

Reapproaching historic post-industrial landscapes: The case of Edessa

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HISTORY THESIS

REAPPROACHING HISTORIC POST-INDUSTRIAL LANDSCAPES:
THE CASE OF EDESSA

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Abstract

The question of industrial buildings' and complexes' management has been a developing field of research and experimentation, especially over the last three decades. Despite the acknowledgement of industrial relics as factors that have largely contributed to the formation of regions', communities' and cities' identity, in the 21st century there are still vast underused post-industrial areas. If dealt with in a large-scale context, these areas have the inherent potential to revitalize the adjacent urban areas. For the purposes of this research, the aforementioned potential is examined under the scope of Edessa's historic industrial landscape, consisting of several complexes. Rather than dealing with each one separately, the present thesis aims at setting the ground for an inclusive, industrial heritage-led approach in the prospect of the Historic Urban Landscape (2011). Towards this purpose, three case-studies, showcasing the dynamics that industrial heritage's implementation in urban regeneration processes offers in different scales, were analyzed. Conclusively, this study suggests the management of Edessa's industrial complexes as a network rather than as an assembly of individual units, that would stimulate an urban regeneration process, promoting and enhancing its urban landscape.

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Cities have always been humanity's most elaborate creation, constituting the locus of human activity in terms of power, economy, social identity and culture for over ten millennia. The 21st century has been characterized as the urban century, since more than half of the global population resides in cities, and it is estimated to reach the 68% by 2050 (Bandarin & van Oers, 2012). In this context of globalization, the management and reinvention of the urban environment and its resources, currently subjected to accumulated pressures of growth and transformation, is more topical than ever.

The urban condition can be generally conceived as a historically dynamic process. In this process, demolition and creation anew succeed the protection and conservation of existing urban structures and forms, and vice versa. Throughout the years, this intertemporal process has shifted from condemning the existing and commending the new—tabula rasa principle—towards the approach of the Historic Urban Landscape (2011) and the appraisal of heritage. Elements of the urban fabric that were once an indication of decay and deterioration, are starting to play an active role in the urban context; a case in point being the industrial infrastructures and sites.

Deindustrialization during the late 20th century led to the confrontation of the post-industrial city with the permanent imprint of Industrial Revolution's tangible manifestations. Even though, the concept of protection and conservation of cultural heritage was broadly developed by that time, the industrial urban landscape was perceived as a menace to historic cities, rather than heritage, resulting in its abandonment, neglect and decay. Therefore, large urban areas were left unused, discontinuities in the urban tissue appeared and an enormous building stock was left unexploited. Progressively, a change of perception was achieved and the legacy of industrialization was officially acknowledged as cultural heritage in the Nizhny Tagil Charter issued in 2003 by TICCIH. According to the Charter, industrial heritage can be defined as “the remains of industrial culture which are of historical, technological, social, architectural or scientific value. These remains consist of buildings and machinery, workshops, mills and factories, mines and sites for processing and refining, warehouses and stores, places where energy is generated, transmitted and used, transport and all its infrastructure, as well as places used for social activities related to industry such as housing, religious worship or education” (TICCIH, 2003:2).

As it is evident from the aforementioned definition, industrial heritage can rarely be limited to a single location, but instead it is a series of interrelated sites across a wider landscape, as I. Stuart (2013) states. Moreover, given that most post-industrial landscapes are located in advantageous locations, in terms of topography, transportation and infrastructure, it is evident that they can constitute a catalyst in the urban regeneration processes. Despite the on-growing interest regarding industrial heritage, its urban approach is one of the aspects that needs to be further explored in the academic literature. Thus, the aim of this thesis is to define the ways in which industrial heritage—and more specifically, historic industrial landscapes—can be re-integrated anew in the current urban context promoting the prosperity and longevity of the cities. For the purposes of this research, the case of Edessa has been selected to be thoroughly analyzed, due to its immense industrial growth during the 20th century, the evident presence of water, the plethora of large-scale industrial complexes—which are now in different rates of decay—, and their intriguing interrelationship on an urban scale.

For the accomplishment of the abovementioned aim, a methodology consisting of literature review, charters' analysis, personal writing and the selection of relevant case studies in the European context has been followed. In particular, a review of the existing literature concerning Edessa's industrial heritage was conducted, and local articles, newspapers and archives were rigorously examined. The same methodology along with a comparative analysis were applied in the review of the selected case studies.

The present thesis is divided into three distinct parts. The first part refers to the shift towards the acknowledgement of industrial sites and infrastructures as heritage. The gradual expansion of the term industrial heritage to include more and more aspects of industrial sites is the main point of interest for this part of the thesis. More specifically, the shift of inclusion from the single artefact towards the site and then the historic urban landscape as expressed in the relevant charters, will be analyzed under the scope of industrial heritage.

Consequently, the industrial development of Greece and especially, that of Macedonia is briefly analyzed. The socio-political and economic conditions that directly affected the spatial development and evolution of the industries will be drawn. Gradually, the research shifts from the broader scale of the country towards the scale of the network of Edessa–Veria–Naousa and their industrial complexes based upon the water power provided by the rivers. The case of Edessa and its industrial zone will be thoroughly examined, so as to define those elements that constitute fundamental elements of its identity. Rather than focusing on each unit separately, the aim of the thesis lies on the interrelations and the conditions created by the whole industrial network of the city.

In the third part of the thesis, after having detected the main elements that characterize the industrial zone in research—the water, the urban context and the landscape—, relevant case studies are analyzed. Each case study is selected in order to showcase one element at a time, while transitioning through different scales towards the reintegration of Edessa's industrial zone in the contemporary realm.

The first scale examined (XL) is that of the network of industrial urban communities, analyzed through the case study of Rjukan-Notodden.

The following scale (L) focuses on the implementation of a strategic masterplan through which the sum of the industrial units and the industrial landscape is transformed into a coherent system. This aspect is studied through the case study of the Emscher industrial park in Ruhr, Essen.

Finally, the proximity of the industrial sites with the urban tissue, and the subsequent reconnection of the inactive industrial zone and the city, will be investigated through the case study of post-industrial spaces along Aker River in Oslo (M).

Conclusively, the combination of the outcomes of the thesis' second and third part can result in the proposition of a set of design guidelines regarding post-industrial landscapes and their management. Once implemented in the urban regeneration processes, this set can lead towards the re-integration of similar facilities and infrastructure as active and vibrant cores in the urban realm.

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01

*The real voyage of discovery consists
not in seeking new landscapes, but in
having new eyes.*

Marcel Proust, 1908

1.1 Historic Context of Industrial Heritage

Urban continuation
& shaping process.

“We need to stress the premier fact that cities are long-lived artifacts. Their tendency is to continue. Unattended, the artifact decays and disintegrates. But, as long as there are people in residence, the city will renew itself without letup in unrehearsed ad hoc procedures or more methodically. The usual pattern is a combination of the two” states Kostof (1999, p. 250). This tendency for urban continuation is highly interdependent on the historical, social, political and economic developments, which formulate the decisive shaping processes and spatial changes of the urban structure. The era of industrialization, starting in the 18th century, can be perceived as one of the most defining developments, which left a permanent imprint on the city’s form.

Industrialization &
its impact on the
image of the city.

During this period, an accumulation of rural masses, in search for labor, in the urban centers where industries were located, occurred. This phenomenon resulted not only in severe socio-economical changes but also in the decay of the historic city; seen at the time as a place of moral and physical decay, occupied by the lower social strata. To address the problems of intense urbanization and the inability of historic urban centers to cope with the on growing demands of the industries, regeneration strategies were adopted; ranging from the demolition of historic urban areas to the opening of new boulevards and squares. Eventually, this degradation and destruction of the historic centers—which at the time had reluctantly started to be acknowledged as cultural heritage—along with the fact that industries constituted a source of contamination and their heavy industrial aesthetic, led to the emergence of certain stereotypes and an overall negative image of the industrial urban landscape (Chilingaryan, 2014). Karl Friedrich Schinkel’s reaction to the factories and mills of Manchester, describing them as “monstrous masses of red brick, built by a mere foreman, without any trace of architecture and for the sole purpose of crude necessity, making a most frightening impression” is a typical example of the dominant perception regarding industrial infrastructures (Kostof & Castillo, 1995, p. 576).

Industrial relics
as a menace to
the city during
deindustrialization.

Deindustrialization and the transition that occurred during the 20th century, from the production of goods to that of services, and consequently, from the industrial city to the post-industrial one, further enriched the aforementioned negative image, profoundly affecting the urban entities in financial, societal and spatial terms. The cessation of industrial activity, following the extensive industrial development of the 19th century, left the industrial infrastructures and their vast surroundings, that used to be the driving force of development, to deteriorate, creating urban voids, affecting districts and even entire cities. In this context, the legacy of industrialization was perceived as a menace interrelated to phenomena of urban blight, leading to the demolition and eradication of numerous complexes and facilities under the pretext of the post-war regeneration plans, before being properly evaluated (Chatzi-Rodopoulou, 2020).

This large-scale destruction and degradation, in addition to the prevailing turn towards the appreciation of the past and its creations that took place during the late 19th and early 20th century, gradually provoked the opposition of archaeologists and conservationists, who

started to acknowledge the embedded value of the industrial remnants. Thus, a systematic valorisation of industrial heritage, as part of the broader discipline of cultural heritage, started in the 1950's, when the term industrial archaeology was initially coined by D. Dudley (Slotta, 1992). Despite cultural heritage being valued as an urban resource to be preserved, the prevailing tendency at the time favored its musealization and mere preservation, rather than its recontextualization. However, "since the 1970's there has been an increasing realisation that cultural heritage can be a vehicle rather than a hindrance to urban regeneration" as noted by Orbasli (2008, p. 29).

The shift towards industrial heritage's preservation

Therefore, in the late 20th century, a new cycle of transformations dealing with derelict production and manufacturing sites as opportunities for development initiated a phase of heritage-led urban regeneration, in which strategic vision, public and private partnership, sustainability and urban heritage enhancement had the leading role (Preite, 2012). Even though this practice gave a direction towards the protection and management of industrial heritage, in the 21st century there are still vast underused post-industrial areas that have the inherent potential to revitalize the cities, if dealt with in a large-scale context.

The need for a macroscopic perception of industrial heritage.

1.2 Constitutional Framework analysis of Industrial Heritage

In parallel to the evolution of the theoretical background regarding industrial archaeology and heritage, from the end of the 19th century onwards, this movement progressively took on institutional status, through the creation of committees and councils, the issuing of declarations, charters and conventions, both on a national and international level (Figure 1.1).

As already stated in the historic context of industrial heritage (Section 1.1), even though the notion of preservation and conservation of monuments can be dated back to the 18th century, the recognition and inclusion of industrial heritage as an aspect of the cultural heritage took considerably more time. From the middle of the 20th century, international conventions, indirectly referring to the protection of industrial heritage are signed; one of the most notable, being the World Heritage Convention Concerning the Protection of the World Cultural and Natural Heritage, signed in Paris in 1972. Cultural Heritage, according to the Convention, refers equally to monuments, urban ensembles, cultural landscapes, works of art, including industrial monuments, which they acquired, since then much greater value and as an integral part of history needed to be safeguarded (Agriantoni, 1986).

Early indirect references to industrial heritage in Charters & Conventions.

Although, in 1978, the foundation of The Committee for the Conservation of Industrial Heritage (TICCIH) signaled the route towards the official recognition of the industrial fragments, it was not until 2003 that the first international charter for their conservation was issued; the Nizhny Tagil Charter. Eight years later, the "Principles for the conservation of Industrial Heritage Sites, Structures Areas and Landscapes", also known as the 'Dublin Principles' (ICOMOS & TICCIH, 2011) are issued by the Joint ICOMOS-TICCIH, offering a broadened definition of Industrial Heritage. The Dublin Principles can be conceived as the application of guidelines adopted by the successive charters issued for the protection and management of cultural heritage, in the discipline of industrial heritage—namely, Amsterdam Declaration's integrated conservation (1975), Burra Charter's methodological approach for the development of management strategies (1979), Vienna Memorandum's approach on sustainable protection and management (2005)—. Comparing the two documents, it is evident that the latter, being

First charters for Industrial Heritage.

influenced by Vienna's Memorandum and the Historic Urban Landscape approach, shifts towards an inclusive definition¹ of the term, while encompassing not only the material aspect, but also the intangible dimension, enabling a wider perception of what could be named as historic industrial landscape (ICOMOS & TICCIH, 2011:1).

More specifically, under the scope of the HUL approach (2011), industrial landscapes need to be understood as complex, multi-layered, ever-changing, dynamic constructs that bear collective memory and echo cultural identity. In this context, the application of strict territorial boundaries can be rendered questionable; position also confirmed by I. Stuart (2013), describing industrial heritage as a series of interrelated sites across a wider landscape, incorporating a continuous history of uses and changes, as well as complex interrelationships of its distinct components.

The interpretation of the industrial landscape as a spatial and temporal continuum is often neglected, and instead of evaluating the correlations of specific units as part of a wider network, emphasis is given on the units themselves. This challenge was already addressed by T. Putnam and J. Alfrey (1992, p. 294), who claim that “the geographical and chronological relations in the landscape are not easy to determine: the landscape is not organized in coherent narratives and the emergence of the processes of change as well as the correlations can be better served by criteria different from those that apply to preservation or even interpretation of individual spaces.”

Towards an
enlarged perception
of industrial sites.

Industrial landscape
as a spatial
and temporal
continuum.

¹ Definition: *The industrial heritage consists of sites, structures, complexes, areas and landscapes as well as the related machinery, objects or documents that provide evidence of past or ongoing industrial processes of production, the extraction of raw materials, their transformation into goods, and the related energy and transport infrastructures. Industrial heritage reflects the profound connection between the cultural and natural environment, as industrial processes – whether ancient or modern – depend on natural sources of raw materials, energy and transportation networks to produce and distribute products to broader markets. It includes both material assets – immovable and movable–, and intangible dimensions such as technical know-how, the organisation of work and workers, and the complex social and cultural legacy that shaped the life of communities and brought major organizational changes to entire societies and the world in general.*

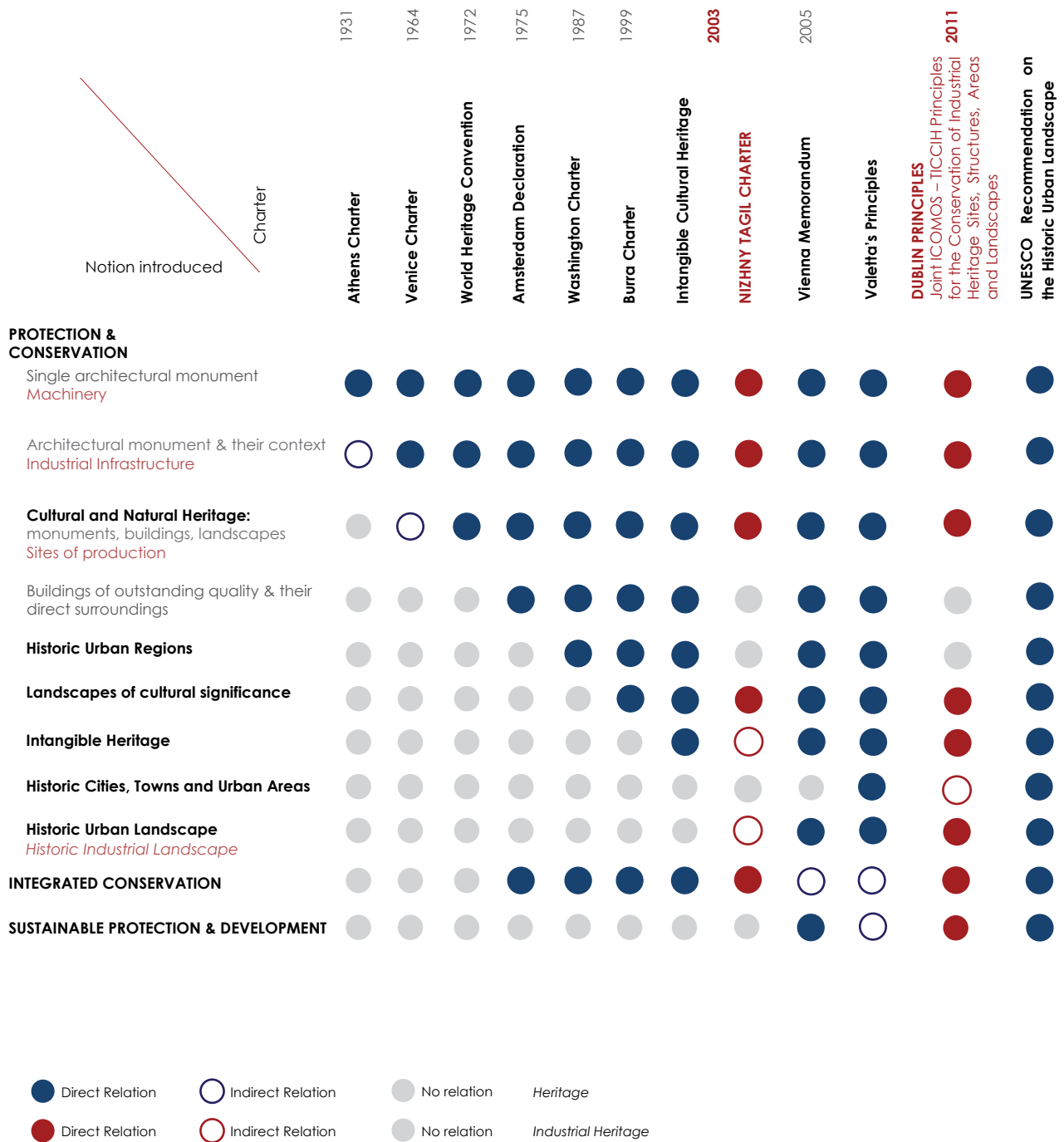


Figure 1.1 The parallel course of the charters regarding heritage and industrial heritage towards a broader approach.

1.3 Conclusions: Towards the Historic Industrial Landscape

The historic industrial landscape.

Summarizing the parallel courses of the cultural and industrial heritage's conservation movement, regarding the theoretical background developed over the centuries, it is evident that the concept of conservation, after the reflections of the 19th century and during the 20th century, evolved from the micro-scale of the individual monument, to the macro-scale of the city, the landscape and the concept of cultural good. These successive enlargements of the concept of heritage have led to an all-inclusive, holistic concept of the historic environment—especially, the historic industrial landscape—, which can be used as a catalyst in the urban regeneration process that 21st century's cities and urban areas undergo.

Historic industrial landscapes as chances for urban regeneration processes.

Industrial heritage can be rightfully described as the most complex heritage division, as “it is a complex amalgam of places and people, processes and practices, which continues to defy explanation of its origins and astounds in the effects of its subsequent development and decay” (Cossons, 2012, p.7). As such, the socio-political, technological, economical and scientific values embedded in the industrial relics, as outcomes of the complex cultural process of industry, need to be seen as a potential asset for the revitalization of the urban entity. Post-industrial landscapes, as part of the broader term of the cultural landscapes, offer enormous inherent possibilities to contribute to the sustainable development and redefinition of urban regeneration strategies, shifting from relic landscapes to continuing ones, as they were defined in The Operational Guidelines for the Implementation of the World Heritage Convention, produced by the World Heritage Committee (2012).

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02

"Beware of saying to them that sometimes different cities follow one another on the same site and under the same name, born, and dying without knowing one another. At times even the names of the inhabitants remain the same, and their voices' accent, and also the features of the faces; but the gods who live beneath names and above places have gone off without a word and outsiders have settled their place (...) It is worthless to ask whether the new ones are better or worse than the old, since there is no connection between them."

Italo Calvino, 1972

2.1 Industrial development & De-industrialization in Greece

Industrial Revolution, according to Hobsbawm (1990, p.33), can be defined as the acceleration of growth because of, and through, economic and social transformation, that can initiate a self-sustained economic growth by means of a perpetual technological revolution. As already mentioned in chapter 1.1, Industrial Revolution in Europe, the onset of which can be traced back to the 18th century in England, gradually expanded throughout the continent, severely affecting and altering its economic, social and spatial configuration.

Defining Industrial Revolution

Greece was inserted in the phase of industrialization comparatively late beside the rest of Europe. Even though the artisanal backdrop, which constituted the forerunner of industries in the European context, also existed in Greece since the early 18th century, it was not until the second half of the 19th century that the first indications of industrial development emerged. The phenomenon of industrialization in Greece cannot be interpreted under the scope of the definition given by Hobsbawm, since it was not a continuous economic growth, sufficient enough to lead the economy towards a self-sustained developmental course (Chatziiosif, 1986). Instead, it can be construed as the sum of three distinct phases of industrialization that are not directly interrelated to one another; the first phase is detected in the decade of 1870-1880, the second covers the Interwar years 1920-1940, and finally, the third one, refers to the post-War period between 1962-1973 (Chatziiosif, 1986; Chatzi-Rodopoulou, 2020).

The particularities of Industrial Revolution in Greece.

After the completion of the third period, Greece entered the phase of deindustrialization, a trend already occurring in the rest of Europe, obsoleting a large building stock of industrial infrastructures. Deindustrialization, as a result of the crisis in the industrial sector and the shift towards the tertiary sector of production, designated a plethora of “decaying industrial areas”, as they were officially characterized in the Ministerial decision of 1995², on a different rate of social and economic dismantling in each case.

Deindustrialization & decaying industrial areas in Greece.

Regarding the constitutional framework of industrial heritage's protection in Greece, its origins can be detected in the 1980-1990 decade. During that period, the interest towards industrial remnants, as testimonies of the past and integral parts of the collective memory, gradually emerged in the form of actions taken by public administration services and of the foundation of relevant research and cultural organizations such as ETBA (Belavilas, 2010; Chatzi-Rodopoulou, 2020). However, that interest was not yet enough and a large number of industrial sites was demolished.

Constitutional protection & attitude towards industrial relics.

Along with the systematization of industrial heritage's documentation and protection, the 1990's is also the period that large scale reuse projects concerning industrial infrastructures took place in Greece (Belavilas, 2010; Chatzi-Rodopoulou, 2020; Karavasili, 2007). According to Zacharopoulou (2014, p.741), “these practices contributed to the degradation of spatial and social structures and relationships, to the discontinuity of historical links and to a failure

² Ministerial decision 29773/29-12-95 (ΦΕΚ 10748): the term decaying industrial areas (*φθίνουσες βιομηχανικές περιοχές*) refers to 14 territorial entities, parts of the following prefectures: Attiki, Cyclades, Viotia, Euboea, Chalkidiki, Magnisia, Achaia, Kozani, Imathia, Pella, Larisa, Kastoria, Messinia, Drama.

of the historical reading of the landscape”. Throughout the 21st century so far, even though the appreciation and acknowledgement of industrial heritage have resulted in the shift towards the development of reuse projects respecting the character and authenticity of the original structures, the legislation and the constitutional framework cannot yet be considered sufficient, since there are still sites that despite being listed as monuments are in need of immediate action so as not to collapse.

2.1.1 Macedonia’s route towards industrialization

The fact that Greece was recognized as an independent state only after 1830 and its geographical borders were limited to Peloponnese, Central Greece, Euboea, Cyclades and Sporades is an essential factor to be taken into account when researching the conditions of its route towards industrialization. The formation of the state, however, did not entail the formation of a uniform national economy; on the contrary, the economic sector was divided into separate enclaves with little to none interaction between them (Chatziiosif, 1986). This division was translated into different industrial centers for different enclaves—namely, Piraeus for Central Greece, Hermoupolis for Cyclades and Patras for Peloponnese. Epirus, Macedonia, Thessaly, Thrace, the Ionian Islands and North Aegean Islands were under foreign dominance during the first phase of industrialization and therefore, they followed slightly different routes.

More specifically, Macedonia was under the Ottoman Empire’s regimen from 1387-89 until 1912, and a year later, it was officially incorporated to Greece. The Ottoman Empire, experiencing its decay during the late 19th century, in a last attempt to establish its domination and ensure its subsistence, pursued its modernization and turned towards the West, which, at the time, was in search of new markets; initiating a bidirectional commercial relationship. Hatti-Hymayn, a law issued in 1856, as part of Mahmout’s II reforms, enacted equal rights to Christians and Muslims, and constituted a springboard for the transition from the agriculture-based economy towards the region’s industrial development (Mintsis, 1993; Zarkada-Pistioli, 1999). The aforementioned commercial relationships between Europe and the Ottoman Empire in combination to the reforms created the ideal conditions for economic growth, the increase of small-scale industries and the accumulation of capital in the broader area of Macedonia.

In this context, the abundance of water, the topography and the existence of multiple pre-industrial units in cities such as Naousa, Veria and Edessa offered the ideal conditions for the development of water-powered industries. The raise of import taxes and the lack of import taxation regarding machinery and raw materials gave an additional boost to the industrial development (Patronis, 2015). Therefore, the first water-powered textile industrial complexes were constructed in the 19th century, the most important of which were located in the tripole of Naousa-Veria-Edessa; cities that gradually obtained a strategic and important role in the geopolitical agenda.

2.1.2 The network of water cities Edessa-Veria-Naousa

Naousa, Veria and Edessa are located on the mountain range of Vermion, and their history stretches back to the prehistoric era, creating a palimpsest of multiple time and spatial layers (Figure 2.1). In these cities, important traditional manufacturing and later industrial centers were created during the 18th and 19th centuries, due to the exploitation of the water power. Especially, in the second half of the 19th century, while some European countries had

already entered the third phase of the Industrial Revolution—particularly regions such as Ruhr in Germany and Creusot in France—, in Central Macedonia the first industrial facilities appeared.

The four factors, the combination of which resulted in the industrial development of the region, were the energy potential of the waterfalls, the long pre-existing tradition in the textile sector, the low wages and finally the large domestic production of raw material—mainly cotton. The latter defined the main type of industries that thrived in the region, the textile factories, in contrast to the flour mill that was the dominant one in Southern Greece (Figure 2.2). The railway connection of Naousa, Veria and Edessa to Thessaloniki and its port via the line Monastirion-Thessaloniki, established in 1892-94 had also an immense impact on the evolution of the industries in the broader area of Vermion. Finally, during the Interwar years, the relocation of immigrants deriving from Minor Asia in the Macedonian cities, during the massive exchange of population between Greece and Turkey in 1922, gave an additional boost to the already occurring industrial development.

The conditions enabling the industrial growth.

The first notable in size and production industrial facility of Central Macedonia was the spinning mill of Loggos, Kirtsis and Toupalis founded in Naousa in 1874; being the first complex, it also functioned as an industrial educational center for both engineers and workers (Palaskas, 1986). Following its foundation, several industries, powered by river Arapitsa's hydraulic energy, were erected transforming Naousa in the most significant industrial nuclei of the Ottoman empire (Figure 2.3). At its peak, Naousa counted ten flourishing industries in its urban tissue, located on both sides of the banks along Arapitsa river. In the beginning of the 20th century, half of the cotton production in Greece was covered by Naousa, followed by Edessa that held 20% of the production and Veria with 5% (Mikelis, 1924; Palaskas, 1986). However, after its liberation and its subsequent incorporation to Greece in 1913, Naousa accorded the first position of the industrial production to Edessa, which was by then the center of the tripole. The industrial activity of the city continued until the 1960's.

The factors that led to the industrial evolution of the tripole.

Veria followed a similar pattern of industrial evolution, although in a smaller scale comparing to Naousa and Edessa (Figure 2.4). The largest industrial complex of the city was founded in 1902 and consisted of the industrial facilities, workshops, administration offices and workers' housing. The "Vermion" spinnery functioned from 1902 until the early 1970's, when an overall decay in the industrial production of the region had already started to occur.

Naousa and Edessa as the production centers of the region.

The financial crisis, the Second World War and the Civil War had an immense impact on the industrial activity of the Macedonian cities, which were unable to keep up with the technological advancements and thus progressively shut down. Most of the industrial complexes that formed the character, the image and identity of Veria and Naousa were left unused resulting in their weathering, and in certain cases, their demolition. Today, even though efforts have been made towards the safeguard of the remaining complexes and some of them have been implemented in protection and reuse programs, the majority of them is still inactive, facing the danger of collapse.

Veria

Although the three water cities followed a similar and interdependent course of industrial development, what substantially differentiates Edessa from the other two is that its complexes can be perceived both as units and as a system in a territorial point of view, as will be further examined in the following Section (2.3).

The decay

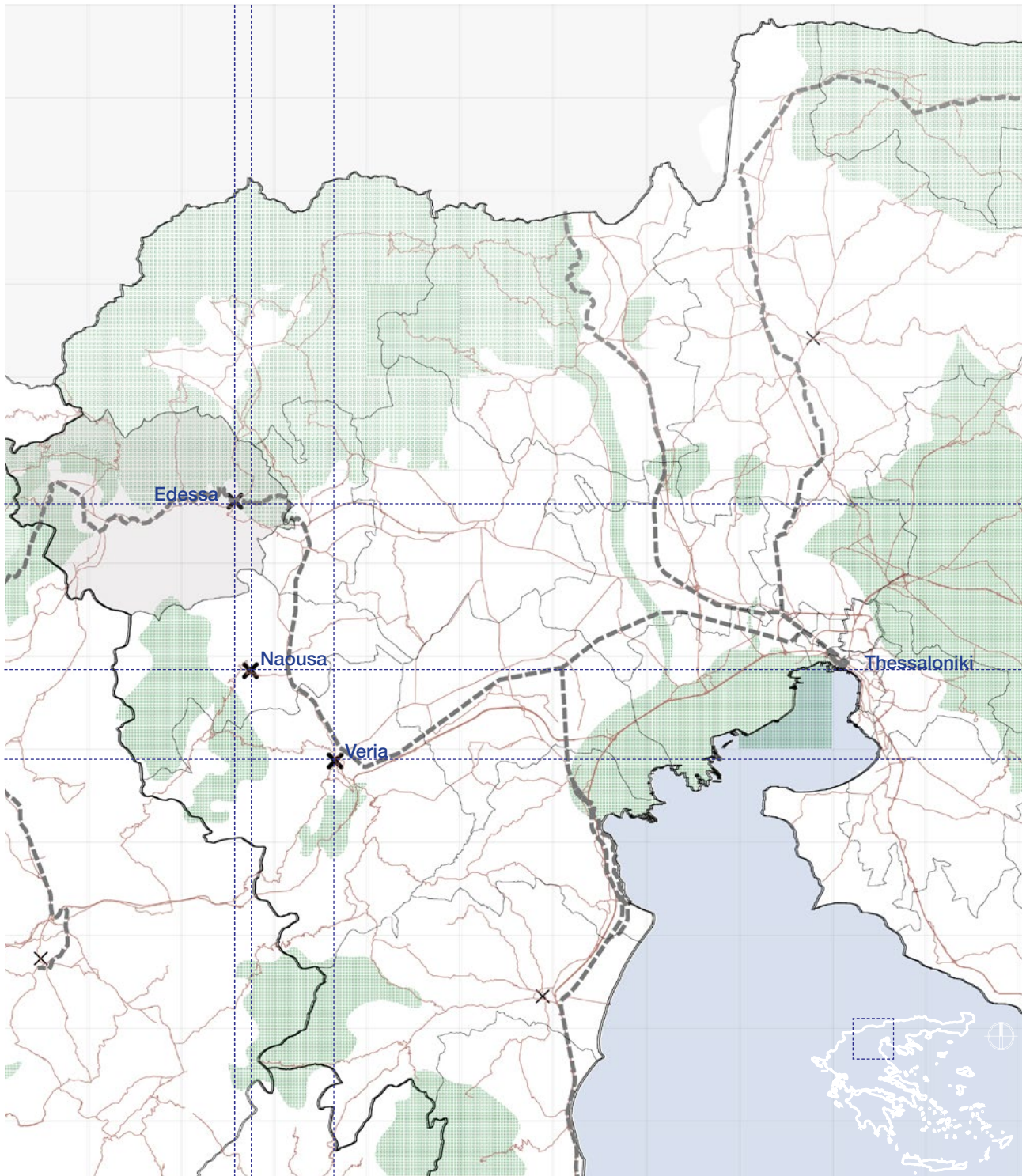


Figure 2.1 The tripole of water cities Naousa-Edessa-Veria & the train line connecting them to Thessaloniki.

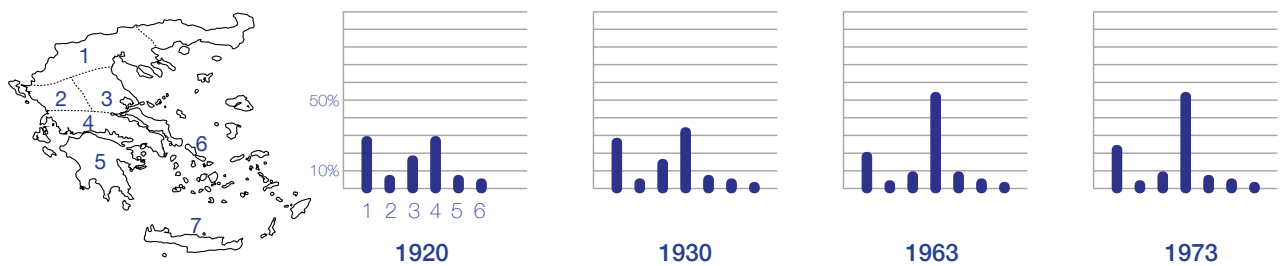


Figure 2.2 The percentage distribution of textile factories to Greece's main peripheries (1: Macedonia, 2: Epirus, 3: Thessaly, 4: Central Greece, 5: Peloponnese, 6: Cyclades, 7: Crete) for the years: 1920, 1930, 1963, 1973.

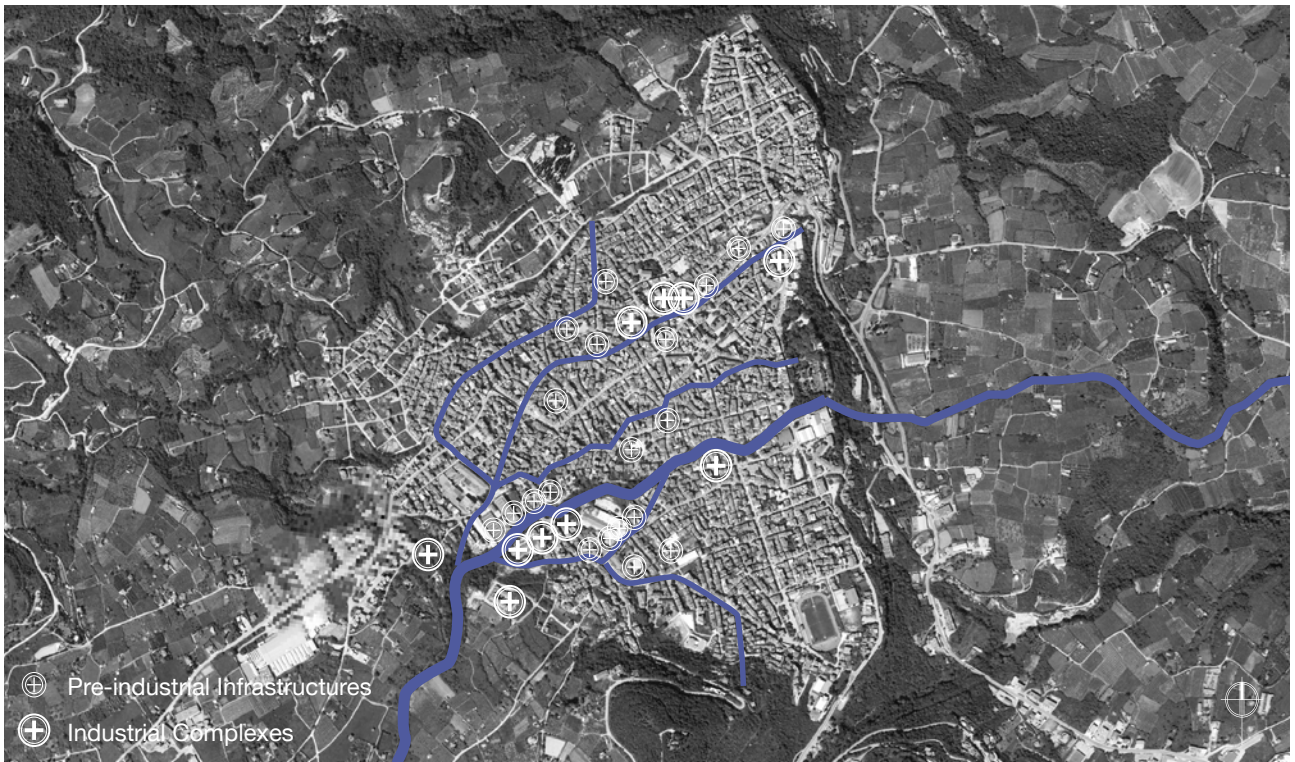


Figure 2.3 Distribution of industrial and pre-industrial infrastructures in Naousa.(Google Earth, (2022). Edited by the author)



Figure 2.4 Distribution of industrial and pre-industrial infrastructures in Veria. (Google Earth, (2022). Edited by the author)

2.3 The industrial zone of Edessa

2.3.1 The historical context

Pre-industrial
infrastructures of
the city.

As already stated, Edessa³ constitutes one of the three water cities that presented the most extended industrial activity in the broader area of Vermion. The foundation of industrial complexes in Edessa was initiated at the end of the 19th century and can be considered as an evolution of the preindustrial manufacturing units existing in the city. The power generated by the waterfalls was exploited by the residents from an early period, as is evident from the descriptions of multiple travelers (Figure 2.5); Evliya Celebi in 1668 mentions the existence of 70 large water mills and hundreds of smaller household ones powered by the multiple streams passing through the city (Dimitriadis, 1973).

The pre-industrial mills and workshops were situated on the verge of the cliff, on the border of the traditional urban district (Varosi) and form today a protected zone functioning as an open-air museum since 1994. The indispensable energy for these infrastructures was the water power provided by the river Edessaïos and its branches passing through the city.

The location of the
industrial zone.

Edessa's industrial zone was developed along the cliff, located on the edge of its urban tissue, due to the Ottoman legislation that prohibited the production and transfer of electric power away from the waterfalls, where it was produced (Mintsis, 1924; Palaskas, 1986; Zarkada-Pistioli, 1999). Thus, each complex deployed one waterfall for the function of its machinery, reaching a sum of seven large-scale industries. Hence, a strong and programmatically operative urban front that activated the whole city and at the same time connected it with the plain laying in front of it, was created (Figure 2.6).

The industrial
complexes.

In 1895, Edessa's first industrial complex was founded by G. Tsitsis and his partners. The complex functioned as an enclave, in the sense that it included not only the essential industrial facilities but also workshops such as blacksmith's forge, administration offices as well as workers' and shareholders' housing. Everything necessary for the operation of the industry was produced within the complex's territory, providing it with a certain degree of autonomy. At the peak of its operation, the factory produced the electrical power capable to cover its own energy needs but also to provide part of the city with electricity. At the time, it was considered to be the largest textile factory of the Balkans. The following years, several other facilities were gradually located in what could be perceived as an industrial zone, reaching the total number of six in 1930. More specifically, in 1905 Estia was founded consisting of two distinct industrial units in different locations—Kato (Lower) Estia in 1907 and Ano (Upper) Estia in 1925—, functioning as a complex. In 1908-09 a hemp factory was constructed and initiated its function in 1913, while in 1929, the woolen factory SEFE.KO was founded. The last industry, the hemp factory Apostolou–Spyridonides, located at the entrance of the city, never operated due to the lack of sufficient machinery. All the abovementioned industries reached their operational peak during the Interwar years, when from a total of 15000 residents in Edessa 2500 of them were occupied in the industries (Mikelis, 1924). The great impact of these industries for Edessa can also be validated by the fact that in 1919, the whole city was provided with electricity, which the municipality bought exclusively from the water-powered industries.

3 Etymology of the toponym Edessa: Ed (Εδ > Υδ) ύδωρ = water + Issa (-ισσα) = tower in the water. The slavic toponym Vodhena attributed to Edessa derives from voda = water, thus the city of water.

The main cause of the decay of Edessa's industrial facilities in the decade of 1950's, but also Veria's and Naousa's, can be detected in the transition of the rights for the use of water power to PPC (Public Power Corporation) and the construction of the hydro-electric factory in Agras (Mintsis, 1924; Palaskas, 1986; Zarkada-Pistioli, 1999). This transition meant the end of the free use of water power and consequently of free energy, which constituted the fundamental factor for the development of all these complexes.

The decay.

2.3.2 Current Situation

The total area of the former industrial zone of the city reaches approximately the 457 acres and is situated on the southeast edge of the city (Figure 2.7). The industrial zone was developed on the cliff, the height of which ranges between 40 and 100 meters, that separates the city from the plain in front of it.

The study of Edessa's urban tissue and its evolution over the years, resulted in the observation that the once programmatically active front of the city, which was an integral part of everyday life and a source of growth and economy, has now been transformed into an inactive zone full of remnants and ruins of the industrial past (Figure 2.8). Therefore, it functions as a dividing element between the city and Loggos (the plain), rather than a unifying zone and a passage for the residents and the visitors. Although throughout the history of the city the cliff has played an active role in its daily life—firstly, as a protective boundary from the attacks during the Byzantine years and then as a passage from the city to the plain—today the access is rendered impossible and its dominant role is obscure.

The former role of the cliff and its current state.

From the total of six industrial complexes, in their present state each one is characterized by a different rate of decay, while one of them was completely demolished in 1963, before being officially recognized as a preeminent relic of the city's industrial past (G. Tsitsis' industrial complex). Fortunately, the rest were gradually recognized as cultural heritage and were listed as national monuments (Figure 2.9). More specifically, the Hemp Factory was the first to be listed in 1983, as one of the four exemplary samples of hemp factories in Greece; in 1986, SEFE.KO and Ano Estia were enlisted as national monuments, and finally, Kato Estia, that ceased its operation in 1981, was recognized as a monument in 2000. The former Apostolou-Spyridonides hemp factory, despite not being listed, is currently in operation as a furniture workshop.

Current state & listing as monuments.

The fact that the protection of each industrial complex entails the preservation of both the built structures and the unbuilt surrounding environment is rather important for the preservation of their particular character. Even though the acknowledgement of the unbuilt surrounding environment as part of the monument is a promising step, it is evident from the precedented analysis that when it comes to the urban scale and the interconnections of these industries not only with one another but also with the city and the landscape, it is not yet sufficient.

Throughout the years, various attempts for the reuse of these complexes have been made by different stakeholders, however, none of them was proven fruitful; the complexes remain abandoned and decaying. The lack of a holistic approach and an integrated strategic masterplan for the reactivation of the former industrial zone as a whole through its reconnection with the city can be considered to be the main reason why these attempts were proven inadequate.

Lack of an integrated masterplan.



Figure 2.5 Edessa's (Vodhena) waterfalls as seen from the valley on the South, circa 1851. (Archives of the cultural association M. Alexandros, Edessa.)



Figure 2.6 Aerial view of Edessa, circa 1968. G. Tsitsis' industrial complex (01), the Hemp Factory (02) and Ano Estia (03) can be noticed. (Archives of the Hellenic Military Geographical Service.)

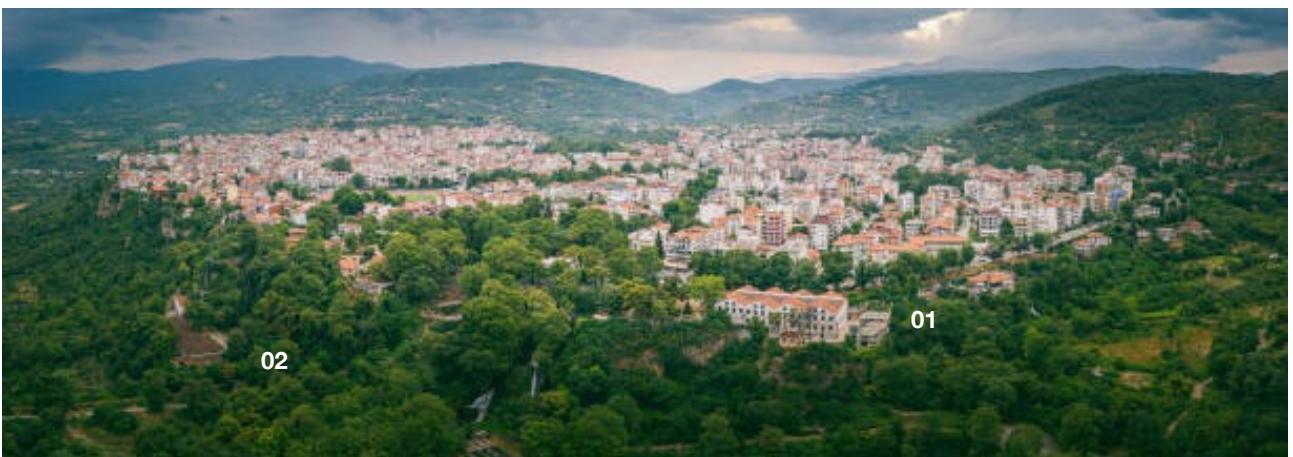


Figure 2.7 Southeast aerial view of Edessa, 2021. Ano Estia (01) and the Hemp Factory (02) can be noticed. (© Getty Images)

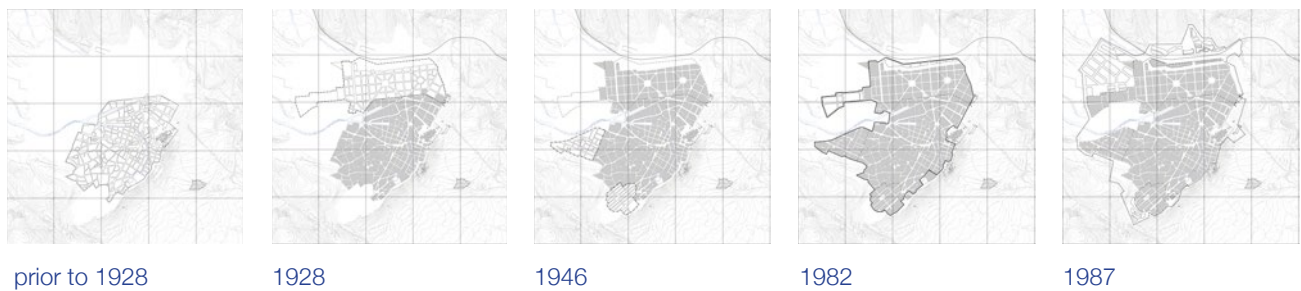


Figure 2.8 Edessa's urban expansion throughout the years. As is evident, the southeast front of the city remains a point of reference.

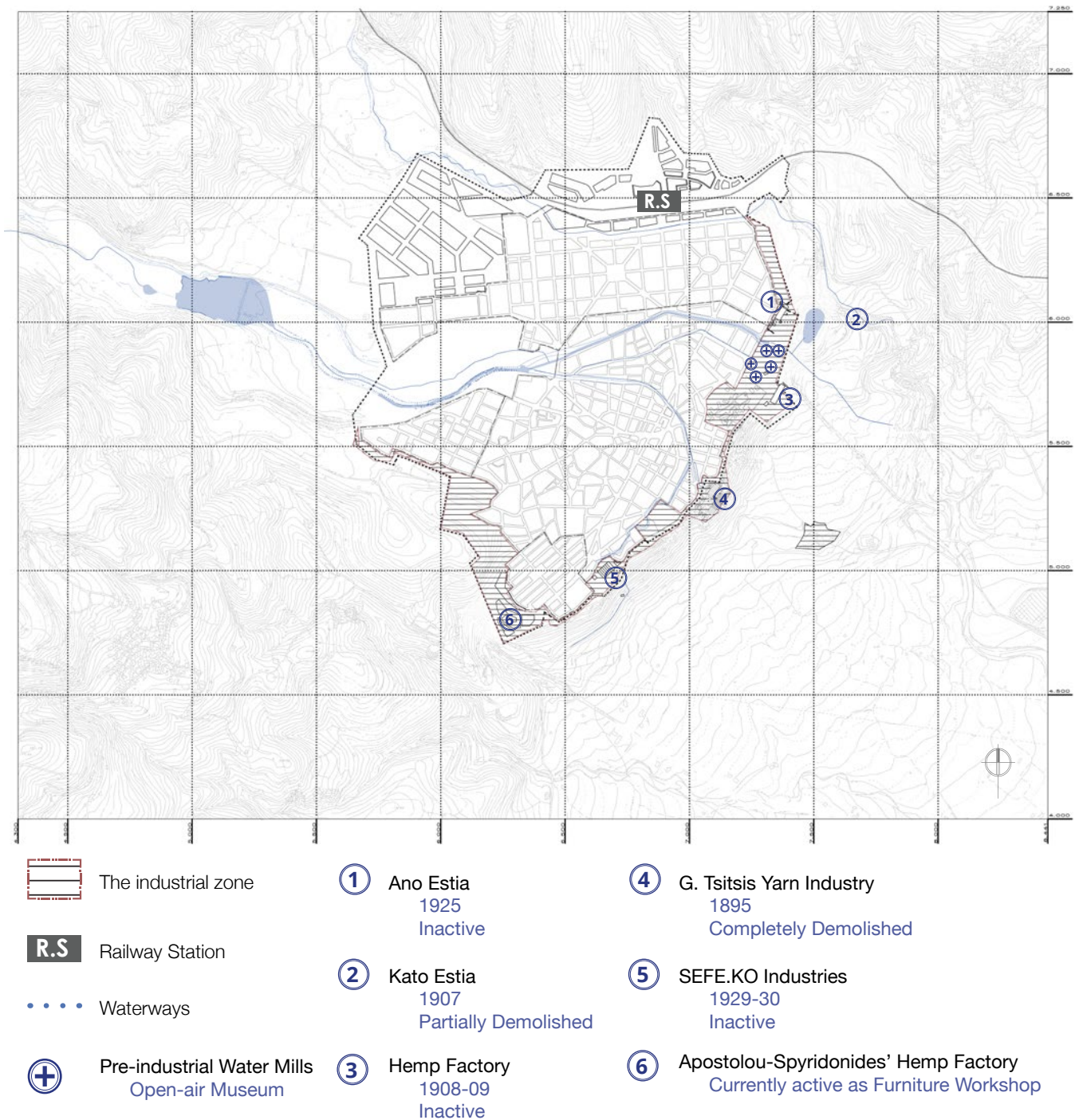


Figure 2.9 Edessa's industrial zone (and the complexes) in-between the urban tissue and the valley in front of it. (See Appendix 01 for each industry's factsheet.)

2.3 The fundamental elements of Edessa's historic industrial landscape

Through the historic and contextual research and analysis of Edessa's industrial development that was attempted in the previous sections, the fundamental elements of its industrial landscape can be identified. As already stated in Section 2.3, even though the remaining industrial facilities on the cliff of the city have already been recognized as listed monuments individually, the scope of this thesis lies on the designation of the interconnections and correlations between them as parts of a broader system—an industrial landscape that can be re-activated if properly managed.

Thus, the industrial landscape of Edessa can be characterized by three main elements:

- the water, in the form of Edessa's river and the waterfalls, that constituted the driving force of Edessa's industrial evolution. The role and the presence of the water as a connecting element needs to be accentuated in the contemporary context.

- the urban context, which was affected by the industrial development and acquired its identity from the industries. The urban context, in this case, can be further analyzed in terms of connectivity, axis of circulation, transportation and infrastructure. The proximity, yet the clear distinction of the urban tissue and the industrial zone render an interesting condition to be managed.

- the landscape, as in the topography and the surrounding environment of the industries. As already extensively elaborated in Section 2.3.2, the geomorphological configuration of Edessa defined its historical route. The cliff on the southeast edge of the city was always an inextricable part of its identity, thus part of its cultural heritage, and needs to be reconnected with the city, consisting a buffer zone between Edessa and the plain, the contemporary urban landscape and the historic industrial one.

Conclusively, rather than acknowledging the significance of each industry individually, the former industrial zone needs to be perceived in the prospect of the Historic Urban Landscape approach (2011), as an entity capable of feeding the city anew—although, in different terms than it used to, throughout its industrial era—through its reactivation.

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03

"Landscapes give us an informative impression about the economic and technical development of a particular society; they are, in fact, more informative as they give us a comprehensive, detailed and precise account of the state of the environment in a far better way than any museum could possibly do."

W. Benjamin, 1982

Chapter 03: Case Studies

The selection of the case studies in the current chapter was based upon two criteria; the first one being the relativity of the project with the fundamental elements of Edessa's industrial zone as they were defined in Section 2.4. Secondly, the scale of the site under examination, following the narrative of Section 2.2 and 2.3, gradually transitioning from a system of urban areas (XL) towards the assemblage of industrial facilities, infrastructures and landscapes of primary production (L) and finally, the network of industrial complexes (M). The scale of the individual industrial complex (S) has deliberately been omitted in the present thesis, since its purposes are mostly directed to the regional and urban aspect of industrial networks as parts of regeneration processes.

The case studies will be analyzed in the context of the accomplishment of the five urban landscape objectives issued by Clemmensen, Daugaard & Nielsen (2010); namely, appropriation, cohabitation, connectivity, diversity and porosity (Figure 3.1).

The common denominator of all cases analyzed in this chapter is their characterization as historic industrial landscapes rather than as individual industrial units. Their management was attempted through a process, which according to the World Heritage Resource Manual (UNESCO, 2013) includes the acknowledgement of the importance of the heritage addressed, the development of a policy and finally the management in accordance with the predefined policy. Monitoring is a key factor throughout all the stages, ensuring the outcomes of the process.

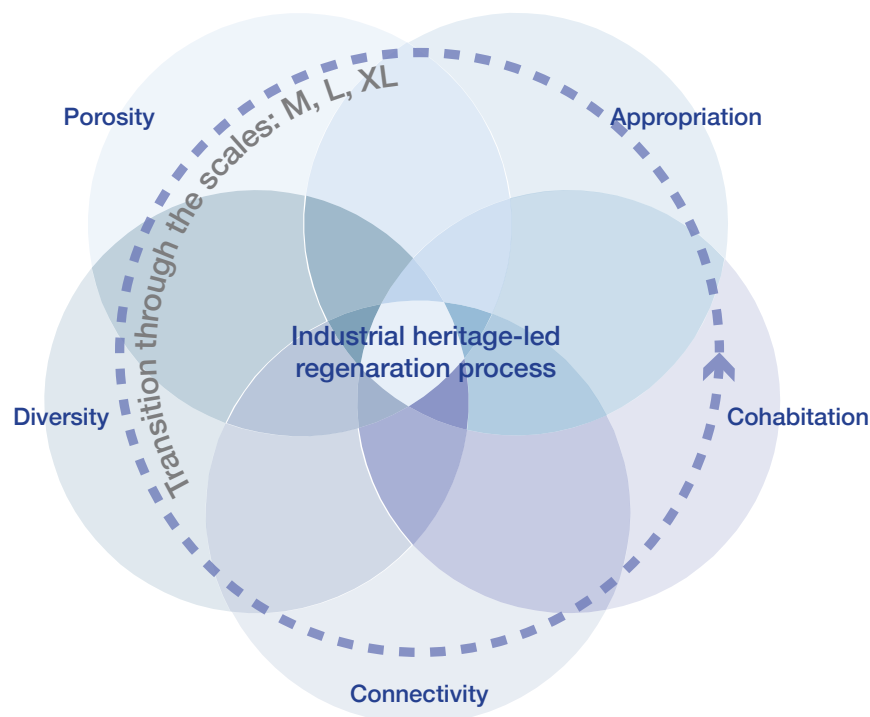


Figure 3.1 The interrelation of the five urban landscape objectives issued by Clemmensen, Daugaard & Nielsen (2010) in the context of industrial heritage-led regeneration processes.

3.1 The water: Rjukan-Notodden, NO (XL)

Relating and managing industrial urban communities as a network

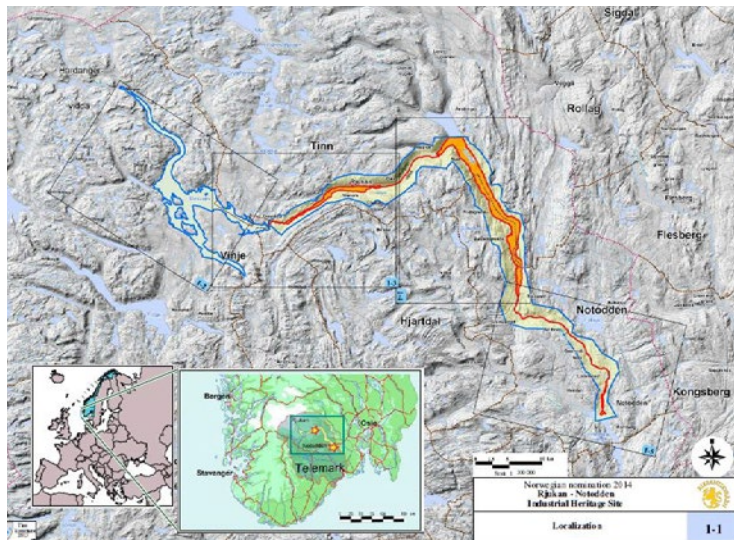
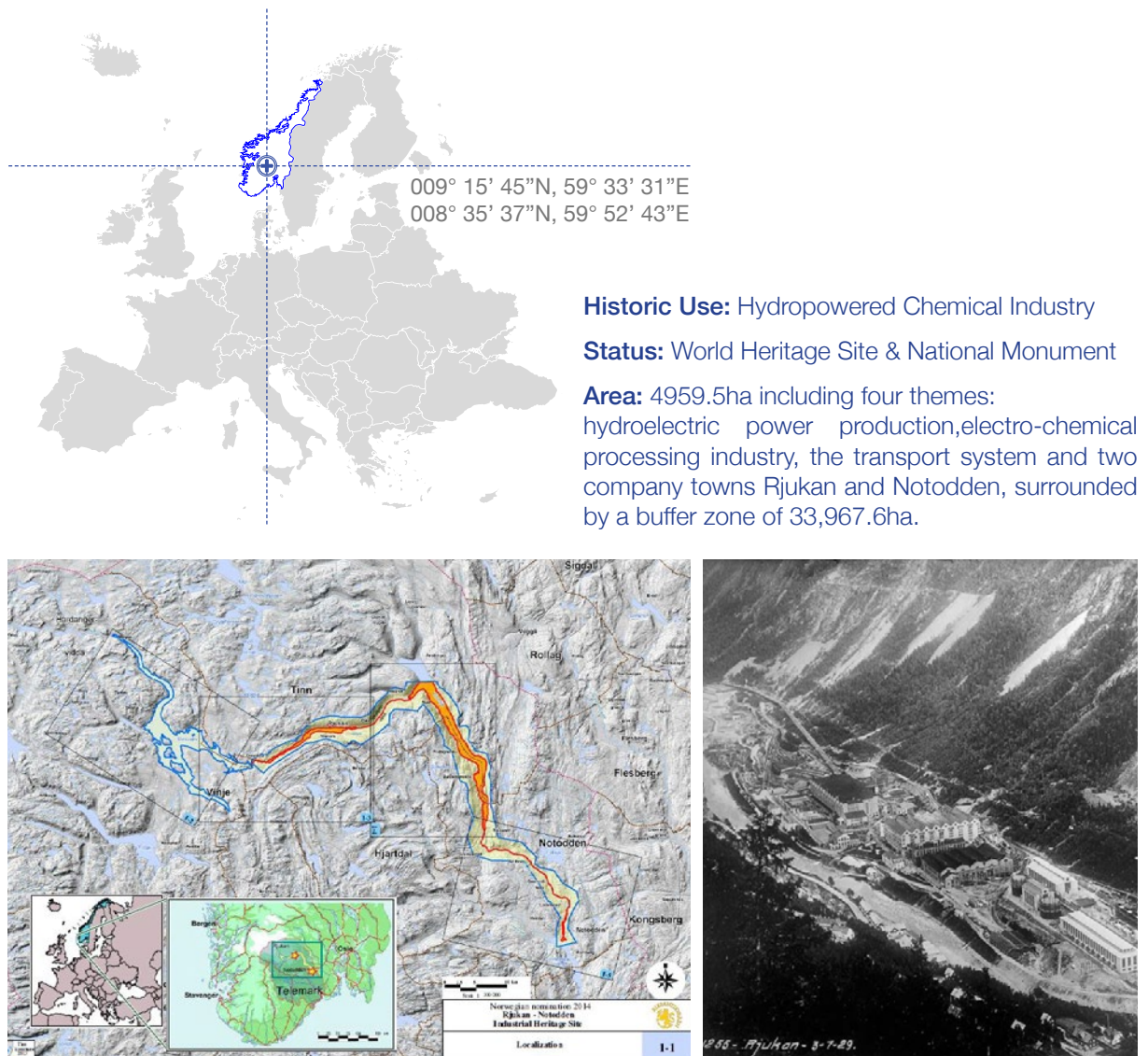


Figure 3.2 The boundaries of the nominated area and buffer zone of Rjukan-Notodden. (UNESCO, 2015, p.8)

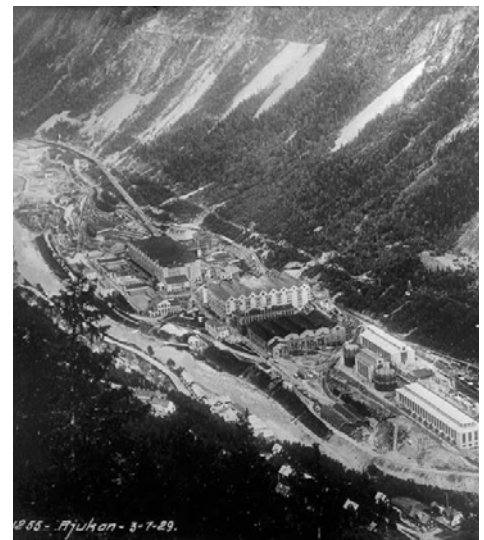


Figure 3.3 Industrial area at Rjukan in 1929. (© Norwegian Industrial Workers Museum)

The first case study is the site of Rjukan-Notodden in Norway, selected based on its propinquity with the water cities' tripole (Edessa-Naousa-Veria) analyzed in Section 2.2, as a system of industrial cities that functioned in parallel and in close connection with each other.

The industries developed in Rjukan-Notodden, during the 20th century showcased the potential of the hydropower's utilization as a perpetually renewable resource for the future of the industries. Several of the industrial buildings located in the site were accorded listed status as units, since the early 2000's (i.e., Såheim power station in Rjukan which was listed in 2003); however, a systematic effort to map and preserve memories relating to the entire industrial site of Rjukan and Notodden was initiated in 2010. The acknowledgement of Rjukan-Notodden as a constellation of essential characteristics of the second phase of industrial revolution in Europe, resulted in it being listed as a World Heritage Site in 2015 under Criteria (ii) and (iv), with its description of Outstanding Universal Value as follows (UNESCO, n.d.):

“Located in a dramatic landscape of mountains, waterfalls and river valleys, the site comprises hydroelectric power plants, transmission lines, factories, transport systems and towns. (..). The company towns of Rjukan and Notodden show workers’ accommodation and social institutions linked by rail and ferry to ports where the fertilizer was loaded. The Rjukan-Notodden site manifests an exceptional combination of industrial assets and themes associated to the natural landscape. It stands out as an example of a new global industry in the early 20th century.”

As is evident from the abovementioned description and the Nomination File (2015), Rjukan-Notodden’s industrial site, comprising of three municipalities and extending over an area of 92 km from the Møsvatn lake—the water source—to Heddalsvatnet—the place of export—is a sum of four distinct components:

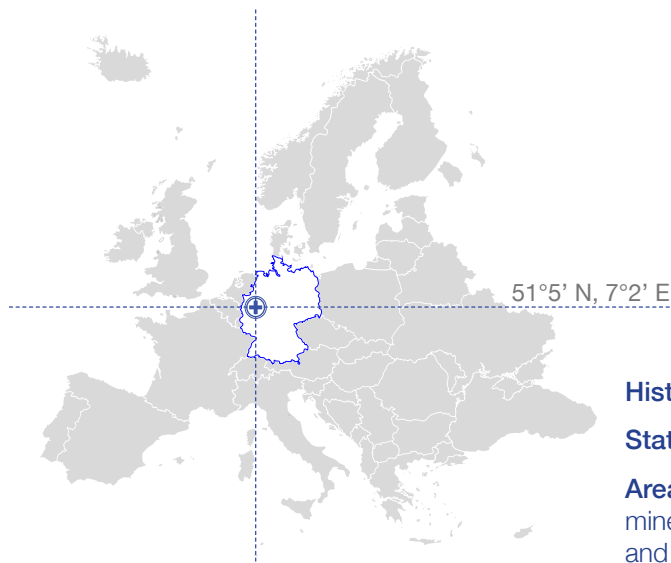
- The hydroelectric power production
- Industries
- Transport system
- Urban communities – Company Towns

For the establishment of a management action plan for a site of this size, a combination of national, regional, county and local plans was required, while private investment subjected to public control, in order to safeguard national interests, was selected as a means of financing the overall management plan. Today, some of the factory sites at Rjukan and Notodden have been converted to industrial parks containing other enterprises. Others have been reused as museum of industrial history—Norwegian Industrial Workers Museum hosting the two local World Heritage Visitor Centers—, while most of the building stock has been preserved. The maintenance of the railway track from Rjukan to Mæl and the refurbishment of locomotives and carriages are also of outmost importance for the character of the site.

As Strogan (2021, p.25) declares “the managing authorities of the site together with stakeholders and local communities created an exemplary managing system. It ensures the safeguarding of the OUV and the cross-disciplinary cooperation among all stakeholders, working towards democratization of world heritage”. The industrial process that shaped the site more than a century ago, continues to provide the supplies for the region to achieve sustainable business and community development, preserving the spirit of the place intact.

3.2 The landscape: Emscher Park, DE (L)

Intertwining and connecting industrial units as a system



Historic Use: Coal Mining

Status: World Heritage Site

Area: approximately 200 hectares between the coal mines, the production facilities, the steel factories and the rail network.

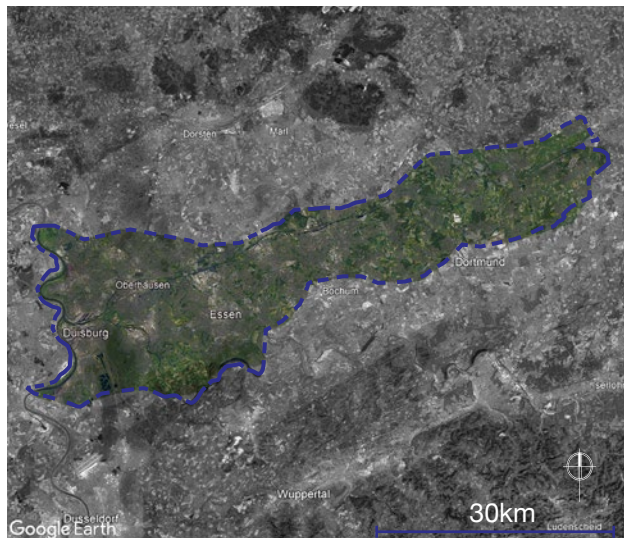


Figure 3.4 The boundaries of the Emscher Region. (Google Earth, (2022). Edited by the author)



Figure 3.5 Masterplan of Zollverein's regeneration. (© OMA, (n.d.). <https://www.oma.com/projects/zollverein-masterplan>)

The next case study to be examined, for the purposes of the present thesis, is that of the former coal mining industry Zeche Zollverein (Kohlwasche Zollverein Ruhrgebiet), in the historic industrial city of Essen in Germany.

The refurbishing and restructuring of the 100-hectares' site began in 1989, when the regional government established the International Building Exhibition (IBA) Emscher Park, which remained active between 1989 and 1999, in order to face the decaying industrial site of Ruhr and promote the urban, social, cultural and ecological development of the area. The principles of their strategic redevelopment were the following and were gradually implemented, as an endeavor of such scale would indicate: i) The reconstruction of the landscape, ii) The river's ecological restoration, iii) The construction of Rhein-Herne Canal, iv) The industrial heritage's management as national cultural resource, v) The creation of working opportunities,

vi) The development of new forms of housing and vii) Diversity of activities–social, cultural, recreational, sports– (Label, 2001).

All these principles can be today interpreted in the prospect of HUL, covering aspects regarding the “physical forms, spatial organization and connection, natural features and settings, and the social, cultural and economic values” and turning a vast former abandoned industrial landscape into a network of vibrant recreational areas and open spaces, while accentuating the industrial history of the place.

In 2001, the site was enlisted by UNESCO as World Heritage Site, as the most exemplary paradigm of 19th - 20th century’s European industry with an immense economic impact. In 2002, professor Henry Bava in collaboration with OMA led by Rem Koolhaas, suggested a regeneration masterplan for the region, including programs such as business, information and education areas, arts and design, events and services. Referring to such a vast site, the financing of the project was challenging; however, its success in terms of financial feasibility was based upon the synergy of the private and the public sector, supported by E.U.’s funds.

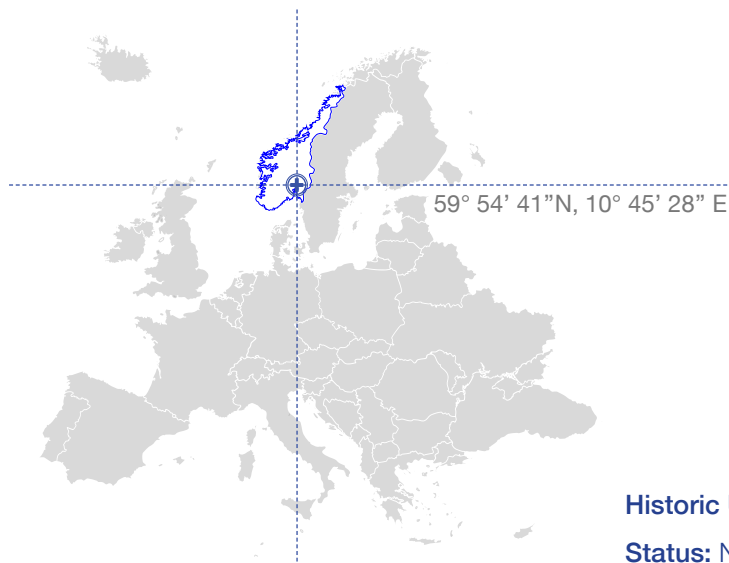
The principle of the redesign was the preservation by conservation, since all of the buildings and infrastructures on the site were preserved and the program was adapted upon them. As it is described on the OMA’s official website “The masterplan consists of a band around the historic site. New roads and the extension of an existing highway through a tunnel servicing the site allow for an easier access. The rail tracks inside the site are maintained as public space, and connect the main buildings. The programming of the new buildings and re-programming of the existing buildings contain many functions, most of which are related to art and culture”.

The allocation of new programs on the periphery allows the old buildings to be clearly distinguished by the visitors. The surrounding programmatic band, like the walls enclosing a city, instead of isolating the site, connects and attracts the visitors towards the renewed historic industrial tissue, that becomes part of Emscher park’s public space. The former industrial site was transformed from a private industrial space to a public cultural one, attracting more than 1.5 million of visitors annually.

Even though the reuse of the industrial complex itself was realized relatively recently, Emscher park covering a total area of almost 320 km², was already a successful project of creative conception and methodology of a former industrial site’s reuse carried out by IBA Emscher Park since 1999.

3.3 The urban context: Akerselva River, NO (M)

Reconnecting the city to the industrial zone



Historic Use: Water-powered industries

Status: National Monument



Figure 3.6 Part of the Akerselva River. Highlighted the adjacent former industrial zone.
(© Google Earth, (2022). Edited by the author)



Figure 3.7 Akerselva River seen from Grünerbroen. Bagaas Brug on the left.
(Industrimuseum, (n.d.). Retrieved from: http://industrimuseum.no/71_styrtebad_bagaas)

The last case study selected is the regeneration of Aker River's industrial zone in Oslo and focuses on the development of a viable policy for the heritage management by reconnecting the city to its industrial zone. The Akerselva program will be analyzed under the scope of the industrial heritage-led urban regeneration of Oslo.

The Akerselva river basin with its outlet in Bjørvika, constitutes a 10km long part of river Akerselva, running through the central parts of Oslo. Because of its positioning in the center of the city and therefore as part of the inner city's waterfront, the site was facing massive development pressures. The river, as in the case of the water cities' tripole examined in Section 2.2, was the major energy source for a series of industry plants located along its banks, and therefore, bears multilayered significance as testimony not only of Oslo's industrial

evolution but also of Norway's.

As already mentioned, the need for redevelopment of a central urban area of that scale along with the pressures deriving from the ongoing densification, gave rise to considerations regarding the management of the abundant industrial heritage resources of the region. Thus, efforts to reactivate the riverfront along the Aker River engaged multiple stakeholders such as politicians, heritage management professionals, planners, developers, and the general public for more than two decades, resulting in 1987 in the realization of the Aker River Environmental Park (Berg & Stenbro, 2015). For the attempt to be rendered successful, the attraction of private investors, property developers, and new users to the area was essential; and hence, it required a balance between old and new infrastructures.

The design aimed for a holistic approach that would treat the river valley as a cultural entity with its own character, rather than as the accumulation of the different industrial units. That enabled the division of areas of particular cultural value from those permitted to be developed or rehabilitated, establishing a coherent framework for the management of the whole valley, integrating heritage management into the existing and added functions (Alfrey & Putnam, 1992). The goal of the proposal was the development of a diverse yet functional merging of the landscape and the city space, combining new and existing buildings, while safeguarding significant cultural features represented by the pre-industrial and industrial landscapes.

The intent was to create a green zone alongside the riverbeds that would ensure the water quality's improvement, sufficient accessibility and the preservation of the inherent heritage qualities. According to Halvorsen (2002) the most radical changes in the Akerselva River region refer to functional ones, while economic reasoning played a decisive role in the redevelopment endeavor. These functional changes and the resulting mixed use urban pattern were the vehicle through which the region was transformed into a vibrant part of the urban tissue based upon its historic industrial character (Alfrey & Putnam, 1992).

The river, after its redevelopment, is no longer perceived as a border. Instead, as Halvorsen (2002) clearly states "the character of the Aker River, offering a dense employment corridor and significant economic contributions to the city, can be seen as a continuation and restoration of the river's historical position and function in the city".

Thus, in this case, the industrial landscape of Aker River was approached not only in terms of cultural significance but also in terms of the broader urban context's embedded "physical forms, spatial organization and connection, natural features and settings, and the social, cultural and economic values", as the Historic Urban Landscape (2011) approach dictates.

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CONCLUSION

Edessa's former industrial zone constitutes a representative assemblage of pre-industrial, early-industrial and industrial examples of the Industrial Revolution that occurred in Central Macedonia from the early 18th until the late 20th century. However, in its current state, the image of the city can be perceived as fragmented, since the urban landscape has been detached not only from the former industrial zone that used to be directly associated with it spatially, socially and economically, but also from the landscape surrounding it, which also used to be integral part of the city.

Literature review and charter's analysis have indicated that the acknowledgement of large areas formerly occupied by industrial activities as an entity and culture resource is rather recent and has followed the overall transition of heritage management towards inclusion of multiple aspects that were previously ignored. More specifically, the industrial structures in such areas have been tackled as individual heritage monuments; hence, many of the adjoining elements, disseminators of historical information, functional contexts and genius loci, have disappeared.

In the cases that the industrial ensemble is perceived and managed as a historic industrial landscape, the regeneration process has higher chances of promoting its goals, successfully reintegrating the cultural resources of industrial history into the contemporary context; stance that was supported by the case studies selected, indicating the factors and parameters that should be taken into consideration for such endeavors.

In particular, for the case of Edessa, the parameters that could lead towards the reactivation of its former industrial zone through appropriation, cohabitation, connectivity, diversity and porosity are the following:

- a. The sustainability of the proposed intervention in terms of:
 - i. Design (diversity): compatible materiality and innovative technological design that is harmonically blended with the historical structures.
 - ii. Program/function (cohabitation, appropriation & diversity): appropriate selection of the added program on the basis of the mix-use principle. Instead of focusing only on musealization of the area, revitalization can be achieved through the implementation of cultural, educational and business activities. A multi-functional core would be a pole of attraction enabling further development and prosperity.
 - iii. Economy (appropriation & cohabitation): in terms of synergy of private and public stakeholders for the financial feasibility of the endeavor.
- b. Optimization of circulation systems-nodes (connectivity & porosity), not only from and towards the urban tissue but also, in the zone itself. The industrial complexes should function as nodes in a perplex network of diverse trails and routes that connect the city, the industrial landscape and the plain (where archaeological sites are situated), offering

an insight to the city's historical discourse.

c. Showcase of the relation among water-industrial zone-city shaping the identity of the place. Water as the driving force of the historic industrial landscape under examination should be reinforced through appropriate landscape configurations and programmatical enrichment. Its dominant spatial presence throughout the history should be restored, in order for its significance to be featured.

d. Buffer zone-transitional landscape (porosity & connectivity). The proximity of the industrial zone to the urban tissue, the historic urban core and the open-air water museum offer the appropriate conditions for the configuration of a buffer zone that could absorb the development pressures without threatening its integrity.

e. Phasing of the overall project (diversity).

f. Branding of the water cities' tripole (appropriation).

To conclude, the shift towards industrial heritage-led urban regeneration has rendered the value of industrial complexes, ensembles and systems as cultural resources, of outmost importance. Industrial culture deriving from the dynamic relationship between production activities and the local socio-economic context, constitutes part of the *genius loci* of a place, that cannot be reproduced or repeated. Tangible and intangible values embedded in the industrial landscape form the identity and character of the urban communities that are associated to it. Hence, reviving the cultural spirit of Edessa's former industrial zone as a whole, rather than as an assembly of individual units, would stimulate an urban regeneration process that would promote and enhance its urban landscape.

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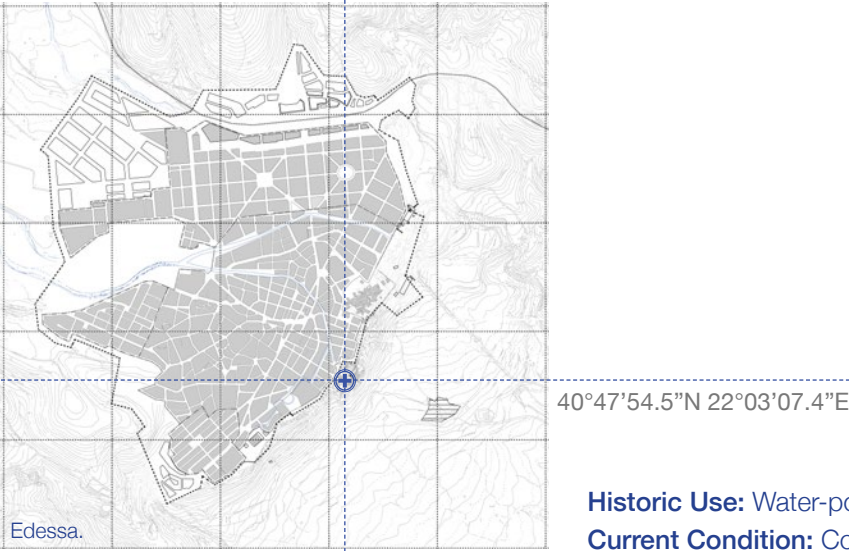
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APPENDIX

01.Factsheets of Edessa's industries in the 20th century.

01. G. Tsitsis' & Co. Textile Industrial Complex



Historic Use: Water-powered Textile Factory
Current Condition: Completely Demolished

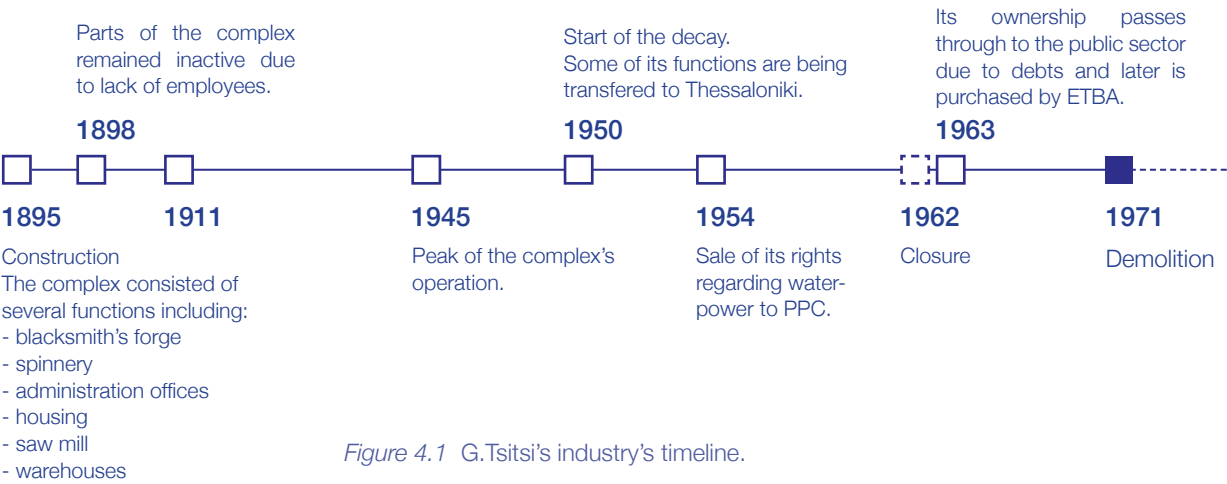


Figure 4.1 G.Tsitsis's industry's timeline.



Figure 4.2 Edessa. G. Tsitsis' & Co. industrial complex, circa 1895 (South view).
(Archives of the cultural association M. Alexandros, Edessa)



Figure 4.3 Edessa. G. Tsitsis' & Co. industrial complex in distance, circa 1895 (South-East view).
(G. Dalkarani's Archive)

02. ESTIA S.A.: Ano (Upper) & Kato (Lower) Estia



Historic Use: Water-powered Textile Factory
Status: Listed from the Ministry of Culture (ΦΕΚ 57/Β/21-02-1986).
Current Condition: Abandoned after attempts to convert it into hotel and conference center were rendered futile.

Historic Use: Water-powered Spinnery
Status: Listed from the Ministry of Culture (ΦΕΚ 449/Β/15-04-2003).
Current Condition: Abandoned, later additions are still evident.

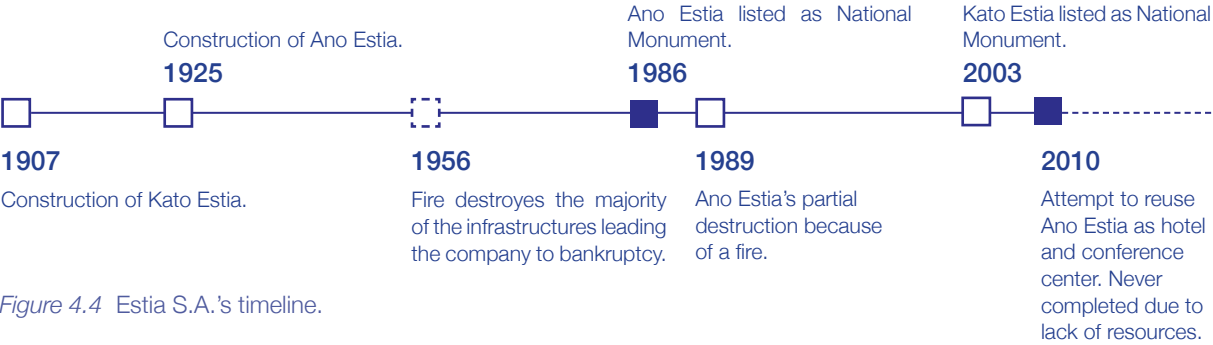


Figure 4.4 Estia S.A.'s timeline.



Figure 4.5 Edessa, East view. Kato Estia in the front, G. Tsitsis' complex in distance, circa 1951. (Carte-Postale, G. Dalkarani's Archive)

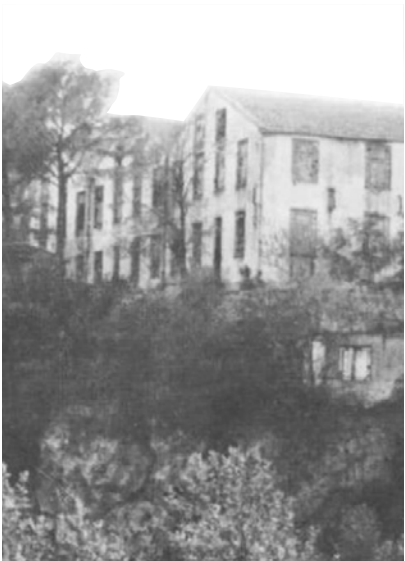


Figure 4.6 Edessa. Ano Estia, circa 1986. (Archives of the cultural association M. Alexandros, Edessa)

03. Hemp Factory



40°48'07.4"N 22°03'20.2"E

Historic Use: Water-powered Hemp Factory

Status: Listed from the Ministry of Culture
(ΦΕΚ 172/Β/83).

Current Condition: Preserved, Machinery preserved
in situ.

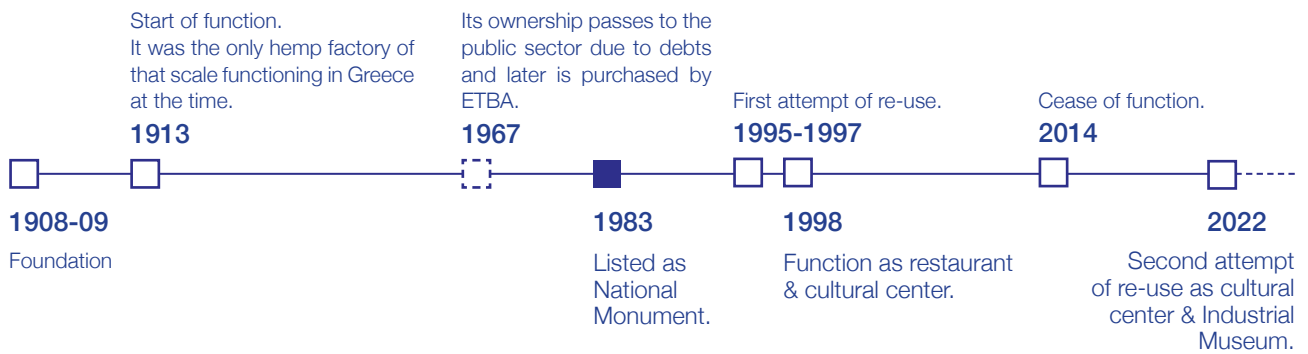


Figure 4.7 Hemp Factory's timeline.



Figure 4.8 Edessa. Hemp factory, early 20th century. (South view). (Edessa's Municipal Technical Services' Archive)



Figure 4.9 Edessa. Hemp factory, Construction Drawing: South facade. (Edessa's Municipal Technical Services' Archive)

04. SEFE.KO Industry



Historic Use: Water-powered Woolen Factory

Status: Listed from the Ministry of Culture (ΦΕΚ 61/Β/21-02-1986).

Current Condition: Abandoned.

40°47'44.3"N 22°02'50.0"E

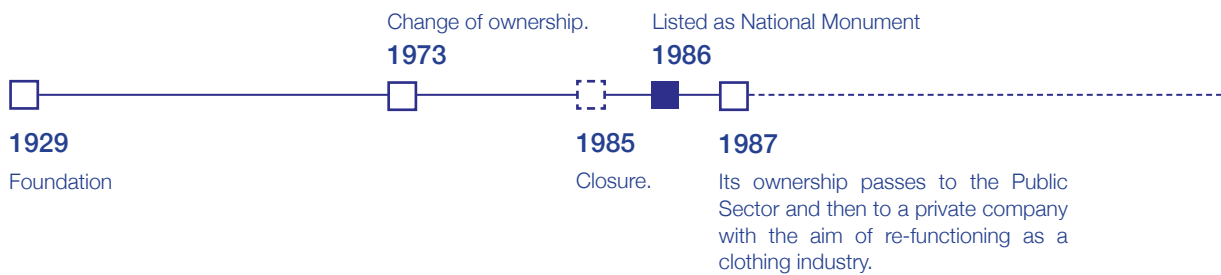


Figure 4.10 SEFE.KO's timeline.

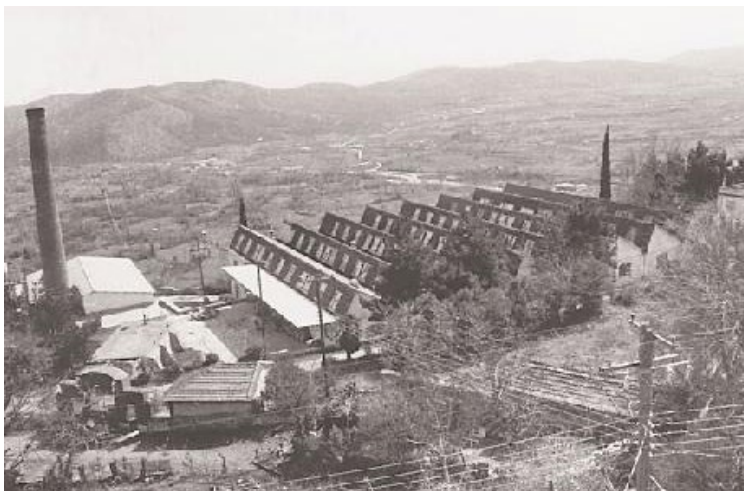


Figure 4.11 Edessa. SEFE.KO and its characteristic chimney on the left, circa 1985 (North view).
(Archives of the cultural association M. Alexandros, Edessa)



Figure 4.12 Edessa. Construction drawings of SEFE.KO (1929): topographic plan.
(Edessa's Municipal Technical Services' Archive)

02. Timeline of Edessa's Evolution

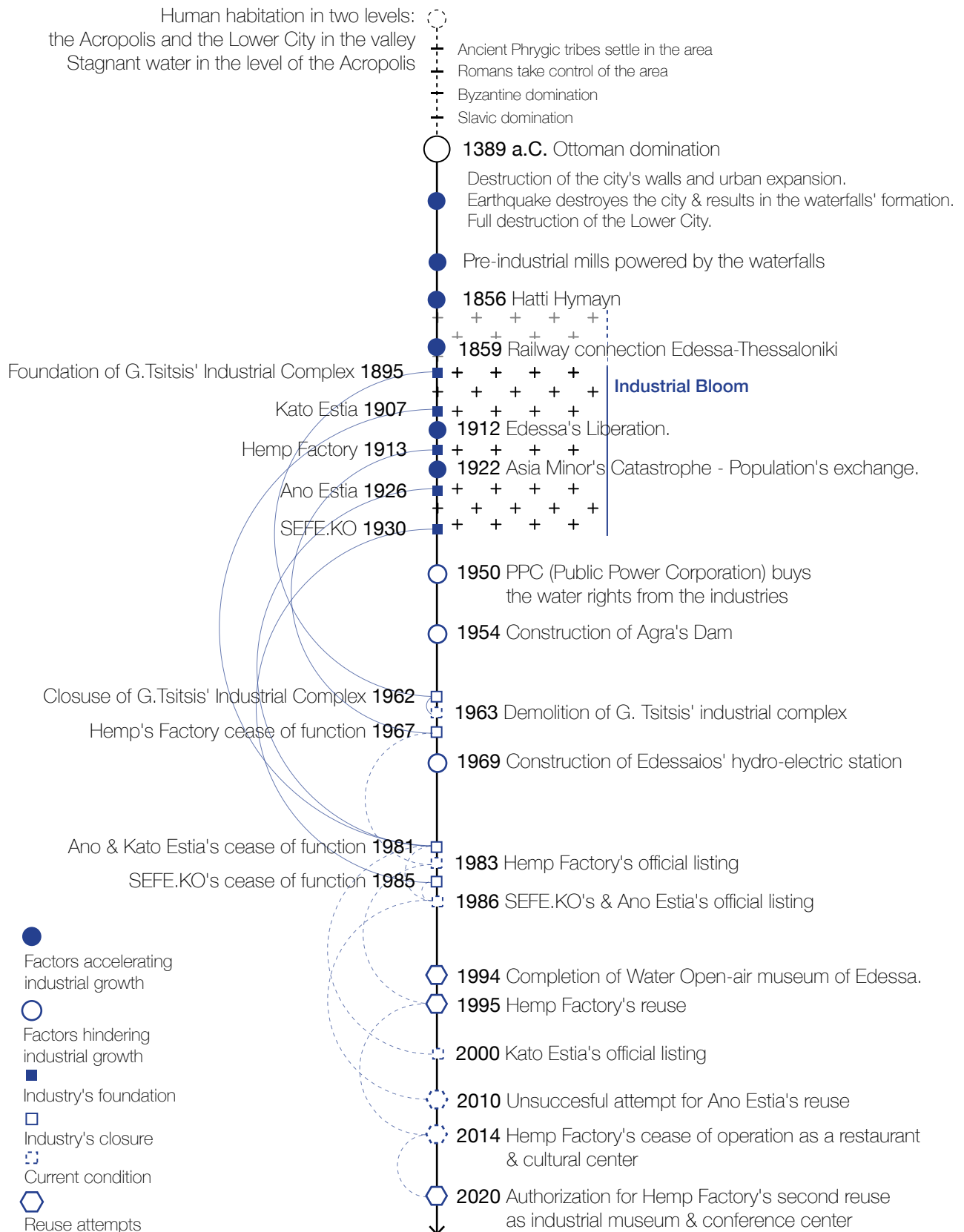


Figure 4.13 Timeline of Edessa's evolution and industrial growth.

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