

The City Narrated from the Hill, Evaluation of Natural Fabric in Urban Plans: A Case Study of Santiago de Chile

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Abstract : What responsibility does urban planning have on climate changes? How does the territory give us answers of resilience? Historically, urban plans have civilized territories: waters are channeled, grounds are sealed, foreign species are incorporated, native ones are extinguished, and/or enclosed spaces are heated or cooled. Socially this facilitates coexistence, but in turn brings negative environmental consequences. The past fifty years, mankind has tried to redirect these consequences through different strategies. Research studies produced strategies designed to alleviate climate change. Exploring the nature of territories has been incorporated in urban planning to discover nature's response. The case to be studied is Santiago, Chile: for its combined impacts of climate change and the significant response by this city on climate governance in the last decades. Warmer areas in Santiago are seen in the areas of high-density buildings such as the commune of Recoleta, while the coldest are characterized by the predominance of low residential densities as the commune of Providencia. These two communes are separated and complemented by an undulating body that comes from the Andes mountains called San Cristobal Hill. What if the hill were taken into account when making roads, zoning and buildings? Was it difficult to prolong in the urban plans the hill characteristics to the city solving the intersection with other natural areas? Apparently it was, because the projected-profile informs us that the planned strategies used correspond to the same operations used in the flat areas of Santiago. This research focuses on: explaining the geographic relationships between city-hill; explaining the planning process around the hill with a morphological analysis; evaluating how the hill has been considered in the city in the plans that intended to cushion the environmental impacts and studying what is missing on the hill and city to strengthen their integration. Therefore, the research will have different scales of understanding: addressing territorial scale - understanding the vegetation, topography and hydrology; a city scale -analyzing urban plans that Santiago has dealt with the environment and city; and a local scale -studying the integration and public spaces and coverage- norms of the adjacent communes. The expected outcome is to decipher possible deficits and capabilities of the current urban plans for climate change. It is anticipated that the hill and valley is now trying to reconcile after such a long separation. Yet it seems that never will prevail all the Rules of Nature, but the Urban Rules. The plans will require pruning, irrigation, control of invasive alien species and public safety standards, but will be rejoining a dose of nature with the building environment -this will protect us better from it from the time that we feared from it and knew little about it. Today we know a little more, enough to adapt to the process. Although nature is not perceived and we ignore it, it has a remarkable ability to respond.

Keywords : resilience, climate change, urban plans, land use, hills and cities, heat islands, morphology

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