

and to create a new natural metropolis. Initiative have already been identified which, beyond the institutional activation, call the community and citizen's associations into play. New woods are already growing in North Milan, thanks to the efforts of volunteers, school groups, and elderly groups. Often these have been coordinated and encouraged by associations such as, above all others, the Circoli della Legambiente.

RECOVERING METROPOLITAN RIVER LANDSCAPES

The project for recovering the Llobregat river environment and landscape in the Baix Llobregat region

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How should we embark upon an understanding of the city in relation to the countryside? (...)

After a little study we can move on to the generalisation of the "valley section" (...)

This profile is associated with a diagrammatic representation related to the early occupations conditioned by this relief.

This serves as an introduction to the rational geography of cities from the point of view of its regional origins. To begin with, they can be better studied and understood if we start from the valley and its resulting occupations with the consequential types of human settlements (...)

This principle of "geographic control" is of vital importance both for understanding cities as well as the layout of new cities; and their disastrous violation, (...) is an important cause of constant economic waste and aesthetic havoc.

«The valley section», Patrick Geddes

In *Cities in Evolution*,¹ Patrick Geddes suggests that when considering cities that spread across the territory we should begin from the two-way tension between two approaches to the matter: that which is based on the Town-Country tension and the opposite, or corresponding approach, the Country-Town tension. Although time and translations of his work have come and gone, this consideration by Geddes' still holds true when we talk about this reversible tension between the city and the countryside, the urban reality and its environs. From as far back as 1915, Geddes, with remarkable prophetic foresight, drew attention to how urban development processes, as generators of metropolitan regions, tend to transfer their immediate needs to the territory, the Town-Country tension, far too often ignoring the potential of incorporating

non-urbanised territories to enrich the structures of major cities. In other words, ignoring the Country-Town tension.

When Geddes, biologist and precursor of modern theories about the metropolis, tries to explain to us the basis of this often overlooked Country-Town approach, he resorts to the example of a valley which, as a synthesis, illustrates the capacity of environmental features to give order to land development. A valley provides tangible evidence of an already existing order in the territory which urban development strategies have to understand if we want to avoid wasting economic resources and wreaking aesthetic havoc. In other words, what is called for here is the need to articulate an organic relationship between urban areas and their metropolitan environs, which at the same time opens up the debate about the potential of the environment to play an active part in the structure of the metropolitan city.

Almost one century later, Geddes' warnings about the dangers of uncontrolled urban sprawl left to the devices of the Town-Country logic quickly come to mind when we consider a metropolitan river such as the Llobregat: from the urban perspective it is the vestige of a road running through the territory, a level location suitable for building over more or less organised grids and it even constitutes a precarious, but practical, drainage and sewage system (albeit said with certain irony). The river also provides a vast extension which is a kind of paradigmatic "vague terrain": although not always a river as such, it will be from time to time as it runs between wider and narrower avenues. This is a space which is resistant to the processes of land development, yet difficult to classify and far too often left abandoned to its destiny of becoming marginalised.

So, recovering the river does not simply mean asking how we can preserve it in the face of urban development which tends to degrade it, but, first and foremost, understanding how the river can enhance the metropolitan city. There can be no strategy for halting the adverse effects of river urban development which does not contemplate making use of the river in the city. The history of the urbanisation of the river and the civil engineering works to make use of the river in the Barcelona metropolitan area are the topics elaborated on over the following pages.

1. The urbanised river

THE RIVER AS A ROAD

The coast of Catalonia is an exceptionally uneven territory. In such cases, rivers, even small rivers like those we find in the metropolitan area, become determining factors, not only for locating settlements but also for tracing out the dynamic

connections that link the various nuclei at a local and territorial level. They trace the directions in which these nuclei develop, how they are expressed as a system of cities, and at the same time constitute the basis for terrestrial communications and supply lines at a regional level.

The Besòs and Llobregat river basins, in fact, constitute a stretch of the natural route that enters the Iberian Peninsula from Europe. Hannibal with his army and elephants crossed the Martorell gorge as did Augustus later; the same point was the dividing line between what would later be Medieval Catalonia and the territory occupied by the Moors for almost two centuries; and, once again, the gorge was to be the pass through which Napoleon's troops commanded by Saint-Cyr entered the peninsular during the Spanish War of Independence. So, it comes as no surprise that nowadays the Llobregat river is accompanied by three double line railway networks, a motorway, an expressway and at least two secondary road networks (the BV-2002 and the N-340) which are, nonetheless, very important for the metropolitan area, in a strip of land that is little over one kilometre wide.

In the case of major infrastructures such as the AP-7 motorway, the A-2 expressway or the High Speed Train line, they have been planned out according to the criterion of reducing impact on urban fabrics. The result of all this is a river trapped between a giant system of banks which support these infrastructures and protect the settlements from floods, even though by doing so they have inevitably confined the river within a reduced and isolated fluvial space from an ecological and public perspective.

It should be remembered that the Llobregat Valley has not just attended to the need to sustain a flow of vehicles: a huge number of installations, the majority buried, take advantage of unoccupied spaces with gentle slopes. All manner of channels supplying substances, energy or information wind their way alongside a large number of hydraulic waste pipes. Generally speaking, these tend to be discrete but they can be determining factors for operations such as planting forest zones, excavations or managing water drainage or filtering for the territory, etc.

THE RIVER: PROVIDER AND BASIS OF ACTIVITIES

As Xavier Latorre explains in his book, *Història de l'Aigua a Catalunya* (The History of Water in Catalonia),² the first projects that envisaged channelling the waters of the Llobregat for use in Barcelona date back to the mid sixteenth century when the city proposed a dam project sited at the elevation of the Martorell Gorge in an attempt to reinforce the flow of the Rec Comtal. The proposal failed due to the opposition of the Baix Llobregat water concessionaires, and so the first

successful undertaking to improve hydraulic exploitation of the river was the major 19th century water civil engineering works, although the strategy adopted was focused more on land irrigation than supplying water to urban areas. The Infanta Luisa Carlota Canal and the Dreta del Llobregat Canal were opened in 1819 and 1861, respectively, consolidating exploitation for irrigation and defining a key urban figure that would explain the evolution of the territory during the following 150 years: the "regants" (the Catalan term for those authorised to use the water for irrigation purposes).

Although the irrigated fields later receded to a certain degree, they proved to be the only type of agricultural land able to resist the dynamics of urban development. The dry farming lands, with a very strong tradition of vineyards, olive groves and fruit orchards up to the first half of the 20th century, diminished dramatically. Although this was due in part to the pressure of urban sprawl, the main reason was the breakdown in the "masia" structure (the traditional Catalan farmhouse and associated land structure) located at elevations above the valley nuclei. Details in the 1953 Pla Comarcal (Regional Plan) and American orthophotomaps, show that there were still major extensions of agricultural land on the lower slopes of the Garraf, Ordal and particularly Collserola; these had almost completely disappeared in favour of forest areas when the Pla General Metropolità (General Metropolitan Development Plan -henceforth referred to as the PGM) was drawn up in 1976. Today, dry farming has diminished significantly in the mountains on right side and has almost completely disappeared from the left side, particularly downstream from the confluence with the Rubí torrent.

As regards the original structure of the settlements, the municipal nuclei offer characteristics that let one clearly see their position in relation to the river, from which three clearly differing types can be identified. Those which, like Castellbisbal or El Papiol, begin at a distance from the alluvial plain and whose structures therefore reflect negotiating the slopes. Within this category we could also include the more distant mountain municipalities which are scattered across the mountains of the Garraf and Ordal, always located in relation to a main torrent which generates the access route in the relief morphology. At the other end of the scale we find the more river nuclei in the strictest sense, such as Pallejà and Sant Andreu de la Barca. They begin from a nucleus at the edge of the flood plain followed by suburban growth along the river bank paths that continue forming a characteristic elongated shape. The third category comprises municipalities such as Sant Boi de Llobregat, which are also located close to the river but located slightly above the plain, thus protecting them from floods.

Just as Geddes claimed, the valley and the river are determining factors in the layout and structure of settlements and their development around the Llobregat, at least up to the beginning of an awareness of a metropolitan Barcelona, which can be dated back to the 1930s, the moment when the first attempts were made to plan out this new reality.

THE PLANNED RIVER

The 1932 Regional Planning, with visionary foresight, identified the need to tailor the development of the areas around Barcelona to pre-existing territorial features, clearly establishing a correspondence between the Llobregat fluvial environs and the main focus of Catalan land development. At the same time, to paraphrase Manuel de Torres i Capell,³ it also clearly introduced the idea of boundaries between areas set aside for urban development and the unoccupied territorial structures, the former being the determining element.

As regards Llobregat, the 1932 Regional Planning proposed a structure from the sea to Martorell, that was perhaps a trifle simplistic and not particularly metropolitan given its high degree of territorial specialisation. But, it was well defined in terms of its relationship with the physical environment as it set out industrial areas on the left bank of the river over the delta preserving the neighbouring river forest areas. The industrial fabrics would only reappear from Martorell onwards being located over the double structure of the Llobregat and Anoia. Between Martorell and Sant Boi the irrigable plain was preserved the same as was done below the Somontà axis in Gavà and Viladecans. All of this allowed for a garden city continuum above the river nuclei (which could be seen as a permeable fabric adapted to the environment as in the Howard or Unwin examples), occupying the foot of the lower slopes of the mountains, always above the territorial communication routes, and defining the edges of the alluvial plain. The subsequent regional planning presented an identical section of the river up to the summits on the two sides, and at the same time alleviated an area from the pressures of the most intense urbanisation; an area comprising dimensions that could be considered critical for the metropolitan area as a whole.

This major scale trial was immediately followed by the Pla Macià (Macià Plan), which expressed the metropolitan structure based more on the coastline than on the river areas. The next was the 1953 Plan de Ordenación de Barcelona y su Zona de Influencia (Regional Plan for Barcelona and its Field of Influence), also known as the Pla Comarcal (Regional Plan), the first attempt at planning with the Metropolitan Area as the prime focus. It is common knowledge that the Pla Comarcal follows the lines set out in Patrick

Abercrombie's plans for the metropolitan area of London, himself one of the most eminent followers of Geddes. In fact, both scholars were present at the presentation of the 1932 Regional Planning report as well as the Pla Comarcal. However, careful study of the Pla Comarcal reveals that although one can establish clear parallels in methodology and particularly in the underlying urban planning ideology, it also becomes evident that the planning of these two metropolitan areas had quite different objectives.

The anticipated major population growth (that would rise from some 1,200,000 inhabitants at that time to a threshold of 4,000,000) was distributed across the various municipal nuclei attempting to avoid an accumulation of the population in the metropolitan centre as was proposed by Abercrombie. However, the structure of the proposed growth and its zoning was unclear in terms of a hierarchical settlement logic and even less so as a proposal based on a reading of the physical geographic layout of the territory. The Pla Comarcal included activities which had already started up under little or no administrative control. The division into zones, much more detailed than in the previous cases, was presented, however, in a confused manner over an asymmetrically sectioned Llobregat. The right side incorporated the territorial mobility axis while the left side included a minor road hierarchy bordering the nuclei around Collserola and was accordingly adapted to the degree of encroaching on, sometimes drastically, the irrigated river plain. Similarly, land uses were scattered irregularly across the two sides. On the left bank the Molins and Sant Feliu nuclei fused into a disproportionate industrial grid, and a Sant Joan Despi, Cornellà and Sant Just conurbation was proposed for the strip taken up by major industrial companies that were occupying the central space between various types of residential fabrics, added without any apparent logic. To the south Gavà and Viladecans were fused and major industrial areas were set out below the Somontà bank, right in the delta zone. In contrast, above Sant Boi the proposal drastically reduced urban land use for Santa Coloma de Cervelló and Sant Vicenç dels Horts, mainly residential uses, to change the Quatre Camins areas where the presence of the Molins bridge generated an extensive industrial agglomeration, centred on the junction, which almost reached the scree.

Although the Pla Comarcal begins to put forward protectionist measures for spaces considered to be of value, how it relates to the river is somewhat confusing. This is so apparent that the Pla Comarcal transmits a strong sensation of running aground against the tensions generated by the emerging metropolisation, leaving the ability of the environment to shape the city completely neutralised. It should be borne in mind that the Pla Comarcal was

drawn up before the first Spanish State Statutory Land Law and raises a certain degree of doubt as to whether it could be implemented in a coordinated manner,⁴ as was also the case for the later 1959 Plan Provincial de Ordenación de Barcelona (Barcelona Regional Development Plan). Nevertheless, assigning land uses and classifying types were to be conditioning criteria for later attempts: first for the 1966 Esquema Director del Área Metropolitana (Master Outline for the Metropolitan Area), and then the 1976 PGM itself.

The Esquema Director pursues a clear metropolitan decentralisation objective: defining a new and significant increase in the area of influence, which almost extends to the boundaries of Region I, and proposing a grid development model to alleviate central population growth congestion. The intention was thus to give priority to new poles of development in pursuit of an economically homogenous territory. It proposed new centres of activities with the objective of providing the various sectors with an isotropic infrastructure grid that would have to be able to spin out activities such as industry and the tertiary sector to meliorate urban development in the second and third belt. For all of these reasons, and bearing in mind its characteristics, typical of major scale operations, we could say that this was the plan that was furthest from the ideal of creating a dialogue with the river, or with the territory in general. The discussion concerning alternatives, based on five models, reveals the high degree of indifference of the infrastructure proposals towards the actual physical geography of the territory and, consequently, the fluvial network in general and the Llobregat river in particular. The proposed polarisation, seen as a catalyst for the development impetus at that time, reveals a perception of metropolitan dynamics limited to interpreting the territory as an obstacle to overcome. Among these alternatives in the Esquema Director, the fourth coincides with the "Barcelona 2000" proposal by the mayor Porcioles. This envisaged a route running from the capital city towards Vallés by means of various tunnels running through Collserola, a "Gran Via" (Major Road) crossing an urbanised delta in the form of a megastructure and a major capacity axis to the right passing through cornice strip over the municipalities, from Martorell to Castelldefels. This proposal, without a doubt, marks the height of indifference of metropolitan planning towards the physical geography of the territory. In contrast, however, the integration of existing structures was to be one of the main guidelines in the next stage: the PGM.

The PGM incorporated substantial new changes compared to previous planning. It split the local roads and regional roads removing the latter which were located on both sides of the river like polders in the eventuality of floods, while the local roads make up the lower bank of the

urban continuums of the fluvial face. An extensive and clearly defined strip is left in the middle of these two infrastructures, set aside for agricultural use. By protecting the arable plain, the PGM began a process of evaluating the river environs which recognised the river's ability to establish and order development which, despite now having almost heaped up facades, appeared to secure a more or less homogenous section to the central part of the valley. In spite of this, the demand for land continued to prevail over acknowledging the valley tree structure and its ability to establish an order: the industrial areas would occupy the torrent plains denying their vocation as open space structures, while the low-population residential fabric would continue to scale the slopes degrading the quality of the environment and the landscape.

At the end of the day the PGM was a step forward, as it reinforced measures to protect areas which it considered to be ecologically valuable, generally measures associated with forest areas that would take on a systemic character. However, it did not do the same for fluvial spaces, which would only acquire the category of systems in areas strictly determined by water supply and less for agriculture even though, as time has proven, the latter were the most fragile. Generally speaking, the PGM advanced attempts to organise the valley and delta section, but it did so from the basis of a protectionist principle of emphasising the mutual exclusion between urbanised land and land that could be developed, territory considered as reserved and environmentally valuable space. Today we know that this setting up of boundaries, clearly necessary in 1976 to halt the predatory urban advances since the 1960s, introduced this problematic tendency to marginalise open spaces in the metropolitan context.

The search for a new and mutually invigorating relationship between the occupied and unoccupied areas of the valley, was to be the very guiding star for subsequent research: first by the Corporació Metropolitana de Barcelona (Barcelona Metropolitan Corporation) and then later by the Mancomunitat de Municipis de l'Àrea Metropolitana de Barcelona (Association of Town Councils for the Barcelona Metropolitan Area).

RESEARCH INTO THE RIVER CITY

After various studies had been carried out focusing on metropolitan agricultural plains associated with the rivers in the 1980s, the first step taken by the Mancomunitat de Municipis de l'Àrea Metropolitana de Barcelona in its undertaking to include river spaces, started towards the beginning of the 1990s. It set up a multidisciplinary team within the heart of its own technical resources, aimed specifically at researching river spaces. The task undertaken by this first river team, headed by Jaume Vendrell and Serafi Presmanes,

was basically to analyse the state of the spaces, their function in the context of the metropolitan region and to determine their potential.

The first publication to emerge was, *Criteris i tendències per a la recuperació dels espais fluvials metropolitans* (Recovering metropolitan river spaces: criteria and trends), which focused on the Llobregat and Besòs river basins within the metropolitan area. This was a first draft document that was the beginning of a practically continuous series of analyses and proposals for metropolitan river spaces proposed by the Mancomunitat. This first document spelled out the enormous complexity of this kind of operation and, at the same time, put forward a clear methodology in order to make progress in handling fluvial spaces. First, it established arguments in favour of carrying out research: finding working guidelines to neutralise the environmental degradation of the rivers that would harmonise with changes to infrastructures and with the urban spread of the river municipalities with the final objective of reconverting the rivers into living spaces for metropolitan cities.

This approach begins from reading the territory, and more specifically, for the first time questions related to water play a central role in interpreting the capabilities of the environment: the river determines the various homogenous zones, incorporating the area of the torrents as part of the fluvial system and an environmental approach prevails. In addition, while working within the confines of what were then infrastructure and urban development proposals (incidentally, quite close to the present day reality), an analysis was also made of the vestiges, often completely erased, that had traditionally been the links between the river and the nuclei (not forgetting agricultural areas) in an accelerated process of transformation.

The 1995 "Proposta Marc per a la recuperació dels espais fluvials metropolitans" (Framework proposal for the recovery of metropolitan fluvial spaces) now made it clear that these spaces were needed to redress territorial disequilibrium, as a source of environmental and landscape resources, opening up the debate on which human activities they could accommodate. Whatever the case, it underlined the need for far-reaching changes to redirect the ever-accelerating process of degradation of the metropolitan rivers, pointing out the complexity of the operations given the wide range of authorities involved and the need to assign major resources.

Not surprisingly, efforts to recover the river were to receive support from other institutions that sponsored a variety of studies and proposals, among which I would like to make mention of two that, from all standpoints have been essential

for the Llobregat. First, around 1994, the Diputació de Barcelona (Barcelona Regional Council) began to push the Pla Especial del Parc agrícola del Baix Llobregat (Special Plan for the Baix Llobregat Agricultural Park), which took ten years to be given final approval. It proposed protecting 3,332 hectares of agricultural land managed by the Consorci del Parc Agrari del Baix Llobregat: a new management system to improve the economic feasibility of the irrigable stretches in Vall Baixa and the Delta, and a programme to promote the integration of agricultural lands within its confines, as well as to enhance its landscape qualities. Second, the Agència Catalana de l'Aigua (Catalan Water Authority) backed the Pla d'Espais Fluvials (Fluvial Spaces Plan) which studies the Llobregat as well as other rivers in the inland basins of Catalonia from the perspective of water supply, not only considering surface water management but also the entire hydrologic cycle and its ecological implications.

The formal setting out of these issues, as stated in the Programa Marc, was to be the objective of the following step within the MMAMB itself: the Projecte-Marc de recuperació ambiental de l'espai fluvial del Llobregat en la comarca del Baix Llobregat (Framework-Project for environmental recovery of the Llobregat and Baix Llobregat region fluvial space).⁵ This was the outcome of the agreement signed to this effect by the Consell Comarcal del Baix Llobregat (Baix Llobregat Regional Council), the Diputació de Barcelona (Barcelona Regional Council) and the MMAMB in 2001. The work, managed this time by Fidel Vázquez, was carried out in close collaboration with those municipalities affected which, this time, embraced all of the Baix Llobregat riparian municipalities. Attempts were now made to identify in specific terms the types of areas of operational areas to create the necessary databases to deal with the complexity of the fluvial territory and to lay out clear and methodologically well-defined objectives.

This task required, first and foremost, a major deployment of resources focused on compiling the enormous amount of information necessary to deal with an area of 50 kilometres of river with a direct link to a surface area of more than 1,600 hectares and an even larger surface area of territories linked to the project. This was an area that, in addition, was undergoing continual transformation and that also needed to be appraised from wide range of perspectives such as mobility and territorial logistics, surface and ground water supply, urban development and management of open natural spaces, etc.

This compilation of data helped to establish three main objectives: to delimit the fluvial space, establish a methodology and operational criteria, and finally to put forward a projects framework concerning the fluvial space embracing varying

dimensions and characteristics. The delimitation of the fluvial space could be practically automatic if we consider it from a multidisciplinary perspective: geomorphology can indicate the limits of the alluvial plain, as can hydraulics, if we relate them to the laws defining what a fluvial zone is. Nevertheless, the complexity of the pressures to which the Llobregat fluvial space is subjected transforms this decision into an overall strategy and, in fact, almost into a project. Thus, apart from the aforementioned points, we need to bear in mind urban, infrastructure and landscape issues, especially ecological questions, to approach delimitation from a multi-factorial analysis standpoint. The result was not the delimitation of a single fluvial space, but instead an entire system of spaces of interest, incorporated into the scree zone and the banks, which was superimposed with a series of more accessible spaces that attempted to recover the traditional ways in which the various nuclei had interacted with the river. Furthermore, the Projecte Marc began to conceive of the river in terms of a hydrologic system that would incorporate the complex system of torrents and canals comprising its river basin, in a gesture that made its complex relationship with the territory even more evident.

Beginning from the basis of delimitation, it was possible to define a diagnostic for each zone and the corresponding strategy to be employed with the clear precondition that preserving the environment in good condition is the starting point for recovering fluvial space. So, by analysing the interrelationship between the physical environment, the natural environment and the human environment, it was understood that any works in the fluvial space territory that might affect environmental equilibrium would be produced by actions taken in the physical environment or in the human environment, but that these would have a direct effect on the natural environment. To bring about this improvement, the Projecte Marc called for, first and foremost, making both the public and politicians aware of the value and the need to recover the fluvial space, to later be able to put forward a progressive recovery programme that would define the degree of space restoration works as being inversely proportional to corresponding maintenance needs.

Finally, and as a result of the study, the Projecte proposed a 12-point programme for river management:

1. Follow a policy of joint management.
2. Maintain or increase the river open spaces.
3. Check the march of urban land occupation and antagonistic uses.
4. Establish communications with the infrastructures.

5. Enhance the hydrologic performance of the fluvial system.
6. Preserve the interaction between surface and ground water.
7. Improve the quality of the water.
8. Improve vegetation structures and quality.
9. Promote natural habitat diversity.
10. Integrate national heritage.
11. Determine accessibility and make it compatible.
12. Carry out specific operations, evaluate results and programme maintenance.

The deployment of this project entailed programming a total of more than 50 operations that covered the entire lower stretch of the river basin. This meant that river works were not limited to fluvial system specific operations and, furthermore, they incorporated the analyses from a wide range of proposals such as new sectors for urban development in the municipalities in the regions, so as to determine how these proposals can contribute to improving the river. So, in cooperation with the town councils and other institutions involved, jointly agreed operations can be proposed which are related to the operations so as to achieve the best results from the environment and which also have a clearly urban function: to structure a part of the Metropolitan Area from the basis of the fluvial system, that is, those municipalities which make up the Llobregat river basin.

2. Recovery of the river

At present, the various studies that have been carried out during the last two decades have received a significant boost to the development potential of specific operations thanks to the establishment of the Consorci (Consortium) for the recovery and conservation of the Llobregat river. This is a new institution that has come about as a result of the collaborative efforts of a diverse range of administrative bodies: the Administració general de l'Estat (General Spanish State Government) represented by the Ministerio del Medioambiente (Spanish Ministry for the Environment), the Departament de Medi Ambient i Habitatge (Department for the Environment and Housing), the Departament de Política Territorial i Obres Públiques (Department for Territorial Policies and Public Works), the Diputació de Barcelona (Barcelona Regional Council), the Consell Comarcal del Baix Llobregat (Baix Llobregat Regional Council), the Entitat Metropolitana dels Serveis Hidràulics i Tractament de Residus (Metropolitan Body for Water Services and Wastewater Treatment) and the MMAMB itself. All have joined forces and resources

to begin a whole series of projects focused on recovering the Llobregat River environment and landscape.

Two executive projects were drawn up in 2006 which were approved and assigned in May 2007 by the MMAMB, accordingly delegated to act by the Consorci, and are at present in the implementation phase. Two stretches of the river have been chosen as the first operations for which projects have been drawn up to recover the environment and landscape. One runs from the Martorell Gorge to the confluence of the river with the Rubí torrent, affecting the municipalities of Martorell, Castellbisbal, Sant Andreu de la Barca and Pallejà. The other begins at the Sant Boi de Llobregat municipal limits and passes through Sant Joan Despí, Cornellà and Hospitalet reaching the C-31 viaduct running over the Llobregat in the El Prat municipality. Despite the spatial diversification of the proposals for the river derived from studies carried out in the Projecte-Marc, it has been decided to begin important work on the scree and nearby fluvial area, even though the choice of stretches corresponds more to an interim situation. It was decided to continue monitoring the fluvial stretch that would be affected by the land taken up by the high-speed train line until construction finishes. The objective was to avoid interference and to be able to assess the effects of these works on the fluvial system, and thus be able to adapt environmental and landscape recovery operations to the corrective measures needed to counter the impact of the train line construction work. These two stretches, which are presently under construction, are various projects run by various agents that have been determined by tender.⁵ All in all, both projects, as well as the intermediary stretch which has been developed to the stage of an advance project, show certain common criteria and characteristics and which will have to guarantee conceptual unity. These are projects which focus their operations on the environment and the landscape, which is why they have been drawn up by multidisciplinary teams able to deal with the specific demands of the task.

Apart from the issue of recovering the environment and landscape, the task of regulating access to the river has also been a central consideration of these projects. They include, as a minimum requirement, a pedestrian and cycle path on each bank along the entire stretch of the river, which are situated just next to the scree edge in the area of the public water supply. Also, at certain given points, the projects propose new access means from the nuclei to the fluvial area. It would be far too simplistic to set the objective of environmental improvement in opposition to works that facilitate frequenting these areas, providing they are adequately planned. The almost non-existent relationship between the public and the river could be considered one of the determining factors behind the marginalisation of the fluvial space, therefore to re-establish this relationship

is an essential factor for its recovery. The Projecte-Marc had already pointed out this absence from its own detailed research into which paths had historically linked urban nuclei and its case by case analysis of the possibilities of recovering them. This proved to be a difficult task given that in the majority of cases the construction of major infrastructures made this infeasible. This is why it has been necessary to consider, at certain points, new strategies to integrate the river into the urban network of open spaces, perceiving it as a new type of open space at a metropolitan scale comparable only with Collserola because of its magnitude and possibilities.

The recovery of the river for the general public and bringing it back into the minds of metropolitan inhabitants constitutes a project theme that we can see as a strategic objective in a large number of metropolitan areas around the world. The work by Anne Whinston Spirn and James Corner in Philadelphia, the recovery of the Anacostia in Washington or the Don in Toronto, the IBA-Emsher Park, the Thames and the River Lea in London or the impressive project for recovering the Cheonggyecheon in Seoul, demonstrate the vital importance of recovering the river in metropolitan contexts as elements that generate environmental and landscape quality and, all things considered, as spatial structures capable of building the metropolis, oddly enough, from their non-urban character...just as Geddes called for.

- 1 Patrick Geddes, *Cities in Evolution*, 1915. Taken from the Spanish translation edition, *Ciudades en Evolución*, Ediciones Infinito, Buenos Aires 1960. The Spanish edition includes texts and some photographs from the exhibition on cities by Geddes from 1905 onwards.
- 2 Xavier Latorre, *Història de l'Aigua a Catalunya*, L'abecedari, Premià de Mar 1995.
- 3 Manuel de Torres i Capell, *La formació de la urbanística metropolitana de Barcelona*, MMAMB, Barcelona 1999.
- 4 Antonio Font, Carles Llop, Josep Maria Vilanova, *La Construcció del Territori Metropolità. Morfogènesi de la regió urbana de Barcelona*, MMAMB, Barcelona 1999.
- 5 For more detailed information on the methodology of the Projecte Marc, see Fidel Vázquez Alarcón and Ramon Vázquez López, *La transformació del espai fluvial del Llobregat en el Baix Llobregat*, Ramon Folch (Coord.), *El territori com a sistema*, Diputació de Barcelona, Barcelona 2003.
- 6 The Martorell to Rubí torrent project director is the architect and landscape designer Alfred Fernández de la Reguera; the lower stretch is headed by the company of architects Batlle i Roig.

RESTORATION OF PERIPHERAL URBAN AREAS

Project for improving the landscaping of the access to Granollers along the BP-5002.

Jaume Busquets i Fàbregas

“...i aquesta ciutat la voltaria d'unes arbredes altes i verdíssimes”

(and I would enfold this city in high and lush green trees)

Josep Carner

1. Restoration of urban peripheries and landscape improvement

In metropolitan contexts, urban peripheries — understood here as the outskirts of cities — have often been forgotten areas; places that have not enjoyed the attention that we pay to historical quarters or newly-created residential areas. They are areas that almost always take on an unfinished, precarious and impersonal appearance, and in many cases, are associated with negative ideas of marginality and lack of public safety.

The urban peripheries of metropolitan areas are often the meeting point between two visible worlds (the urban world, in the strict sense of the word, and the rural world), generating an often uneasy dialogue and a landscape that seems disturbing because it fails to conform to either the tidy image of city centres or the more or less bucolic image of the countryside.

In recent decades, the dispersed nature of urban growth and the uncontrolled proliferation of peri-urban activities have contributed to an expanding area displaying some of the characteristic traits that are attributed to peripheral landscapes, such as disorder, lack of identity or the “banalisation” of these areas.

In addition, the distinction between city centre and outskirts is becoming increasingly weak in contemporary metropolitan environments, and we are seeing the creation of areas that are difficult to categorise using the conventional categories, and which are above all characterised by the hybridisation of uses and functions. One of the dangers of this dynamics is the formation of a landscape that is hard to read, while at the same time being depersonalised.

Within this context, the accesses to urban centres become tremendously important in the processes of evaluating urban peripheries; on the one hand, because they establish the relationship of function and significance between cities and their metropolitan environments, between inside and outside, between the past and the present. On the other hand, because they become a great opportunity for re-conquering peri-urban areas for public use and for creating more liveable places.

This article deals with the importance of trees and the arrangement of uses and spaces in configuring the entry points to cities, and describes the landscape improvement project for the access to Granollers along the BP-5002 road on the Palou plain, in the Barcelona Metropolitan Area.