

# IN-BETWEEN SPACES IN ANTOFAGASTA

## RELATIONSHIP OF ARCHITECTURE WITH ITS CONTEXT

### ESPACIOS INTERMEDIOS EN ANTOFAGASTA

#### RELACIÓN DE LA ARQUITECTURA CON SU CONTEXTO

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#### Abstract

The use of in-between spaces is often seen as an architectural solution that deals with prevailing conditions in extreme climates. When referring to a context such as the desert, many authors examine the typologies (e.g. corridor, yard, etc.) used in buildings there in order to cope with daily high temperatures whilst standing outdoors, particularly. Several examples of these in-between typologies can be also found in Antofagasta as a response to both its geographical and urban conditions within Chile's Atacama Desert. A review on the above examples in terms of use, size, configuration and shading is given. Many of the findings described here show how some principles for designing in-between spaces remain similar throughout the decades, as such spaces reflect the location where they are placed.

#### Resumen

El uso de los espacios intermedios suele considerarse una solución arquitectónica para hacer frente a las condiciones imperantes en climas extremos. Por ejemplo, cuando se trata del desierto, muchos autores examinan las tipologías (corredor, jardín, etc.) utilizadas en los edificios para soportar las altas temperaturas diarias, especialmente a la intemperie. Varios ejemplos de estas tipologías intermedias se pueden encontrar también en Antofagasta como respuesta a sus condiciones tanto urbanas como geográficas del desierto de Atacama de Chile. Se ofrece un análisis de los ejemplos anteriores en torno al uso, el tamaño, la configuración y la capacidad de generar sombra. Muchos de los hallazgos aquí descritos muestran de qué manera algunos principios del diseño de espacios intermedios se mantienen a través de las décadas por cuanto dichos espacios son un reflejo del lugar donde se ubican.

**Key words:** architecture, in-between spaces, context.

**Palabras clave:** arquitectura, espacios intermedios, contexto.

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#### Introduction

What do you call a habitable zone lying between a building and its external environment? That is what many people often see as an in-between space -a space which basic function is to mediate between inside and outside, as Chilean architect Glenda Kapstein (1993) clarifies when describing buildings in the north of Chile. However, the above definition does not acknowledge the particularities of the specific context where mediation occurs, which includes factors such as light, temperature, views, etc. Therefore, understanding how these spaces respond under prevailing local conditions appears to be fundamental when visualising key elements that build an in-between feature.

Under the scope of the architectural relationship between inside and outside, the in-between spatial condition in the coastal desert of Chile seems to be particularly recognised by at least three relevant concepts. First, the search of protection from the sun often starts as an extension of the architectural form towards the outside. Second, the sense of inhabiting an actual space -whilst being outdoors- is primarily achieved with the help of recognisable architectural elements. And third, a close link to the open environment is given by allowing direct views to both the immediate and distant surroundings.

In the city of Antofagasta (23°38'S, 70°25'W), both geographical and climate conditions set specific challenges for local architecture when coping with the external environment. Antofagasta is located on the coastal border of Chile's Atacama Desert, caught between the Pacific Ocean on the west and the Coastal mountain landscape towards the east, as shown in the figure below. Daily peak temperatures here range from 8 to 25 °C in a regular year (Kapstein, 1988). In addition to the above, monthly solar radiation can rise beyond 770 Mj/m<sup>2</sup> on the broader area (Sarmiento, 1995), especially in summer.

One of the climatic challenges is to provide shelter to people from incident solar radiation when they are outside in the daylight. This can be linked with the possibility of buildings to shade some of their adjacent external zones, like the ones related to either an access or a junction with other facilities, for instance. According to Spanish architect Rafael Serra (2000) -when talking about building in hot and dry regions-, such protection should make a distinction between sun and shadow, and should also become a recognisable space (e.g. a yard) that reconciles architecture with the outside.

There are numerous examples of such features in Antofagasta's architecture; some are contemporary, some are from the modern movement era, and even some are from early stages of city development, in the beginning of the 20th century. Despite being ruled by different design principles, case studies in this research seem to accomplish three basic conditions as previously mentioned: first, they mediate between inside and outside; second, they provide shelter from the sun; and third, they allow views to the surrounding context.



Figure 1 & 2\_Antofagasta, south shoreline (source: the author).

## Inhabiting the outside\_

The word “in-between”, as mentioned before, is often used to refer to a state between two things (e.g. times, spaces, situations, etc.). For architects, a given space may achieve an in-between condition if it mediates between two different environments, for instance. Furthermore, one of the above environments can actually be located outdoors.

But how can we recognise such mediation whilst being outside? Having a look at typologies such as corridors and patios is a way to start. First, in a place like Antofagasta, we can notice the way architectural form extends (until reaching into outside spaces) the outside in its effort to provide protection against daily solar radiation. This enables architecture to be seen as a geometric place that grows towards the “uninhabitable” nature, as referred by Chilean architect Germán Del Sol (1997) about building under such extreme conditions; it also acts as a meeting point with the landscape. This vision is exemplified in the below picture, where a building with continuous balconies faces the warm Mediterranean climate in North Africa.

Second, the feeling of inhabiting an actual space, and not simply staying under the protection of a canopy or a sun screen, becomes a key distinction of the in-between condition; it is the link between inside and outside. That feeling of architectural space was defined in a conference by Swiss architect Le Corbusier (1978) as the affinity reaction towards geometric shapes, in terms of length, height, etc. Some building elements –or the building form itself- can help to create the conditions where inhabitants can realise this affinity for space once outside.

Within local examples of in-between spaces -illustrated based on the date of completion-, the concept of building elements refers to all columns, beams, walls, slabs, and roofs that configure enclosed areas and their relationship with

in-between spaces in a single unit. Therefore, understanding such mediation in Antofagasta can be seen as the possibility for users to read any virtual boundary given by the building configuration in order to inhabit its immediate surroundings. For instance, the inclusion of a shaded spot on the building access area can invite use, amongst other cases.

## Identifying the mediation\_

One of those shaded spots attached to building forms is the case of an external corridor. Among public zones of an architectural layout, housing main circulations is one usual function of corridors. It allows both direct and fluent connections between different areas. Here, pedestrian traffic flows are often horizontal, and they may be accompanied by views to the immediate landscape on either sides or ends. The feeling of mediation can be applied to inhabiting a long and open parallelepiped, which spans attached to one or more façades by the outside.

One important feature from external corridors -referred to connecting inside rooms with the outside-, is the continued floor level that prevails between those two different conditions. In a research about in-between spaces, Chilean architect Luis Eduardo Swinburn (1974) suggests that there is one single plane applicable to all kinds of inhabited space, such as the horizontal floor plane. The above seems to reinforce the perception that a continued floor level is one of few omnipresent elements required when recognising the mediation between two different environments.

It is possible to find an early example of the importance of continuous flooring in the former Coast Guard building (1910) pictured in Figure 3. Such building is located next to the coastal avenue that crosses city centre. The volume was built with the balloon-frame timber technique that was introduced by British contractors during Chilean nitrate rush era. The corridor here is actually a shaded space of 32 m<sup>2</sup> at street level, parallel to the main entrance on the east façade, which is sheltered by the first floor slab extension.



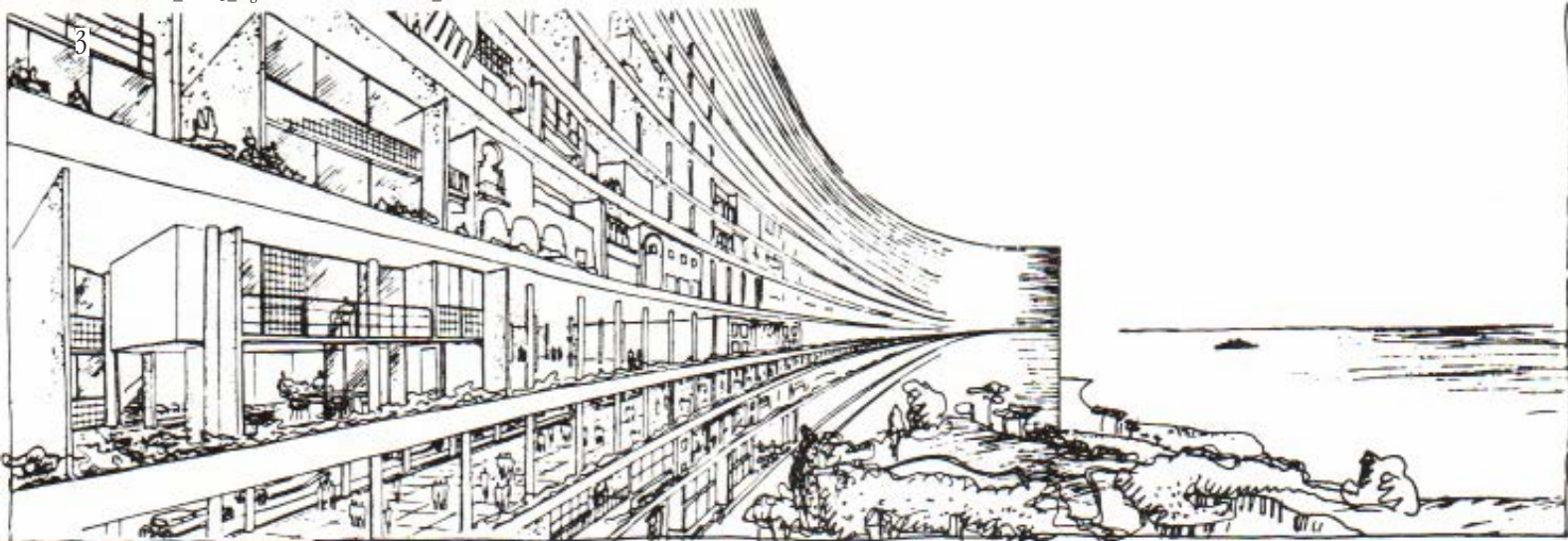


Figure 3\_ Plan Obus in Algeria by Le Corbusier (source: Kenneth Frampton, 1993).

When travelling along the corridor, the openings at the north and south ends allow views towards both the city and Coastal mountain landscape through a series of openings on the side wall. The openings permit sunlight to flow into the corridor differently at various times of year. Sunlight reaches into this space during winter mornings only (from June till late August). During the rest of the year, shadows cover nearly hundred percent of the floor area, mostly around midday, where data on solar radiation indicates the highest incidence according to the sun position (Sarmiento, 1995).

Later on, amongst buildings that followed the modern movement principles, the Antofagasta Hotel building -designed by Chilean architect Martín Lira in 1952-, in Figure 4, seems to show another clear example of external corridors as a response to both the climate and the landscape. It is located by a beach in city centre. As other modern hotels often did, its presence was highlighted by the way the volume was related to the ground (Torrent, 1997).

Such a relationship is generated between all blocks, in-between spaces and also garden extensions. In this case, the entrance/reception level extends -beyond the main volume and towards the west- over and external zone on the level below, allowing the lower facilities to be naturally lit but also to have a shaded circulation that runs alongside the ocean view. This configuration makes possible that around three quarters of the corridor is protected from the sun during the long warm season.

Another example of the relationship between ground and volume when configuring in-between spaces is the Regional Government building -designed by Chilean architect Edwin Weil in 1958- which is located on a corner site in front of city's central square (Figure 5). The main façade faces north. The access is set at a street level below the offices zone, leaving a shaded area of 42 m<sup>2</sup> -most of the available space- that offers pedestrian a shelter from the sun at noon throughout most of the year. Again, mediation here occurs by converging floor levels of the building entrance and the street in front. Such mediation becomes a recognisable outdoor spatial form.

Within other local case studies of mediation, this time from contemporary architecture, is the Retreat House complex (Kapstein, 1991), which is located next to the coastal road near city's north entrance. In this example, shown in Figure 6, external corridors organise the circulation along retreat cell blocks in a north-south direction (within a strip of 76 m<sup>2</sup>), parallel to the natural slope line and also the shore. A major shelter from incident solar radiation is provided by a series of thin timber louvres that literally span over both the corridors and cells. Additional protection seems to come from the shadows cast by slope bearing walls, and the retreat cells themselves, at different times of day i.e., from east in the early hours to west late afternoon. Although the shading percentage is never above fifty, the combined action of louvres and slope bearing walls creates the basic conditions for users to remain outdoors.



Figure 4\_ Coast Guard building (source: the author).



Figure 5\_ Antofagasta Hotel (source: the author).

Figure 6\_ Regional Government building (source: the author).





Amongst in-between typologies, the open yard -or patio- may also appear as a local example of mediation between buildings and their surrounding environment. Serra (2000) describes the patio as a resource that generates a protection from the sun in warm regions whilst it relates architecture with the outside at the same time. Such condition is most likely recognisable as an external spot that is contained by the building form, because the form determines how the patio opens towards immediate views of the landscape, whether vertically, horizontally, or both. Although one of the basic benefits of an open yard can be that of having daylight gains inside, its value as an in-between space seems to be supported by the idea of including a glimpse of the outdoor environment from within buildings in order to create connection, or as Del Sol's previously cited concept, a meeting point with the landscape.

One case study is the Town Hall building -designed by Renato D'Alençon in 1996- that is placed aside the coastal avenue (Figure 7). Its patio opens towards the mountain range on the east. Such space is basically contained by three-storey volumes on both north and west sides within a 1,400 m<sup>2</sup> triangle-shaped plan, and it is completed by frames (columns and beams) that create a sun filter over the yard zone. Like the corridor examples before, the patio here also helps organising both access and circulations to all the other areas in the building, by continuing the street level within the facilities. The shaded area here is a result of the combination of both building elements and volumes, although it does not exceed half of the floor area at noon, when solar radiation is higher.

## Conclusions\_

There are probably no codes of practice for the design of in-between spaces yet. But given the above examples on the architectural relationship between inside and outside, the mediation spaces in the north of Chile could be recognised by searching three basic conditions. One is the protection from the sun that may be an extension of the built form towards the outside. Another is the sense of inhabiting the space itself when standing outdoors. And the last one is the direct relationship with the environment, which is given by views from the in-between space to the surroundings. The reviewed cases are also part of a greater group of examples from local architecture, which may be regarded as representatives of buildings that reflect the location where they are placed, by providing shelter to inhabit the outside, for instance.

Now, can the in-between spaces apply to other environmental conditions e.g. cold and humid climates? In principle, the answer seems to be positive as long as the focus is put on the mediation between any fully protected interior and the outside, thus producing buildings which are more responsive to both the user and the environment. Examples of mediation, such as a domestic conservatory in northern Europe or a verandah in southern Chile, can be considered as proof of the above statement. If it does apply, then the next question would be if such mediation helps architecture design to achieve the feeling of belonging in a particular context, amongst other built values. □□□



Figure 7\_ Retreat House (source: the author).



Figure 8\_ Town Hall building (source: the author).

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