LARGE PROJECTS FOR SMALL BUILDING CONSTRUCTION COMPANIES: FROM THE KEY DIAGRAM, TO THE ARCHITECTURAL MODEL, TO THE LOCAL PLAN

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HIGHLIGHTS

• The paper promotes new models for urban neighbourhoods, to regenerate the city after the recovery of creative inflation in the new long-term economic cycle.
• The aim is to reverse the traditional urban planning process, anticipating the Volumetric Project, to arrive at the Local Plan only at a later time.
• We try to produce educational experiments on the planning of large neighbourhoods developed at the Laboratorio Integrato di Progettazione Urbanistica of Udine University.

ABSTRACT

Along 2016-2019, some educational experiments on the planning of large urban neighbourhoods were developed at the Laboratorio Integrato di Progettazione Urbanistica of Udine University, coordinated by the author with the participation of the architect Elena Olivo and the engineer Giorgio Verri. The attempt is to reverse the traditional urban planning process, anticipating the Volumetric Project, to arrive at the Local Plan only at a later time. Three cities were used: Venice, Udine and Treviso. In Venice compact forms of the lagoon settlements have been designed. Here we tried to rebalance the city with respect to the mainland districts, creating transfer opportunities for inhabitants scattered throughout the metropolitan area, and promoting a new lagoon architecture. In Udine and Treviso forms of infilling, compaction and urban regeneration were sought, with the aim of reducing the sprawl and the spread and to provide urban areas for the construction of buildings demolished in the open countryside for the purposes of landscape refurbishment. The method used is: divide the students into project groups; draw up a Key Diagram of strategies; assign an area to every group; develop analyses on the city and its historical centre and use them to design the urban areas on a 1:1000 scale; join them together in a single project and realize the volumetric model; sketch up some architectures on a 1:100 scale; finally draw up the Local Plan of the whole borough.

KEYWORDS

Key-Diagram, Architectural-Model, Local-Plan, Neighbourhood, Townscape

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1. Methodological premise

This essay draws on four didactic experiments at the University of Udine conducted in the Integrated Urban Planning Laboratory by Piero Pedrocno, Elena Olivo and Giorgio Verri together with students of the various academic years. Figures and outcomes are all attributable to them. The project methodology, in 13 phases explained below, is based on a design that from the Key Diagram leads to a Volumetric Project, to end with an urban plan that interprets it. The basic idea is to regenerate the city by designing and renovating compact neighborhoods that shape it for the present and the future.

2. Introduction

Before designing new neighborhoods or regenerating old ones we should ask ourselves some fundamental questions. For what reasons should the project be successful over time? For whom are we hypothesizing these urban renewals or these new neighborhoods? Which kind of transportation will connect these neighborhoods to the rest of the city? The first question obviously cannot be answered with certainty. However, we can use the existing theories to find reasonable hypotheses for the transformation of the territory and of the cities in which we live. Among these hypotheses the most interesting seem to be those linked to the recurrence of economic cycles, and in particular to the repetition of long-term economic cycles. The Super cycles that Nikolai Dmytryjevich Kon- dratiev invented in 1925 (Snyder, 1984) can be broken down into 4 phases. The first phase is one of inflationary growth and starts from a condition of extreme poverty, resulting for example from wars or epidemics. The Government becomes a passive participant in the inflation cycle and growth expands into a spiral that produces wealth, savings, social differences and production of capital goods to be accumulated for the future. Prices increase, money circulates rapidly and there are technological innovations and claims. After about 20-25 years the second phase starts. Growth reaches its maximum and tends to surplus the concept of the periphery. Thus, the imagined dimension for pedestrian areas tends to surpass the concept of the periphery. And the periphery is what almost happens to be around and out from something that matters. This externalization of the periphery (in the European context) (1909) depended on the speed of development of the industrial society, which did not allow other form of agglomeration if not the accumulation of individuals to be transported to the production areas. With a rationality and rigidity of the social housing districts that often recalls the military type, for the foundation of colonies.

Along 2016–2019, with these problematic premises, four didactic experiments on the planning of large urban neighbourhoods were developed at the Laboratorio Integrato di Progettazione Urbana of the University of Udine, coordinated in size and too studied in the dimension of urban centres or neighbourhood that agglomerates people. Surely, we should answer these questions with a certain flexibility of the desired spaces, because they look to be critical (Virilio, 1988) from a long time ago, when the inhabitants of the cities begin to move on foot, by bicycle or with a typical local collective transport (buses).

The more and more required separation of the pedestrian from the traffic should not then be traced back to the considerations, although interesting, of the Modern Movement. It rather derives from the necessity for slow self-organization of urban centres or neighbourhood that agglomerates, as was often the case in the larger medieval cities and as seems to happen in many contemporary metropolises, but with greater naturalness than in industrial and modern city, which are too rigid and defined in size and too studied in the dimensional and transport relationships between home and work, as if nothing else existed in human life. Surely, we should answer these questions with certainty.

What spaces do these people require with their activities? What spaces will the new production models require, which will be characterized by particular social and globalized interactions? For whom are these new production models activated capable of reviving the economy towards a new cycle of growth. Well, we would be right at the end of the fourth phase. So, this should be the right time to ask us a fundamental question: what are the new cities of the future that we would like to see in the next cycle?

To the second question we should respond even in a more uncertain way. At a time when forma urbis seems controversial between localism and globalization, who really are the city users, or users of our urbanized areas, able to modify their future assets? Where could they agglomerate into complex and unexpected shapes? What are the tools that urban planning has or should have at its disposal to guide the development of new centralities and new territorial formations that these new and old users generate and will generate? The answers to these questions differ from one city to another. Venice, as an example, the various islands have functioned for centuries as settlements of a complex and polycentric system. Every island gathered around a campo, originally space of the market and of the central areas, and which had led me to identify at the beginning 29 types of tourists, to then add others. These groups can dictate rules to cities and as seems to happen in many contemporary metropolises, but with greater naturalness than in industrial and modern city, which are too rigid and defined in size and too studied in the dimensional and transport relationships between home and work, as if nothing else existed in human life.
2. PROJECT AREAS: AS LARGE URBAN RENEWAL DISTRICTS

Behind our experiments there are some attempts and hypotheses that can be briefly summarized as follows: a) to find urban development models coherent with the history of our Country and of the European context of the compact city; b) to hypothesize to reduce the consumption of soil not only through constraints of difficult application but through a new culture of the city that attracts the dispersions of twentieth-century urbanism with long transmigration; c) to provide useful models for good practices, in the case of restart of inflationary development; d) to rethink Italian urbanism starting from a volumetric project that guides the entire borough on which to superimpose a Local Plan; e) use the methods of integrated public-private planning to implement both recovery and expansion (Ministero dei Lavori Pubblici, 1997, 1999), for regeneration and reconfiguration of settlements, parts of the city, or the entire city.

Until now we have operated on three cities: Venice, Udine and Treviso with utopian tones in the first two, but necessary for teaching and to overturn stale visions of apparently unchangeable situations. The fourth experiment was carried out on the peripheral North-West quadrant of Treviso, precisely to verify the feasibility of our methods even with respect to the current legislation. In this case there is the purpose of verifying the law and finding solutions to the long-standing issue of the landing of volumetric "credits", promoted by authority to improve urban refurbishment and reduce sprawl and the sprinkling of buildings. This should derive from good practices of re-naturalization of extra-urban areas. In the while a fifth experiment is imagined on Chioggia for the Laboratory of 2020 (Nuzzolo, 2019). On Venice the 2015-2016 and 2017-2018 laboratories were dedicated, seeking new equilibriums in its urban layout, now unbalanced towards the new "mainland" neighbourhoods (Mestre, Marghera and the Hinterland), with slow abandonment of the islands and lagoon parts. In the first experiment a large neighbourhood was hypothesized to reduce the consumption of soil not only through constraints of difficult application but through a new culture of the city that attracts the dispersions of twentieth-century urbanism with long transmigration.

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Udine, with the typical problems of urban voids and brownfields, in a medium-sized city, also in need of finding new balance between the centre and the suburbs and above all new connections and relations between East and West through the southern suburbs. Here it was fundamental the problem of join the periphery with the historical centre and with other peripheral districts, through the pedestrian crossing of bundles of railway tracks and high-speed roads. Together with this it was the problem of regenerating the contact between the southern industrial periphery of the city and the green areas of the district. The theme of water recovery, of their conduction in aquifer to reduce the waterproofing of urban surfaces, and of their general use, has been treated both in this case and in the Venetian ones. In the case of Udine the problem of the limit, which in the Venetian islands is evident and natural, has been faced thanks to the introduction of an intermediate ring road, necessary to pass from east to west but also to limit the spread and create greater social density and housing continuity in the neighbourhoods. The breaking of the limit, on the contrary, takes place not only in the pedestrian and bicycle bypasses of the streets, but also in the suspended commercial department stores on the railway and even in the gradual introduction of a market from the centre of the district towards the historical centre passing under the railway station. The project for Udine Sud certainly does not lack the techniques of urban densification, from infilling to the completion of frayed edges of the city, from the redevelopment of brownfields, to compaction after demolition and reconstruction, up to the restoration and renovation of existing buildings of residences and services. The result was a model, with a 1:1000 scale of four meters by three, a design that precedes the Local Plan, able to combine public and private efforts. The course of 2018-2019 was aimed at Treviso, to combine public and private efforts. The course of 2018-2019 was aimed at Treviso, more realistic than the others, to test the hypothesis of a compact city through the “densification” of free areas goes hand in hand with the hypothesis we formulated, even in other cases, of an increase in the mixture of functions and building types, just like in the historical city, for a better urban and social variability of the area. In this case, moreover, the involvement of the City Council, thanks to the presence of the new Councillor (Assessor) for Urban Planning, engineer Linda Tassinari, who is a very active member of the Centro Regionale di Studi Urbanistici in the Veneto region, appears fundamental to verify the same potential of the method adopted. And this in relation to both the current planning, recently developed by a professional of great fame and respect as the national President of the Council of Architects, Planners, Landscapers and Conservatives, architect Giuseppe Cappochini, both in relation to the Venetian laws. This, finally, we hope will satisfy the expectations of the new Mayor of the Municipality of Treviso, Mario Conte who, besides being a technician himself, was born in San Paolo, which is one of the districts on which we base the educational experiment. On April 12, 2019, together with other members of the council and the municipality, including members of the opposition, the Mayor personally accompanied us on an inspection with the students, to expound some of his interpretations of the area and followed us in the first debate on setting the theme at the municipal office.

3. THE APPLIED METHOD

In all the cases, with small variations, we followed the same method. The projects have in common an experimental approach that we could describe step by step.

Step 1) At the beginning of the course groups of students are formed, containing at least one person, at most, five or six.

Step 2) To produce territorial and urban analysis, groups are joined in larger groups.

Step 3) In parallel or through another course (Terre di Città), groups are joined in larger groups.

Step 4) To produce territorial and urban analysis, groups are joined in larger groups.

itorial Engineering), a group is entrusted with dealing with the Theory of the Economic Base and searching for rare and basic functions to be included in the project.

Step 4) In order to analyse the historical centres and the traditional ancient architecture, the groups are kept divided and each of them is entrusted with a task, generally the same for all the groups, but carried out on different areas (Treviso was acted differently, on choice of students, by topic). In particular, the following are measured: a) the dimensions of the squares, of the campi e campielli (typical of Venice), of the streets, of the canali (small streets typical of Venice), of the salizade (areas of Venice recently paved, in an open space), of the canals, of the arcades, of the loggias, of the gates, of the windows, of the balconies, of the buildings in height, length and width, of closed gardens, etc.

b) types of windows, doors, balconies, mullioned windows, three-light windows, etc., c) residential building types, d) public building types, e) the building types for worship, f) water routes, g) vertical paths, h) particular visual cones, i) prospects, j) the building masses and their distribution.

Step 5) We analyse, all together or in groups, the area of intervention, like: roads, canals, squares, public and private green, pedestrian paths, agricultural green, etc.

Step 6) A Key Diagram of the intervention area is drawn up. This Diagram will contain the Urban Planning Areas in the district (neighbourhood) divided, the primary and secondary roads, the main pedestrian and cycle paths, the central pedestrian areas (shaded and to be specified in the detailed project), possible channels as general indications (blurred), some urban park areas and the historical-architectural and environmental-naturalistic invariants, as well as some areas indicative of densification of the district or remodeling. The diagram shows the fundamental functions that, based on the analysis of the entire city, the province and the region, will be introduced in the neighbourhood.

Step 7) Then are written the Technical Regulations to develop the projects of the Key Diagram on the Urban Planning Areas.

Step 8) The Urban Planning Areas of the Diagram are divided by lot among the groups of students.

Step 9) The groups begin to develop the Urban Planning Area of the district that was assigned to them on a 1:1000 scale. First in plan and then also in volume, colors and symbols are standardized. All groups are forced to work alongside groups that design neighbouring areas, in order to integrate their projects and match squares, streets and canals that are in common.

Step 10) As soon as the drafts of the plans of the ambitions are developed on a scale of 1:1000, the students begin to design some buildings or some public and private areas developed on larger scales, 1:200, 1:100, from the plan till the perspective and the sections of the same. Naturally they cannot design architecturally the whole project area.

Step 11) The project areas are brought together in a unique project of the district, on a scale of 1:1000 and 1:5000. Some renderings of this are also realized.

Step 12) At this point each group builds its own part of the architectural model, which is assembled on a scale of 1:1000.

Step 13) The terminal phase of the "Tibetan mandala" is triggered: each group, comparing itself with the others, draws its part of the Local Plan that will question much of the entire project, making it compulsory and respectful of state and regional laws. But a large part of it, the one for which it is believed that it has reached a sufficient design, will be implemented directly, without the need for further plans.

At present, the experiments and methods described here have been published in two books, with Aracne Editrice in Rome (Pedrocco, Olivo & Verri, 2017, 2019). They are also touted in some Conferences. However, none of these experiments can be considered conclusive of a process and a planning method that we are looking for and elaborating. Also, the conclusions of this contribution will require checks and adjustments. It is not even certain that, to act through this method, the Italian urban planning regulations and land use laws must undergo profound changes.

However, in all these writings it seems important to overturn the traditional urban planning process, bringing urban design to the forefront of the urban plan.

3. Conclusions

Obviously, in a period like the one we are going through, with a long economic cycle still stalled (phenomenon further accentuated by the Covid-19 pandemic crisis) and with low inflation, projects such as these experimentally sketched by us cannot be implemented in short time. Today,

Figure 5: Waterfront of Porto Marghera, Venice, 2018, a) general planimetry of the urban district. Step 11. b) rendering towards Venice Centre, (C. Burelli, M. Campagnol, G. Menardi), c) architectural model on a 1:1000 scale. (Pedrocco, 2019). Step 12.
neither investors nor public administrations can venture into such enterprises in Italy, in a society in total contraction, both economic and social, and with the pyramids of age that are reduced in size for the younger age groups.

The fact remains that in a certain future, that we don't know how far it is in time, in the absence of credible development models and that they maintain compact cities, we may find ourselves in great difficulty. This is why, by studying the ancient cities, we aim to find useful models for the cities of the future, trying to find a typically Italian dimension of space and environment for them, without betraying the experimentations of architecture in progress and trying to link old historical centres together with peripheral parts or with new neighbourhoods. In fact this type of experimentation, with the hypothesis of long implementation times, mostly implemented by multiple subjects and not homogeneous in terms of spending capacity and intervention, follows typical patterns of urban development traditionally occurred for centuries. Moreover, given the reduced and fragmentary dimension of the settlement components that derives from these design experiments, both in space and in the time of realization, it is believed that models like this can well respond to the application of enterprises of small size, characteristic of our country and of our lifestyle. And this without disturbing phantasmagorical promoters, stakeholders, industrialized construction and anything else that could reasonably belong to a logic of rapid expansion and undifferentiated space condition, which in our society does not find full correspondence. Also in this sense, the idea of producing or regenerating and restoring large or medium-sized neighbourhoods, which in itself can be modified gradually by the needs of the market, through the work of small and medium-sized enterprises, would perhaps find good correspondence not only in our major cities, all characterized by the massive presence of historical centres and villages incorporated by the industrial city, but also in the cities of medium and small dimensions, variously scattered throughout the country. Our cities all seem in need of an integration with the new forms of recent urbanism. They require a compaction of contemporary dispersions and recent textures: spread, sprawl or sprinkling, universally so defined with usual English-speaking diction. To start with a new urban morphogenesis (Capuccitti & Piroddi, 2004) you do not need large planning deeds from a single hand, but precisely, as also happened in the past with perhaps less awareness, "big projects" for "small building enterprises".

REFERENCES


