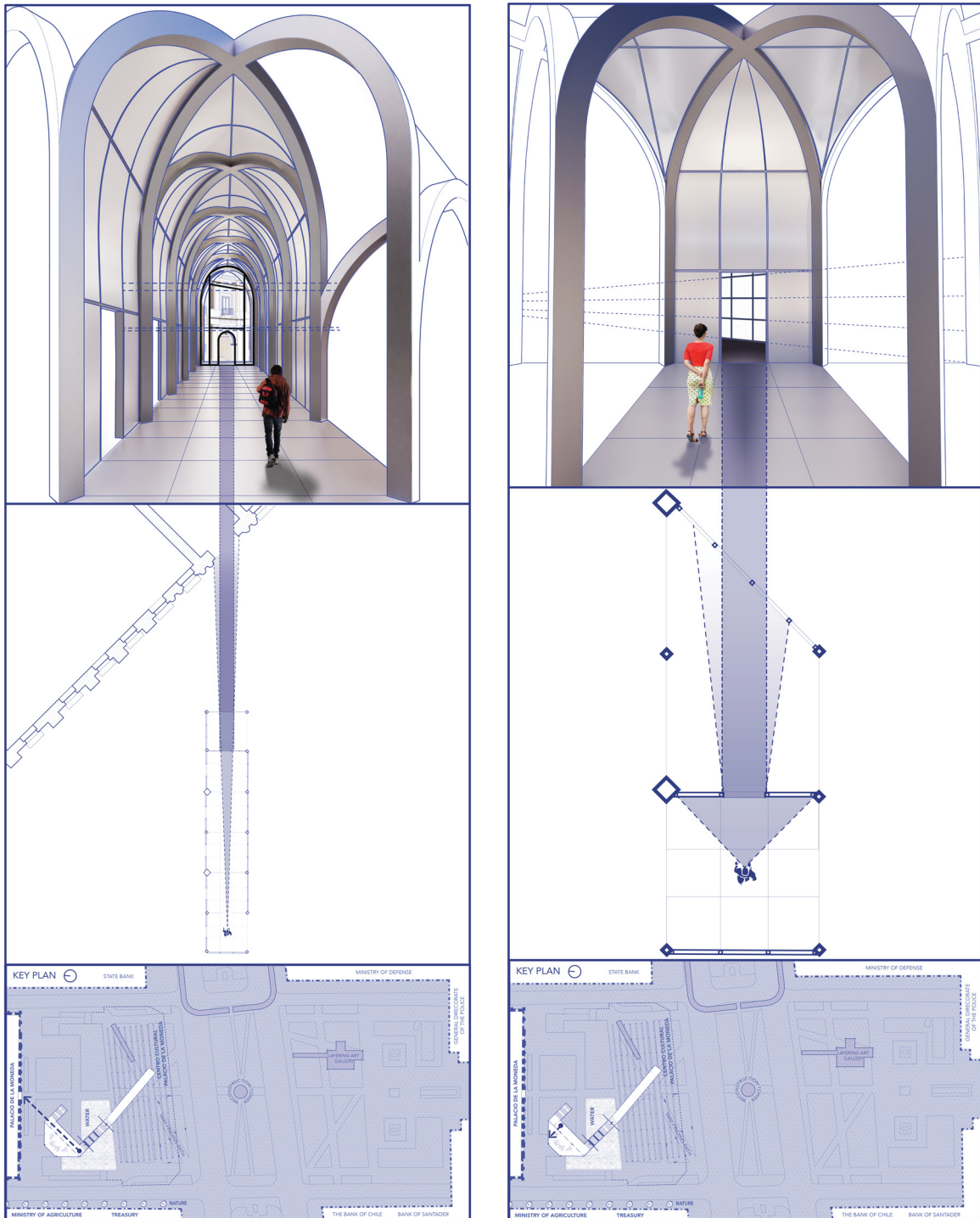
Another example of the way the monument alters the plaza's DNA is through reflecting view of the plaza's neighbours into the plaza. The rigid continuity of the grid is thus broken inviting a questioning of the architectural standards which typify the power of the government.



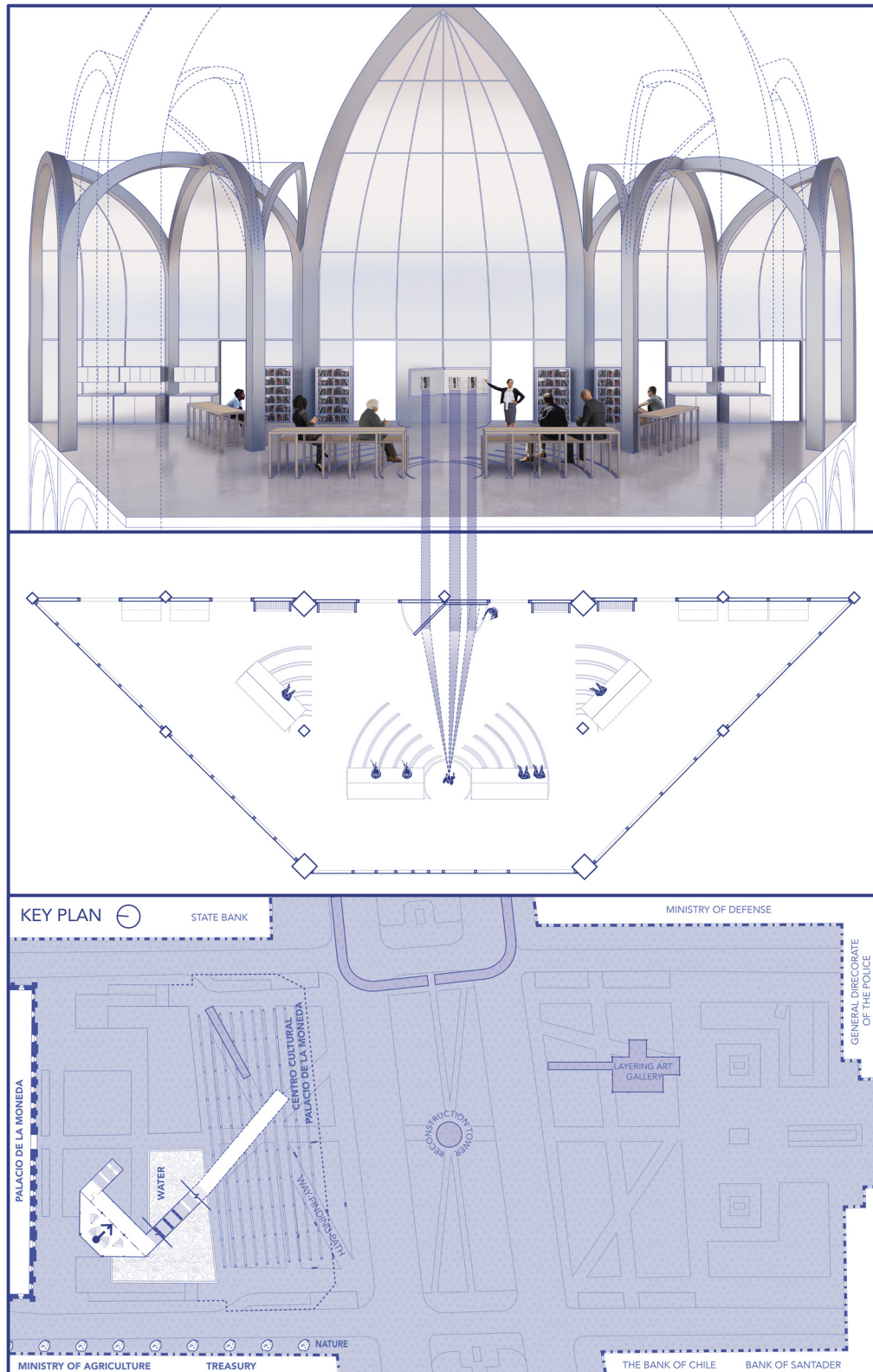
Moment 1: In the Centro Cultural la Moneda, two pieces of river art from different walls and parts of Chile are brought together to show the differences of regional culture.



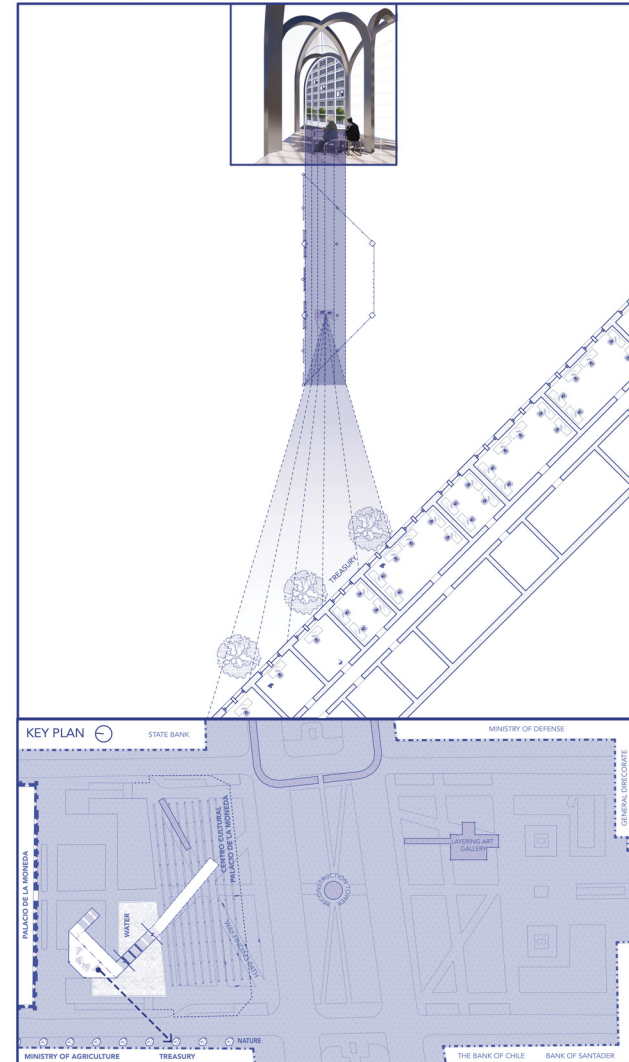
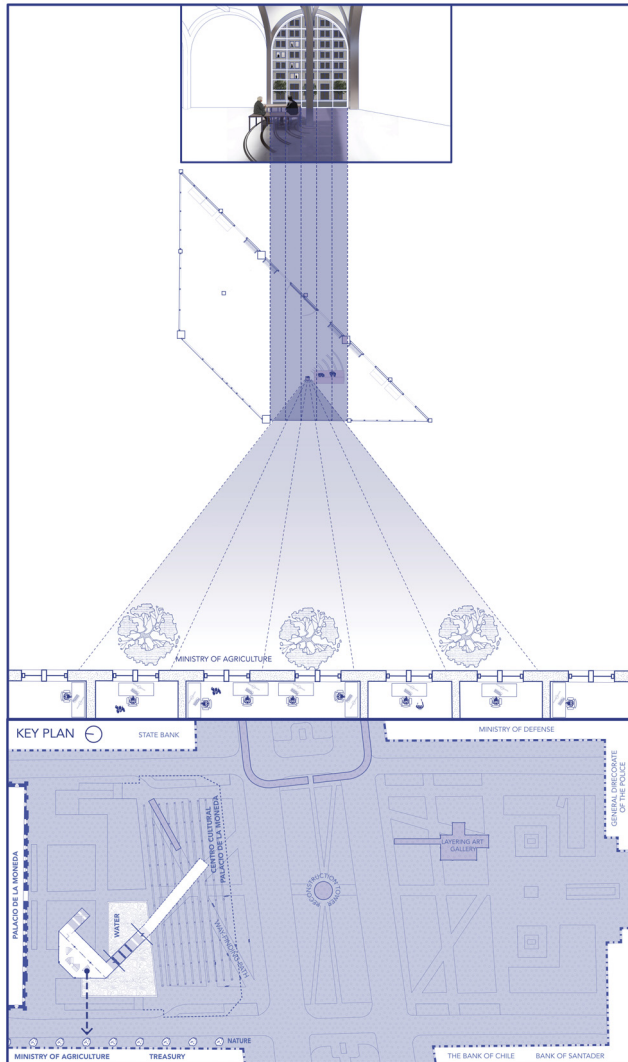
Moment 2: The panels of the monument help to measure the reflective qualities of the existing water below. Passing from below to above ground there is moment to artistically study and monitor the health of the water on the plaza.



Moment 3: The regular panels and structural bays of the drawing room are at an angle to the central arch of the palace outside—helping the artist to read the distortion of perspective. Moment 4A: The panelled threshold helps the artist read the angled geometry of the main drawing room, and anticipate future perspectives and drawing opportunities.



Moment 4B: The main drawing room is a place to pause and gather. Within, a pivoting whiteboard helps the art teacher demonstrate how a flat grid is distorted at an angle and how that can be reproduced on a flat surface. This is a preview to the experience of the architectural, political and symbolic subjects to be drawn and positions to be explored next.



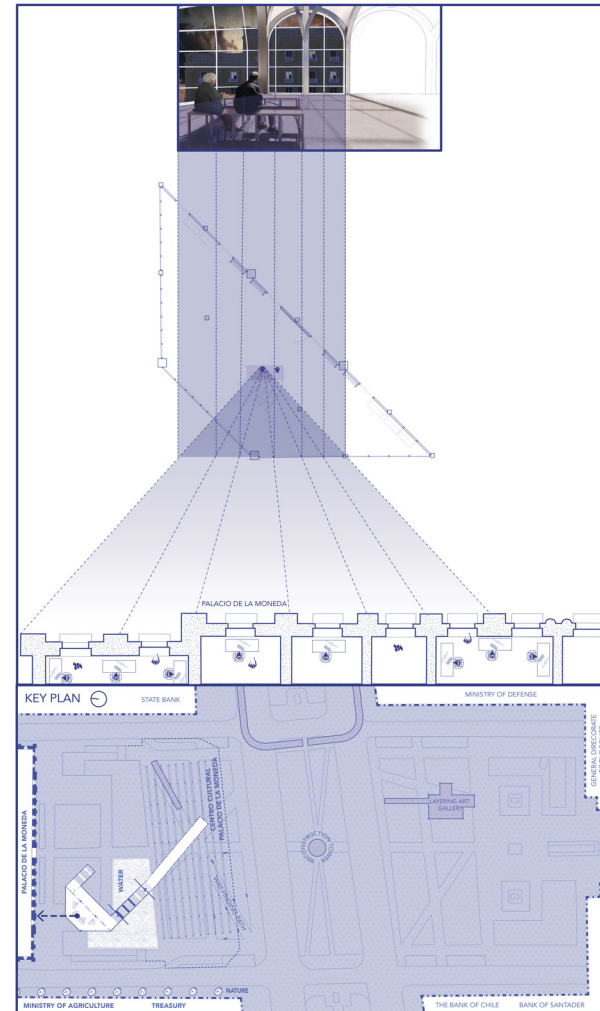
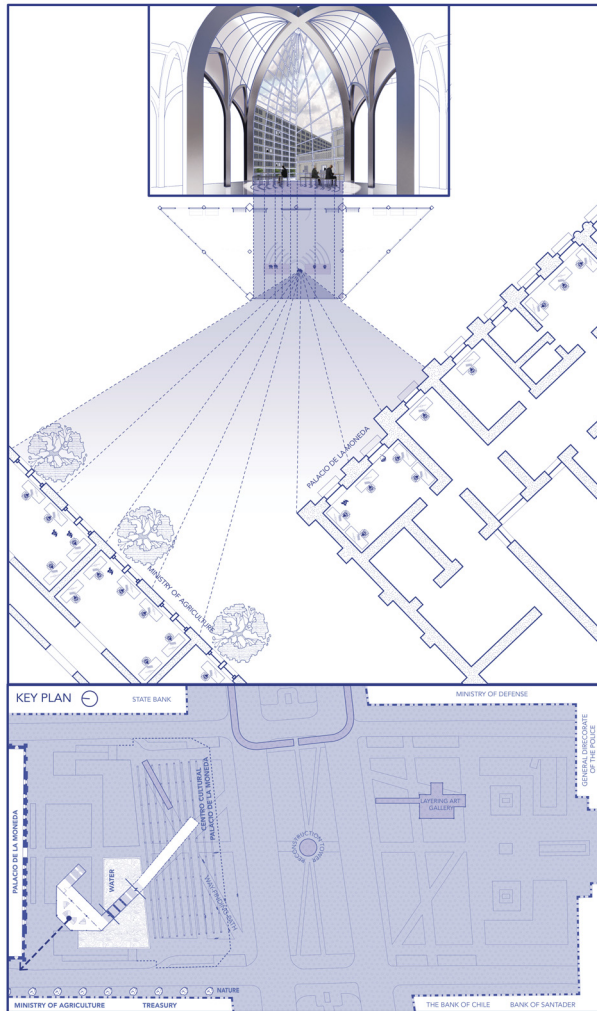
Moment 5A: Inside of the drawing room alcoves, the frames act like drawn construction lines for the artists to observe and draw the workers and trees. Moment 5B: The pivoting of the desks and seat teach the students how to draw the converging lines of three dimensional perspective while, giving opportunities to counter-surveil both the treasury and ministry of agriculture workers.



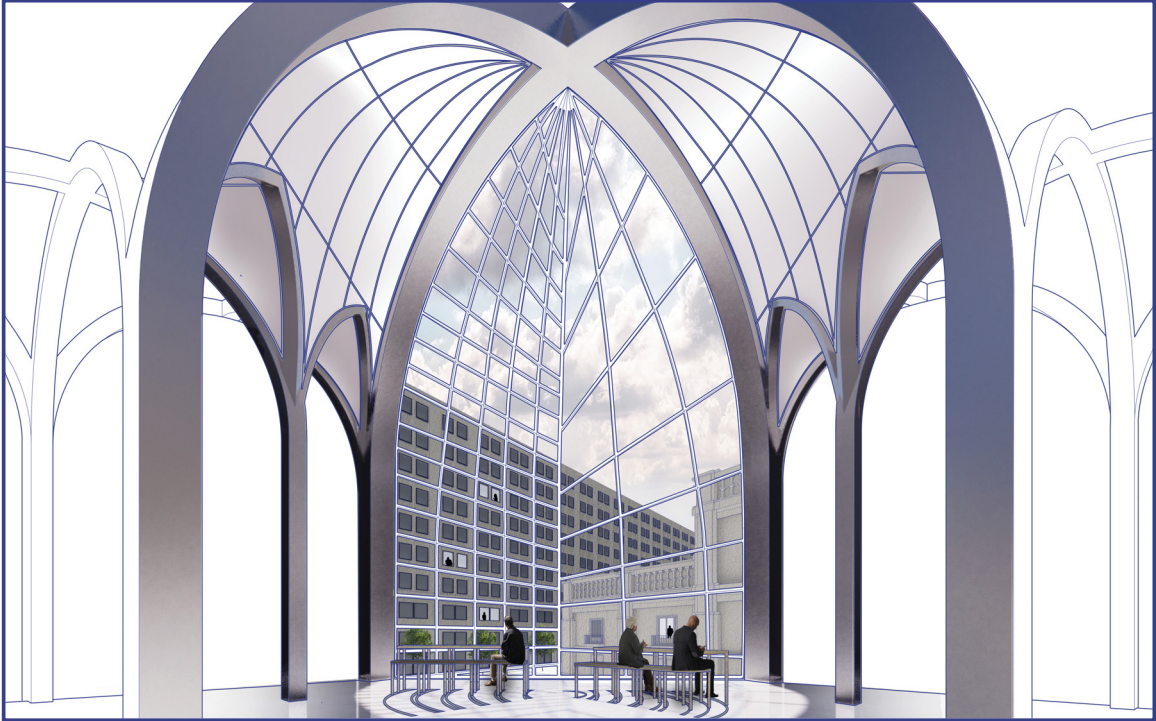
Moment 5A (in detail): This is an opportunity for artists to draw the ministry of agriculture workers, and trees of the plaza.



Moment 5B (in detail): This is an opportunity for artists to draw the treasury workers, and trees of the plaza.



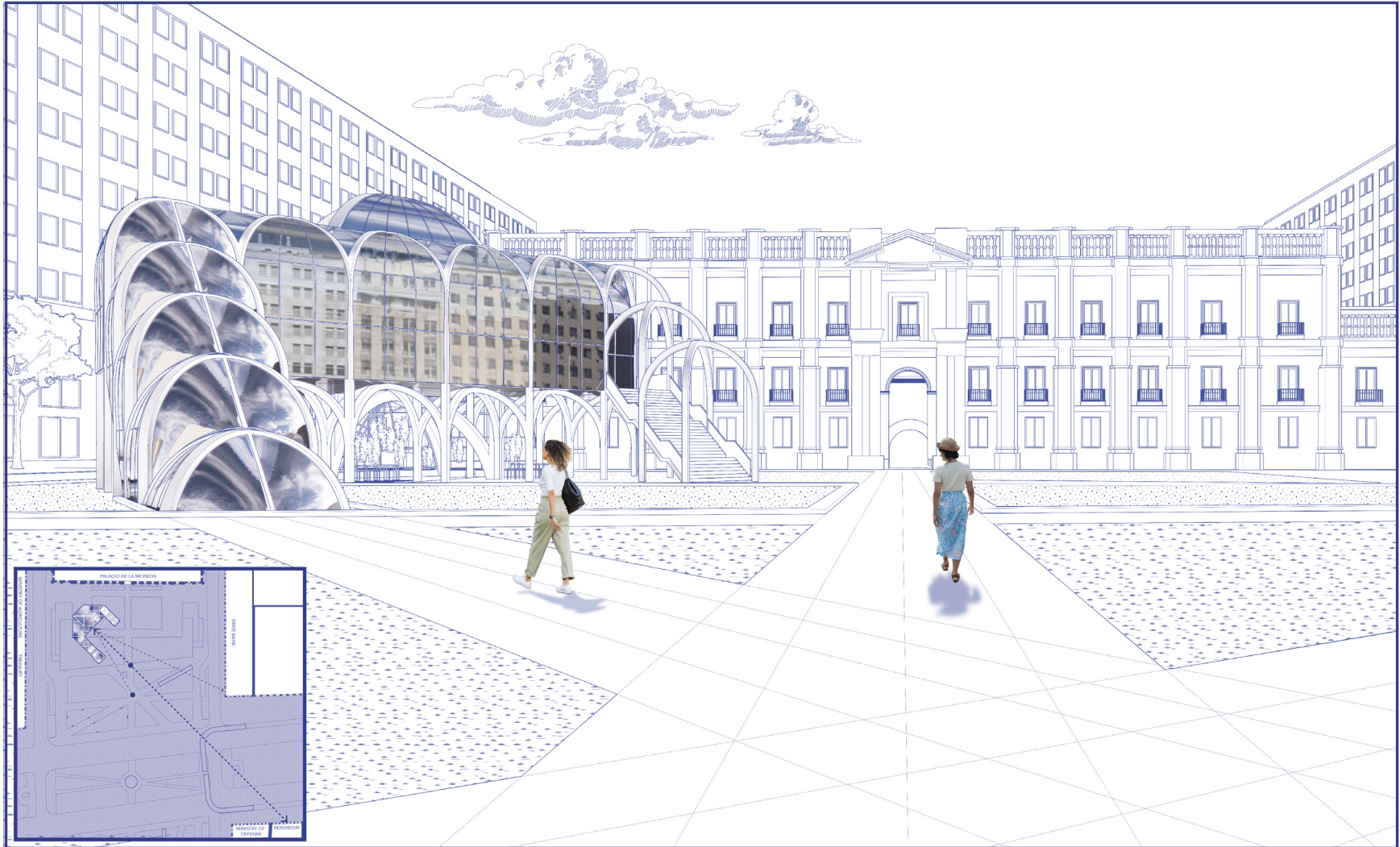
Moment 5C: The focal view from the main drawing room, is a simulation of perspective with angled frames forming a flat surface, helping students to draw the workers, trees and architectural embellishments of the palace. Moment 5D: The final pivot is the return back to a natural parallel relationship to the palace after having deconstructed key plaza relationships. The glazing frames aligning to the grid of the plaza facades is a way of calling attention to plaza patterns and heightening the artist's ability to pick up on irregularities.



Moment 5C (in detail): This is the main opportunity for artists to draw the ministry of agriculture workers, the presidential palace workers, the trees of the plaza, and the details of the presidential palace. This view focuses on the architecture of the ministry buildings as subservient to the palace. This is a symbolic representation of the institutions themselves—with unilateral political power being the reason why Chile's rivers have suffered in the past, and are at threat today and in the future. Focusing on convergent lines, in the plaza is also a way of challenging the existing plaza geometry which is otherwise read a monolithic set of parallel lines.



Moment 5D (in detail): This is an opportunity for artists to draw the presidential palace workers, and details of the facade.



Moment 6: From the outside, the ministry building is mirrored to hide the identity of the artists inside. The mirroring also allows from the gridded DNA of the plaza to be continued and altered. Inside the plaza, there are now new views to the neighbours when standing perpendicular to the monument.



The Baker River mosaic artist and the abstract language of reconstruction.

The Architecture: Reconstruction Tower and Beacon

The reconstruction tower is inspired by the Baker River mosaic artist as a protest character. The architecture takes formal cues from the reconstructive process of the artist's abstracted path along the watershed—referencing the creation of a mosaic. The perspective is layered onto the abstract idea of the plaza's monolithic grid to show it as its own complete entity. The reconstruction tower and beacon also artistically adds a representation of all of Chile's rivers onto the grid. The result is a monument that elucidates the eternal connection between political power and rivers throughout Chile.

Symbol Becomes Programmed Structure

The reconstruction tower and beacon is a new structural and programmatic expression to the plaza's arches. The reconstructed arch is completed by adding another half-circle to it. This circular floor addition emphasizes the finding of a focal point to both look to and look out from. To support the act of viewing and projecting onto the plaza grid, the meridian substructure and compression-tension rings align to the horizontal elements of the plaza grid while the circular arch verticals align to the vertical elements of the plaza grid.

Subjects of Reconstruction

The tower occupies the central most position in the plaza, it is the meeting points of the main paths. The position was formerly occupied by a tower flag, which invited people beyond the plaza to come to it. It is also a strategic location for seeing all of institutions facing onto the plaza.

Moment 1: Viewing from the Focal Point

From the central viewing room, all elements of the grid appear to be more or less equal to all others. This aligns with the intent of a mosaic which is to capture the most important elements of a subject.

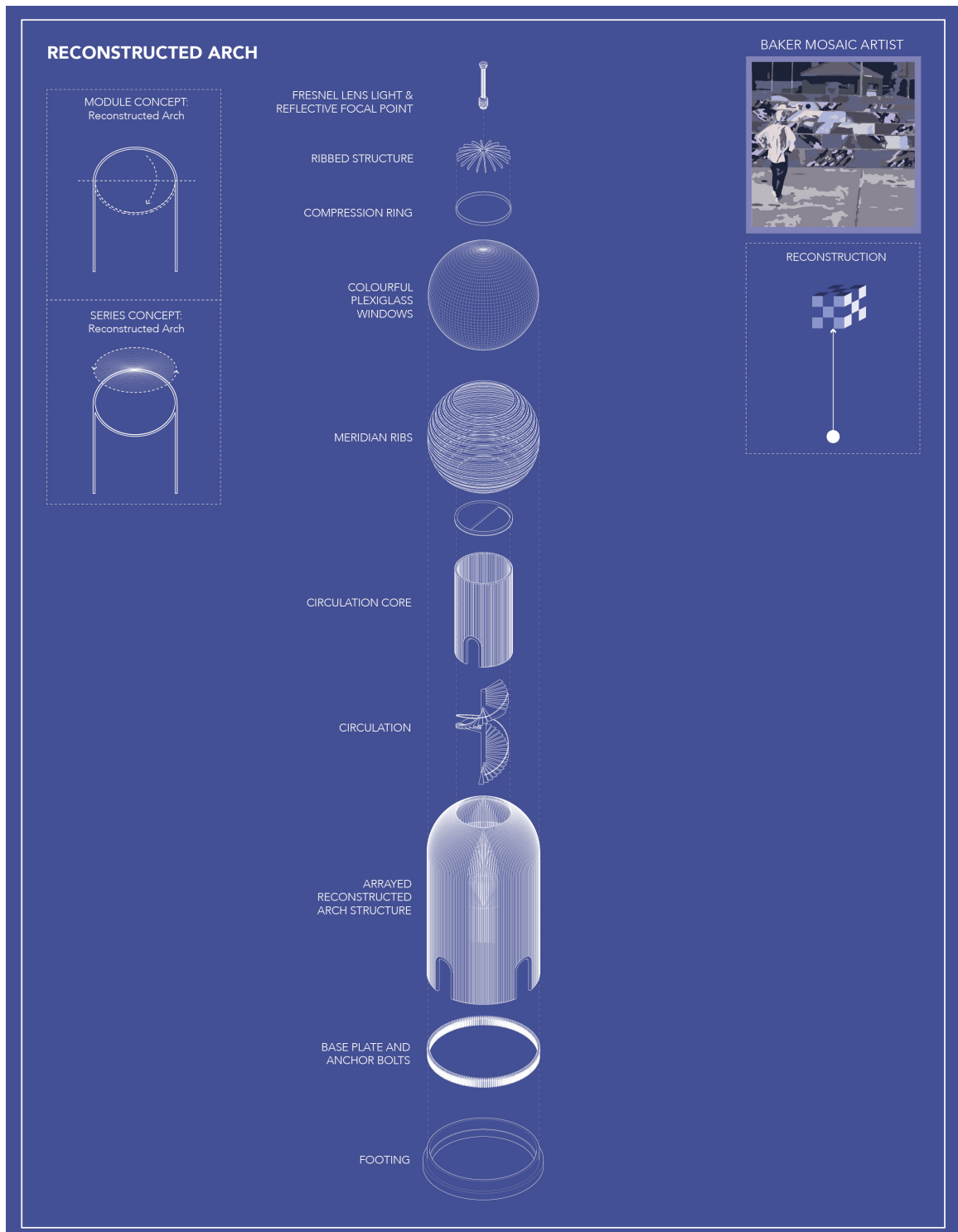
Moment 2: Viewing to the Focal Point

At points of the grid where there are no buildings, the monument has seating facing inward toward the actual focal point which by day is a mirror ball. From the seating along the gaps in the grid, the mirror ball reflects the occupied grid for the viewer to see in totality.

Moment 3: Projecting from the Focal Point

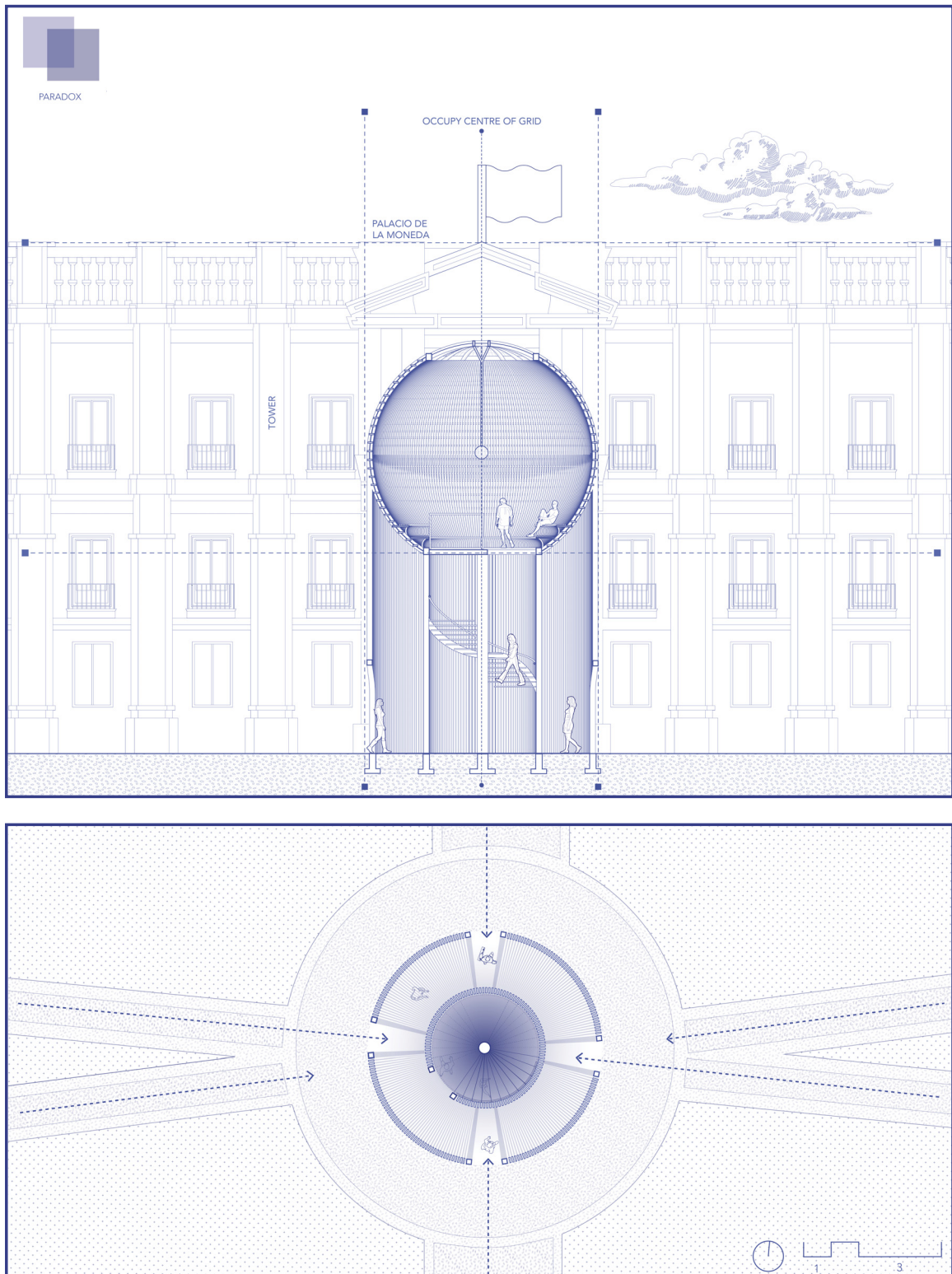
At nighttime, light that is the colour of Chile's main rivers is cast directly on the plaza building facades through the tower's tightly spaced structure. The meridians and primary circular arches hold the colourful plexiglas in place. Whereas political power threatened to make the Baker River less aesthetically pleasing in the past, this victory monument makes the seat of power more beautiful via the qualities of rivers. This is a final reminder of the value of rivers and the artist's ability to reconstruct them.

The light also acts like a beacon drawing people outside of the plaza into it, to experience these rhetorical architectures of the artists of the Patagonia Sin Represas movement confronting the government's role in influencing the destinies of Chile's rivers.



This is the monument to the reconstructive process of the mosaic artist. The circular arch emphasizes the idea of seeing everything from one single point by adding a bottom circular structural member and being arrayed along a focal point.

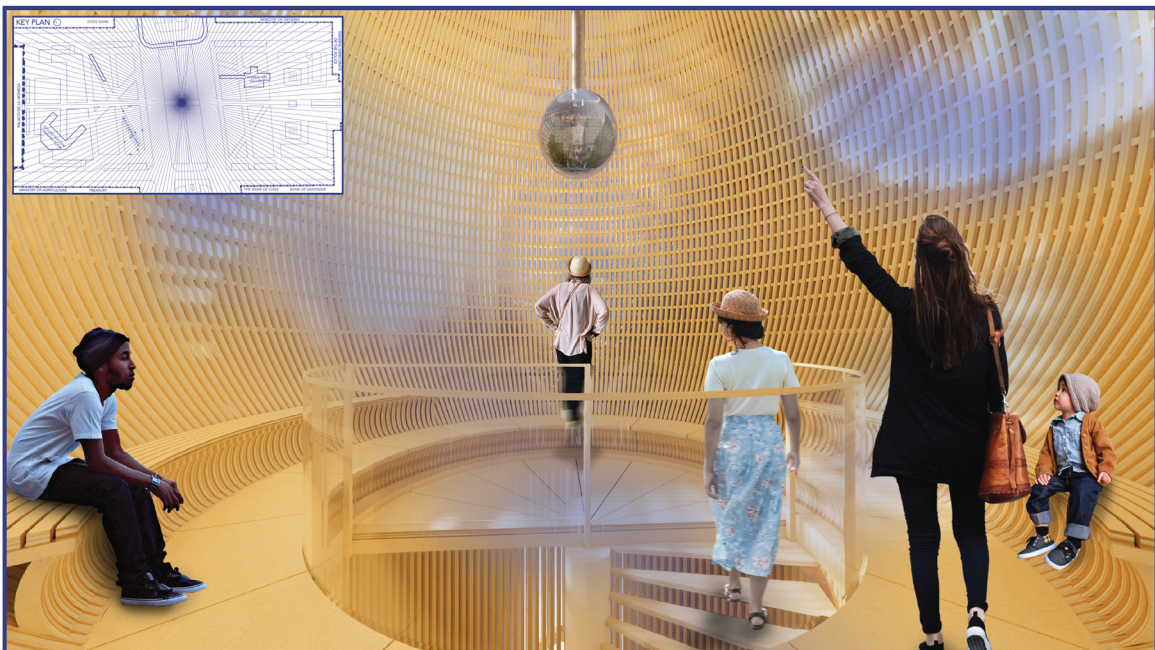
GATHERING AT THE FOCAL POINT



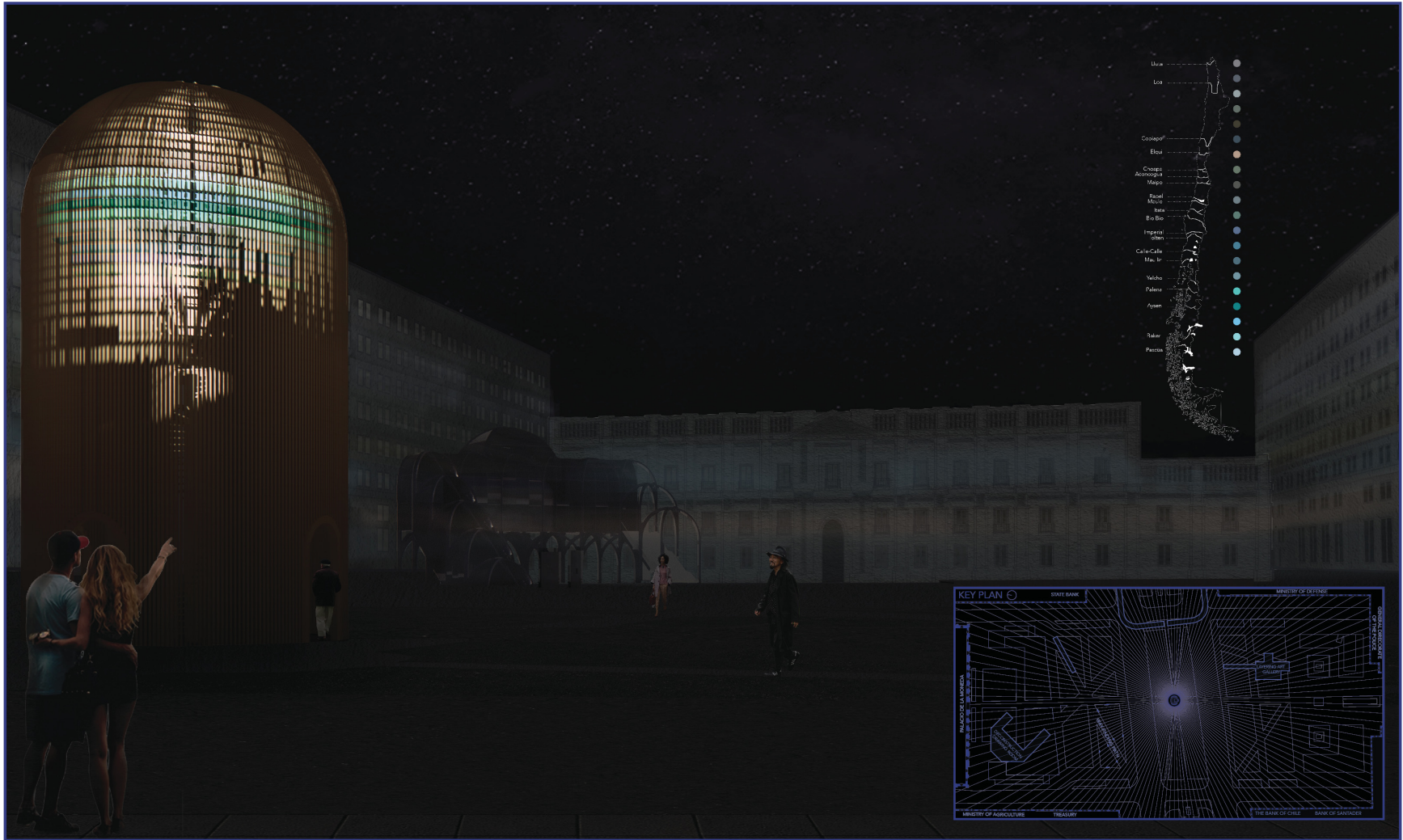
The focal point of the plaza is where a towering flag once stood at the centre of a series of interesting paths. The reconstructive tower takes this roll and provides the opportunities for people to view all key elements of the plaza from one place.



Moment 1: Where the monument faces the ministry buildings, each grid element is represented equally—again speaking to the mosaic.



Moment 2: At points of the grid where there are no buildings, the monument has seating facing inward toward the actual focal point which is a mirror ball reflecting the entire plaza. This is akin to the way a mosaic captures the essence of its subject's characteristics.



Moment 3: At night the monument is a reconstruction of the rivers of Chile and their relationship to the seat of power. This is done by projecting the colours of all of Chile major rivers onto the ministry buildings.

Chapter 6: Conclusion

In conclusion, political movements are only effective when they garner support from large numbers of people. The efficacy of the Patagonia Sin Represas movement came from how narratives about nature and identity were used to describe Chilean's experiences of rivers at various scales. Likewise, monuments to the movement can reflect these facets of social movements in order to be equally powerful, and continue to be relevant into the future. Abstraction is a way of communicating cultural connections to the landscape to broad cultural groups (Gombrich 2000; Schaeffer Ortúzar 2017). Complimentary monuments, and understanding the palimpsest are ways of reflecting the divergent cultural histories of Chile's Rivers (Tschumi 1996). Monuments which spatially and programmatically reference the paths of protest characters amidst their cultural activity is a way of experientially communicating what is at stake. The result is a set of monuments dedicated to the distinct conservationists, workers, religious practitioners, indigenous peoples, and artists of the Patagonia Sin Represas situating along, and in relation to politically significant spaces on the protest route. The ultimate goal of the project is to reinforce empathy between all peoples of the river, in hopes that they might remember past, and prevent further erasures of the Chile's rivers.

This project has developed a method for designing monuments to the protestor who fought to save Chile's rivers, however in many ways it is not complete. In investigating the evidence of the Patagonia Sin Represas movement protestors, many assumptions were made in how Chileans view and relate to their built and landscape environments.

My greatest wish would be for the actual protest characters to use the method and make their own projects informed by their actual experiences of the river. Only people who experience environments first-hand and daily can ever truly understand and recreate them to their fullest beauty and power.

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