Sonic City

Valparaiso | Research

Sonic City

Valparaiso | Research

Michael de Beer
Methods & Analysis
Msc 3 studio
2017 - 2018

THE COMMONS OF VALPARAÍSO

Constructing the Commons in the Latin American Metropolis

2017 / 2018

CONTENTS

Introduction

The following report contains the research leading to the P2 presentation that aims to inform the graduation project to follow for the Methods and Analysis 2017 – 2018 Studio. The work contained herein follows from the field trip to Valparaiso, Chile, where the project is situated. In positioning the research contained in the report, the introduction serves to contextualises the Chilean School methodology that informed the research as well as the focus on sound that leads to a project intervention proposal.

The Chair of Methods and Analysis - positioned amongst several studios at TU Delft - aims to form a critical body of knowledge on how architecture is formulated. The position is concerned with the quasi-autonomy (Standford ,2011) of architecture, which acknowledges that external knowledge bases[A] influence architectural practice and theory. This however, positions a critical need to develop and understand those aspects that make up architectures internal knowledge base[B]. In doing so, the chair holds a particular fascination with

A: External bodies of knowledge; are bodies of thought that have occurred external to architectural theory and practice and have had an impact on the field.

B: Internal bodies of knowledge are those developments and theories that have occurred within the field. Examples of this range from the works of Palladio's to positions, theories and methodologies such as the 5 pillars of architecture developed by Le Corbusier.

the design attitudes, methods and instruments in practice and theory.

The theory thesis completed in the Msc2, Place as Experience, had critically reflected on what makes a place a place. What are the cognitive and affective processes that meaningfully impact people? Arguing for experience as being fundamental to the formation of places and advocating that action and sensation are key factors to this dynamic. This line of thought positioned a need for further interrogation that the Graduation project in the studio of Methods and Analysis would allow for.

The Chilean school methodology, introduced as an introductory workshop to the studio that draws on the work of the Amereida group and the Open City. The late Alberto Cruz[C], was one of the proponents in a major shift in revolutionising architecture in Chile, advocating for a modern response to architecture. Three fundamental principles underpin this methodology - The POET as a point of inspiration and creation; the ACT as the understanding of man's occupation; and the TRAVESÍAS through traveling in the continent and learning from other ways of doing. Cruz drew together the scientific tradition of observation and experimentation with art and life – enacting the methodology as

C: Alberto Cruz, a Chilean architect and director of the Institute of Architecture of Pontifical Catholic University of Valparaíso and one of the founders of the Amereida group and Open City in 1952.

1. Intervention in the Open City, Chile as part of the completion of the first quarter methodological focused research. Photo by Oscar Andrade Castro
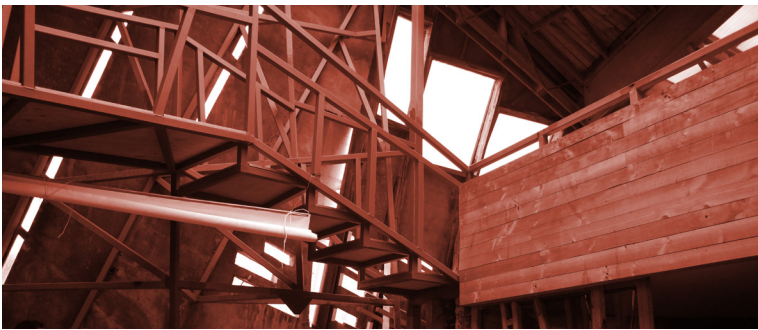
2. A home in the Open City. Photo by Author

a creative act. Three techniques underpin the methodological approach; namely ronda, the act of working as a collective; observation as a translation of the act ; and the pomenor - developing an object in a day as a component of a greater whole translates these methods into space. The methodology emphasises the spatial intention and articulation through making as a collective process with undetermined outcomes. Another core aspect is that failures in the process are seen as key informants to the methodological process as they create a frame for creation.

Cruz and the Amereida draw together praxeology and phenomenology through a methodological approach, situating the creator/s in a space. By emphasising an iterative responsive process of collaboration, nuanced projects are formed. However, as an individual graduation project, the collaborative and ambiguous direction that the process is underpinned by makes the methodology unsuitable in a TUDelft graduation environment. However, core principles of understanding the spatial act, the spatial phenomenon and building a kit of parts, enable tools and a methodology that are implementable in this environment.

Observation as a primary tool is common to both praxeological and phenomenological processes, with a difference in subject and intention. However, research by Atelier Bow-wow emphasises that people's actions are linked to the qualities inherent in a place. The work not only interrogates how the act occurs but why the act is occurring. The secondary inquiry talks of those site-specific qualities that emphasise affective influences of place. The mechanism/ methodology of developing principles and spatial parts from these qualities enables a juncture between theoretical and practical where observations are able to manifest spatially – reiterating the approach of the Amereida group. This merger of techniques enables a method that enables an approach to the research that would allow for the articulation of research into a spatial intervention – into architecture.

From the onsite research, sound is positioned as being a critical part of the context of Valparaiso. Its

dramatic changes and highly affective qualities that are seemingly aligned to activity situated an opportunity to understand sound as an Act – a merger of the Amereida and before mentioned theoretical paper – a merger of the act and sensation. Sound is not a new phenomena in architecture and has a long lineage of intentional application due to its highly experiential qualities. However, sounds usage has increasingly been overshadowed by the dominance of sight. The doctrine of visually orientated work that has been further entrenched through mechanisms of representation has drawn architects away from thinking and intentionally using sound in design and implementation. This secondary element of sound in practice situated a further motivation to undertake research in the dynamics of sound to understand how it may be used and applied in architecture.

To understand the particularity of a sonic act in Valparaiso, it is important to gain an insight of sound

3. Capilla del Monasterio Benedictino by Gabriel Guarda, Martín Correa . constructed in 1964. photo by author

and formulate normative principles and conclusions as a basis from which the act could be situated. The research employs various tools to observe, document and analyse sound and its occupation in the city. This research leads to informing the act - presence- as being a relationship through sound that people and things interact via. The positioning of the act is critical in that enables understanding of how the interaction between sound and people occur within the commons. In so doing it formulates a framework of intention from which sound may be used to intentionally design by understanding how it interacts with us. This critical insight supported by the research of site in relation to sound – and its selection using sound- enables a means to define an intervention that is contextually sensitive and focused on building meaningful environments.

The site visit to Chile had been unquestionably a revealing experience. A context and ethos embedded in the city, is a true common as people live as part of the space of appearance. The efforts by the Ameriada and the Open City reflected an alternative approach while buildings such as the Capilla del Monasterio Benedictino in Santiago were awe inspiring, truly underlining an architecture of experience. It is in this breath-taking context that the proposed project is to be situated as an external dialectic to on-going search for the role of architecture in a post-colonial context.

Sonic Landscape

Valparaiso's dynamic landscape offers variety of spaces throughout the city that are unique in form and sonic qualities. The diagrams that fol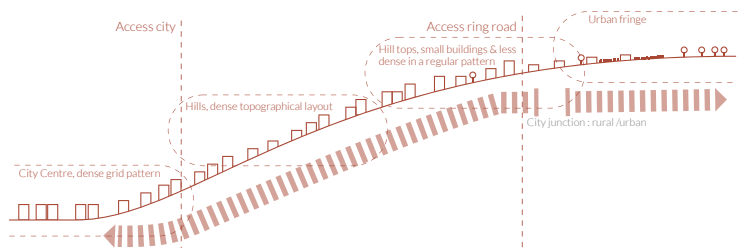low represent the varied types of environments in the city form a frame in documenting the sonic environment of these differential landscapes. The observations taken at various locations in the city aim to offer a unique insight to these spaces and how sound may be spatialised.

In understanding sound as a landscape and the form of representation used, several key points ought to be made: The representation of sound remains detached from its atmospheric and affective qualities. Rather sound is documented descriptively and comparatively. The source, intensity, rhythm and quality of the sound are focused on to give an insight on those elements contributing to the sonic landscape. In doing so, 5 min clips offer a glimpse of characteristics of varied environments forming a palette from which to understand the city. It must be noted, that these landscapes vary in quality through time (day, season, year, event) and the 5 min excerpts aim rather to give a dynamic range of those qualities which make up the everyday sound of the city. Here events, such as protests and festivals have been omitted from the study as being the exception, aiming rather to document the ordinary elements that form Valparaiso's unique sonic landscape.

Hill top community

Threshold : Developed

Hill top community

Hill top community

Threshold : Vegetation

Threshold : Agriculture

River in Valley Developed

River in Valley Undeveloped

CONDITION 1   CONDITION 2   CONDITION 3   CONDITION 4
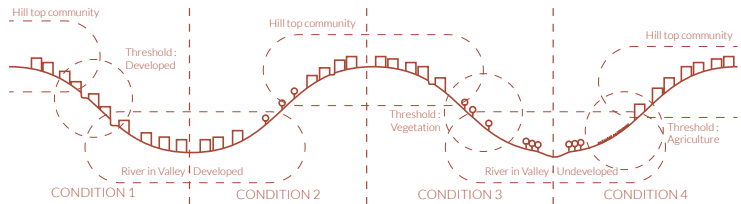
5. Diagram of Valparaiso's landscape and the influence of topography on developing unique environments with various threshold conditions.

Access city

Access ring road

Urban fringe

Hill tops, small buildings & less dense in a regular pattern

Hills, dense topographical layout

City junction : rural /urban

City Centre, dense grid pattern

Viewing Point

Continues hum of the city below

People talking

Sound of setting up a trading table

Laughing

People talking

Hooting

Seagull

People talking

Footsteps

T : 1

T : 2

Dogbark

Seagull

Shouting / calling

Seagull

T : 3

Dogbark

Church Bells in the distance

T : 4

Footsteps a dog and a man

Church Bells in the distance
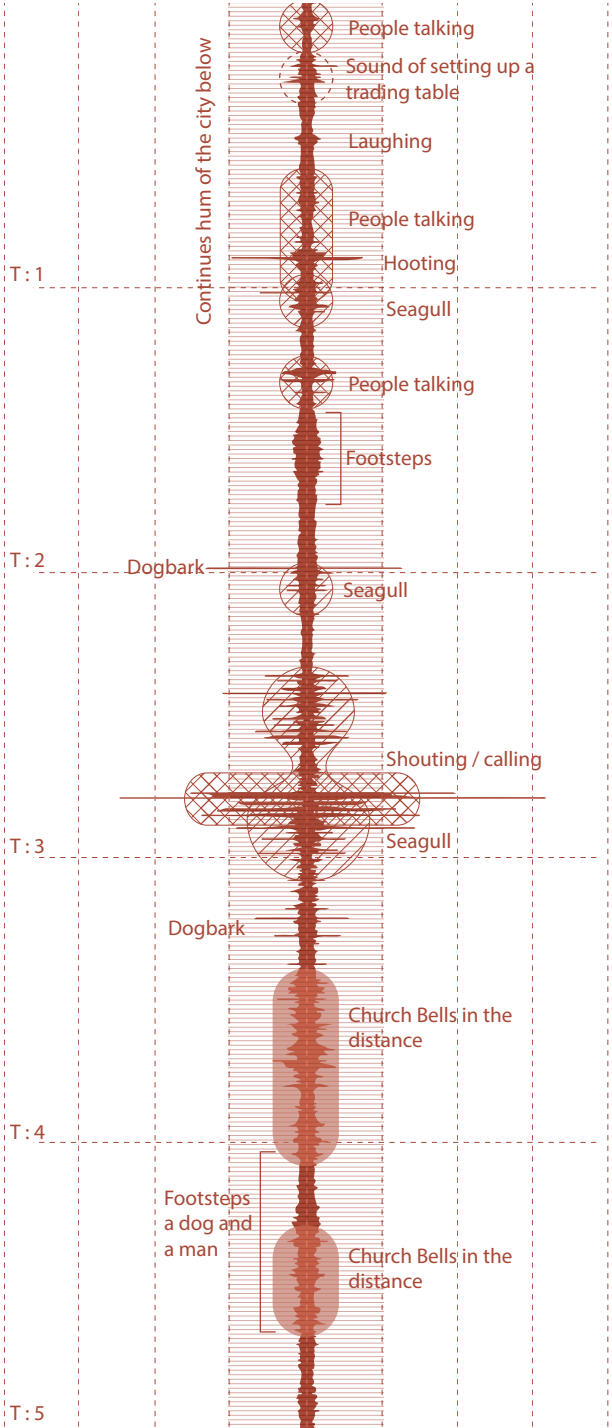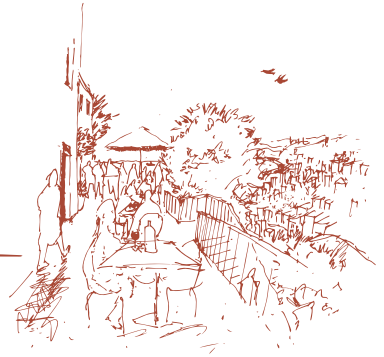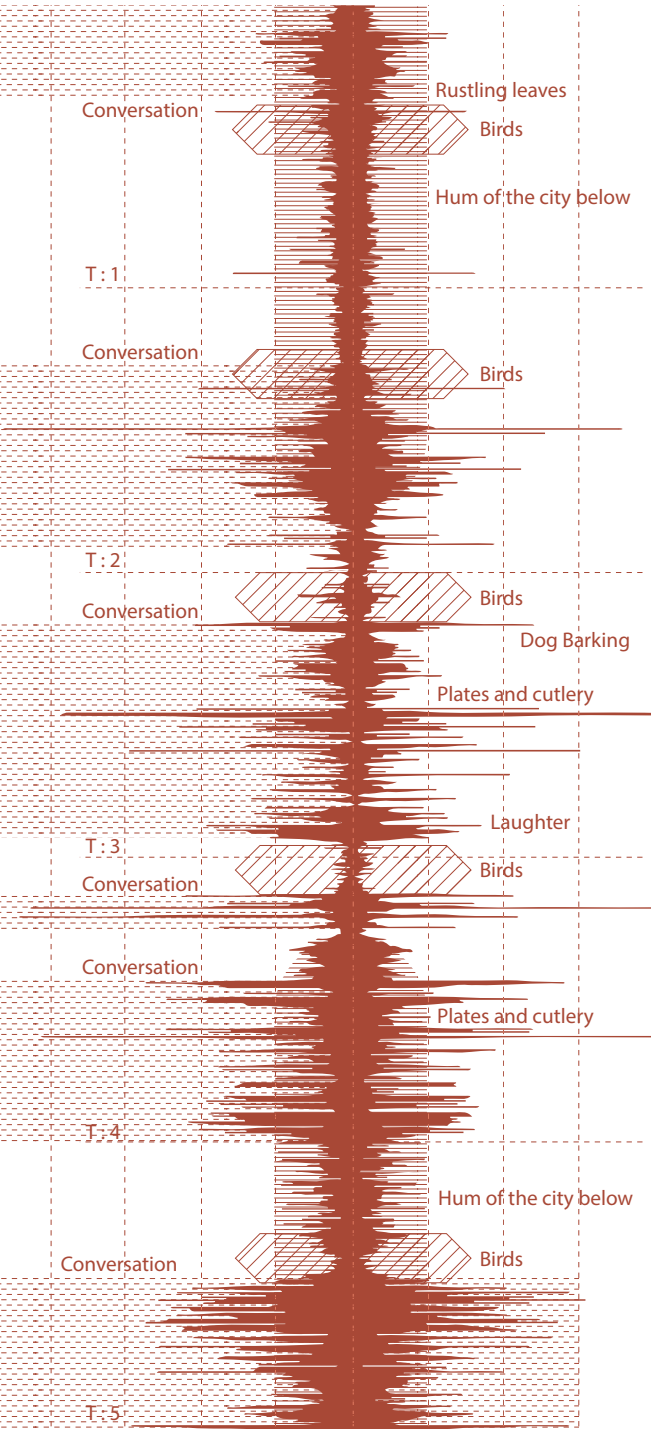
T : 5

Sunday sitting by the lookout-sound.

An alarm in the distance. A birds fluttering wings. The steps of someone followed by the quick steps of a dog panting. Church bells lyrically ring near by. Birds singing. Chatting couples, slow and lazy steps. A women shout loudly in conversation with someone unseen and unheard further down the hill. cars rumbling in the distance. A screatch of brakes. bells in the distance. seagulls squaking. Talking on the phone. Steps passing by. birds chirpping. laughter. a distant dog bark. A truck passes. A loud clunk reverberates in the valley. hooting. Blowing of nose. Dogs bark. birds singing in conversation. The sound of leaves tumbling over the pavement in the breeze. The clunking of assembling a trebading stand. The rattle of the dogs collar while panting. high pitched childrens voice. sneeze. unlocking a door. leaves in the wind.

Restaurant Cabrada

Conversation

Rustling leaves

Birds

Hum of the city below

T : 1

Conversation

Birds

T : 2

Conversation

Birds

Dog Barking

Plates and cutlery

Laughter

T : 3

Conversation

Birds

Conversation

Plates and cutlery

T : 4
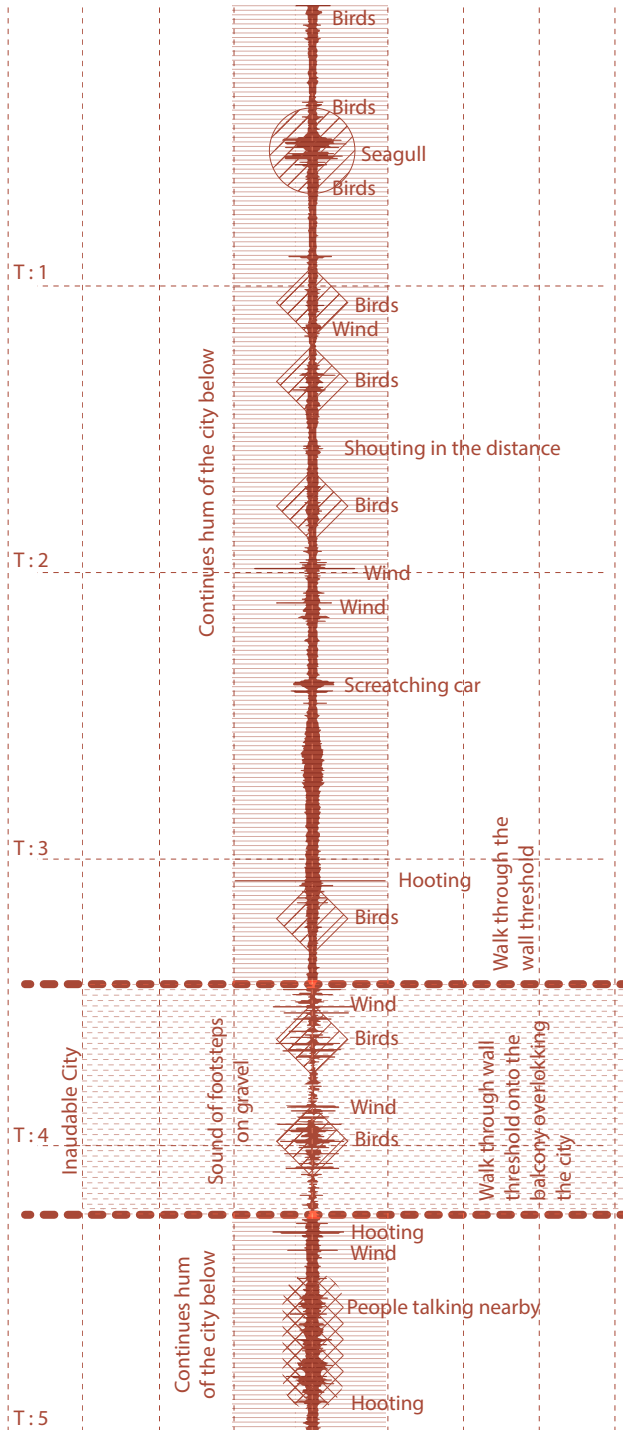
Hum of the city below

Conversation

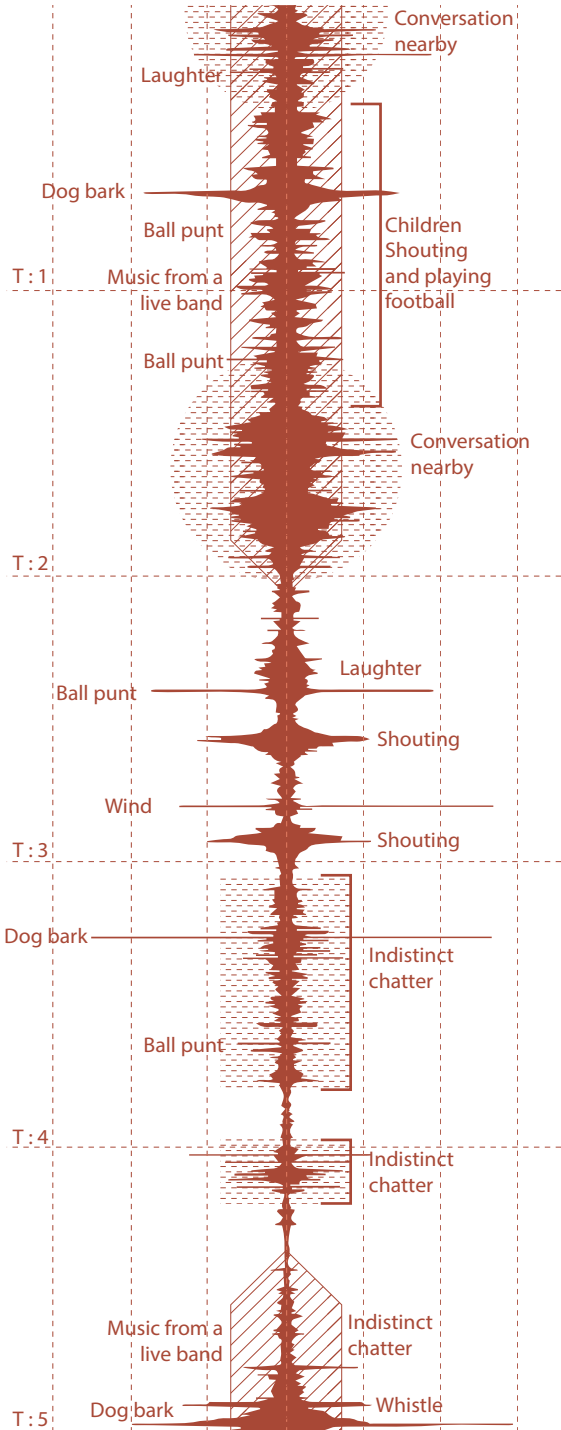Birds

T : 5

Retiourant - cate.

Varied discussions. Dog barking.
gushing wind through the buildings
below? laughter. Leaves in the
wind. Baby crying. Spanish conversation,
Indistinct group of people talking
inside. birds singing. chairs moving,
scratching on the tiles. Cutlery
while eating. indistinct chatter.
quiet breeze. Dogs barking. plates
and knives. laughter, leaves in the
wind. Talking people. lighting a
cigarret. seagul. asking for the bill.
sound of cars in the distance.
laughter. music in the distance.
hooting. leaves in the wind. the
card machines buttons and the
Printing of the receote. yawn.
stand up. moving chairs. singing.
birds chirping. leaves in the wind.

City Cemetery

cemetary. Through the Threshold.
Gravel underfoot. Birds singing.
silence. rustling bushes. leaves
whistling. Moving toward the threshold
the hum of the city planes into ear
shot. a distint rumble, hoot, screatching
The hum of many tiny people far below.
Birds singing. wind rustling over
foolioge. a buzzing bee and a truck
huffing and heaving up the hill. Music
traveling in the wind becomes clear
for just a moment. the hum of
the city is broken by the discussion
of an oprating couple, whos voices
drown out the quiet respite. Through
the threshold and the city disapears.
silence, leaves, birds and wind
whistles through the groves. the
crunch of gravel. a distant dog bark
leaves rustling and bees buzzing

Birds

Birds
Seagull
Birds

T : 1

Birds
Wind

Birds

Shouting in the distance

Birds

T : 2

Wind

Wind

Screatching car

T : 3

Hooting

Birds

Wind

Birds

Wind

Birds

T : 4

Hooting
Wind

People talking nearby

Hooting

T : 5

Continues hum of the city below

Walk through the wall threshold

Inaudable City

Sound of footsteps on gravel

Walk through wall threshold onto the balcony overlooking the city

Continues hum of the city below

Cultural Park

Conversation nearby

Laughter

Dog bark

Ball punt

Children Shouting and playing football

Music from a live band

Ball punt

Conversation nearby

Laughter

Ball punt

Shouting

Wind

Shouting

Dog bark

Indistinct chatter

Ball punt

Indistinct chatter

Indistinct chatter

Music from a live band

Dog bark

Whistle

Cultural Park.

Trumpet playing. The chatter of many people. Sirens of an ambulance in the distance. dark dogs barking. kids shouting. footsteps of a dog a growl. kids playing. a sound of cutlery. a working stick. the trumpet. a clapping of hands. a discussion between a couple. singing. music. a whistle. a ball bouncing. a howling dog. a mother calling. the sound of a bicycle. laughter. a gush of wind. shouting. pogs playing. kids screaming - Amigo. People talking. the trumpet. laughter. barking. laughter. discussion. calling. indistinct chatter. the distant sound of the lecture inside. wind catching on strings. laughter. running steps. barking screaming. music
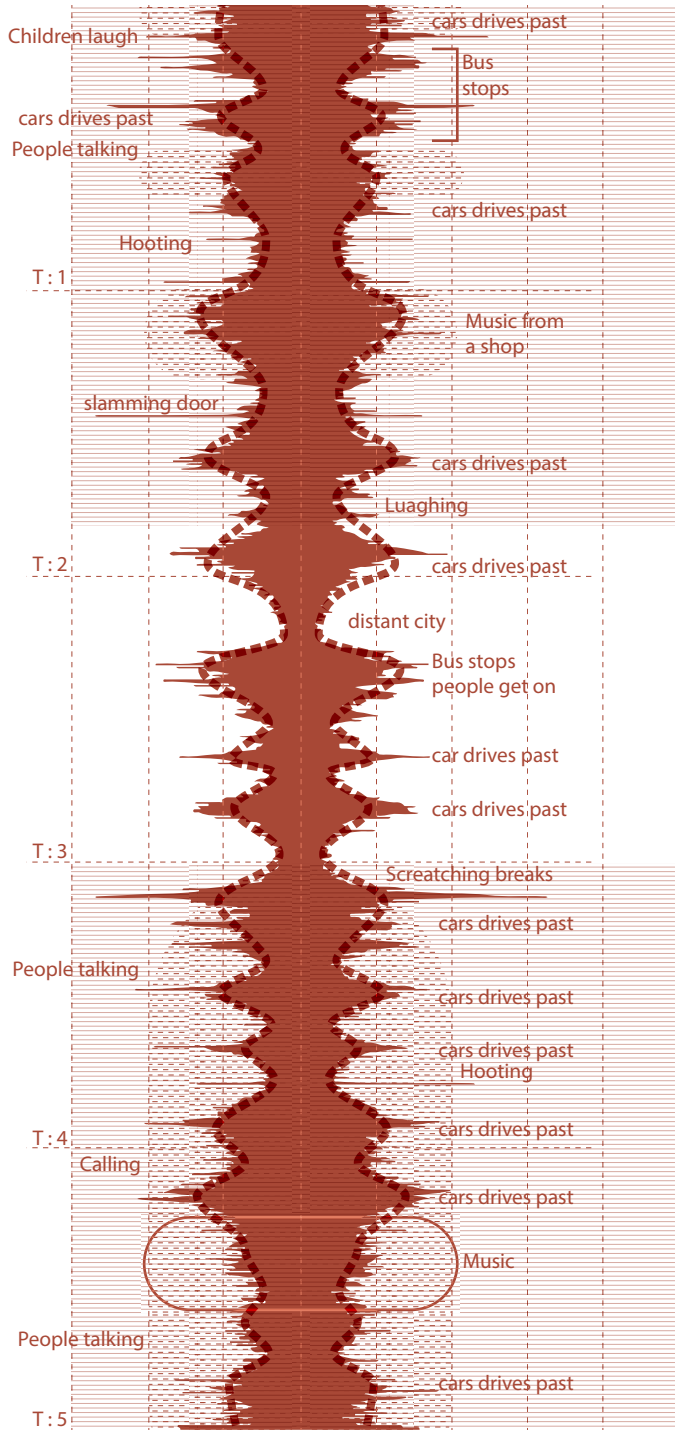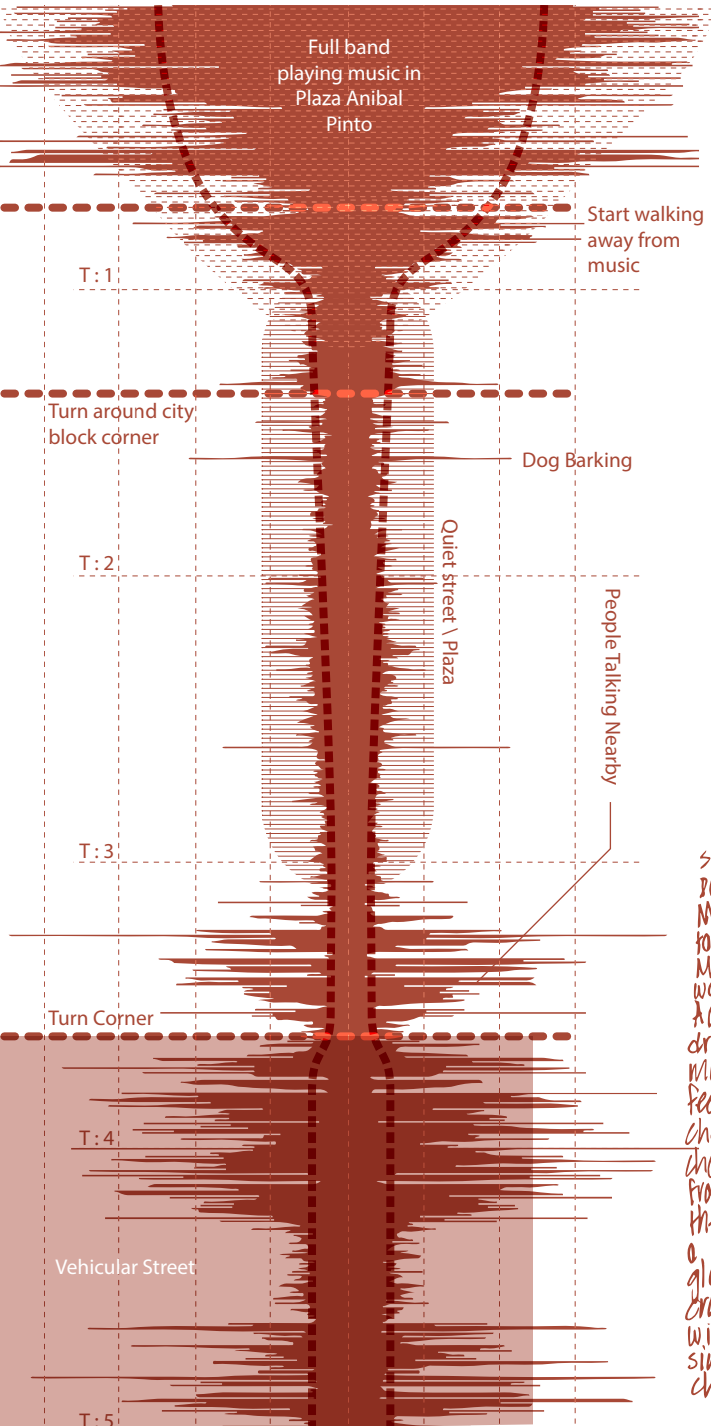
City Street

cars drives past

Children laugh

Bus stops

cars drives past
People talking

cars drives past

Hooting

T : 1

Music from a shop

slamming door

cars drives past

Luaghing

T : 2

distant city

Bus stops
people get on

car drives past

cars drives past

T : 3

Screatching breaks

cars drives past

People talking

cars drives past

cars drives past
Hooting

T : 4

cars drives past

Calling

cars drives past

Music

People talking

cars drives past

T : 5

walking. in the street.
Cars passing. footsteps behind.
hooting. man singing. talking
couples. music from a bar.
Cars passing. bus stops. man
shouts. footsteps. talking. stallman
selling goods. waiting inviting
pedestrians in. hooting rumbling
cars. dogs barking. people talking
footsteps. children laughing.
Bus gear change — roaring past.
music on the street. footsteps.
cars moving. people talking. baby
cryies. loud bang from somewhere
car wrush by. Door slams. man
whistling. women chattering.
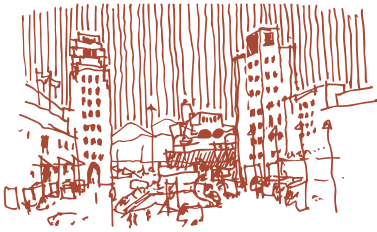rumbling cars. hooting. hooting.
people talking. man sighing.

City Street at night

Full band
playing music in
Plaza Anibal
Pinto

Start walking
away from
music

T : 1

Turn around city
block corner

Dog Barking

Quiet street \ Plaza

People Talking Nearby

T : 2

T : 3

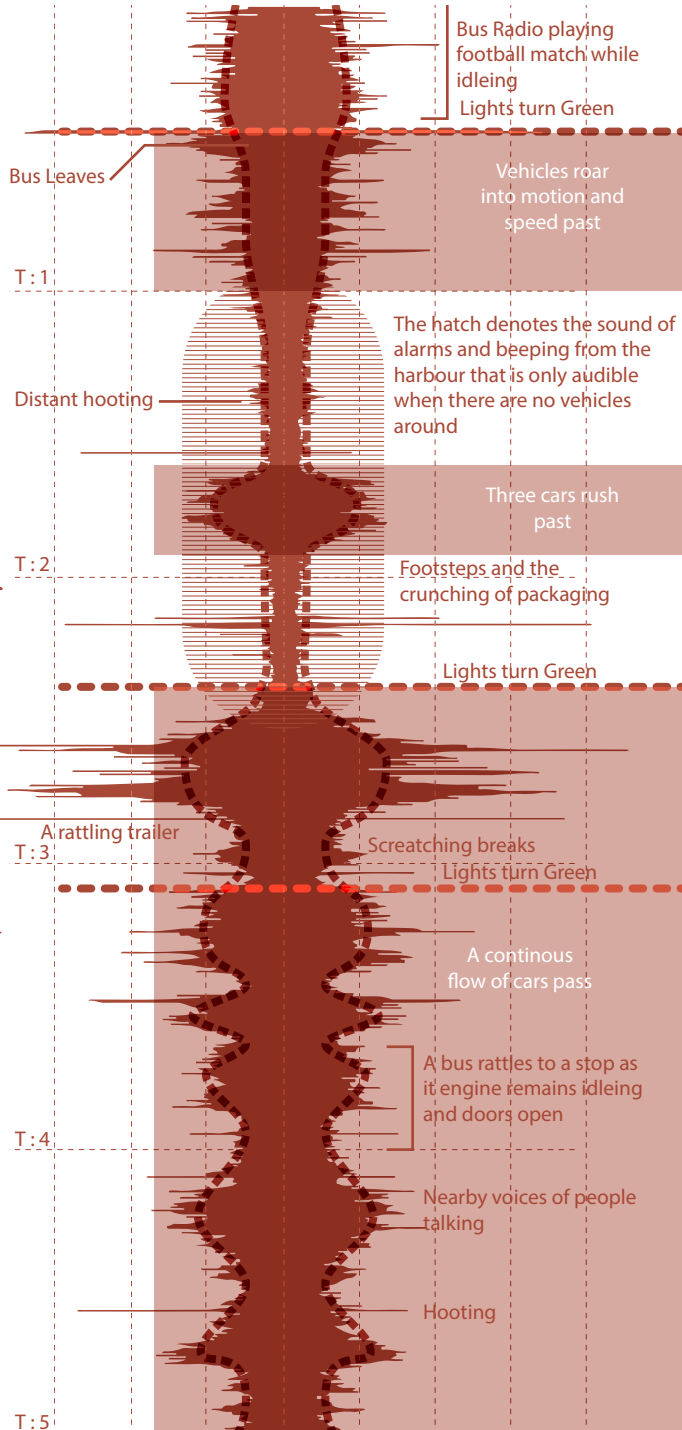Turn Corner

T : 4

Vehicular Street

T : 5

Saturday Night Sound.
Dog barks. People clapping. Shouting.
Music in the street, loud and jamming.
talking. laughter. An offer of drugs. Barking.
Music disappears around a corner as we
walk. distant chatter. the hum of cars.
A conversation next to you. Someone playing
drums. shouting. hooting. Calling somebody.
music reopens around g corner. dancering
feet. exclamation of excitment hooting.
chatting. Dogs. quieter street. distant
chatter. footsteps. hooting. live music
from a bar. loud chatter. shouting.
the volume increases. a jazz solo.
a rap battle. laughter. clinking of
glasses. salute. ola. laughter. a
crowd of indistinct chatter fighting
with the music. loud conversation
singing. barking. shooting. glasses
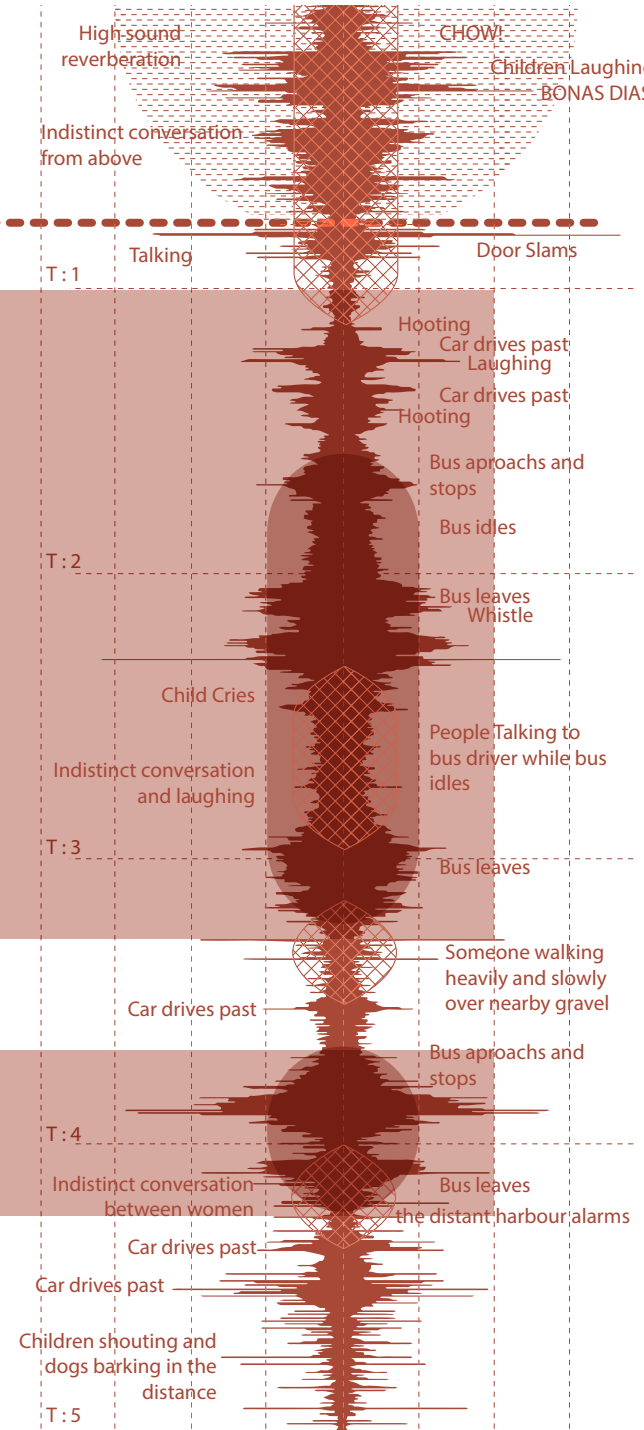cheersing. shooting. ola. stamping

Sotomayor

Bus Radio playing
football match while
idleing
Lights turn Green

Bus Leaves

Vehicles roar
into motion and
speed past

T : 1

The hatch denotes the sound of
alarms and beeping from the
harbour that is only audible
when there are no vehicles
around

Distant hooting

Three cars rush
past

T : 2

Footsteps and the
crunching of packaging

Lights turn Green

A rattling trailer

T : 3

Screatching breaks

Lights turn Green

A continous
flow of cars pass

A bus rattles to a stop as
it engine remains idleing
and doors open

T : 4

Nearby voices of people
talking

Hooting

T : 5

Neo liberal square. Sound

Loud roaring cars. rattleing chasy's.
hooting. gear changes. undistquishable
voices. The sound of the naval officers
radio. Hooting. Hooting. Hooting. Shouting
laughter. Roaring cars. hooting. shouting
at bus driver. Hooting bus behind.
rumbling cars . idiling bussie. rattle).
The sound of air of the bus brakes
releasing. hooting. roaring cars.
a childs voice passing nearby
idestquishable chatter. the sound
volume reduces as cars volume
dispears. speakers. music. radio
Footsteps. voices. laughter. sniffing nose
Greenlight. Rumbling cars, exploding
exhovet pipes. rattling chasey's
indistgwishable voices.
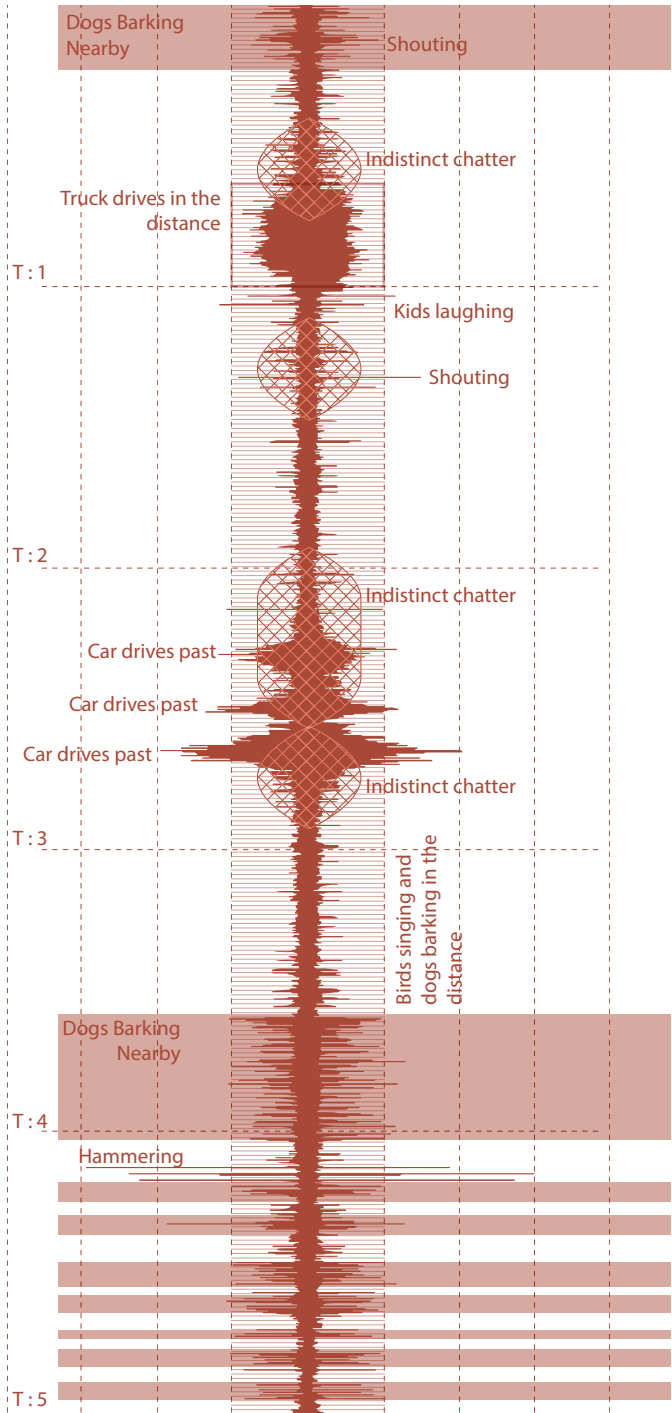... and the cycle continues.

Hilltop sound

High sound reverberation

CHOW!

Children Laughing

BONAS DIAS

Indistinct conversation from above

Talking

Door Slams

T : 1

Hooting

Car drives past

Laughing

Car drives past

Hooting

Bus aproachs and stops

Bus idles

T : 2

Bus leaves

Whistle

Child Cries

People Talking to bus driver while bus idles

Indistinct conversation and laughing

T : 3

Bus leaves

Someone walking heavily and slowly over nearby gravel

Car drives past

Bus aproachs and stops

T : 4

Indistinct conversation between women

Bus leaves

the distant harbour alarms

Car drives past

Car drives past

Children shouting and dogs barking in the distance

T : 5

Hill Top Sound.

CHOW! BONAS DIAS. CHILD SHOUTS BALL Bounces metal clangs. Laughter. Two people talk. Front door clangs and reverberates through the interior. Into the street- Dog barks. Women chatter dogs barking far away. Car roars past hooting. The sound of a bus approaching before it is seen. bark. The bus drowns out other sound. Music. Shouting. Bus idles. children shouting. Footsteps bus leaves. Talking. laughter. the sound of distant alarms from the harbour. screatching brakes. Hammering nearby and saw. Shouting. Women talking. gravel underfoot. Car drives past.

High Cabrada
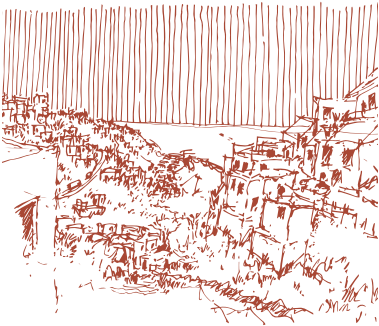
Cabrada.
The loud sound of birds and distant barking. A dog nearby barks. walking on steps. talking and laughter. hum of the city below far in the distance. Seagull – Birds. Dog barks. kids screams. Truck throttles in the distance. Birds. Birds. Chirping. singing. Dog barks. Indistinct discussion. shouting. birds laughter. talking. cars drives past in the distance. Dog barkes barks barkes barkes. and the birds continue to sing.

Dogs Barking Nearby

Shouting

Indistinct chatter

Truck drives in the distance

T : 1

Kids laughing

Shouting

T : 2

Indistinct chatter

Car drives past

Car drives past

Car drives past

Indistinct chatter

T : 3

Birds singing and dogs barking in the distance

Dogs Barking Nearby

T : 4

Hammering

T : 5

A Sonic Palette

The study highlights a rich palette of everyday sonic elements that create the sonic landscape of Valparaiso. Yet it also shows the variety of soundscapes that make up the city. From the loud inner city to the quite Valleys – the sound of the city shifts dramatically due to the compositions that are formed. The hallmark differentiation is intensity and rhythm as well as of being a participant or an observer. Soundscapes in this sense become a balance of how people act in space but also mechanical noises denoting traffic, trading, harbour and building work. The soundscapes define territories within the city that can be found at varied points on the normative diagram of the city.

The study of the everyday, builds a palette of sound, the collective noise of birds, dogs, buses and people. However to give reverence to the study several observation/ principles are put forward to offer an understanding of sonic landscapes. These insights aim to form a guiding framework to working with sound.

Observations & Principles

1 Sound = sonic element

In the complex sonic environments that we inhabit, one is constantly bombarded by an array of sounds. Analysing them as waves and troughs highlights the overlap and seemingly unidentifiable jumble of noise that meets our ears. Recording studios go to great length in isolating sound, designed to minimise reverberation and exclude and separate various sounds. Yet – astonishingly – we can discern varied sounds in a complex sonic environment. We can have in-depth conversations in the most unsuitable of situations. This is due to the brains unique ability for pattern recognition. Sounds are discernable and in this sense have a strong link to those elements that they are associated with - sonic-elements.

2 Soundsapces situate & orientate

Soundscapes exist beyond the visual realm. They are composed of varied sonic elements that form an environment - a spatial composition. These ensembles are composed of how sounds interact with an environment and intuitively offer an understanding of dimension, materiality and space. As Pallasmaa (2017) describes the ability of sound to orientate and situate, he highlights how in the dark the dripping of water carves out a void in our imagination – Sound gives form. Yet soundscapes also place one in the world – in our socio- cultural landscape. Sound as a composition constructs a sense of place – it not only positions one in space but also gives an understanding of what that space is. It allows one to form a nuanced awareness that is unattainable through sight.

3 SOUNDSCAPES ARE AFFECTIVE

Blesser (2009) draws a clear distinction in defining aural landscapes as a phenomenon of experience - that sound is able to be measured and quantified. Yet it is the intangible ability of sound to AFFECT us that is critical for architecture. It's affective quality, not only influences how one feels but also how one acts in response. It reverberates through us physically, directly engaging the body and influences how one physically feels. It stimulates memory, drawing on past experience as well as engages our sense of being, stimulating emotional and cognitive responses. Collectively these attributes of sound position soundscapes as highly experiential and in turn impactful environments.

4 SOUND AS AN ACT

To listen and to make a sound is both an act. Underappreciated, these acts are fundamental to how we navigate the world and this has been informed from a long lineage of cultural influences. To walk softly in a library, or scream at the top of ones voice in a protest, to change the way one talks in a crowded elevator. These actions seem natural - unconscious – however, it is closely linked to behaviour in social and environmental circumstance. We readily adjust the tone and level of our voice or the manner in which we listen according to the situation. Ganchrow (2017) highlights how we do not simply listen, but actively listen by making gestures and sounds that denote the act. During an a cappella performance in a small space or a church, this is pronounced as one is aware of ones own presence – holding in the sneeze to the end of performance. The extreme situation however is true of the everyday as one navigates ones own interaction with collective sounds and society. The notion of presences is linked to the act as to make a sound is to alter the soundscape and denote ones existence. In this sense sound as an act is closely linked to behaviour and presence.

5 SOUNDSCAPES AS SPACES OF APPEARANCE

The space of appearance as the public body, a temporal definition of seeing public space as a verb rather than a noun draws to the fore the interaction of sound in the landscape of the city. Sound as an act, drawing forward the notion of presence highlights how individuals create the public through their interaction with-it. Examples in Valparaiso are; the beginning of the student protest where the hills and city are filled with the sound of clanging metal as citizens supported the movement; or the end of the America's cup where horn's and shouting resonated through the city as a amphitheatre for celebration. Sound expands the public realm into the home as it permeates walls and ones private domain. It is the everyday where sound as an act is seen as a constant mediation of society. In the words of historian Peralto (2009), "Valparaiso is place of harmonic disorder", where chaos remains in careful balance.

Designing with sound

Shea Trahan (2015), in a Ted Talk on the Architecture of sound, advocates for the science of sound when designing spaces. Sound is quantifiable and holds discernable characteristics and qualities. Trahan highlights how humans are able to hear 10 times the range that we can see - making our auditory sense significantly more receptive and acute than sight. The position advocates that sound is highly affective however for architects it also is malleable and implementable due to its quantifiable aspects.

Using two cases Trahan (2015) position resonance and reverberation as being core principles of how sound interacts with space and creates sonic environments. These

Resonance

Resonance is the "intensification of sound produced by sympathetic vibrations" (Trahan, 2015) When sound interacts it often dilutes the wave pattern and thus the pitch. However, when a sound interacts with a sympathetic vibration it amplifies increasing the pitch. Sound is a traveling longitudinal wavelength, which we perceive and can be measured in hertz. Importantly this form of measurement has dimension and through that it offers an insight to sounds form. The Ħal-Saflieni Hypogeum, in Malta, constructed in the Bronze Age is one such space that enables the amplification of sound at 110Hz. The chambers shape enables the reflection of sound to interact in a sympathetic manner to create a unique sonic environment.

110 Hz

Reflection
Voice

Audible

Constructive Interference

Volume

Chamber Length
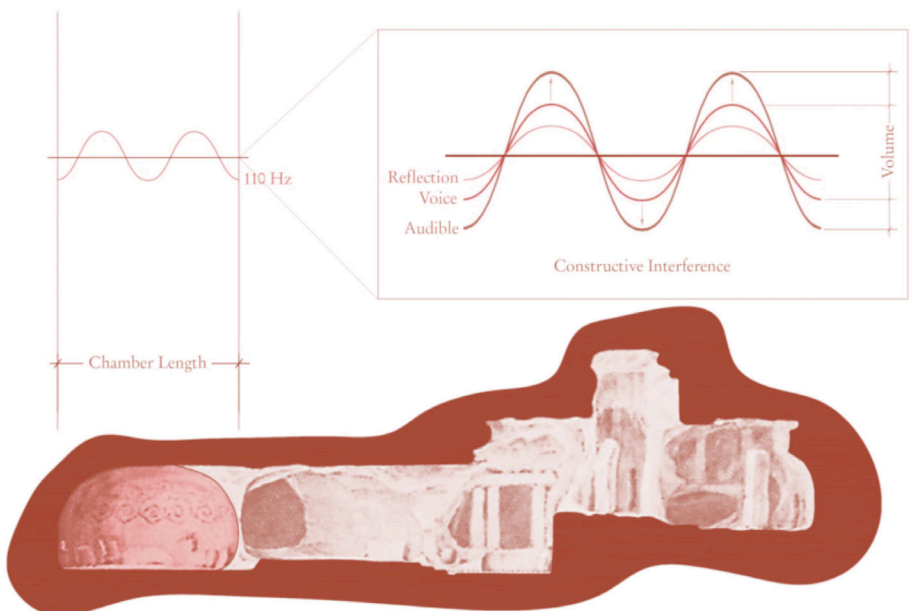
two fundamental insights are not new to architecture and hold a strong lineage in sonic structures. In understanding these two characteristics, the drawings below are extracts from Trahan's presentation and serve as case examples. Critically, these two fundamental aspects aim to serve as tools during the design phase of the project to form environments with specific sonic intentions. Supported by the research undertaken in the study of sounds, acts and site, the analysis would be able to be quantifiably supported during the design phase of the project and thus form a defensible position in advocating for a design outcome.

Reverberation

Reverberation is "the collection of reflected sounds from the surfaces in an enclosure" (Trahan, 2015). In other words it is the amount of time sound lingers in a space after the source sound is gone" (Trahan, 2015). Most spaces have a reverberation time of around three to four seconds. The case of the Baptistery of Saint John in Pisa has a reverberation time of up to 14 seconds. This is caused because sound is reverberating through the space in several different ways, toward the coned roof with its secondary resonating chamber amplifying the vibrations, off the internal walls and columns as well as the numerous nooks and crannies within the space, that creates multiple instances of the source sound having to travel differential lengths to return to the source.

7. Baptistery of Saint John in Pisa, has up to a 14 second delay of sound due to how sound resonates in the space. https://www.youtube.com/watch?v=R-BMF4e-1bg (accessed: 23/12/2017)

Resonating Chamber

Plan

Section

Time

Source Sound   Reflected Sound
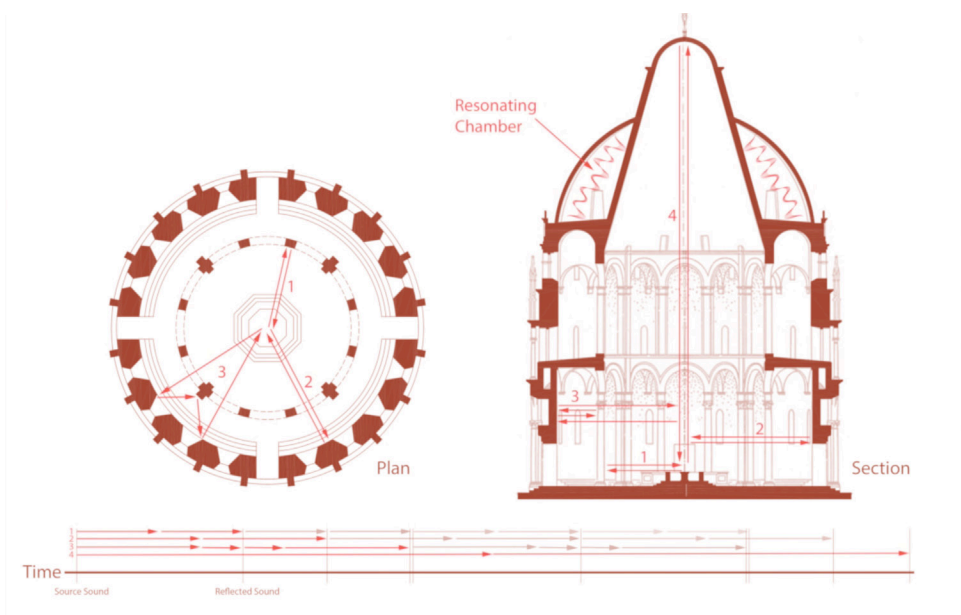
Typologies of sound

The typologies of sound presented, are a range of different spatial forms that interact with sound in various ways. The aim of presenting the range of types enables a concise and broad scan of ways of working with sound. This is critical, as the research has predominantly focused on analysing types of sounds and their interactions with the city and people. In moving toward the second phase of the graduation project, as a design phase, it is important to understand the variety of possibilities when working with soundscapes. Thus broadening ones frame of reference.

8. The Danish Music Museum, Denmark, designed by ADEPT, uses various materials to create sonic spaces for specific instruments. adept.dk

9. Anechoic chambers are spaces that aim to reduce the reflection of sound and are predominately used for recording and analysing sound. thespaces.com

10. Aalto design of a lecture theatre ceiling by studying how sound moves in the space. archdaily.com
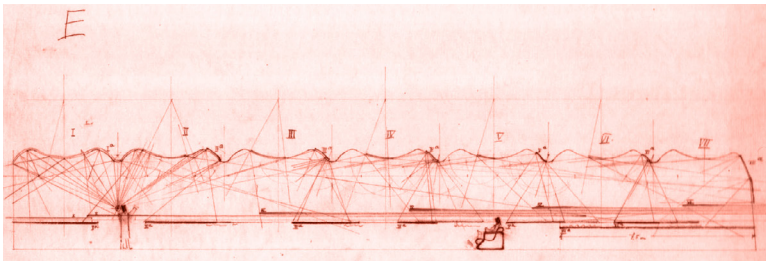
11. Sound mirrors were constructed in Britain between 1916 and 1930 to reflect the sound of oncoming aircraft as an early warning system. andrewgrantham.co.uk
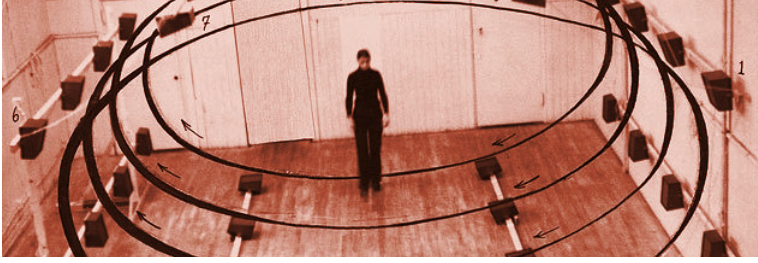
16. Bernhard Leitner an installation artist focusing on sound spaces, creates installations focused on peoples interaction with sound. archdaily.com

12. Tate Modern pavilion, featuring films playing at the same time aims to create an inaudible space, however upon approaching the films they become audible. Indiewire.com
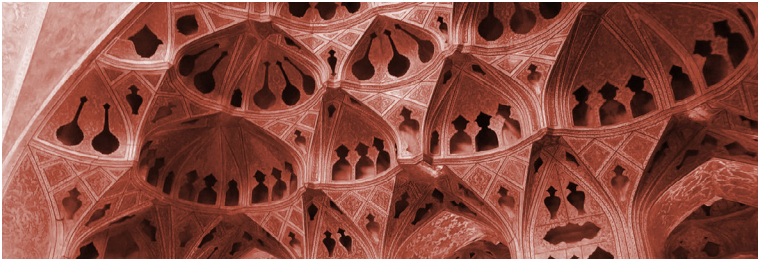
13. Music Hall at the Āli Qapu Palace, Iran, has a intricate ceiling that interacts with sound to form a harmonious space for the playing of music. thespaces.com
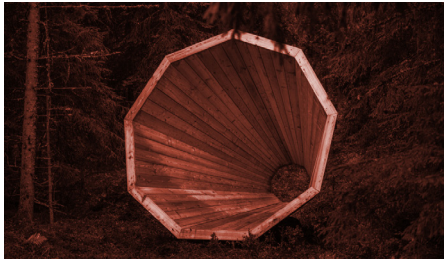
14. Forest megaphones in Estonia, installed by students aims to concentrate or project sound in the and of the forest. dezeen.com

15. Tvísöngur, Iceland, is a concrete structure of 5 intersecting domes, each designed to amplify a specific tone representing Icelandic musical tradition of five-tone harmony. thespaces.com

Site

Positioning a site in the city became a research task in itself. Four core informants aided in the research and selection of the site. The first was the case of the threshold in the city as a distinctive boundary between hills and city, which impacts on urban form and movement patterns in various ways. The second was the valley or quebrada, which is a unique phenomenon to the city, offering ecosystems as fauna and flora cut through the terrain creating a high contrast to the urbanity surrounding it. Thirdly, the high vacancy and derelict historic structures called for a need to intervene and offer solutions of reuse in a city searching for land to occupy. Lastly, sounds were a major informant as the city created stark transitions between sonic landscapes and at times were completely over powering. The combination of these factors enabled a means to easily select an area that correlates with the four issues: the valley between Cerro cordillera and Allegra.

The city as an amphitheatre creates a unique sonic landscape where the sound throughout the city is captured and highly audible. The hand below shows a merger of this amphitheatre presence as the plan touches the hills and forms various junctions and divisions. A particular fascination was that the hills, due to the steep valleys, are physically separated; yet sound transcends these barriers and becomes a social bridge.

To understand the dynamic and inform site selection, a scale model and auditory movement exercise was undertaken to understand how sound related to specific points of opportunity within the valley extent. The topography formed natural sonic thresholds as well as highlighted a unique relationship of sound to specific localities. Interested in positioning a site that meets the four previously stated criteria, the site of the Lord Cochrane's Museum and viewing point was positioned as being the most dynamic as it experienced a wide variety of sonic landscapes as well as being situated in a critical threshold of high vacancies.

The highlighted site at the bottom of the valley and facing the city remained sonically highly connected to the valley through sound. In this sense it offers the opportunity to connect to those aspects that make the natural landscape unique, while offering a means to bridge the city and hill threshold sonically.

17. Sketch of the City as a hand - symbolising the unique way in which the city functions and the morphology climbs the hills - forming an amphitheater .
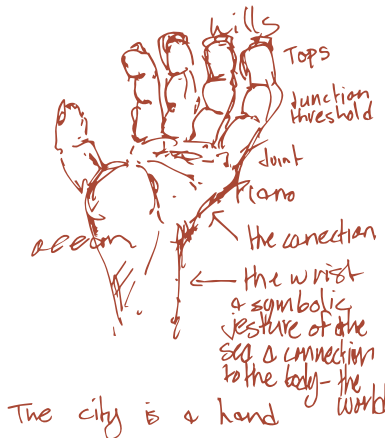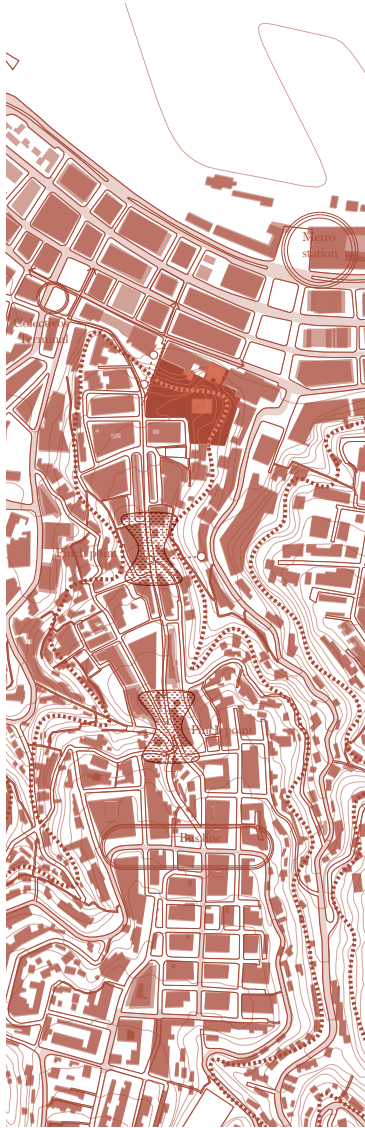
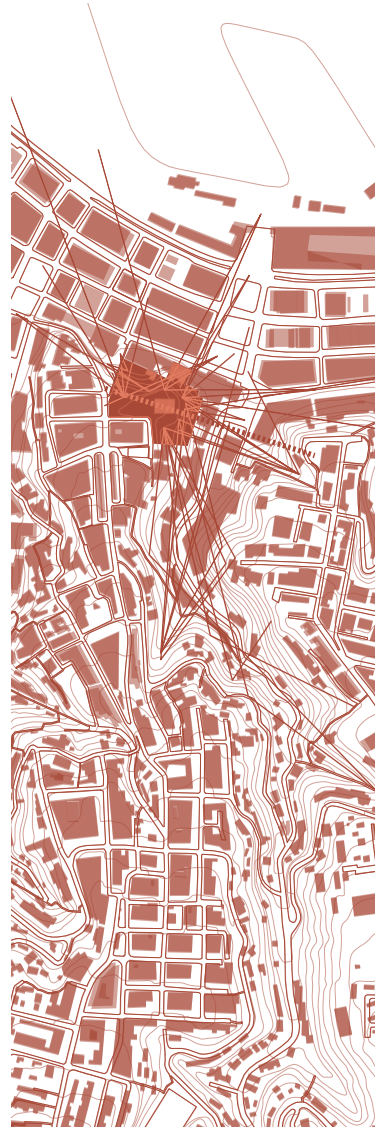18. SOUND
MOVEMENT IN
THE VALLEY

Mapping sound
in the valley to
understand sonic
relationships and
identify areas of
intervention.

1:10 000

19. Map illustrating movement and threshold
1: 10 000

20. Map illustrating sound relationship city and site
1:10 000

Threshold and connectivity
The site is situated in a threshold highlighting a joining between city and hill. The site is also highly accessible from the hills and city as it is surrounded by key infrastructure: Bus, colectivos, funicular and stairs

Varied Sonic Landscape
As one moves around the site the sonic qualities of the site dramatically changes in response to the surrounding landscape. It creates niches of unique experience while offering varied sonic environments, underpinning why the site had been chosen.

21. 400m walking
distance
1: 10 000

The pedestrian landscape
The pedestrian mapping of 400m,
20min walk, offers an alternative
perspective that situates the site
as part of the plan more than
the hills. This critical insight
positions the user group of the
site to be of the city over that of
Cordillera. However, the site holds
a dual relationship between being
connected to a low socio-economic
community while at the same time
being a significant position in the
city landscape and thus holds a
significant responsibility to the
immediate community. Critically
interventions ought to be supportive
of both environments.

Sections | Sound & Site
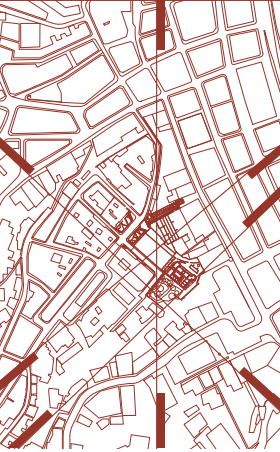
23. SECTION OF PLAZA JUSTICA
1:2500

Cordillera

Valley

Cordillera

Mini-Soccer Pitch
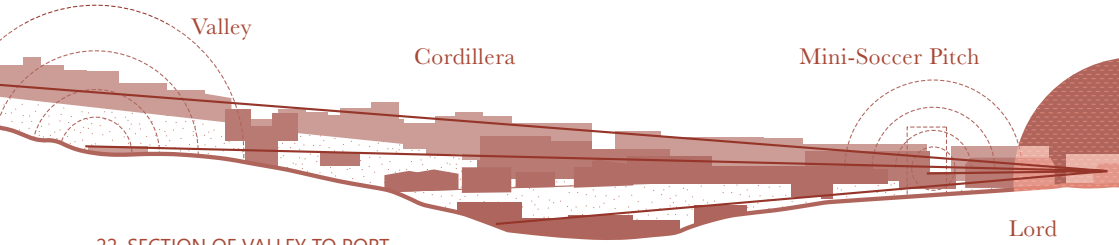
22. SECTION OF VALLEY TO PORT
1:2500

Lord
Cochrane's
Museum

24. SECTION OF PLAZA JUSTICA
1:5000

Port

Site
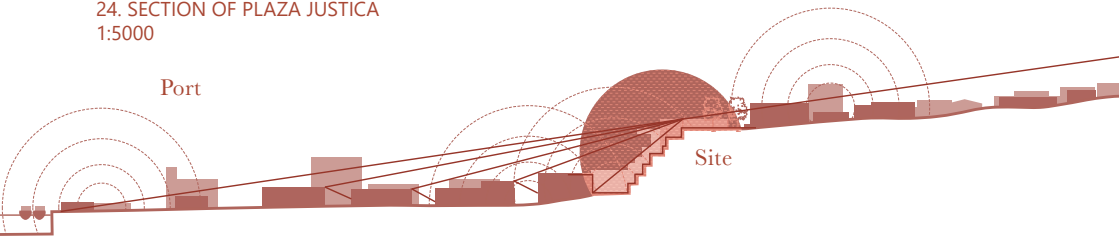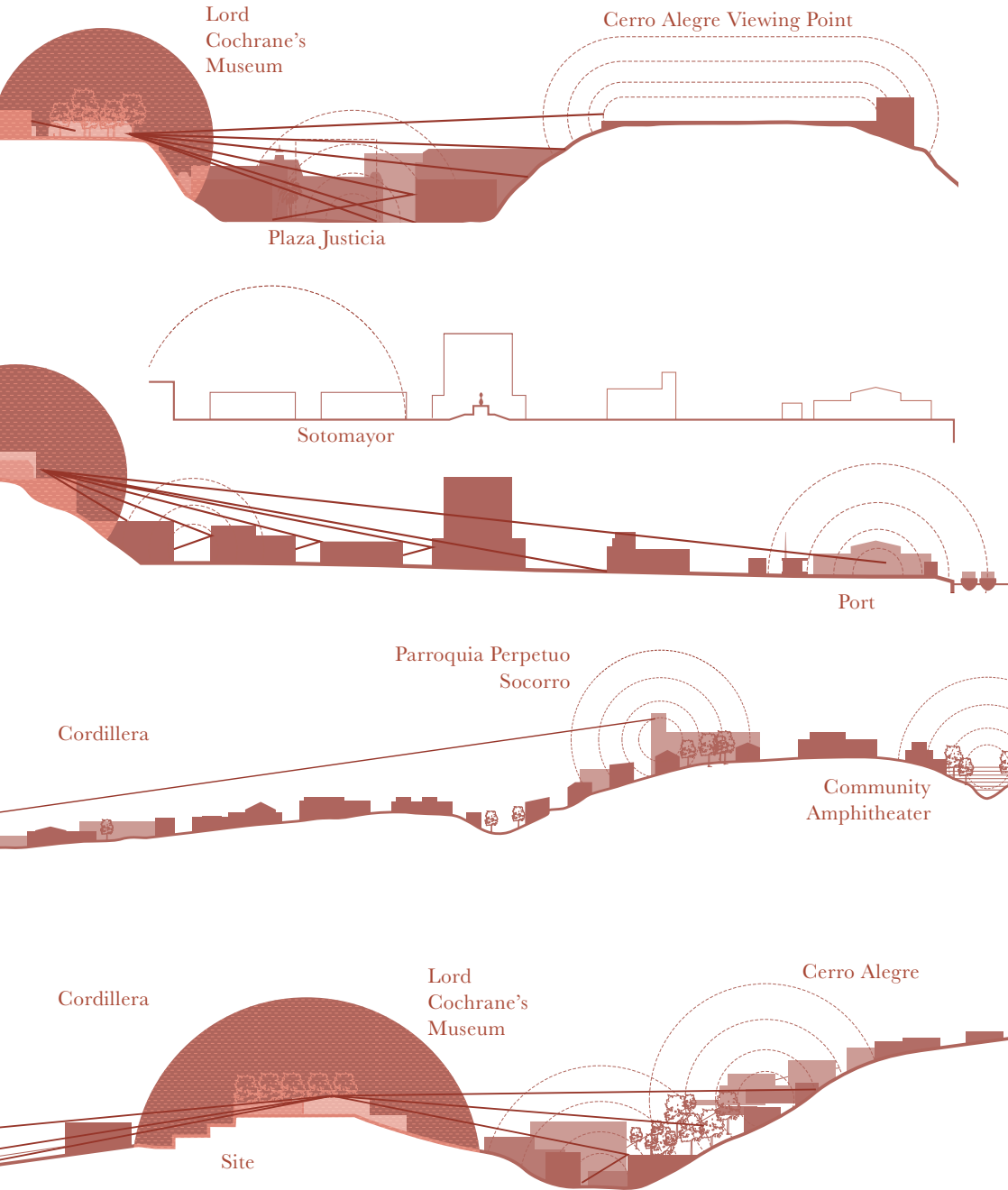
25. SECTION OF PLAZA ECHAURREN
1:2500
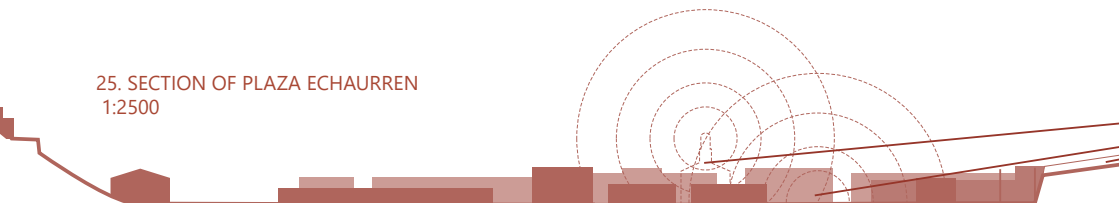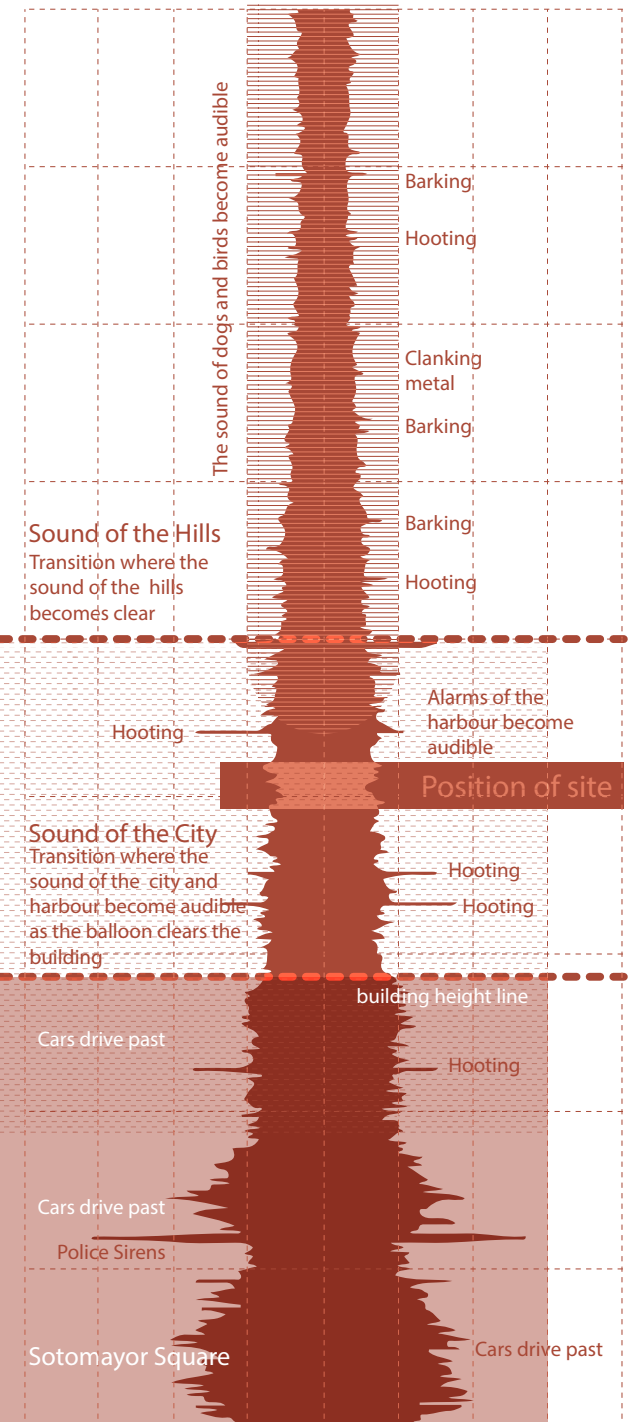
Iglesia de la Matriz

Plaza Echaurren

Lord
Cochrane's
Museum

Cerro Alegre Viewing Point

Plaza Justicia

Sotomayor

Port

Parroquia Perpetuo
Socorro

Cordillera

Community
Amphitheater

Cordillera

Lord
Cochrane's
Museum

Cerro Alegre
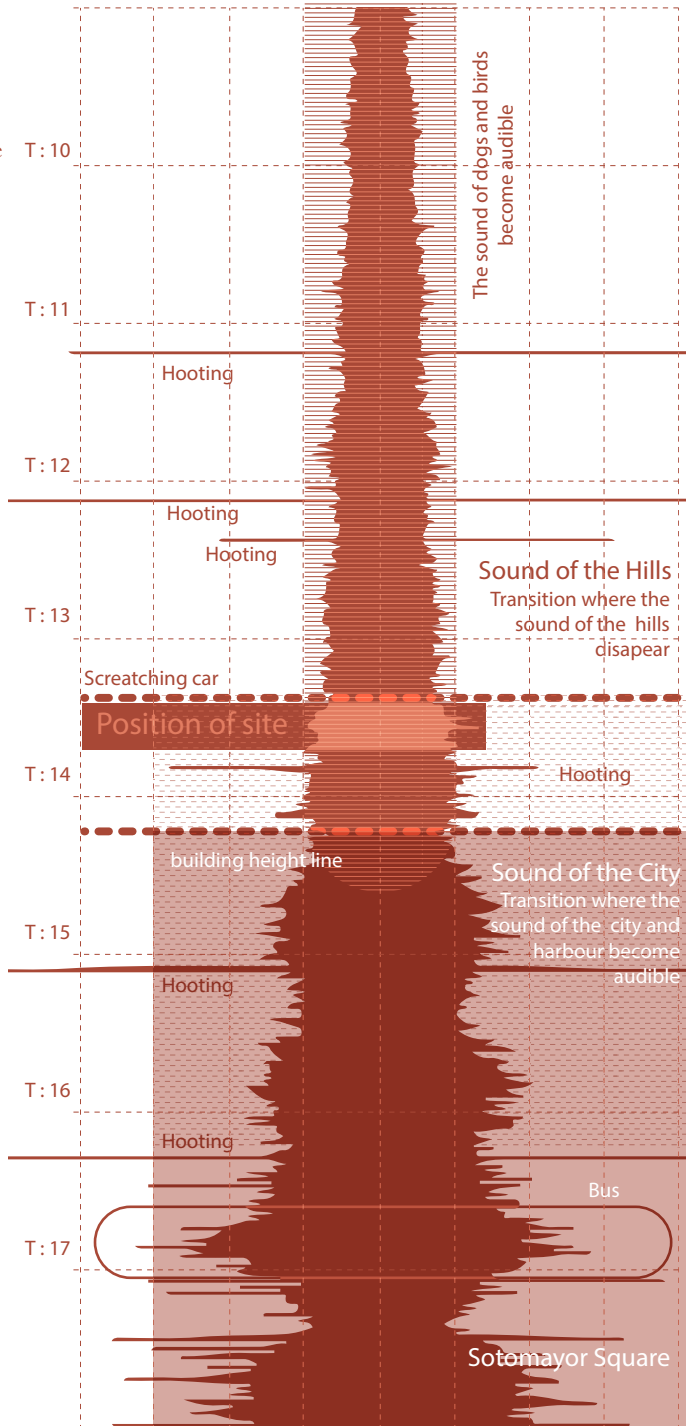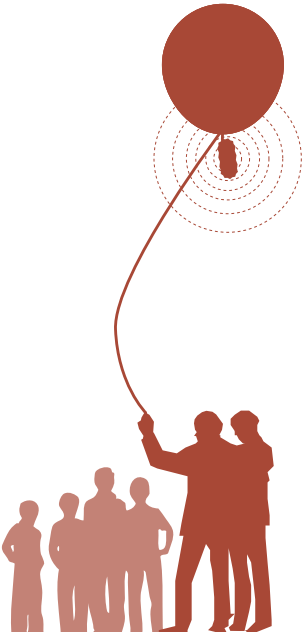
Site

Balloon | Sound Elevation

Using a balloon with a specialised microphone, a recording of sound was taken from Sotomayor that clearly draws forward the notion of sonic elevation. The recording, conducted by Ariel Bustamante, was taken and analysed in the same manner in which the sound clips of Valparaiso were analysed. Searching for transitions in sound and distinctive characteristics. The analysis was broken up into decent and accent as direction of movement of the balloon has an impact on the auditory qualities due to the Doppler effect.

The recording taken at Sotomayor, adjacent to the site, shows three distinct changes in the vertical landscape. These qualities were especially surprising as the highest elevation, the hills, although far away, became audible. The importance of the study positions the site along this elevation and offers a concise summary of the experiences within the city.

At first the sound of the square, load and burdened by the roar of engines and tires on gravel, is encapsulated by the buildings surrounding the space. As the balloon clears the heights of the buildings, the sound immediately changes, as the sounds of the city become audible- harbour sirens, the noise of cars is more ubiquitous, hooting and alarms, metal clanging and indistinguishable activity and music. The third transition is marked by the sound of the city as a distant low hum, where immediately the sound of the hills becomes clear. Here, surprisingly, the

The sound of dogs and birds become audible

T : 8

Barking

Hooting

T : 7

Clanking metal

Barking

T : 6

Barking

Hooting

T : 5

Sound of the Hills
Transition where the sound of the hills becomes clear

Alarms of the harbour become audible

Hooting

Position of site

T : 4

Sound of the City
Transition where the sound of the city and harbour become audible, as the balloon clears the building

Hooting

Hooting

T : 3

building height line

Cars drive past

Hooting

T : 2

Cars drive past

Police Sirens

T : 1

Sotomayor Square

Cars drive past

sound of birds chirping and dogs barking become audible, despite the noisy city below.

The analysis shows a key dynamic with how the cities sonic landscape is differentiated vertically. However, it is critical to also not that the immediate context that has a direct effect on what sounds audible. The example of the cemetery reiterates this point, as a simple wall is able to redirect sound and in this case dampen the noise of the city. It is these techniques which offer an insight to how sound can be manipulated to form intended environments.

T : 10

T : 11

Hooting

T : 12

Hooting

Hooting

T : 13

Screatching car

Position of site

T : 14

Hooting

building height line

T : 15

Hooting

T : 16

Hooting

T : 17

Bus

The sound of dogs and birds become audible

Sound of the Hills
Transition where the sound of the hills disapear

Sound of the City
Transition where the sound of the city and harbour become audible

Sotomayor Square

Urban Situation

Plaza Echaurren

Policia De
Investigaciones

Ascensor
Cordillera

Faculty of
Humanities

Plaza Eleuterio
Ramirez

Lord
Cochrane's
Museum

Valparaiso
Family Court

Court of
Apeals

Port

Customs Offices

Waterfront

Train Station

Port

Plaza Sotomayor

Market and
exhibition space

○ Balloon test

Naval
Headquaters

National Arts
and Culture
Centre

Plaza Justicia

Interoceanica
Building

Plaza Justicia
health services

26. Plan of Site
and City

1:2000

Ascensor El Peral

Plaza Justicia

Plaza Sotomayor

Lord
Cochrane's
Museum

Plaza Eleuterio
Ramirez

Plaza Echaurren

Urban Condition

27. Vacancy 1:5000

Derelict Zone

Vacant Plots

Site

Renovation
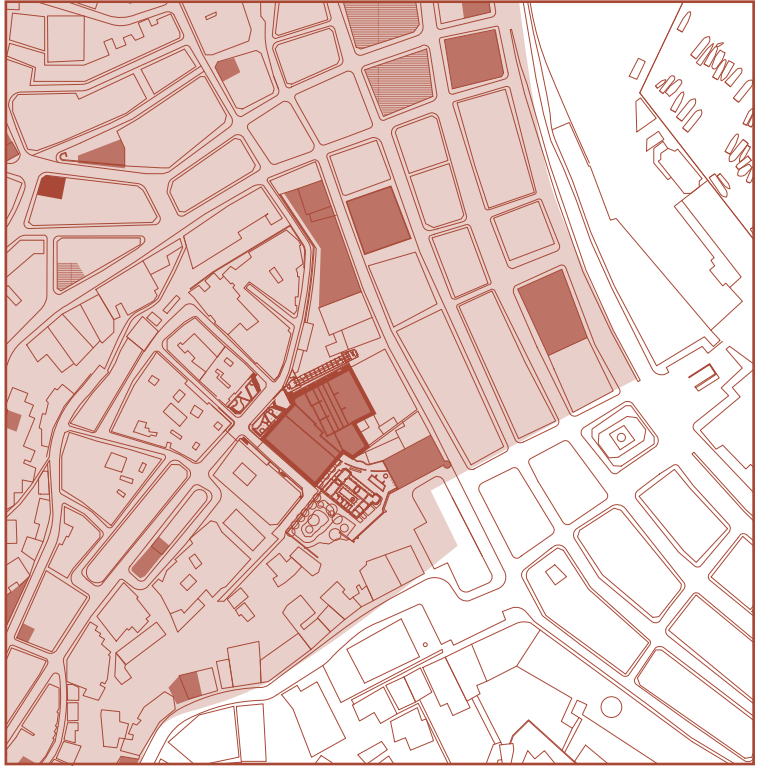
Vacancy is a major issue in the area. Ranging from large to small, various sites are at different stages of degradation. The highlighted sites indicate areas that are not occupied. The general highlighted area is filled with built fabric that is in a very poor condition. Jacobs (1961) advises of the negative effect this has on the neighbourhood, as border vacuums sap activity and discourage investment.

28. Activity
1:5000

■ Activity Zone

⌐ Active edges

● Kiosks

▤ Markets
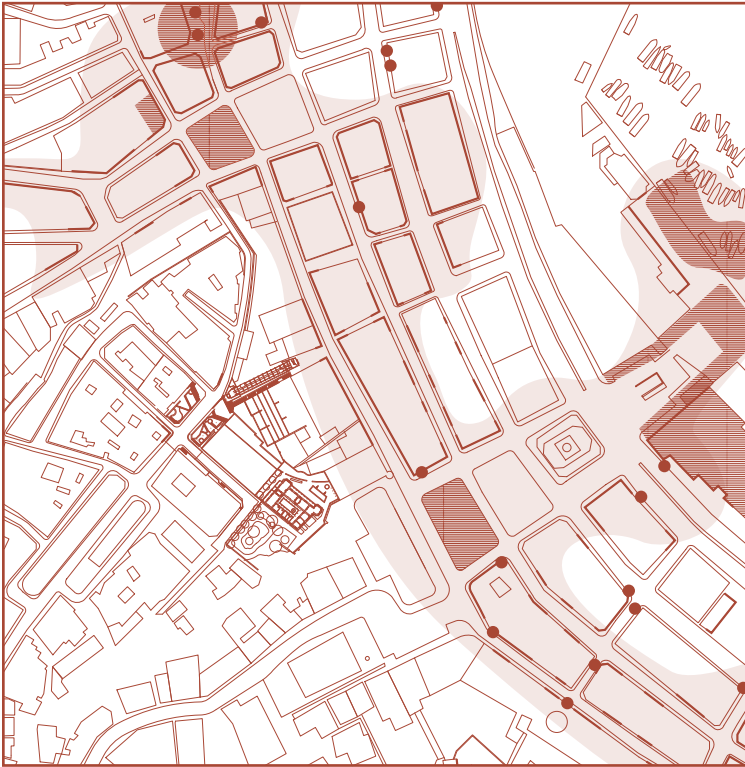
Activity, being related to occupation and vibrancy of the public realm, is focused in the plan. Although there are several shops and community centres in the hills, these facilities support a very small community base and thus are dispersed. A critical insight is that the plan has several key places where activity is focused and others where only a few instances occur. This mapping is indicative of the quality of these spaces in the plan, as successful active frontages occur in areas associated with frequent pedestrian exposure. It is indicative of the creep of blight that has begun to form in area. Another key insight is that the threshold in the city, the vertical separation, creates an immediate and juxtaposing environment when mapped. The mapping positions a lack of critical mass, and situates the site as being in a critical position to contribute to the activity in the plan.

29. Districts and
Precincts   1:5000

Banking

Commercial

Residential

Public Space

Port

Institutional

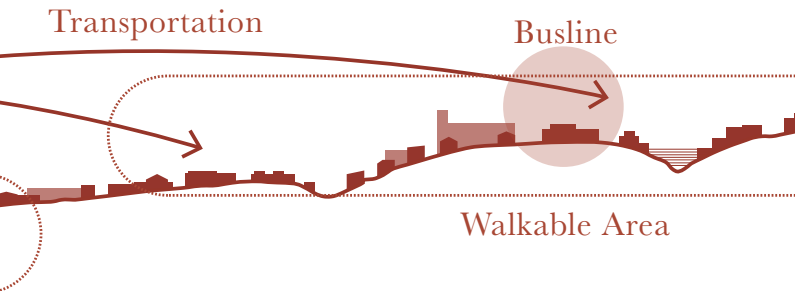Threshold

Activity Zone

Walkable Area
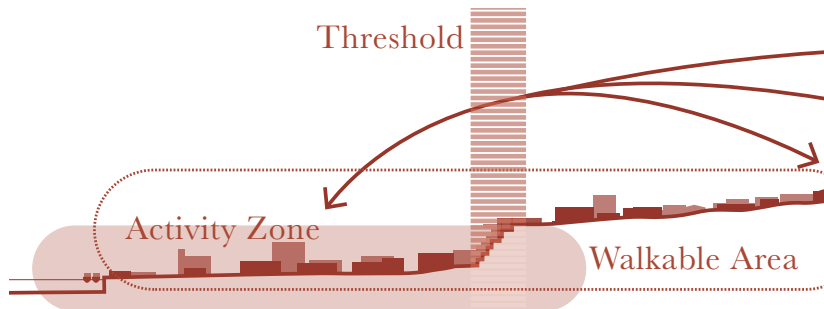
The precincts highlight a stark separation between city and hill by way of use - commercial and residential. This has largely been attributed to how people move in the city, as the hill becomes a major threshold to cross. A critical insight is that the hills have largely been seen as community focused areas, with little to no formal economic activity. Another key insight is that in this part of the city the transition correlates to poor socio-economic levels in these communities. This is reflected in the plan below by the condition of the built fabric and the activity within these areas, despite the world heritage site listing and volume of tourists in recent years.

The site, at the border of these distinct boundaries as well as adjacent to the institutional precinct, holds a key position where an intervention may have high degree of impact on the surrounding fabric. This situates a need for the site to be highly sensitive to its context, in not displacing existing communities.

The research has drawn forward the need to contribute by way of activity and increasing pedestrian contact time. In doing so a multivalent design approach is required to introduce a mix of activities that may positively impact the surrounding city fabric. In doing so, proposed activities should form extensions of the immediate context to redefine the border condition. The objective of this approach should bridge the hill city divide while acting as catalysts for reinvestment in the plan by putting more feet on the street.

A dual aim is thus situated to make the site both an origin and a junction within the city, contributing to forming a critical mass, which the city fabric so direly needs.

Transportation

Busline

Walkable Area

30. Diagram of threshold impact
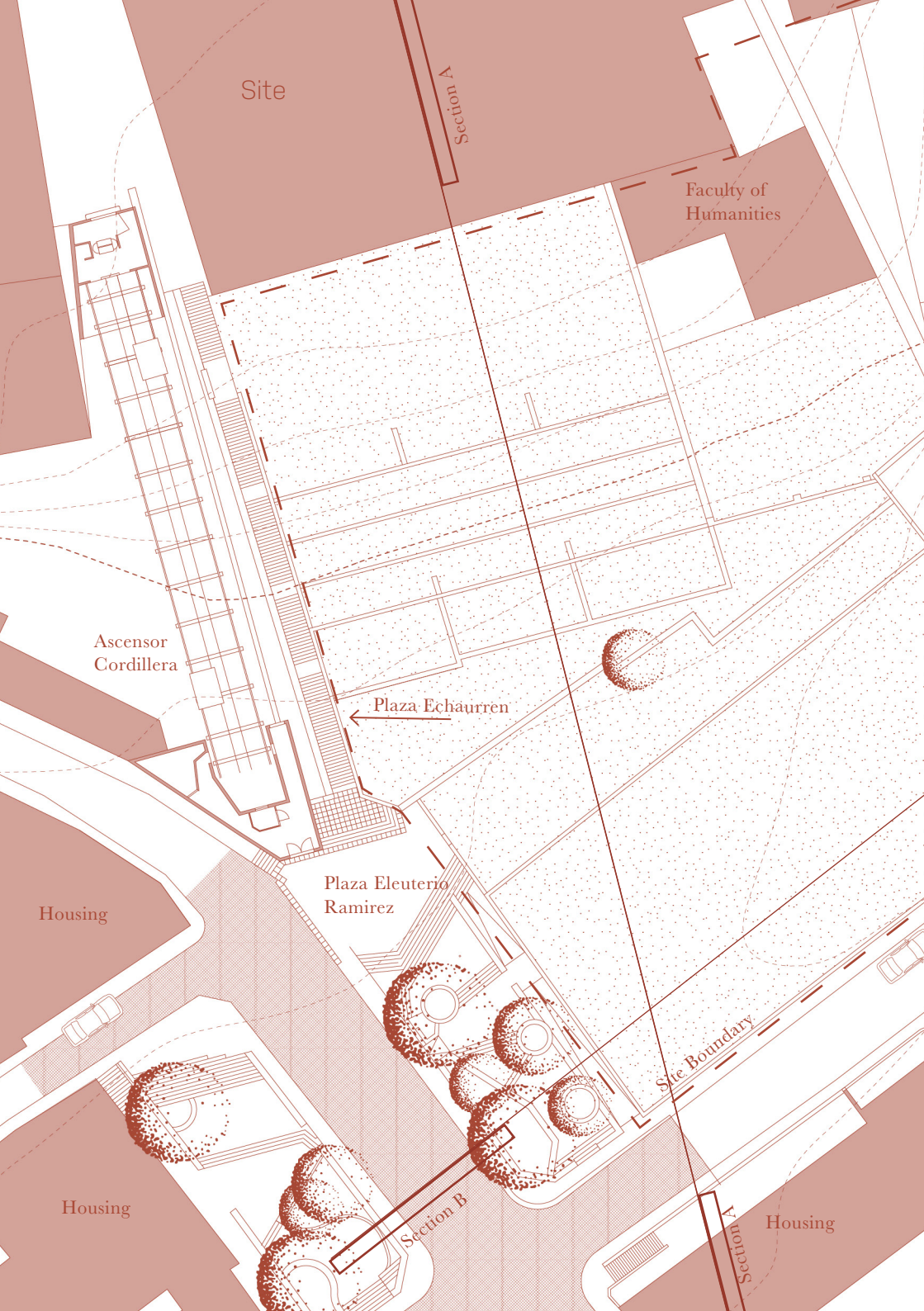
Site

Section A

Faculty of
Humanities

Ascensor
Cordillera

Plaza Echaurren
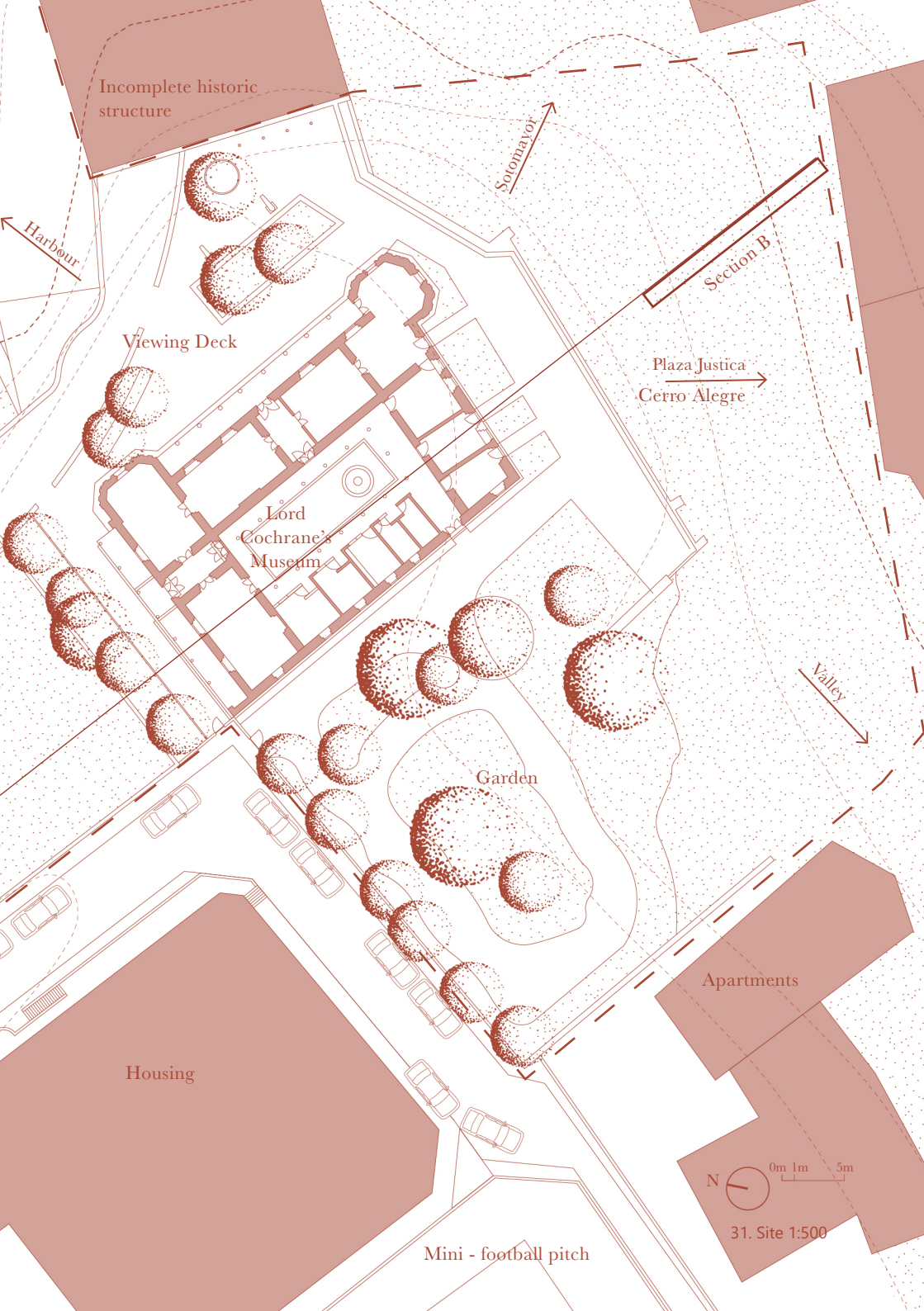
Housing

Plaza Eleuterio
Ramirez

Site Boundary

Housing

Section B

Housing

Section A

Housing

Incomplete historic
structure

Harbour

Sotomayor

Section B

Viewing Deck

Plaza Justica
Cerro Alegre

Lord
Cochrane's
Museum

Valley

Garden

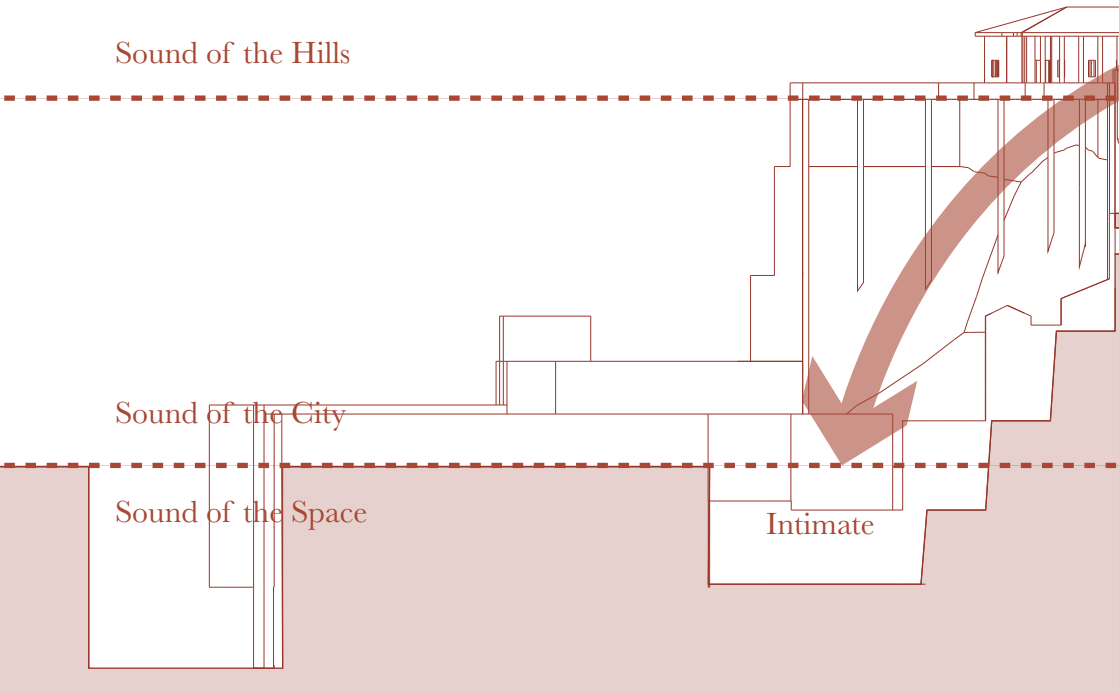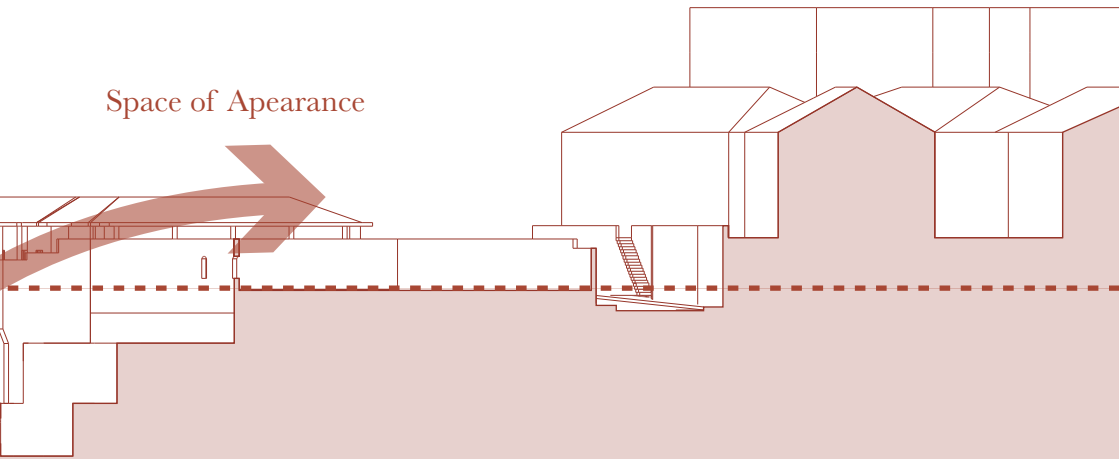Apartments

Housing

N   0m 1m   5m

31. Site 1:500

Mini - football pitch

Sound of the Hills

Sound of the City

Sound of the Space

Intimate

Space of Apearance

32. Section A
1:1000
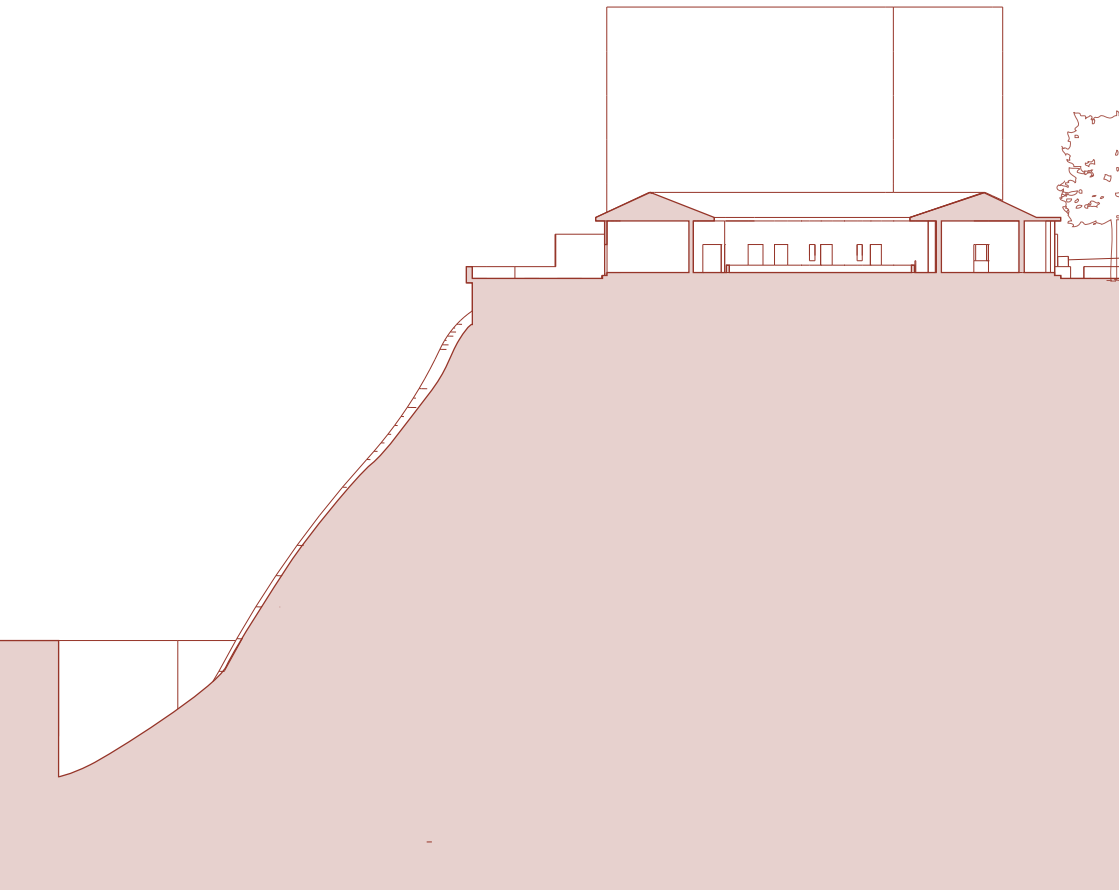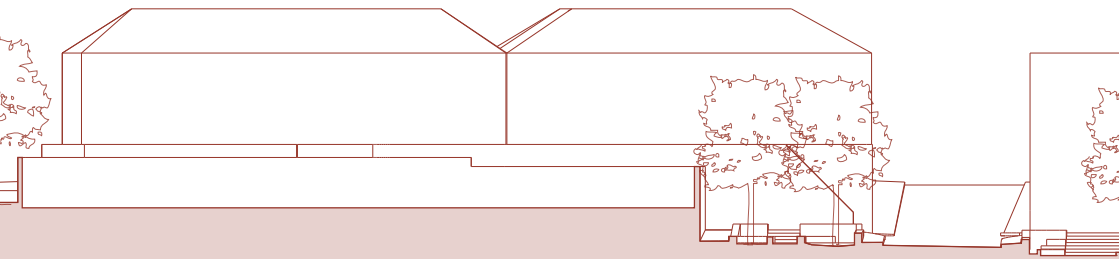
Site Diagrams

34. Isometric
drawing

Context ▬

Retaining wall - - - - -

Informing lines — —

○

Secondary framework
structures ─────

Primary framework
structures ▬▬▬
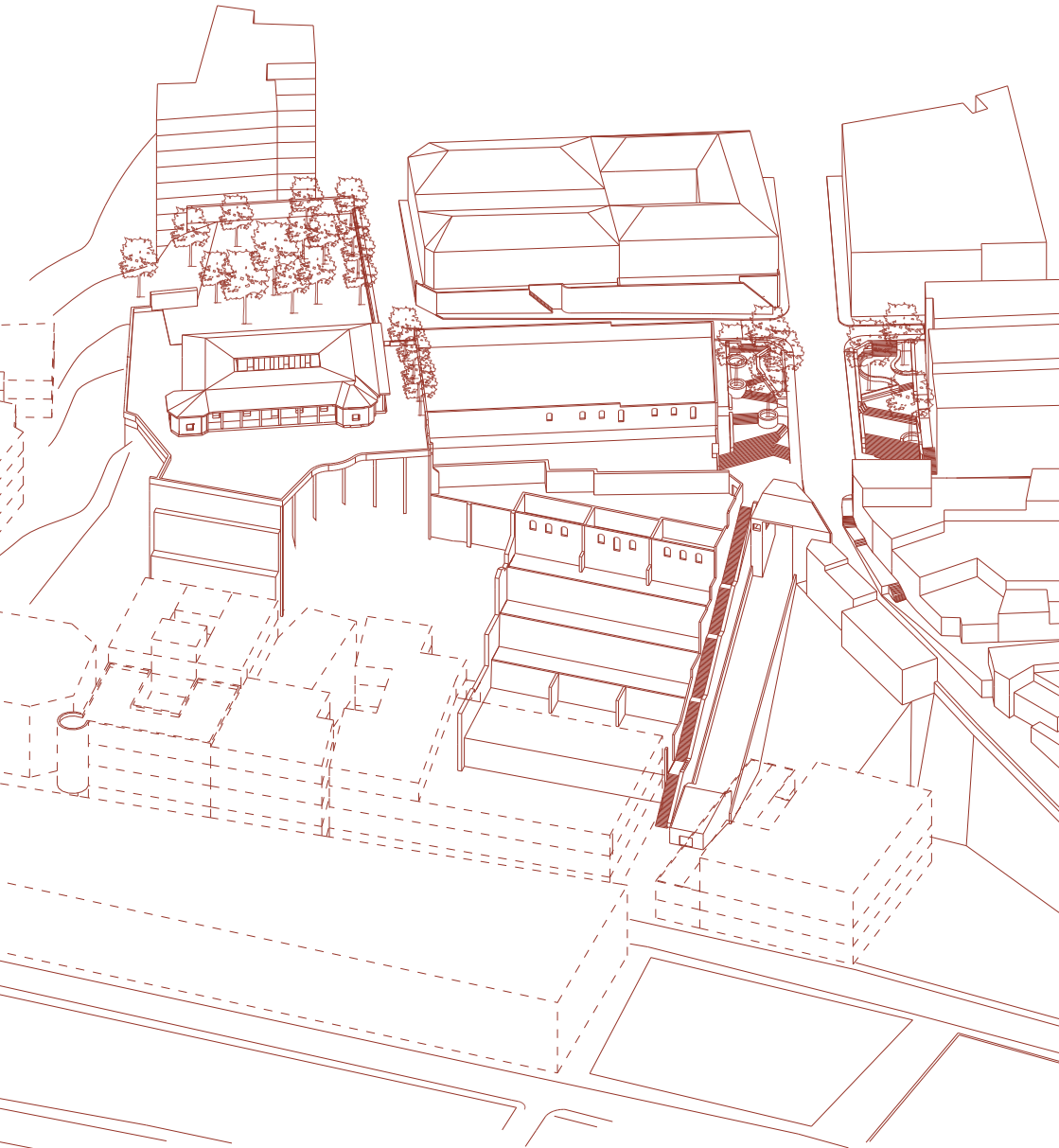
35. Framework
elements
1:2000

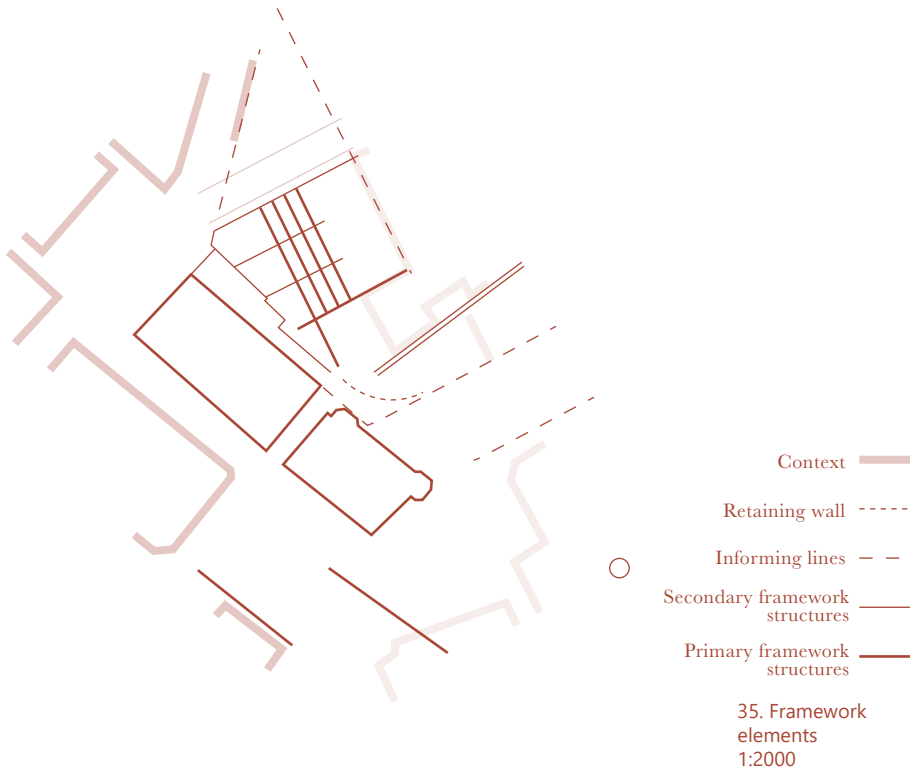## Framework elements

The framework diagram highlights those elements of the site that have given form to the existing site. The site is a brown field site, having been occupied in the past and still is by the museum and viewing point. The analysis sees this as a key informant, because within the framework of the site is imbedded a spatial intelligence of the past occupation that will give guidance to the design.

The diagram, composed of 5 line types, aims to draw forward the embedded spatial intelligence. Primary lines and secondary lines denote key structural elements of the site. Informing lines and context are additional layers of information that are drawn forward that are key gestures, which may not be structural or contained in the site itself.
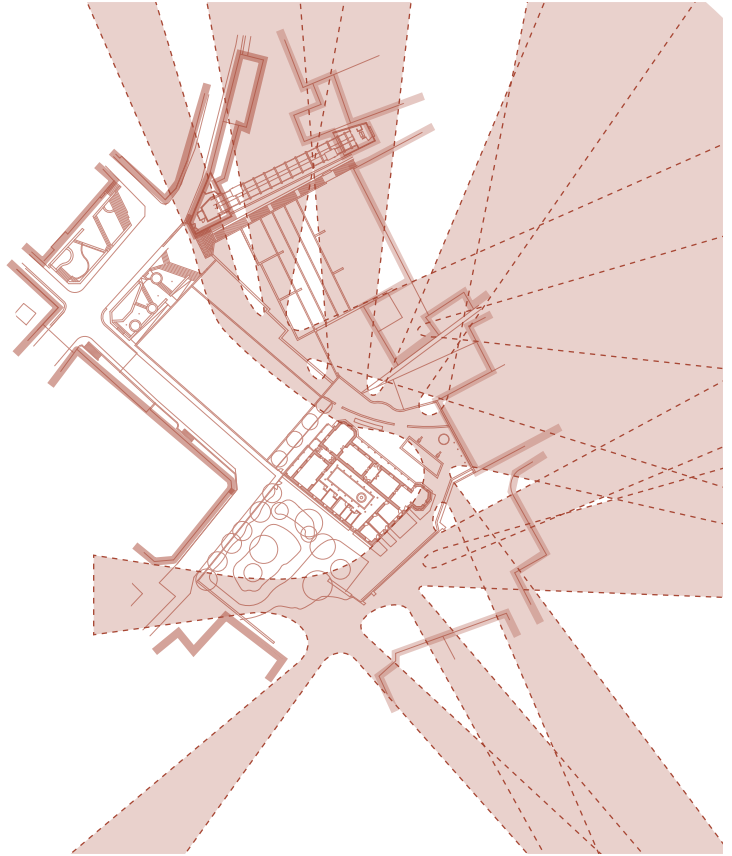
36. Sound and the city
1:2000

Sound and the city

The diagram draws together various analyses of sound and positions this on the site. Critically the soundscapes of the city illustrate places that should be thought of as having a positive relationship with the site and visa verse. The diagram serves as a guiding framework for the intervention to situate places for intervention that would be sonically orientated to have a profound relationship between site and city.
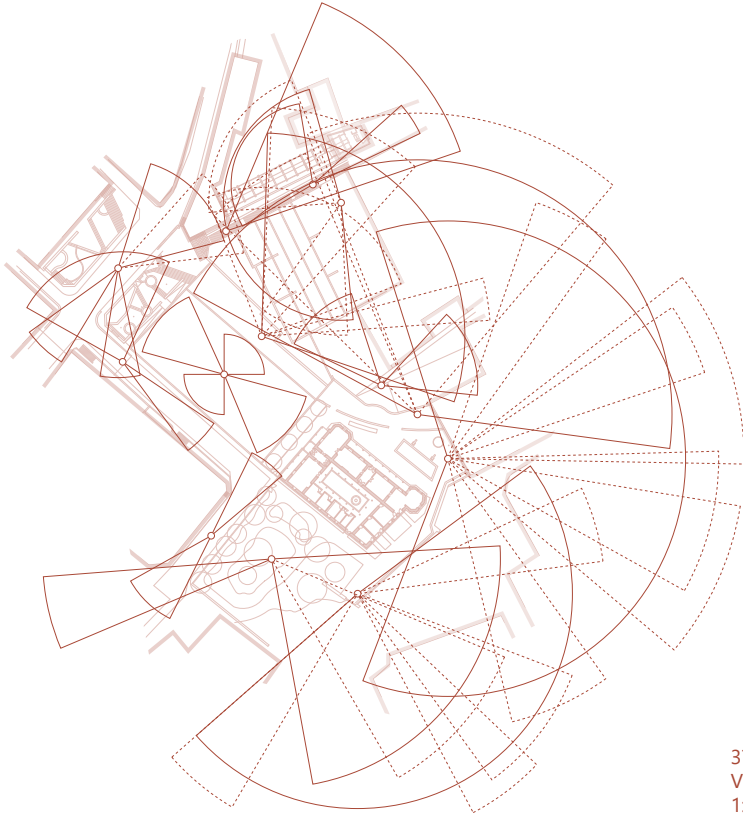
37. Exposure /
Visual connections
1:2000

Exposure / view

Exposure is seen to be a spatial
element contained in the site form.
Although this is strongly liked to
site − view. When integrating the
act of exposure or to expose, the
notion links to a relationship with
its surroundings. Here we see how
the site is exposed and visa verse.
This intern has informed a spatial
understanding of the site that is
linked to notions of intimacy and
points of appearance.
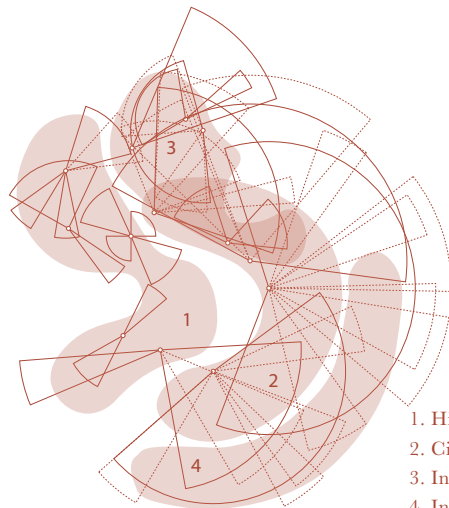
1. Hill
2. City Exposed
3. Intimate Niche
4. Intimate Cliff

38. Exposure zones

Sound funnel by retaining wall

Sound funnel street noise

Stairs, ascensor, and niche

Courtyard

Segmented rooms

Courtyard University

Retaining wall reflection

View point: no sound obstruction, only reflection from behind

Niche between building and retaining wall

Garden

Niche between building and Slope

Sloped Square with varying elements making for niches

View point: no sound obstruction, only reflection from behind

Walled space

Street high reverberation

Courtyard

Street low reverberation

football

Sonic Zones

Lessor Reflection elements

Reflection elements

39. Sonic Zones
1:2000

Sonic Zones

The exercise of mapping zones of sonic space intends to inform an understanding of the various atmospheres that are embedded in the site. This is particularly important due to the research focus as well as offering an additional layer of information that spatialises sound. Of particular interest is that the soundscapes create overlays of niches and larger realms. A key informant to this understanding is that of containment elements within the framework that direct sound.

The analysis is particularly fruitful, as opposed to other mechanisms of understanding the spatial elements of the site, because it offers as spatial map that would not otherwise have been seen on the site.

Supporting area

Vertical zone :
Retaining wall/ cliff

Brown field / flora

Museum & viewing
point

Zones

Sub-zones

40. Spatial zones
1:2000

Spatial Zones

The spatial zones diagram draws on
various existing informants, from
programming to use of the site and
surrounding area. The significance
of the diagram is that this would
be the normative approach to
defining a site. However, here, in
conjunction with the other research,
it serves as an informant of barriers.
Emphasizing the segmentation of
the area. This is a critical insight
highlighting how the site is made up
of distinctive areas, some of which
are similar in kind.

41. Changing
quality

42. Image of site and the poor condition of the current infrastructure on the site, as well as the vegetation which is growing here.

43. Ascensor Cordillera with site in the foreground

44. Image of internal face of surrounding walls showing how the entire facade has been bricked up to stop entrance

45. View of Valley from site showing the variety of natural vegetation and housing navigating the topography

ACT | Sonic Presence

Soundscapes exist beyond the visual realm as being highly affective. Composed of varied sonic elements that form an environment, a spatial composition, in which people navigate/ mediate their behaviour. Sound as a composition constructs a sense of place – it not only positions one in space but also gives an understanding of what that space is. Yet soundscapes also places one in the world – in our socio-cultural landscape. It allows one to form a nuanced awareness that is unattainable through sight. Sound as an act positions 'presence', of oneself and of others.

As an act, presence is underpinned

1 Sonic Intermission

Pallasmaa (2017) advocates that forming tranquillity is one of the objectives of architecture. The notion positions quietness as being an act that draws attention to being. Expanding on this, Granchow (2017) defines quietness not as the lack of sound but rather the lack of response (Granchow, 2017). The position situates the auditor in a reflexive environment, where presence is orientated on oneself. Importantly, quietness is situated not as a space devoid of sound but rather emphasises the act as simultaneously being separated from the world unable to intervene in it and being witness to it in a state where it does not respond to the auditor.

The act manifests in daily life in numerous ways and is orientated toward the notion of intermission as being an intentional break as moment of respite. Going to the church, sitting and watching over the city or a walk along the promenade and even the bombardment of the electro dance floor when dancing by oneself are all such moments of intermission. Here we position the interaction with sound as being not quiet, in the strict definition of the word, but rather sound which one cannot intervene in and rather only be affected by. The position seems counter intuitive, yet the notion of tranquillities objective which Pallasmaa (2017) positions is to draw emphasise on being and thus it is rather a tranquillity of the mind and self, in a state of meditative reflection.

46. Photograph of chosen site in the city

by a relationship through which sound is a medium. To listen and to make a sound is a means to engage this medium. Presence as an act, is composed of two counter acts. The first is focused on oneself as being (The act of Sonic Intermission) which is opposed the second that is external and orientated to being present in the world (the act of Sonic Intervention). The significance of the notion of presence is in that it is fundamental to human behaviour. It affects our collective behaviours as much as it affects our own behaviour when isolated.
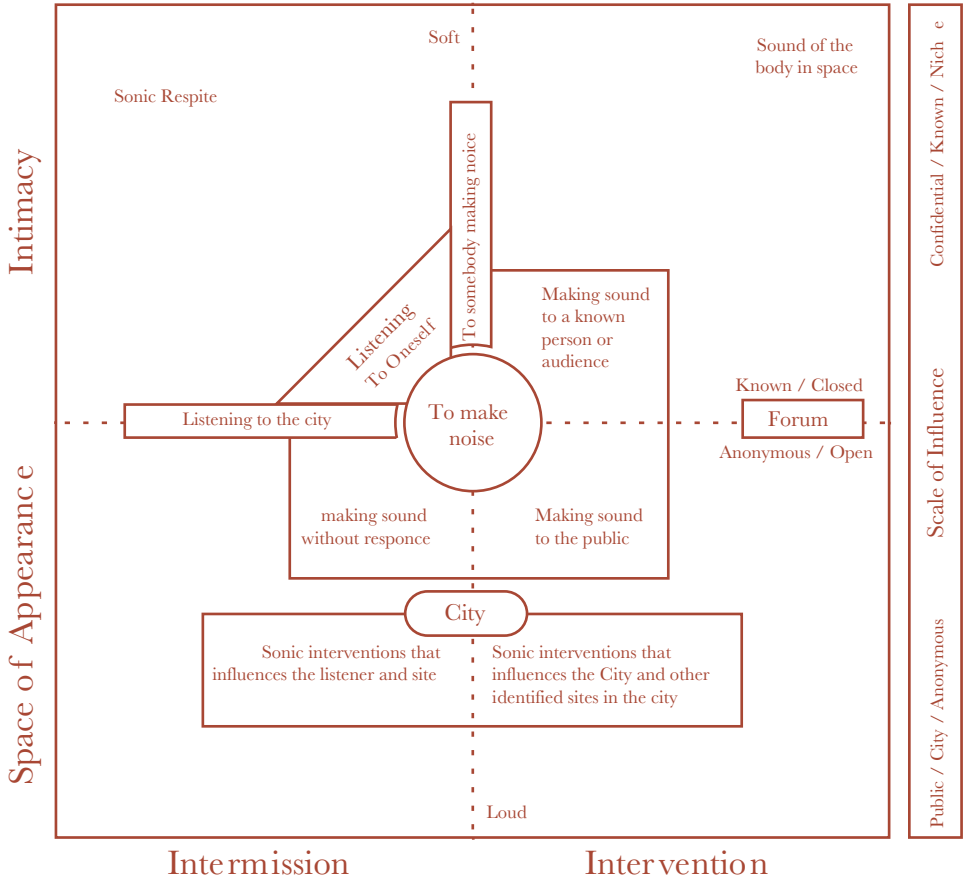
2   Sonic Intervention

The act is one of intentionally intervening in the sonic landscape. The definition is broad and encompasses a wide range of interventions, from performance artists, installations, protests and even less noticeable interventions such as altering the ambience of space. Those engaging in the act are positioned as composers due to the notion of sound being part of the space of appearance – the public realm. These acts intend to affect and alter group behaviours. The sonic intervention is thus closely linked to the commons, as it becomes a collective act where by the composer is in constant dialogue with those who are interacting with the sonic alteration. Opposed to the act of intermission, intervention calls for response.

To make a sound is to draw attention to ones presence while to actively listen is to recognise that presence. Sonic intervention is thus a relationship. Sounds ability to transcend the normative notions of the public realm, situates the act as not being defined by public or private boundaries but rather is seen as a common – a space of sonic mediation. Any sonic act, including silence, is in itself an act when seen to be deliberately and part of the collective. This positions the commons as being a navigation of various sonic instances and actors. Appropriation through sound is widely accepted in Valparaiso, as various composers of space exist.

Sonic Presence

Intimacy

Space of Appearance

Soft

Sonic Respite

Sound of the
body in space

To somebody making noice

Listening
To Oneself

Making sound
to a known
person or
audience

Listening to the city

To make
noise

Known / Closed

Forum

Anonymous / Open

making sound
without responce

Making sound
to the public

City

Sonic interventions that
influences the listener and site

Sonic interventions that
influences the City and other
identified sites in the city

Loud

Confidential / Known / Niche

Scale of Influence

Public / City / Anonymous

Intermission

Intervention

47. Diagram
dissecting
the various
components, acts
and situations in
which presence
occurs

The diagram, creates four
distinctions of the act of presence.
Here we see that intervention and
intermission are both broken into
groupings of intimate and public
(space of appearance). This allows
for an understanding the various
relationships and atmospheres of the
act. In essence the diagram above
serves as means to apply a program
to, allowing for acts to be understood
in relation to one another. This tool
enables a means to understand and

then spatialise the acts in relation to
one another as a critical first step in
developing a project proposal.

Tools

The research has led to development of various tools in understanding how sound works, pulling forward principles and developing a strategy to use sound in design. The first part of the research aimed to understand the sound of the city and in so doing looked at the quality of sound in various cases throughout the city to gain an insight into the act of sound. This focus on the act, drawn from the Chilean methodology, emphasised how sound is intrinsically linked to human behaviour and situated it as a common. This critical first step of understanding Sonic Quality from a normative perspective informed the secondary analysis of the site.

Tracking sound in various ways in the context of Valparaiso and the chosen site enabled a selection of the site and the understanding of the site specific sonic qualities that would be able to inform a design process. This was further supported by site specific and urban level analysis that situated various issues and problems. The secondary step focused on developing a contextual understanding of the dynamics of the site.

The final position focused on the act. First naming and understanding it and then experimenting in various forms that could evoke the action. A research methodological process informed by a range of tool sets follows a stepped process whereby an intervention could then be positioned. Critically – in positioning an intervention, the tools used in the research form a means to reflect and test proposals by. This approach develops a robust mechanism and defendable position.

Sonic Quality

1. Sound recording
2. Sound Analysis
3. Drawing Sonic Spaces
4. Describing Sonic Spaces
5. Observing and making principles

The City

1. Sound movement and relationships
2. Sound site quality / vertical analysis
3. Urban analysis and mapping
4. Sonic interaction in site
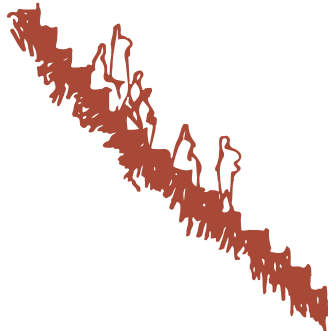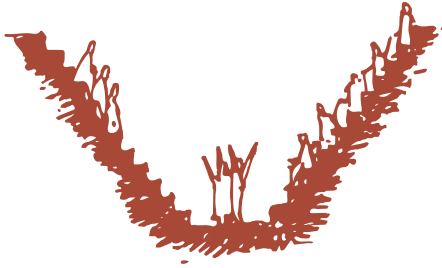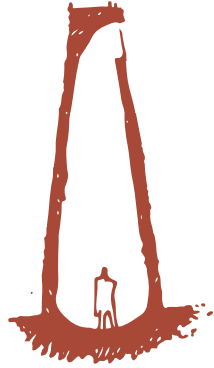5. Site analysis, qualities, mapping

Act | presence

1. Identifying an Act
2. Describing the act and its elements
3. Diagram of the act

Act | Space

1. Using Sonic tools and understanding of the act to form spatial moments.

Sonic Spatial Acts

48. The sketches form part of the output of the research, interrogating how sonic acts are able to be spatialised.

Situating the act

Intermission

There are several spaces throughout the city that form opportunities for intermission - offering a moment of respite. However, these spaces are often visually driven as viewing points. The atmospheres in these formalised environments are not designed to be affective spaces, as their core function overlooks the experiential role these spaces could hold. Positioning intermission as an act, sound is situated as being a moment focused on oneself.

The research has highlighted the profound influence of sound to affect us. Drawing on this the problematic situates the need to create spaces that are driven by experiential motives. In this sense the notion of a sonic vantage point is positioned as space that emphasises and draws on sound to create an experiential space that remains situated in the city. In turn the aim is to offer the auditor a reflexive space without out response.

Intervention

The combined sound of the city is overbearing and loud. For many sonic composers this environment is not conducive to creating sonic interventions, yet sonic appropriation is common place – a trademark of the city. Composers either seek the quite refuge of the stairways away from cars, or turn up the volume to overcome the noise. In a city where culture is celebrated, it positions a critical problematic for giving space to those who sonically intervene in the commons – in the space of appearance.

The site, situated at the heart of the old city, near the cultural centre as well as other key institutions and buildings offers an opportunity to give a forum to the act. As a threshold between plan and hill, it positions a transition zone between the two primary sonic landscapes of the city. The act of intervention is positioned as requiring response and thus situates it as common. The notion is to support this common and in so doing nurturing the cultural legacy of Valparaiso.

Problem Statement | Proposal

The Sonic Vantage point, a place focused on the act of presence, is situated as being a primary intervention. A sonic place or collection of spaces, that offer various forms of opportunities for appropriation through interacting with sound. Positioned in the city and within the site analysis this forms a critical focus for the project. However, the various factors influencing the city, and blight that characterises the immediate area also situates a necessity to perform a positive role/ a catalyst. In this sense the site is also seen as an opportunity to offer a critical mass / infrastructure to the old city. The programmatic proposal is a merger between the primary focus and context where secondary functions (accommodation and/or commerce) are situated within the framework proposal and advocate for a need to provide socially orientated infrastructure to support the growth of the neighborhood.

49. Sketch of man
with eyes closed
listening to the city
far below.

Proposal | School

The urban and site study combined with sound situates several issues that have enabled the proposal of a secondary school and learning centre as programmatic additions to the public vantage point intervention. On an urban perspective these two programs aim to cater to an infrastructural need that supports the existing educational environment as well as offering a critical mass that aims to support the need to develop housing and other functions within the plan. Accessible via public transport, the intervention is seen to engage on various scales, from that of the city to the neighbourhood. It is seen to become part of the everyday, by engaging a varied user group, from children to parents, students and musicians to tourists. This dynamic range and seemingly contradictory user group is well suited to the various sonic opportunities that site presents.

The secondary school, catering to children from the ages of $6 - 13$ also serves as an opportunity to design a sonic environment for a user group that is highly affective. In doing so the design aims to implement varied spaces with the aim of achieving three primary objectives. The first is to create a highly affective environment for children, the second is two interrogate and design space that carefully considers the relationship between children and
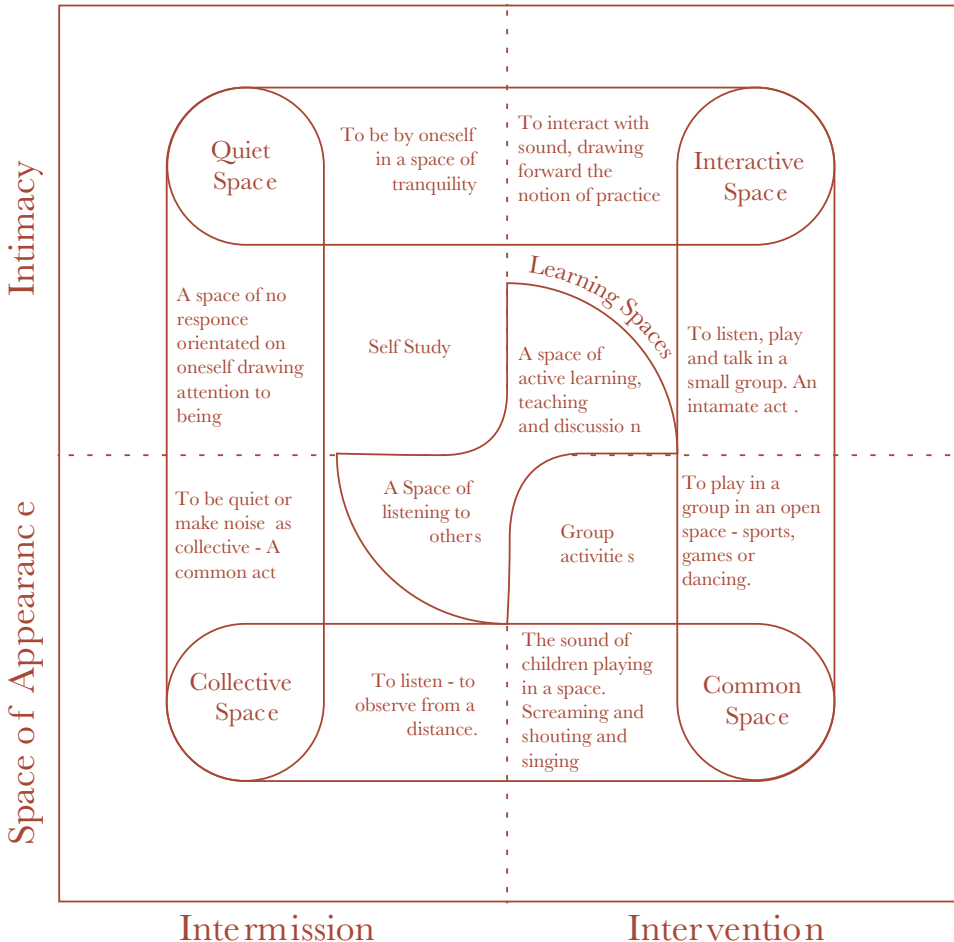

50. The Italian School in Valparaiso, City Centre

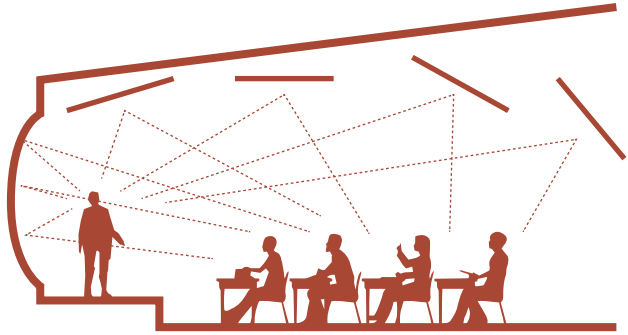teachers, and thirdly, carefully considers the relationship of the sound of a school in an urban situation.

The following design program draws on the wealth of research, the methodology and tools to develop a proposal that is focused on the act. By focusing on the relationship of presence, by situating acts in relation to each other – as seen in the diagram below – the design forms an informed manner to develop a spatial response. These spatial responses are to be normative principles that are able to be used as tools within the design process to develop a project.

51. Programmatic sonic acts

Intimacy

Space of Appearance

Quiet Space

To be by oneself in a space of tranquility

To interact with sound, drawing forward the notion of practice

Interactive Space

A space of no responce orientated on oneself drawing attention to being

Self Study

Learning Spaces

A space of active learning, teaching and discussio n

To listen, play and talk in a small group. An intamate act .

To be quiet or make noise as collective - A common act

A Space of listening to other s

Group activitie s

To play in a group in an open space - sports, games or dancing.

Collective Space

To listen - to observe from a distance.

The sound of children playing in a space. Screaming and shouting and singing

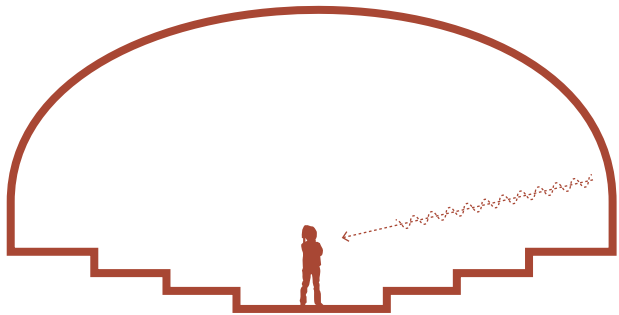Common Space

Intermission

Intervention

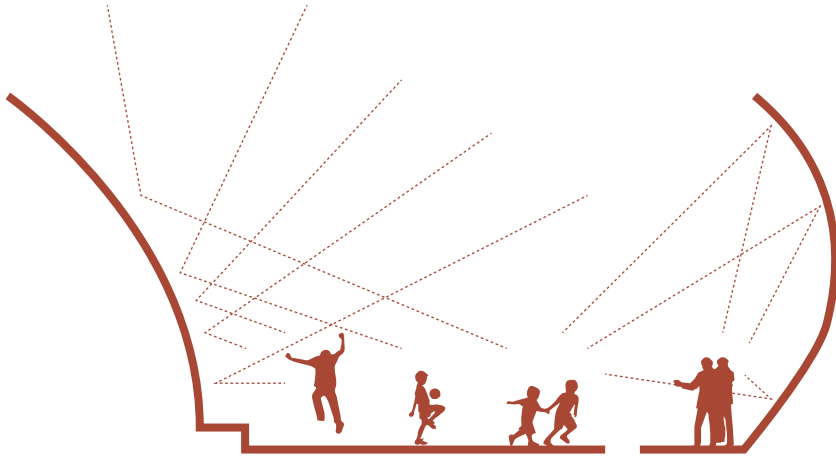52. Classroom sound movement enabling teacher and learner engagement

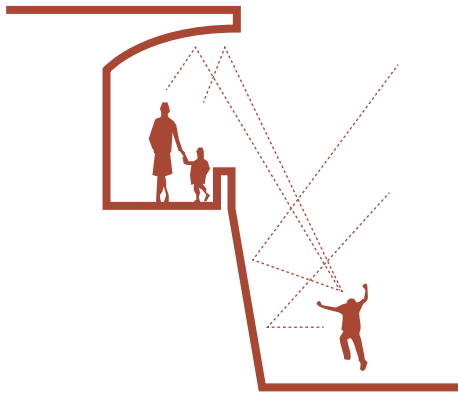53. Sonic space creating a forum environment
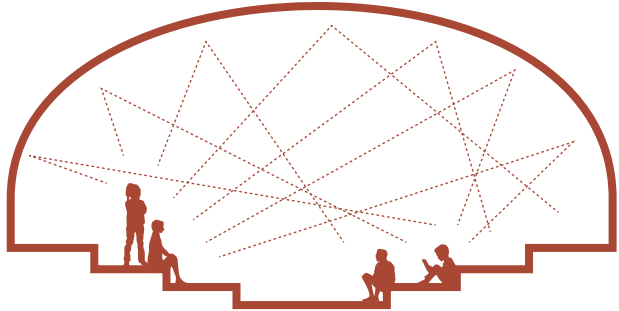
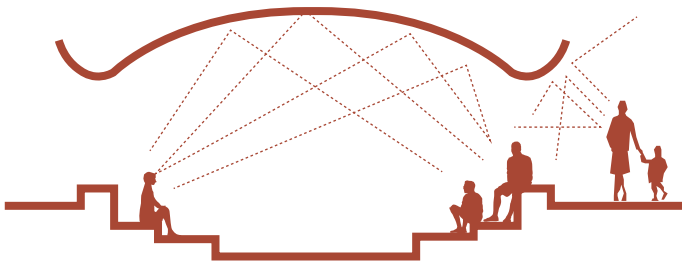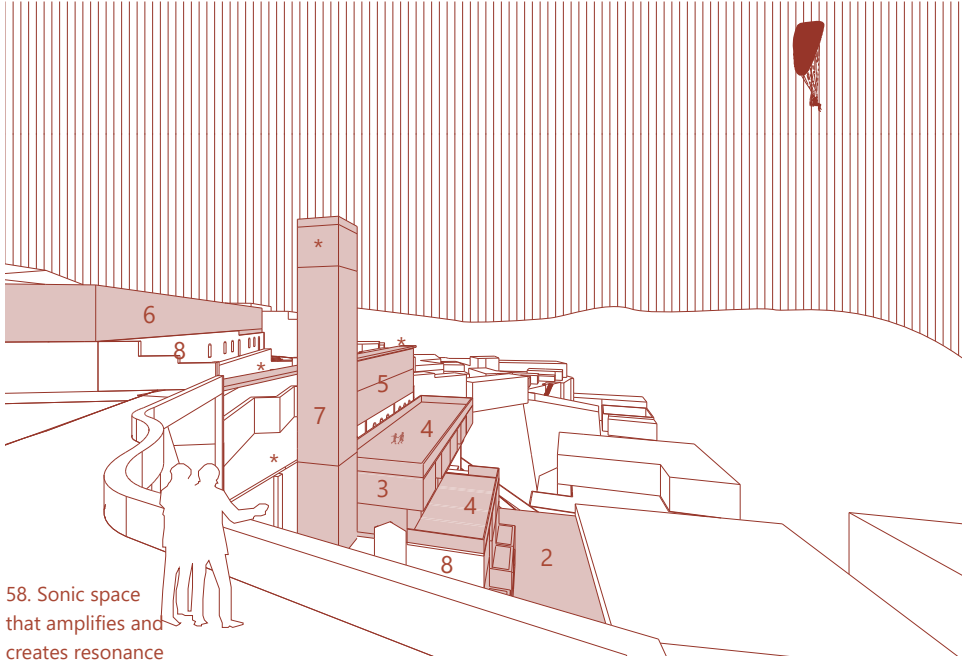54. Sonic space that amplifies and creates resonance

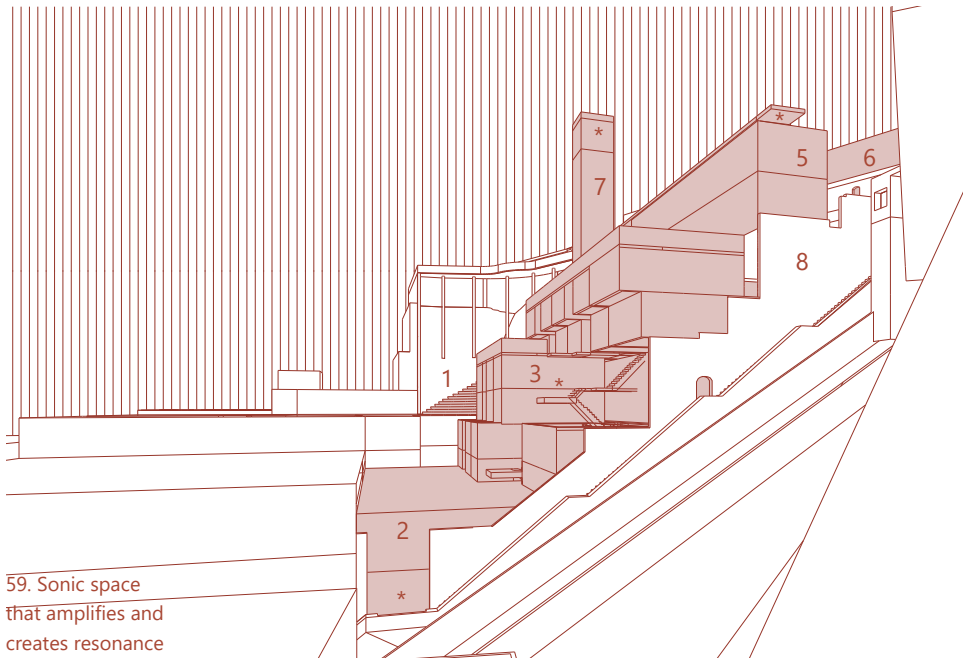55. Varied play environments and containing walls

56. Sound relationship between spaces

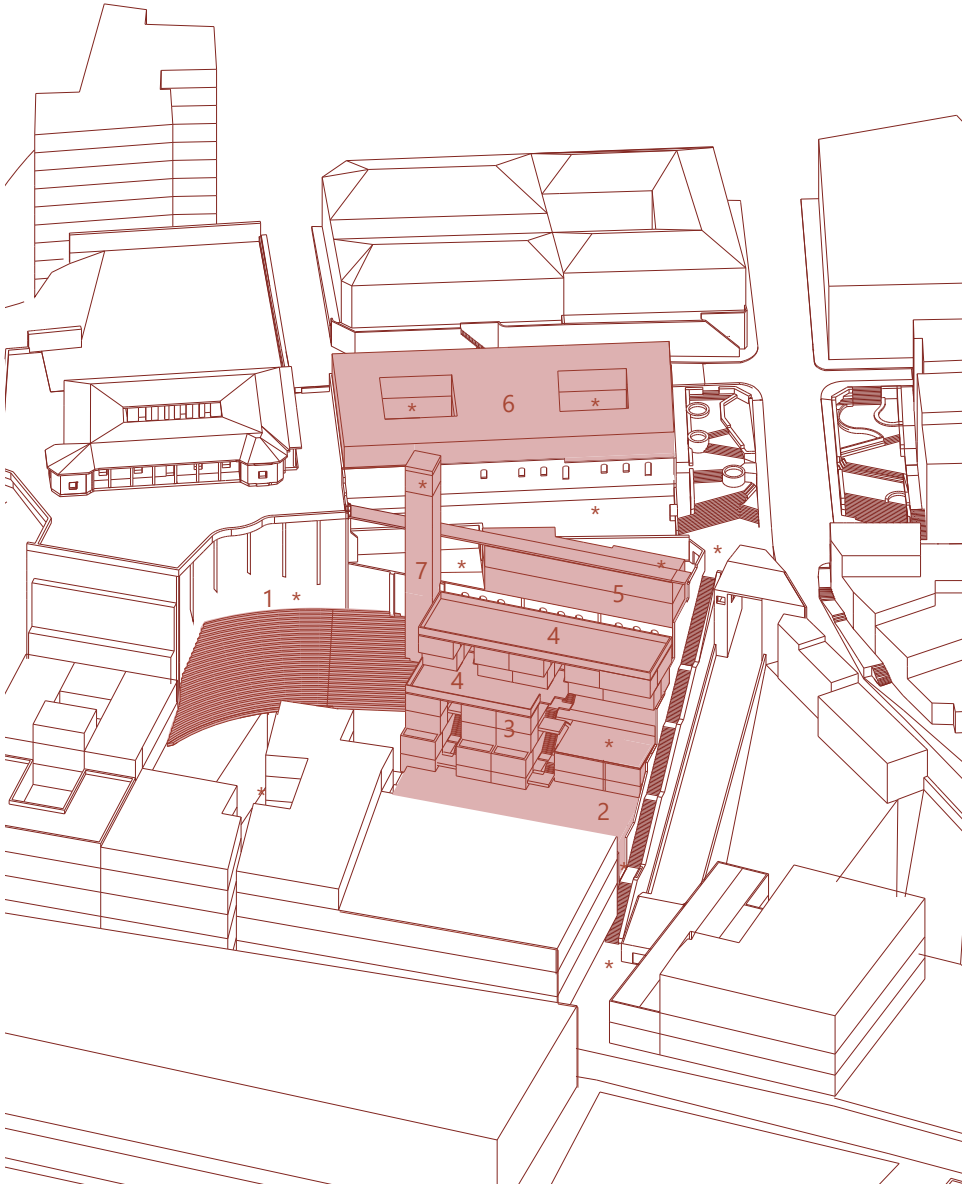57. Small group orientated space

58. Sonic space that amplifies and creates resonance

59. Sonic space that amplifies and creates resonance

1. Open Theatre/ Auditory space
2. Gymnasium / Sports hall
3. Classrooms
4. Playground
5. Admin & cafe

6. Learning centre
7. Public Stair way and auditory tower
8. Existing Walls
* Sonic public Interventions

60. Sonic space that amplifies and creates resonance

Conclusion

The methodological research process that has been followed is drawn from various influences and aims to approach architectural design from an alternative approach – sound as an act. Embedded in the approach are many alternative thought frames that are related to space, yet are not spatial in form. Rather conclusions and principles have yield a means to translate findings into a form by understanding how sound, in this case, relates to the city, ourselves and the commons.

The analysis of sound draws forward five core notions applicable to spatial design: The element; place; affect; the act; and the commons. These principles are critical in understanding sounds occupation of the world around us as well as ourselves in the presence of sound. The normative principles yielded two fundamental outcomes in the research. The first was to understand the city in relation to sound. As result leading to the selection of a site and how to understand that site within a sonic landscape. Positioned not only on a physical threshold but also on a sonic threshold, the site holds multiple characteristics and presents a diversity of opportunities to respond to. The second is situating the act of presence as a relation between the act of sonic intervention and being present.

The culmination of the various outcomes of the research situated a frame to position a project proposal that would deal with the needs of the urban environment, while offering a unique opportunity to develop a sonic orientated landscape. The program proposal, as a response to the research, is a sonic intervention – children make noise. The highly affective nature in which children interact with their environments makes the secondary school environment an opportune test model. Equally the vantage point offers a means to employ sonic interventions that would relate to the research in an alternative frame of the commons and the city. The school is private and the vantage point is public, yet both deal with the notion of sound as a common from differing approaches.

On an urban level the intervention relates to the need to introduce infrastructure that would make the city liveable by supporting the growth of residential and commercial growth. By creating education facilities and public space, the intervention tackles the threshold between city and hill, blurring these distinctive barriers. The critical mass these facilities yield by putting people on the street is crucial to the vitality of the area. Equally the intervention aims to become an extension of the everyday, as various users interact with the site in alternative ways.

In concluding, the project proposal is a continuation of the research. It aims to use design as a mechanism to understand how sound as an act may be brought into the development of space. The objective is thus to create a multivalent project that is situated within a precinct of wider influence- as the boundaries of the site are not defined by the surveyor but rather the ***range of children's laughter.***

61. Cemetary balcony overlooking the city, a moment of respite

Bibliography

Books / Articles

Augoyard, Jean-Francois and Torgue, Hnery (eds.) OASE #78: Sonic Expereince, A Guide to Everyday Sounds (Selected exerpts) (Rotterdam: NAi Publishers, 2017).

Alonso, Pedro I (eds) Shoot the Artist. Arc Docs (Santiago: Andros Ltd, 2016).

Alonso, Pedro I (eds) Acronym. Arc Docs (Santiago: Andros Ltd, 2016).

Anderson, Stanford. "Rational Reconstructions and Architectural Knowledge". Architecture in the Age of Empire (Weimar: Bauhaus U, 2011): 161-173

Armengaud, Marc. Paris La Nuit 'Nocturnal Landscapes' . (AWP. France. 2013)

Atelier Bow-wow (eds) Commonalities. Arc Docs (Santiago: Andros Ltd, 2015).

Aureli, Pier (eds) Interview by 0300TV. Arc Docs (Santiago: Andros Ltd, 2014).

Avermaete, Tom. "Architecture and its Epistemes." Unpub. notes for students (2016)

Avermaete, Tom. "The Architect and the Public". Hunch 14 (2010)

Avermaete, Tom, Klaske Havik, Hans Teerds, Nancy Meijsmans (eds.) OASE #80: On Territories. (Rotterdam: NAi Publishers, 2009). WEB

Blesser, BArry and Linda-Ruth Salter (eds.) OASE #78: Aural Architecture: The Invisible Expereince of Space (Rotterdam: NAi Publishers, 2017). 94 -109

Branzi. Andrea(eds.) From the Radical Design to Post-Environmentalism. Arc Docs (Santiago: Andros Ltd, 2017).

Boano, Camillo (eds) Whatever Architecture. Arc Docs (Santiago: Andros Ltd, 2017).

Boano, Camillo (eds) The Urbanism of Exception. Arc Docs (Santiago: Andros Ltd, 2017).

Curtis, Charles (eds.) OASE #78: Incomprehensible Space (Rotterdam: NAi Publishers, 2017).

Cullen, Gordon. The Concise Townscape. (London: Architectural Press, 1966.)

Di Havik, Klaske, et al. Writing Place: Investigations in Architecture and Literature. (Rotterdam: nai010, 2017). LIB

Diaz, Francisco. De Castro, Alejandro, et al. Who Cares for Chilean Cities?. (Santiago. Sailsainos Impresores, 2014)

De Botton, Alain, The Architecture of Happiness (London: Penguin Books Ltd, 2014), 56.

Delbeke, Maarten (eds.) OASE #81: The Crown Glory. (Rotterdam: NAi Publishers, 2010).

Franchrow, Raviv (eds.) OASE #78:

Hear and There: Notes on the Materiality of Sound (Rotterdam: NAi Publishers, 2017).

Gebauer, Mirjam. Nielsen, Helle Thorsøe. Schlosser, Jan T. and Sørensen, Bent. Non- Place: Representing Placelessness in Literature, Media and Culture . (Aalborg University Press, 2015)

Hays, K. Michael(eds) Of Mirrors and Ashes. Arc Docs (Santiago: Andros Ltd, 2017).

Hays, K. Michael(eds) Appearance & Material. Arc Docs (Santiago: Andros Ltd, 2017).

Hauptmann, Deborah; Radman, Andrej. Asignifying Semiotics as Proto- Theory of singularity: Drawing is Not Writing and Architecture does Not Speak. Footprint: Asignifying Semiotics: Or How to Paint Pink on Pink. (14) (Delft, Tudelft, 2014), 1-12.

Hauptmann, Deborah .Cognitive Architecture: From Bio-politics to Noo-politics ; Architecture & Mind in the Age of Communication and Information. (Rotterdam. 010 Publishers. 2010)

Jaque, Andres (eds) "Transmaterial", as well as "Calculable" Office for political innovation. Arc Docs (Santiago: Andros Ltd, 2017).

Kahn, Douglas (eds.) OASE #78: Alvin Lucier: I Am Sitting in a Room, Imersed and Propogated (Rotterdam: NAi Publishers, 2010).

Lucas, Ray. "Defining your research methodology", Chapter 2 of Research Methods for Architecture. London, King: 2016.

Lucas, Ray. "Introduction, What is Architectural Research?", Chapter 1 of Research Methods for Architecture. London, King: 2016.

Lynch, Kevin. The Image of the City, (Boston, MIT PRESS, 1960)

Massumi, Brian. The Anatomy of Affect. Cultural Critique , The Politics of Systems and Environments, No. 31, PartII. (Autumn, 1995),pp. 83-109

Murch, M, Gerlad. Visual and Auditory perception. (New York, The Bobbs-Merrill Company, Inc. 1940)

Oyarzun, Fernando P (eds) The Mirror and the Clock. Arc Docs (Santiago: Andros Ltd, 2014).

O'Byrne, Brendan. Healy, Patrick. Architecture and Phenomenology. Footprint: Architecture and Phenomenology. (14) (Delft, Tudelft, 2008), 1-6.

Pallasmaa, Juhani. "The Geometry of Feeling: A Look at the Phenomenology of Architecture." In Theorizing a New Agenda for Architecture:, edited by Kate Nesbitt, 448–53. (Princeton Architectural Press, 1996.) LIB

Pallasma, Juhani (eds.) OASE #58: The Visible and the Invisible (Rotterdam: NAi Publishers, 2001).

Scott, Felicity(eds) What Went Wrong. Arc Docs (Santiago: Andros

Ltd, 2016).

Scott, Felicity(eds) Out of Place. Arc Docs (Santiago: Andros Ltd, 2016).

Stavrides, Stavros. (eds.) FOOTPRINT: Commoning as Differentiated Publicness. Common Space as Threshold Space:Urban Commoning in Struggles to Re-appropriate Public Space. (Rotterdam: NAi Publishers, 2015). 9 -20

Sterken, Sven (eds.) OASE #78: Immersive Strategies in Lannis Xenaki's Polytopes (Rotterdam: NAi Publishers, 2017).

Films / videos

Bustmante, Ariel. Vertical/Aerial recordings of the City of Valparaiso (Valparaiso, 2011) https://vimeo. com/60595547 (accessed on 18/01/03)

Luis Tamayo, J. (2016). No Patrimonial. Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). El Hundimiento . Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). Calamitos!. Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). Desplazados. Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). Chimbombancia. Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). La Pendiente. Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). La Deuda. Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). La Zancadilla. Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). Guarenismos. Chile: Valparaiso Inamible.

Luis Tamayo, J. (2016). Gentrificamelo. Chile: Valparaiso Inamible.

Pallasmaa, Juhani. Invisble spaces: Touching the World. (Azores, Portugal, 2017) https://www. youtube.com/watch?v=eksSydf--fk (accessed on 17/11/15)

Trahan, Shea. The Architecture of Sound. (LA) https://www.youtube. com/watch?v=R-BMF4e-1bg (accessed on 23/11/15)

Tsonami Arte Sonoro. Tsonami 2013. (Valparaiso, 2013) https://www.youtube.com/ watch?v=JUukXT2HJUg (accessed on 18/01/03)

Lecture / Conference

Franchrow, Raviv (2017) Zonic mapping. Tudelft

Web Sources

http://www.audiomapa.org