The radical changes experienced by the world of work in the last decades have deeply transformed our regions. Cities that bloomed during the industrial age lay nowadays abandoned and useless suffering from serious problems of decay. Their plight is linked to productive reorganization, economic transformations and changing shifts. Industrial cities endure today shrinking populations, increasing unemployment and poverty rates, segregation and social exclusion and the abandonment and obsolescence of their physical structures. The future of industrial cities is today, in most cases, uncertain.

Some of these cities have decided to forget their industrial past in order to survive. They have become business centers or tertiary, commercial or cultural poles. They have usually restored and reused one of their factories as a ‘symbol’ of their industrial past. The reversibility of urban decay has usually been linked to the restitution of economic value and lost status. It has not been related to the improvement of the quality of life or to the amelioration of urban or social conditions of the inhabitants and former industry workers.

In this context, it is increasingly important to claim alternative futures for these decaying cities, based on their own potential: their industrial past. Urban planning is the fundamental tool to retrieve industrial memory and preserve cultural heritage. Urban planning can restore the futures of the city that decline took by force.

Decline – industrial heritage – urban planning – industry – shrinking cities – memory
SHAPING THE FUTURES FOR INDUSTRIAL CITIES IN DECAY: URBAN PLANNING AND MEMORY RETRIEVAL

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“In Detroit, for the first time in history, large numbers of skyscrapers built to last for centuries are becoming derelict; a cluster of semi-abandoned structures rises like a vertical no-man’s-land behind empty lots. (…) Though new uses for these crumbling forms remain elusive, new meanings can be found in their presence. I propose that as a tonic for our imagination, as a call for renewal, as a place within our national memory, a dozen city blocks of pre-Depression skyscrapers be stabilized and left standing as ruins: an American Acrópolis. (…) A starting point would be to place a moratorium on the razing of skyscrapers, our most sublime ruins. Then, for the cost of stabilizing the structures to avoid accidents from falling fragments, we could transform the nearly 100 troubled buildings into a grand national historic park of play and wonder, an urban Monument Valley” CAMILO JOSÉ VERGARA. “Downtown Detroit. American Acrópolis or Vacant Land – what to do with the world’s third largest concentration of pre-Depression skyscrapers?”

The scene described by Vergara is for many, one of the byproducts of economic growth and technological development. Solutions usually vary between Vergara’s own proposal and the attempt to hide decline, to prevent it to spread out or pollute other areas of the city. Nevertheless, for many of us, the futures of industrial cities are at the same time a matter of concern and a professional challenge.

Beyond ruin’s appeal, physical decadence is the reflection of a much more complex problem: city’s social and urban structures have not been able to adapt to a new set of circumstances. After a long process of abandonment, decline has finally affected the spatial organization of the city. In the specific case of industrial regions, decay is the consequence of the structures’ unfitness to productive reorganizations and changing shifts.

That’s why closing factories are never only obsolete buildings. They are the evidence of the departure of a particular mode of production and its related social organization. They reveal that a definite culture of work is about to be forgotten. And it is our duty to preserve it.

Thus, the question of how to protect this heritage is raised. Which are the techniques to preserve and industrial labor’s collective memory and tradition? If “la mémoire d’une société s’étend jusque-là où elle peut, c’est-à-dire jusqu’où atteint la mémoire des groupes dont elle est composée”3 we should inquire whether we are prepared to face such a recovery, if we have the tools to go beyond the recuperation industrial heritage’s symbols. That is, can we face the challenge of restoring and preserving the memory of industrial work? Do we have the appropriate means? Can we find alternatives to brownfields, theme-parks or to the mere restoration of significant industrial buildings?

This paper tries to demonstrate that alternatives exist and we have the techniques for preservation. The main hypothesis is that in territories molded by production urban decay is the evidence of memory loss. That’s why our responsibility is to reverse regional decline and restore industrial labor’s collective memory. Even more we should develop the techniques to foresee the structures’ physical decadence as the proof of a culture of work that is being forgotten.

Our second premise is that urban planning is the discipline which can lead this complex process of memory restoration and assert the reversibility of decay. However, urban planning cannot do without other sets of measures, even without a propitious environment. Programs and public policies envisaging the same purpose are necessary. Moreover, community involvement and citizens’ participation will be essential to succeed.

We will suggest two main strategies to confront decay and restore the collective memory of industrial cities and workers: to reverse decay and to foresee it. But first of all, we ought to define our methodology. As in Burawoy’s “extended case method”4 it starts out from practice, from the study of destroyed industrial cities and proceeds “extending out from the field”5 to theory. Nevertheless, the essence of urban planning (action, engagement) will lead us again to the field: “theory is not something stored up in the academy but itself becomes an intervention into the world it seeks to comprehend”6

To begin with, we must identify the object of our research: what we have to preserve. Because, the issue of our protection surpasses the container: the industrial building; instead, we are dealing with social, labor and urban structures. Culture of work’s preservation transcends the factory: it comprises its environment; that is city, territory and the social processes that are developed. Moreover, the preservation of industrial heritage goes beyond ruin’s conservation and is concerned with collective memory retrieval. Therefore our research and action should focus on industrial city and its social structure.

3 HALBWACHS (1950), p. 47
4 BURAWOY (1998)
5 Ibid, p. 5
6 Ibid, p. 21
Camilo Jose Vergara’s proposal confronts these two concepts: ruin and memory. Planning to solve urban decay through the transformation of a city into a theme - park of industrial ruin is to elude a historical task. Our society is responsible for urban memory loss and the theme - park would only raise a remembrance of never occurred facts.

Stabilizing the ruin, time stops. It denies futures to the city and its people because, at the same time, it removes urban life and forbid city evolution. Accepting their lack of futures, we admit that urban decline is an irreversible process; we assume that industrial cities’ collective memory can be lost forever. Against ruin, memory is the retrieval of collective traces: ‘After the labour of many industrial hands, after a time when the meaning of its monuments could be deciphered’.

Our purpose is then to preserve the culture of work; the labor processes, social organization and urban structure linked to a certain mode of production that has been transformed. In the particular case of industrial cities, mass production and industrial capitalism molded a very specific spatial arrangement for its productive organization: an extremely specialized urban model. Industrial cities were planned to produce maximum benefits in terms of profits and expenses: city’s centralized spatial structure was designed to optimize production. The urban model and the organization of society were shaped by economic growth and production patterns. Cities’ and citizens’ historic values, informal associations, urban memory’s layers and centuries of civilization were bulldozed. They were replaced by the optimum spatial developments for the new mode of production. When the economic pattern changed, cities designed for centralized industrial labor could not adapt to new conditions and started their decline.

In order to success in industrial competition, cities reached great specialization and linkage to a single activity. We can define, as Kevin Lynch, a city in decay as one that “bloomed in the past due to a single economic activity’s growth, in which it was specialized”. That’s why when the mode of production changed and the industry moved, urban and social structures were not fit to new circumstances. That was the beginning of these cities’ long process of decadence.

So that, urban decline can be understood as a lack of adaptation to new conditions. In industrial cities, old spatial and social structures have been unable to be transformed and adjusted to new modes of production. These cities were not planned to foresee any alteration of their initial conditions, so when the circumstances changed, they could only collapse.

Industrial cities were designed for unlimited centralized economic growth and the model’s crisis was not foreseen. The irreversible process of decay associated to growth was forgotten in their construction. Industrial model built such specific structures that were unable to adapt to new conditions of production. In other words, the same process of industrial city’s construction was the source of its decline.

7 CRIBSON, p.XX
8 LYNCH (2005), p. 105
Radical changes experienced by the world of work in the last decades brought jobs and workers, residents and economic activities, out of industrial cities. They expanded without limits until the city core, the place of the previous mode of production, was unnecessary. After a long process of abandonment (rejection to property rights and obligations) and subsequent decadence (decrease in urban life and economic value) old industrial cities’ foundations and futures were finally called into question.

So that, today we are faced to sinking cities. Many citizens and workers have already flown and the spatial structures of industry were abandoned or demolished long ago. The traces of industrial culture vanish and, in some cases, they are about to disappear.

Urban decay makes labor memory retrieval a much more urgent issue. As Maurice Halbwachs described, ‘il n’est point de mémoire collective qui ne se déroule dans un cadre spatial’⁹. That’s why; the preservation of the memory’s space becomes a requisite. ‘C’est l’image seule de l’espace qui, en raison de stabilité, nous donne l’illusion de ne point changer à travers le temps et de retrouver le passé dans le présent; mais c’est bien ainsi qu’on peut définir la mémoire; et l’espace seul est assez stable pour pouvoir durer sans vieillir ni perdre aucune de ses parties’¹⁰

We have already defined that to preserve the culture of work; we ought to restore the place where it was developed. We should then identify the space we are about to keep and which are the techniques to regenerate it. First of all, we need to delimit the location of industrial labor. ‘Los estudios sobre cualificaciones (…) deben tomar como objeto material de reflexión la configuración productiva identificada por un proceso completo de trabajo, o, si se quiere ver de otro modo, por un producto: ‘the entire manufacturing chain of a product’ (…) incluyendo la distribución y con una visión englobadora de centros de trabajo, empresas y procesos’¹¹.

If we are dealing with entire labor processes, we should then preserve the whole territory in which they were developed. The place of industrial labor cannot be thence constrained to the factories or to the built environment of the city; the place of collective industrial memory is the region. Therefore the preservation of industrial heritage and the retrieval of memory must be part of a global process of regional revitalization.

For Maurice Halbwachs: “le lieu a reçu l’empreinte du groupe et réciproquement. Alors, toutes les démarches du groupe peuvent se traduire en termes spatiaux, et le lieu occupé par lui n’est que la réunion de tous les temes”¹². If the place of industrial collective memory is the region, then the alternative to iconic buildings’ restoration and theme - parks are the regeneration of a whole territory shaped by industrial mode of production and its social networks.

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⁹ HALBWACHS (1950), p. 93
¹⁰ Ibid, p. 104 -105
¹¹ CASTILLO (1998), p. 184
¹² HALBWACHS (1950), p. 85
Once identified the region as the place of industrial memory, we ought to describe its distinctive characteristics. The main one is that we are faced to a changing place, to a territory in evolution. Memory preservation can not alter this process; if it stabilized the region in time, we would be again keeping the ruin, not restoring memory. As a consequence, our approach to the industrial region should relate memory retrieval to regional evolution and urban planning is the discipline which can direct this process.

So that **regional revitalization** is uncovered as the first strategy to preserve the culture of work. In this case, memory retrieval has to do with redefining or reinventing the futures these regions apparently lack. Regional planning can return the futures to these devastated areas without denying their industrious past. Revitalization is linked to a new model that comprehends city and territory, past and future as a whole. A model which allows destroyed cities to become complex urban regions, a model fit to changing shifts and trends: a city - region able to evolve recalling its past.

Nevertheless, a regional or city plan does not assure neither regeneration nor memory preservation. Urban planning should have a distinctive approach and be based on some indispensable principles to be able to revert decline and retrieve collective memory. We can therefore investigate these techniques to implement them in some other sinking industrial cities.

The application of our methodology leaded us to specific cases, to real industrial regions in Europe that are recovering from decay. The analysis of their regeneration plans let us infer their common elements and deduce the basic techniques employed.\(^{13}\) We could then “extract the general from the unique, move from the ‘micro’ to the ‘macro’ and connect the present to the past in anticipation of the future”\(^{14}\)

We will only present here one of the analyzed examples, that of the Ruhr mining industry region in Germany and its regeneration plan IBA Emscher Park.\(^{15}\) The link between regional revitalization and memory restoration will be emphasized in this occasion.

The Ruhr’s basin is one of the oldest industrial regions in Europe and it constitutes the evidence of the spatial consequences of productive reorganizations and changing shifts. The structure of the territory was molded by mining and steel industry and till 1970s it was an intensely exploited and productive area. Nevertheless, at the end of 1970s coal beds started to be exhausted and mines began to close. At the same time the region’s steel industry began its decline. At the end of 1980s, approximately 1500 hectares of mining land rested unproductive, the industrial base had collapsed and the Ruhr’s basin was an example of ecological degradation and social and economic decay. That’s why; the North Rhine-Westphalia region undertook a regeneration policy program (1989 - 1999) for the Ruhr area.

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\(^{13}\) This issue has been developed in depth in FERNÁNDEZ ÁGUEDA (2009a)

\(^{14}\) BURAWOY (1998), p. 5

\(^{15}\) The other cases are analyzed in FERNÁNDEZ ÁGUEDA (2009a)
In this framework, an international competition for the regional redevelopment, the IBA Emscher Park Project was launched. It comprehended the basin as a whole and proposed "a solid and lasting strategy for the ecological, economic and social renewal of the old industrial areas"\textsuperscript{16}. The projects were arranged in six topics: Emscher River's landscape park and ecological, working in the park, living in the park: revitalization of neighborhoods and new housing developments, art as an engine for landscape development and industrial culture and heritage preservation.

We will discuss later the plans and projects that specifically envisaged the preservation of industrial culture. But first of all, we would like to emphasize that indirectly all the strategies employed are working together to restore collective memory and enhance the recuperation and reuse of industrial buildings and elements. We will therefore attempt to underline the ties of each topic to industrial culture recuperation.

1. \textbf{Emscher River's landscape park}. The regeneration of the Emscher River is the evidence of a new regional approach: from exhausted wasteland to a respect and protection of territory. It constitutes the unifying element, ‘the green backbone’, of the plan through the regeneration of the Emscher valley as a regional park of industrial landscape. The plan deals with the rediscovery of regional qualities, the integration of vacant places and the linking of previously isolated landscapes. It includes the recuperation of existing public spaces, brownfields’ redevelopment and the transformation of ancient railroad lines into bicycle lines.

2. \textbf{Emscher River’s ecological transformation}. For a long time the river was the means of transport for raw materials and products, but at the end of 1980s it presented problems of pollution and degradation tied to heavy industry. So the plan comprehended the ecological restoration of the river and included the replacement of many drainage canals, the separation of wastewater and pure

\textsuperscript{16} KUNZMANN in RASSEGNA (1990), p. 27
water into individual, underground drains (partly covered) and the renaturation of canal banks and their incorporation into quality urban environments. The recuperation of the Emscher river constitutes, at the same time, an opportunity to reconstruct one of the most important means of industrial transport in the region. Its regeneration indirectly achieves the restoration of the traces of industrial distribution and labor processes.

3. Working in the park. For more than 150 years, industrial structures in the Ruhr area were defined and controlled by major companies in the iron, steel and mining industries. The decline of these industries brought major social, economic and urban problems to the region. IBA Emscher Park Plan was centred on a high-quality development of possible industrial sites in the central Ruhr area as well as the highlighting of the region’s structural and infrastructural qualities. Industry-related development concepts and the integration of income-generating measures ought to support the structural change in industry. As a result, business, industrial and science parks have evolved on former industrial sites in the cities’ centers. The program envisaged to associate new working places to the renovation of old industrial sites. That would be the example of the Industrial Park created on the former Holland mine, Westpark on a steelwork in Bochum, the redevelopment of Arenberg mine in Bottrop as a company incubator, the commercial, industrial and landscape park on the former Erin mine in Castrop – Rauxel or the Eving tech center on Minister Stein mine in Dortmund. In addition, this revitalization of the regional economy has been encouraged by policies directed to support local initiatives and recuperate traditional activities linked to this territories in decline.

4. Inhabiting the park. In the Ruhr’s basin, urban structures and neighborhoods were molded by industry. In the late 19th century and early 20th century, garden cities and housing schemes were located around the industrial plants to house plants’ workers. These neighborhoods are, clearly an important part of our industrial heritage. IBA Emscher Park Plan comprised a whole program that envisaged the renovation and reuse of these siedlung of old mine industry siedlung, as Welheim mine Siedlung in Bottrop, CEAG Siedlung in Dortmund, Hugo mine Schüngelberg Siedlung in Gelsenkirchen or Teutoburgia mine Siedlung in Heme.

5. Art as an engine for landscape development. In IBA Emscher Park plan, artistic interventions were included as an engine for driving regional and landscape development and also to revitalize the region through tourism. Artistic projects have been constructed as landmarks, usually on former industrial sites or recuperating industrial elements or buildings, such as the high gasometer in Oberhausen (an installation from Christo and Jeanne-Claude) or the tetrahedral pyramid in Bottrop that has become the symbol for a region’s renewed link with its industrial history.

6. Industrial culture and heritage preservation. Industrial culture was conceived as the central topic of Ruhr’ basin regional identity. The strategy was to enhance the significance of industrial heritage and promote its reuse. Thus, it can be considered the engine of the regional regeneration. Nevertheless, it is important
to underline that the preservation of ‘industrial civilization’ has not only linked to tourism. In fact, there are specific programs to enhance tourism in the region but industrial heritage preservation is based on a strategy of regional revitalization. Most interventions on industrial places are tied to community (services, parks, new workplaces or housing renewal). In this general scheme different approaches to industrial heritage’ restoring have been enhanced:

- Industrial Heritage protection policies and lists / inventories of protected industrial buildings and elements
- Specific policies to promote the formation local associations envisaging the research and compilation of industrial documents and objects in workers’ neighborhoods. Such as, Forum für Geschichtskultur an Ruhr und Emscher (regional network)
- Development of public institutions whose purpose is to preserve industrial heritage, such as museums: Rheinisches Industriemuseum (Oberhausen), Westfälisches Industriemuseum (Dortmund) on former industrial sites or foundations Stiftung Industriedenkmalfpflege und Geschichtskultur
- Strategies to enhance the recuperation and reuse of industrial sites.
  - Renovation for private uses: Working in the park and Living in the Park initiatives
  - Recuperation for public uses (parks, community services, landmarks and museums), such as the Gasometer in Oberhausen, ancient Thyssen blast furnace’s recuperation as a park in Duisburg, former Zollverein mine or indoor swimming baths and railroad harbor transformation into museums
  - Repair and reuse of ancient means of transportation, such as the Ruhr railroad lines or the Emscher

![Figure 9. Recuperation of Thyssen blast furnace as Duisburg Nord Park](image)

Our approach will lead us from practice, from these examples to theory, to infer the main factors involved in regional revitalization and industrial memory preservation.
As it has been stressed in former industrial cities, plight is linked to productive reorganization and changing shifts. That’s why, regional revitalization becomes a significant strategy to preserve the culture of work and retrieve industrial memory. However, the case study has shown the particular approach needed to confront decay in these specific places. Regional plans’ purposes are usually linked to restore balance to a devastated and abandoned region, to recover industrial memory, to regain social cohesion and region’s economic base and to preserve and administer a deteriorated natural and cultural heritage. Through the application of our methodology, we could infer from the analyzed examples the main procedures to achieve regeneration.

1. **Public policies.** As it has been emphasized, we are faced to a complex phenomenon. Although urban planning should assume the leading role, it cannot ensure the process' success. It must come with adequate urban, social and economic policies and most times, be helped by a propitious environment. These masterplans do not only cope with spatial aspects but they are plans for a regional development and for a socioeconomic and territorial revitalization. Their purposes are usually associated to restore balance to a devastated and abandoned region, to recover industrial memory, to regain social cohesion and region’s economic base and to preserve and administer a deteriorated natural and cultural heritage.

2. **Public control.** Confronted to such a large crisis, public authorities’ leadership is essential to preserve civil rights and regain social cohesion. However, regional development could not be possible without private investment; so that public policies to enhance private investment and public – private partnerships are critical for success.

3. **Economic base recuperation.** Industrial cities' decline is linked to the loss of its economic base. We are faced to regions that had become specialized in a single economic activity in which production they stood out. So that, industrial regions will need to regain a new diversified and complex productive network. This web and the informal social relations related to it will be the source of a much more complex urban and social structure. So that, specific policies envisaging the reconstruction of a diversified industrial base are essential to revert decay.

4. **Memory – evolution balance.** Faced to regions with such a significant industrial past, the balance between city memory and urban evolution must direct regional growth. The development of new activities and the setting of new inhabitants and workers must be enhanced but it must come with specific policies to sustain existing citizens, encourage local initiatives and recuperate traditional activities linked to the territories in decline.

5. **Community involvement.** It is crucial for the revitalization process success. Specific programs to enhance citizens’ and former workers’ participation are essential to recover collective memory as well as to revitalize the region.

6. **The regional plan as a framework.** The regional plan will set the foundations for the regeneration program; it will constitute the support for smaller plans, studies and projects related to a certain aspect such as Transportation Plans, Regional Economic Revitalization Plans, Housing Developments and Industrial Culture Recuperation Programs.
In this context, our final objective is memory recollection through regional revitalization. So that, we can also deduce from the analyzed regions the main procedures employed to protect the culture of work. Initially we must distinguish between direct and indirect techniques.

Most of the mentioned procedures envisaging regional revitalization are indirectly preserving the memory of the region. Specific public policies to increase employment among former industrial workers and professional training programs are associated to prevent their flight from the region, policies to encourage local initiatives and those linked to the recuperation of region’s traditional activities or new public transport systems employed to connect degenerated neighborhoods or abandoned industrial areas to the rest of the city are some of the indirect techniques to restore industrial labor’s collective memory.

But we can infer also a group of direct techniques to preserve the culture of work:

1. **Industrial Heritage recuperation and reuse.** Usually, the major industrial sites and buildings (from an architectural, historic or urban point of view) are recuperated for tourism but, in most cases, they are renovated for community use. We can differentiate between:
   - Restoration of remarkable industrial buildings for public uses. They are the base to encourage cultural tourism in the region and improve social justice through the recuperation of regional industrial heritage for citizens.
   - Large landscape projects developed on brownfields to retrieve the sites to the community through its reuse as parks or recreational areas. These projects have been an opportunity to link landscape architecture, environmental restoration of deteriorated or polluted industrial sites and increase of parks and open spaces in congested cities.

2. **Transportation network recuperation.** The restoration of former and abandoned industrial transportation networks (both railroad and river structure) and their integration into the new system of regional transport allows to preserve the traces of industrial distribution. At the same time, it serves as a strategy to connect former industrial sites and neighborhoods to regional centers.

3. **Renovation of former industrial sites as new working centers.** The projects associate environmental restoration of deteriorated industry sites to their redevelopment as innovation and scientific poles or industry incubators.

4. **Redevelopment projects for working-class or deteriorated industrial neighborhoods.** They comprise two kinds of projects: restoration of working-class housing schemes linked to industrial sites and the redevelopment of deteriorated social housing neighborhoods.

5. **Regeneration of brownfields as new mixed-use district neighborhoods.** These plans usually include the recuperation of the remarkable industrial sites and the integration of the area in the city. They are planned on former industrial sites, and they integrate great amount of services and recreational areas for the residents as a way enhance new population to stay in the region.
In conclusion, industrial memory can be restored through adequate regional planning. Even more, urban planning is revealed as one of the main methods to preserve the culture of work. Planning complex urban regions we are able to restore the traces of the past that have been hidden by decay and which will set the foundations of the city’s futures. Through regional comprehensive planning we can affirm the reversibility of decay and assure collective memory’s recollection.

It is left though, to present a second strategy to preserve the culture of work and the industrial heritage. If “la mémoire collective est un courant de pensée continu, d’une continuité qui n’a rien d’artificiel, puisqu’elle ne retient du passé que ce qui en est encore vivant ou capable de vivre dans la conscience du groupe qui l’entretient”\(^\text{17}\), we ought to prevent the interruption of this continuity. Even more, we should attempt to foresee this breaking point. We are challenged to anticipate the time of memory loss, the time in which workers would forget “l’habitude et le pouvoir de penser et de se souvenir en tant que membres du groupe et d’user toutes les notions qui sont communes à ses membres”\(^\text{18}\).

No doubt, physical decadence represents a real breaking point in the process of memory conservation. It demonstrates not only that the former spatial structures have been abandoned but that the city has become a terrain vague after a long process of abandonment and decay. In these regions, urban memory retrieval and inhabitants’ ability to recall their past will be more and more uncertain.

That’s why industrial spatial cities’ decline compels us to act. We ought to preserve their memory when it has not yet been lost, when the traces of the former city are still present in urban structures, when workers can still remember the culture of their time.

In many occasions, the preservation of industrial memory becomes a real recovery of a lost and hidden culture. Memory retrieval is linked to reverse decay and restore the remnants of city’s and citizens’ industrial past. So that, it seems essential to develop the techniques to recognize decline before spatial structures have been involved, improve the tools to anticipate cities’ physical decadence.

In our case, spatial deterioration is the final evidence of the crisis of the industrial model. Time and the worsening of life and labor’s conditions made residents and workers abandon the space they inhabited. Against the traditional fight for space’s control and appropriation, industrial regions have been progressively vacated. Usually, the sequence of abandonment starts with plants closures and flight and its final consequence is physical decadence. Between these two moments other factors emerge and reveal city’s decline, however they are not as evident signs as physical structures’ decline. We should therefore develop the appropriate tools to detect these aspects and react before decay has reached spatial constructions.

\(^{17}\) HALBWACHS (1950), p. 46
\(^{18}\) Ibid, p. 8
We will attempt to demonstrate that urban planning is the appropriate discipline and the study of city evolution the suitable technique to face this problem. As Patrick Geddes confirmed in Cities in Evolution: ‘for it is surely of the essence of the evolution concept (...) that it should not only inquire how this of to-day may have come out of that of yesterday, but be foreseeing and preparing for what the morrow is even now in its turn bringing towards birth’19.

Therefore, we will try to outline a strategy to foresee decay from urban planning perspective. But first of all, a brief methodological note: we will proceed again “extending out from the field” 20. That is, through the evolutive research of the decay process in intensely deteriorated industrial cities we will be able to infer the main factors and aspects of decline. Regions that have been suffering deterioration for some decades will help us to identify the ‘symptoms’ of decadence and even to determine the sequence of their appearance.

We will sketch here a general scheme of this strategy of anticipation. It is left, however, for further research a detailed definition of the variables involved and the setting of the mentioned sequence: when and how do we detect plants’ closures, economic activity’s flight, informal relations rupture, population loss or collective memory disappearance? Even more, in which order do these factors emerge?

Once again, our method will lead us from practice to theory, to draw conclusions from the cities which have been facing deterioration for a long time. Afterwards, we will proceed again to the field, to implement these particular aspects of decay as measures to foresee decline in other industrial regions in which physical structures’ decadence has not started yet and the continuity of collective memory has not still been broken.

In this paper we would like to set the framework for this research, to describe our specific perspective, its principal techniques and propose a general plan. It is left, as said, an exhaustive and comprehensive research on this strategy of anticipation.

Our approach is based on the analysis of regional evolution. The main technique employed will be mapping the evolution of the structures’ location. City and region’s development (or shrinking) depended largely on how the industrial structures of production and reproduction evolved. Through maps we are able to comprehend the ties between industrial location, social structure and city’s evolution. These plans should be completed by historical photographs that document the evolution of social and productive structures, memory related interviews with the agents’ involved and statistical data that allow us to infer the real sequence of decay.

In any case, the inferred set of factors of decay (the theory deduced from practice) would only constitute a framework of measurement when applied to other cases. When dealing with real regions, real labor processes and real workers the aspects

19 GEDDES (1950), p. 3 - 4
involved in decline vary significantly from one city to the other. For instance, in United States sprawl must be considered a major indicator of industrial cities’ decay and meanwhile in Europe it has almost no impact. Our specific approach will lead us to alter, modify or substitute these measures to adapt to each specific case. Nevertheless, there are some common characteristics in the evolution of regional decline processes linked to deindustrialization. These aspects can draw a general framework in which distinctive factors should be inserted.

To sum up, we assume physical decadence constitutes a breaking point in the collective memory preservation process, so it seems essential to foresee it. Therefore, the main objective of our anticipation strategy is to prevent memory loss and return these cities the futures that decline took away. The aspects inferred from practice should hence be related to this main objective. This feature distinguishes radically our approach from the traditional perspectives on urban distress.

The issue of urban decay measurement has been thoroughly studied from different fields. Since 1960s literature has attempted to document the scale of urban decay. Although terms have changed through time (urban blight, city hardship, urban distress, economic well-being, different measures on poverty and the underclass, population loss, shrinking cities...), diverse perspectives have focus on different factors (economic, social, educational, demographic or productive aspects) and various indexes have been calculated, the general concept have been kept. Urban decline should be measured to demonstrate its real incidence. In our approach, we use this measurement to analyze in time and space the process of decay in real cities. Its final objective is to implement our reconstructed theory in some other regions where decay has not reached physical structures and therefore foresee spatial decadence.

First of all, it is necessary to define the object of the research. Traditional perspectives on urban decay are usually focused on specific deteriorated areas (central cities or industrial neighborhoods) isolated from their environment. We ought to emphasize that our aim is to investigate the whole space occupied by industrial culture, its entire labor processes and its complex social organization. As it has been stressed the object of our research is the region, not the factory or the brownfield. We can therefore define it as a spatially contextualized approach. It specifically refuses to fragment reality; it comprises the whole place of industrial collective memory. As a consequence, our anticipation strategy will surpass the ‘a priori’ deteriorated areas; it will be focused on the evolution of the city in the region.

This line of reasoning leads to the second particular feature of our perspective: it should be described as an evolutive approach. The premise is that urban decay must be understood historically, contextualized not only in space but also in time. It is necessary to study the evolution of the city in the region to understand the urban transformations caused by the reorganization of production. It is necessary to investigate industrial model, to be able to comprehend the transformations arisen when

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21 In BURCHELL et al (1981) is presented a compilation of urban distress literature. More actual references can be found in FURDELL, WOLMAN and HILL (2005)
the production paradigm changed. It will then be possible to identify the social and urban structures that have been preserved and those destructed by decay.

Through an evolutive approach, regional decline can be understood as a transitional state in the process of urban evolution, not as its final condition. To examine the region through time enables to plan the region’s futures and the preservation of industrial collective memory. To investigate the evolution of the city in history confirms, with Kevin Lynch, ‘the reversibility of decay’

The quantitative evidence would then be analyzed through the four qualities employed by Robert A. Beauregard’s to measure population loss in cities in decline: **prevalence, severity, persistence and geographical incidence**. “Prevalence is the number of instances of population loss, severity measures the scale of that loss, and persistence captures its temporal endurance. For geographical incidence, I focus on the regional distribution of large city population loss since US regions have had a major role in the country’s urbanization” These four qualities, applied to urban decay characteristics, should allow the comparison between each factor’s incidence in time and space.

Our method guides from praxis to theory, in the case of this anticipation strategy we undertake the study of the evolution of decay in intensely deteriorated cities to be able to infer the main factors that affect and characterize decline. We will only present here a brief summary of the conclusions of the research on the city of Detroit. It was selected because it constitutes a paradigmatic case of an industrial region in decline linked to productive reorganization. Decay has been affecting Detroit since 1960s so that, the sequence of deterioration can be correctly defined and the incidence of our ‘qualities’: prevalence, severity and persistence is unquestionable.

Detroit’s urban model was that of a short-term achievement associated to unlimited growth. Automobile industry molded spatial development and social organization of the region. The same process of industrial city construction was the source of its decay. When the industrial paradigm changed and decentralization of industry started, the city started its decline. After almost four decades, Detroit is still suffering from serious problems of decay tied to the lost of its industrial base and the memory of the industrial time is almost lost. Even today return to life of the city seems still far away.

Nevertheless, at the beginning of the 20th century, Detroit was the most important center of automobile production in the world. It had become ‘the Motor City’. The most important automobile companies in United States, ‘the Big Three’ (General Motors, Ford and Chrysler) set their headquarters and principal plants in the city and Detroit was soon the third largest industrial city in United States after New York and Chicago. When these industries abandoned the city, Detroit started its decadence. On the first half of 20th century Detroit’s population increased 647 percent. In 1900 the city’s population

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22 LYNCH (2005), p.168 y ss.
23 BEAUREGARD (2009), p.516
24 FERNÁNDEZÁGUEDA (2009b)
did not reached 300.000 inhabitants, but in 1950 it was of almost three million people and it had become the fourth US city by population rank. On the second half of 20th century the shrunk 44,4 percent, poverty rate reached 31,4 percent in 2005 and only 56,3 percent of the population was attached to the labor force.

Detroit constitutes a significant example of how the extreme specialization of an urban model shaped to obtain maximum benefits was not able to evolve or adapt to a new mode of production. In fact, if we analyze the whole metropolitan area of Detroit, that is its region, we can hardly address deindustrialization as a main factor of decay. Although it has suffered many transformations since Ford’s time, the productive network is still present in the region; it has only abandoned the central city. That is, the place where industrial labor was concentrated has been progressively vacated, first by industrial structures, then by citizens and workers. Through the following maps we will be able to understand the evolution of this process of abandonment and subsequent decadence.

Figure 1. DETROIT. Evolution of structures’ location. 1920 – 1955 - 2007
The optimum model for mass production centralized work was so specific that it was unable to adapt to a new mode of production. When the paradigm changed, industrial structures started to move to a more fitted place: the metropolitan area of Detroit. The same model of city development and economic success disguised the imprints of city’s decadence. The city grew till it could apparently do without its center. Since 1970s urban plans and policies have been implemented to confront decay without success and the retrieval of Detroit’s industrial memory and the future of the city seem still uncertain.

We will proceed again to infer the general framework of our strategy to foresee decay from practice, from the analysis of the evolution of real cities, so that it can be applied to some other regions. First of all, we must underline that through the evolution maps we have been able to deduce an initial approach to the sequence of decay. We can distinguish four periods in the process of urban decline and memory loss: stagnation - abandonment - deterioration - decadence.

The sequence of decay starts with industrial structures stagnation that is, the productive network stops its growth, industrial sites have not yet been abandoned but manufacturing employment stops growing. The structures of reproduction have not been affected yet and city continues its expansion. Nevertheless, systems of transportation of the industrial mode of production (railroad, rivers) have started to be substituted by automobile and highways so we can identify this period because of these distribution’s transformation and even with the first signs of abandonment in railroad lines or freight railroad stations.

The second period is characterized by the flight of industrial structures, so that decreasing in manufacturing employment and plants’ closures are evidence as well as retail trade stagnation, the abandonment of industrial sites or deterioration in industrial transportation systems.

The third stage main factors involve high and middle income families and white collar workers flight from the city, so that median family income in central city descends, as well as the social mix and intercourse. There is a process of succession in residential structures: low income families move to former middle income neighborhoods and housing vacancy rate begins to grow. Total city population starts to decrease: migration exceeds immigration. Industrial sites show the first signs of physical deterioration. Some other evidences are increasing unemployment and informal labor, shrinking labor force participation rate and social networks and associations starts to decrease as well as urban life.

The fourth phase is based on low income families and blue collar workers flight. The city has been progressively abandoned and most of the inhabitants who are left cannot afford to abandon the city. Job - education and job - residential spatial mismatches are essential characteristics. Housing vacancy rates have increased and vacant land in central city is easy to be found. Industrial sites present clear symptoms of
decadence and some of them have already been demolished. Poverty rates and educational problems increase and social conflicts arise. We are faced a terrain vague.

This is only a brief summary of how different structures are involved in the process of urban and regional decline. It is left for further research to establish a detailed sequence of appearance of the different aspects.

Nevertheless, face to our specific problem of memory retrieval and industrial heritage preservation we can draw some conclusions from this general scheme. If we consider physical decadence as a breaking point in the process of memory conservation, we can attempt to foresee it organizing in detail the aspects above. The first conclusion would be that to anticipate decay in industrial regions probably we ought to pay attention to the structures of distribution, because industrial transportation systems are the first structures that show physical decadence. Residential succession and industrial stagnation appear also at the first stages of the process.

So that, if we want to anticipate to physical decadence and memory loss we could take these particular aspects as measures of the beginning of the process of urban decline. It is important to underline that our final object is to be able to apply these factors to regions that are probably in the first phases of the process or where decline has not been as severe. So that, to anticipate decline is also be able and have the tools to detect more subtle forms of regional decay. We can therefore foresee the following steps of the process and anticipate memory loss. Through urban planning and comprehensive regional development we will be able to preserve industrial memory before it is forgotten.

In conclusion, we have presented two distinct strategies to preserve culture of work and industrial heritage. First of all we proposed regional revitalization as a main method to reverse decay and to achieve industrial collective memory retrieval. Secondly, we have set a general framework to a strategy to foresee decline. The main object of this method would be to sharpen our perception of decay, to develop the techniques to recognize the first signs of memory loss process. We have also presented urban planning as the discipline which can face the preservation of industrial culture and heritage.

“En réalité, dans le développement continu de la mémoire collective, il n’y a pas de lignes de séparation nettement tracées, comme dans l’histoire, mais seulement des limites irrégulières et incertaines”25

As well as collective memory’s limits, industrial cities’ futures are irregular and uncertain. Nevertheless, it is worth to fight for them. The retrieval of industrial collective memory is to reclaim city’s and citizens’ ability to recall their pasts. It is to affirm the existence of multiple and opened futures for industrial cities. It is to confirm that decadence is only a stage in the process of city’s evolution never its ending. To restore collective memory is to affirm the reversibility of decay.

25 HALBWACHS (1950), p. 47
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