

HISTORICAL MONUMENT AND LANDSCAPE. STUDY AND LAND PLANNING PROPOSAL FOR THE NEGLECTED SECTION OF SEGOVIA'S AQUEDUCT

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I. MONUMENT, TERRITORY AND LANDSCAPE. ABOUT SEGOVIA'S AQUEDUCT

There is unanimous recognition that Segovia's aqueduct constitutes a unique and special element of Roman engineering; indeed, Spain's most significant one, according to some experts (Jurado Jiménez, 2001) and one of the Empire's most noteworthy. Carlos Fernández Casado, in his 1972 fundamental treatise on Roman aqueducts in Spain calls it «one of the most graceful the Romans built» stating that it is «long-lasting like very few constructions, and could still fulfil its basic function of carrying free-flowing water» (Fernández Casado, 1972; ed. 2008: 53).

To the historical significance and prolonged hydraulic functionality of this «*peine del tiempo*» («time comb»), in the words Ramón Gómez de la Serna, one can add the aesthetic and monumental value of its tissue, as well as a harmonious integration into the form and image of a notable medieval city like Segovia. «This breathtaking aqueduct, (...) as a formidable morphological element that has always conditioned Segovia's town urbanism (...), attracts one's attention, inevitably leading one along the old waterway towards the hill and bringing one's thoughts back to Roman times» (Martínez de Pisón, 1977: 13-14).

Logically, the aqueduct's aerial section is the most appreciated and best represented part of the aqueduct, the one that has aroused most interest with regard to study and conservation, as well as the most «valued» one, leading Fraçoise Choay to call it «cultural engineering» (Choay, 1992, ed. 2007: 194). However, the fact that it is an infrastructure intended to supply the city with water means that the construction as a whole should be considered and treated as an element of heritage, from where it starts at the Ríofrío little dam on the shaded slopes of the Guadarrama Mountains, to where it ends at Segovia's *Alcázar* (medieval fortress).

This consideration of the aqueduct as one single unit strengthens, in the first place, the idea of a «historical monument», with all the depth attributed to it in the XX century by

Alois Riegl, as opposed to merely considering it as a «monument». As pointed out by Choay himself, commenting upon the Austrian author, the monument is a deliberate (*gewollte*), creation, a commemorative one (from the Latin *monumentum*, deriving in turn from *monere* –to warn, to remind–), and it is directly related to the memory, the function of which is assumed *a priori*. The historic monument, however, was undesired (*ungewollte*) and was not initially created as such; «(...) it was constituted *a posteriori*, through the converging perspectives of the historian and the *aficionado*» (CHOAY, 1993: 16), a fact that endows it with greater interpretative power and, often, a closer link with the context in which it was originally built.

Considering an historical construction of these characteristics as a single unit also involves –or should involve– its insertion into the territory and a dialogue with the landscape through which it has secularly transported water and which, despite its abandonment defines and qualifies it. This projection of an element of heritage upon the landscape, along with the required complicity between the aqueduct and its surroundings (which dignifies both) constitutes a good example of the semantic aperture of the classical idea of heritage and of the spread, in the material sense, of the monument to the whole historic context and to the entire territory, interpreted through the landscape (Mata Olmo, 2010: 45 y ss.). This projection calls for protection policies and actions, as well as public improvement and use of the aqueduct as a unit and of the contextual territory that hosts it.

Indeed, the modest waterway that for centuries has brought water from the Guadarrama Mountains to Segovia for almost two millennia, before reaching the aerial monumental section that passes over the Azoguevo urban and little valley, lacks the interpretative -material and perceptive- strength of other historical monuments and sites in relation to their surroundings, a fact that is highlighted in recent works in Spain on the landscape of archaeological monuments (Caballero Sánchez and Zoido Naranjo, 2008; Centro de Estudios Paisaje y Territorio, 2011) or on determined historical and symbolic sites, such as the *Sierra de los Molinos* in Campo de Criptana (Mata Olmo and Galiana Martín, 2008). Nonetheless, the territory the channel crosses through is marked by its footprint, which follows a trail connecting Segovia with its mountains by means of the water supply. Furthermore, despite the fact that this section is a short one, the canal cuts through landscapes that are highly representative of the route between the Central System mountains and the plateau. All of this clearly justifies the need to address the aqueduct's *neglected* route and for the study thereof.

II. A STUDY FOR INTEGRATING THE AQUEDUCT INTO ITS TERRITORIAL ENVIRONMENT BY MEANS OF THE LANDSCAPE

The outstanding interest, as well as the historical, archaeological, engineering and aesthetic values of Segovia's aqueduct, along with its good state of conservation, led to the prompt declaration of its aerial section as an Historical-Artistic Monument in 1884 (Royal Order from October 11th). It is currently a Site of Cultural Interest, in accordance with current heritage legislation and, together with the old part of Segovia City, it has been inscribed, since December 6th, 1985, on UNESCO's List of World Heritage. However, in 2006 Segovia's Aqueduct was included on the List of Endangered Monuments of the *World Monuments Fund* (WMF) for technical, environmental and territorial reasons:

In order to solve the problems detected and to advance towards the approval of a Management Plan for the Conservation of the Aqueduct of Segovia, in 2009, engineering, geology and archaeology works were initiated and managed by recognised specialists. In this context, the *World Monuments Fund* (WMF) considered it pertinent to conduct a so-called «Study intended to integrate the layout of the Segovia aqueduct into the territory and the landscape», which was to be entrusted to Madrid's Autónoma University de Madrid and in which the authors of this text participated. The aim of the study consisted of characterising and valuing the integration of the aqueduct into the territory, from the foothills to the city of Segovia, with the perspective proposed by the European Landscape Convention (European Council, 2000), particularly in the rural and peri-urban sections of the canal, along which ignorance and neglect had given rise – and it seems that the situation is so serious it is almost irreversible – to abandonment, deterioration and even partial destruction. The originality of the study therefore lies in the treatment of the whole aqueduct, as a linear and continuous element of just over 16 km, in its material and visual relationship with the territory it passes through, from where it starts at the Ríofrío diversion, at an altitude of 1,255 m, in the La Acebeda pine forests, to the Segovia *Alcázar*, at 985 m.

III. THE AQUEDUCT'S LANDSCAPES: PERCEPTION OF NATURE AND HISTORY FROM THE GUADARRAMA MOUNTAINS TO THE MESETA (PLATEAU OF CASTILE)

Following the aqueduct's layout from the dam to the city of Segovia, in just 14 km one can encounter a wide-ranging and diverse repertoire of Castile's landscapes, representative of the slopes of the Guadarrama Mountains on the Segovia side and of its *pediment*. The research conducted has identified and characterised nine landscapes, with contrasting morphologies, the character of which responds to particular relationships between elements of nature (fundamentally, topography, altitude, local climate and natural plant cover) and forms of human appropriation and use of the resources, clearly deep-rooted in history. To this one can add, as a result of the descending slope, excellent conditions of visibility and observation, from the canal itself or from nearby points of the territory providing a panoramic view.

Starting at the Ríofrío dam and descending to the gates to Segovia's urban area, the following landscape units have been distinguished: «La Acebeda Pine Forests»; «Surroundings of the Puente Alto Reservoir»; «Revenga Ash *Dehesas* and Fenced-off Fields»; «Ranges of the Western Soria Drivers' Road»; «Wildlands of Revenga and Los Hoyos»; «Hills of Cabeza Grande, El Calvario and La Aldehuela»; «Low-density Holm Oak Forests of the Segovia Foothills», «*Dehesas* of Andeanueva and Pradogrande» and «Wastelands between Nueva Segovia and the South Road». Some of their main geographical-physical, historical and visual characteristics are now given. The characterisation and appraisal of these «aqueduct landscapes» can be found in the more extended version in Spanish.

IV. TOWN PLANNING AND TERRITORIAL CONSIDERATIONS OF THE SEGOVIA AQUEDUCT

The layout of the aqueduct runs mostly through the municipality of Segovia, which from the town planning point of view is governed by the General Town Planning Plan (hereinafter PGOU), approved in 2008. At the sub-regional scale, the municipality of Segovia is

also affected by what is stipulated in the Spatial Planning Guidelines for Segovia and its Surroundings (DOTSE), which was approved by the Castilla y León Regional Govt. in 2005.

The PGOU establishes a territorial model including the potential of the city to spread southwards, affecting the landscapes of *dehesa* and pasturelands and consequently, the layout of the aqueduct, which is not even mentioned in the Plan's Report as a valuable element of heritage. This alternative for urban growth is based, among other factors, upon the intended new centrality around the high-speed train station, near Hontoria, promoted by the Plan, and upon the option of protecting the city's monumental façade from the North.

In relation to the consolidated urban land of the city of Segovia, the relevance of the aqueduct, the recognition thereof by society and the institutions, along with the different protection statuses affecting it, all guarantee the monument's future. However, the landscape study conducted within the city of Segovia reveals numerous problems relating to the visual conditions and impacts affecting the monument.

The fieldwork involved both the monument and the nearby streets from where it could be seen, that is, we evaluated the landscape quality of the free public space and its surrounding architecture (ZOIDO, 2012: 55). Specifically, we selected and analysed a total of 16 representative views, in accordance with the procedure proposed by the United Kingdom's Landscape Institute (2002) and by English Heritage (2008). Very synthetically, the biggest and most persistent problems lie in the visual contamination of the aqueduct by inadequate vertical and horizontal signposting, urban furniture or vegetation, particularly in the section where the monument is not so tall, by parked cars and often by the presence of containers for the selective collection of waste. To all this, one can add the degradation, or deterioration, of the surroundings by the poor state of repair of the house fronts defining the architecture of the surrounding public space and of the monument. A further problem is the existence of dissonant elements of construction.

As has been seen, along its extraurban route, the aqueduct passes through very diverse terrain with regard to configuration, functionality and values: forested areas, land used for agriculture and livestock farming and wastelands on the outskirts of the city. Likewise, the layout of the canal, which along some sections coincides with the drovers' roads, is affected by determined infrastructures, like roads, ring roads and the areas affected by the high-speed train, ETAP, etc.

These circumstances explain the fact that, with regard to town planning, the General Town Planning has classified the land over which the aqueduct passes in different ways, with three main categories, according to the legislation of the *Castilla-León* Government: Urban Land, Developable Land and Rustic Land. Beyond the Urban Land, the Plan classifies most of the land the channel of the aqueduct passes through as Rustic Land, differentiating different subcategories. In any case, the important consideration is that the General Town Planning did not provide for special treatment of the rural sections of the aqueduct and their surroundings, and this has only been «indirectly» protected by subcategories that do not specifically consider its significance as an element of heritage.

Of particular concern is also the situation of the aqueduct on the outskirts of the city, to the south of the Nueva Segovia estate, where the layout borders with Sectorised Developable Land (the detailed planning of which is contained in Partial Plans), and the treatment of this historical canal cannot be determined until these Plans have been developed. In this area, it can be seen

that some new roads are planned which will transversally affect the canal, adding to the barrier affect caused by certain infrastructures such as the ring road or the high-speed train.

Neither have the DOTSE provided for any specific treatment of the aqueduct and it is therefore impossible to find in this instrument and at this scale of planning a basis for possible protection strategies or consideration of this historical waterway or of its territorial or landscape environment. There is therefore a need for a proposal for integral conservation, as can be seen in the final epigraph of the text.

V. PUBLIC USE AND INTERPRETATIVE POTENTIAL OF THE AQUEDUCT AND ITS LANDSCAPES

The different characteristics of the landscapes through which the Segovia aqueduct passes –urban area, peri-urban area and rural and natural areas–, maintain a close relationship with the different forms of public use of the monument and its surroundings. Whereas the aerial and monumental section of the aqueduct provides an important heritage and tourist attraction to the city of Segovia and to the region itself, with thousands of visitors annually, people are hardly aware of the rural sections, which are barely utilized, and to date certain institutional actions undertaken to highlight their existence and importance have been insufficient.

Efforts in this regard enable us to conclude that the public use along much of the aqueduct's layout, from its diversion dam/azud to Nueva Segovia, is fragmented and intermittent and lacks any planning initiatives or interpretation of its heritage, a fact that limits its wide-ranging possibilities as a connection and a natural and cultural itinerary between the mountains and the city of Segovia. The interviews conducted have also highlighted the poor state of conservation of the diversion dam/azud and of the visible (aboveground) elements associated with the engineering works, such as caceras, transversal drains or ventilation shafts/pozos de aireación, the absence of suitable signposting to enable visitors to follow the itinerary from the mountains to the plain. There is also a lack of actions for consideration/puesta en valor of the aqueduct and its landscapes (explanatory panels, rest areas, vantage points, etc.).

VI. AN OPEN PROPOSAL FOR THE INTEGRAL CONSERVATION OF THE SEGOVIA AQUEDUCT AND THE ENJOYMENT OF ITS LANDSCAPES

The study presented in this text, within the initiatives promoted by the WMF and in view of the threats to Segovia's Aqueduct, enables us to address the condition of this heritage as one single unit and from a territorial and landscape perspective that has heretofore been neglected. This initiative is intended to inform people of the aqueduct's rural route and to complement the fundamental historical archaeological and engineering aspects involved in safeguarding the monument.

Our research has identified the most serious problems posed to the aqueduct as a territorial element of heritage. At the same time, we have highlighted the potential of the extraurban layout of the aqueduct with regard to strengthening its interpretation as an historical waterway and, at another scale, as a link between the Mountains and Segovia, between the city and all the resources currently and historically provided by the Guadarrama Mountains.

To conclude, considering the diversity of the landscapes the aqueduct passes through and the different problems encountered therein, the following proposal that we synthesise necessarily responds to different scales and approaches, although, as we stated at the start, always with emphasis on the relationship between the historical monument and its surroundings in terms of landscape.

Within the city limits, where the aqueduct acquires its monumental character and where there are objectively fewer direct threats, the proposal highlights questions relating to improvement and protection of the views, concluding that any action of the Special Plan or of the crucial Management Plans required by the UNESCO (Troitiño Vinuesa, 2011), should give priority, although not exclusively, to protecting the scenic aspects of the aqueduct through active management of the visual basins/cuencas, which would necessarily involve intervention in the public space.

On the outskirts of Segovia, where the problems are more pressing and the future more uncertain as a result of the lack of specific provisions in the General Town Planning Plan, the proposals are preferentially oriented towards the future design of urban planning capable of correctly integrating the aqueduct's layout as a valuable element of heritage. Its preservation and improvement will also contribute to dignifying and qualifying the new urbanised areas. In this sense there are very interesting solutions based on gardening and landscape architecture.

In the adjacent peri-urban rural areas, the challenge lies not only in reducing the negative effects upon the layout and guaranteeing protection thereof, but also in maintaining and improving it, reducing to the minimum the barrier effect caused by the multiple transversal infrastructures. In this sense, growth of the city of Segovia southwards should involve considering and strengthening the role of territorial connection between mountains and city that the aqueduct has played for centuries, and this means that any future territorial plan should also include a sufficiently large land reserve to preserve this heritage-related and environmental function.

Furthermore, in the more natural and rural areas, particularly the section lying between the road from La Granja de San Ildefonso to Riofrío and the diversion dam/azud, where traffic cuts through the most integral and valuable landscapes, the proposal calls for other kinds of actions, preferentially oriented towards awareness campaigns, improvement of public use and restoration-conservation of the aqueduct's visible elements. In this sense, the study conducted provides a wide range of actions for improvement of the signposting of the layout and favouring interpretation of the «Aqueduct Landscapes» by means of establishing vantage points, interpretation panels and rest areas, among others.

Lastly, A necessary measure for the integral conservation of the aqueduct would involve amplifying the current consideration of the aqueduct as a Site of Cultural Interest (SIC) to the long, unprotected section, as well as the definition of a *generous* SIC, in accordance with the methods and landscape values addressed in our study which, as such, ought to be incorporated into the town planning instrument in force.