

Organic Neighbourhoods On Urban Metabolism and Interspecies Co-Existence

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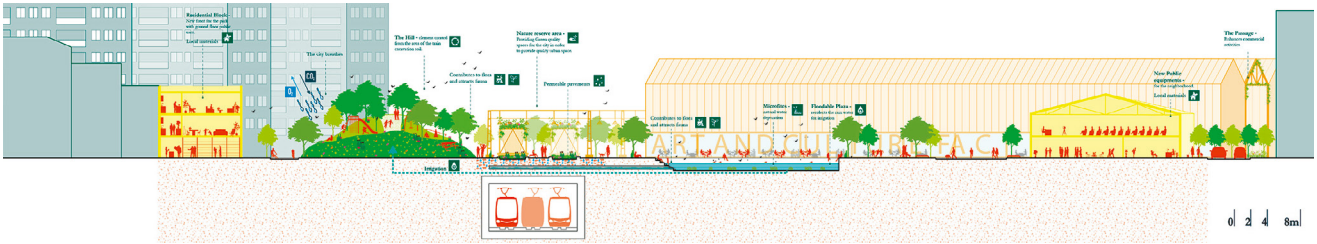
The metaphor of the living organism has been widely used in the field of urban system studies for decades. This vision has been reconfigured as contexts change throughout the history of thinking about the city. In particular, growing concern for the environment and growing awareness of the environmental impact of cities since the 1970s have led to the resurgence of systemic thinking that had been weakened by functionalism and modernism in the fields of planning and urban design.

Today it is believed that urban metabolism provides new knowledge for more sustainable management of resources in cities and their neighbourhoods. The understanding of cities as complex adaptive systems, specifically as socio-ecological systems, promotes the integration of the complex structure of relationships and feedbacks between the components of the ecosystem and socio-economic entities. Most of the time these studies mainly focus on the input and output of quantitative resources (e.g. energy, water, materials) and tend to neglect the element of space and the qualitative characteristics of the urban landscape. However, the proposals of the European 17 teams have shown that through the understanding of the existing urban context and the recognition of its environmental, social and territorial values, it is possible to use design to activate forgotten, even unexpected, metabolic relationships.

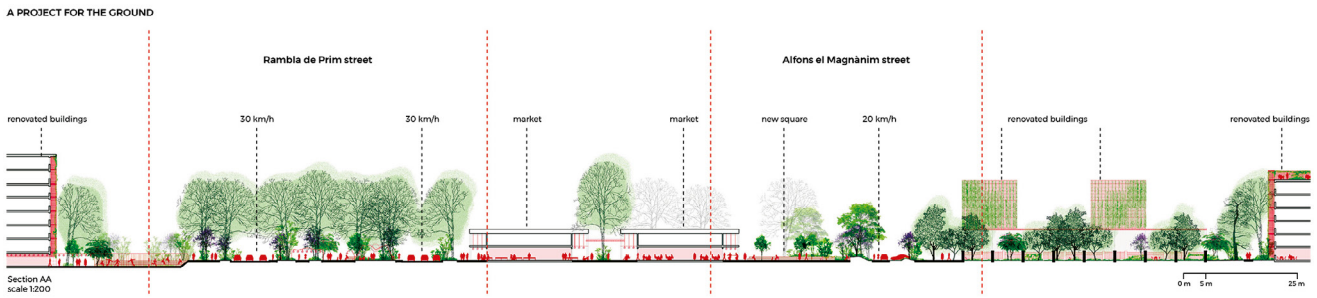
I. Bioactive Suture

When faced with the closure of a wound or the intervention of joining tissues in the city, it is possible to redefine the synergies and relationships between different organs, improving the functioning of their neighbourhoods.

For example, the efforts to preserve and revitalise all elements with potential for new uses, proposing a series of new structures that complement the urban fabric and provide the green axis with a new facade is crucial in the proposal for the site in Torrelavega (ES). Winning project *Cicatrice* maintains and emphasises typological variety, understanding Torrelavega as a diverse and complex organism that the project seeks to embrace and continue. This diversity and complexity of typologies is complemented in the public space with



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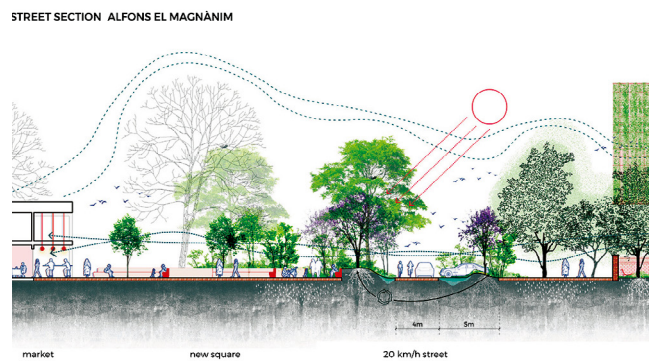
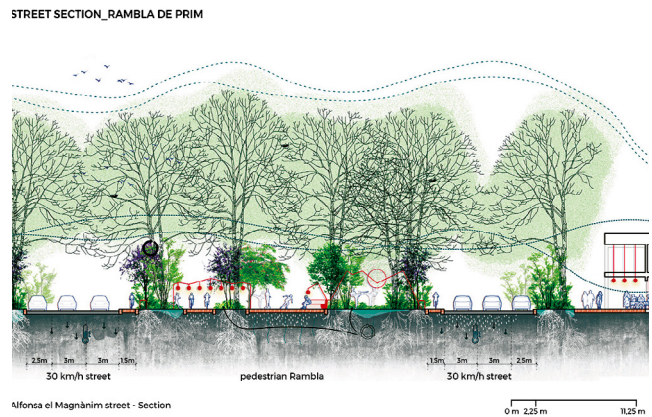


a hierarchical mobility system that gives priority to the pedestrian (fig. 1). In this way, the pacified public space becomes an active system that enables water management, increased biodiversity and social interaction. The intervention integrates drainage systems to collect rainwater and excess irrigation water for reuse, resulting in minimal water consumption. This, combined with irrigation through the underground channels, translates into a vast surface for air purification and increased biodiversity, restoring a natural condition to the urban environment. In the face of a changing climate, the project boldly welcomes local and climate-adaptive plant species, resilient guardians against environmental shifts (fig. 2). By bringing the river corridor closer to the city centre it is possible to foster a symbiotic relationship between urban dwellers and the natural world.

2. Living Membrane

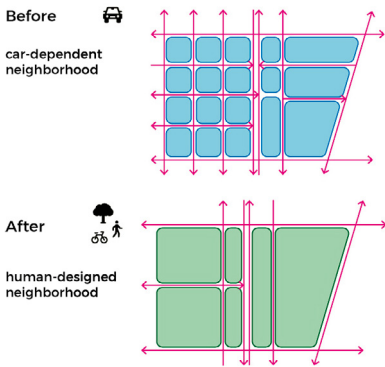
The design of membranes that redefines the relationships between the exterior and the interior of a neighbourhood is another tool capable of improving its metabolic functioning. These membranes build new semi-permeable layers that regulate substances entering and leaving the neighbourhood, providing stable conditions inside.

Winning project in Barcelona (ES), *We are city*, is based on the idea of living the city as an extension of one’s own home – a sensitive theme in a neighbourhood like Besòs i Maresme, which faces degraded living conditions – and public spaces designed to reflect community identities. The project enriches spaces between built structures and ground floors with activities and amenities, creating highly diversified spaces based on permeability and intimacy levels. In the same way horizontal and vertical surfaces are re-naturalized through actions such as depaving and creating green walls, fostering the development of new ecosystems. Buildings are requalified through facade retrofits and shading systems and public spaces are renovated, enhancing the residents’ quality of life in the neighbourhood (fig. 3). The result is a masterplan based on four types of membranes, differing in practices, scale, speed, and intimacy degree, all modifying and improving the livability of the whole

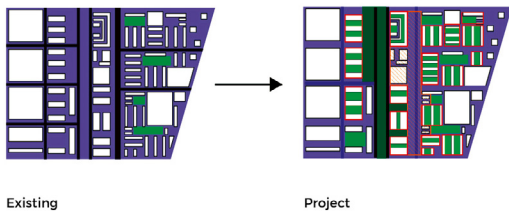


3 – Barcelona (ES), winner – We are city > See more P.25

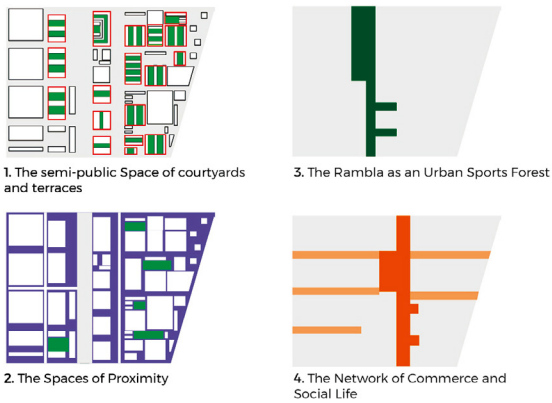
NEW DISTRICT - BLOCK AGGREGATION



DISTRICT CONCEPT



FOUR DIFFERENT FIGURES



4 – Barcelona (ES), winner – We are city > See more P25

system: the semi-public *Space of courtyards and terraces*; the *Spaces of Proximity*; the *Rambla* as an Urban Sports Forest and the *Network of Commerce and Social Life* (fig.4).

3. Cluster of Cells

A set of new urban structures are inserted into existing fabrics, redefining environmental, social and economic logic. Its density and intensity is related to that of the pre-existing plot. Runner-up project in Åkrehamn (NO), *Stitching Together*, proposes a cluster of independent projects stitched together through a densified urban tissue and a network of streets and green galleries (fig.5). Connecting the sea, city centre and its natural surroundings through high quality outdoor areas, the new urban structures promote walking and biking by enlivening and strengthening the connections between the harbour and the main road. Public space thus becomes the stage for complex transformation processes as well as a vital and functioning urban heart. The transformation of spaces designed around the needs of mobility vehicles, harbour and main road, into a biodiverse landscape for humans and non-humans, forms a mediator between new interdependencies, a Living City component.



5 – Åkrehamn (NO), runner-up – *Stitching Together* > See more P22



4. Socio-Ecological Loop

Since cities and their neighbourhoods are socio-ecological systems, identifying their 'loop' dynamics makes it possible to reconnect lost, abandoned, even unknown fragments, revitalising their urban metabolism.

Runner-up project *Re:connecting Rimbo* in Rimbo (SE) shows three strategies of reconnection – fragmented natural land; social meeting points; and historical past – through continuous loop hybrids of physical, social and cultural conditions. The Green Loop (fig.6) grants Rimbo's residents easy access to nature on a daily basis while creating an overall biological and recreational framework. The proposal identifies new social meeting points, activities, culture, sports and services along the *Green Loop* or along one of the smaller trails that connect it, strengthening the importance of the *Loop* as a biological and recreational framework. At the same time and since Rimbo has a strong identity as an agricultural and industrial area, the *Green Loop* provides easy access to both Rimbo's agricultural lands and industrial buildings. The *Green Loop* thus becomes a link between the past, present and future of Rimbo.

While most of the cities' policies have focused on urban greening to truly support urban ecosystems, as demonstrated by the strategies defined by the competitors, cities can redesign their urban models to integrate the dynamic and evolving adaptive strategies of non-human cohabitants. All these projects re-conceptualise the urban as an ecological formation, interweaving social and wild systems of governance, activating the neighbourhood metabolism. They explore the biological metaphor of metabolism through a design that regenerates the trans-scalar relationships of metabolic flows of the basic systems that animate life: water and soil and soil/land activities.



6 – Rimbo (SE), runner-up – *Re:connecting Rimbo* > See more P82