Abilities and Attitudes for Sustainable City Creation _

Contemporary Arguments for a Non-Linear Learning Methodology

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ABSTRACT   **The definition of urban areas, the space in which urban functions are developed, has extended in recent decades to practically include the entire territorial space. In it, we can find cities of all sizes and ranges, as well as natural/agrarian landscapes or hybrids of the two. We could therefore define our "work space", in the sense of the framework of our discipline (architecture and urban planning), as a unit within a network composed of a sum of 'territorialities'.**

From this point of view, the different parts of territory need to be unlinked and understood because they are full of connections between spaces, times, and different themes. These are the kind of 'urban' territories that demand an architectural project. Even further, they often scream for one. Nevertheless, what would be the most suitable project for this kind of hybrid space? What kind of methodology should we employ to cope with the complex issues involved?

The objective could be to encourage a change in mentality that transcends, or at least seeks to implement, a method for constructing 'criteria of intervention' rather than concrete measures. These methods should be both sensitive to and capable of selecting the most appropriate ways of approach, incorporating certain "keys" into the design process and planning. This is why, in the frame of our workshop, guidelines are proposed for a project production based on sustainability criteria that take advantage of a multi-scalar, multi-temporal methodology, leading to the exploration of possibilities of incorporating, in the most conscious and creative way, these tools of discovery and evaluation of alternatives.

KEYWORDS   architecture, urban design, sustainable development, multiscale, creativity

1   # What is Urban: The Contemporary Architecture´s Work Space

The contemporary perception of what "urban" actually is, means we must include the intermediate spaces and the relationship between their parts: highways, service areas, ex-urban growth, residential spaces associated with natural parks, industries, technologies, and thematic spaces - an increasing variety of possible functions that flood the inter-urban communication channels. The Italian geographer Giuseppe Dematteis has described the approaches to territorial space (1990) in this way. It would be, in accordance with "the patchwork metropolis" defined by Neutelings (1994), a city of cities of underlying fragmented condition that, however, are often composed of both coherent and encouraging links with those parts of different origin.

On the other hand, from an architectural point of view, there is a school of thought and a practice that tries to keep up with this pace of spatial change. Architecture schools frequently use the concept of 'scale' to attract necessary, specialised, and different approaches and compositions. The overlap of different disciplinary fields, represented by subject blocks of study (Architectural Projects, Urban Planning, Construction, Installations, Structures, etc.), becomes a non-defined system of sum or combination for the students. Times, rhythms, and proportions between these different fields are not fixed, and their degrees of involvement are responsible for the success or failure of urban planning learning in architecture schools.

In order to meet the challenge of the interrelationship between architectural and urban projects, we must identify a number of key aspects of the discipline, which can reveal necessary features for further research. The complex territorial reality needs a set of appropriate mechanisms that explore the possibilities in the most conscious and creative way to facilitate discovery and evaluation of alternatives.

Such connections are presented in this text as "key project variables" or "methodological guidelines". They provide spatial disciplines with a means of recognising forms and functions in contemporary cities while providing a method of dealing with them, keeping the focus on the learning process in architecture and urbanism. This, as we shall see, will involve investigating their different dimensions -scales and times- and understanding and measuring, not only the physical space but the imaginary space or "mind map" that ultimately defines it. This concept is part of the language of architecture that emerged after post-structuralism (Verga, 2006) and was based mainly on the 'environmental image' of Lynch (1970). It can be defined as a generalised mental picture of the outside world held by an individual: "as a result of an immediate sensation and memory of past experiences at the same time [...] for interpreting information and guiding action".

2   A Scalar Issue: The Design of a Spoon

Scalar considerations are common in architecture schools and among other faculties such as engineering and geography studies. Looking at courses on architecture design or urban design, certain questions are common in the learning process and arise persistently. These questions are mainly related to how relationships between various subjects, scales, or matters should be tackled. Of all those recurring questions that people involved in the classroom usually hear, whether in the process of learning or teaching, it would be interesting to choose one of the funniest ones according to this author: Is designing a spoon the same as designing of a piece of a city?

To some extent, it can be considered appropriate not to answer this question, because the vagueness of the answer would not be useful for the learning process on design. There are obviously reasons to think that the design of a simple spoon is not the same as considering a whole urban area, or even to think that it is not the same as building a small house in the country. The supporters of the 'Spoon Designers Union' would probably fervently defend their ability against any such inference and according to some conclusions from fractal geometry, it is quite right to assume that there is not such a big difference. If we delve deeper into what seems trivial in the design of cutlery we find that it should not be too heavy, nor too light, it must be strong, fireproof, and waterproof; it should be pleasing to the eye, to the touch, and to the taste (better if they taste of nothing). If we talk about the aesthetic, traditional, identity, and ornamental considerations, the little world of the spoon widens infinitely.

Firstly, it is true that tools, methodologies, and the importance of arguments are different, depending on the type of design or plan. In this sense, what really becomes interesting is the journey between these differences: recognising the small nuances as well as the categorical and marked contrasts between scales.

On the other hand, similarities usually arrive by themselves, as Oscar Wilde said, "let us observe the trivial, for the essential will come to us alone" (1889). The similarity between things will normally be revealed without us having to strive for it. However, at the start of a project, it is a fact that the precise scale of your work and its mechanisms need to be taken into consideration in order to make good initial decisions and in order to decide the different phases in the process of designing it. In other words: "*There is, essentially, a breath of optimism, of naïve confidence in the richness of urban events (urban in the general sense, without obviously accepting models). A confidence that is probably born from the same fervent look with which the wise astronomer scrutinizes the firmament*" (Solá-Morales i Rubió, 2008).

According to the above, it would be right to say that a good lesson about spoons should teach city architects and planners a lot, for the content on similarity is guaranteed and the journey of difference is clearly enriching. Therefore, it is frequently convenient to place students

on moving ground, relocated from the central subject of the course. It is similar to how a good basketball player marks an opponent by moving away from him, rather than by rushing at him, in order to observe his movements or make him believe that he can move in one direction where, in fact, he would finally be easily intercepted. What is interesting in this apparent freedom of action is that it is paradoxically provoked by a centrifugal journey that will get closer and closer to the heart of 'the problem'.

From spoons to facts. Taking into account this positive journey, between big and small spoons or between the design of a complete set of cutlery and the last dessert spoon, all of the elements of their design should be considered, though not equally. Moreover, that same displacement works on urban territory 'design'.

The final objective could be to generate a change in mentality on the matter of urban things that transcends or at least seeks to implement a method for constructing 'criteria of intervention' rather than concrete measures. In order to set the basis for a kind of guide for that purpose, the references and examples included in this chapter are an accurate reflection of the increasing possibility of an 'urban architecture', as a way to name that architecture committed both to the city and to itself, with a multi-scalar attitude.

2.1 ## Multi-Scale Projects, Prospective Mapping and Creativity

Sustainability is one of the clearest challenges that urbanisation must pursue in the next few decades. The current paradigm should provide us with base guidelines containing specific criteria, information, and a rich variety of representations. These guidelines will provide information to students, designers and experts on the current territory orientation. They will guide them towards a very open understanding of the habitats and their possible projects.

However, for all of this to be possible, it is important to permit the 'desired' territory to emerge and lead to more sustainable cities in a creative form. In this sense, three different methodological assumptions are proposed in the search for key patterns on urban design for creating a contemporary approximation: a) the importance of an inherently multi-scale design exercise; b) the generation of prospective and interesting cartographies, as a means to produce knowledge, and c) the recognition of 'the project' as a creative act.

In relation to the first point, in order to address the territorial complexity described, it is necessary to reflect more than ever on the ability of the design process to move between scales. Many failures as a practice are due to a lack of an internalised 'MULTI-SCALE VISION' (Rivas, 2006). The fact that, over any point of the territorial space, many scales of reality act at the same time or intermittently, requiring an additional explicit and intentional effort to achieve the objective

framework of the intervention. In this way, many exercises in urbanism and urban architecture, both plans and designs, have inordinately dealt with regional or supra-municipal economic scales while neglecting local relations. Many others, entwined with immediate concerns or initial demands of the program, have not taken advantage of the geographical logistics or larger scales that arise during the process of generating plans or projects.

FIG. 2.1 Local framework for the city-street in Málaga *(Rivas, J., 2015)*

"The first step in understanding the adjustment grade for different urban elements of the study area is to confront them directly, obtaining a spontaneous superimposition that offers us a great variety of relationships. This is the grouping of space around a facility, the coinciding of a metro station and the routes of various bus lines, etc. which, the same time, offers us an opportunity to observe an absence of accord, or gaps: lack of public open space next to the bus stops, dense areas where facilities become very inferior, super-accessible areas that are under endowed, etc. All of these graphic conclusions are important when trying to differentiate distinct places that compose the area of study and then to assign qualities and defects by which to judge them. […] In the study area there are necessarily different possible groupings of urban elements like empty spaces, recurring spaces, redundant spaces, inaccessible spaces, dense zones, and areas of opportunity." (Rivas, 2015).

Secondly, to operate in a contemporary space that is full of contradictions and differences, we must reshape the meaning of CARTOGRAPHY, finding the necessary skills to mix instruments available to us. According to the most remarkable research from thinkers on urbanism in the last century, from the universal Scottish biologist Patrick Geddes (2009), to the American urban planner and author, Kevin Lynch (1970), the American architect and theorist born in Buenos Aires, Mario Gandelsonas (1999), or one of the most renowned urbanists and professors in IUAV (Istituto Universitario di Architettura di Venezia.), the Italian architect Paola Viganò (2001), urban design has been trying to approach territories from a 'compiling' perspective for decades, disentangling them and putting them back together over and over again (See Figure 2.1). This involves constructive methods that distinguish the parts or assembly components, value their importance in the creation of hierarchies, and lay the foundation for the creation of special areas of intervention. Thus, it is possible to speak about the need for a 'prospective cartography' that does not underestimate the capacity of the progress of the project in the diagnosis and analysis phases. These cartographies are collective visions of reality or scenarios, which are built "with critical capacity to select the past and with long range vision of its use and usefulness criteria" (Solá-Morales i Rubió, 1981).

Thirdly, and as a result of CREATIVE ATTITUDE, the critical position, and freedom of thought are imperative in urban architectural projects and urban planning. This means that, in as much as there is a need to obtain and manage information accurately, well contrasted analysis of urban territories must be compatible with allowing urban facts to approach the project, influence it, or even determine its outcome. This concerns a line of 'research by design', which is present in some schools of architecture, highlighted in Europe (TU Delft, IUAV di Venezia, or ETSAB-UPC in Barcelona, among others) (Meyer, 2005). This would lead to a way of creative designing that contains qualities or capacities that are relational or synthetic, like abilities of innovation and development of new categories oriented to a contemporary urban design, which would be useful in the learning context.

3   Attitudes, Modes and Techniques for City Creation

The progress of the work in the fields of knowledge described above always counts on a number of fundamental components: enough information and a well-contrasted analysis of the urban territory where we are developing the work; an account of how things happened over time to become what they are today; the management of this information and the ability of those instruments that allow learners and designers to assimilate it and create knowledge (Trullén, Ladós and Boix, 2002). In addition, attitude, stance, and freedom of thought are fundamental when dealing with urban space. It is necessary to let the urban facts come closer to us. That means possessing some of the same values and ideals as the representatives of the society, not forgetting that the work is for them.

Creating cities as an urban whole has been one of the most challenging jobs throughout human history. If you approach this using Ervin Galantays historical pathway (1975), it is possible to observe the key moments and temporal leaps, as well as a number of consistencies in their foundation. Cities such as Mileto (479 B.C.), with its linked and sloping grid of built squares in the bay; Bagdad (761 D.C.), locked in a 'divine' circle; the strength of Vällingby (near Stockholm, 1954) and its centre/square over the railway station; the beautiful foundations of Timgad (100 D.C.), Savannah (1733) and Adelaida (1823)... the belief in the shape of Brasilia (1956), with its bow and arrow; the creative rationalism of Le Corbusier in Chandigarh (1951); the strict equity of New Delhi (1911); the pieces/characters of Cumbernauld (1955); the sustainability of Hook (1883) with its pedestrian network, which give a very rich palette of creations, along with the involvement of technicians and politicians, reflecting societies ready to begin something new.

All of these are skills or attitudes that served and must serve, now more than ever, to create or develop cities, bearing in mind the current necessity to include more complex variables, such as sustainability and climate change, heritage values, new social and economic issues, among others. In the learning context, assuming its specific condition, each attitude or ability needs to be considered and upgraded to be consistent with the type of design, scale, etc. But it is not possible to ignore any of them.

Each of them is based on the perception of different urban/architectural projects. It is true that they are always global actions, but if you pay attention to the partialities, the intermediate areas, places, neighbourhoods or crossroads, from an appropriate distance, they are also able to manage this totality and achieve a grade of self-sufficiency that permits them to be integrated into bigger entities.

They are finally presented in three different groups: attitudes, modes, and techniques (See Table 3.1).

BLOCK → ABILITY/ATTITUDE → DESCRIPTION → 20ᵀᴴ CENTURY		
ATTITUDE	RELATIONAL	Search for Relationships between spaces, long and short, continuous or separated distances / Relationships between times: vindicating and protecting the fragile past, attending to the present moment, anticipating scenarios and promoting futures / Definition of relevant relationships and priorities
		The Industrial City by Tony Garnier (1917)
	EDUCATIONAL / BROAD-MINDED	Creation of positive, useful, and diverse space that contains and spawns future opportunities / Spaces from a difference that respond to specific conditions of the context and the proposal / Tones of space.
		Tapiola (1950s and 60´s)
	INNOVATIVE	Focus on architecture as responsible for forms and functions integrated into urban space. Territorial and urban corners. Generate integrating conscience, in the social and the spatial, between classes, between artifice and nature, between the central and the local.
		Quinta da Malagueira, Évora. Alvaro Siza (1977-1979).

MODAL	DYNAMIC	Situate mobility as a creator of places / Compression of the movements, the inertias, the velocities, the intensities, the urban forces, the slow places and the confluences / Creation of balancing networks and systems that benefit the project.
		Centro de Rotterdam, Joan Busquets (1989)
	SYMBIOTIC	Nature update, creation of intermediate spaces, situations of interexchange between systems or media, to incorporate the city into the geography, and infiltrate open space into the urban interior.
		Piano di Coordinamento Territoriale di Salento (PTCP de Lecce, 1999-2001) Bernardo Secchi y Paola Viganò.
	SYNTHETIC	Operate in function of balance and synthesis of the decisions / Attitude based on the economy of media, reserve of future opportunities, anticipations and previsions.
		Cordoba Congress Centre. OMA, 2002.

TECHNICAL	SPACIAL	Attention to detail and the specific form of the solutions / Care for the spaces, for the secondary arguments, the combination of the small with the large, the sensorial with the structural / Ability to make urban facts and the proposed solutions comprehensible / Preparation for both current and future conflicts and their resolutions
		Centro cívico de la ciudad de Tapiola. Aarne Erv (1956)
	ARCHITECTURAL/ OF INTEGRATION	Dedication to the imagination. Acting without model or typical solutions / Increasing the frame of liberty of the project / Transformative and active capacity or attitude of new models and solutions that combine assumptions that are traditionally independent.
		Siedlung Björnholm, Alvar Aalto (1959)
	DIMENSIONAL	Reinforce the technique of measurement, size and quantities / Search for better values, adequate intervals, right position, interesting distances for the efficiency and quality of the proposal / Pondered measurement of the mix, the density, the concentration, the proportion between the public and the private.
		Neue Nationalgalerie, Mies va der Rohe (1968) Filarmónica de Scharoun (1963), Kulturforum, Berlin.

TABLE 3.1 Abilities and attitudes for the creation of the city

3.1   Relational Attitude

In relation to urban design and planning, it has always been necessary to connect "things", like pieces of a puzzle, in order to observe an overall perspective and to find appropriate matches. It is the search for relationships between urban and territorial spaces, between long and short distances while paying attention to the adjacent and the separate. However, it is also the pursuit of the relationship between times, both urban and non-urban times. In order not to lose what we have learned from the past, to know what we need to do to confront the passing of time, and to prepare for the future while paying attention to the importance of the present moment.

City creation also demands preparation to connect disciplines, concepts from several sources; as in ancient times when cities were built near water, at times for defensive reasons; and for a long period they were built depending on strategic, military, conquest, trade, or tourist positions.

This is the case of The Industrial City by Tony Garnier, a hypothetical design for a city close to a river, published in 1917. This French architect set the basis for modern urban planning in relation to the precepts of the Athens Charter drafted in 1933 at the 4th International Congress of Modern Architecture (CIAM) (Pundlik, 2010; Pawlowski, 1993).

It also reflects the important skill of taking into account internal urban relationships and giving priority to some over others. Sometimes this involves denying relationships, separating elements that damage each other and highlighting certain places using remarkable architecture and oriented public space.

FIG. 3.1 Picture of an aerial view of The Industrial City project by Tony Garnier (1917). *(Retrieved from http:// www.delyonenlarge.com/2015/03/11/ musee-urbain-tony-garnier-decouvrez- larchitecte-qui-a-revolutionne- lyon/#jp-carousel-2356. From a design mural monumental made by https:// citecreation.fr/realisation/quartier- des-etats-unis-lyon-france/)*

3.2 ## Educational /Broad-Minded Attitude

Urbanism needs both detail and shape. It needs big lines that pass carefully through the places that respond to small reasons and do not renounce the strength of their size; new and old lines that serve to reread the territory and to reconnect things. Urban roles, urban conversations, urban dialogues, and urban assistance are a set of tools to make the events that have already happened comprehensible, to create integrating consciences between classes, between artifice and nature, and between the central and the local.

FIG. 3.2 Tapiola roundabout at the end of the 60s *(Image by Atte Matilaine, Housing Foundation, Espoo City Museum. Retrieved from https:// www.epressi.com/tiedotteet/kauppa/ liikenneyhteydet-tapiolan-palveluiden- aareen-parantuvat-viikonloppuna- avautuva-uusi-pysakointihalli-tarjoaa- yli-2000-paikkaa.html)*

All of this is what the exemplary city of Tapiola reveals. Tapiola is one of the first post-war "new town" projects in Europe, and was constructed in the 1950s and 1960s by the Finnish housing foundation. It is located at 8kms from the city of Helsinki and was designed as a garden city, and mainly defined as a satellite town (Galantay, 1975). The urban planning and development of Tapiola shows protected but accessible intimate spaces and related areas of density and mixture. It is not like a number of machines with sharp edges, independent from their environment or acting as parasites rather than joining the city. In this case, houses or schools are in the middle of the forest without the latter losing their nature. The architecture is faithful to these urban dispositions. It is an exercise in adapting to the façades, the courtyards, the unfolded alignments, displaced but in the attitude of dialogue, generating streets that are half free, letting visual diagonals cross between its buildings. Educational attitude is the basis of a model of urban design where urban patterns have respected the traits and limits of the rural landscape, a kind of game of approximation that aims at consensus and mutual acceptance.

3.3   Innovative Attitude

The creation of a city, or of intermediate or small areas, demands a commitment to imagination, to acting without instructions. The necessary attitude of innocence and refusing to believe that we are unable to transform the world is possible, if urban design and planning work is completed with the humbleness of knowing that it is just a small part of the human story. New ways of finding the urban solution mean using renewable energies, saving enough 'air' between things and laying down rhythms and guidelines. Quinta da Malagueira urban

FIG. 3.3 Quinta da Malagueira by Álvaro Siza, Évora, Portugal *(Images by author, December 2011)*

project by Siza is one of the most highlighted examples of urban design according to this fundamental attitude. It is a settlement at the edge of the city centre of Évora (Portugal), designed in the late 1970s by the renowned Portuguese architect Álvaro Siza, who won the Pritzker Architecture Prize in 1992. Through finding a new protagonist role for urban facilities – the building of warehouses, water courses, and a central water pond as a new public space – this neighbourhood creates different key places where architecture is responsible for forms and functions integrated into urban space (Castanheira and Porcu, 2002). Siza recycles urban and natural elements, with the enterprising ability to create new routes, and new paths for a cohesive and hybrid whole at the same time.

3.4   Dynamic Mode

Contemporary urban territory does not stop. It is not bad photography. By contrast, good photography is where you are able to notice that the shutter was opened and then closed to capture only a constantly flowing reality, capturing in this manner that place and those actions. In this sense, understanding the territory as a dynamic element means working with a place-creating mobility, situated in places, in order to learn that urban projects are included in existing areas with their own inertias and to learn how to integrate them, incorporating new movements into the existing flows.

Based on the above, an urban design by the Catalonian professor, architect Joan Busquets, sought to restore the functionality of the city centre of Rotterdam, around Binnenrotte Square, in 1989 (Busquets, Correa, & Carse, 2007). This referential project presents a model of an urban system taking into account different times and lines, with the aim of creating balancing networks that benefit the whole area. This model of operation leads us to understand different velocities as levels of intensity, such that slowness produces spaces while the confluence of speeds causes different urban opportunities. The project succeeds in finding the role of key urban architecture in adapting to

places and producing suitable pieces of the city. Busquets et al. teach us how it is possible to slow down fast speeds and allow other kinds of mobility, diverting the necessary urban tensions through better channels, to finally turn the intervention area into a more sustainable place in accordance with spatial features.
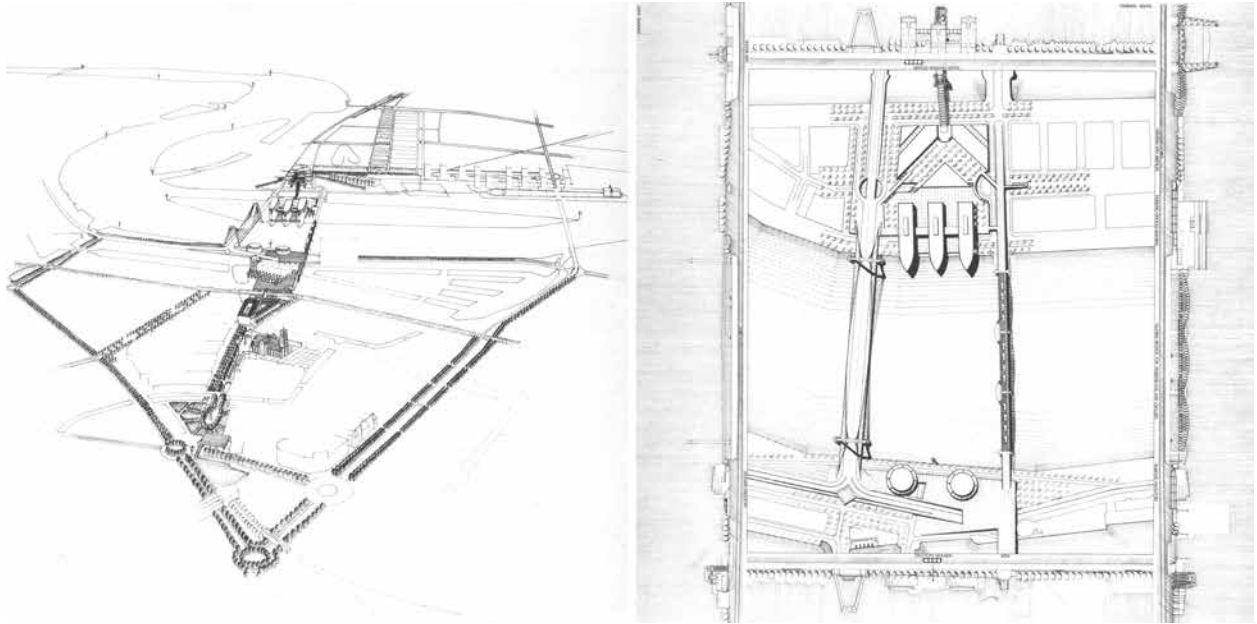

FIG. 3.4 'Rotterdam, bridging North and South' by Joan Busquets. The Netherlands / Rotterdam. *(Busquets, 1989)*

3.5   ## Symbiotic Mode

At the same time as the above, a sort of symbiotic mode of functioning is necessary: updating nature, creating intermediate places, creating the ability to change from one means to another, to incorporate the city into the geography, to infiltrate open space with urban interiors. In this sense, rivers, valleys, peaks, hillsides, beaches, forests...everything plays a part in city creation. Even the symbiosis of urban realities that were created individually take part in a valley or specific geographic location; as was the case in the Salento project by the professor in IUAV, architect Paola Vigan. An ambitious regional planning of that part of Italy in which small villages, agricultural landscape, and urban centralities focused on manufacturing related to the countryside, small scale units of urban growth are all integrated within a regional perspective and new links have created a more cohesive and sustainable development (Secchi and Viganò, 2001; Viganò, 2001). The creation of a new contemporary territory that, detached from big metropolitan forces, takes on a new identity based on, or built according to, a geographical logic, is an enormous opportunity for transformation that strengthens the landscape through the sum of small changes, working with infiltrations of nature into the urban sphere.
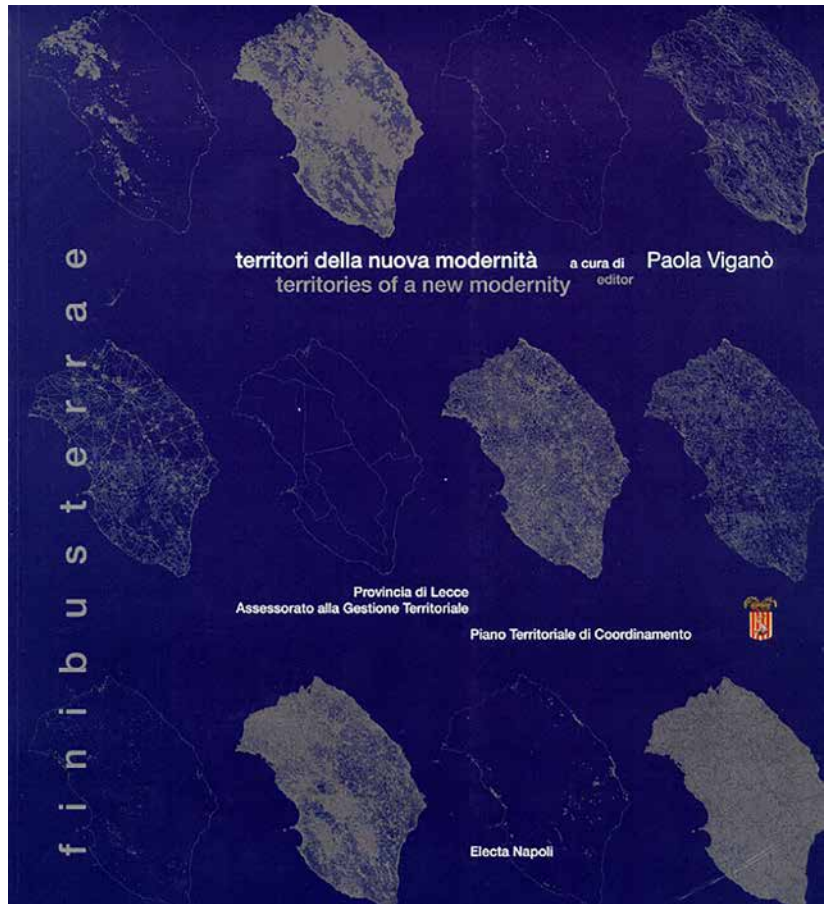
FIG. 3.5 Cover of the book "Territories of a new modernity. Provincia di Lecce. *Assesorato alla Gestione Territoriale. Piano Territoriale di Coordinamento"* (Image by Paola Viganò (2001). Retrieved from https://www.libroco.it/ dl/aa.vv/Electa-Napoli/9788843585786/ Territori-della-nuova-modernita- Il-Piano-territoriale-di-Lecce/ cw6716851269841.html)

3.6 Synthetic Mode

Throughout the process of urban design, mainly in the learning context, it is necessary to undertake certain key steps to discover how the project can be simplified. A kind of synthetic ability that permits balances and decisions forecasting the consequences of excess or lack. A method of reflecting on the project based on the economic means, on future soil reserves, and on predictions, as well as foresight. This skill may be found in Rem Koolhaas's essentiality for the Cordoba Congress Centre (CCC), or by observing the Busquets's project referred to above, through the intelligent decision to re-use the Rotterdam tracks and port for the pedestrianisation of its central street, recycling the old railway bridge as a walkway, as well as in so many anonymous projects of renewal based on the strength of simple ideas. In the case of CCC, "In 2002 OMA won the competition to design a new conference center located on the Miraflores Peninsula, facing the historic city center of Cordoba, Spain. Wishing to improve on the possibilities of the original building site, OMA proposed a new and unexpected location on the peninsula." (OMA Office Work Search, 2002). This was stated on the OMA website, explaining how the architectural type was considered in relation to the new urban position and their close surroundings (See Figure 3.6).

FIG. 3.6 (Left) Cordoba Congress Centre proposal by OMA. "The site is thickened into a long block that marks the threshold of the Miraflores neighborhood and defines a southern edge for the planned fluvial park. A horizontal slice through the slab allows the necessary activities - congress center, auditorium, retail, hotel - to be contained along a continuous trajectory running the full length of the building." *(OMA Office Work Search, 2002)*

(Right) The Neue Nationalgalerie and the St. Mattew Church *(Image by Fabio Candido, 2017)*

3.7   ## Spatial Technique

Learning needs techniques. Students and designers require experience of having their skills tested considering that lack of time, resources, and/ or updated information about the case study is habitual. In addition, they need to deal with frequent difficulties in terms of the disciplinary overlaps that are present in each project. For this reason, speaking in terms of space could help to overcome this complicated starting point and put the creation of good urban space, useful and varied places, containers and sources of future opportunities at the forefront of the project. The space should be a strong but open element, unenclosed and unconfined, which does not accept definite compromises and does not collapse under the weight of its own success in the first years of life.

As previously stated, the elegance of the Tapiola centre may just be observed, a simple roundabout with a nearby park, which represents a whole life philosophy (Tapiola, 2006) (See Figure 3.2). At the same time, let us observe its representative space, the one that brings together the elements of the civic centre, slightly elevated, with an impressive entrance stairway, supported by the architecture of a tower to the right of the entrance. It is an ongoing attitude to generate difference in the spaces of the proposal using geographical and spatial techniques which avoid generalisations, from creation of pedestrian lines to riverside squares, taking into account the surrounding urban fabrics that make up multifunctional areas.

3.8   ## Architectural/Integration Technique

Urban projects cannot forget architecture, despite their scale, and they must read the territory in which they are involved, arising from a cover-up solution where different scalar implications are integrated. This is the way that sustainability works, through the combination of the widest range of objectives possible, measuring the interrelation of goals of sustainable development (Næss, 2001). Thus, for example, the house has territorial dimensions; urban buildings position themselves to make the most of their place, to create the place, to connect places (contributing an added value). The 'jump of scale', a direct movement

between separated scales, is similar to the direct movement between separate times. In the same way that distant times combine, urbanism must separate the scales without necessarily conceiving of all of the intermediate steps. In this manner, the forms and urban uses of the project are more responsible for the integration of scales.

This is how the little known urban planning for a new Siedlung (settlement) by the Finnish architect Alvar Aalto, called Björnholm (1969), was established, in which other integrations between the highway, the houses, and the lake were developed (Fleig, 1999). The project generates, in a reasonable way, three architectural typologies for three places and forms a single related foundation in connection to the geography and the road infrastructure. All of these aimed at creating proximity, avoiding big soil relocations, and the integration of overlapping values of landscape.
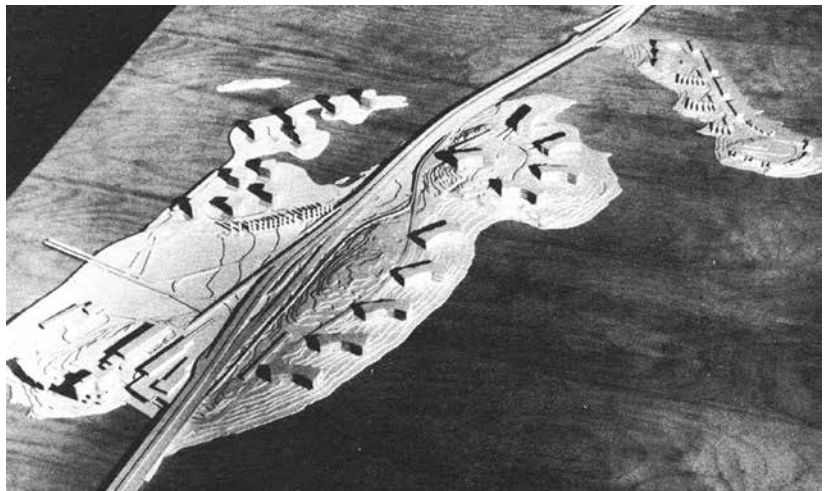

FIG. 3.7 Siedlung Björnholm by Alvar Aalto *(Fleig, 1999, p. 12)*

3.9   Dimensional Technique

Architecture has traditionally been related to the ability of measuring, a technique of sizes and quantities. That means a concern about being precise, for instance, on the number of floors, on the distribution of pavement and road, on positioning the free space within the appropriate limits. What is not so clear is whether this value can be applicable to urbanism in the same way. From the perspective of some of the authors mentioned, at least in the context of learning in urban design and planning in architecture studies, you do need to apply it with the same forcefulness (Solà-Morales i Rubió, 2008; Frampton and Ibelings, 2008; Gandelsonas, 1999; Panerai, Mangin & Sánchez de Madariaga, 2002). It is necessary to consider that a correct technique on sizing of urban facts, systems, and problems must become a fundamental aspect of designing. Moreover, this is a way to reach not only a spatial or functional efficiency of the area involved in the project, but also a more sustainable development from an economical and sociological point of view.

The dimensional technique refuses to allow us to be satisfied with any value a priori, and it makes us search for the appropriate interval and the correct figure with the right position, the one that makes the design something really good.

Good examples of that include the perfect dimensions reached by the best engineering bridges; or how the size of Tapiola fits its foundation, establishing the dimensions of its central space; or how the final distances in between the Kulturforum buildings in Berlin are wonderfully perfect, just like the courtyard of the main building, the Neue Nationalgalerie, designed by the German architect Mies van der Rohe in 1968 (Zimmerman & Gossel, 2009) (See Figure 3.6).

In urbanism, dimensions will lead to the assessment of the value of public buildings, the effects of social, cultural and leisure infrastructure, the potential for meetings to become opportunities of expression. The mixture, density, concentration, the wisdom of finding the private measure in the public, or vice versa, you need to learn to manage distances to put public buildings at the heart of urban design.

4   ## Conclusions: Guidelines for Multi-Scale Projects of a Sustainable City

It was in the early 1970s when the postmodern American architects Robert Venturi and Denise Scott Brown began to study everything considered mutable, and to replace the traditional analysis that centred on the stable elements of physical space (Venturi, Scott Brown, & Izenour, 1977). In that emerging suburban city, their architecture confronted the formal disorder of the city "high art" versus "low art" taking into account the urban buildings, the local initiatives, and the culture of the masses.

This novel architectural attitude, born at that moment but promoted later by many of the other cited references who developed the described guidelines (such as Tadao Ando, Steven Holl, Rem Koolhaas, or Daniel Libeskind, whose work emerged in the nineties, as well as the more contemporary, Japanese architect Kazuyo Sejima or the French office of Lacaton & Vassal, by Anne Lacaton and Jean-Philippe Vassal), consolidated a change of attention in the transition into the 21st century that has now become obligatory for the group of possible interactions on relationships between objects and for multi-scale projects, more than for the objects themselves.

In the context of architectural studies, it is necessary to combine the two different traditions mentioned in this text, both from the architecture discipline and the urbanism one, to generate a framework of learning that takes advantage of the two. The results obtained in the teaching exercises throughout the last decade have allowed us to activate the abilities, methods, or techniques described and have proved, at least partially, the potential of reinforcing the learning on urban design and

the architectural design methodology, with the aim of broadening the creative liberty of the process

Their behaviour as "new strong ideas" of the project/plan methodology invites thinking about subsequent guidelines and their future implementation. The continuous practice of urban design activity in the schools of architecture make them the most adequate testing grounds for experimenting with these disciplinary and scale fusions, introducing sustainability criteria and innovation, and encouraging a constant positive critical dialogue. Contemporary urban design needs to generate interesting new cartographies that underline the revelatory and liberating forces of a proposal and give us the necessary images for further research; multi-scale and multi-temporal projects as concepts that lead to a project methodology and plan that is a balance between knowledge and operative action.

The creation of a city and the ordering of the territory need to integrate all the dimensions than have been mentioned, by superimposing their differences, in order to plan future scenarios based on our current experience. However, at the same time, city creation also demands imagination: a partial, summative, as well as unitary, vision of different things. The urban project needs these wakefulness states charged with precisions, unbelieving of its rigidity: observation, respect, sustainability, knowledge, innovation, communication, identity, socialisation, responsibility, freedom… times for the paradox, where the present memory is mixed with the distance of what deserves to be created.

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