A diagram of public spaces within urban landscape as a strategy for sustainable urban planning in Chinese cities. 中国城市永续发展规划策略的都市公共景观空间图。

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Abstract:
Destruction of historical urban fabric in many Chinese cities and towns, without the possibility of its recovery as an urban asset, leads us to consider alternative strategies and criteria for formulating new urban projects, using creative urban planning instruments and strategies to provide a sense of place and identity to the urban landscape. The challenge is to set up an urban structure that constitutes a spatial reference system, a structure consisting of a set of urban landmarks that construct a system of related public spaces, endowed with collective significance and identity. Such a network could include a wide variety of urban typologies and natural elements. An important result of this strategy would be the recovery of the social and cultural values attached to the natural landscape in Chinese civilization. Hangzhou city will be analyzed as a case study.

Keywords: spatial structure, public spaces, urban identity, Hangzhou.

摘要：

中国许多城市乡镇中，历史悠久的城市结构被破坏，这一城市财富失去了得到恢复的可能性，这让我们去思考替代性的战略和用以拟定新城市项目的标准，运用创造性的城市规划手段和策略为城市景观提供场所的意义和身份认同。

我们面临的挑战是建立构成空间参照系的城市结构。这一结构由一组城市地标组成，构建出一个与公共空间相关的系统，赋予集体认同的意义和身份。而这一网络包括广泛的一系列城市类型学和自然景观元素。其中一个重要意义是中华文明中自然景观的社会和文化价值观的复苏。在此我们以杭州为例进行分析研究。

关键词： 空间结构，公共空间，城市定位，杭州

1   Introduction

The destruction of historical urban fabric in many Chinese cities and towns, without the possibility of its recovery as urban asset, leads us to consider alternative strategies and criteria for formulating new urban projects, using creative urban planning instruments and strategies to provide a sense of place and identity to the urban landscape.

As a strategy for the future it is necessary to overcome the state of mourning for the loss of built heritage and adopt an attitude of pragmatism, by seeking new ways to address the non-cohesiveness, fragmentation and urban scars that the urban fabric currently suffers. This does not imply abandoning the need for protection and recovery of the urban heritage sites, already referred to in existing figures of protection, but trying to define a purposeful and instrumental attitude that addresses these urban problems.

If in many cases it is not possible to construct a cohesive urban design based on the landscape and the pre-existing architectural legacy, we propose an alternative path and sustainable urban planning strategy; to set up an urban structure that constitutes a spatial reference system. A set of urban landmarks would construct a system of related public spaces, endowed with collective significance and identity.

2 Justification and theoretical background.

A question arise as a hypothesis for the proposal of a diagram of public spaces within the urban landscape:

Can a diagram of public spaces provide a conceptual tool providing physical and symbolic cohesion of the urban areas in some Chinese cities? The cultural and social values of natural landscape in Chinese civilisation are an asset to be recovered, as China was the first landscape civilization [1]. Landscape is a resource which might counterbalance the loss of built heritage and lack of cohesiveness in the urban fabric. One of the hypotheses of this text is to make explicit the link between man and the natural landscape in urban systems using a strategy of diagraming public spaces as an instrument of intervention in the territory. The endogenous resources of the landscape should be consider as an assets to recover, as well as a check landcape capacity in front of the intense and rapidly occurring antropic territorial processes.

This diagram proposal seeks to add to a scientific urban planning approach a phenomenological perspective inspired by the ideas about the natural landscape and human settlements of Agustin Berque[1] and the concept of *mediànce*①, which give to the landscape a distinctive cultural, social and subjective identity of its own. Moreover, in Chinese culture landscape builds a distinctive social construct [1]. This approach will be complemented by Lynch's theory from The image of the city [2], where he exposes the idea of how **giving visual form to the city and shaping its environmental image contribute to its physical legibility and the construction of a mental map of it.** Such an approach may allow us to reflect on globalization dynamics that lead to an uniform, quantitative and tecno-urban planning theories that in many cases don't pay attention the regional features of the landscape.

M. Elvin described in an eloquent way the relationship between man and landscape in Chinese civilization, which still maintains some relevance with what is happening nowadays with territorial urbanizing processes: "Through more than three thousand years, the Chinese refashioned China. They cleared the forests and the original vegetation cover, terraced its hills slopes and portioned its valley floors into field ... At the same time there developed among the elite an artistic and philosophical attitude toward the landscape that saw it as the exemplification of the workings of the deepest forces in the cosmos". [3]

3 Objectives of the theory diagram.

The challenge of this theory is to **build an urban spatial narrative** that incorporates public spaces and elements with civic significance. Conceiving public space not as individual or singular projects, but rather as parts of a diagram of connected public spaces, **configuring an intelligible urban structure** that is owned by its inhabitants; a network that includes a broad set of urban typologies and natural elements, and which will depend on the physical geography, nature and scale of each city, town or urban system. This strategy includes as an important asset the **recovery of the social and cultural values of the natural landscape in Chinese civilization.** Some significant natural elements such as: mountains, lakes, rivers, forests, or routes in the landscape, have furnished the raw material for the symbols and collective memories of group communication [2] and have created collective spaces that hold an important role in Chinese social life: Diaotai hills and West Lake are important examples. The elements of the diagram could include: **A**-elements of physical geography and natural enclaves: hills, rivers, canals, lakes, green corridors, natural protected areas; **B**-seasides and riverbanks, squares, parks, gardens, natural elements and scenic locations; **C**- pedestrian and traffic restricted routes and trails; **D**- public facilities and distinctive architectures; **E**- some leisure and commercial activity areas.

The concept of diagramming public spaces could constitute a conceptual tool for intervention bridging the gap between the abstraction of the current large-scale strategic Master Plans proposals to smaller scale of urban planning projects: intervening in administrative spatial units within an intelligible spatial frame with clear legibility at a human scale. What would be the objectives and strategies of such a proposal?

A-To create a spatial network of significant urban locations connected by a series of: green corridors, traffic restricted routes, pedestrian trails, bike paths, bridges or natural landscape landmarks. **B**- To construct a skeletal frame to provide physical continuity to the heterogeneous and discontinuous urban fabric that is the result of the transformative policies of the Post-Maoist era. **C**- To act as a therapeutic

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① A. Berque, *mèdiance* concept derives from geography influenced by the Phenomenology. The milieu is not defined as an object but rather a relationship, the relationship of a community with its environment.

strategy, reconstructive surgery that will act as a suture for the lack of cohesiveness and discontinuity of the urban structure. **D-**To constitute an urban strategy, a tool that can help build the necessary urban form in those under-served, small-scale areas which lack urban spatial structure, distinctive urban elements or a definite urban identity. **E-**To recycle those urban and natural landscape elements that can contribute to reinforce the geography of the collective memory. **F-** Where possible, to retrieve and incorporate into this spatial structure the traces of the city's foundational structure, such as moats, main axes, remains of ancient city walls. **G-** From a social point of view, to constitute a compensatory mechanism for the spatial deficits and shortcomings of urban quality which affect a significant percentage of the population because of the huge income differences that currently exist in the cities.

4 Process and methodology.

The implementation should be based on a process with the following steps :

1. Analysis and diagnosis: assessment of the cultural and social values of the landscape; scientific assessment of the quality of the landscape; recognition of significant sites and meaningful places; identification of weak points and unbalanced areas; bottom up initiatives concerning social perception of the urban landscape.
2. A diagram project as a key tool: conceptual and design guidelines which could be implemented in the Master Plan and other planning documents, which propose design solutions and patterns; medium and small scale spatial design units to be developed within the urban area.
3. Implementation: scheduling of development; efficient process for urban planning governance to engage all stakeholders —political, administrative, economic—taking part in the process.
4. Monitoring of the process and field assessment of the results.

A careful assessment should be done of the social values of the landscape. The evaluation of the social landscape has a relationship with the cultural landscape and its perception and interpretation by a community, but it is even more important be aware of the absence of this relationship.   Monitoring should be based on direct systems; compilation of information linked to the objective and subjective perception of the inhabitants and their environment [4]. One of the results of the social value of the landscape and its physical readability will be the capacity -or difficulty- collective construction of a mental map of the city system [2]. The resulting map will be essential information to the construction process of a **socially significant diagram**.

5 Hangzhou and the Binjiang district.

Hangzhou is   presented here as a reference case, in which a **diagram of public spaces could be used as a medium scale planning tool** to enhance and develop the main strategies and arguments of Hangzhou Master Plan. This spatial frame could be a key tool in the complex objective of bridging between urban and periurban areas. The urban layout and open space system of the Hangzhou Master Plan can be described conceptually as[1]:

"Direction of urban development: urban expansion to the east; tourism expansion to the west; development along the riverside and across the river. "Southern extension, North Transferring, Eastern Expansion and Western Precedence" is the urban spatial development strategy, (with) which (come) implies the structure "East active, West Peaceful, South New, North elegant and Middle Prosperous.

Urban layout: from(the group with) the old city as the core to the network-based cluster groups with Qiantang River as the development axis(to develop along) and cross sit. With a point-axis expansion strategy and green (ecological) spaces between groups, the open space structure "One main City, Three Sub-cities, Double Cores, Double Axes, Six Groups and Six Eco-belts" is formed".[5]

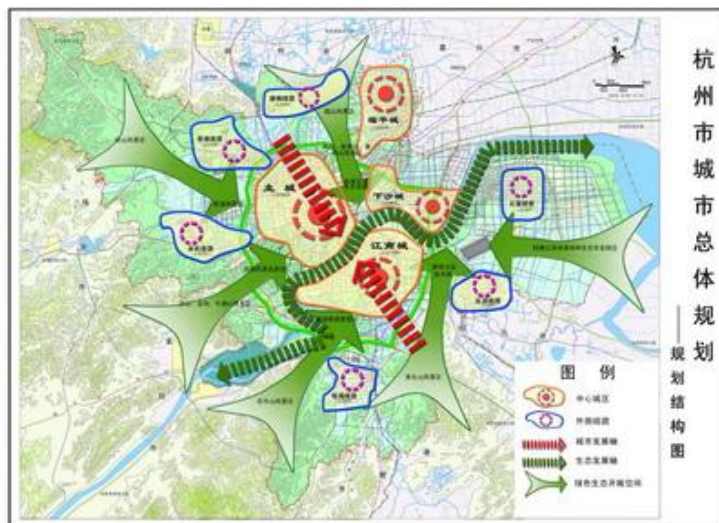[1] See Hangzhou Master Plan chapter: Urban size and layout structure

Figure 1: The planning structural drawing.
Source from: Hangzhou Urban Planning Bureau.

Hangzhou is a paradigmatic case study, an example to follow in other Chinese cities, as its progressive Master Plan takes advantage of its **rich landscape endogenous resources and cultural heritage as an argument to provide a distinctive and clear territorial and urban structure**. Great efforts have been made to protect and restore sensitive ecosystems, such as the outstanding cultural landscapes of the West Lake area but also the Xixi wetland Zhuantang green area [6]. But at the same time there are weak points in some of its peri-urban areas due to urban-rural, economic and social unbalance, resulting from the pressure of rapid urbanization processes, the predominant role of economic growth, limited validity of legal planning instruments and lack of unified land use administration [6].

The central and periurban area of Hangzhou has a collection of great historical, cultural, natural and touristic features of diverse scale and character, which could constitute the structure of several connected diagrams[①]: the West Lake scenic area, the tourist area and natural park of the Xixi wetland, towns such as Tangqi or Jinhua, the South Song Dynasty city site, the Grand Canal of Hangzhou-Beijing, the group of protected historic streets and historical buildings, to mention some of the important sites. All of them make up the framework upon which an urban spatial narrative could be built, which could facilitate the **construction of diagram of public spaces of great quality, clarity and spatial identity**. For example, the West Lake, with its clear circular organizational structure, gives access along its route to distinctive sites that surround it.

However, this urban and natural heritage is not a common situation in many places, moreover many cities and sub-administrative units —sub-cities, towns, villages— face the complex challenge of urban growth from suburban areas and the need to provide these suburbs with an urban form and civic identity. For this reason, analyzing the new Binjiang district can be interesting and may allow for the extrapolation of some strategies and ideas to other new areas without such an important urban heritage, in order to build an urban form that could be apprehended over time as a pattern of high continuity with many distinctive parts clearly interconnected [2]. What would be the objectives of the structure of such a diagram of public spaces?

[①] See Hangzhou Master Plan chapters: Protection of Historical and Cultural sites; Scenery and Tourism; Protection of West Lake Scenic Area.
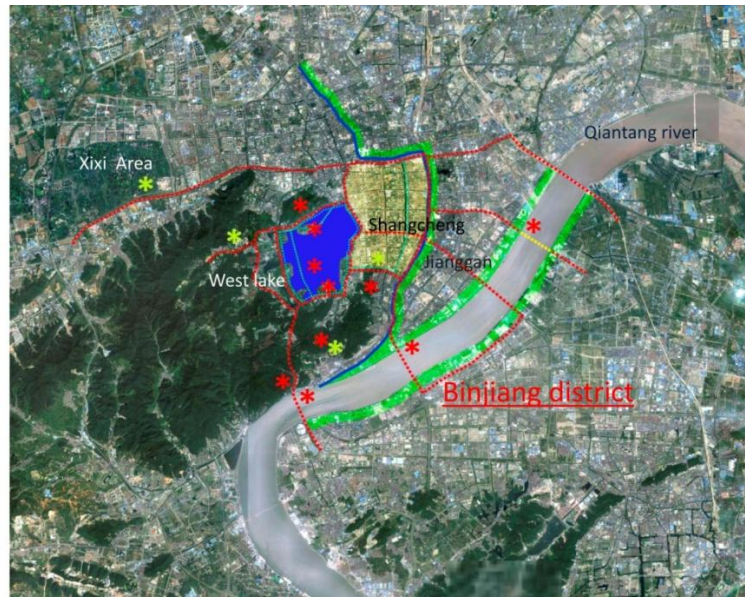
Figure 2: Diagram of the Hangzhou West Lake area.
Source from: author

5.1 **Targets of the public spaces diagram in Binjiang district** will focus on different issues which can contribute to shape new typologies of public space and build a spatial frame: land use and function; connectivity, transport and mobility; water systems; ecosystems and green areas; productive and technological areas; public facilities; residential areas; landmark references:

- Enhance connectivity between the city core, Jinaggan district, Qintiang riversides and new Binjiang area. Create sequential spatial network of significant urban locations that constructs a clear and legible perceptual and mental map of this large and complex peri-urban area and its surroundings.

- Promote efficient and clear network of green corridors, traffic restricted routes, pedestrian trails, bike paths, bridges or natural landscape landmarks, which link significant urban locations and improve public transport mobility. Adjustment of the traffic scale network capacity and dimensioning it to real traffic use would be recommended.

- Promote intermodal public transport nodes and networks—train, metro line and bus— as new centralizing areas, and new typologies of public and relational places.

- Include eco-agricultural areas and communities as a part of landscape image and recognize their environmental and cultural values [6], which could help bridge between the previous rural character of the area and new built areas. Design social transitional spaces between these and the newly built areas.

- Enhance network of ecological spaces that should be preserved, protected and included in the spatial network, with social activity profile (ecosystem protection, ecological education, leisure activities) and which could be used not only by local residents, such as the White Horse lake and Creative zone [6].

- Encourage the water system and waterside green spaces of the district as spatially symbolic elements, capable of generating new event places of social and cultural significance, as customary in Chinese landscape culture.

- Improve the quality of green parks as preferable to large scale green areas [6], together with a careful forestation project which takes into account a new ecosystem configuration. Improve these new parks and green areas by thorough design that provides sense of place and collective significance, recalling the excellence of the ancient gardens.

- Set up small-scale civic nodes distributed equitably within the area, with public services, commercial areas and leisure facilities, as an informal social arena.
- Avoid mono residential areas, with introverted compound typologies, which don't contribute to shaping the public realm. Encourage mixed use residential areas, that allow a complex and more creative use of private and community spaces.
- Design community spaces, promote the transition from the enclosed introverted space, characteristic of the Chinese spatial culture, to a civic open space participated in by the community.
- Promote creative and cultural industry infrastructures, as a means to build iconic and high quality buildings as well as open air spaces that behave as spatial references to be recognized and could have a mixed public and private character.
- Design urban transition spaces between the High Technology Industry Development zones, to avoid urban segregation and the zoning of the most emblematic productive areas of the zone, which should share other mixed use activities, as residential areas.

6   Summary remarks.

Despite the limited content of this paper, some reflexions and tentative conclusions can be extracted. The scenarios in Chinese cities today differ greatly and the landscape quality of the cities and their potential for linking physical and symbolic milieu is varied as well. As a result the procedure and implementation strategies of a public space diagram in each case will be related to each **city's specific resources** and potential, which will inform **a distinctive diagram proposal in relation to its quality and efficiency**. In relation to this final reflection, I'd like to comment on the following questions about   the nature of public space in Chinese cities of the 21st century: Is it possible to recover the landscape in Chinese cities where the territory with its distinctive features has been transformed or destroyed due to the urbanization processes? Might the public spaces within nature produce a sense of place that urban areas lack, because the closed community space is recognized as the essential social realm in Chinese spatial culture? Can these spaces become the arenas and the framework for civic life?

Finally, this paper presents a conceptual and instrumental theory that assumes that sustainable development is not only a material concept, but a social and cultural challenge oriented to human well-being, and has to be built harmoniously, uniting efforts between public and private agents, because addressing urban growth will be one of the major challenges of the 21st century in China.

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