DESIGN FROM CONTEXT

INTEGRATED GUIDELINES FOR SUSTAINABLE NEIGHBOURHOOD DESIGN

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INTRODUCTION

Cities today tend to be visually and physically confused. They lack diversity, dynamism, and local identity. 'They are monotonous patterns of static elements'[1]. Recently built communities do not resonate with their distinctive natural and social landscapes. They fail to create a sense of uniqueness and belonging for their inhabitants. The use of generic modernist forms and materials, mostly inspired by 20th-century European and American architecture, has produced standardized neighbourhoods that do not fit the pluralism of human heritages and the multiplicity of climates and geography. They consume enormous amounts of natural resources. Their shape is not adapted to the landscape and climate. They need huge quantities of energy for their operation and for moving their residents.

Thus, the design should derive from each environmental, topographical, social and cultural context, an appropriate conformation in which a variety of architects can organize public space and constructed forms. Rather than imposing a particular aesthetic, the best design genuinely responds to a community's unique individuality, context, and priorities. Among other benefits, such a design can build trust in neighbours.

Benefits of Creating Places with a Unique Character[2]

According to a study in 26 U.S. cities[3], the most important factors that create emotional bonds between people and their communities are 'physical beauty, opportunities for socialization and the openness of a city to all'. The communities most attached to the place also had the strongest economies. Cohesive communities further report higher levels of safety and security, community activity, emotional health, and well-being. Involvement and political participation produce better health outcomes: one study found a direct link between group membership and diminished death rates. Often, the unique characteristics that contribute to a deep-rooted sense of place are ecological, architectural, historical or geographic. The proximity of natural areas has a direct and positive effect on physical and mental health, and on stress reduction.

To design context sensitive schemes, many historical precedents can guide us. Over the centuries, innumerable models for city living and communities have been tried out. They supply us with an inexhaustible store of experience for the solution of future problems. 'The towns that have naturally grown over time represent our textbook of urban design and architecture. The secrets of their structures can hardly be grasped through books. One has to travel to research them and make comparisons between cities and from country to country.'[4] Such sustainable neighbourhoods have accommodated the needs of many generations. They surround us when we enter the historical core of our cities. They offer their inhabitants a sense of belonging and stability. 'One of the most striking aspects of historical cities is a strong congruency between the appearance of built form and the identity of the place. The various forms of the city centre – its streets, open spaces, building fabric, and landmarks – represent an integrated expression of functional order, social values, and hierarchies that evolved over many generations. The slow pace of

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[1] Maki 1964 and 2008.
[2] This box draws from Eitler et al. 2013.
[3] In 2010, the Knight Foundation partnered with the Gallup organization to survey 43,000 residents of 26 U.S. cities to determine what attracts and keeps people there.
[4] Krier 2006.

change in the historical city produced a tangible image of stability and specificity of the place.'[5] This chapter comprises four guidance sections.

The guidance is illustrated by an in-depth case study.

DESIGNING FROM CONTEXT IN HANGZHOU: FRENCH DREAM TOWN

GROUND NEIGHBOURHOODS IN LOCAL CULTURES

Diverse but one, historical cities are different from one another. Each one has an irreducible identity, a peculiar taste of its own. Siena cannot be mistaken for Florence, and Bruges is not Gand. And yet they form groupings of cities: Tuscan, Lombard or Flemish. Within the city and between cities, the cultural context ensures the same principles of layout and assembly on all scales, 'the same diversity of detail in the unity of wholes.'[6]

Where does this coherence and unity come from when everything is different and no model plan was established, no overall plan imposed? To answer this question, Pierre Riboulet proposes a mode of composition: 'it is the sum of the parts that makes the whole. This presupposes particular characteristics for each constituent element, capable by simple aggregation of constituting a whole. And, as we know, this is not immediately obvious: heterogeneous elements can be added together and not produce a whole. We see here too that instead of a relationship of subordination between the parts and the whole, there is, on the contrary, the equality of parts in relation to each other and to the whole. It was as if a reciprocal influence, a fusion of sorts, an active relationship between two different but related forms existed between the parts. Observation shows us homologies between the constituent parts of this whole and I would be tempted to borrow the concept of "elective affinity" that we find in Goethe's work in the Romantic period and that Max Weber picked up. There is not only influence or even a relationship of reciprocity; there is a combination or fusion of two formal figures, of two

mental structures, in the manner of two substances fusing during a chemical experiment. From influence to fusion, which are different degrees of elective affinity, the composition progresses by degrees.'[7]

In the traditional composition, a living, active process is grounded in the entanglement of practices, exchanges, and services of ordinary life in society, in the shared space of progression and habits. 'There is the primacy of extreme urban land division, based on uses, customs, acquired rights and reciprocal easements.'[8] Once again it is the multiplicity of human connections that, by an ascendant movement made of the successive aggregation of individual elements, progressively creates the city, each time respecting the singularity of contexts. 'The city is built up empirically, integrating little by little residential housing, commercial and artisanal activities, and sites of circulation and exchange, like the marketplace, the church or the municipal palace. The composition of the city relies on the practice of the city.'[9] 'Piece by piece, the buildings join together, the fronts form a continuous line that determines the "solid mass" of the city, whereas the empty space – which is by no means what is left over – is also given shape. It is the public space that, in its turn, inflects and orients the future development. For centuries, Europe's urban history has been built on this ceaselessly revisited and repeated relationship between fullness and void, solid mass and empty space.'[10] This lack of separation between the use and the construction of buildings and of the city explains the continuities and diversity.

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[5] Maki 2008.
[6] Riboulet 1998.
[7] Riboulet 1998.

[8] Riboulet 1998.
[9] Riboulet 1998.
[10] Riboulet 1998.

ASSESS THE CONTEXT

Each neighbourhood is different, but common issues will include topics such as housing, employment, social infrastructure, open space, retail and leisure facilities. Access and movement, ecology and biodiversity, heritage, and overarching considerations such as project viability, deliverability, environmental impact and planning obligations need to be assessed.

Check list of Context Elements to Consider

- *Land use* – The envisioned uses of the site and any distinct developments or phases.
- *Areas of potential built development* – In infill projects, recognize areas of the site within which new constructions would be.
- *Density* – Define appropriate density according to location, accessibility and linkage to existing or planned public transport lines – 13,000 to 15,000 people per km^2 is a sustainable target that allows greening half of the site[11].
- *Access and motion* – Identify proposed entry points and movement lines across the site, with priority to pedestrian and cycle routes.
- *Street patterns* – From movement lines derive street networks that are dense and well connected. If existing streets are insufficient or disconnected, consider completing the layout by adding larger or smaller streets if needed and linking the network where cul-de-sacs predominate. The street network should occupy at least 30% of the land with a minimum of 18 km of street length per km² and about 100 intersections per km²[12]. It should offer a variety of street widths. The narrower streets should dominate in proportion: 70% of streets should be less than 12 m wide. Transform existing streets if too wide or with a car-oriented typology.
- *Landscape and open space structure* – Reserve strategic zones of open space. Indicate the role and purpose of different landscapes.
- *Urban fabric* – Highlight the urban morphology, block sizes and types that are characteristic of the neighbourhood.
- *Building shapes and diversity* – Assess number of buildings per ha, upper and lower limits for heights and widths of buildings within the areas of constructed development.

Quantifiable goals should guide the site transformation. The level of information should be precise enough to achieve sustainability and consistency of form while not restricting the design flexibility and its contextual adaptation. For example, setting target parameters for density of intersections, average block size, number of buildings per ha, and cross ventilation requirements will ensure a bioclimatic fine-grain urban fabric, without dictating exactly what would be the final scheme.

In the context assessment and in the design, the urban morphology is of paramount importance. It is the intermediary scale between the architecture of buildings and the overarching lines of urbanism, and therefore the framework of everyday life. By examining the urban fabric, we can understand the complex relationships between open space and buildings, between street shapes and edifices' facades, between forms and practices. It expresses both the close association of buildings, streets, courtyards and gardens that characterize the neighbourhood (solidarity between the parts) and the flexibility of this association, meaning its capacity to change. The urban fabric refers to weaving (textiles) or biology (plant or bone tissues). It denotes an organization informed by both a strong solidarity between elements and a capacity to adaptation and transformation. Applied to the neighbourhood, the term speaks of continuity and renewal, performance and variation. Thinking about the fabric in context involves observing or projecting a situation and at the same time imagining or predicting

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[11] Like in Malmö of Hammarby Sjöstad.
[12] UN Habitat 2015.

its evolution. It is exactly the opposite of a rigid order, a definitive will, a final design, or a layout plan.

CREATE A SENSE OF PLACE AND IDENTITY

Sustainable neighbourhood design should be place-sensitive. It should orientate and size streets and buildings to respond to cultures and climates. It should source local materials and energies. Drawing inspiration from the context strengthens the uniqueness and identity. The sense of place (*genius loci*), consists of what makes a location distinctive: the urban landscape, its general structure, the streets, the blocks, the buildings. It arises from a combination of the physical and human geography, the history of past uses, the natural scenery, in and around a site. Developments with a sense of identity have a stronger integration of the urban structure, a tighter relationship between cityscape, settlement and movement.

Check list of Place Making Key Components

- *Climate and physical geography*. Are there ecological or geological features that give a location its essential character?
- *Socio-economic profile.* What are the demographics of an area? Are there traditions and events to draw influence from?
- *Linkages to surroundings.* How do connections shape the neighbourhood qualities?
- *Local character.* Establish the elements of distinctiveness, both the form of a place and the way people occupy it. How can a project integrate them? Can we use indigenous materials, building outlines and features as a source of inspiration?
- *Morphology.* Define what gives shape to the place morphology (historical roots, block rhythms, building heights and massing, vernacular architecture), and how this provides cues for appropriate design forms.

Character and identity are rooted in patterns of movement and activity, and in urban morphology. The way we travel through a neighbourhood is crucial to how we experience it. The shape of urban blocks and the size, rhythm, and detailing of the buildings that compose them inform our perception. Inappropriate scales, such as large retail buildings or shopping malls, often occupying an entire block or more, may disrupt the human scale and experience. Establishing shopping streets rather than malls is the key to creating a place of character.

Check List of Design Strategies to Create a Distinctive Neighbourhood Morphology

–Develop smaller urban blocks
–Take advantage of changes in ground level
–Create outward-facing frontage
–Support various uses
–Bring back scattered civic functions in the neighbourhood
–Design high-quality public realm
–Make the place incrementally adaptable over time
–Diversify architects who design different buildings

Rediscovering assets is a powerful strategy that can finance neighbourhood development. Many cities have succeeded in rediscovering their waterfronts or their historic districts. Washington, DC's initiative to reclaim the Anacostia River, for example, has generated more than USD 7 billion in private investment in offices

and parks near the river[13]. A community-led process can help recognize the key assets of a place and prioritize development. Programming and design can flag special characteristics and celebrate them, thus creating a focus on which to build identity. A strong communication plan can translate natural and historic assets into economic benefits for residents and promoters.

Reveal the memory of a place. Most locations reinvigorate from retaining structures and open spaces of quality and stitching them into new growth. 'What is needed is continuity … historic preservation is not sentimentality but a psychological necessity. We must learn to cherish history and preserve worthy old buildings … we must learn how to preserve them, not as pathetic museum pieces, but by giving them new uses'[14]. Sustainable design creates a more complex whole blending the future and the past while retaining the quality of the past fabric and natural ecology. It accentuates or repurposes elements of the historic city while incorporating them in a series of new public and green spaces, new buildings and integrated systems. An appreciation of climate, urban form, culture, topography, types of buildings and materials is necessary to maintain local specificities. Appreciating what has preceded helps to understand what may be appropriate in the future and to identify assets to protect. Preserving existent features of a site in position or alignment, is often effective at creating a sense of tangible character. Aspects to consider include uses and edifices, topography, streams, routes, boundaries and trees. Knowing what to retain and how to make the most out of it depends on a careful evaluation.

Integrate natural systems. A healthy environment reduces costs and contributes to the residents' quality of life. Small cities such as Greenville, South Carolina, have had great success. Falls Park on the Reedy is a winding downtown park that uncovered a waterfall buried for decades under a concrete overpass. It has generated over USD 100 million in investment[15]. Cities must match neighbourhood endowments with their benefits to ecosystems and use them to prioritize growth. This strategy applies to all scales, from a simple bench under a tree to rediscovering the original terrain paved over by former development. Connecting with nature contributes a unique feel to the community. Finding multiple usages for landscapes can create a distinctive place. Landscapes and countryside are the foundations of urban evolution. They are all different and play a role in recreation, open space, food and energy production, habitat provision, surface water control, and screening and buffering constructions. Employing the site's resources will enhance character and identity. The development form, soils and geology, drainage, landscape, sun and wind energy should become a source of creativity. This involves taking a long-term view of the ecosystem's management and environmental impacts. The approach should comprise how to

- Maximize utilization of the sun by a skilful design of the urban fabric.
- Make full deployment of rain water and drainage systems by closing loops and integrating water as a landscape feature.
- Use the potential of the ground for heating or cooling.
- Channel and harness wind for producing energy and for ventilating the urban fabric.

Plant local. Planting defines a space and its function. It gives direction and identity, separation or enclosure. The species selection creates different moods or characters. Local or regional plants indicate which part of the country you are in and maintain greater biodiversity. Wherever possible, vegetation that is attractive and of ecological value must be protected. Landscape architects may use trees, shrubs, ground covers, climbers and seasonal flowers to enhance the distinctiveness and cyclical interest of a place.

Captivate the sensations. View is not the only impression that shapes place identity. Sound, smell and touch under the feet and hands also strongly affect us. Creating locations that stimulate all the senses requires answering the following questions

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[13] Eitler et al. 2013.
[14] Austin et al.1988.

[15] Eitler et al. 2013.

- **Touch:** *how does it feel?* Surface finishes and microclimate influence the atmosphere of a place. Texture is essential for surfaces that come into contact with people and are visually prominent. Designing for the sun, wind and rain makes the location pleasant, whatever the season. This means making the most of the sunny locations to lean in the spring and fall and exploit the shaded areas to sit in the summer.

- **Sound:** *How can sound create character?* Landscaping can control the level of noise in the outdoor environment. Planting can offer a screen against intrusive sounds, especially traffic. It can provide sources of pleasant background. Bubbling water in a stream, singing birds or wind rustling through the trees establish an intimate atmosphere, a moment of calm in the heart of the neighbourhood. Noise-generating operations can also animate central areas – stands, music or seasonal entertainment.

- **Smell:** *which scents can be added?* Aromas, be it flowers, coffee or fresh bread enhance the experience of a place.

Giving character to a place is creating a 'thematic continuity' encompassing a variety of components: topography, inhabitants, urban texture, public space, blocks and buildings, shape, detail, symbols, use, activity. In a mosaic of communities like, for instance, London, material, modelling, ornament, colour, skyline cornices, fenestration, doors, are all basic clues in identifying the different neighbourhoods. London places and their typical features are imaged and recognized in a cluster. The resulting 'thematic unit' is distinctive by contrast to other areas of the city and is immediately distinguishable. Many areas have a strong core, surrounded by a thematic gradient which gradually dwindles away and overlaps with the adjacent neighbourhoods, creating both local identity and continuity of the whole city.

Local building individuality can establish the basis for reinterpretation and invention. Forms of construction and layouts have developed in unique ways for a variety of reasons. They could, for example, change the microclimate or use locally available materials. Many cities have a distinctive colour that derives from their mineral environment. Neighbourhoods that draw on these origins and interpret them to meet contemporary needs will be more appealing than uncritical reproduction of international architecture. Attention to detail is crucial to the success of a place. Comprehensive design should link all scales, from the arrangement of town centres in an urban area to the texture and hue of building materials. It should answer some key questions in response to the context.

- What role will the development play within larger physical, social and economic structures?
- What will be its presence, in terms of shapes and sizes?
- How are its components organized and how will it work internally?

Images of the community may also shift according to time or the season while preserving a strong sense of identity. It is crucial to retain permanence of the neighbourhood perception across these variations. The form should create continuation between its multiple images: day and night, winter and summer, near and far, static and moving, attentive and absent-minded. The structure must be recognizable in diverse conditions, yet in a concrete and not abstract way. It is also important to maintain persistence of the neighbourhood character through major physical changes and transformations. The preservation of an old tree, a trail or a regional feature can facilitate the vitality of the place memory.

ENRICH THE EXISTING

Any project must thus improve the existing while being sensitive to its context. Designers who propose a scheme will have to communicate their comprehension of the context of a site clearly and simply. Engaging the community in understanding the context is key to a right interpretation. Demonstrating that the design has been inspired by a thorough site analysis and appropriate response will facilitate the dialogue between developers, local authorities and the community.

An example of neighbourhood with a unique identity is the regeneration of King's Cross in London. According to the King's Cross Public Realm Strategy: The area in and around King's Cross has been in constant evolution. It is one of the first 'intermodal' hubs in the United Kingdom, with connected water, rail and road modes of transport. Its character reflects its history directly,

forming one of the most significant groupings of early Victorian buildings in London. These structures have been very influential in the site layout. The historic fabric was embedded in the plan in a sophisticated manner, rather than merely preserved. One quarter of King's Cross is dedicated to culture and leisure. Every building has a new use and a relationship to its neighbours and the spaces between. The tranquillity of the canal and the views to the Camley Street Natural Park offer a contrast with the new shops and cafes in the Coal Drops (a former coal transfer point between rail and wagons and road carts) and Granary Square. A new pedestrian bridge across Regent's Canal and other links have been created to 'capitalize upon the canal's positive contribution to King's Cross and to bring life to the canal, enhance its character, wildlife value and recreational use and improve access and safety'[16].
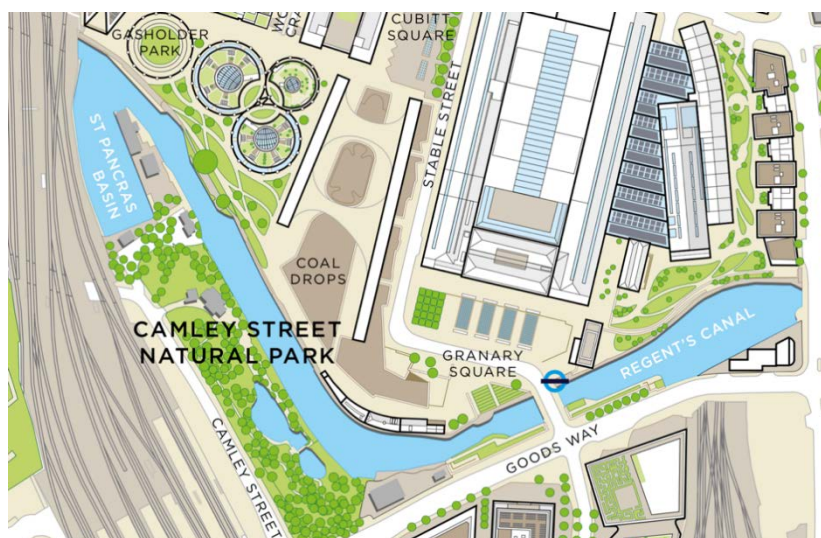
Regent's Canal in King's Cross.

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[16] Argent 2002.

Regent's Canal. Photo: © Françoise Labbé.

The green space of Camley Street Natural Park in King's Cross has been created within a relatively small space and expresses a unique fusion between central London density, rich industrial archaeology, green space and nature conservation.

Trail in Camley Street Natural Park. Right. Viewpoint, the floating platform at Camley Street Natural Park, brings art and nature closer together. Photos: © Françoise Labbé.

King's Cross canal corridor is a series of interlocking public spaces along the Regent's Canal and extending through the historic core of the estate, connecting Maiden Lane Bridge at York Way to the east and the railway bridge accessing St Pancras Station to the west. The corridor integrates the estate with the Canal, enhancing both and knitting in with surrounding neighbourhoods and communities.

Developed by Optiva Darna, led by Fadwa Sube, Vice President of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part; Anouk Legendre, XTU, Southern Part; in collaboration with Nanfang Design Institute.

The former capital of the Southern Song dynasty, Hangzhou, is a 'Shanshui' city of mountains and water. In traditional China, the positioning of the house, its relationship to the landscape and to its neighbours, were all conditioned by the rigorous yet fluid demands of *feng shui. This* topographic configuration for the city as a whole and for all its parts created an orderly arrangement of space.

French Dream Town developed in Hangzhou by Optiva Darna, led by Fadwa Sube, vice president of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part; Anouk Legendre, XTU Southern Part. Drawing: Nanfang Design Institute.

Left: On this feng shui drawing for Zhifeng village, Jiangxi province, each of the mountains, water bodies, and important structures are named as part of an auspicious composition. The embracing ranges on the sides are considered analogous to a protecting Azure Dragon on the East and a White Tiger on the West.

The art of shanshui 山水, like many other characteristic elements of Chinese art, is based on concepts from Yi Jing 易经 and Taoism. The shanshui 山水 natural landscape is therefore composed of a set of precise topographic forms, 'mountain and water', which embody these two cosmogonic units: the mountain corresponding to the yang 阳 principle and water to the yin 阴 principle. The result of Chinese attitude towards nature when applied to human settlements is unity, cohesion and powerful harmony with the surrounding site. The adoption of Taoist principles allows an optimal development of the site, a complex balance of buildings, correspondences and linkages from one courtyard to another.

French Dream Town offers two visions of Chinese architecture relationship with the landscape. The two parts have been designed by Anouk Legendre, XTU, for the South Part (phase 1), and Serge Salat for the North Part (phase 2). Both are developed for detailed design in collaboration with Nanfang Design Institute.

Far from favouring a single vision of the city, *French Dream Town* is a pluralist integrated project. It was born in the fertile area of Zhejiang Province, a breeding ground for innovation and creativity. Hangzhou represents the synthesis of the fourth industrial revolution. It revisits all the components of our environment – energy, mobility, health, climate – to take advantage of science and technology in order to provide new answers. Hangzhou is also a former imperial city which was the most populous city in the world. It was shining on techniques and the arts and is today the centre of one of China most dynamic regions. There was no better place to take this major architectural gesture: to build a district, which exploits all the codes of traditional Chinese architecture of the Southern Song dynasty, to give it all the attributes of cutting-edge modernity. 'It is by maintaining this tension between classic values and disruptive ideas that this Sino-French village of Dream Town will stage the essential components of success. First of all, it is an open space of interconnected places where a wide variety of activities can develop. It is the systematic use of the most advanced techniques and the relevant use of artificial intelligence to amplify the resonances of human intelligence. It is the use of all facets of human talent: new techniques and ancestral arts, development of the mind and body care, arts and culture as spaces dedicated to professional expertise to give birth to new ideas, new jobs, new opportunities for wealth creation.'[17] This co-construction is flexible over time. It will embrace the waves of its roofs and the warmth of its inspiration.

風水 *and harmonization with the environment*

The overall concept is reminiscent of the classical tripartite composition of Chinese landscape painting.
1. The buildings on the North Part with their greater height, their curved solar canopies, their green roofs and green walls and the translucency of their facades are like the mountain and clouds on the top of the landscape.
2. The buildings of the South Part are like a village.
3. The river is on the South

This tripartite composition creates a positive Fengshui (風水), which uses energy forces to harmonize the project with its surrounding environment.

French Dream Town developed in Hangzhou by Optiva Darna, led by Fadwa Sube, vice president of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part; Anouk Legendre, XTU Southern Part. Drawing: Nanfang Design Institute.

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[17] Jean Pierre Corniou, *Convergences* in *French Dream Town*, published by Optiva Darna, September 2019.

Franco-Chinese Mathematics and Urban 'Waves'

In architecture, mathematical algorithms have generated new 'parametric' tools with which we can now create innovative shapes and cities. Roofs in the Southern Part of French Dream Town are inspired by China but redesigned by mathematical waves. Their variations in intensity, modelled by new digital tools, will become architectural 'undulations'. The roofs reveal differences in height. They vary according to their position in relation to the life centres. This can be appreciated from afar, when you are on the other side of the river, and from above when you live in the neighbouring towers. You see the roofs rising one above the other, then lowering when you reach a square.


Sketch by Anouk Legendre.

This creates variations in the intensity of the constructions, more intense in the heart of the block, softer in the squares. Thus, the urban atmospheres are varied, inviting the visitor to go from one to the other. The shape of the roofs itself is inspired by traditional Chinese roofs. All roofs follow the same concept, the same shape, the same scale. The whole produces a large landscape of roofs, of varying heights following the mathematical lines that generated them. This creates an urban rhythm between the two bridges. We notice, while walking along the river, that the landscape thus created reinterprets in a contemporary way the roof landscapes of traditional Chinese villages. They perfectly continue the existing city while opening it up to the future. The mathematical ripple of the project reminds the dynamic ripple of Chinese 'flying dragons'… Because mathematical waves are everywhere, in cities, but also in air and clouds!

Attractive Public Realm to Experience Nature in the City

The design creates three attractive centres: two squares at the entrances to the neighbourhood, at the level of the two bridges, and a large central square by the water. These three squares open onto the river and nature as privileged spaces for social life. From one square to another, people can cross the heart of the blocks by semi-covered passages, to find the traditional scale of Chinese villages and the rediscovered nature that slips between constructions. *French Dream Town* is a natural new space, taking advantage of Chinese gardeners' skills. In this new conception of town planning, nature becomes the common thread of the city of tomorrow. The presence of water, plants, the work on shade and natural ventilation of buildings, will effectively fight against the heat island without spending energy.

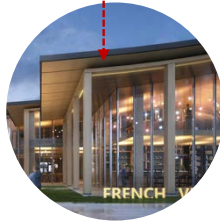*Movement lines in French Dream Town, Hangzhou.*
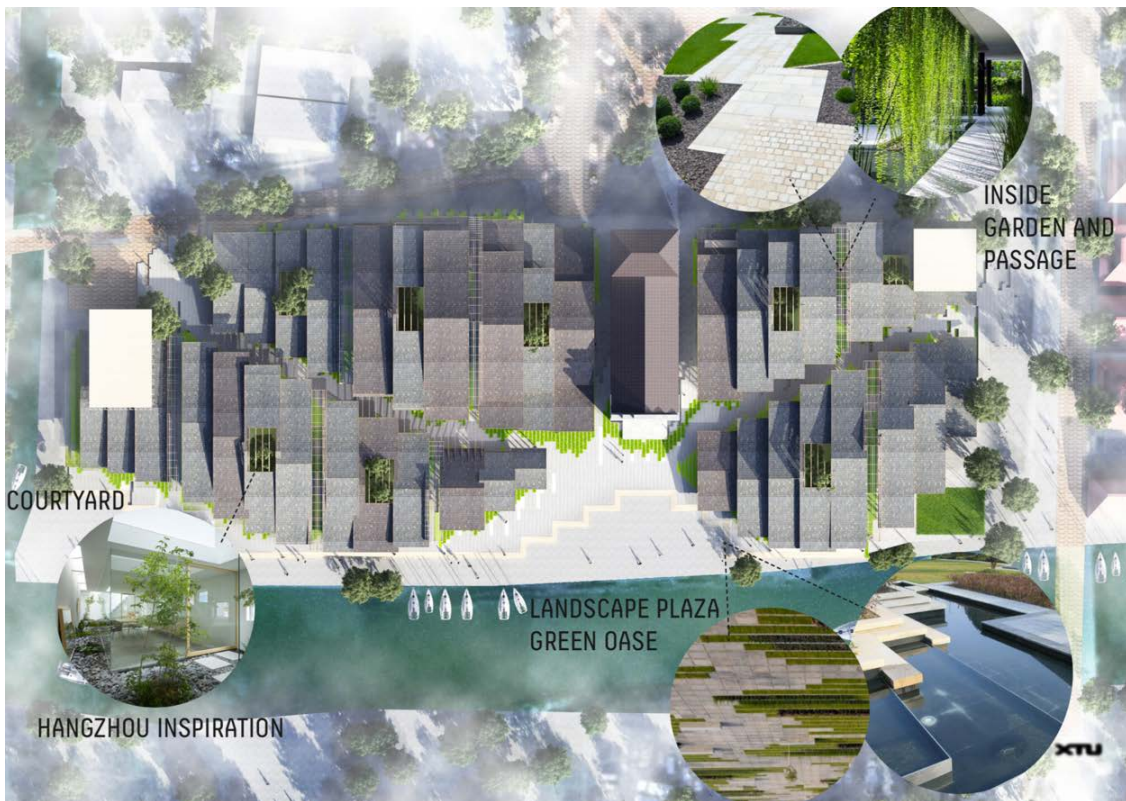
French Dream Town, Hangzhou, developed by Optiva Darna, led by Fadwa Sube, Southern Part. Design: Anouk Legendre, XTU.

Heritage of Chinese traditional craftmanship

| Overhanging eaves | Eave gallery | Curtain | Lattice window |

French Dream Town, Hangzhou, developed by Optiva Darna, led by Fadwa Sube, Southern Part. Design: Anouk Legendre, XTU. Drawing: Nanfang Design Institute.

French Dream Town developed in Hangzhou by Optiva Darna, led by Fadwa Sube, vice president of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part. Drawing: Nanfang Design Institute.

The Northern Part is inspired by Feng Shui, a harmony between human culture and nature with water, mountains, clouds and architecture elements.

The fusion of this ancient Chinese metaphysical art has been the source of inspiration for an innovative design where 'fractal' patterns have been used to create an ecological zero energy structure. The long and interacting curves of the solar canopies on top of the buildings bring a peaceful feeling, which gives an aerial feel to this part, like a traditional landscape painting. In terms of landscape, the scheme combines pathways and architectural spaces, draws inspiration from courtyards, corridors, mountains and water, and seeks a balance between tradition and modernity, urban space and nature.

The following drawings summarize the buildings' concepts.
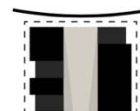

VOLUME

SKY TERRACES

ATRIUM

COMPOSITION

ENVELOPE
- Lighting
- Energy efficiency
- Vertical Greening

French Dream Town developed in Hangzhou by Optiva Darna, led by Fadwa Sube, vice president of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part; Anouk Legendre, XTU Southern Part. Drawing: Nanfang Design Institute.

The volumes are defined as square enclosures in which internal volumes and circulation match the multiplicity of different functions. Inside large open atria give natural light and ventilation into the buildings, and ensure vertical public circulation through iconic helical staircases.
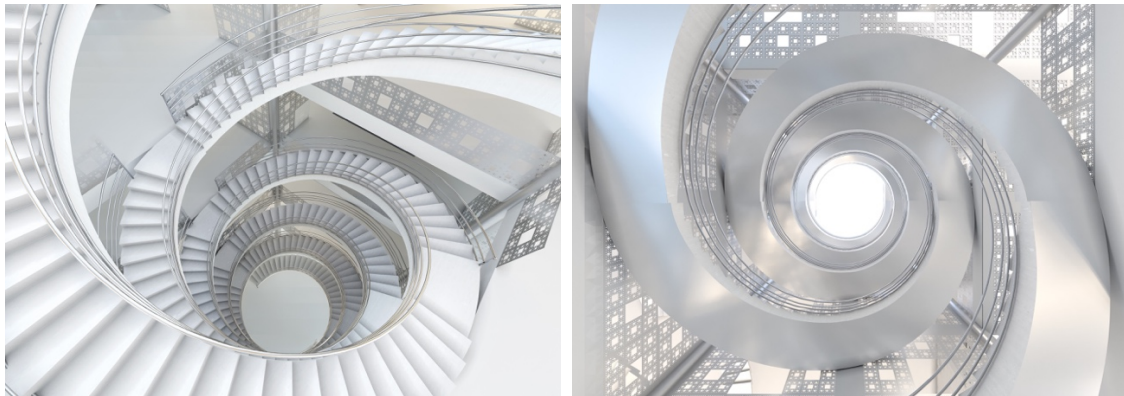
French Dream Town central atria. Developed by Optiva Darna, led by Fadwa Sube, vice president of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part. Drawing: Okenite.

The buildings complex cubic volumes alternate openness and closure creating iconic facades on all their sides. The skyline is defined by a complex and rhythmic composition of curved photovoltaic canopies reminiscent of Chinese roofs. They both supply solar energy and shade the facades, reducing the solar gains in summer.

Hangzhou French Dream Town project is based on the encounter of contemporary zero energy design and Taoist principles: a rhythmic alternation of opposites, Yin and Yang 　(阴 阳, 陰陽), void and fullness, interior and exterior, ephemeral and tangible. The facades of French Dream Town Northern Part are composed by a variety of transparent or translucent glass, and light screens made of glass and perforated metal. The external volumes are defined by diaphanous facades of glass, translucent glass, glass with serigraphy, glass with perforated silver screens, and punctuated with outdoor terraces. The composition looks for harmony and a dynamic equilibrium of the facades on the outside. It creates

a variety of light conditions in the inside, giving a sense of direction and orientation in relation to natural light within the buildings.

French Dream Town central atria. Developed by Optiva Darna, led by Fadwa Sube, vice president of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part. Drawing: Okenite.

French Dream Town developed in Hangzhou by Optiva Darna, led by Fadwa Sube, vice president of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part. Drawing: Nanfang Design Institute.

In Chinese architecture, the separation and integration of inside and outside represent the dynamic alternation of emptiness and fullness. In many traditional dwellings, the interior and exterior communicate with each other. Clerestories, doors and windows function as transitions between exterior and interior scenes. Through small windows of diverse shapes, sunlight penetrates inside and casts shadows as in the art of paper cutting. The light and the scene outside, through the lattices of windows, are reflected in various images. Window lattices not only bring in light from the outside but also produce a feeling of separation.

Garden in Suzhou. Photo: © Serge Salat.

French Dream Town developed in Hangzhou by Optiva Darna, led by Fadwa Sube, vice president of Systematic, Paris Region Digital Ecosystem. Design: Serge Salat, Northern Part. Drawing: Nanfang Design Institute.

For Taoist thinking, it is only when there is a certain amount of intangible (greyness) in colours that clarity is naturally preserved. Greyness is the original reality of colours. It is negative in appearance, but positive in potential. It is not seen as colours, but it is 'colours.' Whenever a colour contains greyness, it has the intangible content of its opposite and thus is capable of harmonizing with it. The more greyness a colour has, the more it loses its tangible being and the more variety potential it has.

Chinese architecture emphasizes tonality, highlighting variations in textures and colours, fragmenting surfaces with countless contrasts of materials in dynamic state, while keeping tones in constant harmony. The human, spatial and spiritual scale is given by the extreme importance attached to the very nature of the materials; when these are visible, they reveal a great density of textures (rough, matt, polished, natural and man-made) and subdued colours.

Several expressions designating the perceived landscape emerge in parallel during the fourth-fifth century: feng jing 风景 and feng guang 风光. They are composed of two characters: wind and light or light of the wind. It signified the brightness of the sun on the plants after the rain, agitated by the wind; the wind then seemed glowing and radiant.


Garden in Suzhou. Photo: © Serge Salat.

The Void and the breaths of clouds are critical elements. The Void which penetrates on all sides participates in the evocation of the 'Median Void.' In Chinese Taoism, it makes play the vital energy within matter.

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Connecting the interior and the exterior is an artistic method used in Chinese architecture. Open work stone or brick partitions and lattice windows act as spacing to produce an effect of both distance and visual integration. A verse from the poem by Chen Jianzhai of the Song Dynasty, 'The flowers and leaves shine on the other side of the curtain', shows that the curtain reflects the outside spectacle. The combination of separation and connection can be achieved through a bamboo curtain, a door or a window. Clerestories, doors and windows can divide the outdoor scene into several sections. A similar effect is achieved in French Dream Town with perforated aluminium panels that let light enter into the buildings while casting shadows and blurring the limit between outside and inside.
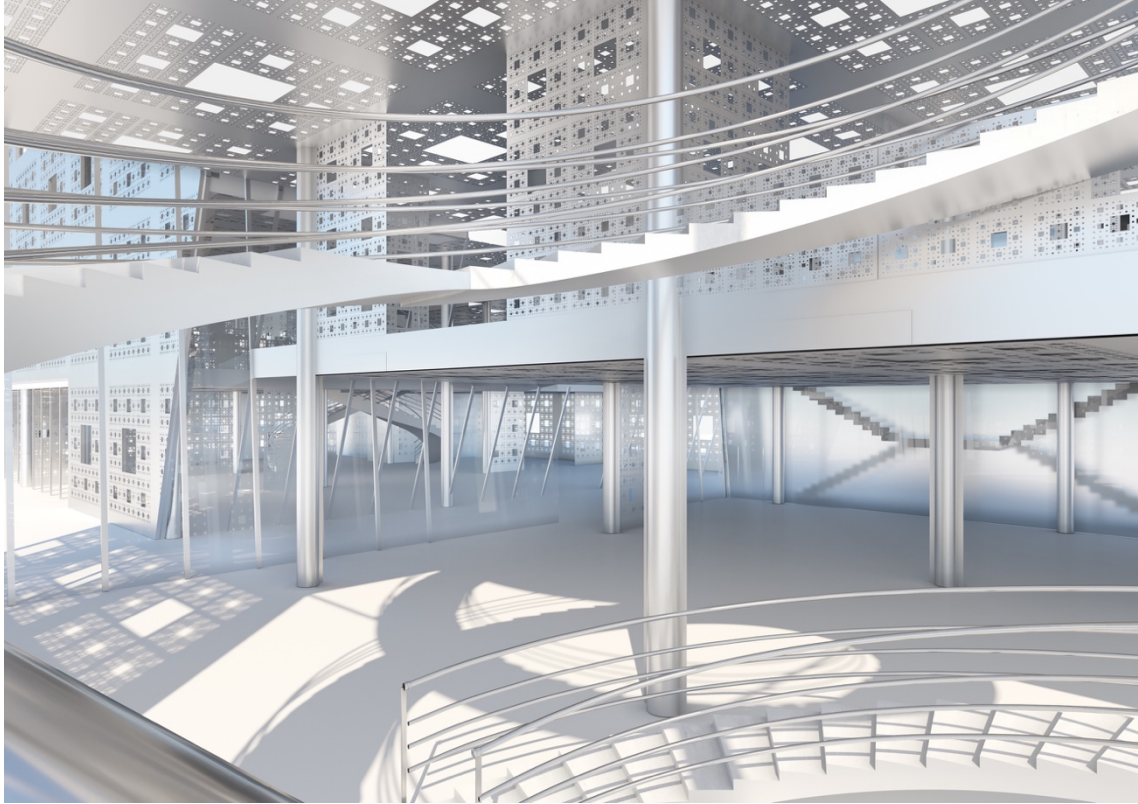
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