



**PAISAIA-IKUSPEGIA ETA BERE LAU DIMENTSIOAK:  
METODO INTERPRETATZAILE KONSTRUKTIBISTA BATEN PROPOSAMENA  
BILBOALDEKO HIRI BAZTERREKO PAISAIA MENDITSUEN KASUAN  
APLIKATUA**

*[THE LANDSCAPE PERSPECTIVE AND ITS FOUR DIMENSIONS:  
A CONSTRUCTIVIST INTERPRETATION METHOD PROPOSAL  
APPLIED IN THE CASE OF BILBAO'S MOUNTAINOUS URBAN LANDSCAPE]*

**Maidier Elixabete Uriarte Idiazabal**

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*Elaborated under the supervision of*

Dr. Arch. Marte Mujika Urteaga

Prof. Dr.-Ing. Sören Schöbel-Rutschmann

*-ren zuzendaritzapean osatua*

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**Arkitektura Saila, Euskal Herriko Unibertsitatea**

*Department of Architecture, University of the Basque Country*

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BOOK 2 :

*English Summary and Appendixes*



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**Ingelesezko Laburpena**  
***English Summary***



## ***Introduction to The English Summary***

The purpose of this document is to fulfil the requirements to obtain the International Mention in the Doctor title established by Spanish Doctoral Regulations and the University of the Basque Country's own Doctoral Regulations, as well as to facilitate the necessary overview on the research carried out and the thesis document itself. The requirements establish that at least the Abstract, the Introduction, the Discussion and the Conclusion chapters of the thesis must be translated into a language other than Basque or Spanish Language, in this case to the English language.

Therefore this document contains the translation of four mentioned sections from the original dissertation, including the main Table of Contents or Structure and Part of the Bibliography or reference section.

Structured in the following pages one may find the translation of the Abstract, the Contents and structure, the Introduction, followed by a Summary of the Methodology and Results, and the Conclusion. The References for this document are located at the end. The Appendixes are contained at the end in Book 2.

The abstract summarizes the thesis, followed by the Table of Contents of the dissertation, which is included in order to ascertain the structure and overall organization of the thesis. It is followed by the introduction which describes the problem, motivation, research questions and proposal. Thirdly, the Summary of the Methodology and Results gives an account on the research method and proposal, and elaborates on the findings and results. Finally, the conclusion is used as closing statement where the main contribution and limits of the dissertation are mentioned. The reference section solely includes the works that are mentioned in this document; for more in depth consultation of the literature used on the research, please see the Bibliography section [Bibliografía] in the Basque language document.



## **Abstract**

This thesis is an account on the interpretation of the urban fringe landscape character. The problem it addresses is a combination between the theoretical conceptualization of said character that tends to be portrayed as problematic and/or generic, and the challenge it poses to landscape planning and renewal as an area that defies established place characterizations. Therefore, the dissertation tries to find a method that might serve to understand urban landscapes' aspects and formation by relying on qualitative features. It does so by formulating a plausible characterization and by interpreting documented social constructions. The aim is to look for landscape structures and development trends that could become beneficial in building management and planning criteria that consider the specific character of urban landscapes.

Namely the research started off with a proposal for the understanding of urban landscape character structured by three pillars; firstly, a theoretical standpoint that renders landscape as a socially constructed multi-layered and multi-dimensional concept, secondly, a design of an interpretation tool based on said constructivist theories, and thirdly the use of a specific case of urban landscapes. The proposal develops a tool for landscape interpretation based on constructivist theoretical premises and proceeds to test it out using the case study landscape of Bilbao's mountainous urban fringe.

Adopting a reflexive research strategy, an interpretation method is worked out by following three main steps. Firstly, the literature review establishes the theoretical and methodological framework of the landscape interpretation as well as the theoretical character of urban fringe landscapes, followed by the design of the Landscape Perspective tool for interpretation and its implementation on the case study. The application consists of two stages referred to as "Scenes"; a Field Work and an Archival Work. An initial speculative formulation on the character of the studied landscape is composed using the visible elements of the land detected on the field work, and is further interpreted in a second stage using archived documental evidence. The results are thus of two kinds; a first re-construction that can be considered an inventive and creative landscape understanding, and the second construction that conveys landscape's invisible structures and traits to understand its formation, as well as possibilities for its design, planning and management that complement the first characterization.

The Landscape Perspective tool proposed by the thesis contributes with a constructivist approach to understanding urban fringe landscapes that could complement established place analysis procedures by using a wide and empathic interpretive approach to both tangible and intangible constructions of urban landscapes.





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# 1.0 Introduction

This thesis is an account on the relationship between the ways land is understood and transformed. Its starting point is in the transformations caused by multiple interpretations and readings of place. The dissertation is a proposal for an interpretation method that is developed by studying the Urban Fringe Landscapes of Bilbao's greater area. Such a proposal implies a challenge for praxis, namely, a challenge connoted by the complex situation for decision-making created by multiple space-representations. The understanding of land stemming from landscape theory sets the fundamental theoretical and methodological standpoint of the research; that is to say, the interactions amongst conceptual and physical land constructions that are geographically and culturally specific.

## **1.1 Motivation**

There are two sides to the motivation of the thesis. On the one hand, there's the spatial reading that is the basis for the relationship between architecture and place. On the other, there is the new context for practice defined by the construction and financial crisis.

In the book *The Good Life* (Abalos, 2001) the author discussed the relations between phenomenology and architecture, and briefly reflected on the possibilities of a phenomenological reading of wasted space that could generate a pleasant architectural experience. Basic phenomenological notions like the *genius loci* are difficult to find in the peripheries of cities, since according to some, the *genies* are gone from there (Bru, 1997), which makes it challenging to define the identity or essence of place. In other words, the literature suggests that a bleak surrounding is difficult to read in phenomenological terms so as to form an attractive architectural or designed space.

In addition, my personal professional experience as an architect has lead me to observe that such phenomenological readings of place are usually not considered in everyday design practice, if we take into account that places are defined solely by the quantified conditions included in urban zoning laws or building codes, and a firm objectivist position towards land analysis. It is fair to say then, that there's little space left for phenomenological or subjective interpretations of place within common design-planning methodology.

The second aspect of the motivation is the situation for professional practice since 2008 that was generated by the ongoing economic crisis. In other words, a situation particularly taking place in Spain that limited the reproduction of architectural stylisms based on subjective design decisions and the development of cities. Such limitation has simultaneously redirected the future of architectural practice towards the recovery and refurbishment of the existing city and built-up space.

Managing the existing built land also implies dealing with urban fringes, in other words, with the areas that are difficult to qualify in phenomenological terms. Urban fringes are seldom recognized in planning policies; in the case of Spanish and Basque policies the fundamental characterization of space determined by municipal urban land-use plans distinguishes amongst land that is urban, land that can be developed, and undevelopable land. This division is translated into the type of land property in the cadastre: urban and rustic. The border from one to other is equally diffuse and decisive in planning procedures, and achieves to dismiss the existence of a distinct urban fringe area.

Although there exist plenty of terms to refer to the urban fringe—periphery, periurbanity, rural-urban fringe, sprawl, urban edge etc., its existence and landscape character aren't reflected nor acknowledged by urban or spatial planning documents at least in Basque planning contexts. An approach to the acceptances of these can be found in an official landscape related document, the European Landscape Convention. However, even if its conceptual contributions are commendable—it recognizes people's perception and that any place can be defined as landscape—it still leaves space for the definition of intervention and valuation criteria. Solely approving the convention doesn't guarantee the protection, management and planning of all kinds of landscapes, and so, there are still criteria to be worked out by assessing landscape characters case by case.

Therefore, there are two problems that stem from the motivation: firstly, the tensions between objective and subjective understandings of place—roughly said, the problems generated by the strong planning quantifications that restrict qualitative readings of place, and secondly, in the specific case of urban fringes, the lack of their definition and negative qualifications which challenge their interpretations or the definition of the so called *genius loci*.

## **1.2 Topic and Research Questions: what are urban landscapes like?**

The aforementioned early reflections, which deal with the missing criteria to intervene on the urban fringe, and the tensions between objective and subjective readings of place, evolved into an interest and purpose of searching for the specific qualities and character of urban landscapes. To go further in such direction, a decision was made to study a well known case to the researcher: Bilbao's urban landscape. This case represents a specific cultural landscape reality, and is at the same time an example of a type of urban fringe landscape; i.e., it is both a generic type of landscape—urban fringe—, and a specific variation of that type of landscape; an urban landscape defined by a specific physical geography.

Taking all into account, the research questions were formulated as so:

-What are the specific characteristics of urban fringe landscapes? Which are the qualities of the elements and sociocultural forces that have shaped them?



- Which of its specific potential qualitative values could be strengthened by planning and design?
- How could an urban fringe landscape be interpreted considering both subjective and objective, material and conceptual characteristics?

To answer these questions, the dissertation commences by studying and interpreting the urban fringe landscape from an inter-subjective perspective and speculative approach. In other words, through a strategy that connects measurable and intangible features, that involves a lookout for place specificity, and that is determined to build a complex and integrative understanding of urban fringe landscapes overcoming established notions of land categories.

It is the aim of the research to structure a tool that can assist in the understanding of urban fringe landscapes. The possible contribution is directed towards the practical context defined by tensions between objective and subjective land understandings, and by the lack of specific design and planning criteria for the urban landscapes. Specifically, by shaping an interpretive tool that can help in space related decision making that draws from a historically and culturally specific understanding of place.

### ***1.3 The challenge: to understand urban landscapes***

Therefore, the main challenge of the thesis is to design a way to understand the character of urban landscapes and their formation. This has some implications: to begin with, there needs to be a consideration towards the physical and conceptual effects that society has on the land, and also, many land understandings that originate in as many actors should be examined. Such perceptions of landscape should be structured in a systematic and normalized way that could hypothetically be compatible with established analysis and projective procedures in the planning praxis.

In addition, an effort should be made to avoid well known landscape archetypes in order to achieve the most integrative perspective as possible in terms of what is considered valuable and significant. It means that land analysis should be carried out without predefining the vocation or aesthetic quality of a place, and instead, searching for its future situation in its own qualities and potentialities so as to value and qualify its prevailing state. Moreover, the method for analysis shouldn't be guided by aesthetic and subjective criteria that defines differences between pleasant/proper and unpleasant/un-proper built elements, and rather proceed with an empathic approach to landscape (Sieverts, 2003).

Such an integrative and wide breadth point of view can be accomplished by a theoretical context defined by a constructivist epistemology. If social constructivism's basic assertions—reality is an effect of social practices and processes, and the knowledge about society is also produced by it (Sandywell, 2008)—are translated onto landscape, it is possible to say that landscape is a socially constructed phenomenon structured by various participants and their productions of place, and the knowledge of landscape is also constructed by society. At the same time, a constructivist epistemology suggests that ideas of landscape are culturally specific (Swaffield, 2006). Therefore, as societies shift, landscapes also change, on both material and ideological levels (D. E. Cosgrove, 1998). And thus, landscape can be understood as a multi-layered and multi-actor construction (Meinig, 1979).

The dissertation builds up from an inter-subjective point of view, not choosing to position itself with an objectivist or subjectivist standpoint, but attempting to mediate with both standpoints (Swaffield, 2006) in order to understand the urban landscape. Again, the thesis aims to understand the character of urban fringe landscapes by considering both material and conceptual aspects of landscape, and by contemplating landscape as a culturally and geographically specific concept (Meyer, 2002).

#### **1.4 Proposal: an interpretation method**

The main strategy of the thesis usually defines the steps that will be followed in the research; in this case it has been shaped by an abductive and reflexive procedure. On the other hand, the epistemological aspect defines the relationship between the topic and the researcher, as well as the implications that the researcher might have in the outcomes. The strategic aspect is defined by an interaction between theory and method that relies on experimenting with different methods to achieve the best plausible approach to the research question. The latter aspect has a constructivist epistemological fundament which posits that landscape is a socially structured concept, and that therefore the researcher contributes on the knowledge of the case study and the methodological procedure. The following words describe briefly the research design elaborated according to this framework, and that has been the means to accomplish the above mentioned challenge.

As a first step a Literature Review concerning main themes and discussions related to the research topic of urban landscapes has been produced. This section is the means to establish the theoretical context of the thesis, to draw a clear idea of the urban fringe landscapes, and to detect related theoretical trends. Next, the methodological framework is structured drawing from established techniques of landscape analysis and interpretive techniques of research. These two aspects of theory and method give way to an interpretation of the case of mountainous urban fringe landscapes of Bilbao. The interpretation is carried out in two scenes, a Field Work and an Archival Work, using various research techniques and one specific tool.

Said tool is used for interpretation purposes and has been named the Landscape Perspective tool; it embodies the constructivist fundaments of landscape defined by the theoretical and methodological frameworks of the research. The Landscape Perspective tool is designed to fit two purposes: on the one hand to formulate several plausible Landscape Perspectives or ways to understand the land that have shaped any given territory, and on the other to establish lines of hermeneutical inquiry through four dimensions. To state it in a simple way, the Landscape Perspective tool is used both for speculative landscape evaluation and for elaborating a systematic interpretation of landscape. The tool works both as an internet browser in that it can propose more than one set of approximations to the urban landscape phenomenon, and a filter since it structures the research with several types of information retrieval with its four dimensions. This double functionality is tested out in two Scenes or phases, and gives way to two interlinked sets of results.

The Landscape Perspective tool is thus implemented for the interpretation of the urban fringe landscape case study of Bilbao's mountainous case. This specific case is also used as an empirical instrument in the research since it serves the purpose of testing out and building the urban landscape interpretation method.

The First Scene is the initial empirical phase of the application of the Landscape Perspective tool. It involves the Field Work, and develops in several trips of documentation to produce an initial integrative interpretation of the study area, what has been referred to as the speculative landscape evaluation through several plausible Landscape Perspectives. The Field Work attempts to document visible elements of landscape in circa 30 excursions and hundreds of photographs. These elements are then categorized and mapped into layers. Such categories and layers represent different Landscape Perspectives or ways to interpret the land.

The second empirical phase is called the Second Scene, and it fundamentally involves Archival Work. The objective of this phase is to map out the invisible and intangible dimensions to complement the landscape interpretation of the First Scene. As for the data retrieval, it regards the documentation of the selected and categorized elements of the Field Work. Almost 100 documents are retrieved, analysed and interpreted using content analysis, iconography, and discourse analysis and iconology techniques. The analysis and interpretation represent the second functionality that has been mentioned above as the systematic interpretation of landscape character structured by several types of data selection. This data selection looks for information regarding the four dimensions of a Landscape Perspective:

Idea-1st Dimension: the understanding of land/territory.

Representation-2nd Dimension: the graphical and/or written representation of the 1st Dimension or Idea.

Agency-3rd Dimension: the social actor(s) that has promoted the Idea and produced the Representation.

Elements-4th Dimension: these are constructed as a consequence of the Idea.

As a final step, findings from both Scenes are studied together to look for trends and structures that serve to understand the studied landscape. Such findings are the means to justify the usefulness of and ability to reproduce the proposed interpretation tool and its application. It can be said that with the thesis a general interpretation strategy has been accomplished stemming from a specific case of urban landscapes.

Finally, a few words must be said about the relation between constructivist epistemology and the role of the researcher. Such a position assumes that the researcher is connected to the research topic in some level. This means, that the constructions that the researcher might have about the topic or research case are valued and can be included within the research. In this case, the researcher is directly connected to the case study of Bilbao. As a consequence, the already evaluated vision of reality (Bilbao's mountainous urban landscapes) has implications within the research procedure and these can be detected mainly in the choice of interest areas and landscape element identification. In other words, as the researcher knows the particular problems of the area, this is reflected on the selection of critical elements and specific areas of the case study.

## 1.5 Structure and Content <sup>2</sup>

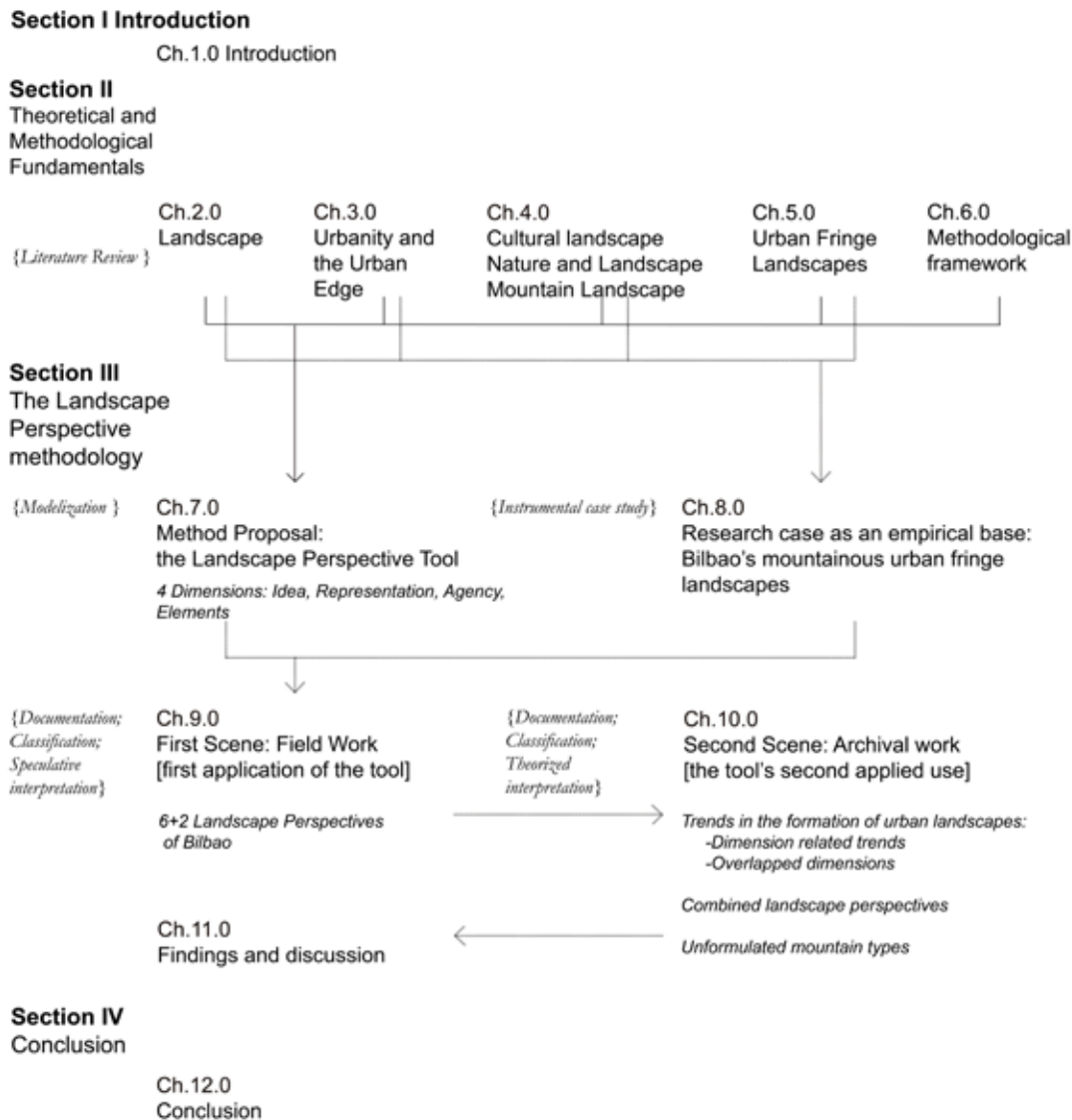


Figure 1 Diagrammatic view of thesis structure and methodology

The dissertation is organized into four Sections each of which contains several chapters—in other words, there are 12 Chapters distributed along four Sections. In addition, Chapters 9 and 10 of Section III each represent one of the two Scenes for empirical research.

Section I comprises the present introduction elaborating on the research motivation, problems, questions, strategy, epistemology and method proposal. In addition, key words that are repeated throughout the dissertation are presented and explained. Section II includes the theoretical references of the research topic. For this purpose, literature that deals directly and indirectly with the topic of urban fringe landscapes is treated and reviewed. By using a wide breadth view of the topic, the section aims to lay the theoretical

<sup>2</sup> The English Summary includes the translation of Chapters 1 Introduction, 11 Discussion and 12.

foundations and criteria of the thesis. Section III is the lengthiest part where the main proposal and empirical phases of the research are explained and clarified. As the main body of the thesis, it elaborates on the proposal for the landscape interpretation method. Lastly, Section IV is formed by the conclusion and a suggestion for further lines of research.

Section II of the thesis includes the literature review that goes over several topics, principal and secondary ones; the main themes include works and discussion on landscape theory (Chapter 2), urbanity and urban-edge (Chapter 3). Topics that are secondary to the topic are contained in Chapter 4 and include Cultural Landscape, Nature and Landscape, and Mountain Landscapes—the latter, directly connected to the case study. Chapter 5 includes discussions and approaches to urban landscapes, and the conclusions and main ideas drawn from the whole review, as well as the said basic theoretical affirmations that shape the research methodology. It is the purpose of Section II to address the wide variety of disciplines that affect the research topic, and to define the theoretical grounds and specific approach to the topic.

The final Chapter 6 in Section II defines the methodological context for research. Explanations on the strategy and epistemology are followed by comparisons to other landscape and territorial analysis methods and their techniques. In addition, references on specific techniques used in field work and archival work are also mentioned.

Section III comprises five Chapters that elaborate on the empirical research including the Landscape Perspective interpretation tool, case study, the application in two Scenes of the tool onto the case and the discussion of findings.

Chapter 7 introduces the Landscape Perspective tool by mentioning its theoretical context, its hermeneutical objective, the possible benefits of the constructivist interpretation of landscape, and the systematic character that the tool wants to convey through its four dimensions. The research case study of Bilbao is introduced in Chapter 8 by arguing the reasons that make it a worthwhile case study.

Chapter 9 contains the First Scene of the case study research where the initial documentation, categorization and interpretation of landscape are explained. At the end of the chapter each Landscape Perspective of Bilbao is formulated, explained and illustrated with a map. The following Chapter 10 describes the details of the Second Scene which is divided into two parts, content analysis and theoretical interpretation of documents carried out using the four dimensional method of the Landscape Perspective tool.

The sixth and final Chapter 11 of Section III is that corresponding to the Discussion or the Summary of the Methodology and Results. It is here where the findings and contributions of the proposal are discussed. The contributions of methodology include the Landscape Perspective tool and the findings concerning connections and overlapping amongst dimensions and Landscape Perspectives. A final section of the chapter discloses unexpected landscape or territorial understandings that have been found through research, and that can be considered the potentialities of landscape. Finally, Chapter 12 concludes the thesis with closing remarks and further research recommendations.

## 1.6 Explanations on frequently used terminology within the thesis

1. Landscape: according to the European Landscape Convention, landscape means “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” (Council of Europe, 2000).

In accordance with that framework, landscape is defined in this thesis from a constructivist perspective arguing that it is a socially structured phenomenon based on the understandings and transformations of the environment by specific cultures and historical moments (D. E. Cosgrove, 1998).

More than an aesthetically pleasant image, more than the opposite of the city or the back scene of the city, landscapes are geographically, individually, collectively and time dependant and specific (Meyer, 2002). There exist various landscapes, as many as cultures and types of environments do.

2. Land or Territory: according to Oxford Dictionaries, territory is “an area of land under the jurisdiction of a ruler or state”, and land is defined generally as “the part of the earth’s surface that is not covered by water” more specifically as “an area of ground, especially in terms of its ownership or use”.

In the thesis, land and territory refer indistinctively to the case study area, and represent the observed reality that provides with information that will be interpreted and analysed.

3. (Rural-)Urban edge: Conventionally, a sharp divide (Meeus & Gulinck, 2008) that has categorized the urban and the rural areas (Qviström, 2013), that for some still exists as “the zone close to what might be recognized as more conventionally urban” (Gallent, Andersson, & Bianconi, 2006, p. 5). Formerly a morphological element embodied by mostly disappeared city walls, in the thesis it is referred to as an abstract concept that still acts as a meaningful tool for land use categorization in the planning contexts of Spain and the Basque Country.

4. (Rural-) Urban fringe: The edge is a divide, while the fringe is related to an concept of connectivity (Meeus & Gulinck, 2008, p. 11), and transition (Gallent et al., 2006). It is the result of the expansion of the urban edge into an area (Shoard, 2000) and has been approached as a morphological concept (Whitehand, 1988). The urban fringe is related to processes of suburbanization (Adell, 1999; Ipsen & Weichler, 2005; Thomas, 1990), periurbanization (Adell, 1999; Ipsen & Weichler, 2005), exurbanization and rurbanization (Gant, Robinson, & Fazal, 2011; Thomas, 1990). Also associated with concepts of sprawl, suburbia, peri-urban fringe (Adell, 1999; Meeus & Gulinck, 2008), and named edgelands (Gallent et al., 2006; Qviström & Saltzman, 2008; Shoard, 2000) and Zwischenstadt or in-between city (T. Sieverts, 2003). Its character is dynamic in terms of competing conflicts of land use and functions (Meeus & Gulinck, 2008; Thomas, 1990), and suffers strong development tensions (Gallent, Shoard, Andersson, Oades, & Tudor, 2004). It is said that it has been built by accident and suffers from organic processes of growth (Gallent et al., 2006), rapid processes of urbanization (Qviström, 2013) and sprawl that render it an unplanned

and an uncontrolled character, therefore it has traditionally been addressed as a planning problem (Qviström, 2013; Thomas, 1990).

5. Urban (fringe) Landscapes: It is the unique landscape of the urban fringe (Antrop, 1994; Gallent et al., 2004; Meeus & Gulinck, 2008; Shoard, 2000). Its history as a concept can be traced back to the first mention by Lefebvre (“Urbane Landschaft,” 2014) claiming the incapacity to recognize and see the new urbanized landscape as a consequence of a biased understanding of landscape (Lefebvre, 2003), and linked to other concepts such as the planetary urbanisation (Brenner & Schmid, 2011; Lefebvre, 1989).

“A kind of landscape quite different” from urban and rural landscapes (Shoard, 2000) its character can be defined as ambiguous and transitory (Qviström & Saltzman, 2008), hybrid (Qviström, 2013), ephemeral (Qviström & Saltzman, 2007), chaotic (Gant et al., 2011), multifunctional (Gallent et al., 2004), modular (Ipsen & Weichler, 2005), residual (Marcuse, 2002), fragmented (T. Sieverts, 2008), complex and highly dynamic (Antrop, 1994) array of heterogeneous elements and land uses (Ipsen & Weichler, 2005; Shoard, 2000). It is often described as un-qualified landscape due to the planning and controlling procedures that have built it (Clemmensen, Daugaard, & Nielsen, 2010). For planners, it is an undefined situation, and therefore neglected (Qviström, 2008) and ignored (Gallent et al., 2004). Urban landscapes are in a standby situation until a plan transforms its current situation (Qviström & Saltzman, 2007).

It is a ubiquitous (Diener, Herzog, Meili, Meuron, & Schmid, 2005) and limitless (Picon, 2000) landscape that nevertheless shows specific characteristics from one case to another (Ipsen & Weichler, 2005).

It is usually defined by its fringe character, which means it is not predominant in the representation or identification of a city. The case of urban landscapes in this thesis is nested in a mountainous land in the fringes of Bilbao.

6. Bilbao: Metropolitan Bilbao in the context of the Basque Autonomous Community spatial planning law is one of the 15 Functional Areas that represent the basic spatial planning unit. It is formed by 35 municipalities, including Bilbao, covers an area of 370 sqKm and holds a population of 862,813 inhabitants distributed in an average density 2.331,7 inh./sqKm. Within the dissertation context, such territorial boundaries are diffused and the focus is directed towards the urban fringes of the mountain slopes that are located within Metropolitan Bilbao.

7. Mountains: According to the Oxford Dictionary, a mountain is “1 a large natural elevation of the earth’s surface rising abruptly from the surrounding level; 2 a large steep hill:” and a hill is “A naturally raised area of land, not as high or craggy as a mountain”. Also, “the simplest and most obvious difference between hills and mountains is the fact that mountains have significantly different climates at different levels” (Thompson, 1964, p. 6).

Most of the land in Metropolitan Bilbao has a very rough morphology with a 10% or higher steepness. Although the peaks are not high in altitude (mostly around 200-500m), being so close to the sea and the presence of the estuary means that there are great altitude variations; e.g. it is possible to take a 4 hour hike from Bilbao city centre (8m) to Ganekogorta mountain (999m).

Within the thesis terms like mountain, hill and slope refer invariably to the land that has slopes of 10% or more. Adjectives like mountainous, hilly and rough also refer to the same conditions of the terrain with a steep slope.

8. Mountainous urban fringe landscape: It is a specific case of urban landscape characterized formally and conceptually by a mountain or a rough hilly terrain and geomorphology. The concept highly relies on the importance given to the impact of geography on the specific character, both visible and intangible, of the urban landscape, in order to claim a specific typology within the higher hierarchy of urban landscapes.

The use of the term mountainous refers to, on the one hand, a terrain that is difficult due to the steepness of its slopes rather than its altitude, and on the other to the influence of mountain resources on the development of its landscape. Mountainous denotes a geomorphologic characteristic of terrain—not so much a landscape that is varied in climatic aspects—and also a set of material features that are inherent (e.g. energy, mineral and forest resources) to the mountain. These features have been to some extent conditioners of and subjected to social and cultural transformations of the land at different moments in time, by various groups of people.

Therefore, mountainous urban fringe landscapes denote a cultural construction elaborated from multiple perspectives and taking into account the specific characteristics of mountains that can be roughly divided into urban and rural perspectives, but also include traditional and industrial ones. In the case of Bilbao, the fringe quality and interest of these landscapes, relies on the proximity and predominance of mountains in the urban and built-up area, and therefore on the multiple understandings and transformations that these have been subject to especially from an urban standpoint. These include transformative actions, protective actions and a vision of mountains as limits to the urban expansion or edges. In addition, and contrary to the significant role that natural edges might play on representing the identity of a city and/or as attractive spots (Koolhaas, 2006), the mountains of Bilbao currently play a secondary role and therefore their fringe quality is reinforced by the neglect in their construction as landscapes.

9. Landscape Perspective tool/ Landscape Perspective (LP): it is the interpretation tool or device designed to understand the landscape of a territory and what can be considered the main contribution of the thesis. The tool is used to formulate and understand ways in which a land has been 'seen' by a specific social-cultural group or individual, in a specific time, and that implies a purpose of transformation or a construction of land. It does so relying on the visible aspects of landscape and on the intangible social constructions of landscape.

There are four main Dimensions that structure the tool: Idea, Representation, Agency and



Elements. These four dimensions are interconnected and interact amongst them as a reflection of the construction of landscape. The Landscape Perspective Tool's origin and features are further explained in Chapter 7 of the thesis, and in a summarized version in subsection 2.2 of this document.

10. Dimension: it is the landscape aspect that structures the Landscape Perspective tool and directs a line of interpretation of the construction of landscape. There are four Dimensions:

10.1. Idea Dimension /1<sup>st</sup> dimension (1D): it is the basic dimension of the LP and formulates the interpretation and understanding of territory and the idea of transformation of land, specifically of a geographical element of land.

10.2. Representation Dimension/2<sup>nd</sup> dimension (2D): this dimension is the expression of the idea, and it shows the analysis and interpretation of the land produced by the criteria established by the 3<sup>rd</sup> dimension.

10.3. Agency Dimension/3<sup>rd</sup> dimension (3D): represents the group or individual observing the land, and also refers to the promoter and/or author of the Idea (1<sup>st</sup> Dimension), the Representation (2<sup>nd</sup> Dimension) and the transformation of the land (4<sup>th</sup> Dimension).

10.4. Elements Dimension/4<sup>th</sup> dimension (4D): defined as the elements that are proposed by the Landscape Perspective. The elements are both tangible and intangible constructions.

11. Speculative Multi Perspective Interpretation/ Retrospective Reconstruction: it is the interpretation of land elaborated using the Landscape Perspective tool. Such a reading includes the various Landscape Perspectives that have shaped it and that are dependent on the geography of place. It is speculative in character since it is not proposed as a demonstrable explanation or description of the construction of landscape. Also, it is a possibility for a construction, or better said, a reconstruction of the past. Essentially, it is an interpretation that gives a plausible explanation of the present condition of landscape taking into account the historical evolution of land that also looks at the future. It is an open interpretation that is capable of accepting other conceivable Landscape Perspectives, and therefore doesn't represent a fixed interpretation of landscape. This interpretation is the result of the First Scene or first application of the Landscape Perspective tool (Chapter 9.0).

12. Scene: there are two main Scenes in the dissertation and each one refers to a step of the Landscape Perspective (LP) tool application.

13. Interpretation: it is a conditioned or criteria-based, theorised reading of an object, an event, or in this case, a land and its landscape, carried out to understand its character.

## **1.7 A travelling thesis**

The thesis work has been an emergent process developed in several phases of a voyage, and so each stage of the journey is correspondent to a specific feature and section of the dissertation. The starting point was in Donostia and Bilbao, with the help of Dr Marte Mujika and her openness and flexible perspective. After the first explorations and morphological experiment to study the urban edge of Bilbao, the thesis first travelled to London. In the six months during which the research was based at the Urban Laboratory of the UCL supervised by Dr Ben Campkin and Prof. Nick Gallent, a wide research was carried out concerning urban and urbanity studies. Upon returning to Bilbao, the urban edge became urban *fringe*, and located the focus of the work on the mountain slopes. The fourth step of the trip relocated the dissertation to Munich, precisely to Professor Schöbel's LAREG chair. During that period, the work gained specificity and depth, especially concerning landscape studies by expanding the work towards urban landscape studies and cultural landscape theory and landscape analysis methods. In other words, the first scene was accomplished and the Landscape Perspective tool was structured and defined. The next step was to travel back to Bilbao to work on the second scene of the archival work. The last phase of reflection and writing work has been carried out in a Japanese tranquil and generic suburb. This phase has meant the end of the methodology and a distancing towards the research; a position that has been helpful to elaborate the discussion and assessment of the work.

## **1.8 A thesis written in Basque language**

It is fundamental to the thesis that it has been written in Basque language, but the research itself has been carried out in other languages. This fact accounts for several additional difficulties, mainly dealing with the lack of literature in Basque language. It also has had implication on the permanent state of "translation" that the work has been developed in, which means the continuous effort of translating literature and work from English, Spanish or French into Basque language. Many working concepts and texts have been conceived and developed in English, and then translated into Basque. However, the dissertation in its entirety has been written in Basque, except for Chapter 8, which is based on a translation and adaption of an English chapter draft. The English versions of the Abstract, Introduction, Discussion, and Conclusion chapters have also been translated from Basque language into English. Difficulties notwithstanding, it has been the repeated translations of the work that have enabled the continuous corrections of the work.

## 2.0 Methodology and results

It has been the objective of this research to search and elaborate an interpretive tool to understand urban fringe landscapes by following the lead of hermeneutics in an applied research fashion. The thesis has designed and proposed a tool called the Landscape Perspective that has been implemented in the interpretation of a case study landscape, that of Bilbao. The interpretation has been carried out in two empirical phases called Scenes: the Field Work/First Scene and the Archival Work/Second Scene. The first one develops the Landscape Perspective's speculative aspect of interpretation using field work and visible data represented by landscape elements. The latter relies on documents—intangible landscape elements—as data and interprets them through the four Dimensions of the Landscape Perspective tool. Analysis and understanding are the objectives of the tool, used as means to find out the features and characteristics that form the specific character of urban landscapes. To that end, special attention has been paid to the sociocultural context of landscape; that is to say, the research has begun by considering landscape as a social and cultural construction on both physical and conceptual levels, and therefore not only are the tangible built elements considered here, but also the intangible constructions that have affected the tangible ones. .

To figure out the success and shortcomings of the research I'll proceed to analyse the findings accomplished by using the proposed Landscape Perspective interpretive tool. In other words, the applicability of this tool and its implementation in two scenes —what can be considered the main contribution of the thesis—can be discussed by looking at the relations, structures and connections amongst the findings. Moreover, by also analysing the problems that have been found on the way, it is also possible to locate the areas and limits that need reinforcing or fine-tuning so as to elaborate an operative interpretation method.

This chapter roughly follows the structure of Sections II and III, and discusses the ideas and conclusions that have been reached through the process of research. It starts by discussing the theoretical and methodological Framework ideas obtained in the literature review, followed by the presentation of the main research procedure implications. Thirdly, the Landscape Perspective tool is discussed in terms of its originality and possible applications beyond the assigned use in the thesis. A reading on the adequacy and contribution of the case study comes next; the chapter is finished with the comprehensive analysis and discussion of the findings attained after the application of the Landscape Perspective tool onto the case study.

## 2.1 Theoretical and methodological framework

### 2.1.1 Theoretical framework

The purpose of Chapters 2 to 6 has been to establish the theoretical and methodological framework of the thesis by means of a literature review covering several topics that are considered to be contributing to a better understanding of the research topic, its needs, genealogy, praxis and methodology.

Section II started with Chapter 2 to review literature concerning Landscape theory by focusing on its structure, definitions, perception and representation. Chapter 3 worked on the City and Urban Edge topics by diachronically examining the multiple nominalizations and theorizations of these phenomena.

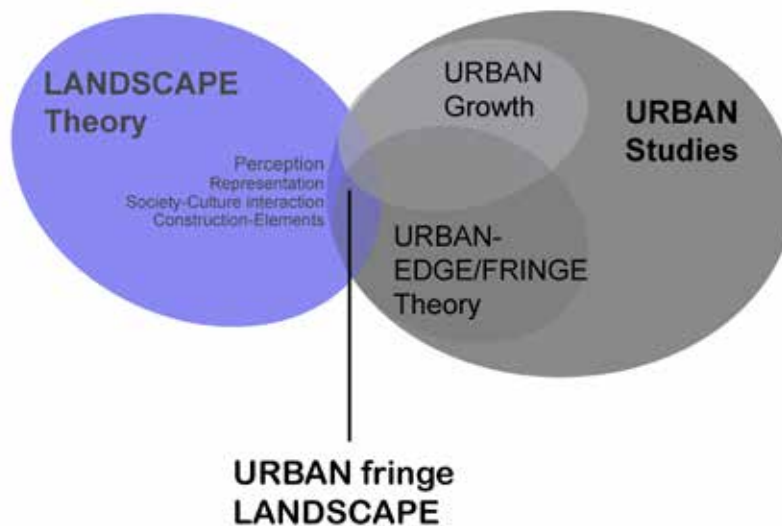


Figure 2 Research topic and its main theoretical framework

Overall, Landscape has been presented as a social construction (D. E. Cosgrove, 1998), shaped by many agents (Meinig, 1979) through history, and embodied in many land layers (Corboz, 1983). The social constructions can be divided into two main categories, the subjectivist and objectivist ones (D. E. Cosgrove, 1998; Jones, 1991; Zube, Sell, & Taylor, 1982); but there also exists a third mediating inter-subjective approach (Jones, 1991; Swaffield, 2006), which is also chosen as the research standpoint and epistemology here. Landscape is communicated and instrumentalized through its representation (D. Cosgrove & Daniels, 1988; Gallent & Andersson, 2007; Garcia-Ramon & Nogue-Font, 1994; Nogué, 2010; T. Sieverts, 2003), and is affected by the most powerful ideology at each given historical moment (Baker, 1992; Denecke, 1992; Garcia-Ramon & Nogue-Font, 1994; Mitchell, 2002). Therefore, landscape is accepted in this thesis as a social-cultural construction, which also means that it is a varied and evolving concept; this framework is reflected on the proposed Landscape Perspective tool.

Within Chapter 3 of the literature review, the City and the Urban-edge are shown as connected topics with the intention to trace how the traditional and modern city has evolved into the contemporary urban situation. On the one hand, cities are structured by multiple layers pertaining to several aspects such as form (de Solà-Morales, 1997; Rossi, 2004); perception (Lynch, 1998), social differences (Marcuse, 2002), culture, architecture and history (Banham, 2001a), understandings and conceptualizations (Davis, 2006) or function, and on the other, they have expanded at regional and global levels (Ascher, 1995; Banham, 2001b; Brenner & Schmid, 2011; Gottmann, 1957; Hall, 1966; Hall & Pain, 2012; Koolhaas, 2006; Sassen, 2005) losing specificity on the way (Koolhaas, 2006). Accordingly, the urban edge has also evolved, and many of the attempts to nominalise and frame it have been mentioned to prove such variation (Adell, 1999; Meeus & Gulinck, 2008; Pryor, 1968; Thomas, 1990).

Considerations about the urban fringe found on the literature, such as the various ways to nominalise and approach it and the lack of consensus conveyed by this, as well as the many features and aspects to understand the concept of the fringe, have been used to draw the first hints of a sort of typologization of the urban fringe research case. The various models and detections attempts of the urban edge remind us of the need to replace and overcome traditional concepts of the city and the urban edge in practical terms with concepts that include intangible spatial constructions and hybrid situations.

On the other hand, against the thought of homogenization of urban and urban fringe landscapes suggested by the global spread of urbanization and its demands (Brenner & Schmid, 2011; Schmid, 2005), it is claimed that there exists many models and indicators of urbanity (Diener et al., 2005; Gandy, 2012; Merrifield, 2013; Robinson, 2006; Romera, 2012; Schmid, 2005), as well as urban fringes and their landscapes (Qviström, 2013).

In the light of ideas that accept the world-wide spread urbanization, rural urban edge disappearance and landscape homogenization, there would be no sense into studying urban edge landscapes. On the other hand, there exist various conceptualizations of urbanity that challenge the traditional western idea of the city; as an effect cities are thought of as multi-dimensional, and increasing attention is being directed to the urban situations in developing countries, and the cultural and geographical specificities that shape them. According to these notions, locality is reinforced and so is the specific situation of urbanities that interrupt the planetary urbanisation. The dissertation accepts both views by asserting that the rural-urban edge has disappeared due to global urbanization, that the city is composed by multiple levels and dimensions, and that there are specificities to this global urbanity shaped by local physical features. In other words, the research accepts the urban fringe landscape as an area that is geographically specific and multi-dimensional in both in its character and structure.

Table 1 Reference landscape theories and the proposed epistemologies

	<b>Objectivist</b>	<b>Inter-subjectivist</b>	<b>Subjectivist</b>
<b>Cosgrove (1998)</b>	The object of scientific enquire		A matter of personal subjective perception
<b>Zube (1982)</b>	Expert /Psychophysical	Cognitive; "mind concept"	Experiential
<b>Jones (1991)</b>	Scientific / Applied	Subjective (sic); "a way to see"	
<b>Meinig (1979)</b>	Nature/System	Ideology/History/Place/Aesthetic...	Place/Aesthetic
<b>Meyer (2002)</b>		Grounded	

Table 2 Landscape construction dualities, in addition to a threefold structuring by Lefebvre.

<b>Roger (2007) double artealization of landscape</b>		In-situ & In-visu
<b>JB Jackson (2010): types of landscape</b>	Inhabited	Political
<b>Lefebvre (1971): layers of urban space construction</b>	Everyday Private Space & Mediating public Space	Mixed space & Political

Table 3 Conceptualizations for the urban realm classified according to date, scale and geographical reference.

YEAR	SCALE			GEOGRAPHICAL REFERENCE
	CITY	REGION	WORLD	
1915			World City; Patrick Geddes	
1943	Atenaseko Ituna, CIAM; Le Corbusier			
1960	Image of the city; Kevin Lynch			AEB: Boston
1961		Megalopolis; Gottman		AEB: Boston
1966	Architettura della Città; Aldo Rossi			Italia
			World Cities; Peter Hall	Mundua
1968	Droit à la Ville; Henri Lefebvre			Frantzia
1970	La Revolution Urbaine; Henri Lefebvre			Frantzia
1971	Los Angeles "4 ecologies"; transport palimpsest; Reyner Banham			AEB: Los Angeles
1972	Learning from Las Vegas; Venturi, Scott Brown, Izenour			AEB: Las Vegas
1974	New Babylon, Constant			Mundua
1978	Collage City; Colin Rowe, Fred Koetter			
1987		Technoburb; Robert Fishman		AEB
1989			Urbanisation Planetaire; Henri Lefebvre	
		Tapijmetropool; Willem-Jan Neutelings		Herbeherak
1990	City of Quartz; Mike Davis			
		Citta Diffusa; Francesco Indovina		Italia
1991			Global City; Saskia Sassen	Mundua: Tokyo, NY, London
		Edge City; Joel Garreau		AEB
1992		Exopolis; Ed Soja		AEB: L.A.
1994	Generic City; Rem Koolhaas			
		post-urban; Françoise Choay		
		Hyperville; André Corboz		Suitza
1995		Metapolis; François Ascher		
	Terrain Vague; Ignasi Solá-Morales			
1997		Zwischenstadt; Thomas Sieverts		Alemania
	The layered City; Peter Marcuse			New York
	Formas de crecimiento urbano; Manuel de Solá-Morales			Catalunya
2001		Global-City-Region; AJ Scott		Mundua
2003		Netzstadt; Oswald, Baccini et al.		Suitza
		Polyopolis, Polycentric Metropolis; Peter Hall and Kathy Pain		Mundua: hainbat eremu hiritartu
2004		Switzerland an urban portrait; Diener, Herzog, Meili, de Meuron, Schmid, Studio Basel ETH.		Suitza
2011			Planetary Urbanism; Brenner and Schmidt	Mundua

Table 4 conceptualizations of the urban edge and urban fringe classified according to year, concept, author and geographical reference.

YEAR	CONCEPT-NOMINALIZATION	AUTHOR	GEOGRAPHICAL REFERENCE
1902	<i>Garden Cities of Tomorrow</i>	Ebenezer Howard	Erresuma Batua
1923	<i>commuter's zone</i>	Ernest Burgess	
1936	<i>Stadtrandzone [urban fringe]</i>	Herbert Louis	Berlin
1937	<i>Urban Fringe</i>	T.L. Smith	
1942	<i>urban fringe and rural-urban fringe</i>	Richard B. Andrews	Madison, Wisconsin, AEB
1930-1947	<i>Green Belt- Town and Country Planning Act</i>	Greater London Regional Planning Committee;	London, Erresuma Batua
1947	<i>Fingerplanen</i>	Egnsplankontoret (Kopenageko plangintza bulegoa)	Copenhage
1958	<i>Fringes and Suburbs</i>	R.A. Kurtz & J.B. Eicher	
1960	<i>urban fringe belt</i>	M.R.G. Conzen	Erresuma Batua
1968	<i>periurbanity, urban periphery</i>	Robin J. Pryor	Mendebaldeko herrialdeetako hiriak
1990	<i>Cittá difusa</i>	Francesco Indovina	Veneto
1991	<i>Edge cities</i>	Joel Garreau	AEB
1991	<i>Desakota</i>	McGee	Asia HE
1992	<i>Exopolis</i>	Ed Soja	Los Angeles
1990	<i>new urbanism</i>		sprawl AEB
1997	<i>Zwischenstadt</i>	Thomas Sieverts	Frankfurt, Ruhr
1997	<i>Landscape urbanism</i>	Charles Waldheim	
2004	<i>urbanización-paisaje banal</i>	Francesc Muñoz	Bartzelona
2008	<i>Semi-urban Landscape</i>	Meeus & Gulinck	
2010	<i>ecological urbanism</i>	Harvard GSD	

Table 5 Other terms and approximations to the urban fringe.

YEAR	CONCEPT-NOMINALIZATION	AUTHOR	GEOGRAPHICAL REFERENCE
-	fringe, suburb, pseudo-suburb, satellite, pseudo-satellite		
-	slurb= slopped over suburb		
-	inner and outer fringe		
-	rural fringe		
-	limited fringe & extended fringe		
-	suburban fringe zone and outlying adjacent zone		
-	inner and outer fringe		
-	true fringe and partial fringes and adjacent rural townships		
1962	pseudo suburbs and pseudo satellites	G.A. Wissink	AEB
1976	rurbanization	Bauer eta Roux	



Chapter 4 has also analyzed three peripheral topics to the urban fringe landscapes: the concept of the Cultural Landscape, Nature and Landscape relationships, and the construction of the Mountain Landscape. The basic criterion of authenticity that underpins the consideration of a cultural landscape (Droste zu Hülshoff, Plachter, & Rössler, 1995) can be considered a culturally specific conception, which shows a variation to the applicability of universal policies and a need to integrate this variability in policy making. It also indicates a chance for a wider spectrum of landscapes that can be considered cultural, and thus, valuable. The thesis considers that landscape variation is shaped by geography and local topographic elements introducing into the urban fringe conceptualization the perspective of specificity that is fundamental to cultural landscapes or as indicators of differences in urban landscapes (Diener et al., 2005; Schmid, 2005). Regarding nature and landscape, two main perspectives have been studied; first by looking at how nature can be differently conceived within the anthropocene paradigm (Prominski, 2014) and through the perspective of post-humanist theories (Braidotti, 2006), and by focusing on trends that point towards hybrid understandings.

Also, nature has been treated as a social construction, structured by the cultural value-system that divides proper and deferred natural-elements (Gissen, 2009); opposed views on nature of the Western Renaissance tradition and Japanese integrative visions have also been mentioned to illustrate this point (Kieninger & Holzner, 2011; Prominski, 2014). The second perspective of nature-landscape connections has been that of Landscape Ecology and its objectivist position towards nature. That is to say, nature—and therefore landscape—is understood as a system of pieces and elements that can be measured, and which provides services to society in exchange of its and our protection and maintenance (Roncken, Stremke, & Paulissen, 2011; Selman, 2009; Stremke & Dobbelsteen, 2012). The third peripheral theme is the mountain landscape and a historical overview of the construction of this landscape that first was considered a frightening environment and then became a synonym of an attractive and beautiful environment (Barthassat, 2012; D. E. Cosgrove, 1998; Roger, 2007) with plenty of cultural values attached such as cleanliness, purity, scientifically valuable, healthiness, etc (Corboz, 1983; Roger, 2007; Zuelow, 2011).

The 5<sup>th</sup> Chapter gathers the conclusions from the preceding ones, especially those from Chapter 2 and 3, to focus on the main topic of Urban Fringe Landscapes. It is noted that UL are a constructed concept as well, not sufficiently represented and acknowledged, and that practice always tends to intervene in order to qualify them through greening strategies (Gallent et al., 2006; Qviström, 2013; Shoard, 2000). Although the consideration of exurban nature might lead to the perpetuation of urbanization (Cadieux, 2011), nature remains to be an asset of the fringe in its wild residual (Jorgensen & Tylecote, 2007) and autonomous (Clément, 2007) forms, and also in conceptualizations of wilderness and unregulated character as identity generating aspects (Vicenzotti & Trepl, 2009). Other observations include an empathic approach towards their understanding (T. Sieverts, 2008), and claims of new representations and imaginaries that consider valuable its heterogeneous character (Gallent & Andersson, 2007; Gallent et al., 2006; Roger, 2007; Shoard, 2000; T. Sieverts, 2003) instead of studying it from points of view that deny its existence as distinct phenomenon (Qviström & Saltzman, 2008; T. Sieverts, 2003). At last, the end of the 5<sup>th</sup> chapter establishes the basic theoretical grounds of the research that serve to reinforce the initial objective to understand the character of the urban fringe landscapes and to structure and frame the main tools for research: the Landscape Perspective tool and the research case of Bilbao.

## 2.1.2 Methodological framework

After laying the theoretical foundations of the thesis in chapters 2 to 5, the thesis further establishes the methodological framework of research in Chapter 6. To that end, and guided by the matrix of Strategies of Inquiry (Deming & Swaffield, 2011, p. 9) several aspects are presented to structure the overall strategy and epistemology of the work and the techniques that have been implemented.

Table 6 Strategies of Inquiry proposed by Ellen Deming and Simon Swaffield (2011, p. 9).

	<b>Inductive (theory building)</b>	<b>Reflexive (theory/practice interactions)</b>	<b>Deductive (theory testing)</b>
<b>Objectivist strategies</b>	Description	Modelling and correlation	Experimentation
<b>Constructionist strategies</b>	Classification	Interpretation	Evaluation and diagnosis
<b>Subjectivist strategies</b>	Engaged action	Projective design	Logical systems

A constructionist approach was chosen as the best possible standpoint to meet the research objectives of understanding the character and formation of urban landscapes since it fits with the definition of landscape as social construction, and the notion that knowledge about landscape is “actively constructed rather than found or discovered” (Deming & Swaffield, 2011, p. 9). That has led the work to adopt a method of analysis that is defined by two aspects: validation of the researcher’s views and constructions of the case study reality (Swaffield, 2006), and the acknowledgement of both objective and subjective considerations of landscape knowledge construction (Deming & Swaffield, 2011; Swaffield, 2006).

In terms of research strategy, a second prevailing feature is the working procedure directed by a reflexive reasoning; this means that instead of looking for a description of the case study landscape—deduction, or a derivation of a general theory from the case study—induction, the thesis attempts to work out a design strategy based on a relationship between theory, data and methodology, moving “back and forth between deductive and inductive perspectives” (Deming & Swaffield, 2011, p. 8). Deming and Swaffield (2011) pair the reflexive approach with that of abductive reasoning, for they consider it is a way of creating knowledge that is neither deductive nor inductive, but rather relies on a progressive formulation of hypothesis and methods. The implications of the abductive approach are methodological, reflected on the use of interpretative methods and speculation to understand the character of urban landscapes, and the final reflection on the findings of the First and Second Scenes.

The chapter includes a comparison chart amongst various established praxis and research related landscape analysis methods: a process for land perception by G. And P. Picnhemel and E. Turri (cited in Busquets, 2009), the process of building a project for landscape management (Busquets & Cortina, 2009), the Landscape Character Assessment technique (Swanwick & Land Use Consultants, 2002), the method used to analyse landscape in a Master course (*Energielandschaft Allgäu*, 2013) and the Regional Plan

of Bilbao 2006 (País Vasco & Bizkaia, 2008) The comparison aims to frame with precision the purpose and functionality of the proposed method, its techniques and data gathering process by mirroring it with already existing and used ones.

It is followed by a review on several methods of land interpretation and models that have been of reference to shape the Landscape Perspective tool and the formulation of several Landscape Perspectives to understand the land. These include (1998) definition of landscape as the main foundation of the Landscape Perspective tool and Martin Zube et al.'s (1982) model of landscape perception as a reference for the multi-dimensional character of the LP tool (1982), Reyner Banham's four ecologies for Los Angeles (2001a), Daniel Zarza's typologies of urban landscapes in Madrid (2008), Sieverts' and Bölling's Zwischenstadt analysis methodology (Bölling, 2005; T. Sieverts, 2003, 2005) Studio Basel's Urban Portrait of Switzerland and their speculative methodology for characterizing different areas (2005), and Berger's *drosscape* types (2006).

Finally, examples of field work (Careri, 2002; B. Sieverts, 2006, 2008; Sinclair, 2003; Smithson, 2006) and archival work (Bowring, 2002; Daniels, 1988; Larsen & Swanbrow, 2006; Lewis, 1988; Osborne, 1988; Qviström, 2013; Robertson & Hull, 2001) techniques are explained as references to clarify the techniques and steps that are proposed in the thesis. These methods and research techniques have been used as references for the process of landscape character understanding that is proposed, as well as for the different steps that take place in that process.

Table 7 Comparative amongst various landscape analysis methods and proposed method.

Proposed method	Land perception process (G & P Pinchemel, and E Turri)[1]		Project for landscape management (Busquets, 2009)	Landscape Character Assessment (Countryside Agency eta Scottish Natural Heritage)	Gestaltete Energielandschaft Allgäu (LAREG, TUM)	LPP BILBO METROPOLITARRA 2006  (Regional Plan of Metropolitan Bilbao)
Hiri Bazterreko Paisaiaren kontzeptualizazio teorikoa Literaturaren berrikuspenaren bidez; Paisaia-ikuspegi Tresnaren egituraketa	Munduaren ikustea	Rough Image	Lurraldearen mugatzea	Aztertuko den eremuaren eta arloen mugak ezartzea	Eremuaren eta arazoaren planteamendua	Eremuaren muga (I.1 planoak), Planaren aurrekariak
1. Eszena: Datu Bilketa: Landa-lana esploratzailea	Munduaren ikuste aukeratuak: hautematea eta identifikatzea	Selected Image	Datuak jasotzea	Mahaigaineko Azterketa	Elementu Genetikoaren analisia	Dokumentu Tematikoa; Lege Testuingurua, Lurralde Antolamendu Testuingurua
Sei Paisaia-ikuspegi Interpretazio espekulatiboa eta Kartografia	Birkonposatzea; hauteman denaren araberako Irudikapena	Net Image	Irakurketa eta irudikapena	Landa lana edo landa azterketa	eta kartografiatze	I.2-I.10 Informazio Planoak: Maldak, Plangintza Sektoriala, Mendi Publikoak, Udal planeamendua, Bizkaiko Errepide plana, Trenbideak, Portua eta aireportua, Zerbitzu azpiegiturak.
	Bizitako esperientziaren eta balioen araberako Ideiak, balioztatzeak, hautemate baloratutak	Valued Image	Balorazioa	Sailkapena eta Deskribapena	Pasaiaren egituraketa	
2. Eszena: Datu Bilketa: Artxibolana	Jarrerak eta jokatibideak	Projected Image	Proiektzioa	Iritziak edo epaiak egiteko irizpideen erabakitzea	Analisi esperimentalak	Memoriako atalak: 1.2.1 Bilbo gaur: metropoli potentzial bat; 1.2.2.3 Planaren helburuak
Egitura ikusezinak, joerak, Paisaia-ikuspegi alternatiboak	Erabakiak. Ekintzak (politikoak)	Prospective Image	Planifikatzea	Epaiak edo Iritziak ematea	Irudikapen berriak	Ordenazioa eta Antolamendu planoak eta irizpideak, Lurralde Eredua; O.1-O.4.5. planoak; Memoriako 2-7 atalak
	Area delimitation				Landa lana	Plangintza: Operazio Estrategikoak eta Egitura Ekintzak; O.5 eta O.6 Planoak; Memoriako 3-6 atalak; Araudia; Ekintza-programazioa eta Ekonomia eta finantza Txostena.
	Documentation				eta Elementu bereizgarrien	
	Recomposition based on documents				bilduma tipologikoa	
	Assessment					
	Valuation and direction establishment				Garapen lerro ezberdinak	
	Design / Planning				Diseinua	

## 2.2 The Landscape Perspective tool and its four Dimensions

### 2.2.1 Theoretical fundamentals of the tool

From a constructivist standpoint, landscape is a way to see and relate to land of a part of society (D. E. Cosgrove, 1998); a concept that is both materially and conceptually constructed and transformed (Baker, 1992; Nogué, 2010; Roger, 2007). By joining various landscape perspectives of different social backgrounds and profiles, it is possible to compose a multi-perspective understanding of a land (Meinig, 1979) and it is also possible to identify different ways of understanding the land that affect spatial planning and that depend on different levels of social and political power (Baker, 1992; D. E. Cosgrove, 1998; Denecke, 1992). In addition, as relationship between society and land change over time due to social, political and economic developments, landscape accommodates these variations dynamically (Jackson, 2010) and also has the capacity to be deconstructed (D. E. Cosgrove & Domosh, 1993) due to an interactive relationship amongst people, land and perception (Zube et al., 1982). That is to say, according to a constructivist outlook, landscape is formed by people, in various physical and conceptual ways that change through history and time.

As the current situation of urban fringes is a result of multiple layers of land understanding and perspectives (Roger, 2007), it is fair to say that by digging into their foundations and structures it is possible to understand their formation and find specific features within that can help characterize their landscape.

The concept and design of the Landscape Perspective tool is a compound of the mentioned theories of landscape. However, the main theoretical reference of the tool is the constructivist approach to landscape by Denis Cosgrove (1998). Cosgrove (1998) claimed that landscape denotes more than the visible elements of the land and stresses the notion of landscape as a particular mode of perceiving reality that is developed by certain parts of society in a specific historical moment and that has its own modes and techniques of representation.

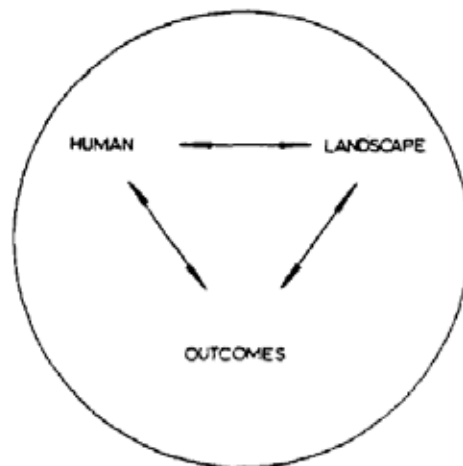
On the other hand, the Landscape Perspective tool is also defined by its instrumental use for interpretation purposes. These aspects and aim concerning the analysis of a regional scale landscape have been inspired mainly by two references, although other similar methods have also been consulted<sup>3</sup>. On the one hand, the concept of “ecology” and its fourfold formulation use by Rayner Banham to interpret the city of Los Angeles (2001a). On the other hand, the model for landscape perception and its interactive threefold structure proposed by E.H. Zube (1982). While the first method is the inspiration for taking into account the specific landscape—ecology in Banham’s terms— and its different aspects—architecture, culture, representation— created by the interaction amongst geographical features and social-cultural practices within an urban region, the latter model offered also an additional take on interaction in the case of the features that form the process of landscape perception and construction. The proposed method of the thesis considers just the one type of geography or land: the mountain slope, but looks into various ways it has been *cultured*.

<sup>3</sup> As it has been stated in subsection 2.1.2 Methodological Framework, other well known regional landscape and urban landscape analysis methods have also been consulted for reference purposes.

In addition, the Landscape Perception tool can also be paired with and has been influenced by: the three layered construction of the urban space by Henri Lefebvre (2003), the concept of land as palimpsest (Corboz, 1983), and the multiple possibilities for perceiving a land suggested by Meinig (1979) as it has already been noted.

Table 8 Rayner Banham's interpretation of Los Angeles in four ecologies.

Los Angeles	Surfurbia	Foothills	Planes of id	Autopia
<b>Type of land and specific materiality and cultures</b>	Coastline and beach culture	Hillside, landform building and architecture on slopes	Urban grid, uniformity, everyday architecture	Highways and car culture; highways as geomorphologic elements → transport palimpsest



**Fig. 1. Model of landscape perception.**

Figure 3 Zube, Sell & Taylor's model for landscape perception structured by three interactive dimensions: Human, Landscape and Outcomes.

## 2.2.2 Four Dimensions of the Landscape Perspective tool

What follows is a brief account on the references and definition of the four Dimensions that structure the Landscape Perspective. These have been derived from independently elaborated, but conceptually related theoretical approximations to landscape and to its definition, perception and conceptualization.

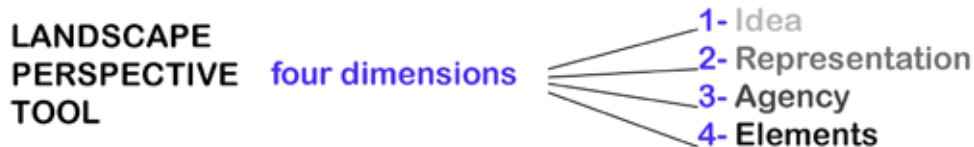


Figure 4 The four dimensional structure of the Landscape Perspective tool.

-Idea 1<sup>st</sup> Dimension: the Idea represents the understanding of the mountain/land in connection with a purpose or intention of transformation. This Dimension is derived from the definition of landscape as “a way of seeing the world” (D. E. Cosgrove, 1998) and stresses the aspect of specificity to the construction of landscape by particular social groups (D. E. Cosgrove, 1998) so as to indicate the existence of various Ideas that fundament as many different Landscape Perspectives. The manifold existence of Ideas is simultaneously derived from the argument of the existence of tenfold ways of seeing a single part of land (Meinig, 1979).

-Representation 2<sup>nd</sup> Dimension: The Representation Dimension is derived from the direct association between a Landscape Perspective and its communication, representation, *artealization* (Roger, 2007) in various modes of expressions and techniques depending on the author. To represent the way of experiencing, seeing and relating to the world is also a key process in the construction of landscapes in Cosgrove’s (1998) definition. Landscape as a representation or schema of the way to see the world (Corner, 1992, p. 243) denotes a selection of elements from the land to express a plausible reality or design (Corner, 1999).

-Agency 3<sup>rd</sup> Dimension: This Dimension is inherent to the Landscape Perspective, and to landscape as a constructed concept itself. It also determines the remaining three Dimensions within the Landscape Perspective tool, and therefore is a fundamental part of the interpretation of landscape formation. Agency is mentioned as a European social group or certain classes of people, (D. E. Cosgrove, 1998), as authors of landscape (Samuels, 1979), as various beholding eyes (Meinig, 1979). Cosgrove (1998) differentiates insider and outsider agency—depending on the relationship between people and land—, as well as objectivist and subjectivist ways of seeing the land—depending on the purpose and epistemological standpoint of the observer.

-Elements 4<sup>th</sup> Dimension: The elements represent the consequences of the way to see the world. Elements are the constructed landscape, more than the visual part of the land (D. E. Cosgrove, 1998); both parts in the double *artealization* that builds landscape *in-visu* and *in-situ*, on an imagined or conceptual level, and on a physical material level (Roger, 2007), but not necessarily always from an artistic perspective as suggested by Roger (2007). Depending on the elements, the landscape can be characterized as political or inhabited (Jackson, 2010); and thus reflect an ideological way of doing landscape (Baker, 1992).

In short, the Landscape Perspective tool represents a tool for speculating with landscape’s character based on its built forms by formulating several Landscape Perspective Ideas that have shaped a land—as employed in the First Scene—, and a tool to interpret landscape conceptual constructions through its four dimensions—as used in the Second Scene.

Namely, the present thesis proposes an interpretation of the various land layers by implementing the Landscape Perspective tool and method; this is accomplished in two Scenes: the Field Work First Scene and the Archival Second Scene. Within the First Scene, the tool is used to formulate, interpret and understand each of the layers that have shaped discursively and physically the land into landscape. It is followed by the Second Scene where the Landscape Perspective's four structuring dimensions establish the lines of inquiry that guide the interpretation: land understanding or Idea (1<sup>st</sup> D), Representation (2<sup>nd</sup> D), promoter or Agency (3<sup>rd</sup> D), and the effected transformation (conceptual and/or material) or Elements (4<sup>th</sup> D). These are further analysed and interpreted in each of the formulated Landscape Perspectives using the theoretical presumptions and looking for trends and structures that can serve to meet the purpose of understanding the urban landscape.

### ***2.2.3. Possible contribution of the Landscape Perspective tool***

The most important characteristic of the LP tool is that it includes the various social and cultural aspects to the transformation of the territory, as well as the role that these play in the construction of ideas about landscape. The tool is designed with the aim of understanding how these landscapes have been formed, as well as a means to understand and identify its potential values from a standpoint that considers their social construction. Many accepted notions and assessments and their fixed truthfulness can be destabilized in the light of such a consideration.

For instance, in the case of the notion of nature equated to landscape, it is possible to see the constructions that define different kinds of nature, and how nature is continuously transformed and defined depending on human needs and economic interest by studying how species of fauna and flora (Clément, 2007; D. E. Cosgrove, 1998), as well as inorganic elements (Gissen, 2009) have been used and transformed to meet various economic purposes. Also, with regards to the idea of landscape as an image/photograph, by connecting the image to its author or promoting agency, purposes other than the obvious ones might also arise such as promoting a certain product, idea or region by using landscape as a symbol (Baker, 1992; Denecke, 1992; Mitchell, 2002). By studying the political and economic grounds as to how a landscape image is used to represent place (Muñoz, 2005), it is possible to discover the limits and deficiencies of the way a landscape's cultural meaning is used to naturalize an identity associated to a place. Also, to demonstrate how powerful a part of society is in creating proper and tasteful aesthetic imaginaries of landscape and the so called landscape archetypes (Nogué, 2010). In addition, the Landscape Perspective tool serves to claim the lack of documentation and representation of landscape constructions elaborated by communities and groups of people with less power to communicate their views. Finally, in the case of urban landscapes, the relationship between their marginal character and negative representations caused by cultural, mass media representations and interests can be unveiled using the Landscape Perspective tool.

Indeed, such capacities are not exclusive to the LP tool; there has been much research regarding constructivist views of landscape. For instance, by working on landscape and power (Mitchell, 2002), landscape and ideology, landscape and authorship (Samuels, 1979), landscape and seeing (D. E. Cosgrove, 1998, 2008), landscape and representation (Corner, 1999; D. Cosgrove & Daniels, 1988; D. E. Cosgrove, 2008). Research dealing with cultural landscapes and their elements (Banham, 2001a; Berque, 2011; Jackson, 2010; Zarza, 2008) have also considered the social and cultural aspect, needless to say. However,



these works usually focus on isolated dimensions, that is to say, by analysing just one aspect of landscape, or connecting the main dimension to another one, which remains as a secondary implication to the study. While constructivist theoretical approaches to landscape have helped to establish the dimensions of Idea, Agency, Representation, and Elements included in the proposal for the Landscape Perspective tool, it can be said that this interpretive tool includes the four of them in a single interpretive technique or device for interpretation.

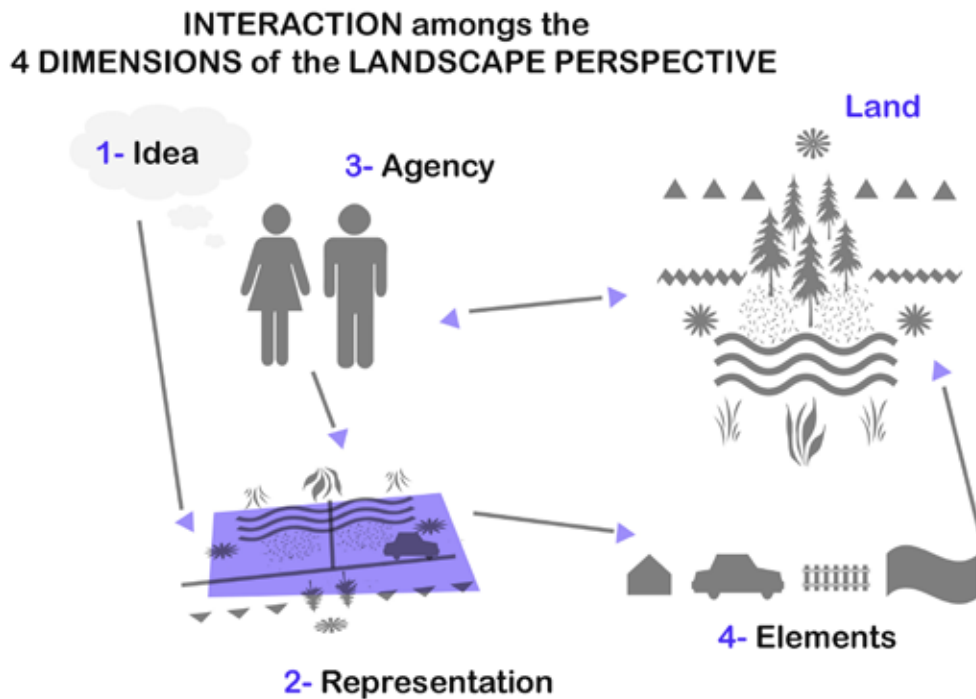


Figure 5 The four dimensional model of landscape construction as derived from the Landscape Perspective tool interpretation.

These four dimensions are differentiated within the Landscape Perspective tool and this structure is aimed to enable a systematic interpretation of landscape. The proposition of a tool is justified by the intention to find a way that can serve to apply it in more than one case study, and so that it can also be integrated in a planning or design procedure. Aiming for such integration into the analysis phases included in any projective process, the dissertation proposes an application method for the LP tool by carrying out a test in the case of the Mountainous Urban Landscapes of Bilbao. This search for a general method also enables the main purpose of the research, which is the understanding of the landscape character of urban fringe landscapes. However, the dissertation deals with an approximation to a method that still needs some adjustment and fine tuning as it will be mentioned—rather than on a description and definition of an urban landscape type.

### **2.3 The case study: the formation of the fringe character of the mountainous landscape of Bilbao <sup>4</sup>**

Chapter 8 in the thesis shows how the constructivist theories of landscape paired with the specific issues of urban landscapes are gathered in the case of Bilbao. These issues refer to a lack of acknowledgement towards its character, and the lack of representation; that is to say the chapter deals with the material and discursive displacement of urban landscapes that has taken place in the case of Bilbao.

Chiefly, the chapter argues how the fringe character of the mountainside of Bilbao has been constructed by a cultural and economical exclusion. Firstly, since planning has not allocated any other land use other than mining, forestry or park to the area, and these activities neither have been planned or managed with enough attention to detail, and have been developed organically, or by rushed and highly advertised transformations, or, have remained as good-intentions on paper. A second argument deals with the fact that mountains play a double role in landscape representations of the Basque Country and Bilbao. On the one hand, due to the quasi-exclusive identification of Bilbao with the estuary, they are not part of the city's image, and on the other they haven't played a role as the location for the Basque archetypical landscape of the mountainside due to their high level of transformation and urbanization.

As it's been said before, the chapter mainly justifies the choice of Bilbao as a case study by showing how the mountains of Bilbao are displaced in representations using image content and discourse analysis research techniques. The main conclusion of this chapter is that there are two main landscape archetypes in Bilbao, each of which is connected to a specific geographical element: one connects the urban realm with the estuary, and the other links Basque cultural identity to the mountain. Arguments that place the origin of this landscape division in the beginning of industrialization are presented as well. Moreover, a third category of imagery is identified that represents Bilbao by using both original geographical elements. This third landscape view defines an opportunity gap for the research that follows in the thesis; a chance to look for alternative visions of mountain landscapes in other than the established ways of open green recreation and natural space and forestry areas.

In other words, the case study meets the purpose of an additional tool in the form of a data base for empirical research along with the Landscape Perspectives, in order to develop a theoretical and practical interpretation method for urban fringe landscapes.

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<sup>4</sup> Part of what is presented in Chapter 8 has been published in the article "Urban Fringe Landscapes on Mountains" (M. Uriarte, 2014) of MONU Magazine on Urbanism 's issue on Geographical Urbanism 20. The chapter is not a word by word translation, but rather an adapted version of the article and the ideas in it.

Table 9 Examples of content analysis of landscape depictions of the Basque Country and Bilbao categorized into three landscape types: Basque Rural Mountain archetype, Bilbao's industrial estuary and the Hybrid landscape vision. See Appendix A.

RURAL MOUNTAIN LANDSCAPE	TYPE AND TITLE	AUTHOR/EDITOR	YEAR /PERIOD	Background object	Foreground object	Focaliser	Perspective	Position of Viewer	View taken from	Mountain as location of depicted scene
Arche-type						People/characters, Artefact, Natural element, Rural element	Vertical, Horizontal, Upwards, Pan-	High-vantage point, Low-		
<b>PAINTING</b>										
Back from work	La vuelta del trabajo	Guiard, T	1889	mountains against sky, smoke and	a man and a boy	woman with oxen in centre, two men on right	horizontal	ground level		
The reaping/mowing	La siega	Guiard, T	1890	sky, field with several men and oxen cart-	"sega", a man picking up cut grass;	man picking grass on left, pair of oxen in centre	horizontal	ground level		
Popular festival	Fiesta popular	Arrue, J	1926	the sea and coast of Bermeo surrounded by fields	a group of men and women celebrating near a farmhouse	a woman cooking on right, a couple on horse left, two urban ladies centre, bowlers left mid, two men starting out of the picture, the trees, the sea, the building, etc	panoramic	ground level and vantage point towards the sea	could be Sollube where the Canon restaurant is located	yes
<b>PHOTOGRAPHS</b>										
<b>POSTCARDS</b>										
<b>FILM STILLS</b>										
<b>MILK ADVERTISEMENTS</b>										

INDUSTRIAL RIVER Landscape	TYPE AND TITLE	AUTHOR /EDITOR	YEAR /PERIOD	Background object	Foreground object	Focaliser	Perspective	Position of Viewer	View taken from	
<b>Archetype</b>										
PAINTING										
Sefanito 1	Sefanito 1	Bilbao, I	199x	inside of abandoned factory	piano	piano	horizontal	ground	People/ characters, Vertical, Horizontal, High-vantage	
1 and 2	1 y 2	Bilbao, I	199x	blast furnaces of AHV	two women in shade look at	blast furnaces and women	horizontal	ground		
PHOTOGRAPHS										
POSTCARDS										
ATHLETIC FC POSTERS										
FILM STILL										
<b>BILBAO</b>	<b>TYPE AND TITLE</b>	<b>AUTHOR/EDITOR</b>	<b>YEAR/PERIOD</b>	<b>Background object</b>	<b>Fore-</b>	<b>Focaliser</b>	<b>Per-spective</b>	<b>Posi-tion of Viewer</b>	<b>View taken from</b>	<b>CON-TAINS LEG-END?</b>
not mountainous/rural landscape						People/ characters, Artefact,	Vertical, Horizontal, Upwards,	High-vantage point, Low-street		
GRAPHIC MATERIAL										
Bilbao	Bilbao	Muffin, Johannes and Hogemberg, Franz	1572	mountains against sky Serantes, Banderas and Artxanda range with es-	midground fields of Abando and town of Bilbao; San Francisco?	two boats on sea horizon, town, group of people, text in enter top and panoramic view	vantage point	Miribilla	YES	
PAINTINGS										
ILLUSTRATED REVIEWS										
PHOTOGRAPHY										
POSTCARDS										
CONTEMPORARY ARTWORKS										

## 2.4 First Scene

Once the theoretical foundations have been laid out (Chapters 2-5), the methodological framework explained (Chapter 6), and the research tools have been introduced (Landscape Perspective interpretation tool and Bilbao's mountainous urban fringe landscapes in Chapters 7 and 8), it is time to actually carry out the application. The implementation of the LP tool on the case study is done in two Scenes, a First Scene based on field work observation and interpretation, and a Second Scene that relies on archived material documentation and interpretation.

### 2.4.1 Purpose and strategy of the First Scene

The First Scene of the Landscape Perspective method includes two methods of constructionist nature: classification and speculative formulation (Deming & Swaffield, 2011) of Landscape Perspectives, and in both cases the researcher's role is significant. The data used has been collected and documented through field work excursions, and further interpreted to formulate an initial characterization or understanding of landscape. The purpose has been to make a first interpretation to understand the landscape character of the case study using the Landscape Perspective tool's speculative functionality.

The excursions have had an explorative character and the routes have been decided according to the selection criteria of the researcher. The criteria involved a selection of areas of interest that house characteristic elements of the urban fringe such as abandoned or derelict places, specific urban services—waste management, electrical substations, commercial and industrial developments, regional scale infrastructure, green open space etc. that would serve to establish a flexible route for each excursion. As more explorations were developed and the focus of research became more centred on the mountain slopes, additional elements and areas of interest were identified—formal and informal settlement areas, rural areas, forestry and mining areas, etc. The documentation of elements has been carried out using a digital photo camera and by tracing the route that was followed in a geo-referenced platform such as Google Earth and Google Maps.

The exploration carried out is no different to other field work techniques. Initially, there was an intention to cover the whole metropolitan area of Bilbao, but as trends and themes were detected and under the influence of Banham's "ecologies" method, the focus was narrowed down to specific areas of the urban fringes of Bilbao. As more places were visited, the specific qualities and significance of mountain slopes were detected, and thus, these became the focus of research.

As to data collecting techniques, the research has used photography, video and geo-referential itinerary maps<sup>5</sup>. The exploration aims to carry out an analysis by identifying the most significant land structures and features, which are usually detected with the bare eye: vegetation masses, infrastructure, settlements, geomorphology, water surfaces etc. That is to say, the field work has collected data on typical categories of elements and their location included in any given land and landscape analysis procedure. Some examples of the field work excursions can be consulted in Appendix B.

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<sup>5</sup> These have been collected and showcased in the blog <http://ertzafriinge.wordpress.com/>

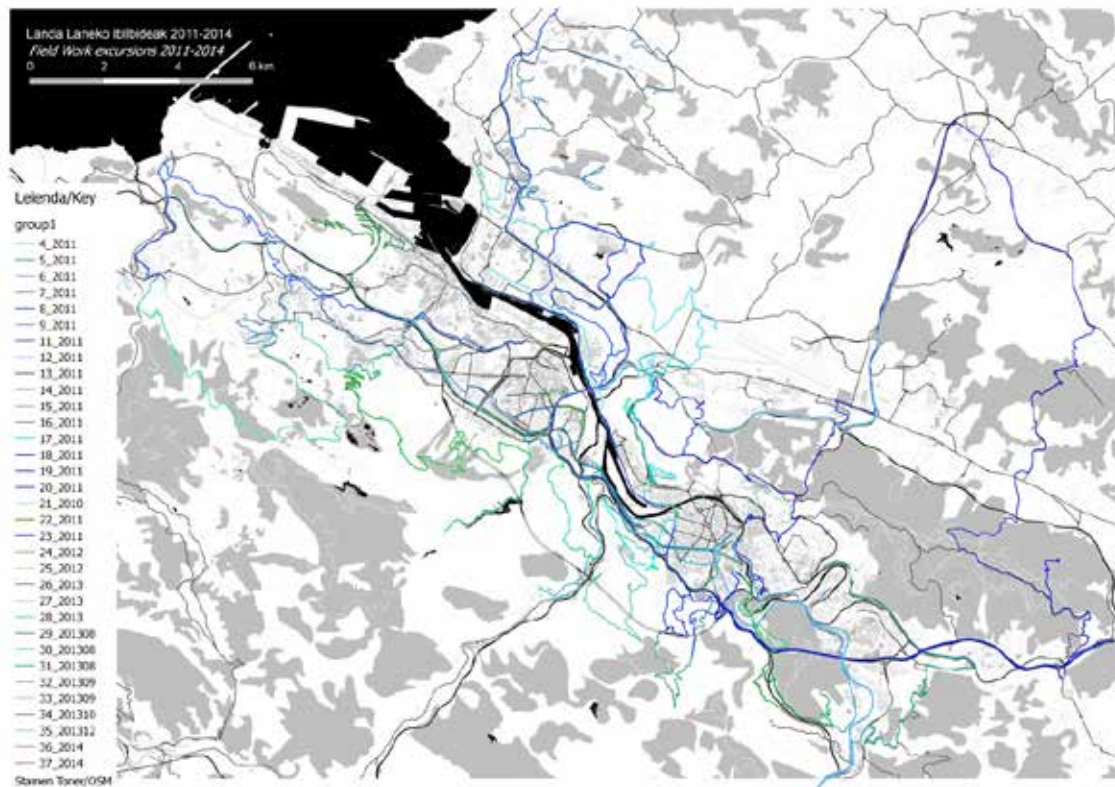


Figure 6 Map showing the field work excursions.

Data consisting on landscape elements was then classified according to the nature of the relation between the element and the mountain slope; that is, the way that an element is adapted formally to the mountain morphology. Taking this as a basis, a formulation in the way of a speculation is elaborated as to how the specific element was thought as a consequence of its location in the mountain. That is to say, a hypothesis is built trying to make sense of how the mountain was seen in order to design and build a certain element. Said hypothesis or speculation is the fundamental premise to formulate a Landscape Perspective.

The selection of elements involves visibility and presence of elements such as that of industrial parks, educational and cultural facilities, open green space, reservoirs, electrical substations, landfills and other waste management services, in addition to elements that are known to be characteristic of the landscape by local knowledge—that also have a significant visible presence—such as forests, informal orchards, residential areas, road infrastructure, electricity transportation infrastructure, geological traces of mining activity, and other less visible elements but also characteristic such as traditional rural economy and lifestyle constructions such as fields and farmhouses, and informal housing areas. Some of the elements that currently exist in a state of abandon have lead to the discovery of the location of disappeared or remnant elements as in the case of the mining facilities and infrastructures, or informal residential areas. These, while being almost absent in the visible field of landscape, have been also included in the interpretation of the character of the urban landscapes of Bilbao since they are indicators of the formation process and of the various ways in which the mountains have been understood.

As a result of the classification and speculative formulation, a set of six Landscape Perspectives is proposed as a multi-perspective way to understand the mountain and its characteristics, as a combined view on the ways that land—in this case urban land on rugged terrain—has been seen, transformed and done. The six Landscape Perspectives form a speculative interpretation of the mountainous urban landscapes of Bilbao; they are plausible hypothesis of the construction of these landscapes elaborated by considering the visible and tangible elements of landscape. The speculative interpretation is also open in character—admits more perspectives—and needs no proof or demonstration. The proposal has been represented by way of six individual maps<sup>6</sup>, one for each of the Landscape Perspectives, and another map showing how the six overlap. Each map shows the elements categorized into the corresponding Landscape Perspective, and also represents simultaneously a conceptual and material construction of land.

The role of the researcher has been limited to the documentation phase; that is to say, to the selection of the areas and elements of interest, that can be considered local and subjective knowledge inherent to the researcher. This has been called the selection criteria.

#### ***2.4.2 Formulation of the six Landscape Perspectives***

If the followed procedure is compared to other analysis methods and their classification techniques of field work data—as it has been done in Chapter 6, and can be seen in Table 7—, it can be stated that the difference resides in that the landscape elements—forests, mines, farmhouses, residential areas, infrastructure and services etc.—are organized by categories regarding separate ways of understanding the land; i.e. into 6 main Landscape Perspectives. The categorization then implies that elements are organized depending on the way they relate to the mountain slope. These different ways of understanding the mountain slopes are formulated by the researcher based on a speculation as to how the mountain was seen with regards to an activity or transformation project by the promoter of said intervention. Again, such speculation results from the application of the theoretical premises of a constructionist approach to landscape that fundament the Landscape Perspective tool.

According to the theoretical premises of the LP tool, the relationship between the element and the terrain is defined by a social agent, meaning that each Landscape Perspective formulates a relationship amongst human-built elements and geographical elements. In other words, the land features identified by the field work are categorized by speculating and interpreting the logics of their adaptation or connection to land; these categories are the foundations of the specific Landscape Perspectives that are interpreted as the shapers of the urban landscape. By trying to guess and interpret the many ways that human agency has read and transformed the mountains of Bilbao, a plausible landscape character formulation for its urban landscapes has been proposed.

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6 See Appendix D.

Table 10 Types of elements identified in the field work.

<b>Elements and activities</b>	<b>Element Types</b>
Megalithical formations, chapels and crosses, ways of the Cross, pilgrimage festival fields	1. Tradition, religion, recreation
Agricultural and stock breeding activities, farmhouses, orchards, fields, pastures, throughways, walls, hedges, hay-stacks, vineyards	2. Rural land, tradition, cultural landscape
Forests, forest tracks, firewalls, property limit stones, shacks, warehouses, folds and pens, sawmills	3. Forestry
Mine pits, caves, wells, inclined planes, railways, air tramways, related traces	4. Mining
Highways and roads, tunnels, lifts and mechanical stairs, funiculars, high voltage electricity lines and pylons, water transportation pipes, railways, high speed railway, additional related built elements	5. Infrastructures: transport and communication
Incinerators, sewage plants, waste management plants, landfills, toxic waste storage, dog pounds, transportation warehouses, wholesale market, water reservoirs and deposits, electricity substations, energy plants, oil refinery, airport, wind-farms, shopping malls, industrial plants	6. Urban services and economic activities
Vegetation and fauna variety, signalling, tracks and trails, furniture, parking lots, fences, resting and picnic areas, viewing points, reception points, bars, camping grounds, golf fields, summit post-boxes, huts, parks, gardens	7. Recreational open space and natural protected areas
Residential areas, education centres, sports grounds, health centres, elderly residences	8. Everyday domestic space
Shacks, orchards, garbage pits, informal social and economic activity areas	9. Everyday domestic and recreational informal space.



Table 11 Fine tuning of the element classification and formulation of the Landscape Perspectives.

<b>Element Types</b>	<b>Landscape Perspectives</b>	<b>Numbering</b>
1. Tradition, religion, recreation	Mountainside Cultural and traditional Landscape: TRADITIONAL MOUNTAIN	<b>0</b>
2. Rural land, tradition, cultural landscape		
3. Forestry	Exploitation of the mountain resources: RESOURCE MOUNTAIN MINING AND FORESTRY	<b>1</b>
4. Mining		
5. Infrastructures: transport and communication	Elements that overcome the mountain as an obstacle: OBSTACLE MOUNTAIN	<b>2</b>
6. Urban services and economic activities	Elements that use the mountain space as opportunity: AVAILABLE MOUNTAIN	<b>3</b>
7. Recreational open space and natural protected areas	Mountains as open space and natural areas: GREEN MOUNTAIN	<b>4</b>
8. Everyday domestic space	Everyday and domestic space in mountain slopes: SETTLED MOUNTAIN, FORMAL AND INFORMAL	<b>5</b>
9. Everyday domestic and recreational informal space.		

Table 12 Procedure followed in the First Scene to obtain the six fold Landscape Perspective interpretation.

<b>FIRST SCENE PROCEDURE</b>	<b>Step #1: Identify landscape elements</b>	→	<b>Step #2: Element classification</b>	→	<b>Step #3: Formulation of the 6 Landscape Perspectives</b>
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These are the Six Landscape Perspectives for the case of the mountainous Urban Landscapes of Bilbao: the Traditional Mountain, the Resource Mountain and its Mining and Forestry variations, the Obstacle Mountain, the Available Mountain, the Green Mountain, and the Settled Mountain divided into Formal and Informal settlements. The traditional Mountain (0) includes elements related to mountainside, countryside and rural landscape traditional structures or traces. The Resource Mountain (1), as the name denotes, is related to the exploitation of mountain resources through mining and forestry practices and the related physical constructions. The Obstacle Mountain (2) perspective sees a disadvantage for urban growth and infrastructure development in the hills. Conversely, the Available Mountains (3) is a perspective that envisions opportunities and available space within the slopes to locate urban services and economic activities. The Green Mountain (4) is associated to the vision of mountains as natural spaces and open space park and recreation purposes. Finally the Settled Mountain (5) understands the slopes as areas of everyday and residential land uses that can be formal and informal in character. These Six Landscape Perspectives form the speculative interpretation or retrospective reconstruction of the mountainous Urban Fringe Landscapes of Bilbao.

In this thesis, each of the ways that landscape has been seen and constructed represents one specific Landscape Perspective (LP). Each LP contains social, cultural, spatial and representational aspects. Since all territories have been affected by human transformations and activities that are socioeconomically specific, which also means that they are affected by different ways to understand and transform the land according to varying needs and purposes (Baker, 1992; D. E. Cosgrove, 1998), this implies aspects of dynamism, variation and specificity in landscape characters. Therefore, it is possible to say that each Landscape Perspective has created a *type* of landscape; using the terms of the thesis: many Landscape Perspectives have shaped the land to form the current state of urban fringe landscapes.

Table 13 Each Landscape Perspective is derived from field work observation and speculated interpretation of landscape elements, and each LP is structured and defined by four Dimensions: 1D Idea, 2D Representation, 3D Agency, and 4D Elements.

<b>Landscape Perspectives</b>		<b>Dimensions</b>	
0 TRADITIONAL RE-SOURCE MOUNTAIN	Mountainside Cultural and traditional Landscape.	1st Dimension Idea	
		2nd Dimension Representation	
		3rd Dimension Agency	
		4th Dimension Elements	
1.1 MINING RESOURCE MOUNTAIN	Exploitation of the mountain resources.	1D Idea	3D Agency
		2D Representation	4D Elements
1.2 FORESTRY RE-SOURCE MOUNTAIN		1D	3D
		2D	4D
2 OBSTACLE MOUNTAIN	Elements that overcome the mountain as an obstacle.	1D	3D
		2D	4D
3AVAILABLE MOUNTAIN	Elements that use the mountain space as opportunity.	1D	3D
		2D	4D
4GREEN MOUNTAIN	Mountains as open space and natural areas.	1D	3D
		2D	4D
5.1 FORMALLY SETTLED MOUNTAIN,	Everyday and domestic space elements on	1D	3D
	n mountain slopes.	2D	4D
5.2 INFORMALLY SETTLED MOUNTAIN		1D	3D
		2D	4D

# THE SIX LANDSCAPE PERSPECTIVES OF THE MOUNTAINOUS URBAN FRINGES OF BILBAO



Figure 7 The Six Landscape Perspectives of the mountainous urban landscapes of Bilbao.

### 2.4.3 Methodological limits of the First Scene

After assessing the results of the First Scene, two limits have been observed; first an indication as to the type of landscape that the proposed tool is able to analyse, and secondly, a limit regarding the relationship between the researcher and the case study.

It might seem as if only human built elements were selected and categorized into the LPs since the research has analysed solely traditional elements, resource extraction and exploitation, services, infrastructures, recreation areas and settlements. The main reason for this is that these have been identified as the most visible landscape elements of the UL on the mountains of Bilbao, and therefore most characteristic.

If the proposal were to be re-applied in another context, how could the Landscape Perspective tool be applied to cases where anthropogenic forces have not transformed the landscape as much, and where cultural or traditional landscape and wild nature is more present? If we consider that the basic premise of the Landscape Perspective tool is the human agency that understands and transforms the land or constructs it, and that each LP represents a set of values and beliefs regarding land, then wild areas or lands would not be eligible to be interpreted through the LP tool. However, such areas are more and more difficult to find as the paradigms of the Anthropocene and planetary urbanisation indicate. Let's admit this as a limit to the application of the Landscape Perspective tool, that is to say, the limits of a tool that can be used only in *cultural* landscapes.

Another specific aspect of the First Scene has been the role of the researcher who is familiar with the case study area and its evolution and specific reality. It must be admitted that this role has affected the exploration and the formulation of the Landscape Perspective tools, since she has previous knowledge on the evolution and construction of the landscape, as well as personal experiences connected to the area; all add to what has been called the “selection criteria”. There are limits and benefits to this fact. On the one hand, it limits the understanding of the land causing partial, critical or subjective readings. On the other, thanks to the inherent knowledge, the exploration has been directed towards interest areas that have been fundamental to the evolution and shaping of the case study. In that sense, significant and meaningful elements of landscape have been identified in a more effective fashion thanks to the *insider's* knowledge.

### 2.4.4 Multiple interpretations of mountainous urban landscapes and the need for the Second Scene

Once the 6 Landscape Perspectives have been formulated, these are illustrated by a set of individual maps and a combined one where all are shown in an overlapped view. The maps serve to represent intangible categories (the Landscape Perspectives) and material ones (landscape elements). Specifically, the maps show a plausible link amongst the social and economic logics for land transformation and management objectives with the built objects. Nevertheless, the maps—as in any other map—do not show an objective reality, but a retrospective interpretation of how mountain slopes have evolved and have been shaped; they are an attempt to understand this change by reading the tangible traces and speculating about and interpreting the intangible ones.

Therefore the findings or main idea that is accomplished by the First Scene is the Speculative Reconstruction via Six Landscape Perspectives illustrated by six cartographic layers. This interpretation can serve as a hypothesis to explain the evolution of the urban fringe landscapes of the mountains of Bilbao that needn't be demonstrated. However, as research evolved, for a number of reasons these finding or interpreted explanation to landscape formation didn't seem to answer the research question that inquires about the intangible aspects and qualitative features and forces that have shaped them; in other words, the discursive construction of landscape.

Mainly since the interpretation formed by six Landscape Perspectives relies solely on the elements that are visually apparent together with the contribution made by the information already known to the researcher—the selection criteria. Secondly, for the interpretation doesn't exploit the potential of the Landscape Perspective tool to unravel intangible information on the evolution and character of the urban landscape. Through the field work based on documenting built elements, it has been possible to formulate several Ideas that ground the Landscape Perspectives. However, a social constructivist interpretation should include variables that go beyond physical elements. Chiefly, these would include those that could be categorized under the Agency and Representation Dimensions within the Landscape Perspective, and which also influence on the Idea and Elements Dimensions. Even if the researcher has already some knowledge on these aspects, it has been considered that other empirical data-bases could contribute with additional information to the characterization and understanding of landscape. In this way, it will be possible to work with invisible information related to visible Elements.

Briefly stated, the First Scene has been a creative and, perhaps, inventive procedure to understand the landscape, by forming a plausible interpretation of the cultural land transformation from a constructivist standpoint—reflected on the consideration of a land transformation generated by several ways of seeing and doing—and using an abductive/reflexive strategy—since it has implemented inductive classification and deductive evaluative-formulative methods as well as a proposal of alternative landscape analysis categories—Landscape Perspectives. It is followed by the Second Scene, which completes the first interpretation with documented information; that is, the First Scene's speculative interpretation acquires additional information on the Agency and their objectives that have shaped and transformed Bilbao's mountainside.

Both the Analysis and the Interpretation within the Second Scene are carried out one Landscape Perspective at a time; that is to say, by organizing documented information according to the Six Landscape Perspectives formulated in the First Scene. Moreover, the information is also categorized according to the Four Dimensions within each LP. The analytical phase is based on questionnaire based documentation, and the following interpretation is elaborated using constructivist landscape theories that will be mentioned next.

## 2.5 Second Scene

### 2.5.1 Purpose and research strategy of the Second Scene

As it has been mentioned, the Second Scene has the purpose to document and complete the landscape character speculation from the First Scene structured by Six Landscape Perspectives. To this end, another documentation process is carried out, this time in an archival level.

Each of the six Landscape Perspectives of Bilbao represents a distinct way of understanding the land by trying to discern how it is used and by whom, how it is represented and to what purpose it is transformed. These aspects are defined as Dimensions, and refer to the basic analytical units that structure the Landscape Perspective tool: Idea, Representation, Agency and Elements. A brief reminder of the definition of the Dimensions: the Idea refers to the way that the land/mountain is understood, the Representation communicates the Idea, the Agency dimension identifies the social profile, the authorship or promoter of the Idea and the Representation, and, finally the Elements focus on the construction of landscape.

In order to select the documents that would later be analysed and interpreted, a list (Table 15) was elaborated with the landscape elements that were documented during the field work, and that have been classified into the six Landscape Perspectives, and that would ideally form the best array of landscape characterization elements. Using this list, a consultation of several archives—governmental, municipal, historical, museum funds—, libraries and internet data bases was made looking for plans, projects, site descriptions, designs etc. In the case where no propositive documents were found, secondary sources were sought: monographic books, research works, literature works, video footage, news etc.

Each document was found and selected on a different basis, but the main purpose was to find documentation that described the formation of specific elements or general explanations on landscape elements. For more information on this, Appendix E indicates the list of elements and their corresponding document codified according to the Landscape Perspective they belong to, and Appendix F gathers images of some of the documents as well as a short description and the search and selection criteria that was followed to retrieve it.

Not all the elements in the list were found, so the documentation process was stopped once a representative amount of documents for each of the 6 Landscape Perspectives was collected. This amount denotes a set of elements covering the variety of element types classified in each of the Landscape Perspectives (Table 11 in section 2.4.1). As a consequence, around 100 archives and both text based and graphic based files have been consulted<sup>7</sup>, most of which are building projects and plans that indicate some of the selected elements on the First Scene.

<sup>7</sup> To consult the list of elements, documents, and archival references of the documents refer to Appendixes E and F.

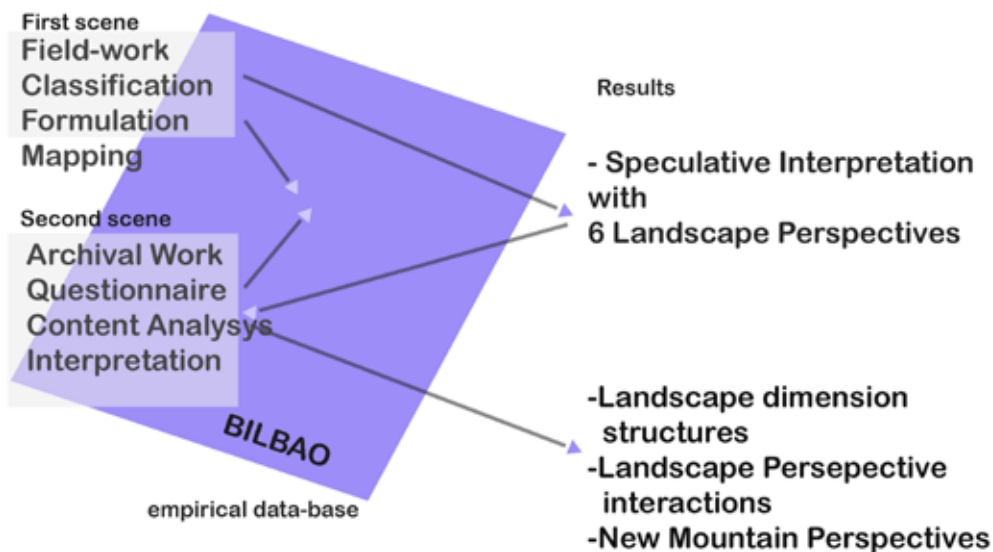


Figure 8 Reflexive interaction amongst the case study, the research methodology and the results of each scene.

Table 14 Research procedure in the Second Scene: phases, techniques, criteria.

Phase	Documentation	1st phase: Content analysis	2nd phase: Theorized interpretation
Technique	Document search and selection	Questionnaire, Iconography, and content analysis,	Questionnaire, Iconology, and discourse analysis
Criteria	Selection criteria:  Representative and significant amount of documents	Basic information: date, type of document  Correlation of content with the 4 Dimensions:  1D.Idea-purpose; 2D.Representation-representation techniques and objects; 3D.Agency-authors and promoters, private or public; 4.D-Elements-projects, plans, conceptualizations, proposals etc.	Theoretical fundament of the 4 Dimensions:  1D. Idea: evolution of purpose regarding the understanding of land 2D. Representation: meaning of techniques and presence/absence of elements in representing the land  3D. Agency: Insider/Outsider; Subjectivist/Objectivist  4D. Elements: political/inhabited, <i>in-visu/in-situ</i> constructions *Intentionality and Implications in the construction and formation of the urban landscape



Table 15 An overview of desirable elements to document and possible location of the document.

Landscape Perspective	Element	Possible location	Landscape Perspective	Element	Possible location
<b>0_TRADITIONAL MT</b>			<b>4_GREEN MT</b>		
*	Jabego planoak Partzelarioak Udal-muga planoak Katastroa		*	Artxanda Meatzaldea Anillo Verde Bilbo Montefuerte Bilbo Unbe-Akarlanda Pagasarri	txostenak
2010koa daukat					
<b>1.2 FORESTRY RESOURCE MT</b>	re poblaciones baso inbentarioak		<b>5.1_FORMALLY SETTLED MT</b>		
* AFB, amb 2010 BFA	basozainen gastuen justifikazio txostenak			Ciudad Jardin	
<b>1.1 MINING RESOURCE MT</b>	meatze kontsezioak topografikoak	AGRUMINS Aren fondoan, Luchana Mining, Orco- nera Iron Ore eta Franco-Belgaren ehundaka plano		Buena Vista Firestone	
*2010ekoa				Otxarkoaga	
Adan de Yarzarenak	mapa geologikoak Azpiegituren planoak galeria, grada eta tu- enelen planoak			altamira Uribarri San Juan Rompeolas Caserio Monte San Pablo	
<b>2_OBSTACLE MT</b>	Planak errepide mapa zaharrak Sto Domingo			Unbe-Mendi Santurtzi-A8 Sarriena	
Errepideak	Enekuri Rontegi EHU-rako errepidea Artxandako tunelak Solución Sur	Diputazioaren txostenetan		Miribilla	Plan Partziala
	solución Centro Solución Ugaldebieta Accesos Puerto San- turtzi Txorierriko lasterbidea	Diputazioaren txostenetan		EHU-UPV	
	Super Sur	Diputazioaren txostenetan		Coelgio Aleman	
	Olabeagako sarrera berriak	Diputazioaren txostenetan		Askartza	
	Artxandako Funikularra			Aintzindariak:colegios al aire libre 1920+/-	
	Orduntetik ura ekartzea Zadorratik ura ekartzea			Santa Marina Quirón	
	Alta tension Irauregui-Barakaldo Irauregui-Trapaga- Zierbena Finaga-Alonsotegi		<b>5.2 INFORMALLY SETTLED MT</b>	Peñascal	
<b>3. AVAILABLE MT</b>	Argalarío Artigas hondakindegia Leioa Getxo Kurkudi Erandio Monte Cabras Zabalgardi Artigas compostage	informazioa EVen AMB		Monte Banderas Artxanda Uretamendi	hemeroteca?
	Barakaldoko urtegiak- ahv	propaganda propaganda		Masustegi Caramelo Poblados Mineros	
	Venta-Alta consorcio Partzuergoaren ur biltegiak Gallarta El Campillo Galdakao Explosivos Bilbondo Basauri Artea Leioa-Getxo Santurtziko termikoa Erandioko subestazioa Finaga Basauri Zierbanako kontene- dore biltegia	propaganda propaganda		Baratzak	argazkiak

After selecting the files, the documentation proceeded to analyse the information within the document regarding each of the four Landscape Perspective dimensions using a questionnaire (Table 16 Questionnaire or form used to analyse the documents). The information of each document has been organized by pairing different aspects from the documents with the Landscape Perspective dimensions. The analysis implies the classification of the found information into the hierarchy of the Landscape Perspectives and its four dimensions. All the information from the documents is collected and gathered in relation to the corresponding dimension—1D.Idea, 2D.Representation, 3D.Agency, 4D. Elements. This step concerning the analysis of the document contents merely notes the intended meaning and content of the documents, both of written and graphic nature. That is to say, the apparent purpose of the document is related to the Idea dimension (1D), the way that the mountain location and site is represented in words or graphically is organized into the Representation dimension (2D), the author(s) and promoters in the file are defined as the Agency (3D), and finally the designed, proposed and/or built situations are filed under the Elements dimension (4D).

Table 16 Questionnaire or form used to analyse the documents.

**LANDSCAPE PERSPECTIVE:**

Document Name:

Source:

Type:

Date:

**Idea (1.D)**

Is the document's idea of land agreed with that of its Landscape Perspective category?

Which purpose does the document have? Which would its Landscape Perspective be?

Which other Landscape Perspectives are connected to this document?

**Visual analysis of the graphic Representation (2.D).**

*Map, design map, planning map, drawing:*

In which ways are site and mountains graphically represented?

What is the scale?

...graphic perspective?

...symbols and key?

...orientation and location of north?

Are there overlapping layers of information?

*Photograph, film-still, etc.*

In which ways are site and mountains graphically represented?...optical perspective?

Is there any written text?

Which is the main focus of the image?

Elements in foreground, midground and background

**Content Analysis of the written Representation (2.D).**

Is there any mention of the mountain when the site or location are described?

Is there any mention to pre-existing elements? How are the pre-existing elements mentioned?

In which ways is the mountain-slope conceptually represented? Which features are mentioned?

In which ways is the site described and represented? Which features are mentioned?

**Agency (3.D)**

Who are the promoters and authors of the document?

**Elements (4.D):**

Is there any mention to Elements caused by the implementation or projection onto land of the Landscape Perspective?

How are the new elements connected to the site?

Table 17 Example of the analysis of the collected information through the questionnaires/forms in the case of the 5.2 Informally Settled Mountain Landscape Perspective (in Basque). The subtitle noted after each Dimension indicates a summarized view of the Dimension in each Landscape Perspective.

## 5.2 INFORMALLY SETTLED MOUNTAIN

MBil.1/ISM.1- Housing projects for Uretamendi, Bilbao (1960-71)

MBil.2/ISM.2- Photographs of the Uretamendi shack neighborhood (1950-60?)

MBil.3/ISM.3- Ocharcoaga-Jorge Grau (1961)

[a short film on the history of a public housing development to house shack dwellers produced by francoist Housing Ministry]

MBil.4/ISM.4- Otxarkoaga (2011)

[a short film on the 50th anniversary about the history of Otxarkoaga neighborhood from the eyes of its inhabitants]

MBil.5/ISM.5- Special plan for Pagasarri (2006-2011)

MBil.6/ISM.6- a series of newspaper clippings and radio broadcasts about Masustegi area (2010-11)

[an informally developed neighborhood from the 1950-60s in Bilbao built on private land and recently (2011) acquired by the municipal govern]

MBil.7/ISM.7- General Urban Plan of Abanto-Zierbena (2012)

MBil.8/ISM.8- General Urban Plan of Ortuella (2008)

MBil.9/ISM.9- General Urban Plan of Trapagaran (2010)

MBil.10/ISM.10- Bilbao y la evolución de sus barrios

[a series of volumes on the history of Bilbao's neighborhoods]

**1.D. Idea. Identification of informality:** Mendia Bizileku informala Ikuspegirekin aurrera eraldatu den inolako proiekturen dokumentaziorik ez da topatu, [...] paisaiaren eraldaketa informala suposatzen duen elementuen dokumentaziorik ez da inon ageri. Aztertutako agiriek, beste ikuspegi bat dute, batik bat informala dena dokumentatzea edota egoera negatibo bat konpontzea. Hala ere, agiriek azaltzen duten informazioa aztertu eta interpretatzea erabaki da, izan ere, paisaia horren eraikuntzari buruzko informazioa datu gabezien bidez ere lortu daitekeelako. Bestalde, Mendi Berdearen Ikuspegia (Pagasarriko Plan Berezian, PGOU AZ), Mendi Baliabidearena (PGOU AZ) eta Mendi Tradizionalarena (PGOU AZ) gainjarrita ageri dira aztertu diren dokumentuetan.

**2.D. Representation: Spoiled mountain,** damaging situations: Bildu den dokumentazioa anitza da, [...]. Horregatik, hainbat iturri kontsultatu dira Ikuspegi Informal honi buruzko informazioa zeharka lortzeko asmoz. Hala, proiektu bi, argazki bilduma bat, bideo bi, 3 plan, zenbait berri eta liburu bat kontsultatu egin dira.

Uretamendi auzoko etxebizitza Proiektuetan (MBil.1), mendiaren irudikapenak ez du garrantzia handiegirik hartzen. Tamaina txikiko kokapen plano simple bat erabiltzen da, sestra kurba batzuk eta ezponda bat adieraziz, baita inguruko eliza, eraikinak, kale izenak eta errepidea adieraziz. Argazkiek (MBil.2) ere Uretamendiko inguruak irudikatzen dituzte, mendiak txabolaz beteta ageri direlarik, kaleak lokaztuta, eskailera eta eraikuntza xume eta inprobisatuez inguratuta. Mendia baino, giza egoera kaskarra erakusten dute argazkiek.

[...]

**3.D. Agency: Fixers:** Agirietako egitasmo gehienak publikoak dira, hamarretik sei. Eragiten duten agentziak dira frankismo garaiko Ministerio de Vivienda (MBil.3), Bilbo (MBil.5 eta MBil.10), Ortuella (MBil.7), Abanto-Zierbena (MBil.8) eta Trapagarango (MBil.9) udalak. Lau agiri pribatuak berriz, parrokia bat (MBil.1), argazkilariak (MBil.2), [...]

Beste dokumentu publikoek, dagokien lurraldearen antolamendua eta arazoek konponketa dute helburu: paisaiari kaltegarriak zaizkion elementuak kentzea eta onuragarriak direnak indartzea (MBil.5), eta planarekin bateragarriak diren etxebizitza eta eraikuntza egoerak erregularizatzea (MBil, 7, 8, eta 9). Bestalde, Bilboko auzoen bilakaeraren ikerketa eta narrazioa egiten da MBil10 liburuan.

**4-D.Elements: Formalizing informality:** Propositiboak diren agiri bakarrak Uretamendiko etxebizitzaren proiektuak eta udaletxeetako Plan Berezi zein Hiri Antolamendu Plan Orokorak dira. Azken hauet an, lurzoru urbanizaezinaren kudeaketa da interesgarriena eta bertan proposatzen diren erazketa eta eraikuntza erregulazio neurriak; [...]egiten diren erregulazio-irizpide zehatzak dira nabarmengarria.

Following the analysis process, a theorized interpretive phase take place<sup>8</sup>. This step is characterized by the use of theoretical premises to interpret the documents, and therefore can be described as iconological—in the case of graphic documents—and discourse analysis methods—for text-based documents. Again, the structure of the file analysis and interpretation always follows the hierarchy of the six Landscape Perspectives and the second level represented by the 4 dimensions.

The theorized interpretation or discourse analysis has been used mostly on the Agency and Elements dimensions. In the case of the Agency, following the dialectics established by Denis Cosgrove's (1998) landscape ambiguities of Insider/outsider and objectivist/subjectivist landscape viewer. In the case of the Elements dimension, the character of the projected future or designed elements has been interpreted by using the Political/Inhabited landscape duality (Jackson, 2010), and the in-visu/in-situ (Roger, 2007) double production of landscape. As to the Representation dimension, the iconological interpretation has mostly focused on reading what the documents show and conceal, and on the plausible meanings of this. Finally, the Idea dimension is interpreted looking at their overall evolution through time, as well as to the intended and combined ideas of each document.

In addition, a third line of interpretation has looked at the effect and implication that each Landscape Perspective has had in the construction of the urban landscape. The purpose was to find out any trace of intentionality and implication of the documents—and related agents, representations and elements—in the construction and formation of the mountainous urban landscapes of Bilbao.

The role of the researcher in the Second Scene is again limited to the documentation phase by deciding which documents are most significant to be analysed and whether the amount and scope of the documentation represents the type of elements included in each of the Landscape Perspectives.

The Second Scene attempts to complete the speculation established by the First Scene and the interpretation formed by 6 Landscape Perspectives by using documented proof of intangible data on authorship, ideology, power and objectives that have shaped the land, and therefore shouldn't be understood as a demonstration of the First Scene. These results in the way of dimensional and Landscape Perspective related trends that reflect the formation of the mountainous urban landscape of Bilbao could also serve to validate the Landscape Perspective tool's capabilities.

The trends and correlations are sought to understand the landscape formation using the results from a theorized interpretation of intangible or non-physical constructions of landscape found within documents of various types. These detections amongst the individual Dimensions (1D,2D,3D,4D) throughout each of the 6 Landscape Perspectives show how each dimension affects landscape, while the correlations amongst specific Dimension types (e.g. Objectivist Agency, Political Elements etc.) serve to indicate specific variations and interactions amongst these profiles that are repeated in several of the Six Landscape Perspectives, and thus reflect various ways of constructing the urban landscape depending on the prevalence of one or other type of Dimension.

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<sup>8</sup> An example of the summarized collection, content analysis and discursive interpretation regarding all documents associated to the Available Mountain is included in Appendix G.

Also, by trying to find out whether any intention existed in the building of the urban landscape, the results show that there hasn't been any will to do so, confirming the theory that posits that urban landscapes are built by accident (Gallent et al., 2006).

Overall, the contribution made by the Second Scene might be defined by the surfacing of certain aspects that can be useful to understand urban landscape formation from a social constructivist perspective, and also on the finding of landscape potentials of the case study and a few unexpected capacities of the Landscape Interpretation tool as it will be seen. The trends will be discussed in the paragraphs below and the latter findings in section 2.6.

Table 18 Interpretation criteria for each of the four dimensions of the Landscape Perspectives

Dimension	Interpretation criteria	
1D Idea	Purpose of documents, evolution of purposes regarding the understanding of the land, tracing of the evolution of the Idea of each Landscape Perspective.	
2D Representation	Meaning of the types of techniques and symbols used	Meaning of absence of the mountain within the representation
3D Agency	Outsider/insider (Cosgrove, 1998)	Subjectivist/Objectivist (Cosgrove, 1998)
4D Elements	Political/Inhabited (Jackson, 2010)	In-situ/in-visu (Roger, 2007)

Table 19 Dimensional correlation for the case of the 5.2 Informally Settled Mountain documents. Pu = Public, Pr= Private, K=outsider, B=insider; O= objectivist, S= subjectivist, Po= Political, Bi= Inhabited, In-v= in-visu, In-s= in-situ.

	Type of document	2D Type of representation	3D Agency-					4D Elements				
			Pu	Pr	K	B	O	S	Po	Bi	In-V	In-S
<b>Informally Settled Mountain Landscape Perspective (ISM)</b>												
ISM.1	Project	Graphic		X	X		X		X		X	X
ISM.2	Photographs	Graphic		X	X		X		X		X	-
ISM.3	Short film	Video	X		X		X		X		X	-
ISM.4	Short film	Video	X			X		X		X	X	-
ISM.5	Special Urban Plan	Graphic/Written	X		X		X		X		X	X
ISM.6	News	Written/audio		X	X	x	X	x	X	x	X	-
ISM.7	Municipal Master Plan	Graphic/Written	X		X		X		X		X	X
ISM.8	Municipal Master Plan	Graphic/Written	X		X		X		X		X	X
ISM.9	Municipal Master Plan	Graphic/Written	X		X		X		X		X	X
ISM.10	Book	Written	X		X		X		X		X	-

## 2.5.2 Trends amongst the 4 Dimensions

The paragraphs below describe the main trends that have been found looking at the four Dimensions separately grouped into their corresponding Landscape Perspective, and at the same time, by trying to discern common traits of each Dimension across the 6+2 Landscape Perspectives.

### *Correlation between Idea (1D) and the Landscape Perspective*

The Ideas found within the files and archives usually agree with the Perspective into which they are categorized, in all but three cases where the Idea doesn't appear as a cause for landscape elements. Coincidence between the Landscape Perspective and Idea is apparent in the cases of the Resource Mountain (RM), where both iron mineral and forests are understood in the documents as mountain resources to be exploited and managed; in the case of the Available Mountain (AM) where mountain slopes are qualitatively and quantitatively envisioned as opportunity spaces in all the analysed files; also in the case of the Green Mountain (GM) related documents that place open space activities in the mountains; finally in the case of the Formally Settled Mountain (FSM) where the documents that have been researched are means to transform the slopes into settlements due to their understanding of the places as withholders of appropriate living-everyday conditions.

Conversely, in the case of the files associated with the Traditional Mountain (TM) and the Informally Settled Mountain (ISM), although the idea expressed by the documents is the same as the Idea of the Landscape Perspective—mountains are traditional areas, and mountains are spaces where informal development takes place—, there is no direct connection amongst the Idea and the development of the landscape elements. That is to say, the documents that are categorized as to belonging to the Traditional Mountain do not generate the traditional elements, but rather describe and promote their protection. Similarly, the documents focused on the ISM do not generate informally built shacks and allotments; but instead serve to develop formalized states of those areas and the replacement of informality causing structures. In addition, in the case of the Obstacle Mountain (OM), there hasn't been found a single document where the mountain is described as an obstacle that must be overcome, and none of the projects have the purpose to hurdle this obstacle, although all of the developments are designed in such a way.

That is to say, four of the formulated Ideas in three Landscape Perspectives are not in accordance with what the documents show in the same terms indicated by the LP tool, that is, by an overarching Idea of land that leads to the design and/or a material construction of certain elements, while in the case of the remaining four Landscape Perspectives there exists a correlation between Idea and Elements.

### *Standard Representations (2D).*

In terms of representation, generally the collected documents insist very little in the fact that they are designing for, transforming or portraying a mountain. In addition the mountain is almost never represented as a whole, but rather through parts of it. Also, it has been noted that the place representation is usually carried out using standard representation conventions in terms of the graphic symbols and significant or useful topographic elements, depending on the discipline or knowledge area and praxis.

Needless to say, most of the collected representations are means to express building sites and space in the most efficient possible way to meet the apparent objective of the document. This is most obvious in the case of topographic site maps or in site descriptions elaborated for plans and projects. This means that the place that will be transformed or affected by a project or plan is described by planning and development zoning laws and land use categorizations or ecosystem related quantifiable data. Nevertheless, this type of objective and standard information is useful to establish different levels of consideration towards the mountain, since they render visible the way that the landscape has been understood by powerful specific agents that will be mentioned later.

Most mentioned qualities and elements to represent the mountains are pre-existing conditions regarding buildings, geology, urban planning or ecosystem and topographic information: buildings, land uses, production activities, geologic origins of soil, altitude, type of soil, wind directions, orientation, vegetation, negative visual impacts, noise and air pollution, life-conditions, heritage, infrastructure, etc.

The predominance of standardized representation techniques used to portray quantifiable data, while it states the obvious, it also serves to confirm the problem that motivated the research in the first place: the use of solely quantifiable data and features to describe and characterize place.

On closer analysis and interpretation of the representations by Perspectives shows that, for instance, the Traditional Mountain related files associate the mountain to an important aspect in the identity of the Basque culture (Caro Baroja, 1998). In the case of the Mining Resource Mountain (MRM), mountain slopes are represented by underground and ground material layers and their management, and fail to represent the whole mountain. An exception to this notion could be the documents authored by geologist Mario Adan de Yarza, which due to their nature of being geologic descriptions, show that mountains of Bilbao are part of a wider geomorphologic and geologic scale of the Pyrenees system. Also, in the case of the Forestry Resource Mountain (FRM) perspective, mountain and forest are used indifferently to represent the same thing: a slope covered by planted trees that are productive industry. Unfortunately, it hasn't been possible to find a contemporary or current project of a forest plantation or forestry related infrastructures and services such as forestry roads or firewalls etc. It is speculated that such a map or project would indicate ways in which planning limitations and planting needs are combined with the pre-existing conditions to show a more specific way of understanding the mountain and forestry procedures.

In the case of the Obstacle Mountain (OM), the slopes or mountains are seldom drafted or described. This is very particular to this Landscape Perspective, since it plays a major role in the elaboration and design of the infrastructure or plan. Usually, when the presence of the mountain is made visible, it is merely done by standard drafting procedures using contour lines or other quantitative and conventional description formulas. Similarly in documents concerning the Available Mountain (AM), the mountain is not shown either, even though its features are also fundamental to the location of the elements on the slopes. The slopes are also shown in part-by-part representations by focusing solely on the affected areas. A significant trait is the fact that the studied projects' location is highly conditioned by the pre-existing use and the anthropogenic qualities of the soil and the land. This condition however, is not directly mentioned as a decisive feature to locate services and activities in those wasted areas, except for the case of the toxic waste chamber of Argalarrio Mountain (AM.6).

As for the last two mountain types, in the case of the Green Mountain (GM), for instance, there's a clear division amongst elements that are beneficial and problematic to developing a park or an open space. In addition, the mountains are associated to humanist, hygienist and moralist values in the case of the oldest mountaineering documents. Within the Green Mountain perspective, the hills are also partially represented by only showing the elements that are fit to that image of greenness, health and recreation, and either ignores the presence of other harmful elements to that image such as industry, infrastructure or settlement, or proposes their replacements, demolition, and establishes protective measures.

Finally, the documents that relate to the Settled Mountain, two main trends have been found; in the case of the Formally Settled Mt. (FSM), these are usually represented graphically with sections or profiles, and also by mentioning the views and the sunshine that is beneficial to the people who will live and use that place. As for the Informally Settled Mt. (ISM), documents usually insist on the bad living conditions of the shacks, the poor accessibility, and most importantly, on the harmful visual impact that certain elements such as illegal allotments and informal neighbourhoods generate on the views of the hills from the city centre of Bilbao. In most recent representations and expressions of informal areas, the dwellers and builders of those former shacks observe in retrospect how life in the shacks resembled the countryside.

*Outsider, Objectivist and Powerful Agents (3D).*

A theorized interpretation of the Agency Dimension has resulted in the identification of a specific social profile, and can be considered one of the most relevant finding that the proposed landscape interpretation can bring as a possible methodology considered from a constructivist point of view. The findings go to show that the land has been transformed by powerful private and public agencies, which appear several times across all Landscape Perspectives.

For instance, it is highly notable the presence that the Provincial government of Biscay has and its powerful influence in many of the formulated Landscape Perspectives, mainly in the FRM, OM, AM and GM landscape perspectives, since they hold the competence to plan and manage the mountain land, the road building and regional open space. Private sectors are also observed as powerful in the cases of the MRM, FRM, AM and ISM, and several well known names appear throughout the documents, such as: Altos Hornos de Vizcaya<sup>9</sup> (FRM, OM), Ramon Adan de Yarza (MRM) and his brother Mario Adan de Yarza<sup>10</sup> (FRM), Iberduero<sup>11</sup> (AM), Orconera Iron Ore Ltd and Compañía Franco-Belga de las Minas de Somorrostro (MRM) mining companies, Cementos Lemona (OM) and other construction and developer's companies such as Viviendas de Vizcaya (FSM). In the case of architects, several also well-known architects and authors of many iconic buildings of Bilbao also appear, such as: Pedro Ispizua (FSM.1 and FSM3) and Emiliano Amann Puente (FSM.1, FSM.5 and FSM.6).

9 Altos Hornos de Vizcaya was a big iron and steel industry that formed after the merge in 1902 of the three main factories in Bilbao: La Iberia, La Vizcaya and Altos Hornos de Vizcaya. It was the most important basque iron and steel company that disappeared in 1994.

10 Mario Adán de Yarza was a wealthy land owner and agronomist who is notably known for introducing the *pinus radiata* species and conducting experiments with it on his mountain properties.. Not to be confused with his brother, Ramon Adan de Yarza, who was also a notable geologist and appears as author of documentation in the Mining Resource Perspective.

11 Iberduero was an electricity producing and transporting company founded in Bilbao in 1944, which eventually merged with Hidrola in 1991 to become Iberdrola, currently a multinational electricity company.





Figure 9 Standard representation of regional geography with contour lines. OM. 3

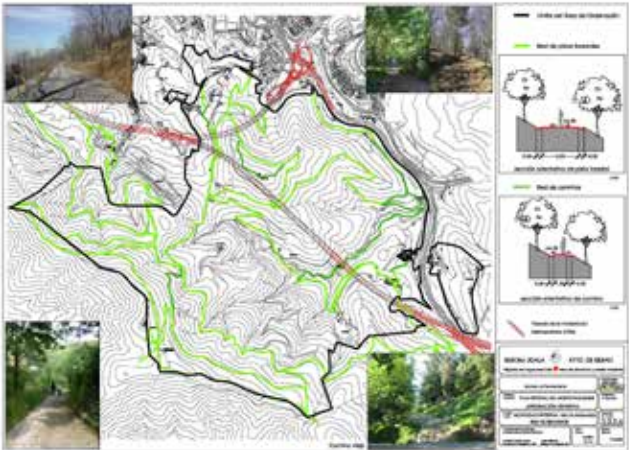


Figure 10 Standard plan representation of site. GM.5

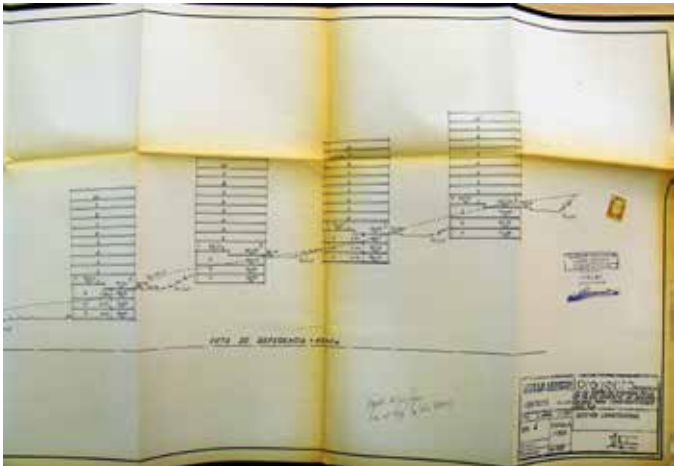


Figure 11 Standard representation of building site in sectioned view. FSM.8



Figure 12 Standard representation of mountain as sectioned profile of terrain. AM.3

As for the interpretation of the character of these agents, it is mostly the Objectivist view that prevails over the Subjectivist one. The former understands and represents the land from a detached position, in a quantifiable way, using standard representation tools that don't include aesthetic asseverations, subjective experiences or phenomenological embodied constructions of place. Also, as to the Outsider or Insider relationship with land, most documents indicate an outsider view over an insider's one, which means that the authors of landscape have a distanced relationship with the land, and are not engaged with the physical transformation.

It has been quite a hard task to differentiate Insiders from Outsiders according to the theories and terms established by Cosgrove (1998) since these are based on the relationship that the agent (or the one who views the land) has with the land. If the relationship with the land is traditional and physically engaged, especially in the case of peasants, it's the case of an Insider agent. Conversely, if the landscape somewhat implies an economic ambition and land is seen as a product for trade, and speculation is carried out with its value, then it is the case of a capitalistic land-lord, and an Outsider agent (D. E. Cosgrove, 1998). Needless to say, this dialectic was posited after analysing many cases of landscape representations in a wide arching period of transition from feudalistic to capitalistic economic systems. However, the cases analysed by this dissertation belong fully to capitalistic regimes, where according to Cosgrove (1998) the insider-outsider dialectic is replaced by the objectivist-subjectivist dialectic, since there no longer exist insider's perceptions of landscape within the capitalistic system<sup>12</sup>. Therefore, according to strict criteria by Cosgrove, this differentiation is not of application in contemporary cases of ways to see land, or landscape situations. Instead of ways to relate to land, capitalistic agents have ways of understanding reality, either objectively or subjectively. Nevertheless, it is possible to identify this breach between insiders and outsiders in present day participation and decision making issues that claim a bottom-up procedure against a top-down approach. By drawing a rough parallel, it is possible to identify the Outsiders with the capacity for decision making that political administrations and powerful economic sectors have at the top and the Insiders with the bottom citizens and small property owners that have less executive power on the regional and spatial planning policy making.

By considering this parallel view, it is interesting to reflect on the insider-outsider dialectic even on contemporary landscape views, since the line that separates insiders from outsiders is also quite ambiguous considering the type of relationship that agents have in each of the formulated landscape perspectives.

For instance, in the case of the Mining Resource Mountain, clearly the agents are mostly outsiders, since they coincide fully with the terms established by Cosgrove (1998)—they have an economically based speculative relationship with land—, and also, there was foreign capital involved in the mining business<sup>13</sup>. If we are to analyse the Forestry Resource Mountain perspective, the land is also seen as a trading product, and the relationship to it is defined in economic terms: it is the forest which makes the land valuable. However, in some cases, such as in documents FRM4, 5, and 6, it can be said that the forest ranger of Bilbao acts according to an insider's relationship with the mountain, since he deeply knows the land, is

<sup>12</sup> This is argued by Cosgrove (1998) by stating that landscape no longer represents an affective element, perceived in an unmediated and abstractionless way; capitalism forces a perception of Landscape from the outside, mediated by objective or subjective abstractions and aesthetic conventions.

<sup>13</sup> Although the land property was in Basque or Spanish hands, the companies that exploited the mines were funded with foreign capital.



Figure 13 Mining Resource Mountain as part of a larger geological system. MRM.3. Author: Ramon Adán de Yarza



Figure 14 Subjectivist Representation of mountain. FSM. 3



Figure 15 Subjectivist Representation of mountain. GM.2.2

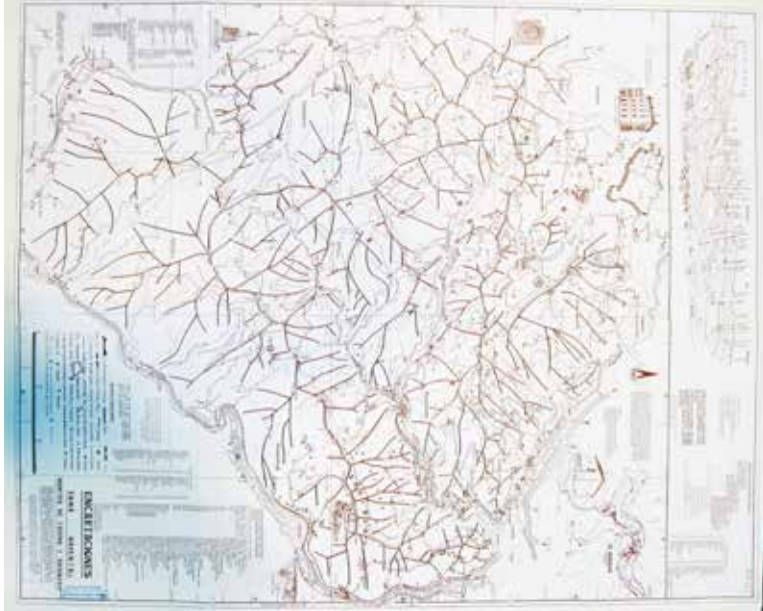


Figure 16 In-visu construction of mountain. GM.3

not looking from a distance, and is neither its owner. But, simultaneously, as an employee of the City Hall of Bilbao, he is subjected by the economic interests of the latter, which goes to show how ambiguous the insider/outsider dialectic is.

The second ambiguous case is illustrated by the Obstacle Mountain and the Available Mountains. In this case, it has been interpreted that most of the agencies involved with these Landscape Perspectives are Outsiders, but nevertheless, there are a few details that raise some doubts. These cases include mostly the ones where the Agency is Public and it can be assumed that the projects promoted and authored by public authorities are serving the public interest, and thus an insider relationship and knowledge could be presupposed to the seemingly outsider public agents. However, such knowledge is mostly based on statistical analysis of the society and its needs, so it is fair to say that the view of the agency is still that of a distanced Outsider.

Finally, the last case of ambiguity regarding the Outsider relationship to land in contemporary instances is illustrated by the Green Mountain and the Traditional Mountain. In these cases the mountain slopes are not trading products, but are seen as conceptual constructs. That is to say, the mountain is defined by several values that are not related to economic transactions, but to its use and character. In the Green Mountain perspective, the mountain is a recreation and natural resource space, whereas in the case of the Traditional Mountain it represents another era or a heritage value. These somewhat subjectivist assessments suggest an intimate Insider's dialogue with land, however they are validated using objective data, either using landscape and ecological metrics or historical and anthropological documents. Therefore, according to Cosgrove's criteria, the Agency in those documents is clearly of the Outsider kind, whilst using both subjective and objective mediating parameters to understand and describe landscape.

As it has been seen, the Insider and Outsider agencies get mixed up with the Objectivist and Subjectivist views. Nevertheless, the interpretation carried out through the latter dialectic is much simpler than the former one. Both the Objectivist and the Subjectivist views of land are defined by a mediated view from the outside, and the mediation is carried out using established abstractions and conventional readings of land. Most documents indicate an Objectivist Agency since they elaborate representations using standard techniques as it has been already noted. However, there are a few cases of Subjectivist Agency, mostly in graphic documents such as in the sets of postcards where techniques of composition and theme are used to deliver a certain aesthetic quality of representation (TM.1), and also the portrait of Mario Adan de Yarza (FRM.14), where the pine trees forest background is used as a symbol of the portrayed person's accomplishments and career.

Also in written documents we find subjective views of the mountain slopes such as in the case of *Garoa* novel by Txomin Agirre (TM.6) where the author associates the mountain and rural lifestyle with the disappearing remains of the authentic Basque culture, in the *Pyrenaica* mountaineering magazine's editorial and articles (GM.2) where mountain landscape and hiking are linked to moral and religious values of cleanliness and purity, or through the neighbour testimonials gathered in the short-film of Otxarkoaga (ISM.4) or news on Masustegi neighbourhood (ISM.6) where life in the shacks of Bilbao's mountain slopes is compared to countryside lifestyle. These documents represent conventionally accepted aesthetic ways to understand and represent appreciation towards the landscape using certain frames, metaphors, symbols

and aesthetic, moralistic and memory related values.

*Elements (4D): Double constructions of landscape.*

The fourth dimension is focused on the interpretation of the built elements that are caused by the Landscape Perspective, and the landscape character that is formed by these. This has been the way to study the material and conceptual construction of landscape that is conveyed by each document, and Landscape Perspective. To that end two sets of dichotomies or pairs have been used: the *in-situ* & *in-visu* double *artelization* of landscape (Roger, 2007), and the Political/Inhabited types of landscape (Jackson, 2010). The findings will be discussed first from the point of view of the conceptual/material (*in-visu*/*in-situ*) element construction, and then from political/everyday (political/inhabited) type of landscape construction.

Firstly, a fundamental division can be established amongst the analysed documents, those that are propositive or projective, and those that are descriptive. The former kind mostly construct the landscape both *in-visu* and *in-situ*, that is, through documents first, and then by physically transforming the site. The latter descriptive documents, however, mostly written ones, or non-accomplished projects and plans, usually construct *in-visu* type of landscapes; that is, they only represent the landscape, and construct it on a discursive level.

However, in some Landscape Perspectives one of the construction types is more evident than the other. For instance, in the case of the Traditional Mt and the Green Mt, the *in-visu* construction is much more present than the *in-situ*. This can be affirmed on the basis of two arguments: firstly, since the landscape is shaped by an ideal, and secondly, since there's usually no economic profit to their development. The ideal vision usually places the green and traditional mountain away from the city, monumentalizes it, and claims its protection and proper management. However, aside the ideal vision, there's not many specific criteria as to how this should be done, and, together with the lack of economic interest, the green projects and protection of the rural mountain frequently remain on paper as *in-visu* constructions.

On the other hand, in the case of the Forestry Resource Mountain perspective, the main construction of landscape is *in-situ*, that is, almost without any fore planning. Without any evidence of projects for planting trees it is possible to say that a site for a plantation may be developed with almost no planning or projecting with the help of planting manuals for the *pinus radiata* that rely on generic topographical data (FRM.6, FRM.10).

Aside from the *in-visu* and *in-situ* constructions of landscape, its Political and /or Inhabited character has also been studied. John Brinckerhoff Jackson claimed that any landscape is an imperfect combination of both types, always showing traits of elements from both in varying structures depending on the moment in history (Jackson, 2010). Inhabited landscapes are those places that are tied to everyday activities, domesticity and tradition. Political ones however, relate to the consciousness of a bigger scale of territory, its planning and its structuring, and he asserted that such landscapes lose the connections to the traditional way of life and geographical features by imposing another system order (Jackson, 2010). It has not been easy to discern between political and inhabited landscapes, but the attempt has been useful anyhow to understand in more detail the history of management and transformation of the land as suggested by Jackson (2010, p. 46).

Most of the formulated Landscape Perspectives and related documents that have been interpreted convey a Political landscape, and show no engagement with customs or land structures, and mostly focus on economic profit to transform the land. This is most clear in the case of the Mining and Forestry Resource Perspectives where the land is heavily changed to generate a completely new landscape in the mountains. Similarly, the documents included in the Informally Settled Mountain, show that there's no concern as to what the users and dwellers of the allotments or shacks wish and think, and the will to build politically effective formal landscapes prevails.

As for the Available and Obstacle Mountain Perspectives, the elements included in them usually refer to a wider Territorial scale of planning and design; the OM usually ignores local physical attributes of geography and topography, and the AM, conversely, uses the mountain morphology (both original and transformed) to its advantage. So, in a way, they generate Political landscapes with the infrastructures and services that they propose. However, it can also be said that they generate Inhabited Landscapes since they heavily influence the everyday life, and these services and infrastructures are fundamental to the contemporary urban life-style. Similarly, in the case of the Formally Settled Mountain, these constitute inhabited landscapes, since the housing and education projects included in the perspective, are essential spaces of everyday life, but also can be considered Political landscapes if the Agency involved is public.

### 2.5.3 Overlappings amongst the 4 Dimensions

After the study on the main trends found within the Perspective's dimensions, in this section, a discussion concerning the structures created by the overlapping of various Dimensions within the Landscape Perspectives is presented. These are the main inter-dimensional so to speak overlapping that have been found: Idea and Representations, Agency and Idea, Agency types and Representations, and the overlapping amongst Idea, Representation, Outsider Agency and Inhabited landscape Elements. These connections amongst the dimensions of the Landscape Perspectives amount to typological combinations that show a variation in the construction of landscape from some Landscape Perspectives to other.

However, from a constructivist outlook it can be said that the Agency Dimension is the most important one amongst the four that have been defined for two reasons: firstly, since it unveils the influence of specific parts of society in the evolution and transformation of landscape and since it affects the profile and definition of the type of the remaining three Dimensions of Idea, Representation and Elements.

To begin with, there is the overlap that takes place between the Idea and Representation of landscape that is frequently expressed through text, drawings and images; it might be objectivist or subjectivist in nature, but it is usually used to convey the purpose of the document—a project, a plan, a land-use designation, a spatial description etc. Representations of the Idea of place don't specifically focus on the mountain character, and thus this becomes an abstract surface to develop, build on or exploit.



Figure 17 In-Situ constructed Elements: Informal orchards and Forestry logging

Such a representation can be expressed in text, graphically, or combines both media, it might be objectivist or subjectivist in nature, but is instrumentally used to convey the idea or purpose of the document. They also don't specifically focus in the site or mountain, which becomes a mere surface or physical base in some cases to build or exploit.

Secondly, as to the ties between Agency and Idea dimensions, there are differences depending on whether the agents are public or private. On the one hand, it has been observed that several Landscape Perspectives and Ideas are related to public Agency, such as the cases of the Forestry Resource, Obstacle, Available, Green and Informally Settled Mountains. The Idea dimensions in them are, respectively, mountain= forest, mountain=obstacle and the need of infrastructures to overcome it, availability of space in the mountains to locate urban services, the mountains is a green space, and the mountains affected by informal elements need to be improved. The most powerful agency, as it's been noted on the Archival work, is the Provincial Government of Biscay [Bizkaiko Foru Aldundia] as many documents show (TM.10, FRM.1, FRM.7, OM.4, OM.14, OM.15, GM.4, GM.7, GM.9)<sup>14</sup>.

On the other hand, as to the type of Agency that is Private, it is mostly linked to the Mining Resource, Formally Settled and Traditional Mountain perspectives. In the case of the first two perspectives, private agents appear in the form of mining companies, land owners and property developers, and promote the Ideas of mountains as mineral resource exploitation, or land value speculators that will build both low and high density dwelling that take benefit from the characteristic views from the hills and sunshine. As for the second case of the private agency tied to the Traditional Mountain, these are mostly foundations or researchers that work on documenting, researching and promoting the cultural and heritage values of the mountainside.

Another trait that characterizes the link between Agency and Idea dimension is its dynamic shift. The ways in which Agency and Idea dimensions shift through time can be detected in the variation amongst the type of Agency, be it public or private, depending on the period in history. So, for instance, in Traditional and Available Mountain perspectives, the oldest documents indicate a private agency, while the most recent files show a public responsibility. The same happens in the Green mountains, where aside from almost all documents being publicly generated, they mostly belong to recent times. The idea here is that the protection of cultural landscape in the Traditional Mountain, the public management of services in the Available Mt, and the management and planning of open spaces in the Green Mountain have become managed by public institutions as opposed to the privately developed ways of early 20<sup>th</sup> century documents. This goes to show how public agency has taken over the spatial planning of the territory.

Fourthly, an overlap amongst a subjective type of Agency and Representation has also been observed, although there are few documents or evidence of this kind to prove the point. Nevertheless, it is considered significant to make a mention to the way that the mountainside has been represented in postcards, panoramic views or 3D views following established aesthetic and landscape representation rules that locate the mountain in the background as scenery for the situation that is the main object of representation.

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14 See Appendix F for a correspondence between the codes and the documents.



Table 20 Overview of identified overlapping taking place amongst the four Dimensions

**OVERLAPPED DIMENSION TRENDS**

<b>IDEA + REPRESENTATION</b>	The Idea is serviced by the Representation	The representation pictures the objective of the document
<b>AGENCY+IDEA</b>	Mostly Public Agency in FRM, OM, AM, GM, ISM	Mostly Private Agency in  MRM, FSM, TM
<b>AGENCY+REPRESENTATION</b>	Objectivist and Standard in most documents	Subjectivist just in Postcards, Novels, Paintings
<b>IDEA+REPRESENTATION+AGENCY+ELEMENTS</b>		
Documented Representation + Outsider Agency + Traditional mountain Idea → Protection of Elements		
<i>Traditional Elements + Insider Agency → Un-represented Idea</i>		
Documented Representation + Outsider Agency + Informal mountain Idea → Replacement of Elements		
<i>Informal Elements + Insider Agency → Un-represented Idea</i>		

Conversely, the Representations produced by an Objectivist Agency, as it has already been mentioned, tend to illustrate the site in the mountains using standard, quantifiable and measurable data through topographic maps or descriptions in texts; this situation is detected in all Landscape Perspectives.

Lastly, there is the case of the overlapping between certain Ideas, Representations, Agency and Elements. There are two parallel situations illustrated by the documents and they are found mostly on the cases of Traditional Mountain and the Informally Settled Mountain perspectives. The overlapping observed in the documents show that the Idea of traditional or informally settled mountains is usually backed by an Agent that is usually characterized as being an Outsider, and that this generates a set of objects that replace those that are considered informal, or encourage to maintain the traditional ones. The parallel situation, or the other side of the coin, unsurprisingly, indicates that the ideas and purpose of survival and recreation of an Insider Agent, are usually undocumented, and that the inhabited and in-situ built elements—rendered traditional or informal—are replaced by those proposed by the document.

More precisely, in the case of the Informally Settled Mountain, that the shacks and allotments are destined to be replaced by the ideas of land improvement communicated by Outsider Agents and their projects and plans of new housing and parks. And, at the same time, this goes to show, that there is no document that can render visible the ideas and intentions behind the building of the informal elements, their reasons, their purpose etc. In the case of the Traditional Mountain, the documents, mostly research projects of ethnographic, geographic, historic approaches, chiefly speak of the cultural landscape from an outsider point of view, communicating the views of the insiders who built and inhabited them.

Thus, the documents included in the Traditional Mountain and the Informally Settled Mountain can be considered just a part of how a traditional or informal landscape was built materially, and more so, show how a landscape should be kept and valued (TM), or how it should be improved (ISM). These documents lack the unmediated insider relationship to land, and the values and experiences that have built the inhabited landscape of shacks and allotments. Therefore, it can be said that the Traditional and Informal landscapes are undocumented, and thus, unprotected or subject to change and devaluation.

These tensions amongst represented and non represented landscape constructions and decision making can be easily extrapolated to current situations of decision making and planning. The absence of representation of insider projections and constructions is reasonable, since there was an inherent need to build for survival, and no access or need to documentation techniques. But this shortcoming in documentation can affect the permanence of informal elements such as current allotments, or other intangible constructions and uses of space by making them more vulnerable to projects and plans backed up by official policy. A simple way to document and validate the informal places would be to name them, and/or to map them (Sieverts, 2003).

It could be said that the former insider peasants are today's citizens. As the peasants new the land in a non-mediated way, today's citizens are experts on their land/space and relate to their everyday spaces also in a non-mediated way. The documentation lacks the information on the everyday representations and constructions. This final overlapping of dimensions serves to illustrate this limit.

### 2.5.4 *Non-intentional building of urban landscapes*

During the process of interpretation of the documentation a secondary inquiry emerged as to whether a will to create a place resembling an *urban landscape* had existed. This question was posed at the end of each Landscape Perspective document interpretation process, and the main answer is negative. Indeed, most of the analysed landscape elements are characteristic of the urban fringe landscape; roads, informal constructions, urban services, open regional scale green space, traditional rural landscape elements, forestry exploitations, mines etc. However, it was never the intention of mine companies, forest owners, infrastructure policy makers, urban service builders and industrial developers to create what we now refer to as urban landscape. Then, it can be said that urban landscapes result from the consequences of various individual decisions.

However, even if there was neither general intention, several cases within various Landscape Perspectives have used the edge and fringe of the city condition to their advantage and considered the place fit to their interest. For instance, in the case of the Available Mountain, all analysed elements are profiting from the fact that they are located out of the city so as not to disturb dense residential areas, have enough place to be located there and also feel functionally close enough of the urban core and the infrastructures that are located on the fringe.

Also, documents classified under the Green Mountain category show a consideration towards the in-between location in order to develop green open spaces, especially due to their location on mountains.

As to the case of the Formally Settled Mountain and the first residential developments on the style of Garden Cities of Bilbao (FSM.1 and FSM.2) the location on the mountain slope—just off the edge of the city but close enough—and the architecture style resembling Basque farmhouses can be interpreted as indicators of consciously building on an area in between the city and the countryside..

Other elements in the remaining Landscape Perspectives have contributed to the reinforcement of the breach between urban and rural realms, and most of the analysed elements have inadvertently contributed to the building of the urban fringe landscape characteristic elements and identity.

Individual analysis of documents categorized into the Landscape Perspectives has shown that there neither was an intention of collaboration into the construction of the urban fringe landscape of Bilbao, reinforcing the idea of a landscape resulting from a cumulus of individual decisions. However, as the subsection 2.6 will explain, there are connections and combinations amongst the eight Landscape Perspectives formulated for Bilbao. But, first, a mention will be made to the limits and setbacks found during the process of research in the Second Scene.

### 2.5.5 *Limitations of the Second Scene: documentation amount and ambiguous theories.*

Lack of documents and ambiguous interpretation theories have been the two major setbacks to carry out the Second Scene's Archival work. As to the process of collecting data, there have been difficulties in accessing certain files and documents especially in the case of the Obstacle Mountain, Traditional Mountain

and Informally Settled Mountain perspectives. The reason for this in the case of the Obstacle Mountain is the dispersed location of archives due to historical change of administrative competence between central and regional governments. In the case of the Traditional and Informally Settled Mountains, the lack of documentation is an inherent limit to the character of the landscape elements that was mentioned above. This has an effect on the validity of the findings, if the purpose were to describe the shaping of the urban landscapes of Bilbao, since the lack of documents would form an incomplete account of the case study landscape. But, as the thesis is a method proposal to interpret the construction of urban landscapes, and not to describe the case of Bilbao, the difficulty to access information is a limit to the case and to the method that should be taken into account for improvement. Moreover, the analysis and interpretation procedures, or Archive work, are activities that demand large amounts of work for a number of reasons: first, the amount and variety of files, secondly, the information that is searched for is not as clearly formulated as we would wish for.

These two reasons, the incomplete documentation and lengthy procedure indicate that the method should be improved. A solution could be to limit the amount and type of documents to analyse for instance, by only choosing to work on plans and projects. But this would also have its own setbacks by limiting the variety of landscape perspectives. Also, the purpose of the interpretation method would be shifted from an integrative social and cultural landscape construction understanding to a more focused and isolated approach to landscape construction, by having ideas found in non projective land representations taken out of the scope of analysis.

As for the second general setback to the Second Scene that is defined by the ambiguity of theoretical interpretation criteria, this affects particularly to the interpretation of the Agency and Elements dimensions. There's difficulty as to discern amongst Insider and Outsider agencies (3D), and also amongst Political and Inhabited constructions of landscape (4D). Firstly since these divisions can be considered obsolete nowadays; the insider-outsider opposition was concluded from analysing situations of transition from feudalist to capitalistic regimes (D. E. Cosgrove, 1998). If we look at current social economic conditions, it is possible to say that the in-out relationship with land represented by the peasant and landowner figures has become more complex, aside from the reduction of rural activities, since there has been an increase in temporary relationships with place due to employment diversification, mobility and lifestyle. Also, as for the Political and Inhabited landscapes, it is noted that everyday common lifestyles of inhabited landscapes are heavily influenced and based on politically constructed landscapes.

The use of Insider-Outsider dialectic establishes a neat division amongst a complex and heterogeneous society and life-styles. Nowadays, as different kinds of mobility affect more and more people, the relationship and belongingness to places become also more ephemeral. An easy case in point can be that of the landscape perspective of tourism industries that have their own sets of elements (transport services and infrastructures, hotels, restaurants, commerce), representations (postcards, adverts, souvenirs), and agents (tourists). The tourist gaze (Urry, 2011) has its own way to understand and transform its place, even if it is not independent of local particularities. Also, in the case of sprawled and widely developed metropolises, the spread of employment areas as well, generate a special kind of agent named the *territoriente* [the regional inhabitant] (Muñoz, 2005) whose medium is that of the territory covered by

commutes by car, train or planes, even crossing different countries.

Finally, in the case of Political or Inhabited landscapes, the ambiguities refer to the specific cases of Forestry Resource Mountain, the Obstacle Mountain, and the Formally Settled Mountain. All of the proposed elements are political in origin, but however, through everyday use, become part of the inhabited landscapes. For instance, politicians in Biscay backed the planting of pine forests to recover the economy in the 19<sup>th</sup> century (R. Uriarte, 2010), and forestry became a side-income source for farmers; supra-municipal scale infrastructures are also political landscapes in origin, but fundamental to everyday lifestyle. Finally, housing and education projects are also proposed in a political wide picture manner, but become essential spaces of domesticity and everyday life.

In short, these have been the two major difficulties within the process of Archival Work documentation and interpretation: a lack of documentation, a difficulty in finding the information that was searched for due to a difference in formulation and translation from research terms to document terms, and an ambiguity in the theories used to interpret dimensional characteristics.

### **2.5.6 Conclusion**

In summary, subsection 2.5 has analysed the results of the Second Scene; these findings have been generated in the categorization, analysis and interpretation of documents connected to each of the six Landscape Perspectives formulated on the First Scene. Starting off from the speculative interpretation of the First Scene, several aspects have been revealed during the Second Scene which serves to characterize the mountainous urban landscape development and construction: the trends within the Dimensions and the correlations amongst the four Dimensions. Using the documented information and interpreting with the Landscape Perspective tool and its four Dimensions, it has been possible to unpack the features of the ideological and conceptual basis that have shaped the mountainous urban fringe landscapes of Bilbao. Each of the Landscape Perspective formulation has been completed with data regarding its four dimensions: Idea, Representation, Agency and Elements. The results have shown that there are connections amongst the different landscape dimensions noting the various implications that each has had in urban landscape construction especially in terms of Agency and decision making. Therefore, the Second Scene represents the understanding of the intangible aspects that have constructed the landscape.

Firstly, the trends within the dimensions structure a typical construction of urban landscapes that is almost invariable amongst the Six Landscape Perspectives. The Idea of the mountain—or place—that is not significant for the development of a purpose, the standard language of Representation, the Outsider and Objectivist Agency and the Double construction—in-visu and in-situ—of landscape are trends that can be otherwise pictured as standard procedure or business as usual in what comes to regional and spatial planning of any territory.

On the other hand, the specific overlapping that takes place amongst Dimensions—Idea and Representation, Agency and Representation—, and amongst specific forms of Dimensions—Objectivist Agency and Standard Representation, in-situ landscape Elements and lack of Representation, etc— reflect two ideas: a confirmation of the Zube (1982) model of landscape interaction and on the other hand, a

variation from one Landscape Perspective to another in terms of the material and immaterial landscape constructed by each. The first idea stems from noticing how the four Dimensions interact—through correlations and overlapping—to form landscape, while the latter is evidenced by the specific forms of dimensions interactions that take place only in several cases of Landscape Perspectives.

Finally, as a last idea that contributes to the understanding of urban landscape formation; there hasn't been found any stance of will or intention to build this type of landscape, and therefore, the idea of urban landscape as accidents and the product of many independent decision-making re-emerges confirmed by this research and its interpretation of UL through various Landscape Perspectives.

## **2.6 Combined Landscape Perspectives and other Mountain types**

As a hermeneutical research, it has been the purpose to go beyond the apparent image of landscape to understand how it is underpinned. The interpretation techniques have lead research to analyse documents related to each of the Six Landscape Perspectives, and beyond the information dealing with the four dimensions, two new traits have been found based on the Idea dimension. The first one refers to the Combination amongst different Landscape Perspectives, while the second one refers to the apparent purpose or aim of the documents. The former reflects the existence of aspects that are identified to other Landscape Perspectives appearing alongside the aspects of the document of a particular Landscape Perspective. The latter idea shows that the apparent objective in the documents studied in the Second Scene represents readings and understandings of mountains that get concealed; these can be considered as Unformulated Perspectives for the case study landscape. Due to the reflexive nature of the research it has been decided to include them in the dissertation however unexpected they are, since these two findings contribute to a richer and more varied landscape interpretation.

In addition, this part meets the initial objective of finding Landscape potentials that could be useful for praxis and planning for the following reason; the Combinations and the Unformulated Perspectives serve to reflect on the functioning structures and opportunities of landscape. That is to say, that within planning and design procedures, the former historical projections of ways to understand the landscape (or Landscape Perspectives) can serve to enrich the representation of the current state of the urban landscapes. In other words, these could be considered landscape structures and possible alternative futures to the management and planning of the mountain landscapes that also warn of former misleading interventions.

In the following sections, these Combinations and new Perspectives will be mentioned. The Combinations are introduced by mentioning the Landscape Perspectives that are most frequently combined, and the Unexpected Perspectives are grouped into their LP of origin and explained through tables.

This last thread of the dissertation is an additional contribution of the proposed Landscape Perspective tool. It is the objective of this last section to prove the usefulness of the tool, and to that end, these findings are developed but through short comments. Also, since the dissertation does not intend to evaluate the landscape, nor propose design or planning solutions, this last section introduces merely what could be considered a set of criteria to start making decisions.

### 2.6.1 Combinations

As the image shows, most frequently combined Landscape Perspectives are the Traditional Mountain, the Obstacle Mountain and the Green Mountain. Could these be the perspectives that have had the most influence on the mountainous urban landscape of Bilbao? As for now, it can only be said that these are the ones which most appear in relation to other LPs. Also, as it has been speculated that the urban landscapes on mountains of Bilbao have been shaped by Six Landscape Perspectives, therefore, in addition to the most combined (TM, OM, GM), the other four (FRM, MRM, AM, FSM, ISM) remain just as significant in the interactive structure that is proposed to have shaped the case study landscape.

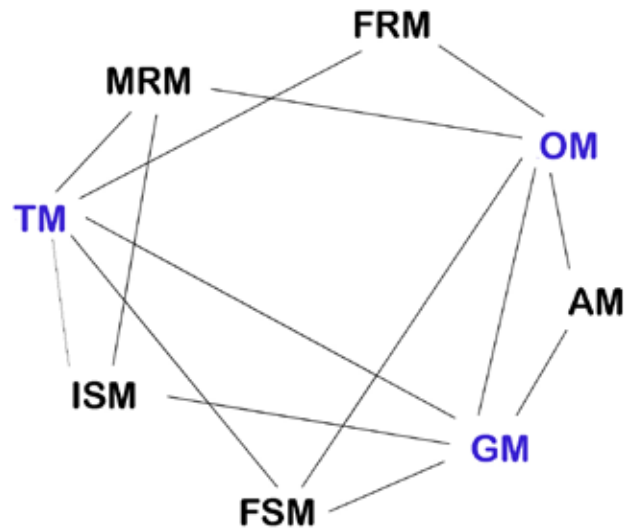


Figure 18 Combined Landscape Perspectives; most combined are shown in blue.

#### *Traditional Mountain*

TM perspective appears several times combined with the Resource Mountain perspective. As it is well known, the association of mountains with timber and iron resources as fundamental to the development and identity of the Basque Country appears frequently in ethnographic (Caro Baroja, 1957), historical and economic –see amongst others (Gogeochea, 1999) or (R. Uriarte, 2010)—accounts. As most of the documents collected to inform the Traditional Mountain perspective, it is not surprising to find this connection. Even if the Traditional Mountain is associated to the environment where the rural farmhouse constitutes the core, the modern forestry, mining and steel industries are but a follow-up of the traditional activities of forestry and mining in the mountains.

Industrialization and the transition from feudalism to capitalism are understood in two separate and broad ways, as a key turning point in the history of human kind, and as cultural value losing process best represented by romantic views of the past. Instead of idealizing the past countryside image of farmhouses, it could be more useful to formulate the traditional mountain resource management and its lifestyle and culture as Multifunctional. Most of the analysed documents, connect tradition and mountain resource exploitation in the form of timber for coal and construction means, in addition to wine-making and other vegetable resources such as grass, fruits, fern, gorse or heather; also in the form of mountain iron mines

and stone quarries –lime making, roof tile making, masonry etc. as alternative and complementary activities to farming. Mountains are identified with forests when analysing historical codes of laws or charters and land-uses (TM.8); mountain resource exploitation and management modes are also frequently mentioned when studying the geographical and historical development of Bilbao's neighbourhoods and metropolitan municipalities (TM.9 and TM.10). In addition, documents related to the Forestry Resource Mountain also connect forestry with rural or rustic activities in the mountains, for instance in the current Provincial Law for mountains (FRM.7) and the Forestry Plan (FRM.8). Industrial forestry became a supplementary activity to farming economy in the 1950s, and currently, farming activities are supplementary to the main rural activity of forest-mountains. Similarly, quarrying and extinct mining activities are considered part of the forest mountain too. It is possible to say then, that the Forestry Resource Mountain Perspective is the major shaping perspective of mountain space in Bilbao.

On the other hand, as observed in the document analysis, the TM perspective is linked to the Settled Mountain understanding as well, in both Formal and Informal ways. In the case of the Formal one, it is notable how early 20<sup>th</sup> century housing projects designed in the style of Garden Cities [Ciudad Jardín] (FSM.1 and FSM.2) rely on traditional farm-house typologies and tectonic elements. The fact that the developments were located in the hills, outside the urban core, implied a style of rural characteristics. Whereas in the case of Informal Settlements, it appears that the lifestyle on the shacks resembled the countryside to their inhabitants in retrospect (ISM.4 and ISM.6).

#### *Obstacle Mountain*

Technological adaptations caused by the need to overcome the mountain obstacle are the main thread that links other perspectives with the Obstacle Mountain. Aside the infrastructures included within the OM perspective, there are other instances where similar technological and built solutions are means to other ends, but which also involve dealing with difficult geomorphology.

For instance, in the case of the Mining Resource Mountain, there have been three cases of iron ore transportation infrastructures: two examples of air-transportation devices and inclined plane transportation. However, in the process of documentation, the archives indicate an abundant amount of similar examples within Bilbao; a series of infrastructures that used to form a tight net now all but disappeared, except for the working funicular in Trapagaran, and physical traces of inclined planes or old foundation stones of aerial tramways. The three infrastructures that have been analysed thus far are examples of these specific kind of transportation adapted to the mountain geography: the Concha 7 inclined plane (MRM.11), the air tramways of the Vigilante mine (MRM.4) and the one built using the Bleichert system (MRM.15).

Aside the technological obstacle, the mountains have also implied an economic obstacle, an example of which is the housing project of Altamira (FSM.4). In order to access the neighbourhood of 1000 apartments a road had to be built. Seeing the high cost that such road would cause, the developers tried to increase the housing ratio established by planning to keep the benefits of the development high enough.

The mountain obstacle can also be considered a leverage when combined with the Green Mountain perspective, as in the cases of the chairlift project for a *Telesirga* [tele-towpath] to Pagasarri mountain



(OM.8) or the Artxanda mountain Funicular project (GM.1). Green open spaces on mountain slopes suffer from the same accessibility problems as housing located on slopes, and thus, there are needs to creatively think how to overcome this problem. How can citizens be transported to the top of the mountain so that they can benefit from fresh air, sunshine, nature? There were two proposed solutions in the 20<sup>th</sup> century for Bilbao, although just one of them was built: the funicular to Artxanda Mountain built alongside the park, the casino and the restaurant on the top of Artxanda, and the Telesirga, which remained on paper as an example of design curiosities.

### *Green Mountain*

The last combination involves linking other types of perspectives to the idea of Green Mountain. This structuring is thought of as an interesting finding since it shows how rigid and ideal is the vision of an all too green and all too natural mountain based on a rigid selection of physical elements.

In addition to the combination with the Obstacle Mountain already noted, the first example is the weakly represented but evident link amongst the Traditional Mountain and the GM. This can be seen in the undeveloped proposal for a regional Green Network (GM.4), as some of the elements included are rural areas, along with urban and metropolitan parks. These rural areas are named “rural areas of landscape value” by the Regional Plan, and are mostly located on the hills (País Vasco, Bizkaia, & País Vasco, 2008). This combination is highly valuable potential future for planning in Bilbao that is not sufficiently elaborated.

Finally, a mention must be made to the combination of the GM and the Available Mountain perspectives. This interpretation has been obtained by following a thread that was found on the Special Plan for Arraiz and Artigas area<sup>15</sup>. That thread was detected in the proposal to develop a green open space and recreational area in relation to the landfill and incinerator, a sort of “eco-park of waste” as the document suggests (AM.8). For now, there are several trails from the Green Belt of Bilbao that go through the area, and it also possible to hike surrounding the land-fill, however, the spatial quality could be improved to achieve some sort of open space standard. The area has a potential not only as an educational facility focused on waste awareness and lifestyle, but also due to its human-modified geologic qualities and recycled land character, there’s also opportunities for creative planning and design. For instance, by elaborating and working with the concepts of land reutilization and recovery, or by promoting deeper understandings of artificial and cultural nature, it could be possible to create a culture that overcomes natural-artificial breaches. Whereas in the peak of industrialization in the West society sought to find lost values within rural life and nature by constructing moral interpretations of it, currently, it might be possible to use these transformed landscapes to work on other ideas that generate creative aesthetic and ethical values out of them; an idea that remains to be elaborated in Bilbao.

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<sup>15</sup> These hills contain the biggest landfill of the Basque Autonomous Community and an incinerator, and is not visible from Bilbao city centre.

## 2.6.2 Other Mountain types

As it has been mentioned, by considering the apparent and intended purposes and place descriptions of the documents, it has been possible to define ideas of the mountains of Bilbao that are unexpected, or rather, have been unformulated by the research in the First Scene. These are organized and briefly described on the tables below.

Table 21 Unformulated Ideas related to the Traditional Mountain

<b>Perspectives</b>	<b>Evidence</b>
<i>Background image</i>	Photographs and picture postcards
<i>Mysterious, Old</i>	Areas around circular folds or pens
<i>Fortress, Cover in war times</i>	There are several fortresses on the hilltops of Bilbao: Montaña, Luzero, Serantes, Miribilla, Ganguren etc...
<i>Affected by waterways</i>	Foundries
<i>Isolated</i>	Hermitage or country-chapels
<i>Ecologic</i>	The relationship between humans and the environment
<i>Landscape</i>	Cultural Landscape or farm-house environment
<i>The opposite of the city</i>	Cultural Landscape or farm-house environment
<i>Throughway</i>	From Gernika and Txorierra valley to Bilbao through Artxanda and Ganguren hills; from La Peña to Gipuzkoa, Araba, Castille; from Kastrexana to Burgos, Cantabria and Compostele.
<i>Owned and Managed</i>	Folds and pens, communal land, forests, mines; charters and codes of law; types of mountains depending on use and ownership.

By using these unformulated Perspectives, it is possible to draw a clearer image of the pre-industrial mountain landscape; an understanding that is richer than the ideal and fixed image of the farmhouse environment of the Basque landscape archetype, and that is also more didactic as to its form and character. By using an understanding of the cultural landscape of the Atlantic Watershed part of the Basque country shaped with more detail concerning additional elements and land uses, it is possible to lessen the ideal image of the archetype in order to enrich planning and aesthetic criteria. A richer image enables a theoretically and materially stronger claim of the traditional rural cultural landscape, and also an increased detailing and formally sounder landscape-management and relationship with contemporary elements.

Table 22 Unformulated Ideas related to the Mining Resource Mountain Mining

<b>Perspectives</b>	<b>Evidence</b>
<i>Valuable underground</i>	Any documentation regarding mining activities
<i>Disdained ground</i>	Extension of the Concha 2 mine and demolition of Gal-larta town
<i>Ground Ownership</i>	Mine-Demarcation maps
<i>Gendered Mountain: Feminine</i>	Many mine-demarcations are named after women: Concha, Carmen, Pepita, Luisa, Clotilde, Camelia, Celestina, Sofia, Mame, Pilar, Pura, Conchita etc.
<i>Laboured and inhabited mountain: of human scale</i>	The allotments, paths, housing and great level of detail of the Orconera mine demarcation plan at 1/1000 scale.
<i>Transformed Mountain-Artificial Topography</i>	Caused by mining
<i>Barren</i>	that which lacks iron ore
<i>Beautiful</i>	As described by Ramón Adan de Yarza
<i>Part of a larger system</i>	As Ramón Adan de Yarza describes, the geomorphology of Bilbao belongs to the Pyrenees system

Through these unformulated Perspectives of the Mining Resource Mountain documents, the metaphoric and pragmatic constructions implemented by this perspective are more discernible. The land is divided into two parts, ground and underground; ownership, management and exploitation on the one hand, iron ore, value and work on the other. The lyrical side to it is represented by the women's names used to designate the mines. Also, the interaction between and cuts through the ground and the underground generate new names and situations: transformed mountain, artificial landscape, barren etc.

Table 23 Unformulated Ideas related to the Forestry Resource Mountain

<b>Perspectives</b>	<b>Evidence</b>
<i>Abandoned</i>	Referring to the previous situation caused by excessive transformation of the land into pasture
<i>Almost forest</i>	Fringe areas of the forest
<i>Adan de Yarza and the Forest = the mountain according to Adan de Yarza</i>	Experiments by Mario Adan de Yarza with pinus radiata
<i>Commodity</i>	Land trading relationship between Adan de Yarza family and Altos Hornos de Vizcaya.
<i>Public</i>	Publicly owned or publicly used mountains
<i>Private</i>	Private pine-tree exploitation, forestry sector, small sized and scattered properties
<i>Workplace</i>	Forestry Sector
<i>Infrastructure</i>	Forestry tracks/roads, warehouses, sawmills
<i>Hilly, rough terrain</i>	Adapted Forest mechanization technology
<i>Barren</i>	Land that is not productive
<i>Protective: Functional and service provider</i>	Protective mountain; ecological and cultural service provisions: air renewal, erosion control, biodiversity protection and promotion, recreation, employment

<i>Ecosystem</i>	According to the specific topographic conditions of the mountains: altitude, lithology, vegetation, precipitation, hydrology, fauna, humans, aspect etc.
<i>Geologically unstable</i>	
<i>Landscape to be improved</i>	Mountains have an homogeneous appearance due to monoculture
<i>Threatened</i>	Fire, Erosion, underground water pollution
<i>Energy resource</i>	Timber
<i>Rustic</i>	Land that is not classified as developable, the opposite to urban and buildable-developable land
<i>Secondary to urban needs</i>	Protective measures on Public and Protective Mountains will be ineffective in case of land transformations that contribute to the public interest (article 9 of the Provincial Mountain Law)

Two main groups can be formed taking into account these perspectives of forestry related records: one for the views on resource exploitation and management, and other for ecological standpoints. The first group includes the opinion that claims the mountains as abandoned or barren land regarding its productivity. It also includes the views of private or publicly used or owned mountain space, and the way the mountain can be traded as a product. Mario Adan de Yarza represents this view of turning the abandoned hills into productive workplaces by using a foreign fast growing tree species. This workplace requires specific infrastructures and techniques adapted to the mountain's morphological and topographical conditions.

However, these are the same conditions that make the mountains a distinct ecosystem. From an ecological perspective, there's an attempt to balance forestry activities with the ecosystem functions. To that end, services provided by the forest mountain are highlighted, other than the timber production, and warnings are made about the harmful effects of excessive forestry. However, these measures become ineffective if a large infrastructure needs to be built for the public interest it represents, and thus eliminates both forestry ecosystem conditions to implement other land uses, presumably infrastructures and services.

Table 24 Unformulated Ideas related to the Obstacle Mountain

<b>Perspectives</b>	<b>Evidence</b>
<i>Mountain as communication</i>	Antennas, sea navigation telegraphic stations and light-houses; Basilica of Begoña; a design for a giant light-house/cross on the top of Pagasarri to illuminate the navigable estuary; mountains are also ports or passes.
<i>Subject to perforation, climbing and descending.</i>	In the case of water transportation pipes or electrical lines
<i>Absent or invisible</i>	On road representations, it doesn't appear represented by a blank space
<i>Background</i>	A Scenery in images and drawings
<i>Conditioner</i>	Effects on the road design and building
<i>The cover of a tunnel</i>	In a map expressed by the dashed lines of a tunnel
<i>Geographic</i>	Morphology expressed by a map
<i>Developable and non-developable</i>	According to urban zoning
<i>Multi-layered</i>	According to the many variables taken into account on a new road design: geology, geomorphology, vegetation, fauna, flora, landscape, impacts, existing infrastructure, planning regulations, heritage, pollution, aesthetic
<i>Ground</i>	The mountain is not on the underground—in tunnel building
<i>Vegetated</i>	Local flora
<i>Heritage site</i>	Historical elements, mining elements

According to the interpretation of Obstacle Mountain related documents, although the main hidden idea is to overcome the mountain, the apparent perspectives are to be noted as well. For instance the historical use of mountains as communication infrastructure; through roads and passes, signalling spots and communication tools, the mountain has also served to connect as opposed to its view as an obstacle. Nowadays, mountain tops are preferred locations for telecommunication antennae, for instance. Even when the mountain is used as a border, it can also become the place for social gathering events.

Conversely, as it has already been explained, a consequence of the Obstacle perspective, the mountainside is disdained and its presence is ignored as a material element that can be transformed at will by technology; mountains are graphically illustrated by blank spaces or by the forms and graphic expression of another element (a dashed line for a tunnel, a winding road, a set of stairs etc.), or simply represented by quantified data that doesn't denote its conditioning effect, but a manageable materiality provided there is access to appropriate technical means.

As history has evolved and ecological perspectives have been more and more acknowledged, the Obstacle Mountain is shaped by other elements: they are more comprehensively illustrated with multiple

layers of materiality showing the functions of an ecosystem. These features are used to measure and avoid the impact of an infrastructure design. However, they normally refer to the ground conditions and consider the underground as a neutral non-affecting, not subject to impacts, space.

Table 25 Unformulated Ideas related to the Available Mountain

<b>Perspectives</b>	<b>Evidence</b>
<i>Void</i>	An abstract space without any pre-existing elements that can house anything
<i>Isolated, backside, hidden</i>	Away from the view of a large settlement
<i>Safe</i>	That cannot cause any accident due to its relative distance to a large settlement
<i>Storage room</i>	A place that can house any unwanted functions and elements out of sight
<i>Polluted</i>	Caused by pre-existing activities
<i>Artificial</i>	A loss of original qualities caused by land-use
<i>Reusable</i>	By locating a polluting or harmful activity on a previously polluted and artificial land
<i>Recreated</i>	When a mountain is recovered with a new land-form

The Available mountain perspective sees an opportunity space; it is characterized by an opportunistic vision. To that end, in order to locate the services and functional activities there is a vision of the slopes as empty of conditioners, which don't require an adaptive strategy. However, the features that are not considered are at times also the guarantors of isolating the activity from causing harm to the nearby population and thus make it a safe space. And eventually, the empty, isolated and safe slope becomes the place where anything can be located. This may cause pollution and deep changes on the site, which makes it all the more appropriate to continue reusing the site for other equally polluting, risky, harmful functions and services since it avoids transforming other sites.

Table 26 Unformulated Ideas related to the Green Mountain

<b>Perspectives</b>	<b>Evidence</b>
<i>Vulnerable</i>	On geological and ecological levels
<i>Selected</i>	Not all spaces on the slopes are part of the "mountain"
<i>Edge</i>	Urban edge: Bilbao's Green Ring
<i>Surrounding</i>	The space surrounding the city: Bilbao's green ring
<i>Heritage site</i>	
<i>Beneficial</i>	Beneficial to humankind: space of freedom, harmonious, natural, clean
<i>Battle ground</i>	The iron-belt from the Civil War (1936-39) built to protect Bilbao
<i>Underground</i>	Pits and caves

<i>Unknown</i>	A place that requires orientation elements and indications so as not to get lost
<i>Educator</i>	Increases the moral value of humans; from an ecological interpretation, raises sensitivity towards nature
<i>Morphologic</i>	Summits, hills, slopes, ravines, flat areas, passes etc.
<i>Multiple: hybrid, heterogeneous, urbanized</i>	Hybrid: a mix of country and city; heterogeneous: a mix of many land-uses; urbanized: affected by elements that belong to the urban realm

The hills are natural areas that simultaneously provide an escape from the city, and are vulnerable for this reason. They house many interesting elements, underground caves and heritage elements on ground. Part of that heritage includes traces of the Civil War protection artifice called the iron-belt. These valuable elements are used as means for historical interpretation of land. However, not all elements are considered fit to this purpose, such as infrastructure or remains of rural activities.

A sort of contradiction takes place whereby mountains are considered as surrounding elements of the city, close but far enough. In other cases, the character of the Bilbao Mountains is acknowledged as a hybrid compound of various elements.

Table 27 Unformulated Ideas related to the Formally Settled Mountain

<b>Perspectives</b>	<b>Evidence</b>
<i>Healthy</i>	With beneficial features for the everyday life as compared to the city
<i>Commodity</i>	Residential development and the economic benefits that speculating with land value implies
<i>Admirable, decorative, representative</i>	A decoration of the city that can be seen from the city, and where the city can be seen from.

Three totally different views included in one Landscape Perspective: the healthy perspective of mountains space, the economic value of mountain land development, and the mountain as an aesthetic element. The latter relates to the value of the housing developments that are built to benefit from the views, but also affect the view of the mountain from the city centre. A two way relationship is created then, since the mountains are both visible, and also enable views.

Table 28 Unformulated Ideas related to the Informally Settled Mountain

<b>Perspectives</b>	<b>Evidence</b>
<i>Crown of thorns; tin-belt</i>	Analogies for the vision and structure of hilltops populated by shacks
<i>Decorative</i>	Affected by the ugliness of shacks and allotments
<i>Inappropriate residential space</i>	Low human condition
<i>Landscape</i>	Even though there's a presence of informal buildings, the mountainside is considered non-developable, and thus, it is considered Landscape
<i>Morphologic</i>	Rough, hilly
<i>Wasted</i>	Representative of filth and low living conditions

This Landscape Perspective of informally settled slopes represents best the double character of the mountain that is visible, and also a viewing point. That is to say, when the mountain houses informal elements this is counterproductive on its visible aesthetics, especially in former times of shack neighbourhoods, and currently with allotments. The viewing point quality instead is now claimed as an important feature of neighbours who live in remaining informal quarters that have been formalized. The visibility of landscape quality of the mountains is most reclaimed when informal elements are detected and the need to remove them appears.

### 2.6.3 Summary

This section has described two additional results from the Second Scene or Archival work that has been described in chapter 10. These refer to the interaction and combination amongst the formulated Landscape Perspectives, and the finding of unformulated and alternative Perspectives.

As for the combinations, there are three main connecting nodes that show the relevance and many connections of the Traditional Mountain, the Obstacle Mountain and the Green Mountain perspectives and the rest of 6 perspectives. The TM is connected to the Forestry and Mining Resource Mountains, and the Formal and Informal Settled Mt perspectives. Also, the Obstacle Mt interacts with the Mining RM, the FSM and Green Mountain. Finally, the Green Mountain appears in combinations with the TM, the Available MT and the Forestry RM perspectives.

The unformulated Perspectives have been organized according to the Landscape Perspective were the document was categorized. They are organized in such a way so as to clearly convey their meaning, and backed by an evidence or small definition in one table. Each table is followed by a supplementary commentary or narrative that tries to logically describe the reasons to be behind these alternative ideas.

Both Combinations and Unformulated Perspectives are shown here as results that could perhaps contribute to praxis. The Combinations represent a return to the wider physical scale of landscape and its structures, while the new Perspectives represent the possibilities and potentialities of *other* landscape ideas, agencies, representations and elements and indicate the proposal and design step that follows the character



assessment. As the thesis aimed for an understanding of the landscape and not its design or planning, there is no further elaboration to the use of these new threads or landscape understandings. They can be understood as proof of the fruitfulness of the Landscape Perspective tool that is proposed in the thesis.

## ***2.7 Conclusion***

Chapter 2 of the English summary has tried to collect and express the main ideas and conclusions reached during different phases of the research procedure and show how they contribute to and connect with the consecutive step as well as with the main research objectives and direction. The literature review and the methodological framework have analysed different approaches to the topic and the analysis and interpretation of landscape therefore establishing the ground rules for the empirical part of the thesis. These are reflected and crystallized in the proposal for an interpretation tool called the Landscape Perspective tool and its 4 dimensions. The Landscape Perspective tool interprets landscape in two ways: first speculating with its character by formulating different approaches, and also by structuring an inquiry on its character through interpretive dimensions.

To that end a case study has been used where physical geography plays a main role in the definition of its character and elements, Bilbao's mountainous urban fringe landscape. The two ways in which the case study has been interpreted with the Landscape Perspective tool are to be identified with the two Scenes presented above: the Field Work's First Scene and the Archival Work's Second Scene. While the former Scene speculates and formulates a landscape character formed by Six Landscape Perspectives represented in maps, the latter Second Scene further enquires the character of landscape using the 4 Dimensions and theoretical premises.

The results of the Second Scene have revealed an overall trend of landscape formation indicated by the repeated types of dimensions through various documents and Landscape Perspectives, and also variations in the construction of landscape shown by different combinations of dimension types. This means that although there is a typical way of constructing urban landscapes, indifferent to the land, independent to the way the land—in this case the mountain—is understood, involving standard representations of land, objectivist agents, and both tangible and intangible constructions, there are also variations dependent on the Idea of land, and also on combinations of specific Agency, Representation and Element types. In addition, two other types of findings indicate on the one hand a combination of landscape perspective ideas showing that there is some sort of inadvertent collaboration between apparently isolated land understandings that contribute to the construction of urban landscapes, and on the other a set of alternative constructions of mountains that are included within the documents and that have also played a role in the construction of the studied landscape.

The next chapter is a conclusive overall account on the general contributions, identified limitations and further research recommendations. To that end, the proposed interpretation method and its results are reflected against the theoretical, epistemological and methodological criteria established initially.



## 3.0 Conclusion

This dissertation has tried to develop a way to understand the character of urban landscapes, by including both material and discursive, objective and subjective aspects in the analysis. In order to do so, an interpretation tool built on constructionist theoretical foundations has been proposed, followed by a development of an application procedure. This final chapter is an overall review of the research mentioning its main ideas, offering a set of concluding statements, and also reflecting on its limitations. As a final section, a humble hint and direction is suggested as a possibility for further research.

### 3.1 Summary

There are two main parts to the thesis, the theoretical one and the empirical one. The former is included in Section II and involves the literature review and methodological framework. The empirical part is gathered in Section III and applies the criteria of the former section to propose and develop a landscape interpretation method.

Firstly, by reviewing literature that revolves around the topic of urban landscapes there has been an attempt to establish the theoretical foundation of the thesis, and in doing so, a working definition of the urban landscapes has been structured. Chiefly, the theorization of urban landscapes in the thesis is at the intersection of a constructionist conceptualization of landscape and of the evolution of the urban edge into a fringe and its effects on the non-urban areas, and therefore considers the urban landscape's form and nature as multi-layered and multi-dimensional. The thesis has carried out a process of understanding the formation of one such case of landscape to build a method of interpretation.

The working definition of urban landscapes is based on the above considerations, and also on the principle of specificity characterized by geographical features. The urban landscapes of Bilbao's mountainside are in a way an exception within the homogenized vision suggested by the planetary urbanisation paradigm, or the generic and character-less characterization of urban landscapes.

Three other topics have been reviewed as well; these have been used to collect theorizations on significant aspects of the urban landscapes, and have simultaneously, by means of relativity and comparison, served to define the character of the case of mountainous urban landscapes of Bilbao. In addition to the

generic elements of the urban landscapes identified on the literature dealing with urbanity and urban fringe, other issues have been raised such as: the need to go deeper in the cultural aspect of UL in order to reinforce their appreciation; the identification of natural-cultural or anthropogenic elements and the potential that their acknowledgement can bring to policy making and design, together with the challenge implied by such a hybrid state to ecosystem service delivery—particularly if the character and current state of UL is not *naturalized*. Finally, the construction of the mountain landscape archetype originating in the Swiss Alps suggests issues of translation of an idealization of mountains, and comparing Bilbao's mountainside to that vision makes its hybrid character more apparent, and gives a hint to its acceptance by strengthening this aspect.

Therefore, it can be said, that the Literature Review has accomplished two instrumental objectives: to establish the basic theoretical foundations of the main interpretation tool, and to define the elements and criteria in order to analyse the character of the case study landscape.

As for the methodological framework, analyzing several established methods of analysis it has been possible to define the procedure to be followed by the empirical part of the thesis. In the process of interpreting a place all methods follow a combination of the following steps: area delimitation, documentation, recomposition of image, assessment, establishing valuation and direction criteria, design/planning phase. The proposed method only accomplishes the first four steps of the list.

The next step has been to elaborate the main thesis proposal, that is to say, the Landscape Perspective method designed to interpret landscape. Its main theoretical fundamentals are four main variables derived from the premise of considering landscape a social construct: Idea, Representation, Agency and Elements. The first application of the tool follows the abductive strategy and interpretive techniques established in the start. In that respect, the tool has been used to formulate hypothesis explaining the character of landscape that needn't be demonstrated, and that are produced by a combination between doubt and speculation. These hypotheses play with the landscape character, and rely on various data-bases, to produce plausible explanations of landscape's character.

The proposed interpretation tool has a propositive and practical objective that is reinforced by its systematic structure, that is, by the four lines of inquiry suggested by each of the 4 dimensions. It is also a tool that might be useful to work on regional levels due to the capacity of the multiple Landscape Perspectives to interpret land structures and evolution through various layers of land-views, indicators, objectives and actors. In a way, the Landscape Perspective tool embodies the theoretical and methodological references of Chapters 1 to 6 in a way that could be integrated in or complementary to official methods and procedures.

It is not until Chapter 8 that the case study is introduced. The idea transmitted by this chapter is that Bilbao's mountainside has been displaced culturally and economically, arguing that this has been caused by a problem of landscape archetype representation. The consequences of such a represented displacement can be identified on the limited range of activities allocated onto them, and double entendre criteria shaped by protection and development procedures.

Chapters 9 and 10 are the combined application of the Landscape Interpretation tool and the Bilbao case study in order to prove the methodology. For this purpose two separate Scenes have been carried out; the interpretation of landscape through Field work, and the landscape reading carried out through Archival work. Findings of Scene One include the speculative interpretation structured in Six Landscape Perspectives; that is to say, a formulation of landscape character that includes the Traditional Mountain, the Resource Mountain, the Obstacle Mountain, the Available Mountain, the Green Mountain, and the Settled Mountain. Each *Mountain* or Landscape Perspective is based on a particular understanding of the mountain, and implies an Idea, an Agency, a Representation, and Elements relative to a classification of land elements based on the idea of landscape as a way to see and do land. These formulations have been represented on a set of 7 maps; one for each of the Perspectives, and an additional overlapped view.

The Six Mountain Perspective interpretation can be understood as a retroactive reconstruction since it speculates with a plausible development and structuring of landscape and there is no demonstration implied by it. Nevertheless, as the objective was to design a method based on interpretation and on landscape constructivist views, the field work has been complemented with an archival work, the purpose of which was to deeply study the 4 Dimensions of each of the six Mountains or Landscape Perspectives. If on Scene One the empirical data base was represented by the material land, the Second Scene relies on the documentation of the land for data gathering. That is, the research case is embodied both on its physical elements, and also on the documents and representations of those elements.

The findings of the Second Scene mainly stem from the archives. They refer mostly to trends and structures that form the landscape, and are illustrated by Landscape Perspective combinations, and those found within and amongst the Four Dimension of each LP. These represent mostly specificities concerning the case study, but also can be interpreted as contributions of the thesis. The specific results based on the case evidence—land elements and archival data—may serve as a validation of the interpretive capacity of the proposed tool and might also be considered a representation of the potential of use that the Landscape Perspective tool has in order to understand landscape character's of other cases.

Firstly, as for the findings concerning trends within the Dimensions, they mostly refer to the case study, but are also useful to detect these aspects of landscape: modes of landscape representation, agency profiles and agency types that have transformed the land, present-day decision making problems reflected on agency type dichotomies—Insider/Outsider; Objectivist/Subjectivist—, and to understand how landscape projections on conceptual levels are then physically constructed, that is to say, to find out details on the procedure of translating concepts to in-situ physical materiality, or how landscapes can be divided into political or inhabited constructions.

Secondly, the overlapping found to be occurring amongst the Four Dimensions indicates particular information on the building and evolution of landscape as well. But, in addition, they illustrate different trends of formation such as: connections between Idea and Representation, or the way in which Outsider Agencies, in-situ constructed Elements and lack of Representations combine to suggest situations where a material landscape constructions lacks represented ideas from the insider that has built it, and instead are replaced by constructions by Outsider Agencies and become the standard landscape understandings and ideas.

Moreover, the archival research has proved that urban landscapes, even in the case of mountains, have been formed as a consequence of many independent decisions taken by chance.

However, there have also been found results that indicate an underlying structure represented by, on the one hand combinations of LPs, and, on the other, unformulated land perspectives. The combinations of Landscape Perspectives represent structures of landscape; these could be useful to project and plan the land or territory in a more integrative way, or at least, within more coherent theoretical parameters concerning landscape, nature and used or polluted soil reusability conceptualizations, for instance. The unformulated Perspectives are unexpected findings but can be considered as part of wider choice or palette of possibilities for future states of the mountain or land that have already been proven as successful or failed options.

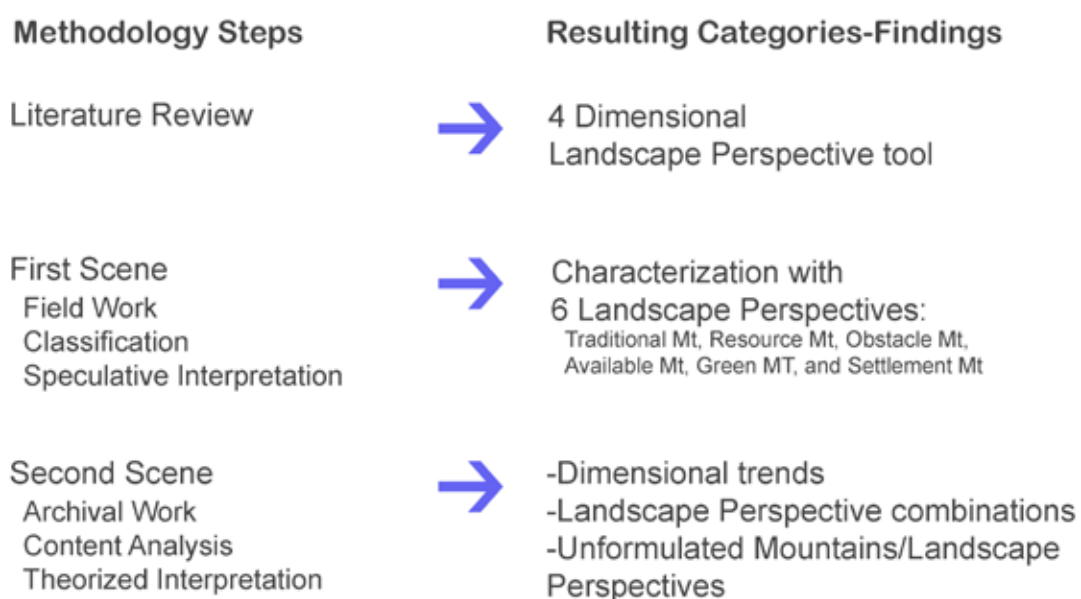


Figure 19 Methodology overview: Methodological Steps that have been implemented and the Resulting Categories or Findings

Finally, it can be said that the empirical research has followed a sequence that begun with speculation, followed by interpretation, and ended with a confirmation of the intended and accepted constructions of the urban landscape of Bilbao. In other words, the speculation took place by trying to discern how different elements of landscape have been formed using the visible elements and applying a theoretical formulation of landscape—Landscape Perspective—as a way to see and do with land; then, an interpretation followed in order to complement the speculation using documented constructions of landscape and searching for 4 specific variables—Dimensions; and finally, a consideration and acknowledgement takes place towards the idea of land confessed by and communicated in each of the files as alternative constructions of land that have not been formulated by the researcher, but that are considered proven and tested out possibilities of the mountain slope’s landscape—Combinations of Landscape Perspectives and Unformulated Perspectives. These findings and results, are indeed, specific to the case study, but nevertheless could be considered as proof of the capacity of interpretation and understanding of the proposed Landscape Perspective tool method.

### **3.2 Meeting the research objectives**

It was both a theoretical and a practical problem that the research questions were trying to address: “What are the specific characteristics of urban fringe landscapes? Which are the qualities of the elements and forces that have shaped them? Which of its potential values could be strengthened by planning and design? How could an urban fringe landscape be interpreted considering both subjective and objective, material and conceptual characteristics?”

It has thus been the purpose of the thesis to approach the urban landscape character in order to answer the research questions, by making an initial suggestion for an interpretation method that could be useful in propositional spatial procedures.

To answer the first question, it can be said that the character of urban landscapes has been interpreted for the case of Bilbao, and it has been stated that its character is formed by six Landscape Perspectives, whereby each has transformed the mountain/land in its own way, both physically and discursively. On the other hand, as to the character of the mountainous urban landscapes of Bilbao, it is precisely on the mountains that the character resides, needless to say. Concepts such as soil, ground, underground, ground quality, soil types, transformed soils together with mountain winds, sunlight and views or panoramas have been observed and are mentioned frequently in the documents as threads that structure the landscape character. Mining, Obstacle and Available Mountain Perspectives are firmly established on the land quality and the underground; geological, lithographic, stratigraphic, geomorphologic considerations are directly and indirectly meaningful within mining, infrastructure construction and land form building documentation. Land quality is especially significant in the choice of location for certain activities, and the criteria of location reside in the reuse of a wasted or polluted piece of land. The invisibility that the mountain morphology enables is also a fundamental part of the urban landscape character and transformation. The other side of the coin is the two-way visibility that is also enabled by the elevated position of elements; the mountain acts as a viewing point, and elements become more visible from their mountain position. Other features that refer to climate appear more frequently in documents categorized within the Green Mountain and the Settled Mountain: winds, sunshine, vegetation, views etc.

As for the elements and forces that have given shape to these landscapes, these are included and interpreted through each of the six Landscape Perspectives using the 4 Dimensions as variables. In general, the landscape has been affected by Outsider Agencies that have relied on standard Representations of land to meet the needs of specific Ideas and objectives by building most of the landscape Elements that have been analysed. Some Ideas have been more elaborate than others, and also, it has been found that the construction of certain Elements—specifically traditional and informal ones— goes hand in hand with the Representation of land made from Outside Agencies, noting a lack of Representation of the land idea of Insider Agencies. The potentialities of urban landscapes are embodied in the existing combinations amongst elements and land understandings, and also in the non-formulated mountain perspectives as possibilities for future design ideas and options. Finally, as for the simultaneous study of objective and subjective aspects of landscape the thesis has proposed a method that using speculation and interpretation considers both tangible and intangible constructions of landscapes trying to bridge the gap between

objectivist and subjectivist considerations of land—so as to consider the multiple dimensions of any given landscape—and the consequently created landscapes.

The contributions made by the thesis can be classified into theoretical, practical and political implications. The thesis has a theoretical implication on the understanding of urban fringe landscape character with the use of an interpretation method that understands and accepts the character of landscape based on its social formation, and insists on the importance of the case-by-case specificities—social, cultural, geographical etc—in the definition of its character. These local specifics are considered responsible for the typological landscape character, in this case, defined by the mountainous geography and the relationship with culture and society. A second implication on the theoretical level includes the use of theory to interpret landscape character; the dichotomies used in some of the 4 dimensions have been useful to identify current issues related to spatial decision-making procedures, as well as to the discussion concerning the translation of landscape's conceptualizations into physical constructions. Finally, the confirmation of the chance-like construction of urban landscapes is also considered a theoretical implication. This has been observed in the accumulation of elements that are consequence of seemingly disconnected land understandings.

Practical implications are also based on the methodological proposal of the Landscape Perspective tool. This namely involves the constructivist epistemology and an inter-subjective approach as starting points, and the combined reuse of landscape and urban theories put into practice as an interpretation tool, that is, the tool introduced as the Landscape Perspective tool. Its aim is to be useful in a propositive context, and therefore advances a systematic structure. Also, by looking for landscape potentialities, it is possible to find out the vocation of urban landscapes, something that is useful in order to plan and program places based on its own character. Lastly, on the political level, the implication involves a possibility for a change in the approach to land analysis reinforced by the method proposal.

If the initial objectives—an empathic understanding of urban landscapes—are compared to the findings, then it can be said that the level of success of the methodological proposal can be measured by looking at the results of the First and Second Scenes. It has been possible to elaborate a new representation of these landscapes by using a specific case; an image structured by several layers or Landscape Perspectives and the specific characteristics affected by each LP. In addition, the thesis has tried to design a method that can be used to understand other urban fringe landscapes by insisting on the social construction of landscapes. Specifically, there is one Landscape Perspective that reinforces the replicability of the method: the Traditional Mountain. This Landscape Perspective represents the closest relationship to local geography by way of the cultural landscape Elements, Ideas, Agencies and Representations that it denotes. This layer can be found anywhere, although in various material states, and included within the Landscape Perspective interpretation method guarantees its replicability.

Chiefly, the thesis has been an attempt to solve the lack of phenomenological understandings of land, and the lack of specific characterization of urban fringes. Urban fringe landscapes are always at loss when they are analysed using official and established quantitative and qualitative indicators. The thesis has aimed to collect and define another set of indicators and analysis strategy.



### 3.3 Limitations

Reflecting on the limitations of the research gives way to the following drawbacks. Firstly, as it has been already indicated in section 2.5.5, there are limits to the documentation process—document amount, location and information formulation. Also, regarding the dichotomies—insider/outsider; political/inhabited—used to theorize the Dimensions have generated ambiguous interpretations. However, this has also been an unexpected way to frame current problems. In addition, the subjectivity of the researcher has also been indicated as a limit, but it can fundamentally be understood as a characteristic of the research, as it will be briefly noted below, by the compensation it represents to the lack of non-represented landscape perspectives not included in the Second Scene’s research.

Another limitation concerns the relative failure to integrate the proposed interpretation technique within a planning procedure. The research questions addressed ways of identifying urban fringe landscape features that could be reinforced by design or planning procedures. The ideal objective would have been to successfully integrate the proposed interpretation technique within a planning code or design code. Nevertheless, the thesis accomplishes to design a tool that can be paired off to the informal participative and decision-making procedures and methods that more and more complement official planning or common objectivist place analysis and descriptions.

Finally, the proposed method has followed the lead of the inter-subjective angle with the purpose of designing a comprehensive, integrative and complex way to understand the land and landscape. Precisely, by working on an analysis method that would be capable to join the analysis in official planning procedures with individual and/or subjectivist landscape interpretations. Its usefulness was seen as a way to connect expert scientific notions of landscape on the one hand, and aesthetic subjective understandings of land and place on the other, in decision making procedures of planning or design.

However, the *bridge* has been interrupted half-way in its constructions, as it has been already mentioned in subsection 2.5.3 . Specifically, the interpretation of documents in Scene Two has highlighted the superior contribution of an Objectivist Agency in the shaping of Bilbao’s urban fringe landscape. In other words, the limitation refers to the missed integration of non represented voices, ideas, purposes and representations that have physically built parts of the landscapes, since only documented so called expert and objective constructions have been analysed in the research.

In order for the interpretive technique to be replicable and to guarantee its inter-subjective quality, there should be a place for constructions of “inside” agents, which can be considered experts of their own kind. As a possible compensation to this limit, it can be said, that the method has achieved to include an insider view in the role of the researcher due to her connection to the case study.

### 3.4 Further research

The contribution of the researcher sheds light on the importance of subjectivity in the construction and analysis of landscape. Also, the fact that non-represented or non-documented constructions of place are normally ignored is a reminder of this importance, as the Archival work in the Second Scene has shown.

The thesis contribution might reside in the landscape character and formation interpretation tool and its possibilities of a general application procedure for other cases of urban landscapes. However, as it has already been mentioned, the proposal that ambitioned to be constructivist and inter-subjectivist has supplied a half-built bridge. The next task could imply finishing up this construction.

What would such purpose mean? Which information should be collected? Which research techniques should be put in use? What would we find at the other end of the bridge?

In two cases of the Six Landscape Perspective interpretation of Bilbao's urban landscapes, it has been highlighted that there existed a trench between the outsider Agency's view and the insider Agency that constructed materially the land. Namely, in the Traditional Mountain and the Informally Settled Mountain, the conceptual landscape was built by the outsider and objectivist Agency, while the material construction of landscape was accomplished by the insider and subjectivist Agency. This has also been found to be reflected on the Representation Dimension, since landscape representations have mostly shown outsider constructions and ideas, and less so those from the insiders.

So there remains a pursuable objective to collect and get to know the insider's Representations and constructions. These Agency profiles suggest a lack of documentation and a set of specific built Elements, so the first step in the completion of an ideal interpretation method would be to list the alternative agencies that have not appeared in the already carried out research; and to directly tap into the first-hand information source of these unrepresented Agencies' landscape constructions. To do so, interpretive techniques such as ethnographies could come to be useful, but also, those suggested by the emerging non-representative theories. That way, every-day practices and embodied experiences of place could be registered as part of the subjectivist landscape construction of the urban fringe. This approach would possibly enable a comprehensive understanding of the landscape structure and character, which would also meet the initial goal of understanding the character of the urban landscapes by including objectivist and subjectivist aspects, as well as material and discursive ones. This could be a way to achieve the inter-subjectivist landscape character interpretation that the thesis aimed for.

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**Eranskinak**  
***Appendixes***



**A ERANSKINA. Bilboko eta Euskal Herriko Paisaia Irudikapenak**

***APPENDIX A. Landscape representations of Bilbao and the Basque Country***

**1-Euskal Herriko mendi paisaiaren arketikoa (Ez Bilbo) -  
*Basque Mountain Landscape Archetype (Not Bilbao)***

*Margolanak-Paintings*



Teófilo Guíard "La vuela del trabajo" 1889



José Arrue "Romería" 1920



Ramiro Arrue "Attelage devant une ferme dans la perspective des 'Trois-Couronnes'" ;



Aurelio Arteta "El *agur* de las *neskas*" 1910



Aurelio Arteta "Eva arratiana" 1913



Valentin Zubiarrru "Bersolaris" 1916-17

## Argazkilaritza-Photography



Indalecio Ojanguren "Amorebieta. Familia en la puerta del caserío" early 20th c



Indalecio Ojanguren "Caserio Juntanzoro" early 20th c



Indalecio Ojanguren "Layadores" early 20th c



Indalecio Ojanguren "Sendia" early 20th c



Sigfrido Koch Arruti, "Paisaje con ovejas" 1985



Sigfrido Koch Arruti "Paisaje con caserío al fondo alrededor de Peñas de Aia" 1985



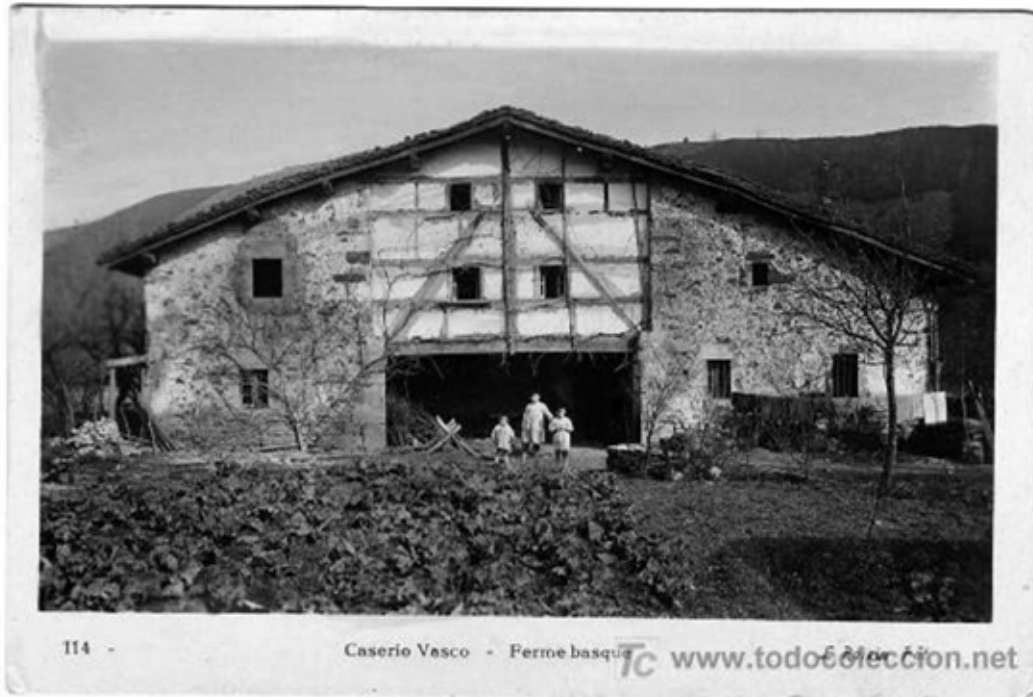
Postaleak-Postcards



Unknown "66. San Sebastian. Tipos vascos en el campo" early 20th c.



Unknown "Bilbao-Caserío vasco Ugarte" early 20th c



L. Roisin "CASERIO VASCO. FERME BASQUE" early 20th c



Unknown "Caserío típico vasco" 1978



Unknown "Durango. Caserío típico vasco" 1969



Turismo y vida "Paisaje vasco" 1972



Exclusivas Cayetano "Paisaje vasco con trajes típicos" 1973

### Filmeak-Film

Stills from *Aberria* [Fatherland] by Gotzon Elorza, 1961





*Esne Ontzien Diseinu Grafikoa-Milk Carton Graphic Design*



“Beyena. La leche de Bizkaia.”



“Leche-Bizkaia-Esnea” [Bizkaia Milk]

## 2-Bilboko paisaia arketipoa (Ez Mendia) - *Bilbao Landscape Archetype (Not Mountain)*

### *Margolanak-Painting*

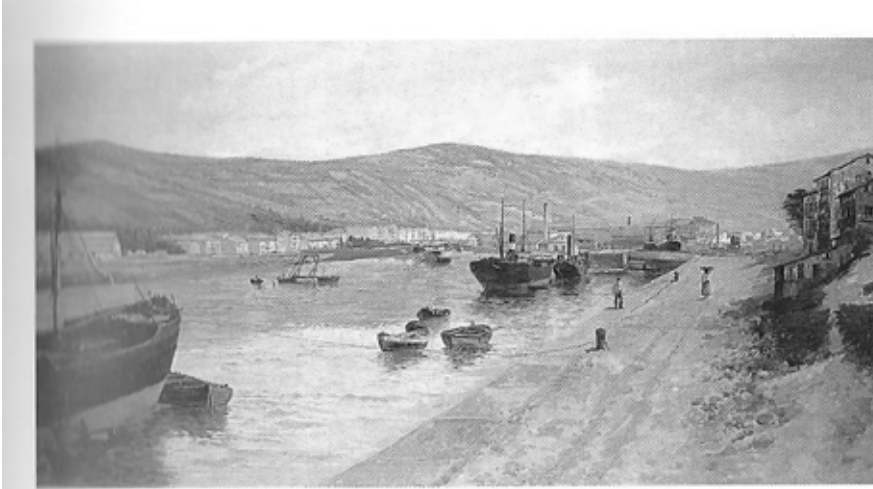
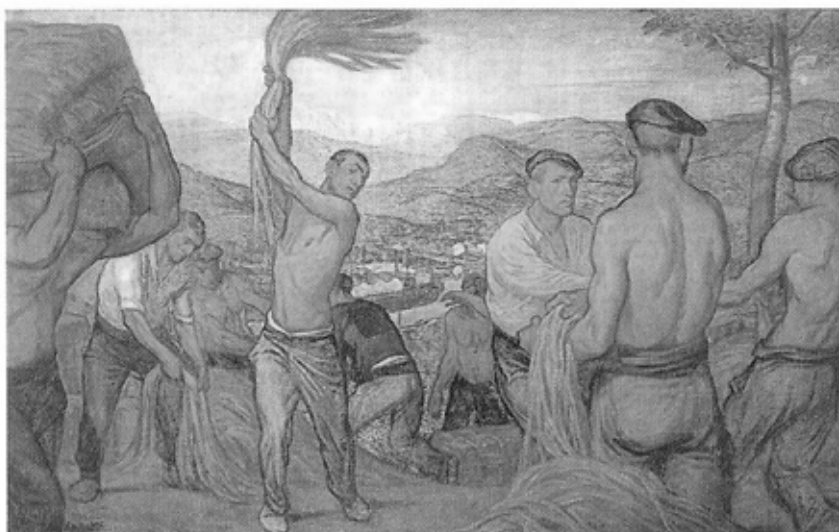


Fig. 8. Tomás Campuzano, *Vista de la ría desde Olaveaga*. Oleo/lienzo. 118 x 220 cm. Cámara de Comercio, Industria y Navegación de Bilbao, Bilbao.

Tomás Campuzano “Vista de la ría desde Olaveaga”

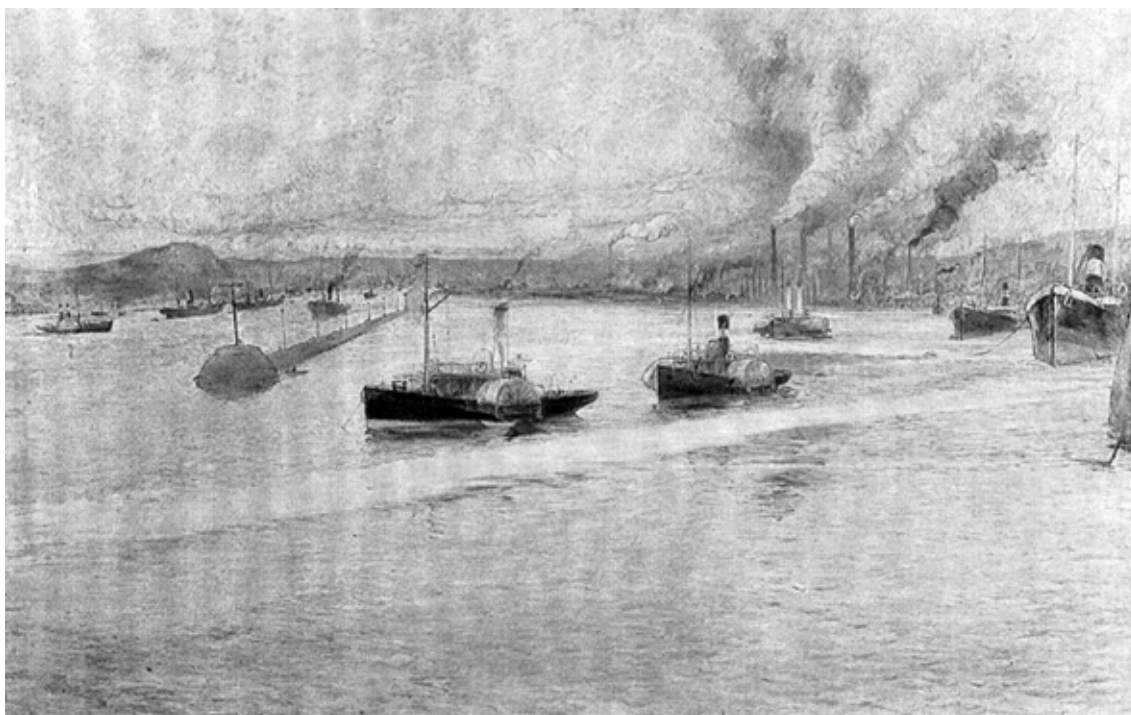


Alberto Arrue “La sirga” 1909 [towrope]



Aurelio Arteta: *Los Cordeleros* . Colección particular. Madrid.

Aurelio Arteta “los cordeleros” [rope-makers]



Teófilo Guiard “La ría en Sestao” 1903



Iñaki Bilbao “1 y 2” 1990s.



Fig. 52. Clara Ganguita, *Puente de Deusto*, 1997. Oleo/lienzo. 80 x 80 cm. Colección particular.

Clara Ganguita “Puente de Deusto” 1997





Jesus M. Lazkano "n.t." (Molinos Vascos) 1980s

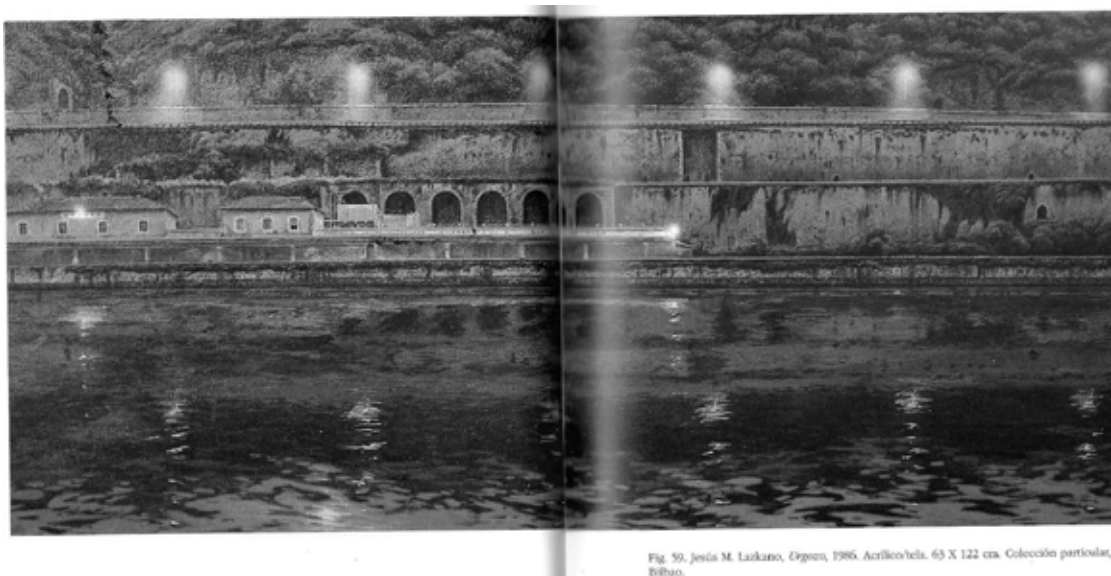
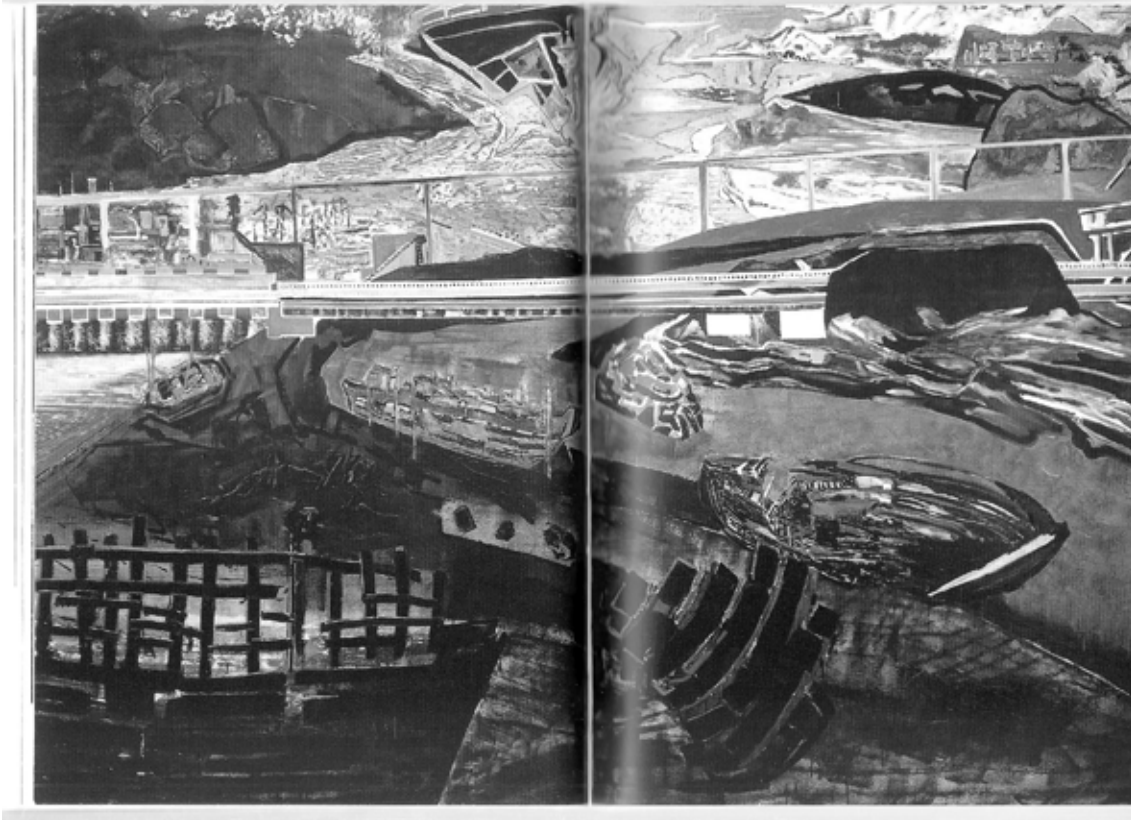


Fig. 59. Jesús M. Lazkano, Urgozo, 1986. Acrílico/tela. 65 X 122 cm. Colección particular, Bilbao.

Jesus M. Lazkano "Urgozo" 1986



Carmelo Ortiz de Elguea "Bilbo VII" 1993-95



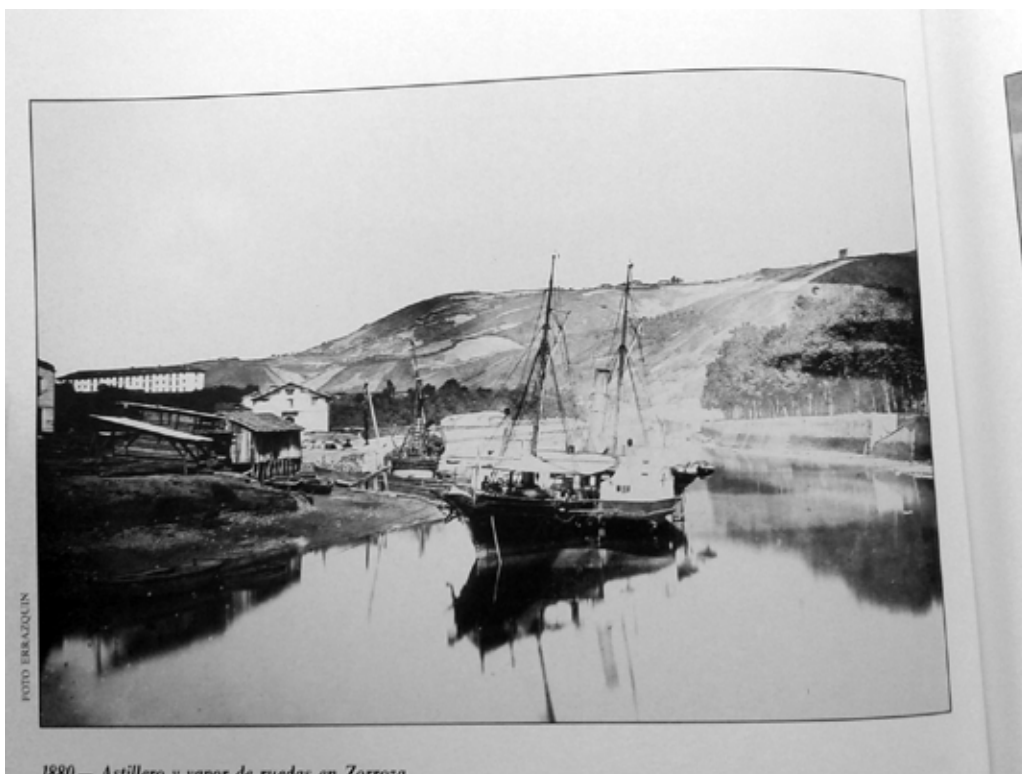
Agustín Reche "Euskalduna en ruinas" 1993



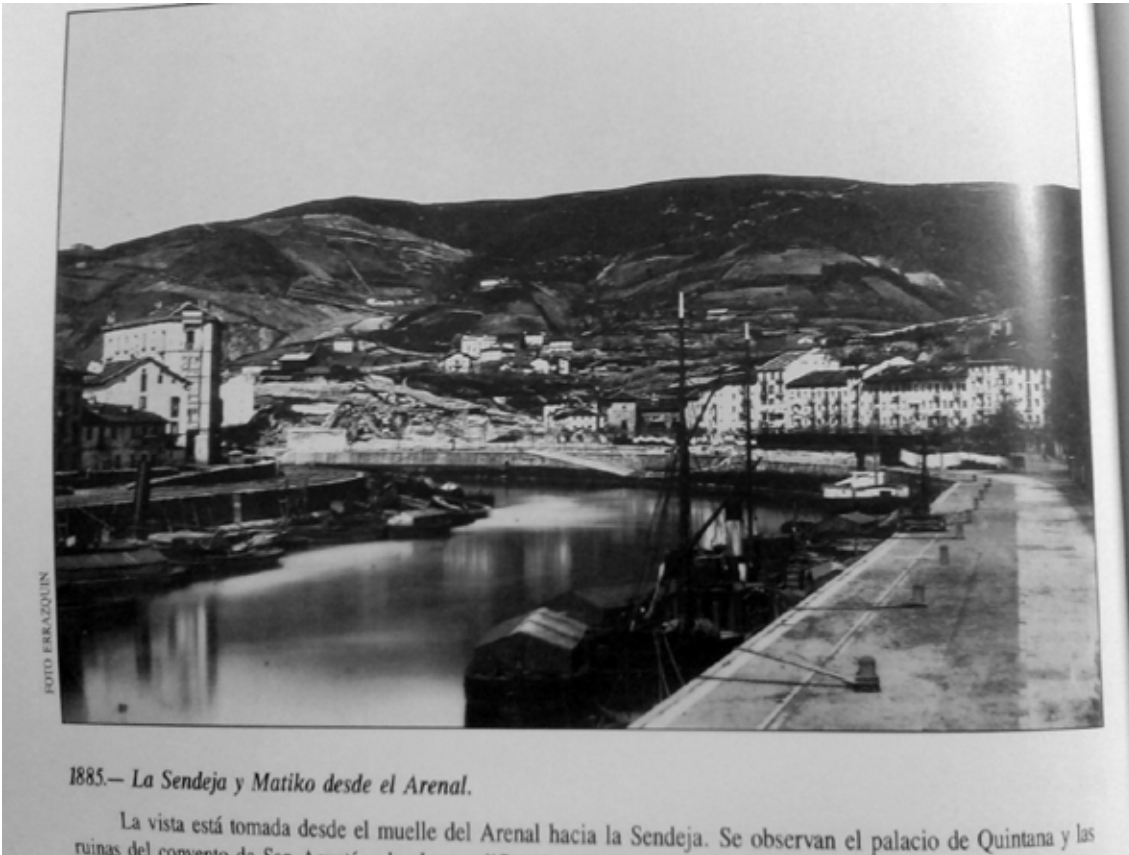
Fig. 64. Raúl Urrutikoetxea, *Realidad diferida*, 1998. Artilero/madrea estelada. Serie de 35 cuadros de 20 X 30 cm. c/u. Colección particular.

Raul Urrutikoetxea "Realidad diferida" 1998

*Argazkilaritza-Photography*



Pedro Telesforo Errazkin "Astilero y vapor de ruedas en Zorroza" 1880



Pedro Telesfor Errazkin “La Sendeja y Matiko desde el Arenal” 1885



DESAMANTAMIENTO CARGADORO MINERAL. OLARAGA

Jesus Angel Miranda “Desmantelamiento cargadero mineral” 1993



BOTEROA, SUTINO-ERABERO

J.A. Miranda "Botero" 1993

*Postaleak-Postcard*



"Bilbao. Isla de San Cristobal. La Peña" turn of the 19th-20th c.



“Ribera de Erandio” turn of the 19th-20th c.



“Bilbao. Portugalete. Altos Hornos de Vizcaya”



“Puente de Vizcaya” 20<sup>th</sup> c.



“Reuerdo de Bilbao” mid 20th c.



“Bilbao” mid 20th c.





“Bilbao” mid 20th c.

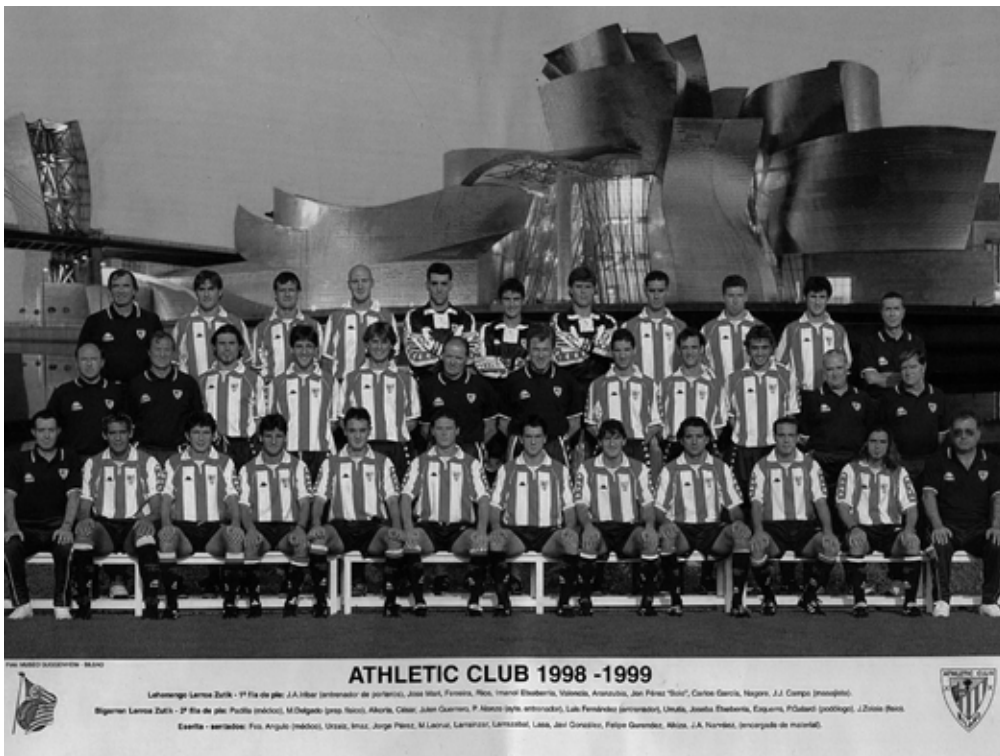


“Bilbao” turn of the 20th-21st c.

*Athletic Club Bilbarrak-Posterrak-Posters Athletic Club Bilbao*



Season 1991-92



Season 1998-99



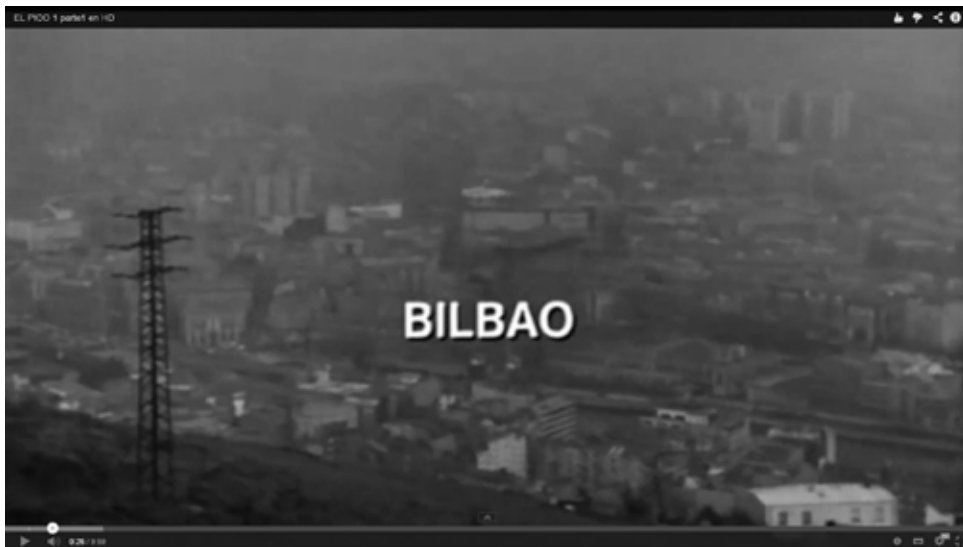
Season 2000-01



Season 2011-12

*Film*

Still from "EL PICO" film by Eloy de la Iglesia 1983.



Opening credits



Opening scene, a panoramic view from Artxanda mountain and film title credit "EL PICO"



Scene of drug dealing by the estuary in the center of Bilbao.



Scene near Biscay bridge.



Scene where one of the protagonist crosses the La Salve bridge in Bilbao city center.

### **3-Bilboaldeko Paisaiaren Ikuspegi Hibridoa- *Hybrid Vision of the Bilbao Landscape***

*Material Grafikoa-Graphic Material*

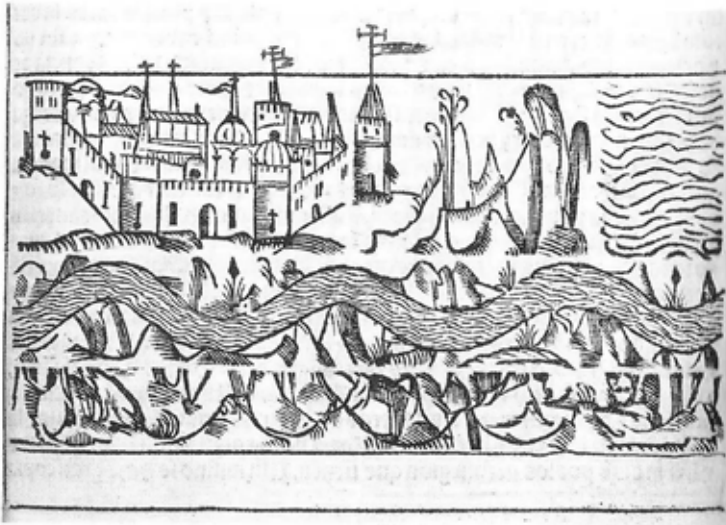
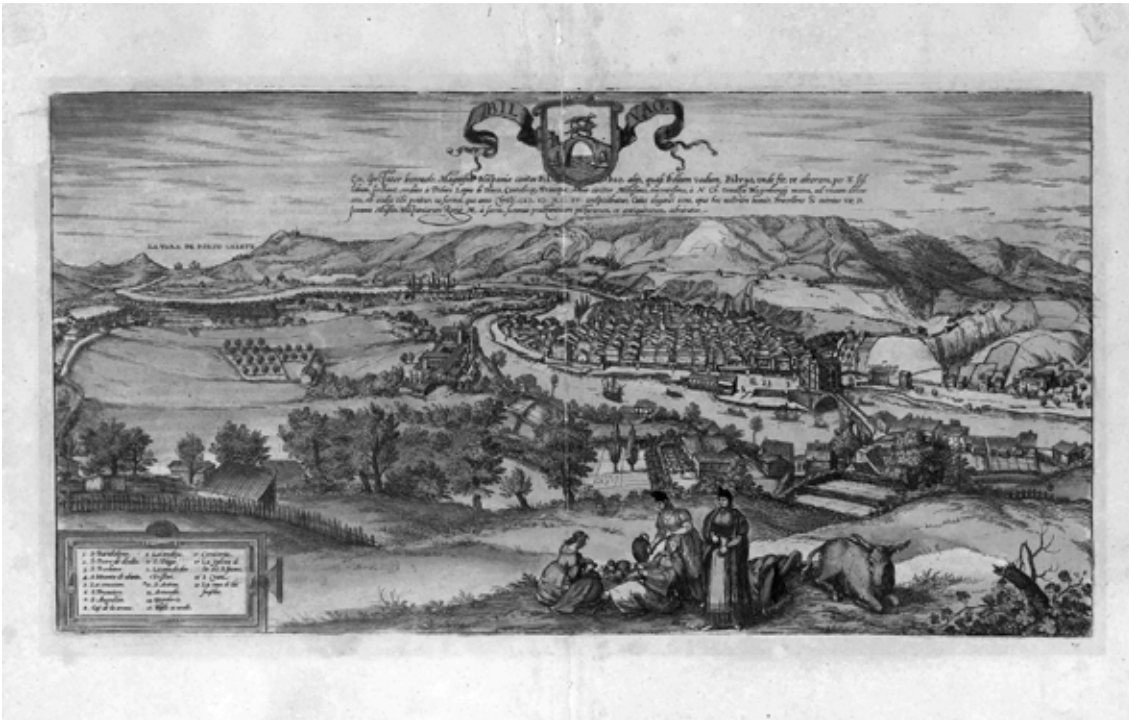


Fig. 1. Grabado correspondiente a Bilbao del libro de Pedro de Medina *Libro de las grandezas y cosas memorables de España*, Sevilla, 1548. Tacos xilográficos.  
Huela: 7,5 x 14,5 cm. Sociedad Bilbaina, Bilbao.

Engraved image representing Bilbao in Pedro de Medina's book *Libro de las grandezas y cosas memorable de España*, 1548.



Franz Hogenberg "Bilbao" 1572

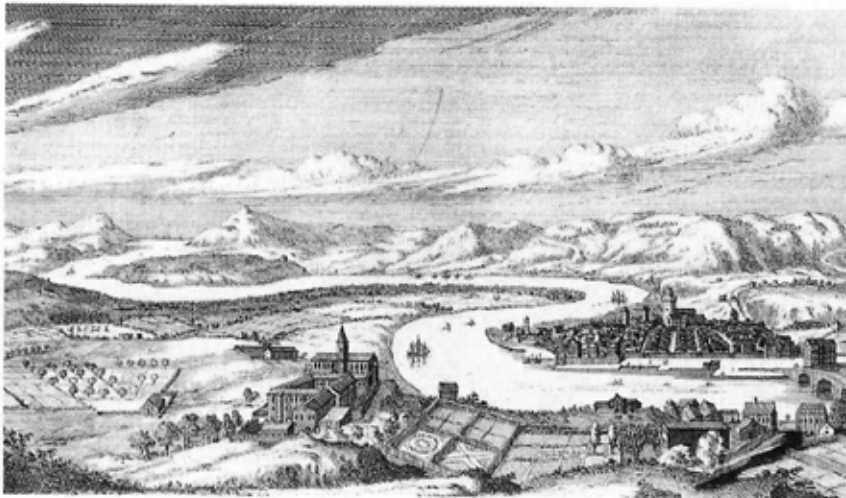


Fig. 5. Bilbao, ciudad de Biscaya... Aguafuerte. Huella: 16 x 25,5 cm. Del libro de Pieter Van Den Bergen *Theatrum Hispaniae exhibens regni urbes, villas acvtridaria magis illustria*, Amsterdam, c. 1660. Archivo Foral de Bizkaia, Bilbao.

Peter Van Den Bergen „Bilbao, ciudad de Biscaya...“ c.1660.



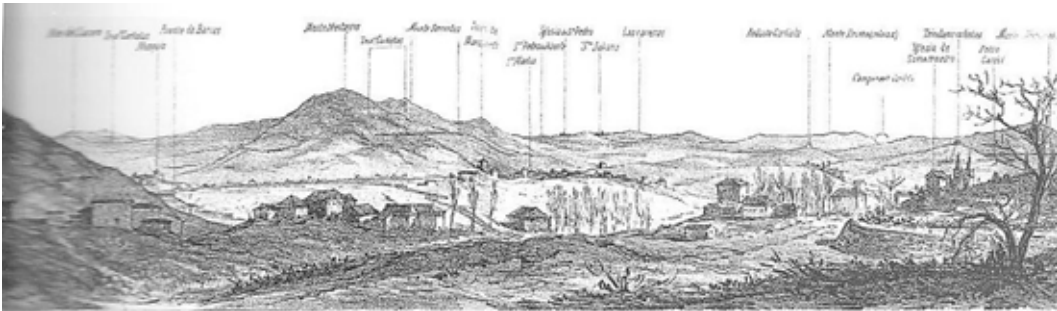
P. Gonzalvo "Desembocadura de la ría en el Abra de Bilbao" 1857

### Ilustrazioa-Illustration



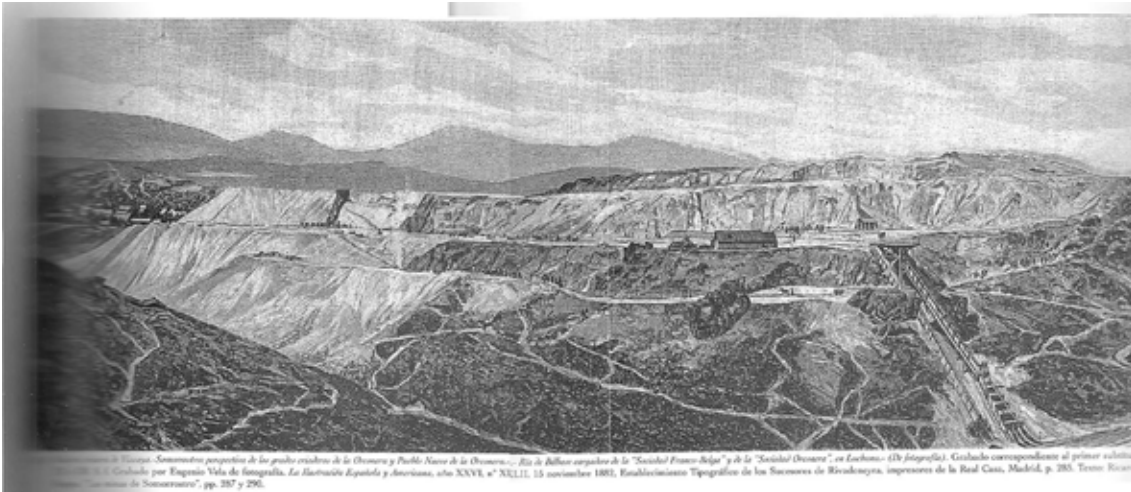
Fig. 127. Espagne.-Guerre carliste.-Panorama de la seconde bataille de Somorostro, les 25, 26 et 27 mars, pris du côté des carlistes, par M. San Abadías, dessinateur de Don Carlos, notre correspondant spécial au camp carliste. Légende: B Batterie républicain. T Batterie républicaine du Mont Janco. F Frégates républicaines canonant les positions carlistes de la droite. S Batteries républicaines de Somorostro. N Musquiez. G G G Guérillas républicaines. M Murrieta. P Parapet carliste sur la face de pic de Mantrez. R R R Républicains. C C C Carlistes. D San Pedro Abanto défendu par les carlistes. Maisons incendiées par les grenades ennemies. Z San Juentes où étaient les états-majors des généraux Elío, Darregaray, Ollo, etc., et les réserves carlistes. A Mamelon où se trouvait Don Carlos et les généraux la Roca, le brigadier Olive, le comte d'Almenare et autres. Xilografía. 130 x 474. Fir. áng. inf. der.: Clerget. Grabado de Hubert Clerget de croquis de León Abadías Santolaria. *Le Monde Illustré*, tome XXXIV, 18e. année, n° 887. 22 avril 1874, Imprimerie A. Bourdilliat, Paris, p. 232-233. Texto: (Firmado la primera parte por Dick y la segunda por León Abadías), "En Espagne", p. 230.

"Espagne-Guerre carliste-Panorama de la seconde bataille de Somorostro..."Hubert Clerget base don León Abadías Satoraría in *Le Monde Illustré*, Paris, 1874



Panorama de las posiciones Carlistas, tomadas del natural, del lado izquierdo del río de Somorrostro. Litografía. 119 x 456. Fir. áng. inf. izq.: A° W°0. Litografiado por Tomás Padró Pedret. *El Cañón Krupp*, disparo 1º, 21 abril 1874, Librería Española.-López Editor, Imprenta de la viuda é hijos de Gaspar, Barcelona, pp. 4-5.

“Panorama de las posiciones Carlistas, tomadas del natural, del lado izquierdo del río de Somorrostro” Tomás Padró in *El Cañón Krupp*, Barcelona, 1874.



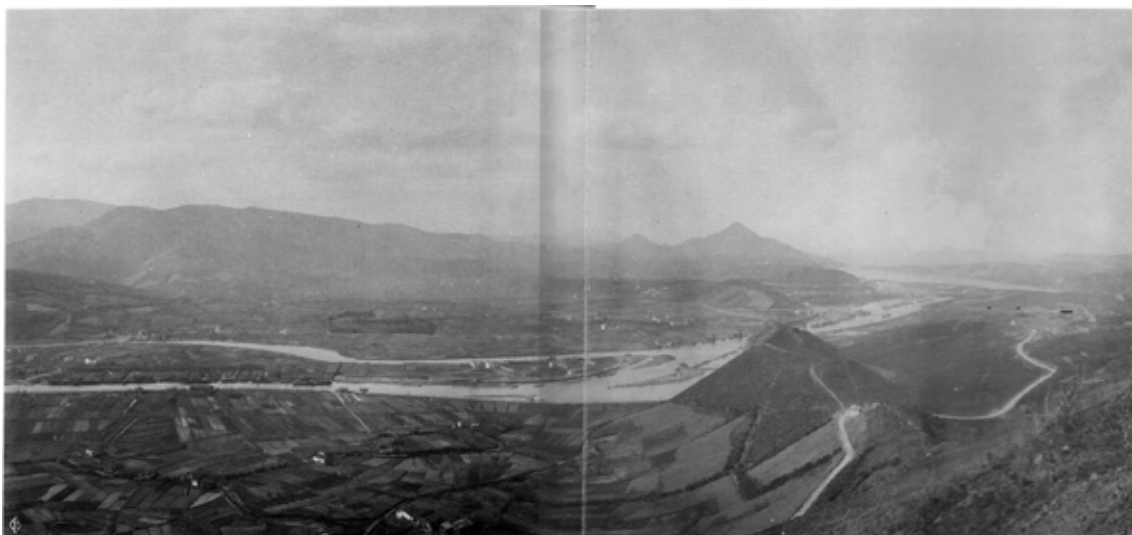
“Somorrostro: perspectiva de los grandes criaderos de la Orconera...” Eugenio Vela in *La Ilustración Española y Americana*, Madrid, 1882.

### Argazkilaritza-Photography



PT Errazkin “Panoramica de Bilbao tomada desde el alto de Miribilla” 1870-74





PT Errazkin "Panoramica de la ría desde Deusto hasta el Abra" c. 1880.



Indalecio Ojanguren "Punta Lucero. Abanto y Cierbana, Nido de ametralladoras en PuntaLlucero" c. 1936-37

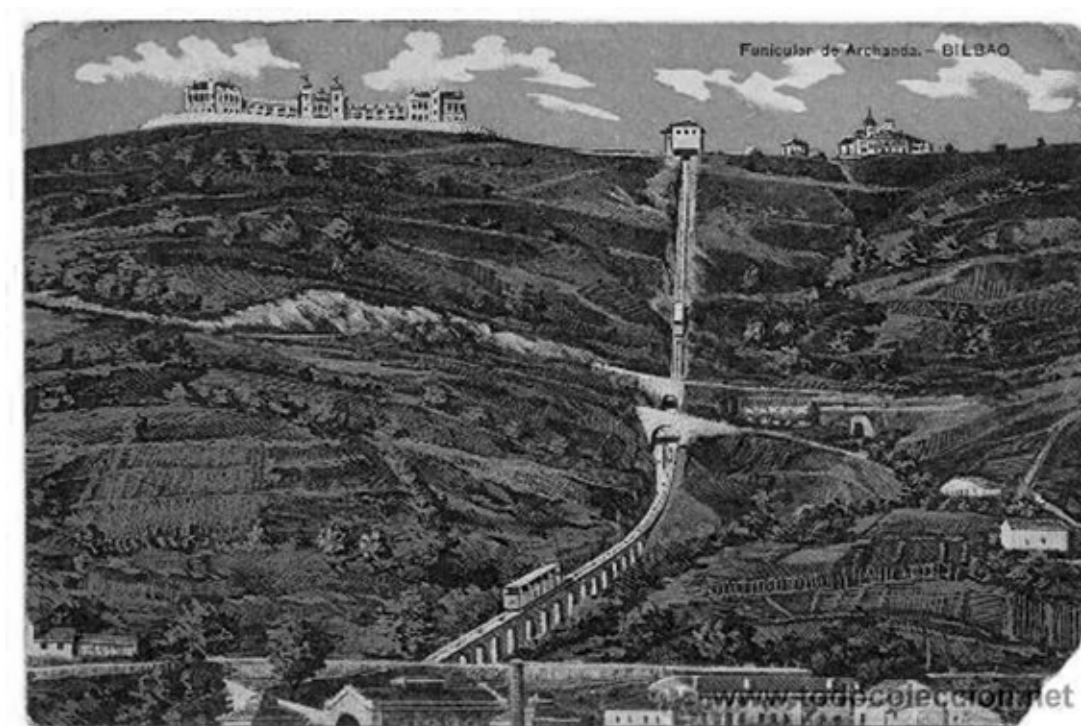


Indalecio Ojanguren "Trincheras en Artxanda" c. 1936-37

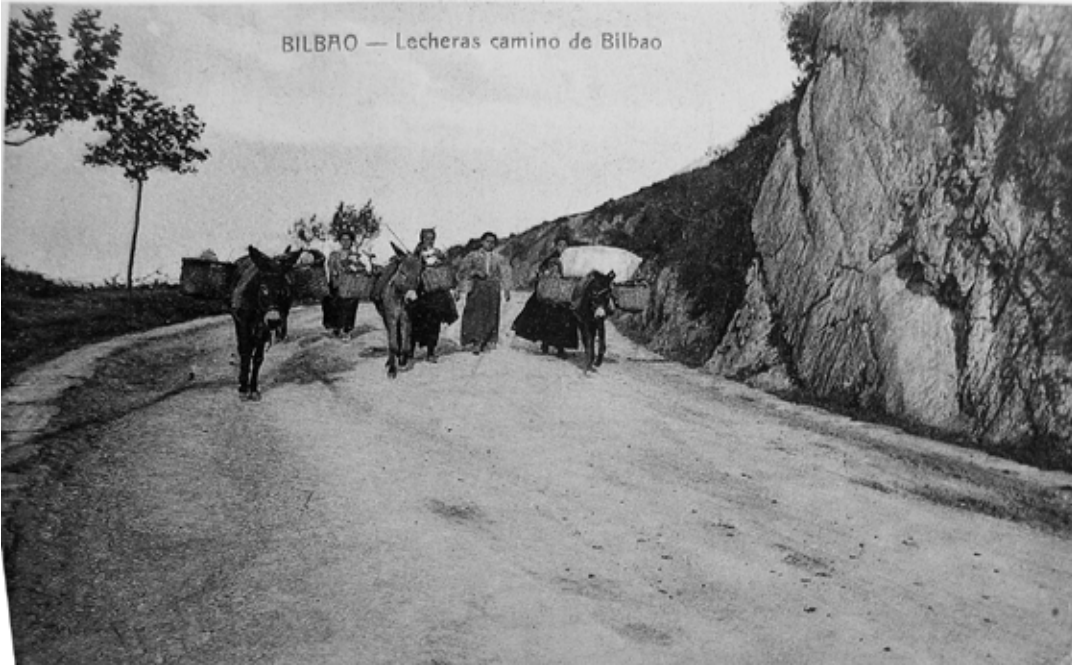
Postalak-Postcards



"Bilbao. Romeria en Deusto" early 20th c.



"Funicular de Archanda.-Bilbao" c. 1915.



“Bilbao. Lecheras camino de Bilbao” early 20<sup>th</sup> c.



“Bilbao. Un chacoli en Begoña” early 20<sup>th</sup> c.



García Garrabella y cia (Zaragoza) "2204. Bilbao. Vista parcial" 1960-70s.

*Arte Garaikidea-Contemporary art*



Vicente Ameztoy "no title" 1979

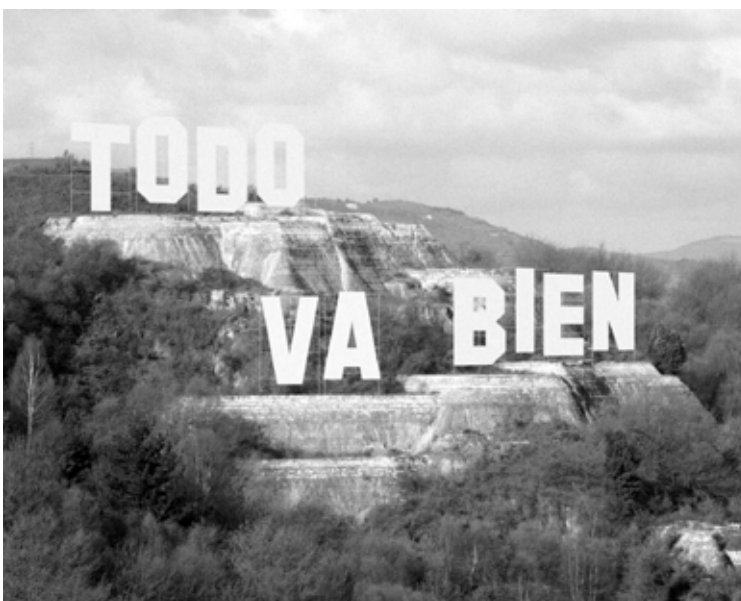


Fig. 58. Jesús M. Lazkano, *Ascensor de Begoña IV*, 1984. Acrílico/sela. 100 X 244 cm. Colección particular, Bilbao.

JM Lazkano "Ascensor de Begoña IV" 1984



Cesar Luengo "Atardecer en Archanda" 2000



Mikel Escauriaza "ENEKURI PL SIGN" 2008





## **B ERANSKINA. Landa Laneko txangoak**

### ***APPENDIX B. Fieldwork excursions***

Gehigarri honetan, Landa Lanerako egindako zenbait txango biltzen dira. Txango bakoitzaren fitxan jarraitutako ibilbidea, txangoari buruzko oinarritzko informazioa, bisitatutako tokiak eta egindako argazki batzuk aurkezten dira.

*This Appendix collects some of the excursions carried out during the Field Work. The files describe some basic information, the trail that was followed, visited sites and some of the photographs.*



**DATA/Date:** 2011/07

**GARRAIO BIDEA/Transportation method:** Auto pribatua/PRivate car

**IRTEERA-HELMUGA/Origin-Destination:** Bilbao-Leioa-Bilbao

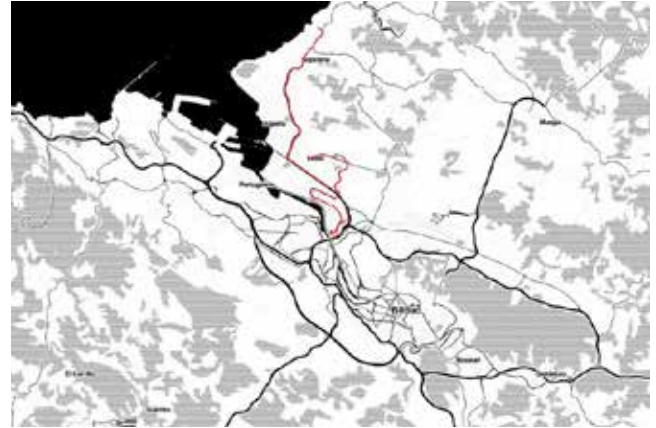
**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

A8 autobidea Gurutzetan (Barakaldo) zehar

Rontegi zubia eta bere azpikaldea

Goierri (Erandio) auzoa

Sefanitroren azkenak



# EP17

**DATA/Date:** 2011/010

**GARRAIO BIDEA/Transportation method:** Auto pribatua/Private car

**IRTEERA-HELMUGA/Origin-Destination:** Bilbao-Bilbao

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

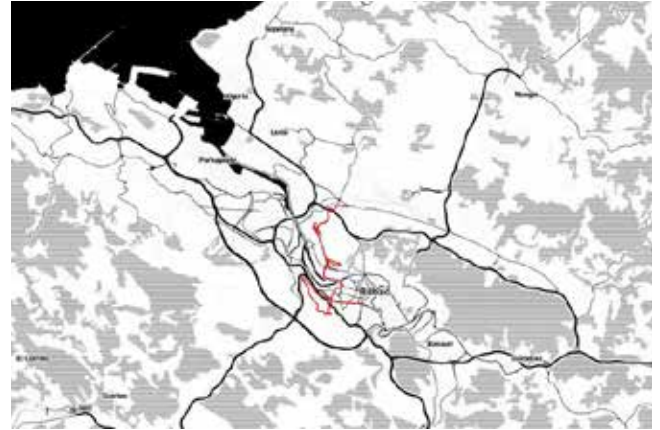
Panoramic view of Bilbao and estuary

A8 highway

Masustegi neighborhood

Buena Vista neighborhood

Enekuri junkyard



**DATA/Date:** 2011/10

**GARRAIO BIDEA/Transportation method:** Auto pribatua/Private car

**IRTEERA-HELMUGA/Origin-Destination:** Bilbao-Bilbao

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

Panoramic views of Galdakao and the montains of Upo

Explosives factory forest

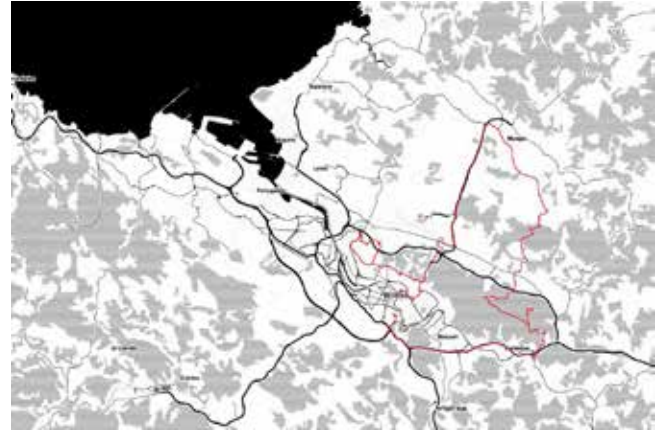
Lezama and Txorierrri valley hills

Electrical lines

Industrial Park

Golf field

Pine forests



# EP19

**DATA/Date:** 2011/10

**GARRAIO BIDEA/Transportation method:** Auto pribatua/Private car

**IRTEERA-HELMUGA/Origin-Destination:** Bilbao-Bilbao

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

Panoramic views of Bilbao

Electrical pylons

South metropolitan ring-road

Pine forest

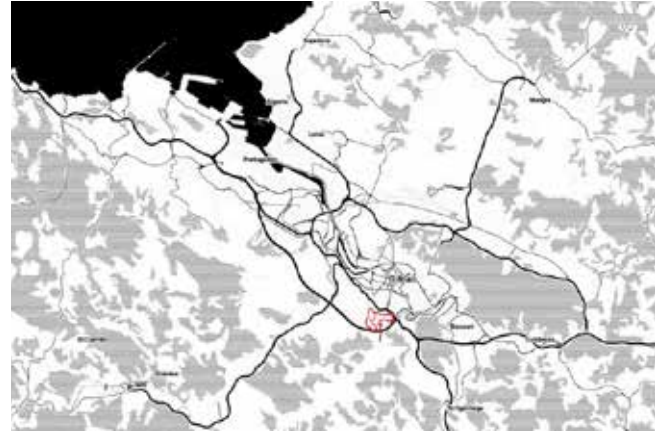
Informal orchards

Rural neighborhood

A8 highway

Residential areas

Quarry



## EP20

**DATA/Date:** 2011/10

**GARRAIO BIDEA/Transportation method:** Bus

**IRTEERA-HELMUGA/Origin-Destination:** Donostia-Galdakao-Bilbao

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

Roadside elements

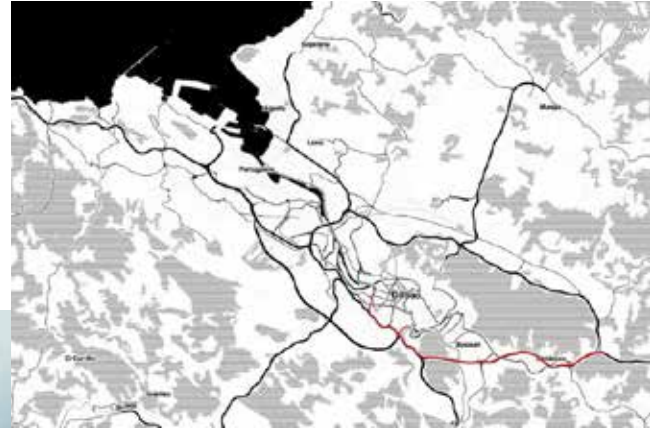
Informal orchards

La Peña neighborhood

Bilbao highway access

Bilbao wholesale market

Malmasin tunnels



# EP25

**DATA/Date:** 2012/01

**GARRAIO BIDEA/Transportation method:** Auto pribatua/private car

**IRTEERA-HELMUGA/Origin-Destination:** Arrigorriaga-Basauri-Bilbao

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

Roadside elements

Farmhouses and fields





**DATA/Date:** 2013/08

**GARRAIO BIDEA/Transportation method:** Auto pribatua/private car

**IRTEERA-HELMUGA/Origin-Destination:** Barakaldo

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

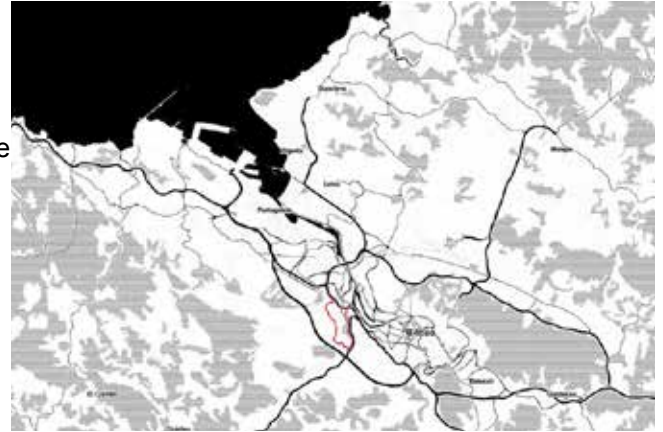
Panoramic view of the estuary and Serantes

Informal housing

Water deposit

Incinerator, quarry and cement plant, highway, landfill and water pipes all in Arraiz-Ganekogorta mountain slope

St Agate chapel and old pilgrimage path



# EP28

**DATA/Date:** 2013/08

**GARRAIO BIDEA/Transportation method:** Auto pribatua/private car

**IRTEERA-HELMUGA/Origin-Destination:** Trapagaran-Muskiz

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

Panoramic view of the estuary

Informal housing

Remains of mines

Earthworks

Mine-pits

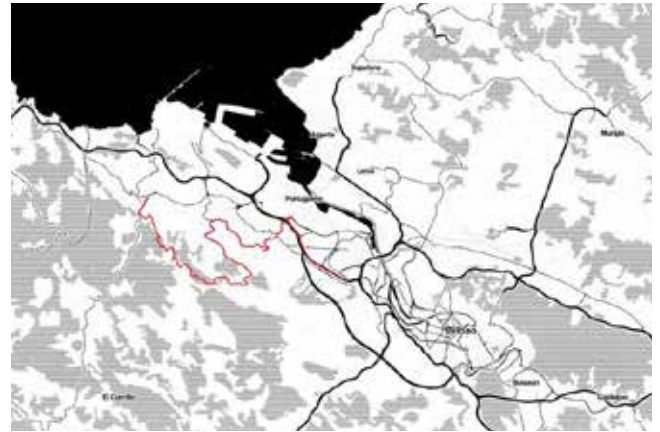
Pine tree forests

Electrical energy plant

Oil deposits

Water pipes

Highway



**DATA/Date:** 2013/08

**GARRAIO BIDEA/Transportation method:** Auto pribatua/private car

**IRTEERA-HELMUGA/Origin-Destination:** Errekaortu-Barakaldo

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

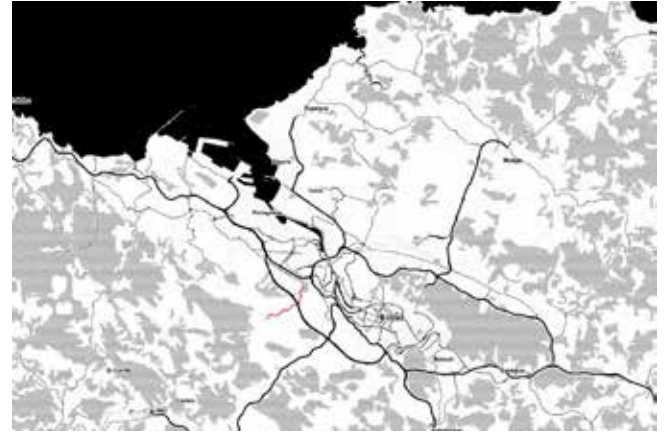
Water reservoir

Pine-tree and eucalypti forest

Informal housing

Rural elements

South metropolitan ring-road



# EP32

**DATA/Date:** 2013/09

**GARRAIO BIDEA/Transportation method:** Oinez/ By foot

**IRTEERA-HELMUGA/Origin-Destination:** Bilbao-Alonsotegi

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

Green ring of Bilbao

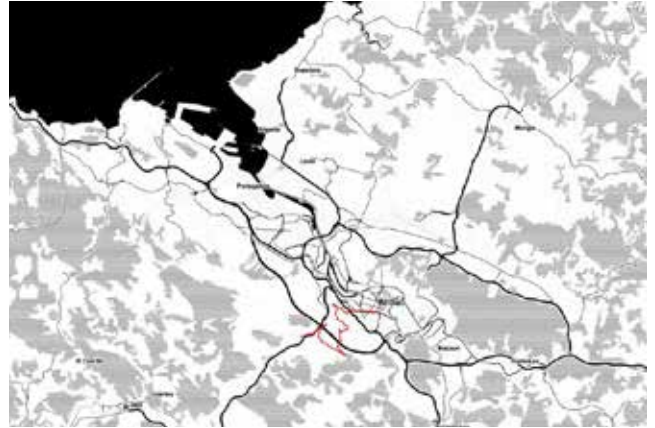
Masustegi

Kobetamendi road informal housing

Quarry

Arraiz mt park

Artigas landfill



**DATA/Date:** 2013/10

**GARRAIO BIDEA/Transportation method:** Auto pribatua /Private car

**IRTEERA-HELMUGA/Origin-Destination:** Bilbao-Argalario-Zugaztieta

**INTERES-GUNEA(K) EDO -ELEMENTUA(K)/Place(s) or Element(s) of Interest:**

Panoramic vies of estuary and mountains near the mouth

Remains of mining infrastructures

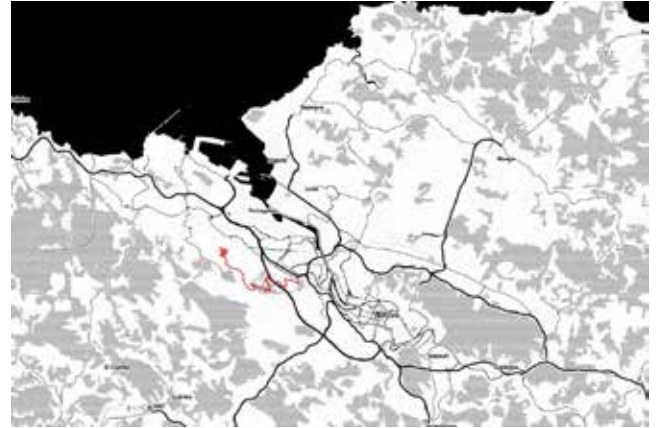
Flooded mine-pits

Mining slag

Shepherding and grazing activity

Informal activities: flytipping

Pine tree forests





## **C ERANSKINA. Mapak sortzeko GIS Datu-basearen erabilera**

### ***APPENDIX C. GIS Data-base usage for Mapping***

Ikuspegi bakoitza irudikatzen duten Mapetako bakoitza Eusko Jaurlaritzak dituen GIS (Geografia Informazio Sistema) datu baseak eta GVSig programa erabiliz marratu ziren. Datu baseetan gorago aipatu diren jarduera sailkapenak topatu egin dira datu baseko hainbat fitxategietako geruzak erabiliaz eta horietako datuak bahetuz.

Hasteko, ikuspegi bakoitzean sartu nahi ziren elementuak identifikatu eta zerrendatu ziren:

1. Paisaia Kulturala:
  - a. Landa Eremuko Katastroa
  - b. Ermitak
  - c. Bideak, pistak, errepide sare lokala edo auzokoa
  - d. Nukleo ruralak
2. Meatzeak eta espazio osagarria (aztarnak) (Google Earth): Elementu eta gune ugari orain zabortegei edo lubeta gisa jotzen dira (zonas de rellenos y Escombros) edo harrobi bezala onartua da (canteras)
3. Basoak (GIS)
  - a. -Geruzak: Inventario 2010 / bosque plantación
  - b. -PTS Agroforestal / bosque + Caminos / leyenda 1 / viaria gorria
  - c. -Basoak eta lotutako errepideak / bideak OK
4. Harrobiak (GIS)
  - a. Geruzak: geologia\_sistema Antropogenico\_CANTERAS OK
  - b. Harrobi batzuk falta dira eta gehitu egin behar dira (Superportukoa, esaterako)
5. Errepideak eta mendizaleentzat azpiegitura, tunelak, funikularra, trena eta abar (GIS)
  - a. Geruzak: red viaria & vías ferreas
  - b. CARPETA\_maider Seleccion / BTA servicios / desglose por tipo de servicio OK
6. Zabortegei, Hondakinen kudeaketa plantak, Zentral elektrikoak edo energetikoak, azpiestazioak, urtegiak, txartategiak, biltegiak, Antenak (GIS)
  - a. Geruzak\_geologia\_sistema antropogenico\_Escombros y relleno & Excavacion y relleno
  - b. CARPETA\_maider Seleccion / BTA servicios / desglose por tipo de servicio
7. Parkeak (GIS): udal-parke, hiri inguruko parkea, golf ?, natural eta babestutako guneak, txango
  - a. Geruzak \_? \_ espacios protegidos Naturales / s y serv\_esp dotacional?
  - b. sistema espacios libres?
  - c. CARPETA\_maider seleccion / BTA servicios / desglose por tipo de servicio
8. Egoitza formalak eta hezkuntza eta osasun zerbitzuak (GIS):
  - a. -Geruzak\_edificaciones & instalaciones\_educativas & dotacionales / CARPETA\_maider seleccion / BTA servicios / desglose por tipo de servicio
9. Egoitza informalak eta baratzak (google earth eskuz)

10. Bi GIS shp fitxategi mota berreskuratu dituz datu base publikoko (Geo Euskadi) hurrengo ataletatik:

- a. Oinarrizko Kartografia
- b. Hiri Plangintza Lurzoruaren erabilera esleitzeko mapak
- c. Kartografia Eratorria: malda portzentaje mapak

Ondoren, Eusko Jaurlaritzako GeoEuskadi datu base publikotik, elementu horiek marrazten dituzten geruza geografikoak deskargatu egin ziren eta GvSIG programaren bitartez bildu, xehatu eta mapak osatu egin ziren.

GIS datu basetik atzeman ziren geruzak ondoren zerrendatuta ageri dira, bertan ageri diren izenak erabiliz, baina Ikuspegi arabera taldekatuta. Zerrendaren bitartez Ikuspegi bakoitzari dagokion mapetako elementuak jasotzen dituzten datu baseen ibilbide digitala adierazi eta datuen aukeraketa azaldu nahi da.

2013ko Urtarriletik Ekainera bitartean kontsultatu egin zen Eusko Jaurlaritzako FTP zerbitzarian: <ftp://ftp.geo.euskadi.net/cartografia/>

## **1-Mendia Baliabide:**

### **1.1 Meatzaritza**

- \* Geocientífica/Geologia/CT\_GEOMORFOLOGICO\_25000\_ETRS89. Aukeraketa filtratua:
  - o GEOMORFOLO = 'Cantera/Harrobia'
    - edo 'Escombreras y rellenos/ Hondakindegia eta betegarriak'
    - edo 'Zona de excavaciones o/y escombreras / Indusketako edota hondakindegiko gunea'
  - o SISTEMA = 'Antropogénico / Antropogenikoa' (\*)<sup>1</sup>
- \* Cartografía\_Basica/BTA/Hidrografia/BTA\_HID\_AGUAS\_L\_5000\_ETRS89. Aukeraketa filtratua:
  - o LEYENDA\_1 = 'Embalse'
    - edo 'Estanque'
- \* Cartografía\_Basica/BTA/ BTA\_EDI\_ELEM\_CONSTRUCC\_L\_5000\_ETRS89, Aukeraketa filtratua:
  - o LEYENDA\_1 = 'Explotacion a cielo abierto'

### **1.2 Basogintza**

- \* Agricultura/ INV\_FORESTAL\_2010\_10000\_ETRS89. Aukeraketa filtratua:
  - o DES\_SP1= 'Bosque de Plantación'
- \* Planeamiento/PTS/PTS\_Agroforestal/0\_GB\_CT\_PTS\_Agroforestal\_25000\_ETRS89- Aukeraketa filtratua:
  - o LEY\_CAS = 'Forestal'
- \* Cartografía\_Basica/BTA/RED\_DE\_TRANSPORTES/BTA\_RED\_VIARIA\_L\_5000\_ETRS89. Aukeraketa filtratua:

---

1



- LEYENDA\_1 = Camino

## **2-Mendia Oztopo:**

- \* Cartografía\_Basica/BTA/RED\_DE\_TRANSPORTES/BTA\_RED\_VIARIA\_L\_5000\_ETRS89. Aukeraketa filtratua:
  - LEYENDA\_1 = 'Carreteras principales' edo LEYENDA\_1 = 'Autopistas, autovias y vias de doble calzada'
- \* Cartografía\_Basica/BTA/BTA\_EDI\_ELEM\_CONSTRUCC\_L\_5000\_ETRS89 Aukeraketa filtratua:
  - LEYENDA\_1 = 'Puente'
- \* Cartografía\_Basica/BTA/ BTA\_TRA\_VIAS\_FERREAS\_L\_5000\_ETRS89. Aukeraketa filtratua:
  - None
- \* Cartografía\_Basica/BTA/SERVICIOS\_E\_INSTALACIONES/ BTA\_SER\_INSTALACIONES\_L\_5000\_ETRS89. Aukeraketa filtratua:
  - LEYENDA\_1 = 'Area de peaje' or 'Area de servicio' edo 'Estacion de autobuses' edo 'Estacion de tren'
- \* Cartografía\_Basica/BTA/SERVICIOS\_E\_INSTALACIONES/ BTA\_SER\_INSTALACIONES\_L\_5000\_ETRS89. Aukeraketa filtratua:
  - LEYENDA\_1 = 'Alta Tensión'; 'Media tensión'; 'Muy alta tensión'; 'Conduccion de Agua'
- \* Cartografía\_Basica/BTA/SERVICIOS\_E\_INSTALACIONES/ BTA\_SER\_INSTALACIONES\_P\_5000\_ETRS89. Aukeraketa filtratua:
  - LEYENDA\_1 = 'Poste de tendido electrico' edo 'Torre de tendido electrico'

## **3-Mendia Erabilgarri:**

[Zabortegiak] [Hondakin kudeaketa] [Biltegiako espazioak] [Energia sorkuntza zentroak] [Urtegiak] [Antenak]

- \* Geocientífica/Geologia/CT\_GEOMORFOLOGICO\_25000\_ETRS89. Aukeraketa filtratua:
  - GEOMORFOLO = 'Cantera/Harrobia' + "Escombreras y rellenos/ Hondakindegia eta betegarriak" + 'Zona de excavaciones o/y escombreras / Indusketako edota hondakindegiko gunea'
- \* Cartografía\_Basica/BTA/SERVICIOS\_E\_INSTALACIONES/ BTA\_SER\_INSTALACIONES\_L\_5000\_ETRS89. Aukeraketa filtratua:
  - LEYENDA\_1 ; 'Central electrica'; 'Instalacion de telecomunicacion'; 'Subestacion electrica'
- \* Cartografía\_Basica/BTA/Hidrografia/BTA\_HID\_AGUAS\_L\_5000\_ETRS89. Aukeraketa filtratua:
  - LEYENDA\_1 = 'Embalse' edo 'Estanque'
- \* Cartografía\_Basica/BTA/BTA\_EDI\_ELEM\_CONSTRUCC\_L\_5000\_ETRS89 Aukeraketa filtratua:
  - LEYENDA\_1 = 'Deposito'
- \* Eskuz aukeratu eta marraztuak: zenbait zabortegi eta hondakindegia, industriagunea, hondakindegia edo txatartegi, lehergailuen fabrika eta antenak.

#### 4-Mendi Berdea:

- \* Cartografía\_Basica/BTA/SERVICIOS\_E\_INSTALACIONES/ BTA\_SER\_INSTALACIONES\_P\_5000\_ETRS89. Aukeraketa filtratua:
  - LEYENDA\_1= 'Parque/Jardin' edo 'Campo de Golf'
- \* Cartografía\_Basica/BTA/BTA\_EDI\_ELEM\_CONSTRUCC\_L\_5000\_ETRS89 Aukeraketa filtratua:
  - LEYENDA\_1 = 'Parterre'
- \* Planeamiento/Udalplan/CT\_UDALPLAN\_2012\_10000\_ETRS89/ ct\_udal\_libre\_10000\_ETRS89

#### 5. Mendia Bizileku:

##### 5.1. Bizileku Formala

- \* Cartografía\_Basica/BTA/RED\_DE\_TRANSPORTES/BTA\_RED\_VIARIA\_L\_5000\_ETRS89. Aukeraketa filtratua:
  - LEYENDA\_1 = 'Otras vías revestidas'

[Bizilekuak] *Eskuz aukeratuak bakoitzak duen kokapen eta egitura formalaren arabera: hazkuntza planifikatu edo diseinatu bat izan dute, oinarritzeko hiritartze elementuez osatuak daude kale eta espazio ireki diseinatu edo pentsatuekin. Eraikinen kokapena ere diseinatu edo proiektu baten eraginez eraikita dago.*

- \* Cartografía\_Basica/BTA/EDIFICACIONES/BTA\_EDI\_EDIFICACIONES\_L\_5000\_ETRS89
- \* Cartografía\_Basica/BTA/BTA\_EDI\_OTRAS\_CONSTRUCC\_L\_5000\_ETRS89

[Ekipamendu publiko eta pribatuak: bezkuntza, ikerketa, unibertsitatea, kirola, osasuna, hilerriak]

- \* Cartografía\_Basica/BTA/SERVICIOS\_E\_INSTALACIONES/ BTA\_SER\_INSTALACIONES\_P\_5000\_ETRS89. Atributu bidez filtratua:
  - LEYENDA\_1= 'Instalaciones deportivas'
  - edo 'instalaciones educativas'
  - edo 'instalaciones sanitaria' or 'Cementerio'
- \* Cartografía\_Basica/BTA/BTA\_EDI\_ELEM\_CONSTRUCC\_L\_5000\_ETRS89 Atributu bidez filtratua
  - LEYENDA\_1 = 'Terreno de Juego'
- \* Cartografía\_Basica/BTA/EDIFICACIONES/BTA\_EDI\_EDIFICACIONES\_L\_5000\_ETRS89
- \* Cartografía\_Basica/BTA/BTA\_EDI\_OTRAS\_CONSTRUCC\_L\_5000\_ETRS89

##### 5.2 Bizileku Informala

[Bizilekuak] *Eskuz aukeratuak edota Plangintzako lurzoru erabileren eta kalifikazioak aztertuz, batik bat, "Nucleo Rural" deritzon kalifikazioari.*

- \* Cartografía\_Basica/BTA/EDIFICACIONES/BTA\_EDI\_EDIFICACIONES\_L\_5000\_ETRS89
- \* Cartografía\_Basica/BTA/BTA\_EDI\_OTRAS\_CONSTRUCC\_L\_5000\_ETRS89
- \* Planeamiento/Udalplan/CT\_UDALPLAN\_2012\_10000\_ETRS89/ ct\_udal\_resi\_10000\_ETRS89. Atributu bidez filtratua:
  - CLASIF = 'SUELO NO URBANIZABLE NUCLEOS RURALES' [Denak ez dira egoki gisa aukeratzeko, 20 mendeen planifikazioa existitu den bitartean hazkuntza informal bidez garatu diren eta maldetan dauden horiek soilik aukeratu dira baizik.]

[Baratzak] *Google Earth-en eta Bizkaiko Foru Aldundiaren orto-argazkietan eskuz bilatu eta marraztu dira.*

- \* Cartografia\_Basica/BTA/EDIFICACIONES/BTA\_EDI\_EDIFICACIONES\_L\_5000\_ETRS89
- \* Cartografia\_Basica/BTA/BTA\_EDI\_OTRAS\_CONSTRUCC\_L\_5000\_ETRS89
- \* Cartografia\_Basica/Ortofotos/ORTO\_2012/HOJAS\_JPG/5000/ *[hainbat orrialde aukeratu dira]*



## **D ERANSKINA. Lehen Eszenako Paisaia Ikuspegien Mapak**

### ***APPENDIX D. Landscape Perspective Maps of the First Scene***

Hurrengo orrialdetan ageri diren mapek Bilboalderako formulatu diren 6+2 Paisaia Ikuspegietako bakoitzaren kartografia osatzen dute. Mapok tesiaren egileak egin ditu C Eranskinan azaldu den GIS datu baseak erabiliz, eta PAisaia-Ikuspegi metodoaren aplikaziotik eratortzen den lehen emaitza da. Hau da, Bilboaldeko Hiri Bazterreko Paisaia menditsuen interpretazio espekulatiboa irudikatzen dute

*The maps shown in the following pages serve as the cartography of the 6+2 Landscape Perspectives formulated for the Bilbao case study. These maps have been designed by the thesis author following the GIS data base usage procedure explained in Appendix C, and are the first result of the application of the Landscape Perspective tool. In other words, they represent the speculative interpretation of the mountainous urban fringe landscapes of Bilbao.*

**0. MENDI TRADIZIONALA**  
**0. TRADITIONAL MOUNTAIN**

Auzo bideak - Local roads

Ermitak - Chapels

Katastro rurala - Rural cadastre

% 0-10 malda-slope



Sestra kurbak - Contour lines

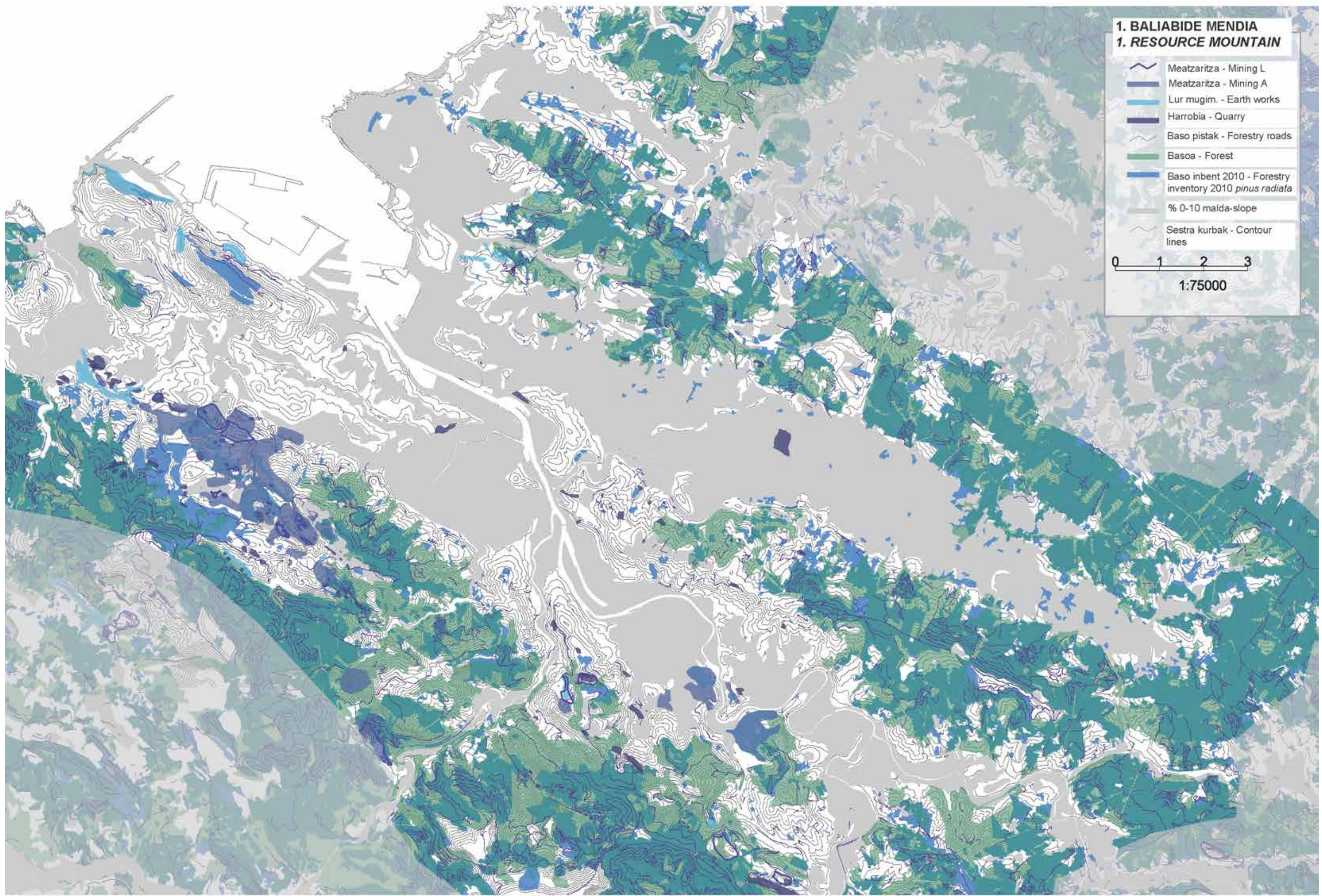
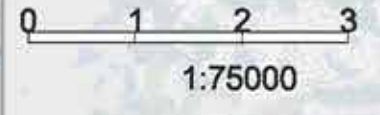
0 1 2 3

1:75000



**1. BALIABIDE MENDIA**  
**1. RESOURCE MOUNTAIN**

-  Meatzaritza - Mining L
-  Meatzaritza - Mining A
-  Lur mugim. - Earth works
-  Harrobia - Quarry
-  Baso pistak - Forestry roads
-  Basoa - Forest
-  Baso inbent 2010 - Forestry inventory 2010 *pinus radiata*
-  % 0-10 malda-slope
-  Sestra kurbak - Contour lines



**2. MENDIA OZTOPOA**  
**2. OBSTACLE MOUNTAIN**

Zerbitzu sarea - Service net

Hoditeria - Pipes

TA dorreak - HT Pylons

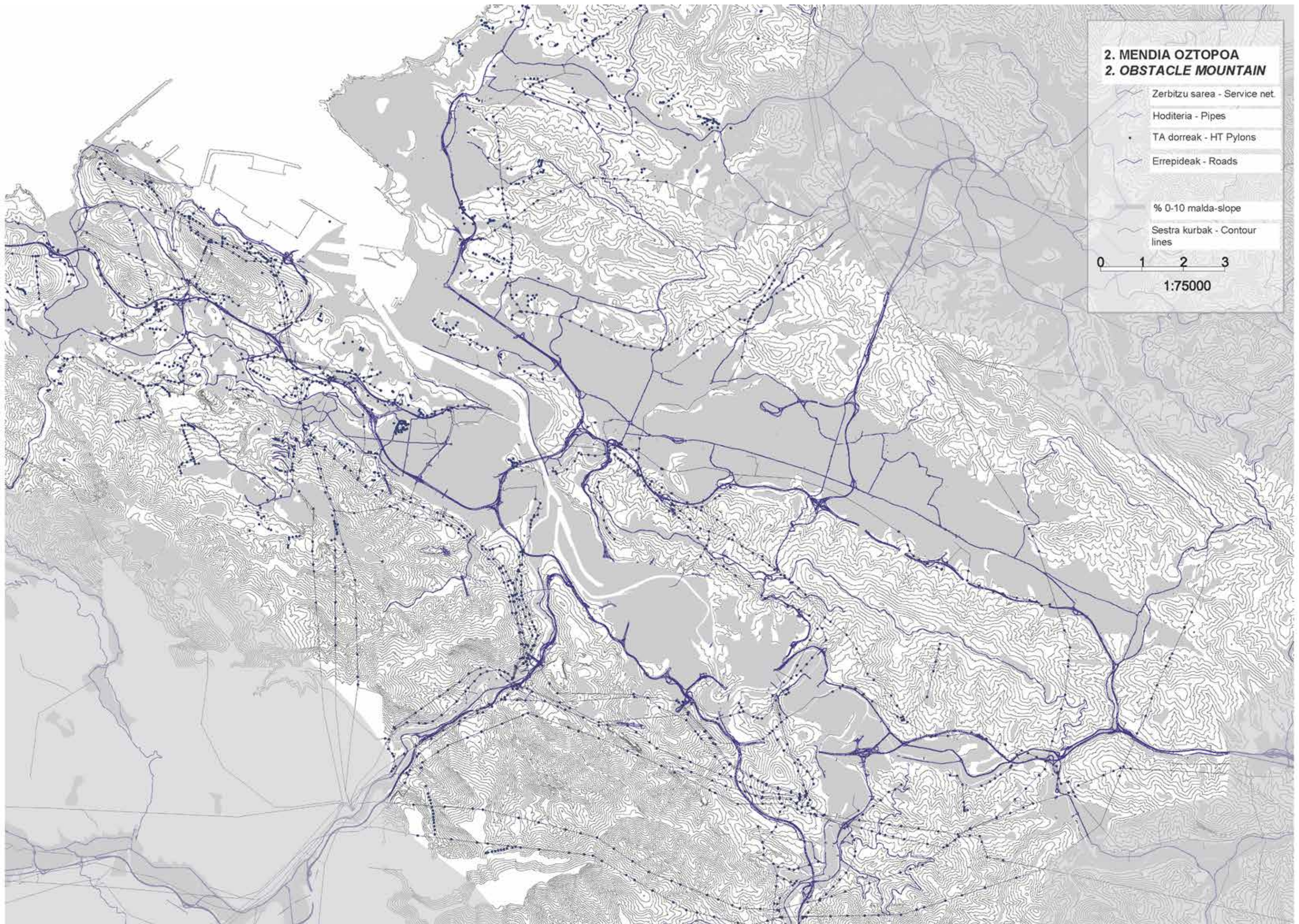
Errepideak - Roads

% 0-10 malda-slope

Sestra kurbak - Contour lines

0 1 2 3

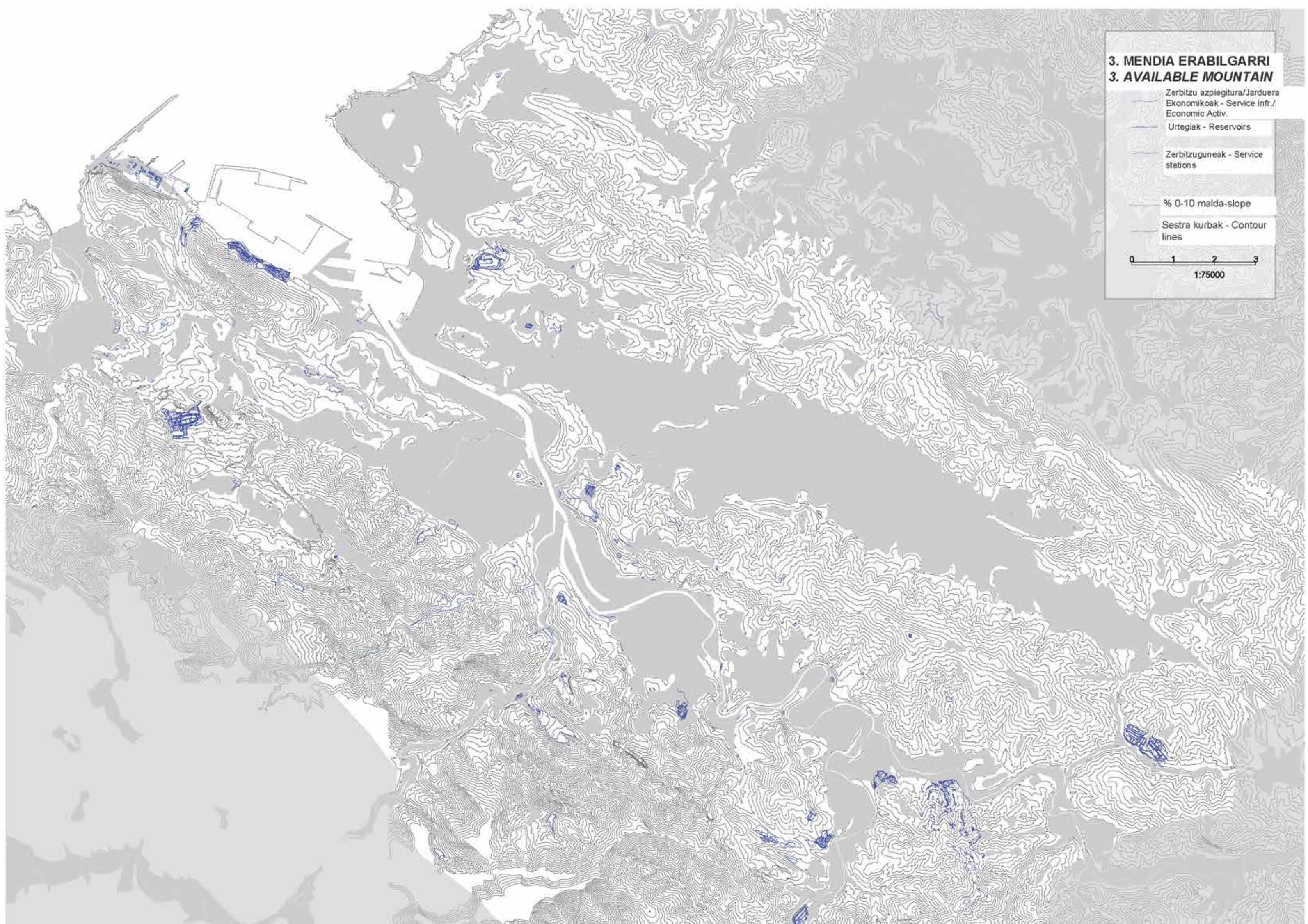
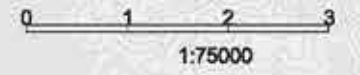
1:75000





**3. MENDIA ERABILGARRI**  
**3. AVAILABLE MOUNTAIN**

- Zerbitzu azpiegitura/Jarduera Ekonomikoak - Service infr./ Economic Activ.
- Urtegiak - Reservoirs
- Zerbitzuguneak - Service stations
- % 0-10 malda-slope
- Sestra kurbak - Contour lines



**4. MENDI BERDEA**  
**4. GREEN MOUNTAIN**

Urmaelak - Ponds

Parkeak - Parks

Lorategiak - Gardens

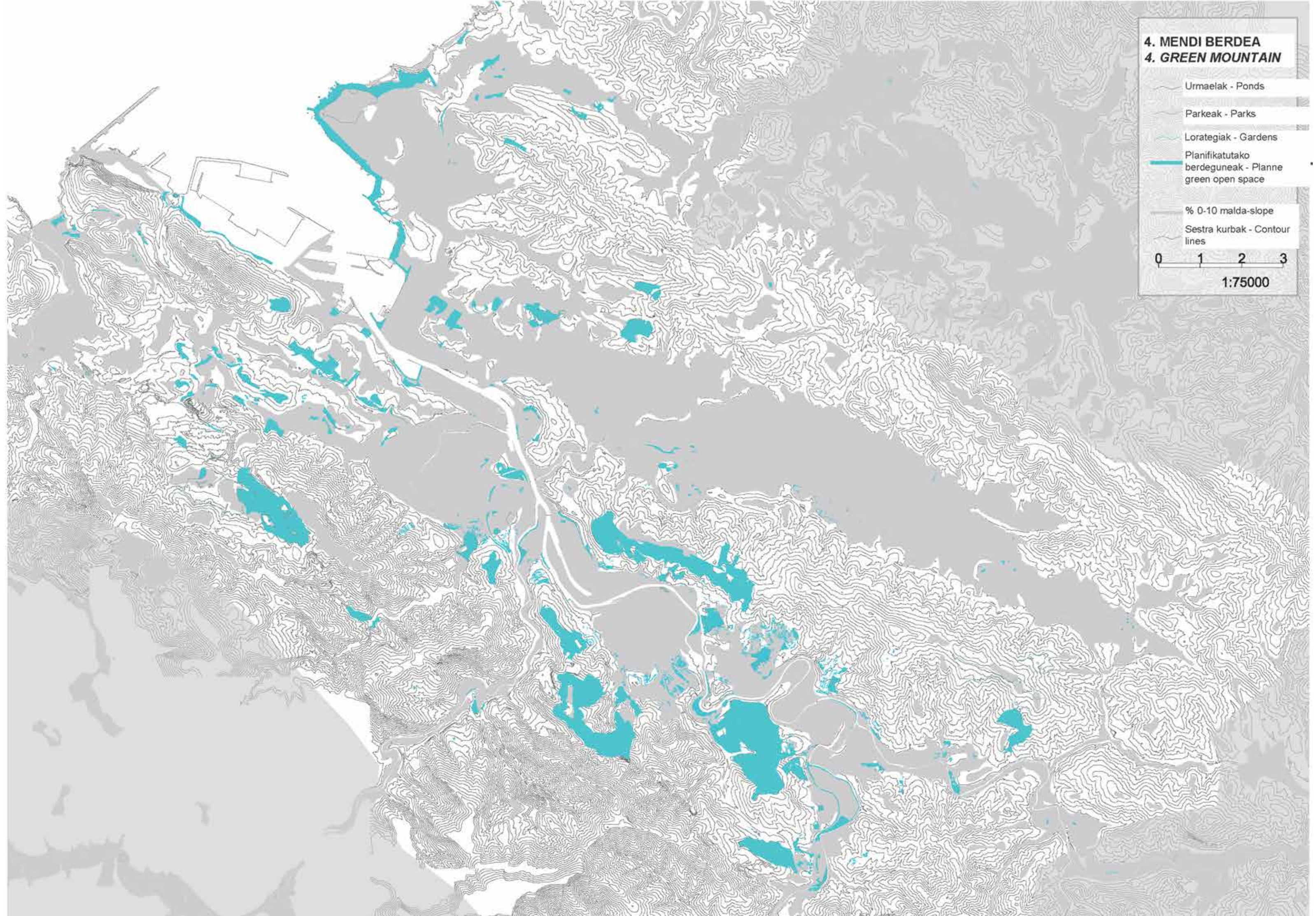
Planifikatutako berdeguneak - Planne green open space

% 0-10 malda-slope

Sestra kurbak - Contour lines

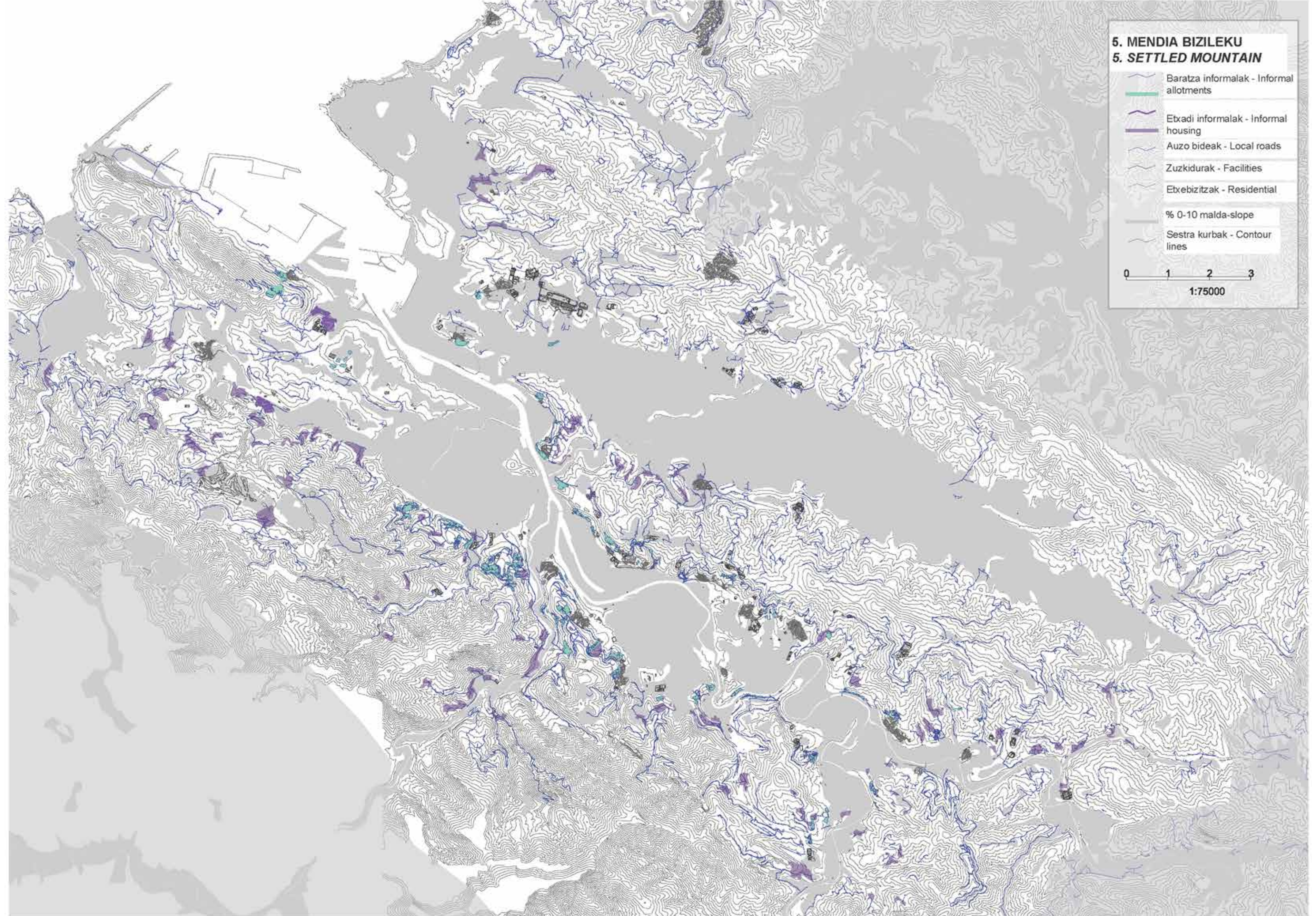
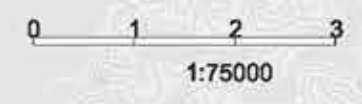
0 1 2 3

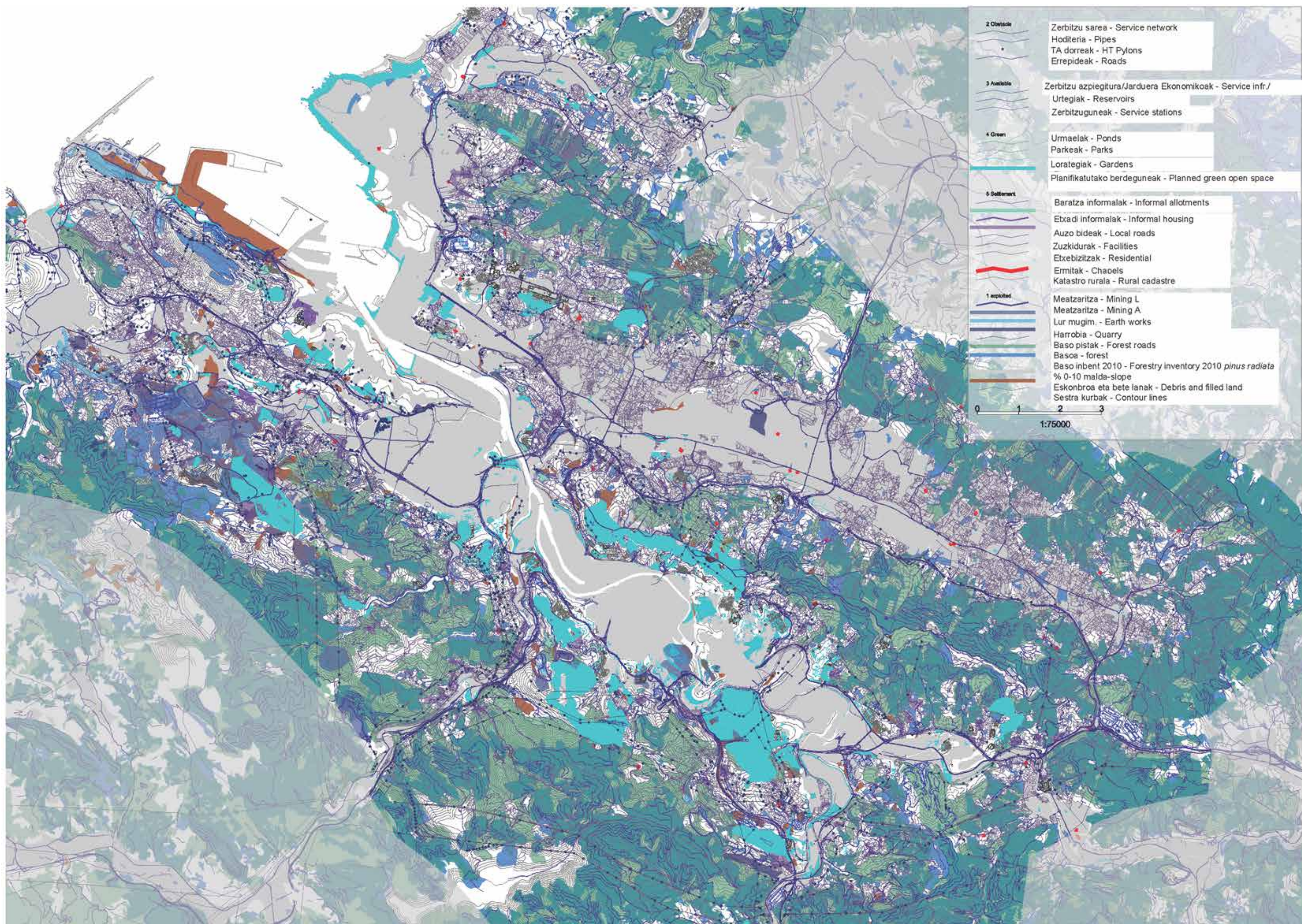
1:75000



**5. MENDIA BIZILEKU**  
**5. SETTLED MOUNTAIN**

-  Baratza informalak - Informal allotments
-  Etxadi informalak - Informal housing
-  Auzo bideak - Local roads
-  Zuzkidurak - Facilities
-  Etxebizitzak - Residential
-  % 0-10 malda-slope
-  Sestra kurbak - Contour lines





<b>2 Outside</b>	Zerbitzu sarea - Service network Hoditeria - Pipes TA dorreak - HT Pylons Errepideak - Roads
<b>3 Available</b>	Zerbitzu azpiegitura/Jarduera Ekonomikoak - Service infr./ Urtegiak - Reservoirs Zerbitzuguneak - Service stations
<b>4 Green</b>	Urmaelak - Ponds Parkeak - Parks Lorategiak - Gardens Planifikatutako berdeguneak - Planned green open space
<b>5 Settlement</b>	Baratza informalak - Informal allotments Etxadi informalak - Informal housing Auzo bideak - Local roads Zuzkidurak - Facilities Etxebizitzak - Residential Ermitak - Chapels Katastro rurala - Rural cadastre
<b>1 exploited</b>	Meatzaritza - Mining L Meatzaritza - Mining A Lur mugim. - Earth works Harrobia - Quarry Baso pistak - Forest roads Basoa - forest Baso inbent 2010 - Forestry inventory 2010 <i>pinus radiata</i> % 0-10 malda-slope Eskonbroa eta bete lanak - Debris and filled land Sestra kurbak - Contour lines

0 1 2 3  
1:75000



## E ERANSKINA. Analizatutako Paisaia Elementuak

### APPENDIX E. Analysed landscape elements

URTEA Year	ELEMENTUA Element	KODEA Code
<b>0. MENDI TRADIZIONALA-Traditional Mountain</b>		
--	Saroiak eta Kortak <i>Circular fold and pens structures</i>	MT-TM.2
--	Nekazaritza eta Abeltzaintza <i>Documents on Herding and Agriculture</i>	MT-TM.2,5,6,8,9,10
--	Ermitak <i>Chapels</i>	MT-TM.4
--	Basogintza <i>Forestry laws and mountain ownership</i>	MT-TM.5
--	Bidesarea <i>Road network</i>	MT-TM.6,8,9
--	Jarduera aurreindustrialak <i>Protoindustrial activity: mining, foundries</i>	MT-TM.6,7,8,9
--	Baserria eta bere ingurua <i>Farmhouse landscape</i>	MT-TM.10
<b>1.1 Mendia Meatzaritza Baliabidea- Mining Resource Mountain</b>		
1892	“Vigilante” meatzeko aireko tranbia <i>Air tramway of the “Vigilante” mine</i>	MMB-MRM.4
1945-	“Concha 2.a” meatzeta, Abanto-Zierbena <i>“Concha 2nd” mine, Abanto-Zierbena</i>	MMB-MRM.7,8,9
1946	“Barga” meatzeko plano inklinatua <i>Inclined place of the “Barga” mine</i>	MMB-MRM.10
1943	“Concha 7.-eko” plano inklinatua <i>Inclined plane of the “Concha 7th” mine</i>	MMB-MRM.11
1961	Orconera meatzekak Arboledan, Trapagaran <i>Orconera mines of Arboleda, Trapagaran</i>	MMB-MRM.12
?	Meatzaldeko hainbat meatzeta demarkazio <i>several mine demarcation maps</i>	MMB-MRM.5,6,12,13,16
?	Concha 2.etik Cadegal-erainoko aireko tranbia <i>Air tramway from Concha 2nd mine to Cadegal</i>	MMB-MRM.15
<b>1.2 Mendia Basogintza Baliabidea-Forestry Resource Mountain</b>		
1915	Bilboko udaletxearen Arraiz mendiko sail bat <i>Property on Arraiz hill owned by Bilbao municipality</i>	MBB-FRM.2
1915	Bilboko udaletxearen Arnotegi mendiko sail bat <i>property on Arnotegi hill owned by Bilbao municipality</i>	MBB-FRM.3
--	Bizkaiko eta EAeko baso sailak <i>Characteristics of forest properties</i>	MBB-FRM.6,9,12
<b>2. Mendi Oztopoa-Obstacle Mountain</b>		
1909- 2011	Bizkaiko errepide sarea <i>Biscay road network</i>	MO-OM.1-7,14,15

1957	Primitiba harrobirainoko errepeidea-Cementos Lemona, Bilbo <i>Road built to reach Primitiva quarry-built by Cementos Lemona company</i>	MO-OM.7
1960	Telesirga Pagasarriaino <i>Chairlift to Pagasari</i>	MO-OM.8
1961	Artxandako tunela eta Rontegiko zubia; Asua bailararen lotura aukerak <i>tunnel through Artxanda and Rontegi bridge; accessibility opportunities for the Asua valley</i>	MO-OM.9
1961	Zadorratik Sestaoko La Iberia lantegira (AHV) ura ekartzeko ubidea <i>project to transport water from Zadorra river</i>	MO-OM.10
1967-1976	A8 autobidea <i>A8 highway</i>	MO-OM.12
1985-2000	Bizkaiko Foru Aldundiaren errepeide lanak <i>Provincial Government roadworks</i>	MO-OM.14
2005-2011	Metropoliko Hegoladeko Saihesbidea <i>Southern Metropolitan ring road</i>	MO-OM.15
<b>3. Mendia Erabilgarri-Available Mountain</b>		
1860-95	Sociedad Anónima Española de la Pólvora Dinámica -Privilegio de A.Nobel- (SED)- Santa Marina mendian, Galdakao	ME-AM.1.a
1878	<i>Explosives factory in Ganguren mountain</i> <i>Explosives factory in Galdakao</i>	ME-AM.1.b
1945-57	Dos Caminos azpi-estazioa (Iberduero), Finaga-Basauri <i>Dos Caminos electrical substation, Basauri</i>	ME-AM.2
1961	Artiba urtegia, Barakaldo <i>Artiba reservoir, Barakaldo</i>	ME-AM.3
1986	El Campillo industrialdea, Abanto-Zierbena <i>El Campillo industrial park, Abanto-Zierbena</i>	ME-AM.4
1996	ARTEA saltokia, Leioa <i>ARTEA shopping mall, Leioa</i>	ME-AM.5
1999-2002	Argalarioko hondakin toxikoen biltegia, Barakaldo <i>Argalario toxic waste "safety vault", Barakaldo</i>	ME-AM.6
--	Bilboko Ur Partzuergoaren sarea <i>Water consortium network</i>	ME-AM.7
	Artigaseko zabortegia eta Zabalgardi errauskailua, Bilbo <i>Artigas landfill and Incinerator in Arraiz mountain</i>	ME-AM.8
<b>4. Mendi Berdea- Green Mountain</b>		
1913-15	Artxandako funikularra eta parkea, Bilbo-Sondika <i>Funicular and park of Artxanda, Bilbao</i>	MBE-GM.1
--	Trianoko mendiak <i>Triano mountains</i>	MBE-GM.3
--	Ganekogorta mendi-multzoa <i>Ganekogorta mountain</i>	MBE-GM.3
2006	Bilboaldeko sare berdearen proposamena <i>metropolitan green network proposal</i>	MBE-GM.4

2008	Pagasarri mendiko parkea, Bilbo <i>Pagasarri park plan, Bilbao</i>	MBE-GM.5
2011	Eraztun Berdea, Bilbo <i>Green Ring, Bilbao</i>	MBE-GM.6
2011	Bilboaldeko Gerriko berdea <i>Metropolitan green belt</i>	MBE-GM.7
<b>5.1 Mendia Bizileku Formala-Formally Settled Mountain</b>		
1923	Ciudad Jardin-Loruri, Bilbo <i>Garden City development, Bilbao</i>	MBIF-FSM.1
1925	Buena Vista, Deustua-Bilbo <i>Buena Vista development, Deusto-Bilbao</i>	MBIF-FSM.2
1922-26	Artxandako aire zabaleko eskola, Bilbo (eraikigabe) <i>Open air house design, Bilbao</i>	MBIF-FSM.3
1959-	Altamira etxetaldea, Bilbo <i>Altamira residential neighborhood, Bilbao</i>	MBIF-FSM.4
1959	Eskola Alemaniarrak, Bilbo <i>German school, Bilbao</i>	MBIF-FSM.5
1966	Monte Aldamiz etxetaldea, Uribarri-Bilbo <i>Monte Aldamiz neighborhood, Uribarri-Bilbo</i>	MBIF-FSM.6
1973	Askartza ikastetxea, Leioa <i>Askartza school, Leioa</i>	MBIF-FSM.7
1975	Grupo Mirador etxetaldea, Bilbo <i>Grupo Mirador residential development, Bilbo</i>	MBIF-FSM.8
<b>5.2 Mendia Bizileku Informala-Informally Settled Mountain</b>		
1960-71	Uretamendirako etxebizitza berriak <i>Housing project for Uretamendi</i>	MBII-ISM.1
1950-60?	Uretamendiko txabolak <i>Uretamendi shacks</i>	MBII-ISM.2
1950-61	Cabras mendiko txabolak <i>Shacks in Cabras mountain</i>	MBII-ISM.3
--	Aisialdiko baratz alegalak <i>Recreational allotments</i>	MBII-ISM.5
1950-	Masustegi, Bilbo <i>Masustegi neighbourhood</i>	MBII-ISM.6
--	Ordenaziotik kanpoko eraikinak, Abanto-Zierbena <i>out of management buildings, Abanto-Zierbena</i>	MBII-ISM.7
--	Ordenaziotik kanpoko eraikinak, ORtuella <i>out of management buildings, Ortuella</i>	MBII-ISM.8
-	Ordenaziotik kanpoko eraikinak, Trapagaran <i>out of management buildings, Trapagaran</i>	MBII-ISM.9





## F ERANSKINA. Aztertutako Agiriak

### APPENDIX F. Analysed Documents <sup>1</sup>

IZENA/EDUKIA		KODEA/		
Name/Content		Code		
<b>MBB/ FRM</b>				
1930- 1940	<i>Informe de mejora, aprovechamiento y repoblación de la zona de monte, foresta y pastos de Vizcaya y lista de los viveros forestales de la Diputación.</i>	AJ02278/014	BFAH	MBB.1/FRM.1
1915-16	<i>Expediente tramitado por el Ayuntamiento de Bilbao para la ejecución de labores de repoblación forestal del monte Arraiz</i>	BILBAO TERCERA 0386/027	BFAH	MBB.3/FRM.3
1916-16	<i>Expediente tramitado por el Ayuntamiento de Bilbao para la ejecución de labores de repoblación forestal del monte Arnotegui</i>	BILBAO TERCERA 0386/025	BFAH	MBB.4/FRM.4
<b>MMB/ MRM</b>				
hainbat data	<i>Expediente referido a cubicaciones de mineral en el Barranco de Granada. Contiene, entre otros, anotaciones manuscritas sobre cubicaciones, de 1924; cubicación total del Barranco en 1914, por Orconera Iron Ore...</i>	AGRUMINSA 0150/001	BFAH	MMB.10/MRM.1
	<i>Ciento treinta y dos planos de la sociedad Franco Belga de Minas de Somorrostro referidos, fundamentalmente, a componentes e instalaciones relativas a la explotación del criadero Concha Segunda...</i>	AGRUMINSA 0355/001 / SUBFONDO Franco Belga de Minas de Somorrostro	BFAH	MMB.5,.7,.8,.9/ MRM.5,.7,.8,.9
	1939 año de la victoria: Proyecto de tranvía aéreo de las minas "sol" y "vigilante"	SOLANO 11/02	EHMM	MMB.4/MRM.4
	<i>Planos de Concesiones mineras varios emplazamientos</i>	solano 11/03	EHMM	MMB.13/MRM.13
	<i>Tranvía ereo de mina "Vigilante"</i>	solano 11/01	EHMM	MMB.4/MRM.4
	<i>Minas conchas 1969</i>	AGRUMINSA 28/02	EHMM	
	<i>Planor General de minas de Vizcaya 1/20,000</i>	AGRUMINSA 28/03	EHMM	MMB.16/MRM.16

<sup>1</sup> Paisaia Elementu guztiak landa lanean zehar identifikatu dira besterik esan ezean.  
All landscape elements have been identified during the field work observation unless otherwise noted.

	<i>Plano topográfico Orconera 1/5000</i>	AGRUMINSA 28/04	EHMM	MMB.12/MRM.12
	<i>Proyecto de tranvía aéreo</i>	ACMMG-11	EHMM	MMB.15/MRM.15
<b>MO/OM</b>				
1961	<i>Plano de sección y detalle del túnel de "Archada", escala uno : diez mil y cincuenta. Plano del perfil longitudinal y de la planta del Puente de "Rontegui", escala uno : mil y dos mil.</i>	AR03949/001	BFAH	MO.9 /OM-9
1958	<i>Informe y planos del proyecto de abastecimiento de agua a la fábrica de Sestao de Altos Hornos de Vizcaya, en relación con las posibilidades que presenta el agua de los embalses del Zadorra, de 1958.</i>	AHV 1148/006	BFAH	MO.10/OM.10
<b>ME</b>				
1957	<i>Subestación en basauri Finaga</i>	AR03911/047	BFAH	ME.2 a /AM.2 a
	<i>Subestación Finaga</i>		BsUA	ME.2 b /AM.2 b
	<i>Pantano Artiba</i>		BaUA	ME.3 /AM.3
	<i>PLAN PARCIAL Polígono El Campillo</i>		AZUA	ME.4 / AM.4
1996	<i>Artea. Cetntro comercial y proyecto de urbanización.</i>		LUA	ME.5 / AM.5
<b>Mbe</b>				
	<i>Planos de emplazamiento a escala uno: dos mil de proyecto de instalación de las vías del funicular de Archanda; de plantas y alzados a escala uno: cien de la estación del funicular en Archanda; y de plantas y alzados a escala uno: doscientos del merendero. Trazados por el arquitecto Pedro Guimón en 1913.</i>	BEGOÑA 0233/032	BFAH	MBe.1/GM.1
<b>MBiF</b>				
1923	<i>la construcción del barrio de casas baratas Ciudad Jardín. A escala uno : dos mil de emplazamiento. Sin fecha y sin firma. A escala uno : quinientos de emplamiento de las casas firmado por Pedro Ispizua.. A escala uno : quinientos parcelario. Firmado por los arquitectos Emiliano de Amann y Pedro Ispizua en mayo de 1923.</i>	BEGOÑA 0434/012	BFAH	MBiF.1/FSM.1
1925/29	<i>Cooperativa de Casas Baratas Buena Vista,</i>	BILBAO FOMENTO 0049/374	BFAH	MBiF.2/FSM.2

	Expediente tramitado por el Ayuntamiento de Bilbao en virtud de moción presentada por el capitular Lamberto Benito del Valle, proponiendo la construcción de un grupo escolar al aire libre	BILBAO UNDECIMA 0043/048	BFAH	
1959	<i>EMILIANO AMANN POR EL COLEGIO ALEMANS ; PROYECTO DE CONSTRUCCION EN E CAMINO DE GARAIZAR. 1959</i>	C-001704/006; AMB-BUA AYTO 59-5- 188	BUA	MBiF.5/FSM.5
1966	<i>Viviendas uribarri 1966_Monte Aldamiz:</i>	C-002019/003; AMB-BUA AYTO 58-5- 299	BUA	MBiF.6/FSM.6
	<i>Viviendas Grupo Mirador.</i>	C-004836/002; AMB-BUA AYTO 6D-255- 8276	BUA	MBiF.8/FSM.8
	<i>Viviendas de Altamira.</i>	C-002501/001; AMB-BUA AYTO 59-5- 180	BUA	MBiF.4/FSM.4
	Colegio Askartza Claret		LUA	MBiF.7/FSM.7
<b>MBil</b>				
	<i>URETAMENDIKO ETXE BERRIAK</i>	C-002703/001; AMB-BUA AYTO 60-5- 116	BUA	MBiL.1/ISM.1
	<i>URETAMENDIKO ETXE BERRIAK</i>	C-002702/003; AMB-BUA AYTO 60-5- 198	BUA	MBiL.1/ISM.1

AZUA: Abanto Zierbenako Udal Agiritegia [Municipal Archive of Abanto Zierbena]

BUA: Bilboko Udal Agiritegia [Municipal Archive of Bilbao]

BaUA: Barakaldoko Udal Agiritegia [Municipal Archive of Barakaldo]

BFAH: Bizkaiko Foru Aldundiaren Agiritegi Historikoa [Historical Archive of Biscay's Provincial Government]

BsUA: Basauriko Udal Agiritegia [Municipal Archive of Basauri]

EHMM: Euskal Herriko Meatzaritza Museoa [Basque Country's Mining Museum]

LUA: Leioako Udal Agiritegia [Municipal Archive of Leioa]

## 0. MENDI TRADIZIONALA- TRADITIONAL MOUNTAIN<sup>2</sup>

### MT.1- Argazki eta Postale bildumak

TM.1- Set of photographs and postcards

**MT1.a-TM.1.a-** Joseba Egiraun & Javier del Vigo (2001), *Rekaldeberri en imágenes*, Bizkaiko Gaiak bilduma, Bilbao Bizkaia Kutxa. [A book with BW pictures of Rekaldeberri neighbourhood in Bilbao]

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Bilbao public library (BPL) data-base search: Bilbo argazki zaharrak [old photos Bilbao]



<sup>2</sup> Mendi Tradizionalaren barneko element tipok ezagunak dira ikerlariarentzat Euskal Herri Atlantikoko paisaia kulturalaren parte diren elementu esanguratsu gisa. Kokaleku zehatzak landa lanean edo artxibo lanean ezagutu dira.

*All landscape element types in the Traditional Mountain are known to the researcher as part of the common knowledge of characterizing elements of the Basque cultural landscape of the Atlantic Watershed. Specific locations in the case study have been observed either during the field work or through documents.*

**MT1.b-TM.1.b-** Luis Amann & Román Alonso (1990), *Bilbo eta bere itsasadarreko herriak postatxartelan = Bilbao y los pueblos de su ría en la tarjeta postal.*

[A book with turn of the century postcards of Bilbao and the towns along the estuary]

*Agiria aukeratzeko irizpidea*-Document Selection criteria: BPL data-base  
 search: Bilbo postatxartel zaharrak [old postcards Bilbao]



Devasta baxa askaldagi honetarako inguru egokia zen. Hemen, leku haierako ezertanama txakolnuk botatako larran alietekin nahatzen zen. Txakolina, azukre gutxi, harri nahikoa, zapora luti samarra eta alkoholdu indar txikia dituen ardo arin bat da. Buztatzeko bada, orre azuko txan devaste eta Burdeseko ardurak hoberekin erka daitoke

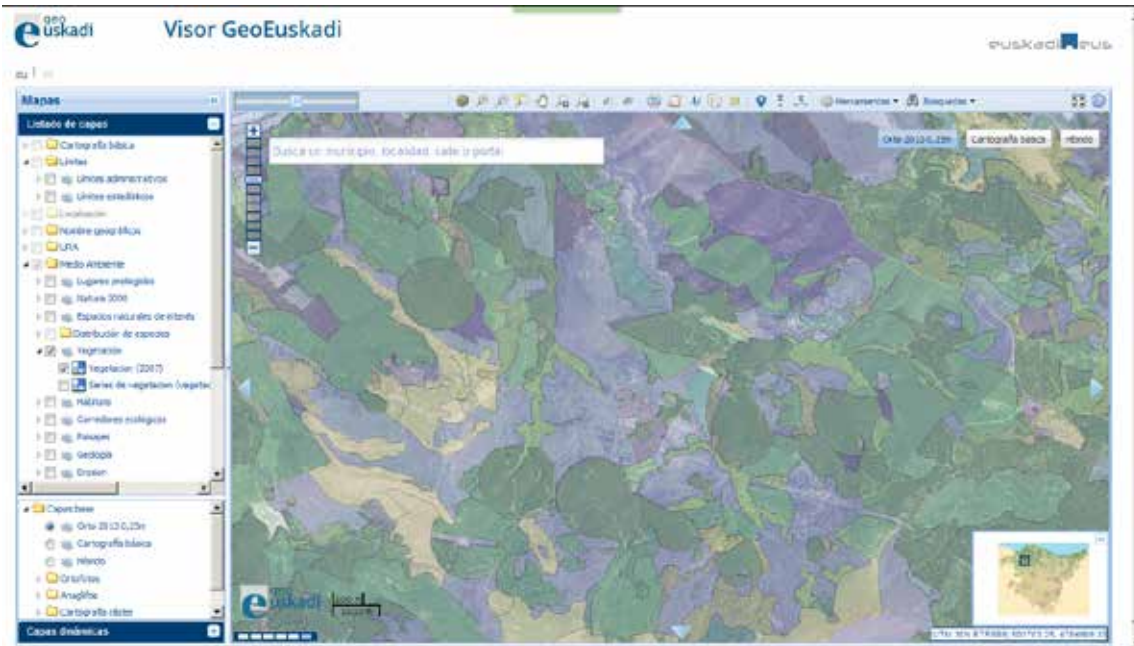
**MT.2-TM.2-** Luis Mari Zaldúa (2006), *Saroiak eta Kortak. Mendialdeko antzinako gizartearen oinordeak.*

[a research book on the ancient circular folds and pens of the basque mountains]

*Elementua aukeratzeko irizpidea-Landscape element selection:* the existence of such forms are known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data search: Saroiak Alonsotegi [folds Alonsotegi]

[www.euskomedia.org/PDFAnlt/mono/saroiak/saroiak001218.pdf](http://www.euskomedia.org/PDFAnlt/mono/saroiak/saroiak001218.pdf)



Irudia-Image: Several folds or *saroiak* can be identified in the mountains of Alonsotegi and Bilbao in the 2007 vegetation inventory of the geo-data base of the Basque Government. Accessible at <http://www.geo.euskadi.net>

**MT.3- Mendiko lexikoa:****TM.3- Mountain vocabulary:**

Joan Mogel (1881), *Peru Abarka*.

[one of the first novels written in basque language based on a conversation between a peasant and a city dweller, where the former teaches the latter knowledge from the rural world]

Txomin Agirre (1907-1912), *Garoa*.

[a novel also written in basque language that claims the proper Christian and basque rural against the Spanish urban society]

*Agiria aukeratzeko irizpidea*-Document Selection criteria: Document is known to the researcher.



Irudia-Image: Cover of *Peru Abarka* novel.

Irudia-Image: Cover of *Garoa* novel.

Carmen Isasi Martinez eta beste (2005), Léxico vizcaíno (siglos XIV.XVI), Oihenart, **20**, 2005, 73-201 or.

[a research paper noting the vocabulary in late medieval Biscayne texts]

*Agiria aukeratzeko irizpidea*-Document Selection criteria: Internet data-base search

[www.euskomedia.org/PDFAnlt/literatura/20/20073201.pdf](http://www.euskomedia.org/PDFAnlt/literatura/20/20073201.pdf)

**MT.4-TM.4-** Gurutzi Arregi (1990), Las Ermitas de Bizkaia. Ensayo de Tipología, Munibe (Antropología eta Arkeologia), **42**, 473-477.

[a research paper on a tentative tipologization of chapels in Biscay]

*Agiria aukeratzeko irizpidea*-Document Selection criteria: Internet data-base search: ermitas Bizkaia tipos [chapels Biscay types]

[www.aranzadi-zientziak.org/fileadmin/docs/Munibe/1990473477AA.pdf](http://www.aranzadi-zientziak.org/fileadmin/docs/Munibe/1990473477AA.pdf)

**MT.5-TM.5-** Arantza Gogeochea (1996), Montes y usos forestales



en los fueros vizcainos, Vasconia. **24**, 1996, 101-114.

[a historiographic research paper on the administration of mountains and forestry land uses in the Biscayan laws or *fueros* since medieval times until 1872]

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Internet data-base search: bizkaia paisaje monte usos [Biscay landscape mountain land-use]

[www.euskomedia.org/PDFAnlt/vasconia/vas24/24101114.pdf](http://www.euskomedia.org/PDFAnlt/vasconia/vas24/24101114.pdf)

### MT.6-- Euskal etnografia eta paisaia kulturala:

#### TM.6- Basque ethnographical and cultural landscape studies:

Julio Caro Baroja (1998), *Ser o no ser Vasco*, Espasa:

[extracts from books by Julio Caro Baroja, a prominent historian, anthropologist, and folclorist]

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Document known to the researcher

3.Almadieros, Pastores, Leñadores y Carboneros [extraido de *Los Vascos* (1949) 2ºed. ( Madrid Minotauro,1958), cap XI.]

1-La tradición técnica del pueblo vasco o una interpretación de su historia [extracto de *Vasconiana (De historia y Etnología)* (Madrid: Minotauro, 1957),pp103-177]

2. La crisis del caserío [de *Cuadernos Residenciak* (Valencia, 1964), pp3-7]

Joan Mogel (1881), *Peru Abarka*.

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Document known to the researcher

Etniker Euskalerrria, Eusko Jaurlaritzza-Gobierno Vasco, Gobierno de Navarra, (2000).

*ATLAS etnográfico de Vasconia = Euskalerrriko atlas etnografikoa = Atlas ethnographique du Pays Basque. Ganadería y pastoreo en Vasconia.* vol. 11, Bilbao.

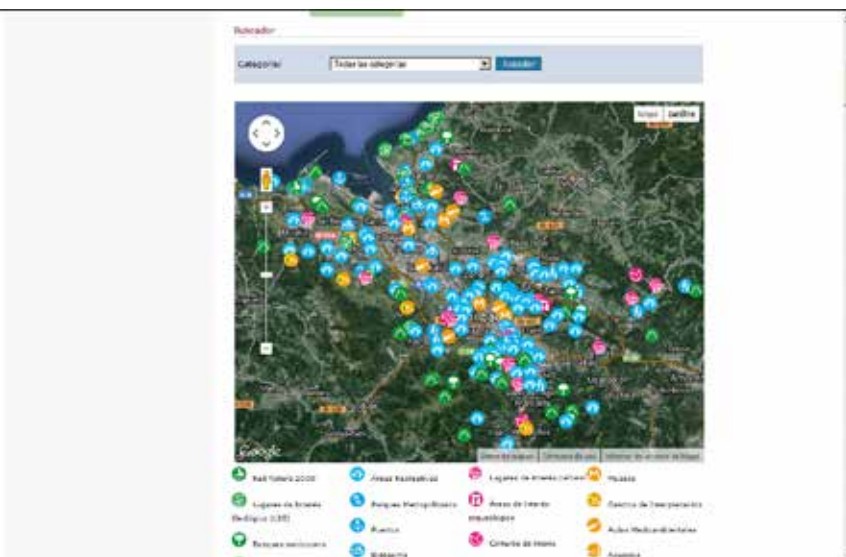
[Ethnographic Atlas of the Basque Country, volume dedicated to livestock and shepherding]

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Regional Library of Bizkaia (RLB) data-base search:artzaintza abeltzaintza mendia euskal herria [shepherding grazing mountain basque country]

Bizkaiko Foru Aldundia (2011), *Cinturón Verde Metropolitano=Bilboaldeko Ingurune Berdea*.

[a description of the fauna, flora, geology, heritage and cultural elements, open space that is presented as the Green Belt of Metropolitan Bilbao]

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Document known to the researcher

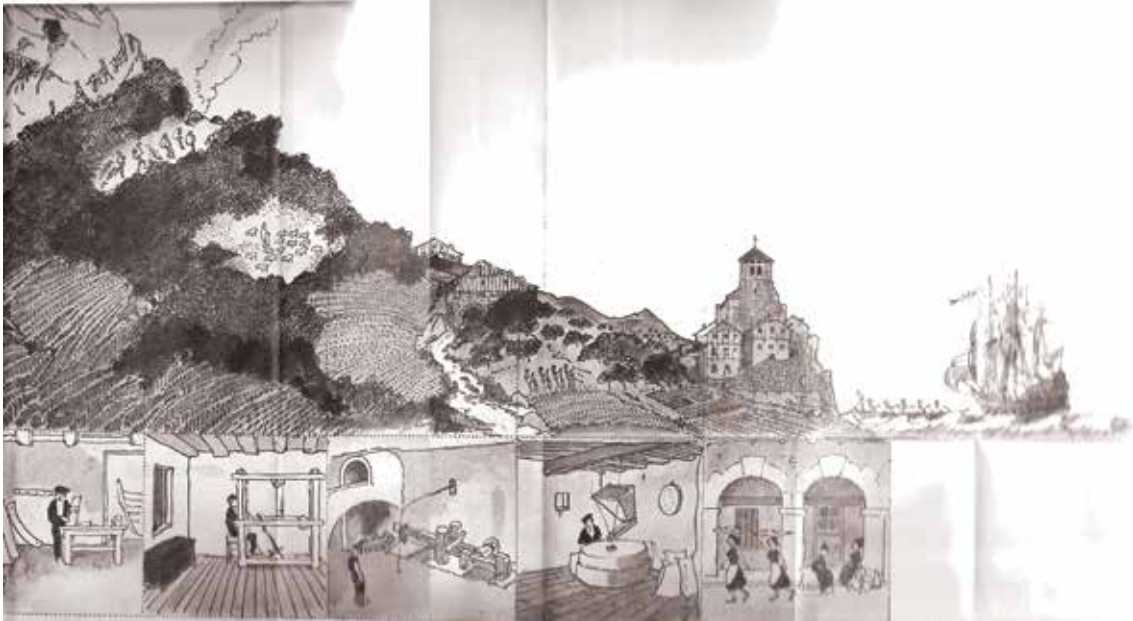


Irudia-Image: Screenshot of the Bilbao Metropolitan Green Belt information application

**MT.7-TM.7-** Julio Caro Baroja (1957), *La Tradición Técnica del Pueblo Vasco, o una Interpretación Ecológica de su Historia*, in *Vasconiana*, 103-177.

[a drawing by Julio Caro Baroja depicting the traditional land uses and economic activities determined by topography and geography in the Atlantic watershed of the Basque country inspired by the Valley Section by Patrick Geddes]

*Agiria aukeratzeko irizpidea*-Document Selection criteria: Document known to the researcher



Irudia-Image: Drawing inspired on the Geddes Valley Section adapted to the Basque Atlantic watershed geography and culture.

**MT.8-** Bizkaiko Foru Aldundiak argitaratutako Bilboaldeko udalerrien bilakaera aztertzen duen liburu bilduma

**TM.8-** *A series of books published by the Provincial Government of Biscay on the geographical, economic and historic evolution and description of the towns in the Province, of which the following books on municipalities within metropolitan Bilbao have been analysed:*

*Agiria aukeratzeko irizpidea*-Document Selection criteria: Regional Library of Bizkaia (RLB) data-base search: shelf access section on Bilbao and Biscay.

Barturen, J. & Bizkaia, (1993). *Larrabetzu: historia eta arte ondarea*

Bilbao, A., (1997). *Derio, Zamudio y Lezama: estudio histórico-artístico*

Torrubia Elias, N. (2004). *Loiu y Sondika: estudio histórico-artístico*

Iturbe Mach, A. (1993). *Historia de Erandio*

Ibañez, M. (1994). *Barakaldo elizatearen monografía historiko-artistikoa*

Pérez Goikoetxea, E. (1995) *Valle de Trápaga y Ortuella: estudio histórico-artístico*

**MT.9-TM.9-** Bilbao, (2007). *Bilbao y sus barrios: una mirada desde la historia*, Bilbao: Ayuntamiento de Bilbao, Área de Cultura y Euskera.

[a series of volumes that include historiography descriptions of the neighborhoods in

## Bilbao]

*Agiria ankeratzeko irizpidea*-Document Selection criteria: BPL data-base search: Bilbo historia [Bilbao history].

“Los ensanches de Begoña: Santutxu y Txurdinaga. Siglos XIX-XXI” Eduardo J Olea.

“Txurdinaga: ejemplo de lo que pudo ser Bilbao. Siglos XVIII-XXI” Eduardo J Olea “

“La Peña en la memoria histórica del Bilbao Contemporáneo” Susana Serrano Abad.

“Apuntes sobre la historia de Zorroza” Iñaki Pereda García 167-205.

“El barrio de Arangoiti y la Asociación de Vecinos en la transición democrática” Francisco Javier Urritia, Jose Antonio Pérez, pp207-239

“Uretamendi-Betolaza: del suburbio a la ciudad” Joseba Egiraun, p279

“El Peñascal, con nombres propios:un barrio al sur, sobre un barranco” Javier del Vigo.

“El nuevo Bilbao Vertical. Matiko, Uribarri y la sociedad Vasca desde el tardofranquismo” Raúl López Romo

“El barrio de Zabala” Arantza Pareja Alonso.

“San Adrián, del monte a la ciudad” Susana Serrano Abad.

**MT.10-TM.10-** Miren Askasibar (1999), *Baserría eta Bere Ingurua = El Caserío y Paisaje Rural*, Bizkaiko Foru Aldundia.

[a handbook that describes the elements of the basque farmhouse landscape, their ecological and landscape functions, and the a series of guidelines to protect and maintain them]

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Regional Library of Bizkaia (RLB) data-base search: baserría paisaia [farmhouse landscape]



Irudia-Image: Cover of the document.

## 1.1. MENDIA MEATZ MEATZARITZA BALIABIDEA- MINING RESOURCE MOUNTAIN

**MMB.1-MRM.1-** Bosquejo geológico y topográfico de la zona minera mas importante de la provincia de vizcaya (1878)

[Geological and topographical sketch of the most important mining area of the Province of Biscay]

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data-base search: planos antiguos minería Bilbao Bizkaia [old mining maps Bilbao Bizkaia]

<http://www.mtblog.com/2011/03/ign-cartografia-historica-de-espana.html>



Irudia-Image: Map showing the geological and geomorphologic features of Biscay where the Nervion-Ibaizabal estuary can be distinguished as well as the most significant mining areas of the province.

**MMB.2-MRM.2-** Apuntes geológicos acerca del criadero de hierro de Somorrostro en la provincia de Vizcaya (1891)

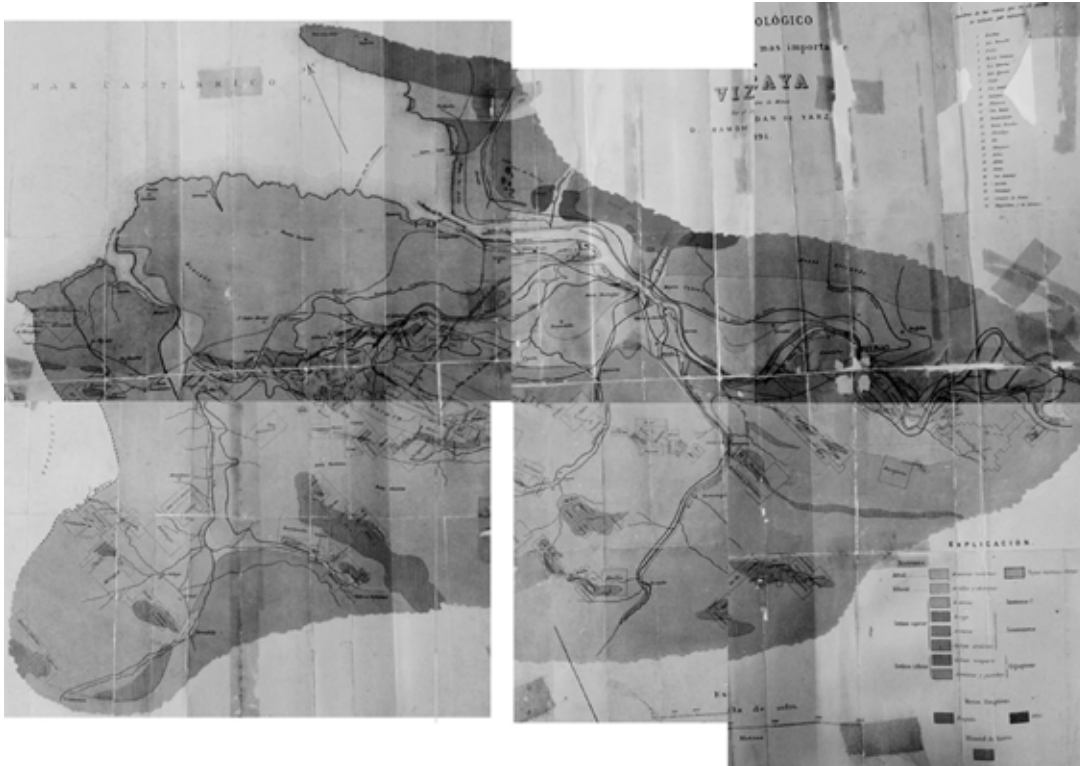
[Geological notes on the Somorrostro iron mines in the province of Biscay]

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Regional Library of Bizkaia (RLB) data-base search: Bizkaia meatzaritza [Bizkaia mining]

**MMB.3-MRM.3-** Descripción Física y Geológica de la Provincia de Vizcaya (1892)

[Physical and Geological description of the Province of Biscay]

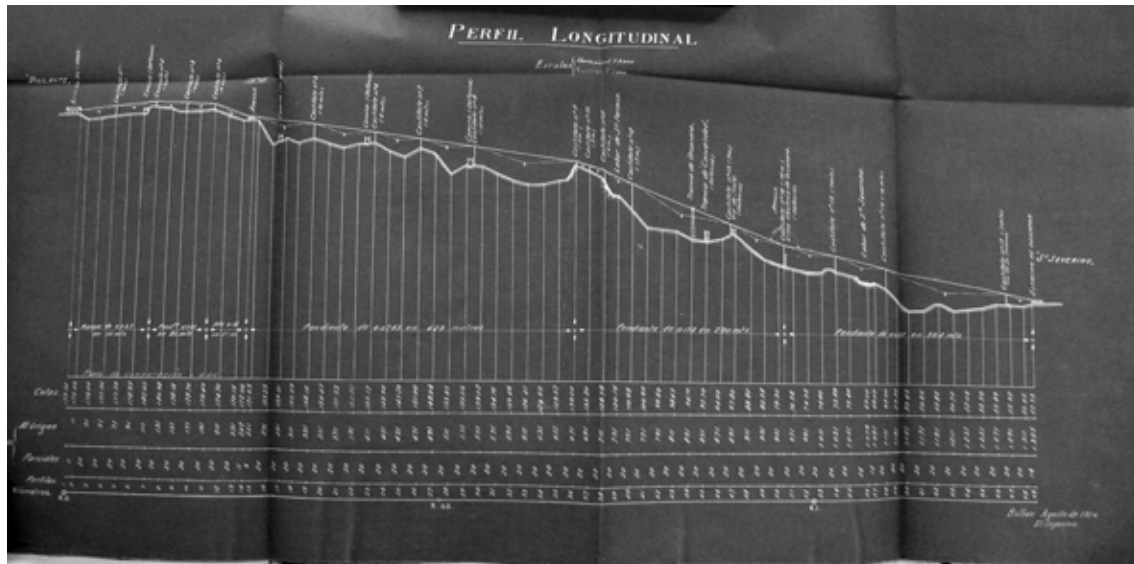
*Agiria aukeratzeko irizpidea*-Document Selection criteria: RLB data-base search: Bizkaia meatzaritza [Bizkaia mining]



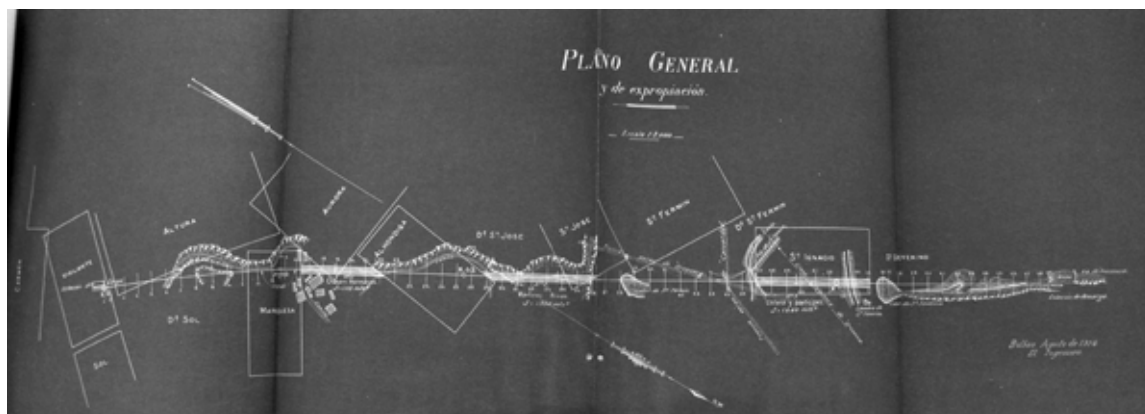
Irudia-Image: Map showing the geologic features of Biscay and the mining areas near Bilbao.

#### MMB.4-MRM.4- Design of the air-tram for the “Vigilante” mine (1914)

*Agiria aukeratzeko irizpidea*-Document Selection criteria: Basque Mining Museum Archive (BMMA) database search: tranvía aéreo infraestructura línea de baldes [air tramway infrastructure “bucket line”]

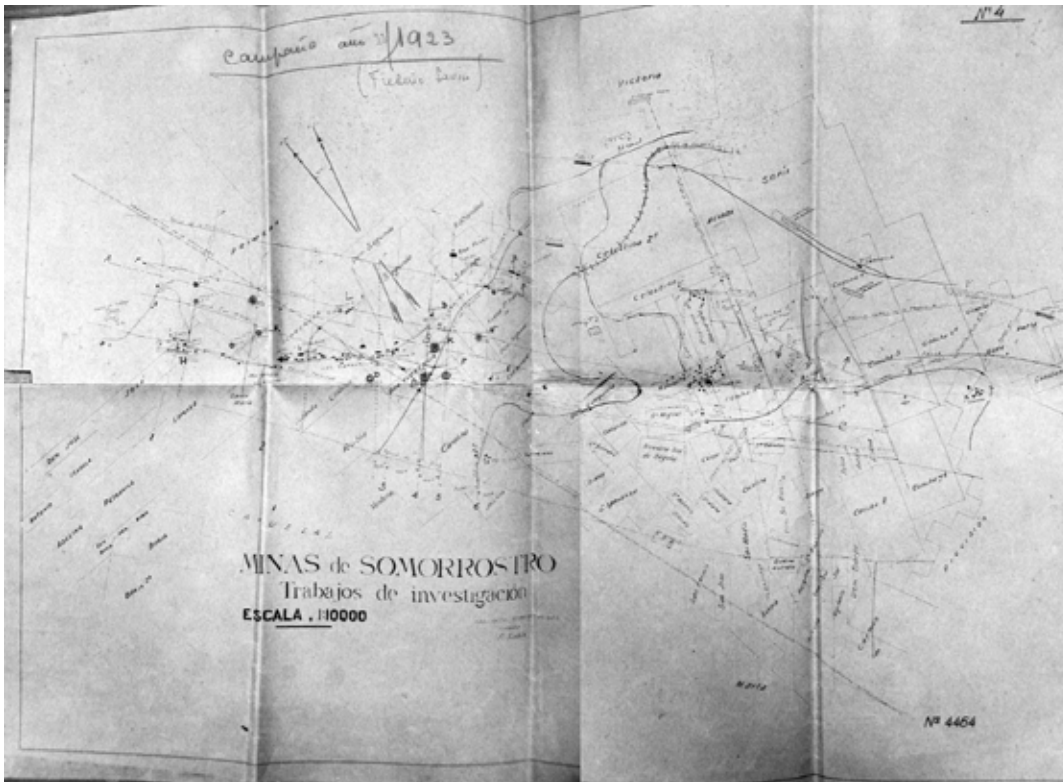


Irudia-Image: Cross-section drawing of the mountain slope and the air-tramway trajectory.



Irudia-Image: Plan drawing of the air-tramway trajectory.

**MMB.5-MRM.5-** n° 4464 map of Somorrostro Mines. Surveying works (1923)  
*Agiria aukeratzeke irizpidea*-Document Selection criteria: Regional Historical Archive  
(RHA): planos concesiones mineras [maps mining demarcation]



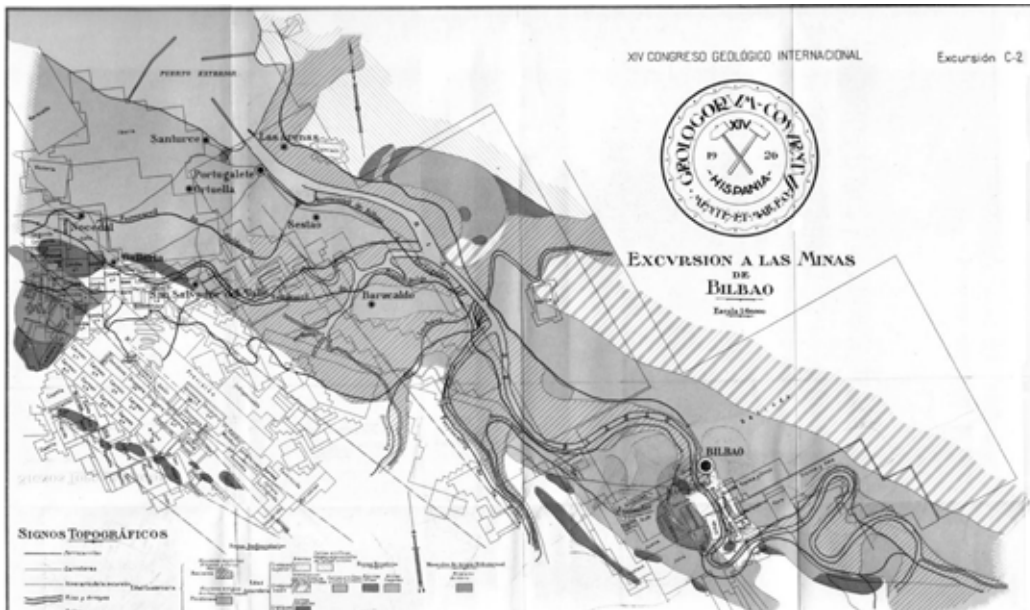
Irudia-Image: Plan drawing of the survey works on the so called Somorrostro mining area.

**MMB.6-MRM.6-** Mapa XIV Congreso Geologico Internacional.  
Excursion a Las Minas De Bilbao (1926)

[Map for the XIV International Geological Congress. Visit to the mines of Bilbao]

*Agiria aukeratzeke irizpidea*-Document Selection criteria: Internet data-base search:  
planos antiguos minería Bilbao Bizkaia [old mining maps Bilbao Bizkaia]

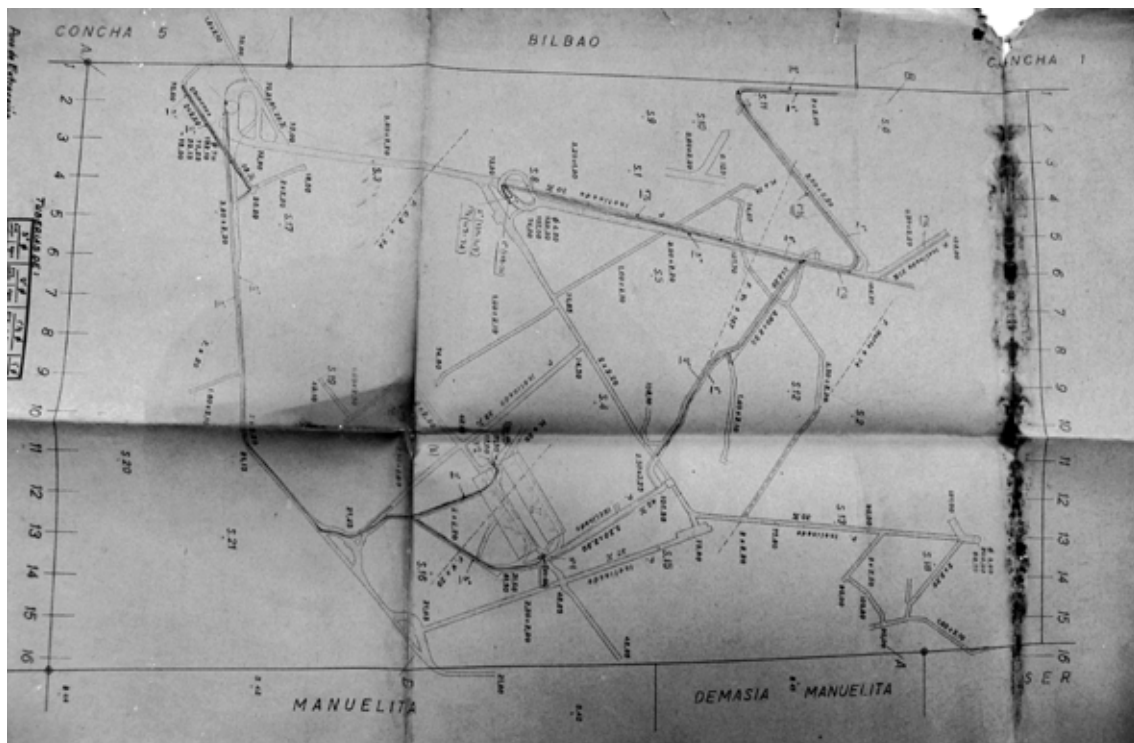
<http://www.mtiblog.com/2007/06/mapa-de-las-minas-de-bilbao-1926.html>



Irudia-Image: The map describes the types of mineral and mine demarcations as well as the most important infrastructures of Bilbao and the mining area.

**MMB.7-MRM.7- n°4414** map of Concha 2nd Mines. Underground works (1945)

*Agiria aukeratzeko irizpidea*-Document Selection criteria: RHA: planos minería [maps mining]

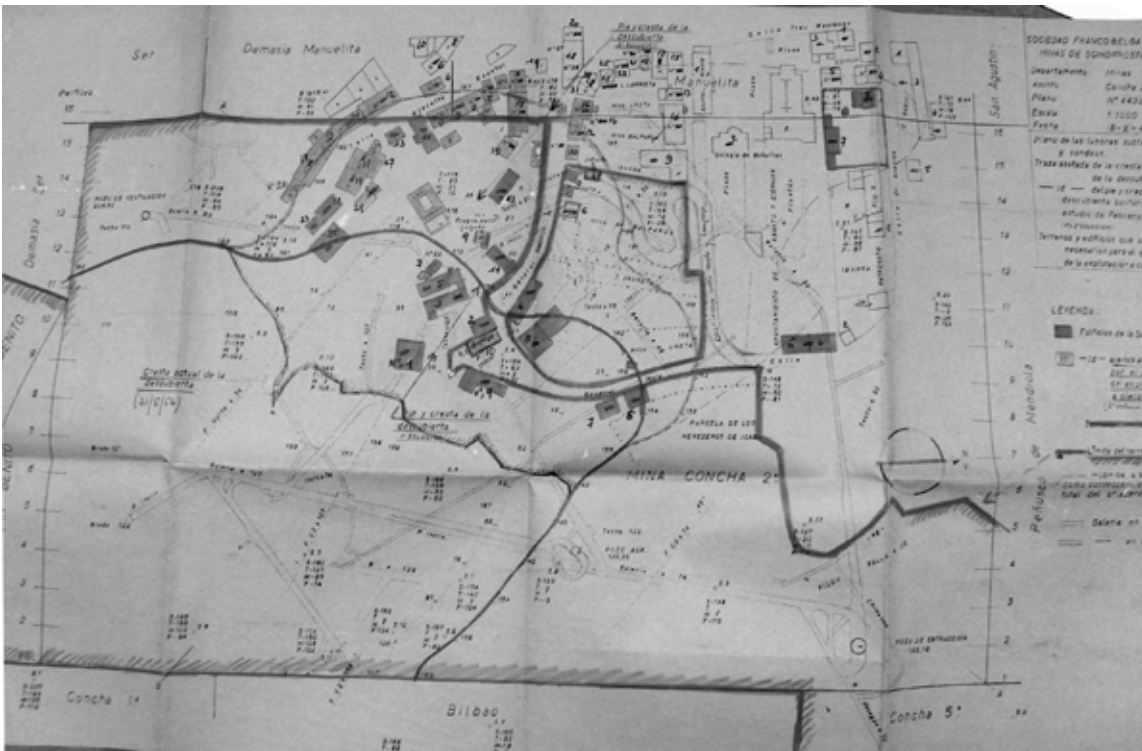


Irudia-Image: Plan drawing that shows the underground galleries of mine Concha 2.



**MMB.8-MRM.8-** n°4433 map of the underground works and surveys. (1948?)

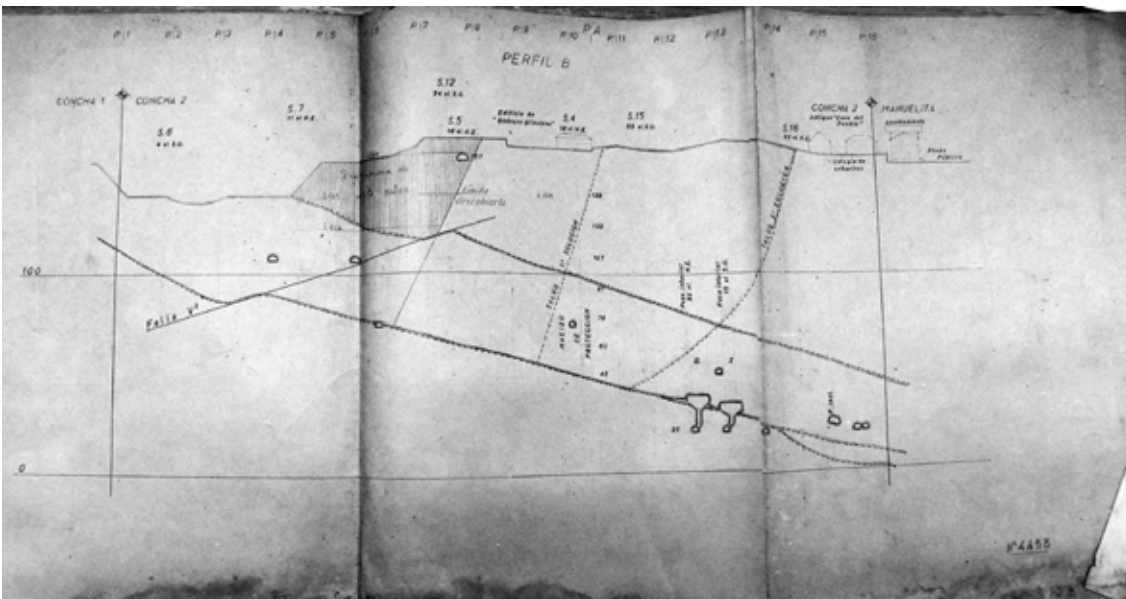
*Agiria aukeratzeko irizpidea*-Document Selection criteria: RHA: planos minería [maps mining]



Irudia-Image: Overlay drawing of the survey works of mine Concha 2, mine-pit extension projection lines and buildings of the town of Gallarta.

**MMB.9-MRM.9-** n°4453 map B Profile (1946 ?)

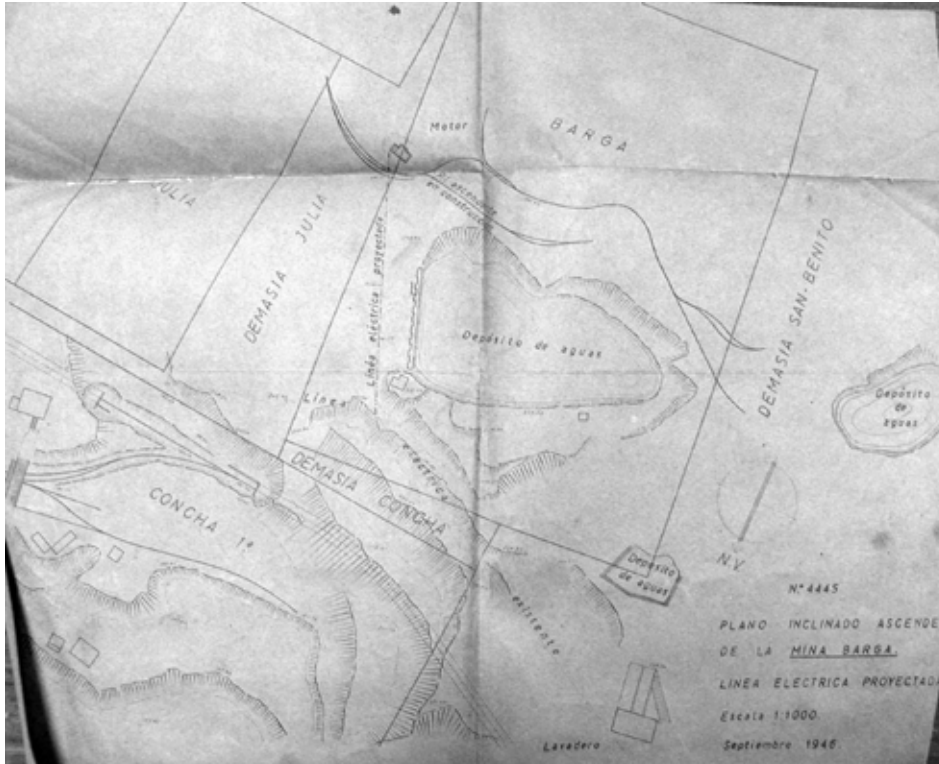
*Agiria aukeratzeko irizpidea*-Document Selection criteria: RHA: planos minería [maps mining]



Irudia-Image: Cross-section of the Concha 2 mines with galleries and mine-pit extension projection lines.

**MMB.10-MRM.10-** Barga mine ascending inclined plane. Design of the Electrical Line (1946)

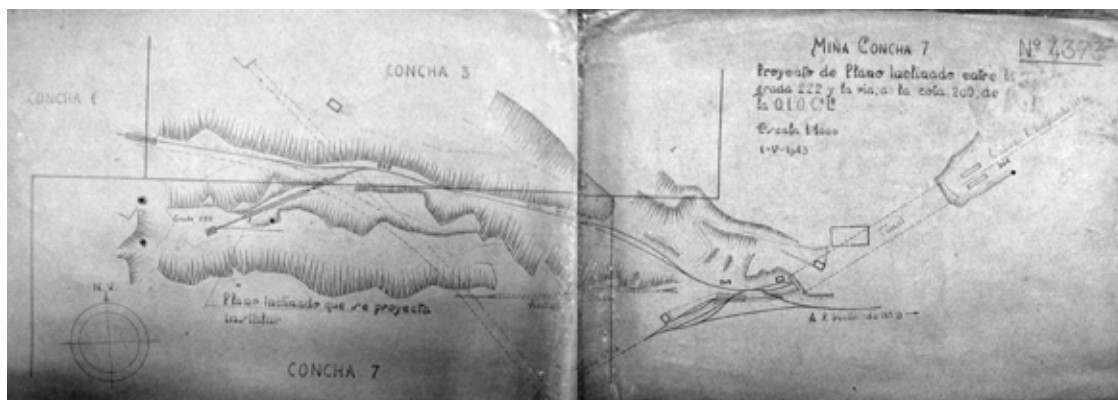
*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA: planos minería infraestructura [maps mining infrastructure]



Irudia-Image: Plan drawing of the Barga mine, the surrounding infrastructures and the mine demarcations

**MMB.11-MRM.11-** Concha 7 mine. Design for the inclined plane from level 222 to the track on level 209. Orconera Iron Ore Company Limited (1943)

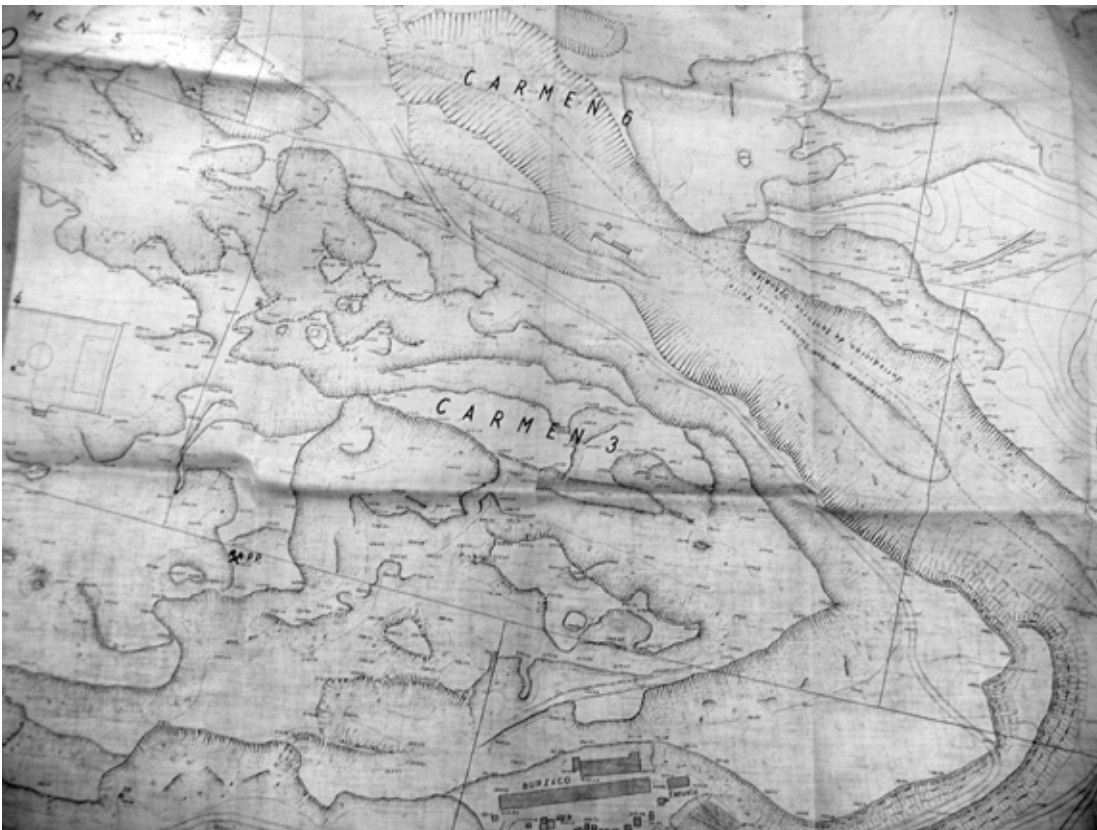
*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA: planos minería infraestructura plano inclinado [maps mining infrastructure inclined plane]



Irudia-Image: Plan drawing showing earth-works, inclined plane and mine demarcations.

**MMB.12-MRM.12- M 500. ORCONERA IRON ORE C°L° Mines in Arboleda (1961)**

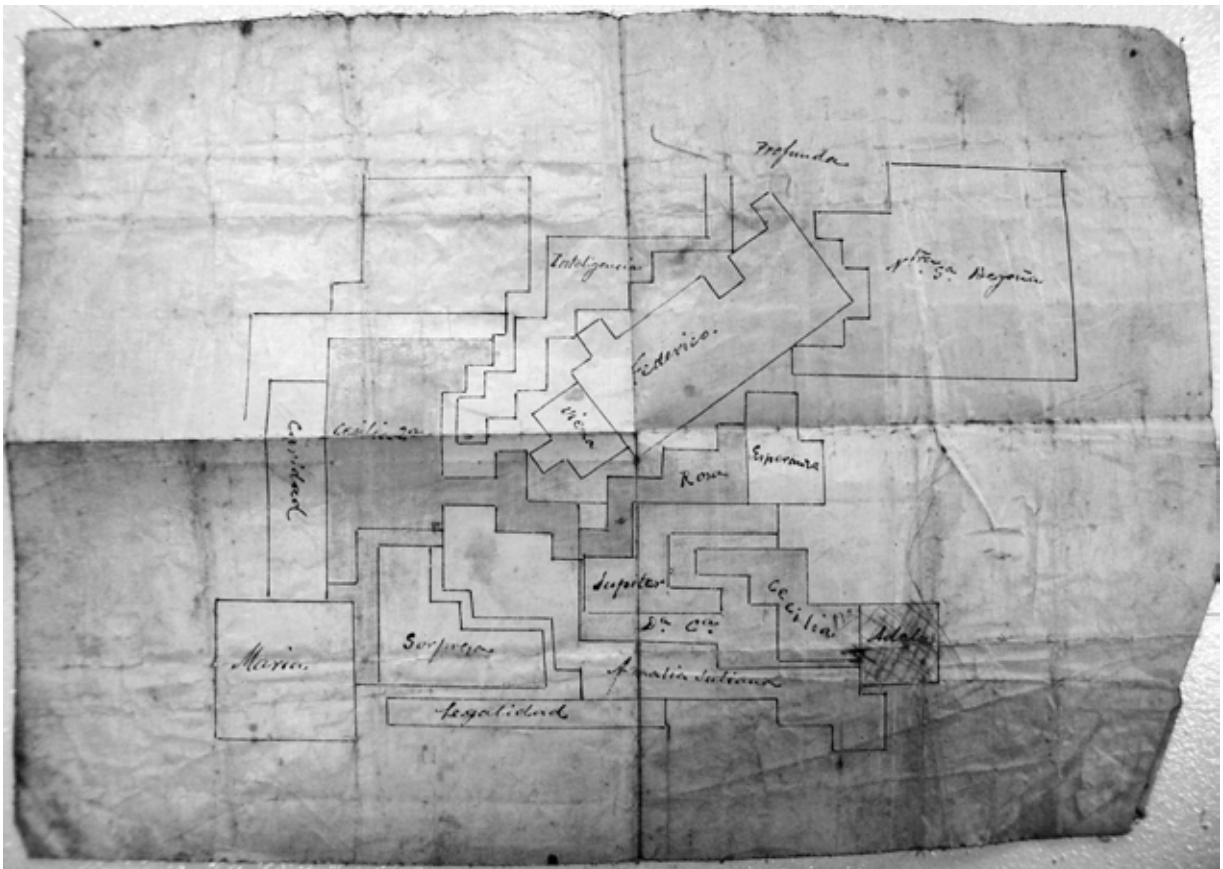
*Agiria ankeratzeko irizpidea*-Document Selection criteria: BMMA data-base search: planos concesiones mineras [mining demarcation maps]



Irudia-Images: several parts of the Orconera mines' location map showing an overlay of information including demarcations, galleries, earth-works, infrastructures, buildings etc.

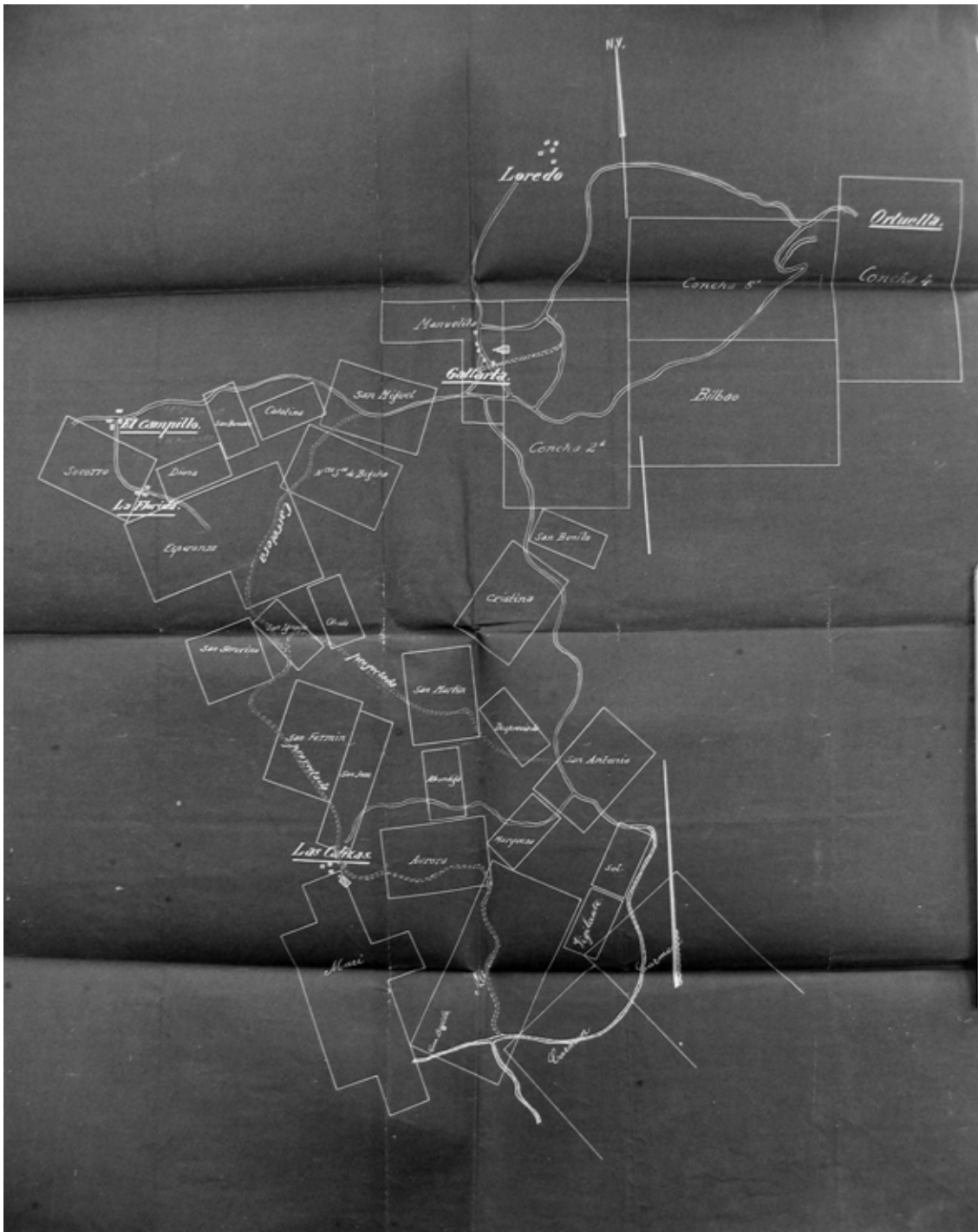
**MMB.13-MRM.13-** Mine demarcation map (?)

*Agiria aukeratzeko irizpidea*-Document Selection criteria: BMMA data-base search: found in the same file as MRM.4.



Irudia-Image: several mine demarcation limits and names.

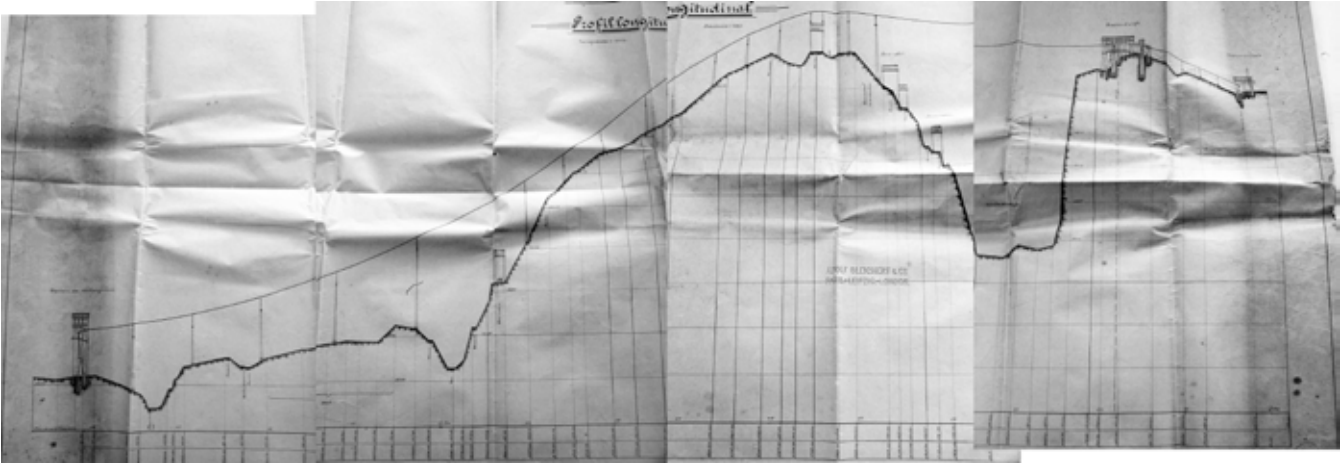
**MMB.14-MRM.14-** Unnamed map showing the new road design crossing Calizas neighbourhood in Abanto-Zierbena (?).



Irudia-Image: Plan drawing describing the mine demarcations around las Calizas neighbourhood in Abanto-Zierbena combined with the project for a new road.

**MMB.15-MRM.15-** Chemin de fer aérien. Système Bleichert servant au Transport de Minerais pur la Sociedad Anonima Franco Belga de las Minas de Somorrostro. Ligne Concha 2-Cadegal. Profil Longitudinal. (?)

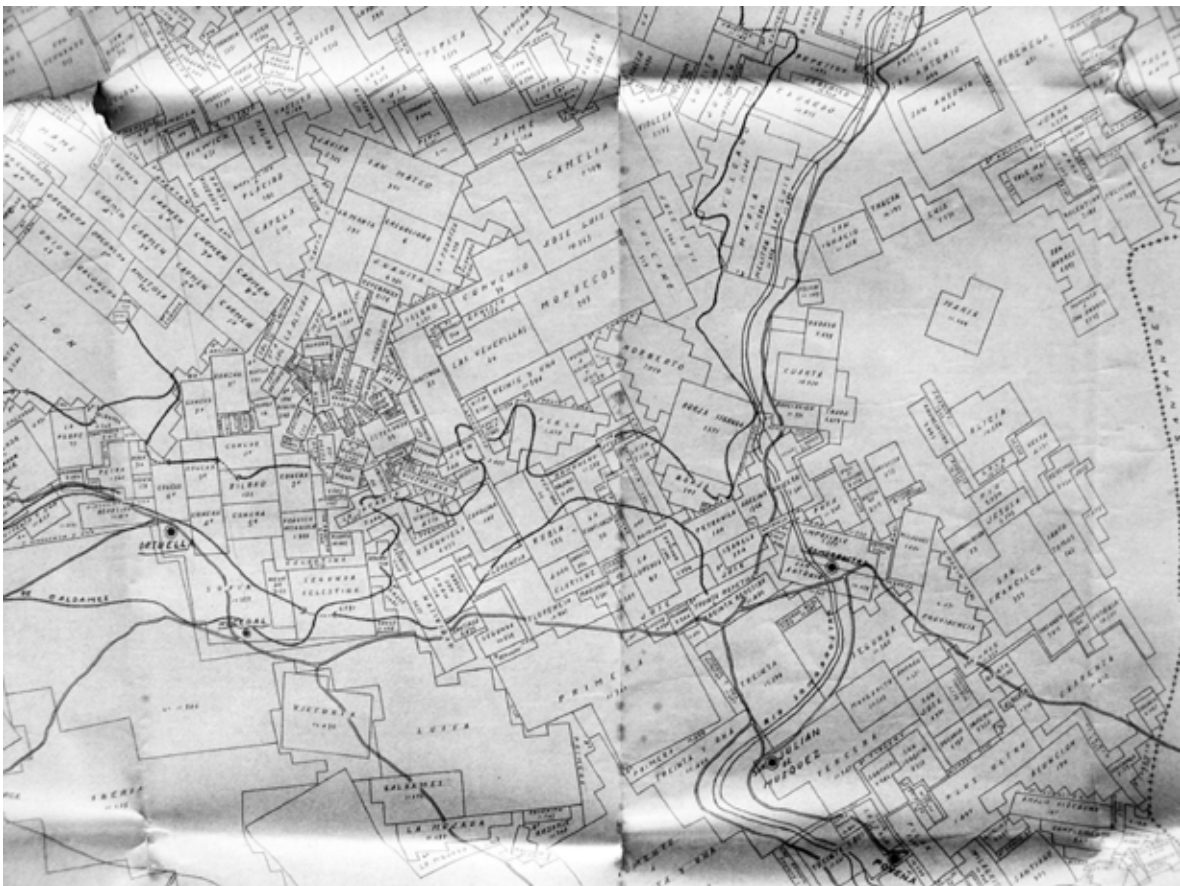
*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMMA data-base search: tranvía aéreo infraestructura línea de baldes [air tramway infrastructure “bucket line”]



Irudia-Image: Cross-section of the air-tramway design based on the Bleichert system.

**MMB.16-MRM.16-** General Map of the mines of Biscay (?)

*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMMA data-base search: planos concesiones mineras [maps mining demarcations]



Irudia-Image: part of the map showing the so called Somorrostro mining area near Bilbao.

## 1.2. Mendia Basogintza Baliabidea-Forestry Resource Mountain

**MBB.1-** Bizkaiko Foru aldundiaren zirkularra udaletxeei bidalia (1908)

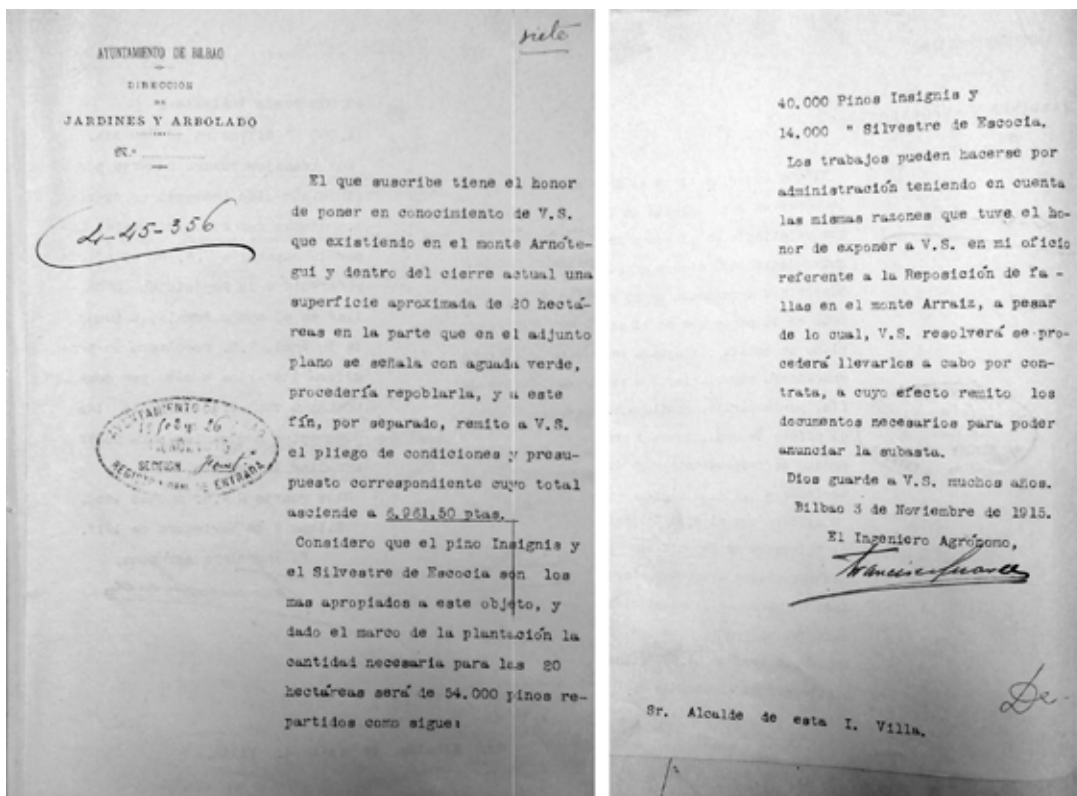
**FRM.1-** Advice note to municipal hall by the Biscay Provincial Government advising on the planting of *pinus radiata* trees (1908) to recover the productive role of the mountain slopes.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Regional Historical Archive (RHA): repoblaciones Bizkaia [afforestation Biscay]

**MBB.2-** Bilboko ingeniari agronomoaren proposamen gutuna pinu-arbolen landaketa gomendatuz (1915)

**FRM.2-** Proposal to plant radiata pine trees by Bilbao's municipal agronomist (1915)

*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA: repoblaciones Bizkaia [afforestation Biscay]



Irudia-Image: Picture of the letter sent by the municipal agronomist to the mayor of Bilbao.

**MBB.3-** Bilboko Arraiz mendia birpopulatzeko plano (1915-16)**FRM.3-** Map to restock Arraiz mountain in Bilbao (1915-16)

*Agiria aukeratzeko irizpidea*-Document Selection criteria: RHA: repoblaciones Bizkaia [afforestation Biscay]



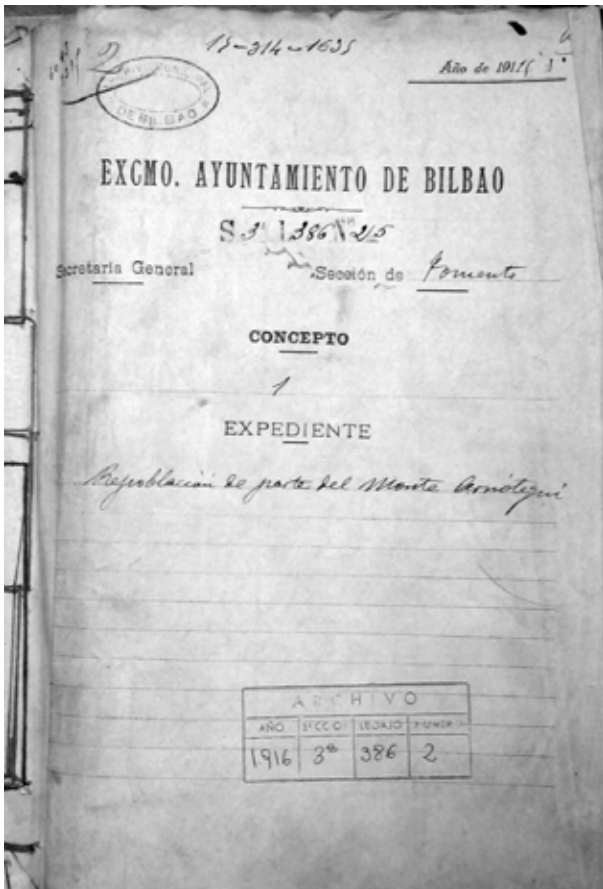
Irudia-Image: Map of Arraiz mountain with section to be afforested marked with a green line.

**MBB.4-** Bilboko Arnotegi mendia birpopulatzeko plano (1915-16)



**FRM.4-** Map to restock Arnotegi mountain in Bilbao (1915-16)

*Agiria ankeratzeko irizpidea*-Document Selection criteria: RHA: repoblaciones Bizkaia [afforestation Biscay]



Irudia-Image: Cover of the Arnotegi map file.

**MBB.5-** AHV eta Yarzatarren arteko harremanen agiriak

**FRM.5-** Briefing documents on the mountain property sale negotiations between AHV and Adan de Yarza family (1951)

*Agiria ankeratzeko irizpidea*-Document Selection criteria: RHA: repoblaciones Bizkaia [afforestation Biscay]

**MBB.6-** Pinua landatzeko gomendioak MUNIBE-Aranzadi (1952)

**FRM.6-** Pine tree planting recommendations by scientific magazine MUNIBE-Aranzadi (1952)

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Internet data-base search: manual repoblación pinus radiata pino *insignis* [afforestation guidelines *pinus radiata* "insignis" pine]

**MBB.7-** Bizkaiko Mendi Eta Natura-Eremuen Babes Eta Administrazioako Foru Araua (1994)

**FRM.7-** Provincial Law on the of Mountains and Protection of Natural Areas (1994)

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Document known to researcher

**MBB.8-** EAE-ko Baso Plangintza 1994-2030 (1994)

**FRM.8-** Basque Autonomous Community Forestry Plan 1994-2030 (1994)

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Document known to researcher

**MBB.9-** Basoko Teknika Bilkuraren kronika artikulua (2009)

**FRM.9-** Chronicle on a forestry sector meeting (2009)

**MBB.10-** Selvicultura del Pino Insigne (*Pinus radiata*) Manual Básico (2006?)

**FRM.10-** Basic Planting guidebook by Asturias Government(2006?)

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data-base search: manual repoblación pinus radiata pino insignis [afforestation guidelines pinus radiata “insignis” pine]

[www.asturias.es/Asturias/.../PDF.../manual\\_selvicultura\\_pino\\_insigne.pdf](http://www.asturias.es/Asturias/.../PDF.../manual_selvicultura_pino_insigne.pdf)

**MBB.11-** 2010ko Baso inbentarioa: Bilboaldeko datuak (2010)

**FRM.11-** 2010 Basque Government forestry inventory- data from metropolitan Bilbao (2010)

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data-base search: 2010 baso inbentarioa Bilbao [2010 forest inventory Bilbao]

[www.nasdap.ejgv.euskadi.net/.../TTHH-CAPV-COMARCAS2010.pdf](http://www.nasdap.ejgv.euskadi.net/.../TTHH-CAPV-COMARCAS2010.pdf)

INVENTARIO FORESTAL 2010

COMARCA: GRAN BILBAO

Distribución de usos (ha)

Uso	Sup	%Público
Monte	366	7.9
Monte (Destrucción)	2,272	36.8
Bosques de galería	166	12.5
Herbales	21.0	21.0
Herbales	671	28.6
Monte sin Veg. Superior	293	15.6
Agrícola	778	1.0
Urbanos	2.1	2.1
Urbanos	14	0.0
Agua	493	0.9
Estuarios	20	0.0
Autopistas y autovías	1,250	0.6
Infraestructuras de conducción	172	0.0
Miseria- escombros- vertederos	289	8.8
Prado con setos / con setos	137	22.1
Urbanos	8.6	8.6
Urbanos	13.0 (M-P: 1,229 1,167)	13.0
Total	37,393	15.2

Distribución de especies forestales (ha)

Especies	Estado de Masa			Total	Densidad (ND a Puntal)			%Público	
	Rep/NE	Latinal	Puntal		D.Baja	D.Medía	D.Alta		
Pinus sylvestris	0	0	0	1	0	0	1	100.0	
Pinus nigra	0	85	170	160	66	67	294	95.3	
Pinus pinaster	36	143	192	996	1,348	113	1,227	83.9	
Pinus radiata	61	749	768	2,381	3,939	445	576	99.9	
Ficus alba	0	0	0	2	0	0	2	100.0	
Pseudotsuga menziesii	1	7	57	26	45	7	75	91.9	
Larix spp.	0	0	0	0	0	0	0	0.0	
Chamaecyparis lawsoniana	0	0	4	44	50	0	50	4.1	
Otras coníferas	0	29	33	4	66	36	1	35	57.3
Total coníferas	99	1,913	1,227	3,429	5,947	661	773	4,129	39.2
Quercus robur	0	24	24	320	341	12	35	342	5.8
Quercus pyrenaica	0	1	0	7	9	1	4	4	64.2
Quercus ilex	0	13	94	82	189	8	23	156	8.7
Bosques de ribera	0	3	193	78	184	28	32	123	12.1
Alnus glutinosa	0	1	20	4	25	0	0	24	8.6
Salix spp.	0	0	8	0	8	0	8	0	0.0
Plantaciones de frondosas	0	59	48	66	173	33	67	46	39.6
Eucalyptus globulus	105	466	551	869	1,990	186	450	1,064	12.1
Eucalyptus nitens	5	95	90	87	277	12	62	123	12.2
Otras Eucalyptus	0	33	76	253	365	21	99	234	89.0
Eukalia pseudacacia	1	0	24	138	164	0	7	156	9.9
Quercus rubra	0	40	147	216	424	55	10	335	55.1
Platanus spp.	0	0	46	4	50	0	0	50	0.0
Populus alba	0	0	0	4	4	0	0	4	0.1
Fagus sylvatica	1	43	71	5	120	24	24	63	78.5
Castanea sativa	0	13	14	15	42	12	10	21	56.5
Betula spp.	0	1	5	5	10	1	0	9	43.5
Fraxinus spp.	0	2	4	4	10	2	1	7	59.1
Bosques mixto de castil	0	0	0	0	4	0	0	2	100.0
Bosques mixto atlántico	7	324	1,393	1,045	2,810	129	780	1,885	19.7
Otras frondosas	0	13	58	23	95	3	24	62	54.4
Total frondosas	122	1,152	2,799	3,272	7,336	332	1,644	4,714	19.9
Total especies	221	2,165	4,017	6,901	13,394	1,392	2,418	8,894	28.5

Irudia-Image: the Irudia-Image shows the data of the forest inventory 2010 for metropolitan Bilbao specifying types of land-use, area in hectares and % of public land, and species of forest plants.

**MBB.12-** “Mecanización forestal en Euskadi” artikulua (2012)

**FRM.12-** “Forest mechanization in the Basque Country” article (2012)

**MBB.13-** EAeko 2010-2011ko Baso Inbentarioaren analisi artikulua (2013)

**FRM.13-** Analysis article on the results of the Basque Autonomous Community forestry inventory 2010 (2013)

*Agiria aukeratzeako irizpidea-Document Selection criteria:* Internet data-base search: 2010 baso inbentarioa [2010 forest inventory]

**MBB.14-** Mario Adan de Yarzaren erretratua-Aurelio Arteta (?)

**FRM.14-** Portrait of Mario Adán de Yarza by Aurelio Arteta (?)

*Agiria aukeratzeako irizpidea-Document Selection criteria:* Internet data-base search: Mario Adan de Yarza



Irudia-Image: Portrait of Mario Adán de Yarza.

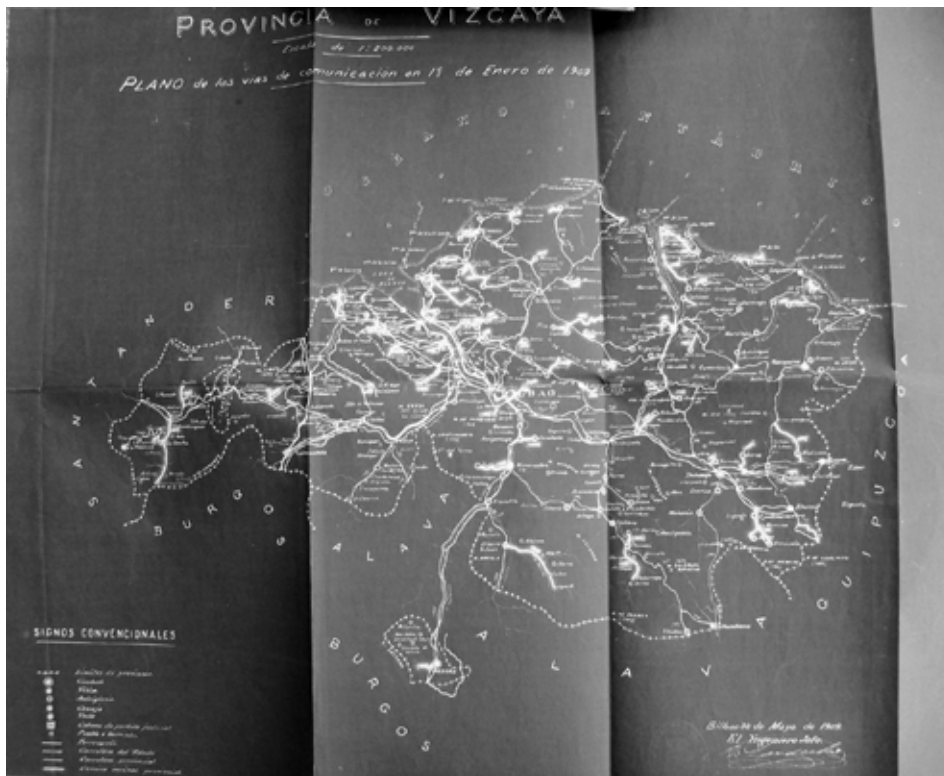
## 2. Mendia Oztopoia-*Obstacle Mountain*

**MO.1-** Plano de las vías de comunicación (1909)

**OM.1-** Road map of Biscay (1909)

*Elementua aukeratzeko irizpidea-Landscape element selection:* the existence of such forms are known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria: Regional Historical Archive (RHA): mapa carreteras [road maps]*



**MO.2-** Carreteras de Vizcaya (1923-37)

**OM.2-** Road map of Biscay (1923-37)

*Elementua aukeratzeko irizpidea-Landscape element selection:* the existence of such forms are known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria: RHA: mapa carreteras [road maps]*



**MO.3-** Plano de Enlaces de Bilbao y los Pueblos Colindantes (1923)

**OM.3-** Map of the connections amongst Bilbao and its neighbouring towns by architect Ricardo Bastida (1923)

*Elementua aukeratzeko irizpidea-Landscape element selection:* the existence of such forms are known to the researcher

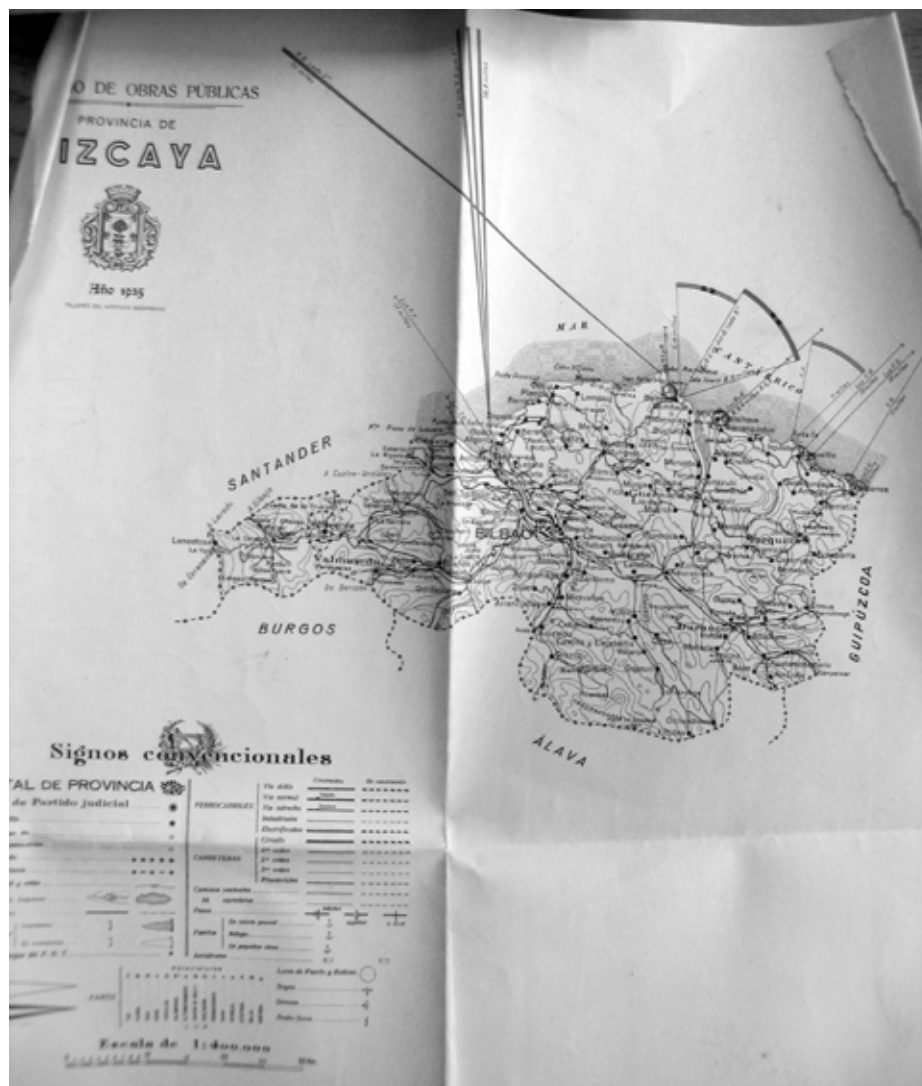
*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA mapa carreteras [road maps]



**MO.4- Servicio De Obras Públicas De Vizcaya (1935)****OM.4- Road map of Biscay (1935)**

*Elementua aukeratzeko irizpidea-Landscape element selection: the existence of such forms are known to the researcher*

*Agiria aukeratzeko irizpidea-Document Selection criteria: RHA: mapa carreteras [road maps]*

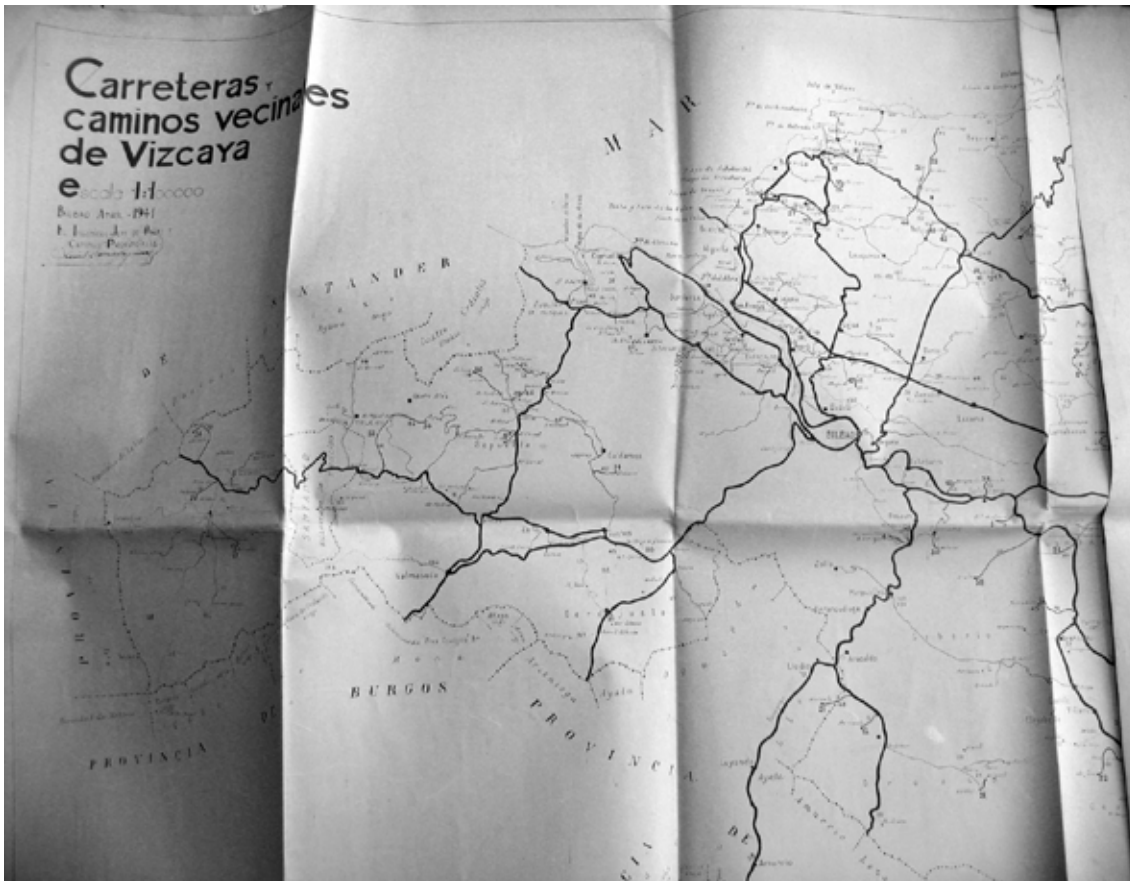


**MO.5- Carreteras, caminos vecinales de Vizcaya (1941)**

**OM.5- Road map of Biscay (1941)**

*Elementua aukeratzeko irizpidea-Landscape element selection:* the existence of such forms are known to the researcher

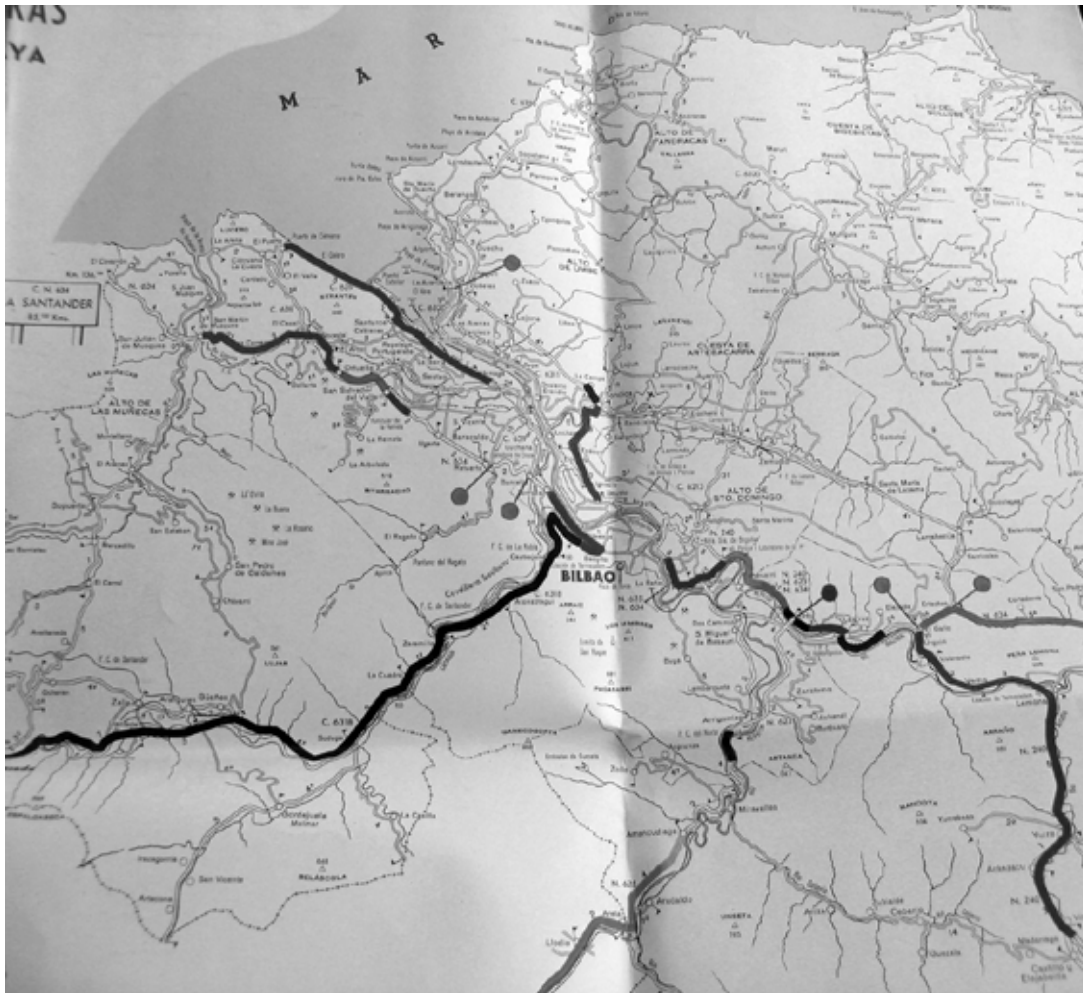
*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA: mapa carreteras [road maps]



**MO.6- Plano de Carreteras (1962)****OM.6- Road map of Biscay (1962)**

*Elementua aukeratzeko irizpidea-Landscape element selection:* the existence of such forms are known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA: mapa carreteras [road maps]





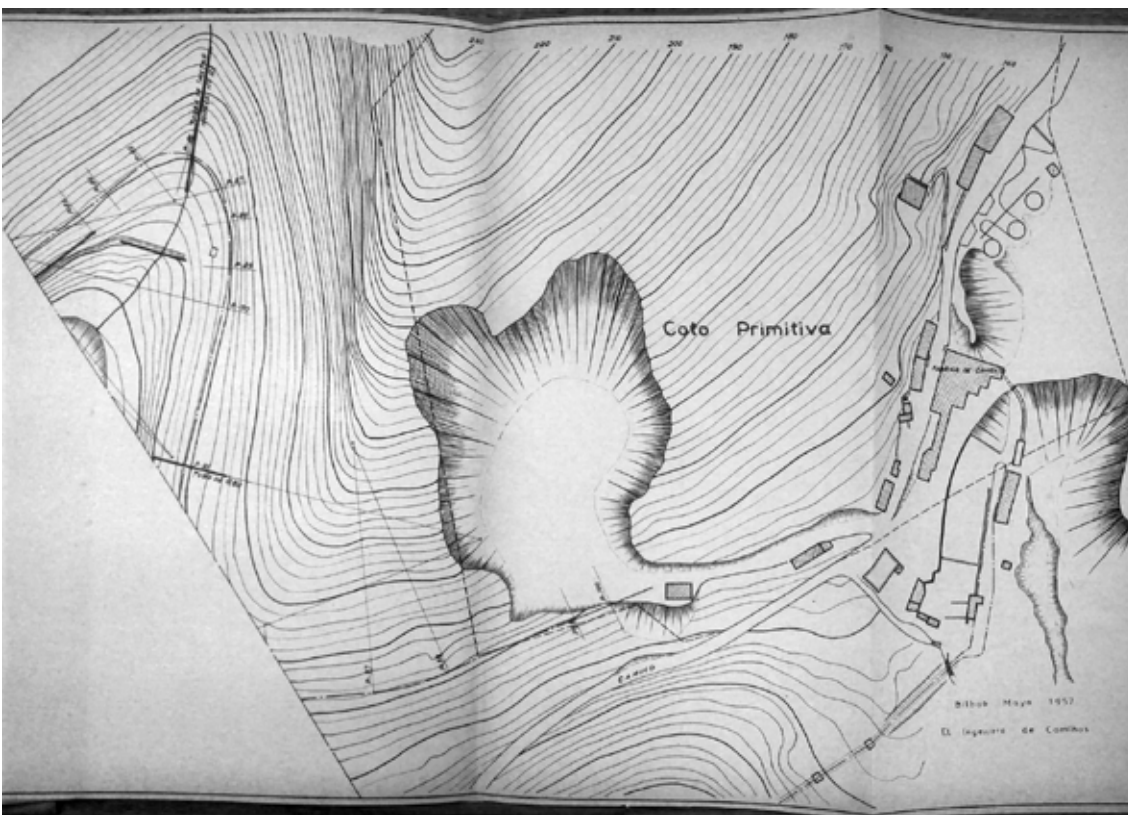
**MO.7- Primitiva Harrobirainoko errepide proiektua (1957)**

**OM.7- Road design project to the Primitiva quarry in Bilbao (1957)**

*Agiria aukeratzeko irizpidea-Document Selection criteria: RHA: plano proyecto carreteras [road design maps]*



Irudia-Image: Road location map.



Irudia-Image: Detail drawing of the road approaching the quarry.

**MO.8-** Memoria Anteproyecto del Ferrocarril Aéreo. “Telesirga Pagasarri” (1960)

**OM.8-**Initial design project for the chairlift “Telesirga Pagasarri” by engineer Emilio Moreno Zaldívar (1960)

*Elementua aukeratzeko irizpidea-Landscape element selection:* found in book *Pagasarri* by Juanjo SanSebastian (GM.8)

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Regional Library of Bizkaia (RLB) data-search: telesirga [tele-tonpath]



Irudia-Image: Cover of the document showing a chair-lift seemingly from an Alpine or Pyrenees mountain area.

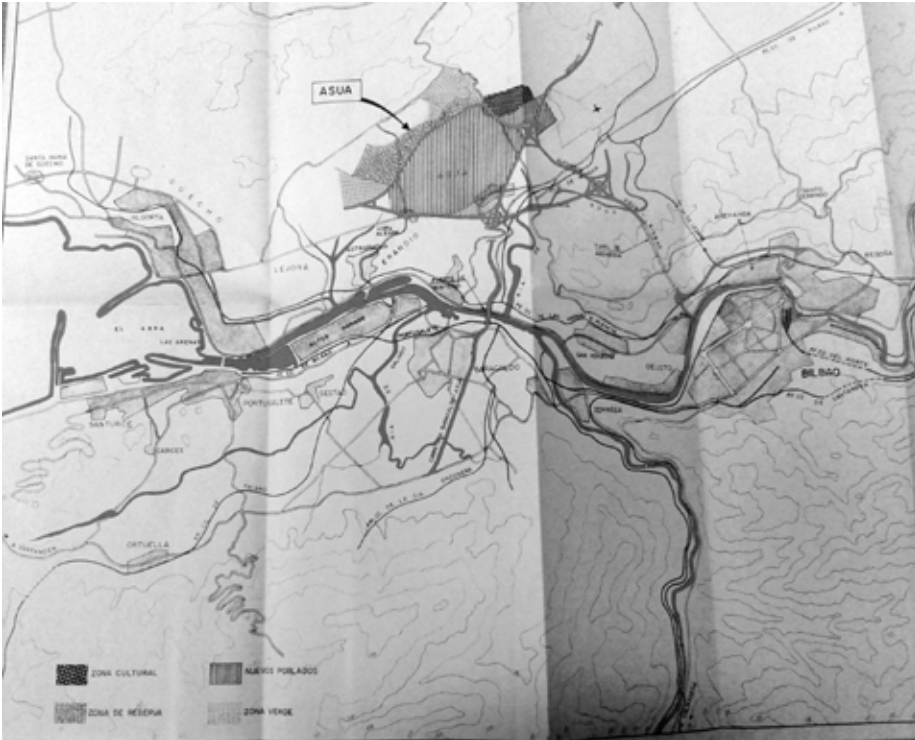


Irudia-Image: Cross-section sketch of the chair-lift route from Bilbao city center to Pagasarri mountain-top indicating the location names and an intermediate stop in Benta-Berri farmhouse area.

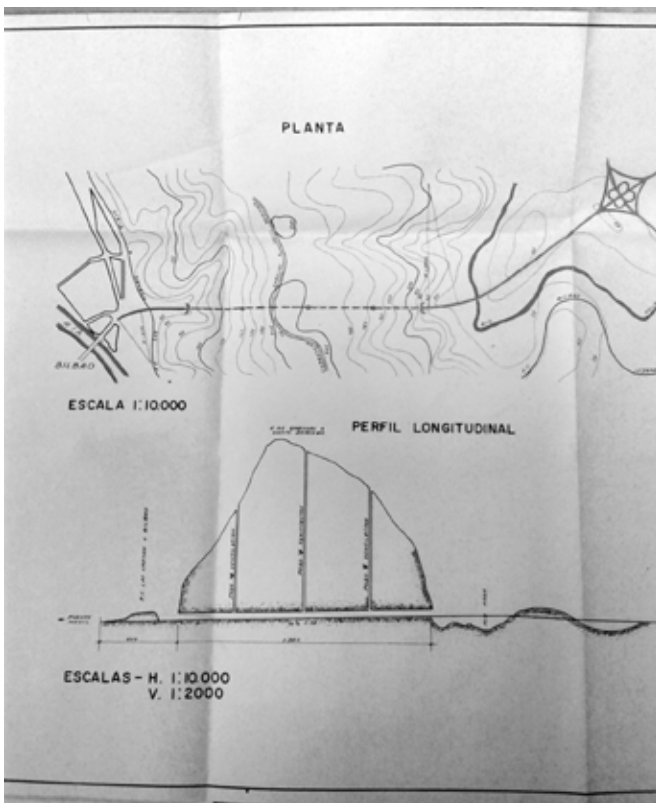
**MO.9-** Posibilidades de una Actuación Urbanística en el Valle de Asua (1961)

**OM.9-** Urban Intervention possibilities in the Asua valley (1961)

*Agiria aukeratzeko irizpidea*-Document Selection criteria: RHA: Asua planos tunel [Asua tunnel design plan]



Irudia-Image: Location map showing the development area in Asua and the proposed infrastructures.



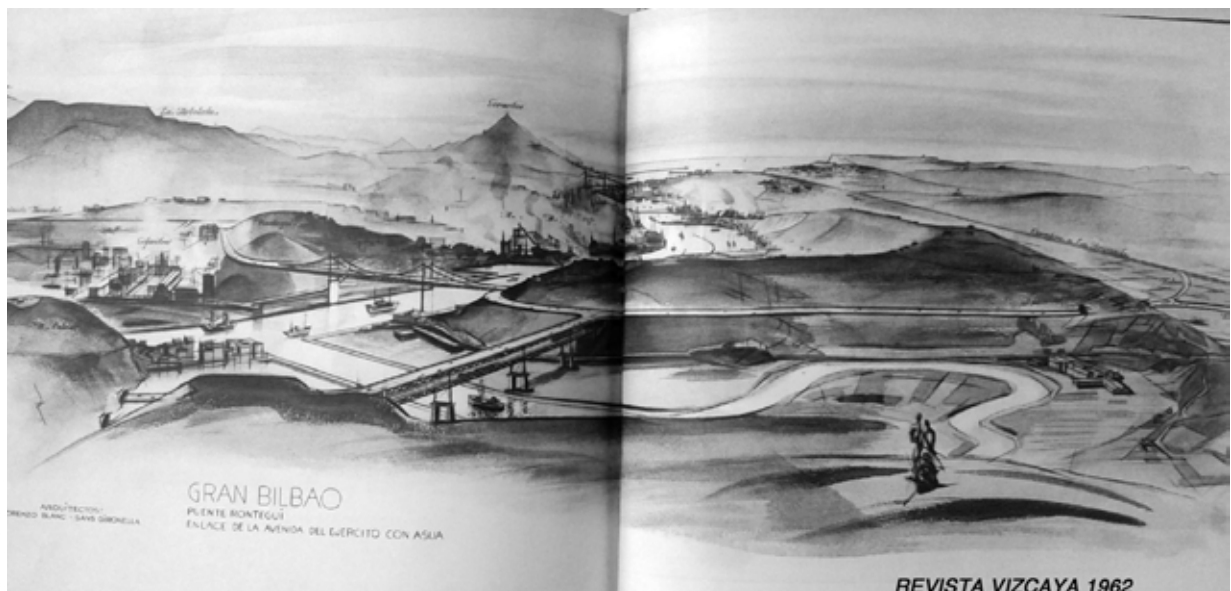
Irudia-Image: Map and cross-section of the tunnel through Artxanda mountain from Bilbao center to Asua.

**MO.10- Anteproyecto de Conducción de Aguas de Lemona a la Iberia (Sestao) (1961)****OM.10- Early design project to transport water from Lemoa to la Iberia factory in Sestao (1961)**

*Agiria*            *anekeratzeko*            *irizpidea-Document*            *Selection*            *criteria:*            RHA:  
 traída            aguas            proyecto            planos            [wáter            supply            design            maps]

**MO.11- Sans Gironella-ren artikulua- Revista Vizcaya (1963)****OM.11 Article on plans for new road infrastructures in Bilbao by architect Sans Gironella- Vizcaya magazine (1963)**

*Agiria anekeratzeko irizpidea-Document Selection criteria:* Regional Library of Bizkaia (RLB) data-search: Bizkaia carreteras autopista proyecto [roads highway project]

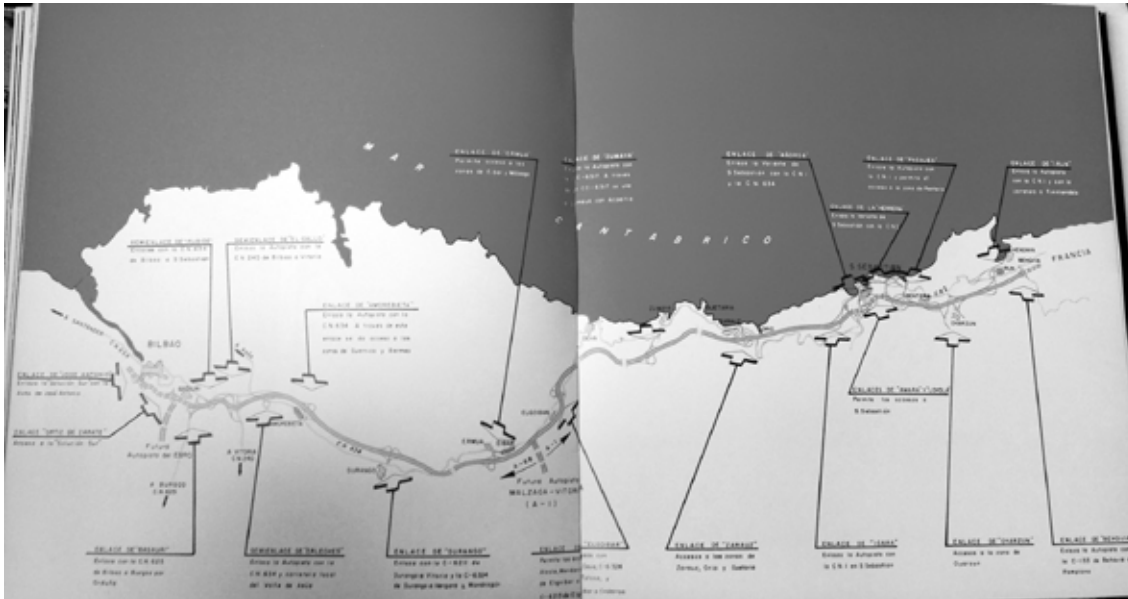


Irudia-Image: Panoramic view over the estuary opening its way towards the sea, Serantes mountain on the center background, mining area mountains on the right background, the Asua river in the foreground and the new proposal for the bridge and road.

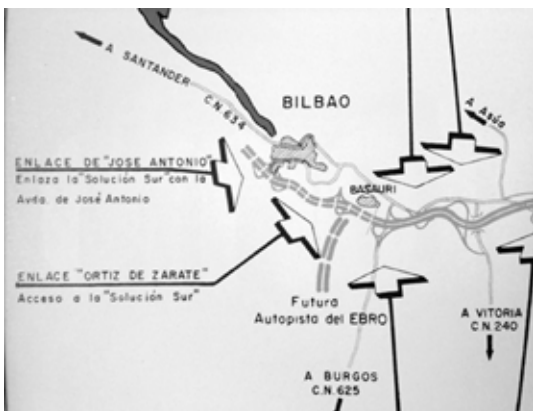
**MO.12- OM.12- Historia de una Autopista Bilbao-Behovia, 1967-1976, (1976)****[book on the construction of the A8, the first highway in the Basque country]**

*Elementua anekeratzeko irizpidea-Landscape element selection:* element known to the researcher

*Agiria anekeratzeko irizpidea-Document Selection criteria:* RLB data-search: A8 Bilbao Behobia autopista [Bilbao Behobia highway]



Irudia-Image: Map of the highway route, with Bilbao on the west/left hand side and Behobia in the east/right hand side.



Irudia-Image: Detail of the map showing the highway in Bilbao.

**MO.13-** La Salve zubiaren postala (1972?)

**OM.13-** Postcard showing La Salve bridge in Bilbao (1972?)

*Agiria aukeratzeko irizpidea-Document Selection criteria:* found in book *Bilboko Postalak 60-70-80* [Postcards of Bilbao 60-70-80] Banizu Nizuke.



Irudia-Image: La Salve bridge in the center and the slope of Artxanda mountain on the background.

**MO.14-** Bizkaiko Foru Aldundiaren txostenak**OM.14-** Briefs on the road infrastructure works by the Provincial Government of Biscay

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* RLB data-search: Diputación carreteras proyecto planos [Regional Government roads design plans]

**OM.14.a-** Carreteras 1985-1990. Bizkaia (1990)**OM.14.b-** Carreteras de Bizkaia [1990-2000] (2000)**MO.15-**Metropoliko Hegoaldeko Saihesbidea**OM.15-** Southern Metropolitan ring road

*Elementua aukeratzeko irizpidea-Landscape element selection:* element known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data-search: variante metropolitana Sur Super-Sur [south metropolitan ring-road Super-South]

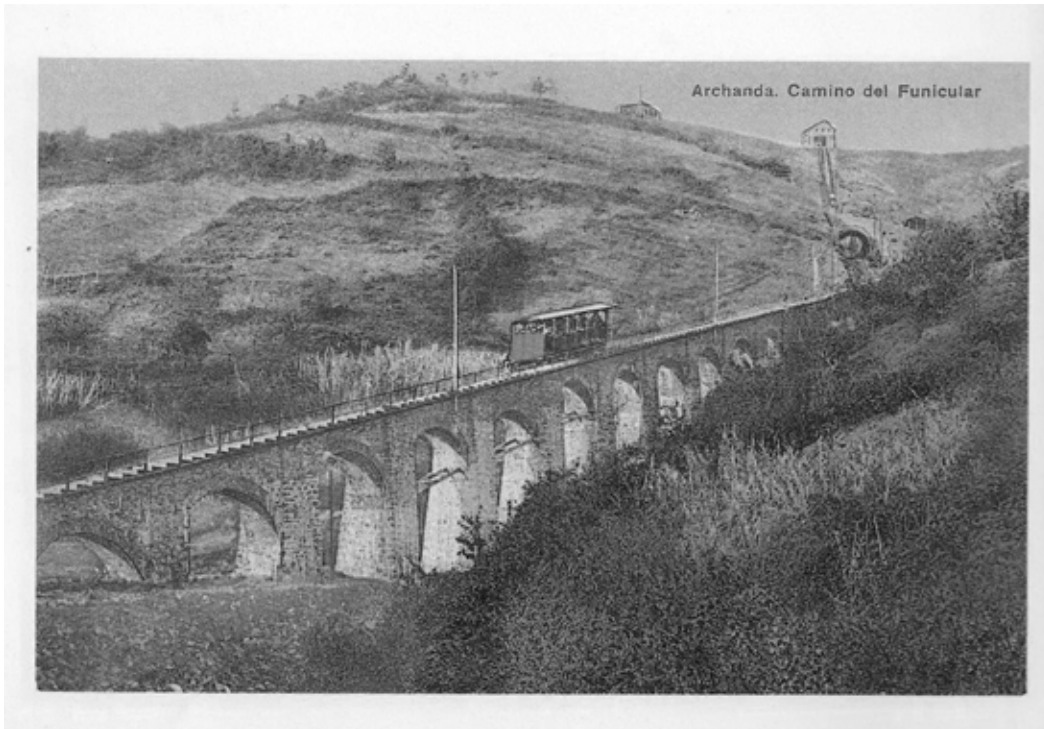
**MO.15.a** Laburpen Txostena (2005)- **OM.15.a** Project brief (2005)**MO.15.b** VSM-MHS Montaje Irudia (2006)-**OM.15.b** Photomontage (2006)

Irudia-Image: Detail Irudia-Image of the panoramic view looking south towards Bilbao and the new design for the metropolitan ring-road running mostly under the mountains on tunnels.

**MO.16-OM.16. Archanda. Camino del Funicular Postcard (?)**

*Elementua aukeratzeko irizpidea-Landscape element selection: element known to the researcher*

*Agiria aukeratzeko irizpidea-Document Selection criteria: found in book Old Postcards of Bilbao (TM.1.b)*



Irudia-Image: the postcard shows the funicular, its railway and a view of the Artxanda mountain slope.

### **3. Mendi Erabilgarria- Available Mountain**

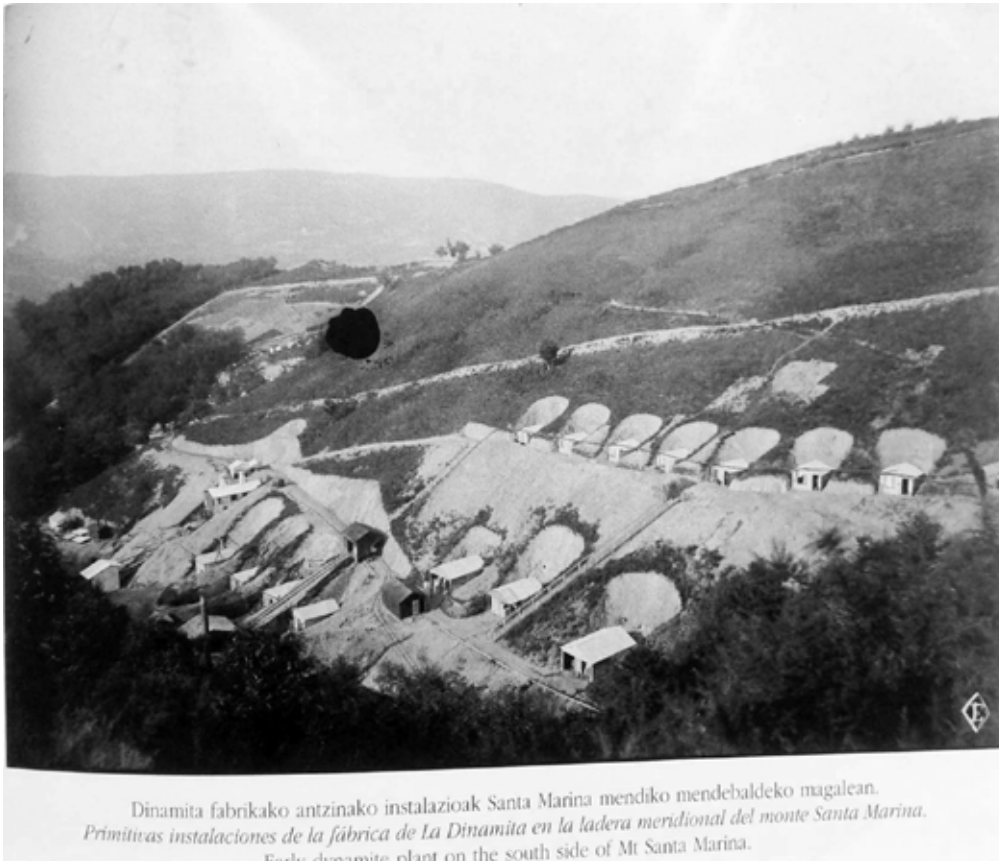
**ME.1-** Zuhatzuko Lehergailuen Fabrikari buruzko informazioa

**AM.1-** Information on the explosives factory formerly located in Sta Marina-Ganguren mountain, and now in Zuhatzu (Galdakao)

**ME.1.a-**Argazkia. Pedro Telesforo Errazkin (1860-95)-**AM.1.a-**Photography by Pedro Telesforo Errazkin (1860-95) owner of the factory.

*Elementua aukeratzeko irizpidea-Landscape element selection: element known to the researcher*

*Agiria aukeratzeko irizpidea-Document Selection criteria: photo found in the catalogue-book Bilbao 1860-1895. Pedro Telesforo de Errazquin. Photographs ed. Basque Ethnography Museum, Bilbao, 2000.*



Irudia-Image: picture of the first location of the dynamite factory locate on the slopes of Artxanda mountain in the Santa Marina-Ganguren area.

**ME.1.b-Berriak El País (1998)- AM.1.b-Newspaper article El País (1998)**

*Agiria aukeratzeko irizpidea-Document Selection criteria:* internet data-base search:  
 explosives fábrica Galdakao historia [explosives factory Galdakao history]

[http://elpais.com/diario/1998/04/27/paisvasco/893706009\\_850215.html](http://elpais.com/diario/1998/04/27/paisvasco/893706009_850215.html)

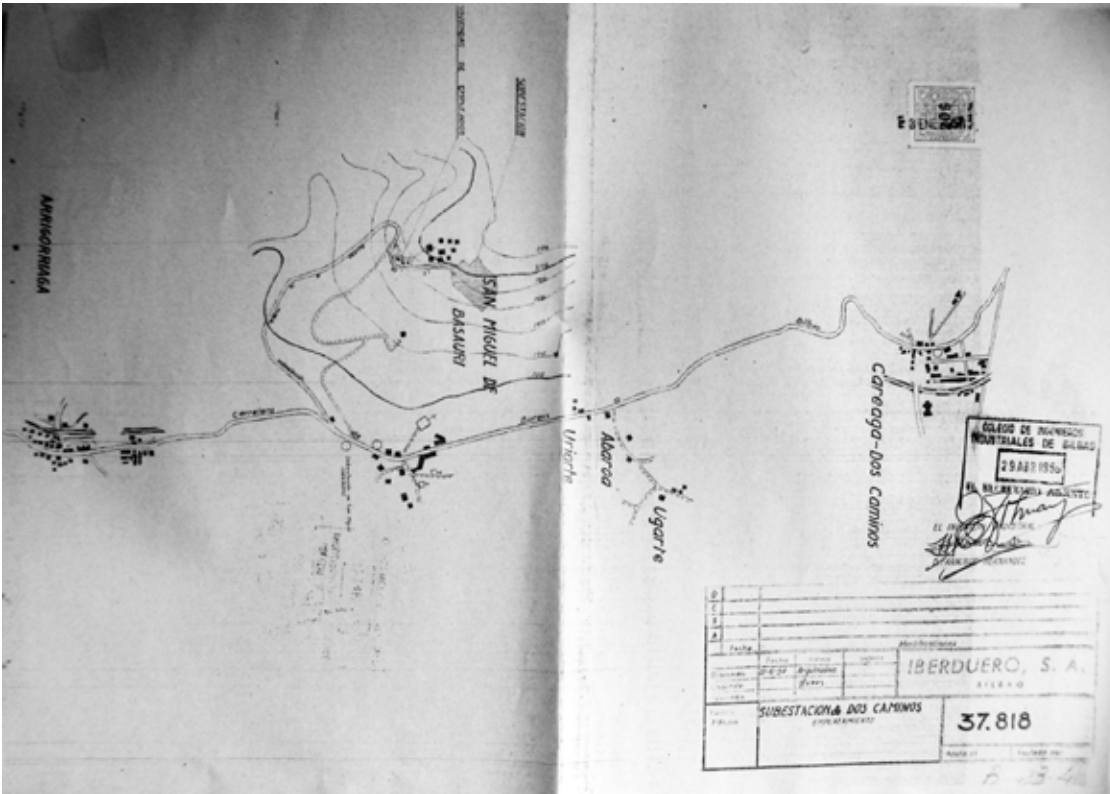
**ME.2- Subestación de Dos Caminos (1954-57)**

**AM.2- Dos Caminos electrical substation (1954-57)**

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Basauri Municipal Archive  
 (BsMA) data-base search: Finaga electric substation design project.

**ME.2.a- Proiektua -AM.2.a- Project**





Irudia-Image: Site-plan for the electrical substation indicating the location in shaded area, roads, access, surrounding buildings and neighbourhood.

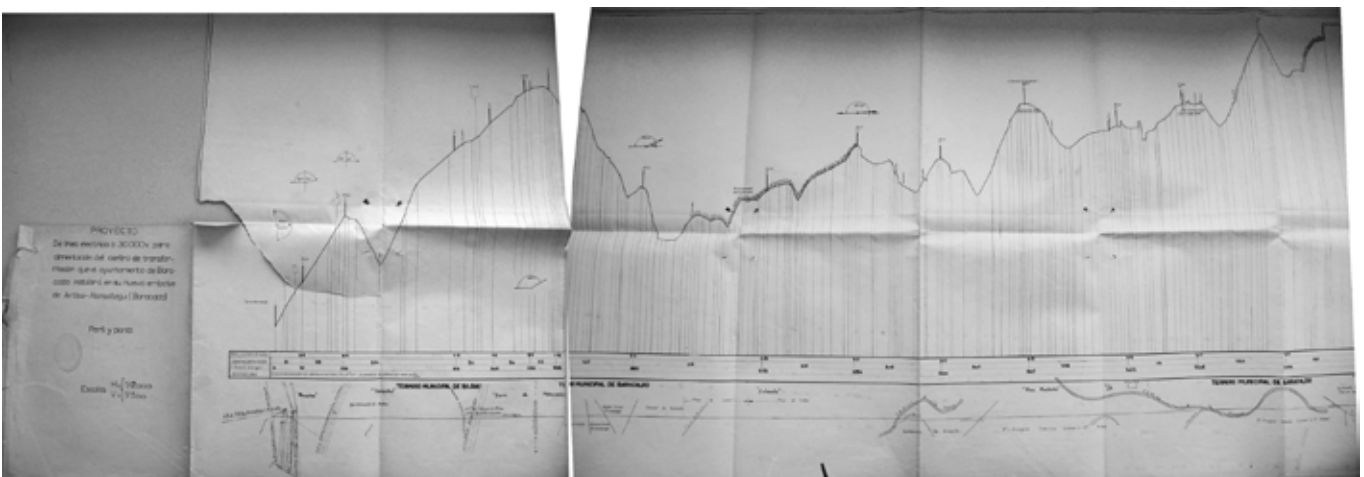
**ME.2.b-Txostena-AM.2.b-** Brief on the process of the building license concession.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA data-base search: subestación eléctrica Finaga Basauri [electrical substation Finaga Basauri]

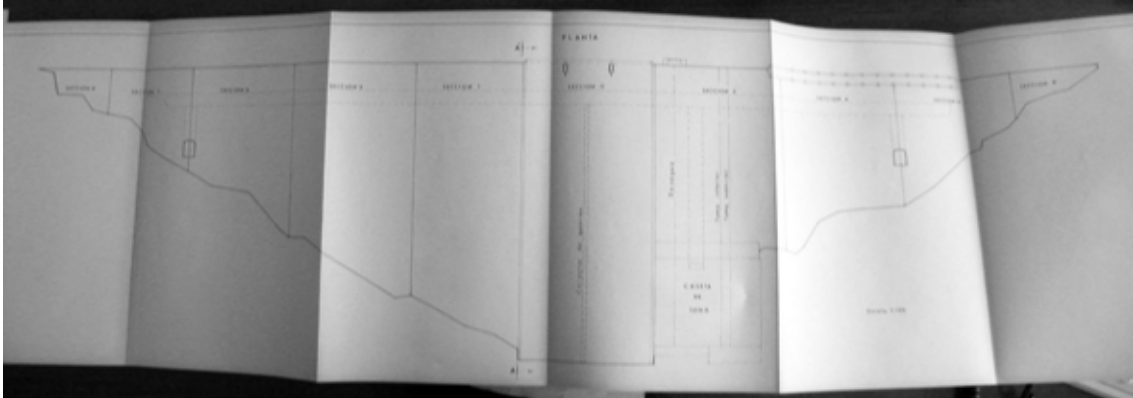
**ME.3-** Pantano Artiba-Liquidacion Obras (1961)

**AM.3-** Artiba Reservoir (1961)

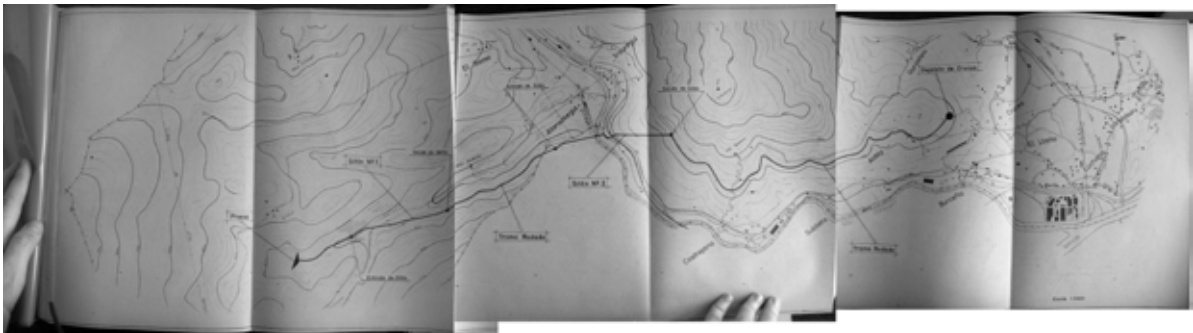
*Agiria aukeratzeko irizpidea-Document Selection criteria:* Barakaldo Municipal Archive (BaMA) data-base search: planos de proyecto inicial de pantanos de Barakaldo [early stage design plans of the water reservoirs of Barakaldo]



Irudia-Image: Cross-section of the route followed by the electrical line and the water-pipe to and from the reservoir and the deposit.



Irudia-Image: Elevation drawing of the reservoir contention wall.

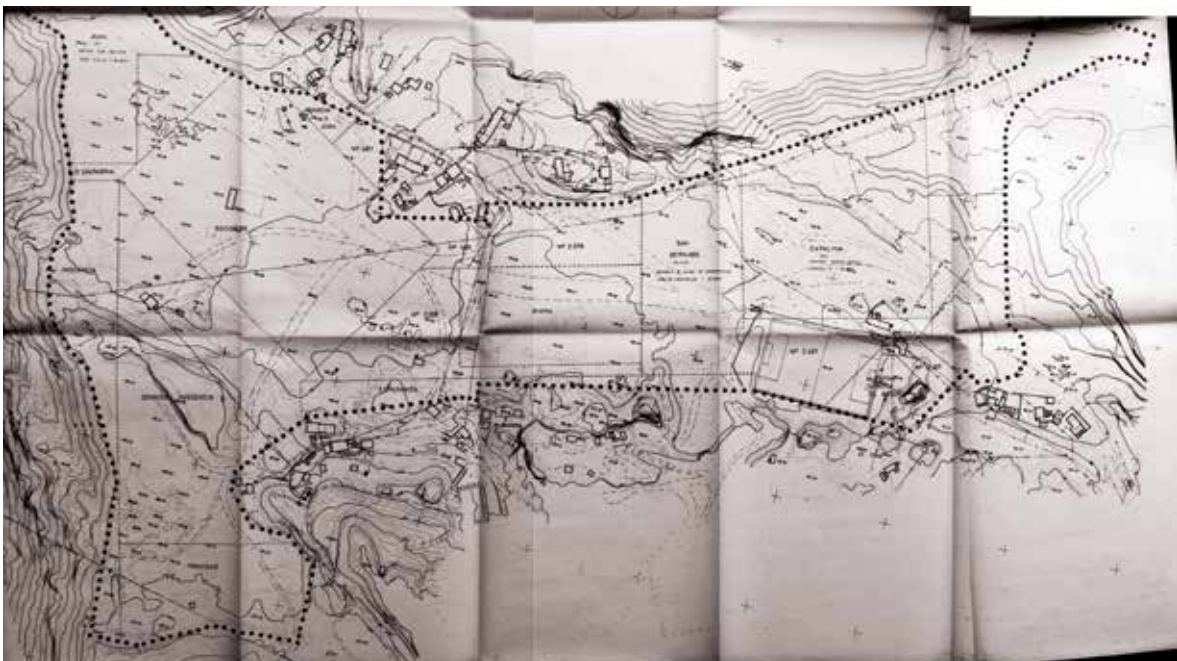


Irudia-Image: Floor-plan of the reservoir and the service infrastructure routes to and from the reservoir and the deposit.

**ME.4-** Plan parcial del Poligono industrial de El Campillo (1986)

**AM.4-** Development plan for El Campillo industrial park (1986)

*Agiria aukeratzeko irizpidea:* Planning department of Abanto-Zierbana municipality  
data-base search: information on the Campillo Industrial Park.



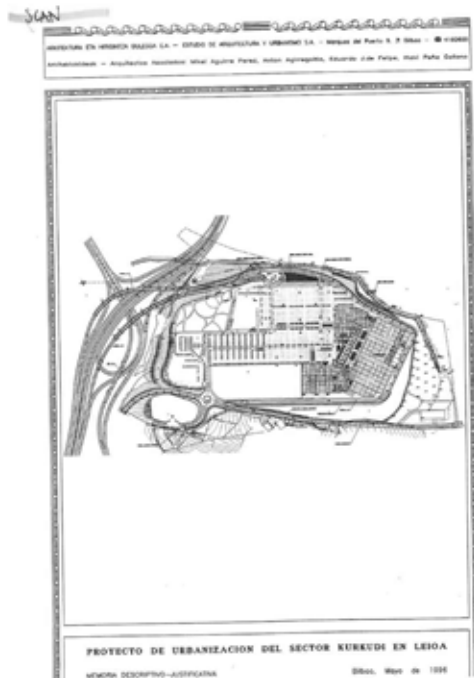
Irudia-Image: Location and boundary map of the intervention area overlay with extinct mine-demarkations and topographical data.

## ME.5- Proyecto de Urbanización Centro Comercial Leioa-Vizcaya(1996)

### AM.5- Urban Design for shopping mall at Leioa (1996)

*Elementua aukeratzeko irizpidea-Landscape element selection:* element known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Leioa Municipal Archive (LMA) data-base search: design project of Artea shopping mall and previous urban development project.



Irudia-Image: Cover and detail of the written document indicating the pre-existing polluted situation of the soil.



Irudia-Image: Location map overlay with the floor-plan of the shopping mall and new road-infrastructure.

**ME.6-** “Celda de seguridad del Argalario” [www.ihobe.net](http://www.ihobe.net) (1999-2002)

**AM.6-** Description of the building works of the “Security vault in Argalario” for toxic waste [www.ihobe.net](http://www.ihobe.net) (1999-2002)

*Elementua aukeratzeko irizpidea-Landscape element selection:* element known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data-base search: celda residuos tóxica Argalario Barakaldo [toxic waste vault Argalario Barakaldo]

<http://www.ihobe.eus/Paginas/Ficha.aspx?IdMenu=178e2d59-bda8-4fbe-88b9-254cad4473b7&Idioma=es-ES>



Irudia-Image: Several Irudia-Images showing the building process of the vault.

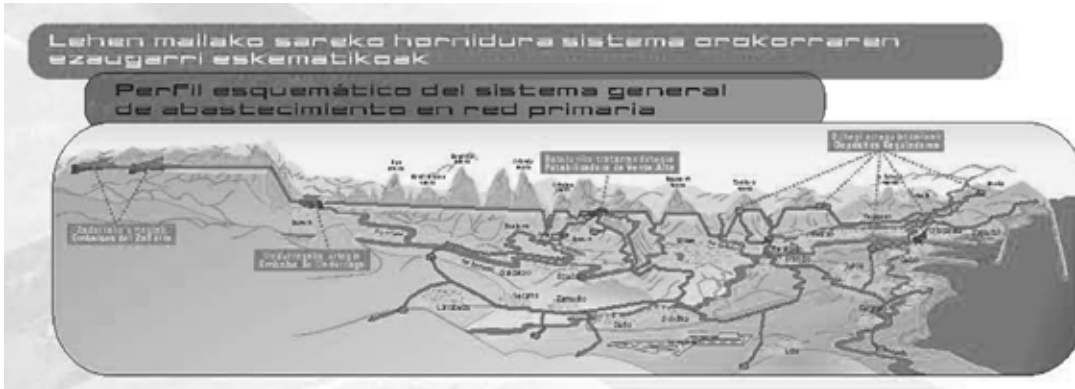
**ME.7-** Ur Partzuergoaren Txosten triptikoa (2007?)

**AM.7-** Bilbao Water consortium leaflet (2007?)

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data-base search: Consorcio Aguas Bilbao depósitos agua [Water consortium Bilbao water deposits]

<http://www.consorciodeaguas.com/web/CicloAgua/ciclodelagua.aspx?id=recogida#>



Irudia-Image: Detail from the leaflet showing the scheme of the system and main distribution pipes connected to the reservoirs and deposits located on mountain tops.

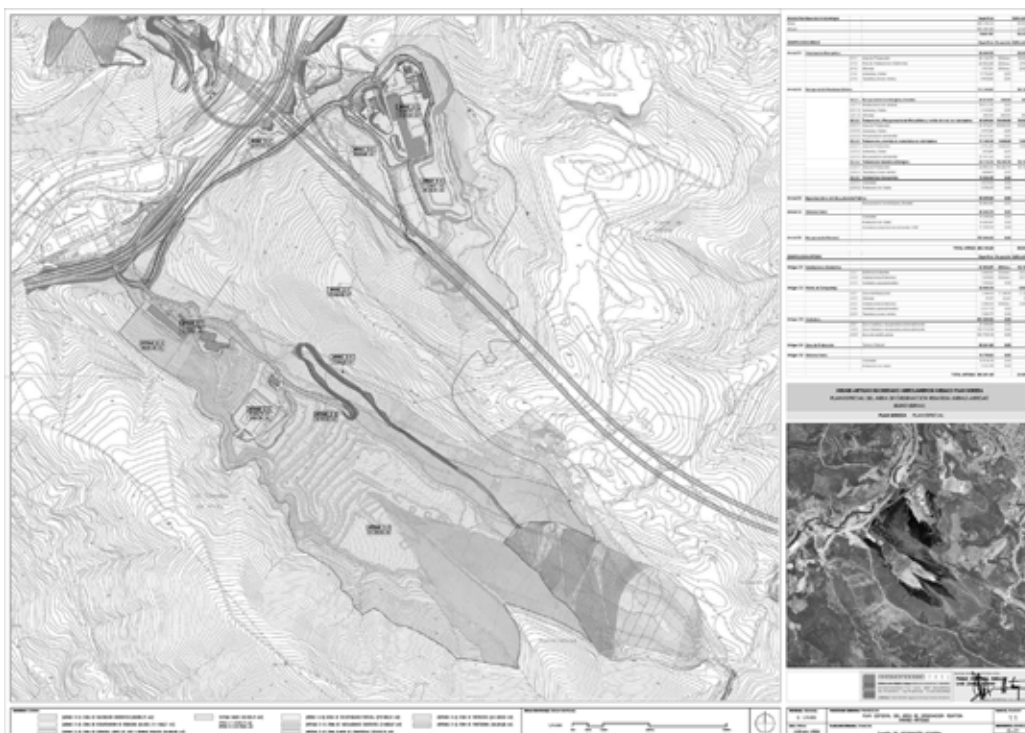
**ME.8-** Plan Especial Arraiz Artigas(2008)

**AM.8-** Special Plan for the Arraiz-Artigas area (2008)

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data-base search: Artigas Zabalgarbi planos [Artigas Zabalgarbi maps/designs]

[ftp://ftp.bizkaia.net/impacto\\_ambiental/Plan%20Especial%20Area%20Arraiz-Artigas/](ftp://ftp.bizkaia.net/impacto_ambiental/Plan%20Especial%20Area%20Arraiz-Artigas/)



Irudia-Image: The drawing shows the site of the Artigas land-fill on the southern ravine and the Zabalgarbi incinerating plant on the northern ravine.

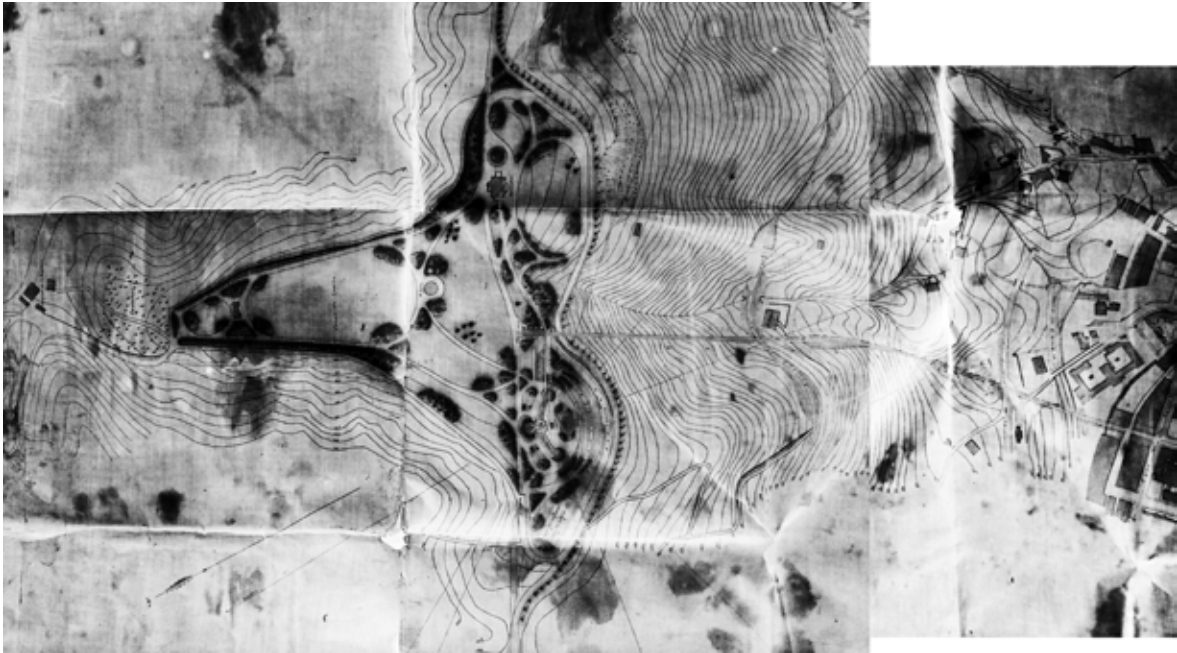
## 4. Mendi Berdea-*Green Mountain*

**MBe.1-** Funikular eta Artxandako parkearen proiektua (1913-15)

**GM.1-** Design for the Artxanda park and funicular (1913-15)

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA data-base search: Artxanda funicular planos parque proyecto [Artxanda funicular designs park project]



Irudia-Image: Floorplan showing the park design, the casino the funicular top-station and the funicular railway.

**MBe.2-** PYRENAICA aldizkariko artikuluak

**GM.2-** Articles from PYRENAICA magazine published by the basque mountaineering association.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Pyrenaica magazine e-library data-base search: random article reading looking for descriptions of the mountains

**MBe.2.a-** Lehen Editoriala (1926) -**GM.2.a-** First Editorial (1926)

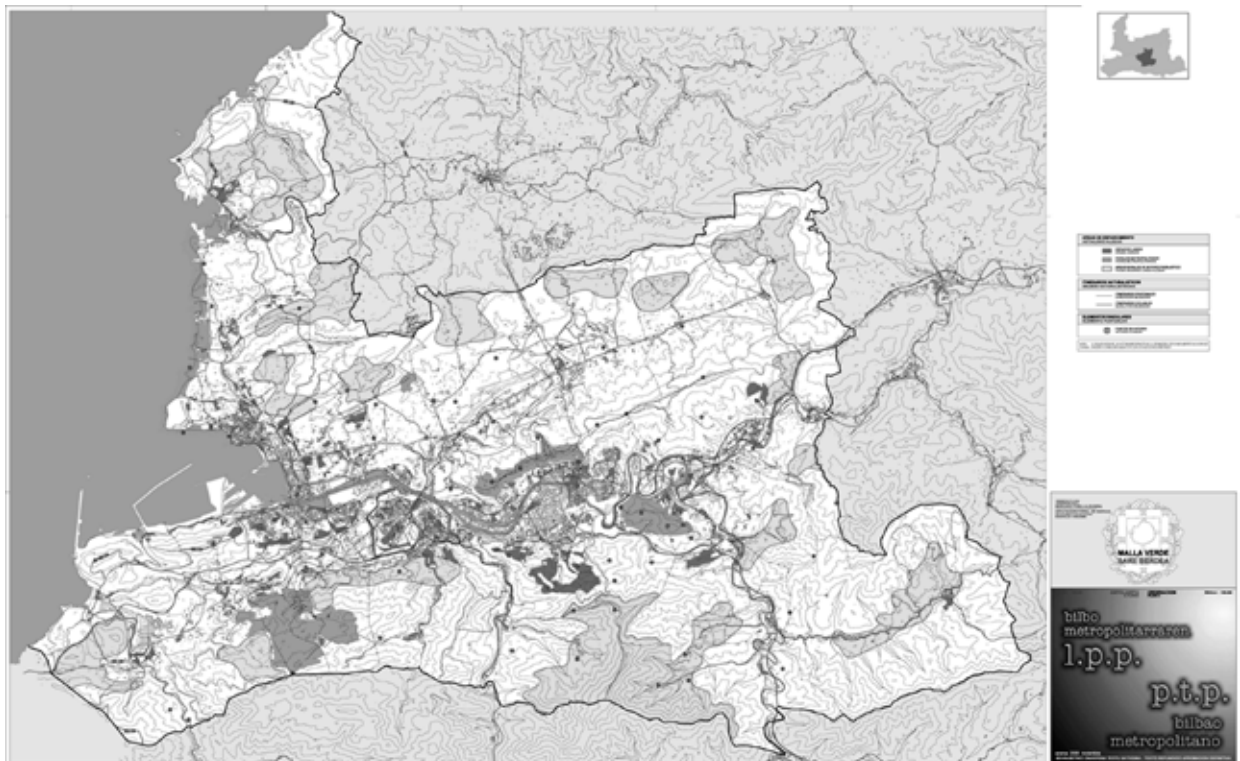
**MBe.2.b-** "Montañismo Bilbaino, sin federar" (1959)-**GM.2.b** [an account on amateur hiking in Bilbao]



**MBe.4-** Bilboaldeko PTPko sare berdearen mapa (Antolaketa 3. planoa) (2006)

**GM.4-** Green Network proposal in the Regional Plan (Planning map #3) (2006)

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Document known to the researcher.



Irudia-Image: Map of the green-network proposal from the regional plan of Metropolitan Bilbao (2006) indicating the green-networks, the urban parks, heritage sites, the metropolitan parks and the agriculturally significant areas.

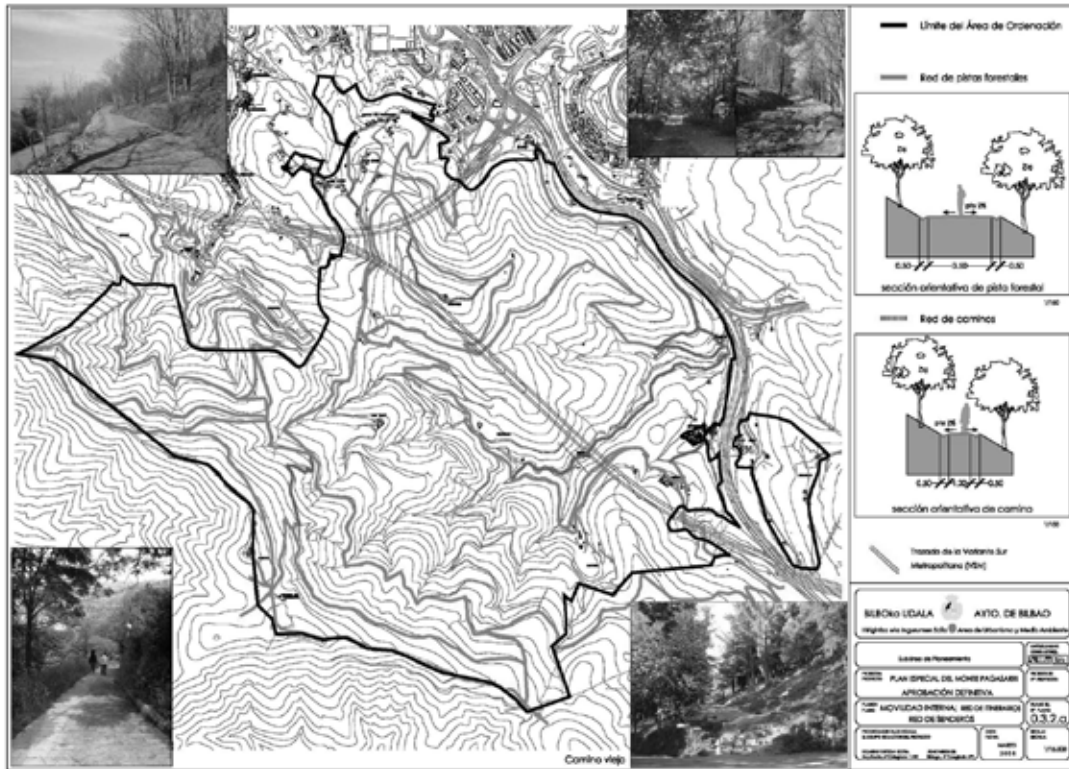


**MBe.5-** Pagasarriko Plan Berezia (2008)

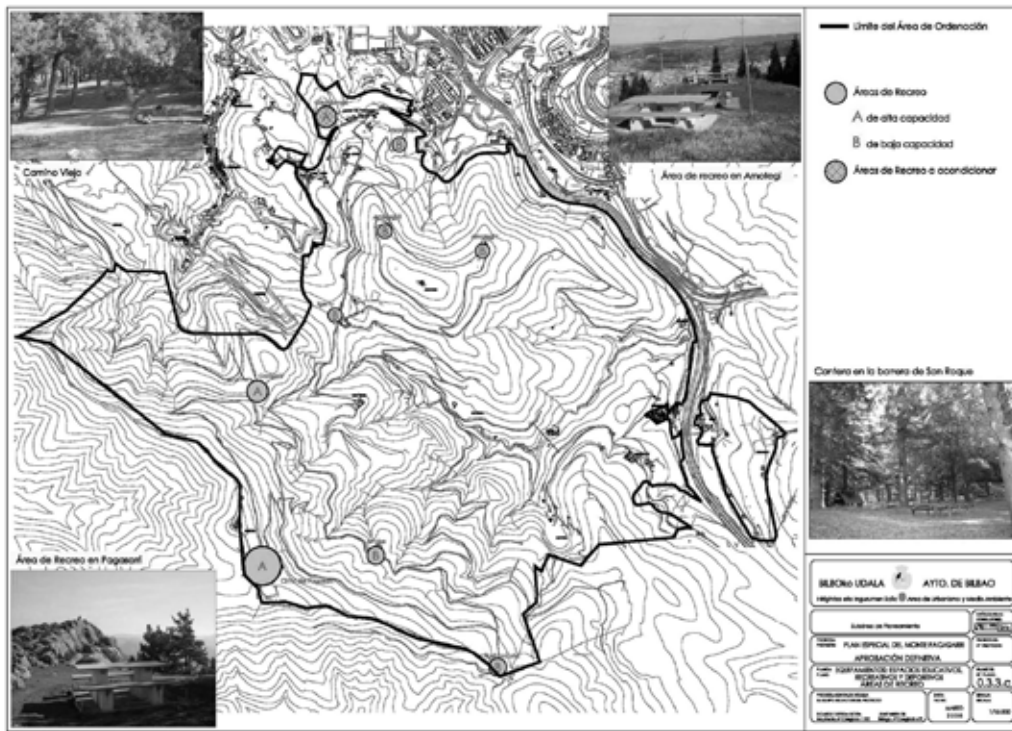
**GM.5-** Special Plan for Pagasarri mountain (2008)

*Agiria aukeratzeko irizpidea*-Document Selection criteria: Internet data-base search: planos Pagasarri [design plans Pagasarri]

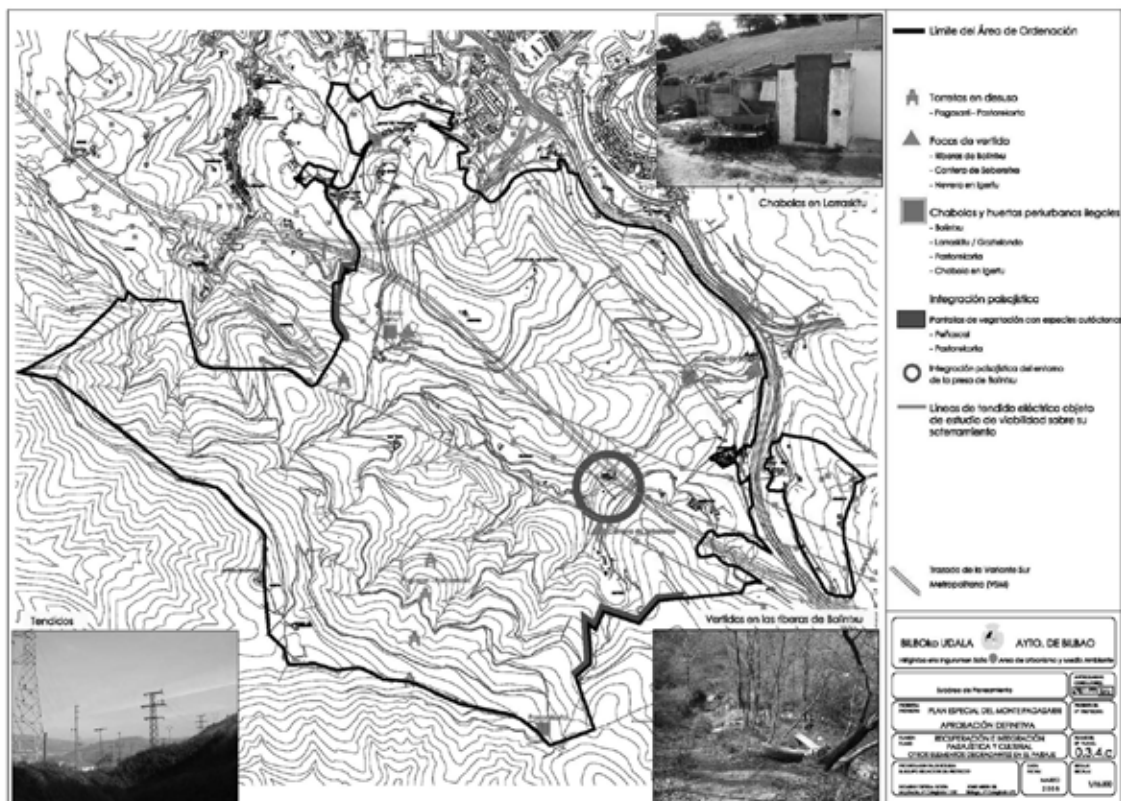
[http://www.bilbao.net/cs/Satellite?c=Page&cid=3003601931&pagename=Bilbaonet%2FPPage%2FBIIO\\_ListadoCategorizado](http://www.bilbao.net/cs/Satellite?c=Page&cid=3003601931&pagename=Bilbaonet%2FPPage%2FBIIO_ListadoCategorizado)



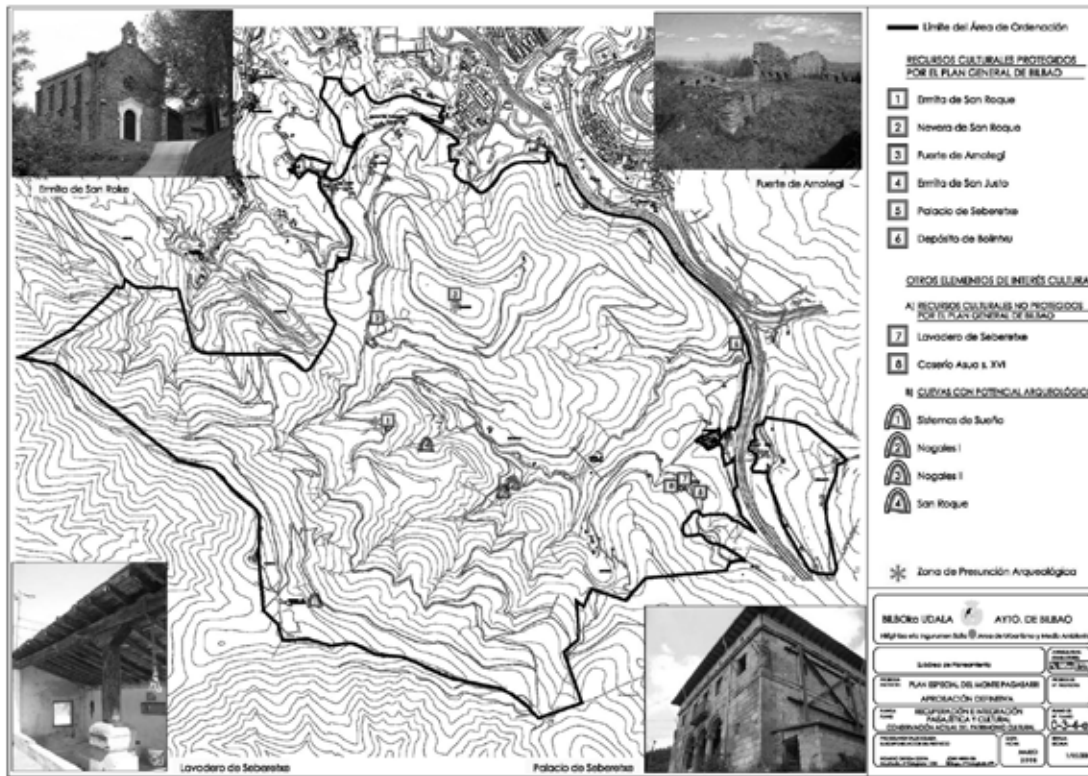
Irudia-Image: Design and location of the internal routes.



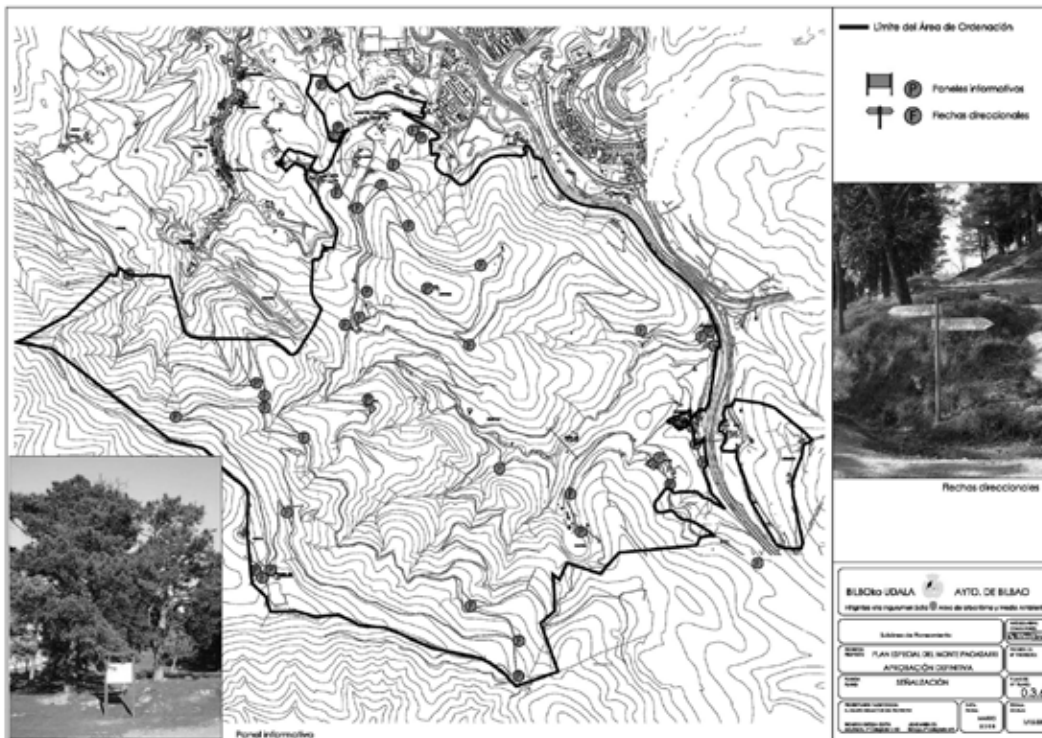
Irudia-Image: Proposal of educational, sport and other related public space.



Irudia-Image: Assessment map of negative impact elements including electricity transport lines, informal orchards, antennae, shacks, fly-tipping areas etc.



Irudia-Image: Heritage site map.



Irudia-Image: proposal for new signage and orientation system and elements.

**MBe.6-** Bilboko Eratzun Berdeko Ibilbide Luzea (2009?)**GM.6-** Map of the Green Ring of Bilbao (2009?)

*Elementua aukeratzeko irizpidea-Landscape element selection:* element known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* document known to the researcher



*Irudia-Image:* the map shows the ring, and other quantitative data regarding orientation and emergency information, place-names, geographical information, area of parks, time and length of routes etc.

**MBe.7-** Bilboaldeko Eratzun berdea web aplikazioa eta txostena (2011)**GM.7-** Green Ring of Metropolitan Bilbao- website application and historical brief (2011)

*Agiria aukeratzeko irizpidea-Document Selection criteria:* document known to the researcher

**MBe.8-** Pagasarri-Juanjo San Sebastian (2011)**GM.8-** San Sebastian, J (2011). *Pagasarri*. BBK, Bilbao.

[a historiographic description of Pagasarri mountain by Juanjo San Sebastian professional hiker and writer]

*Agiria aukeratzeko irizpidea-Document Selection criteria:* RLB data-base search: Bilbao mendiak Pagasarri [Bilbao mountains Pagasarri]



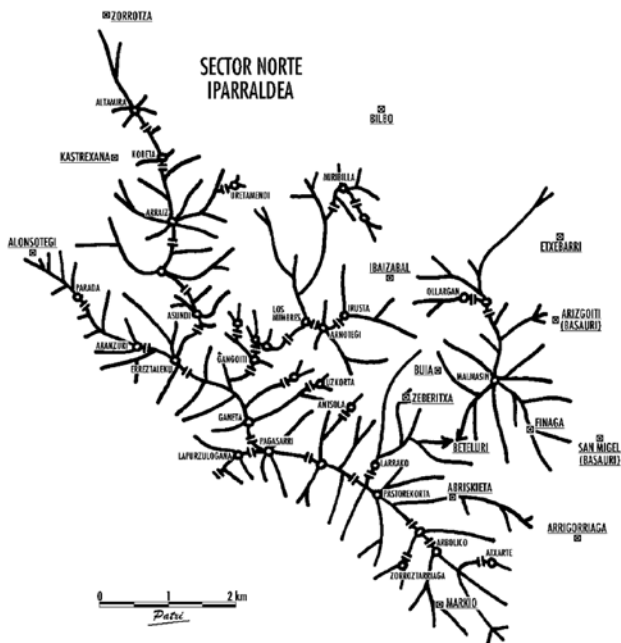
*Irudia-Image:* Cover of the book

**MBe.9-** Bizkaiko Gailurren Katalogoa (?)

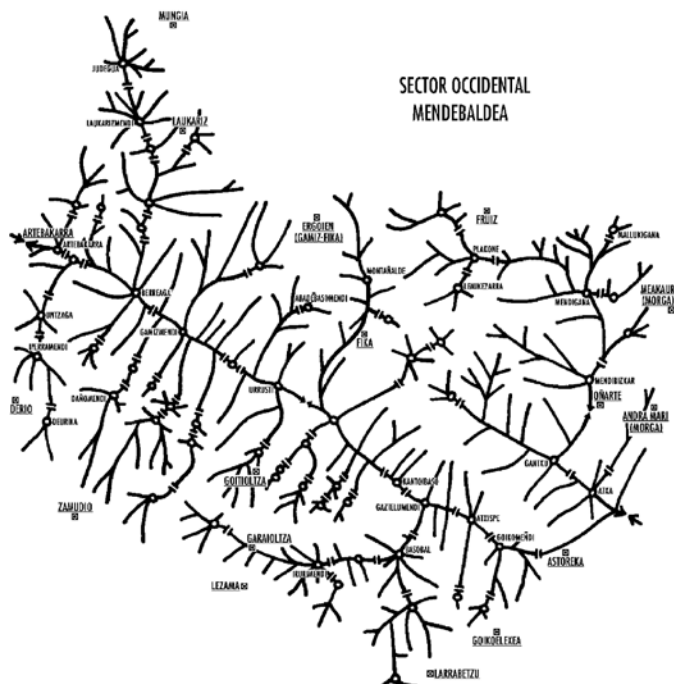
**GM.9-** maps from the Catalogue of Biscay mountain summits (?)

*Agiria ankeratzeko irizpidea*-Document Selection criteria: Internet data-base search: mendiak mapak Bizkaia Bilbao [mountains maps Bizkaia Bilbao]

[http://www.bizkaia.net/Kultura/gailurren\\_katalogoa/croquis.asp?croquis=mendigisa&Idioma=CA](http://www.bizkaia.net/Kultura/gailurren_katalogoa/croquis.asp?croquis=mendigisa&Idioma=CA)



Irudia-Image: map of the Pagasarri northern area.



Irudia-Image: map of the Gaztelumendi area (to the north of Bilbao near Larrabetzu, Lezama and Zamudio towns).

## 5.1 Mendia Bizileku Formala- *Formally Settled Mountain*

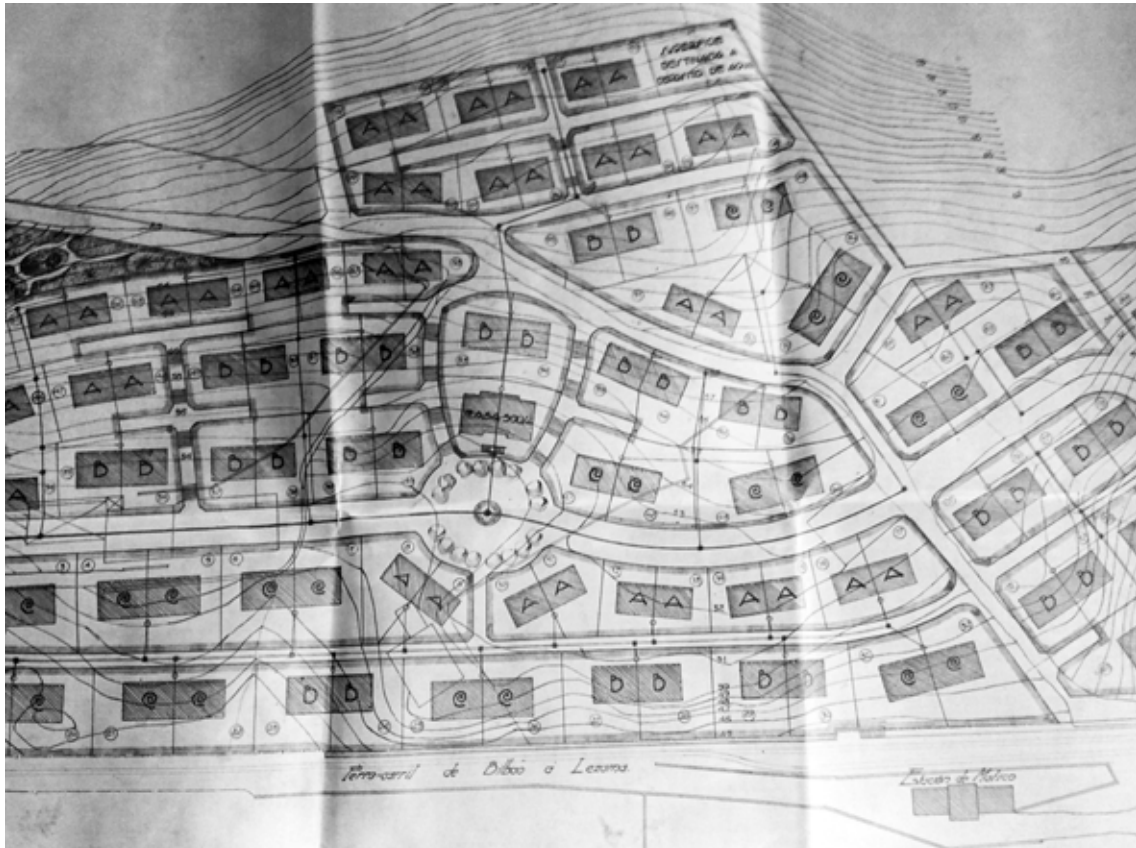
**MBiF.1-** Proyecto de Barrio Jardín en las faldas de Archanda (1923)

**FSM.1-** Design for a Garden City neighbourhood on the slopes of Artxanda, Bilbao (1923)

Arkitektoak: Pedro Ispizua & Emiliano Amann

*Elementua aukeratzeko irizpidea-Landscape element selection:* the element is known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMA data-base search: Ciudad Jardín planos [design plans Ciudad Jardín]



Irudia-Image: Site-plan with an overlay of the development, the types of houses and the topography.

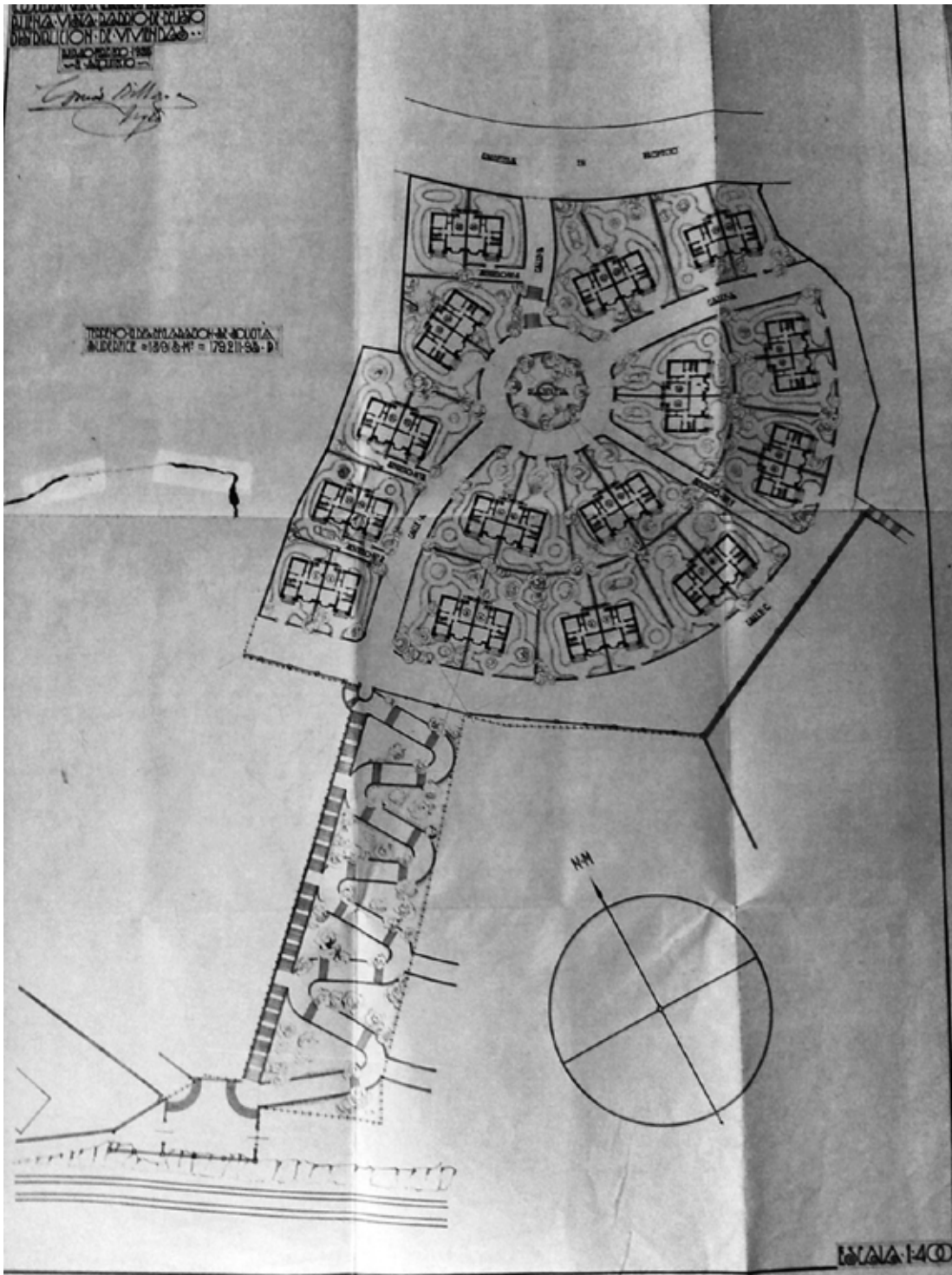
**MBiF.2-** Cooperativa de Casas Baratas “Buena Vista” (1925)

**FSM.2-** Project for a residential cooperative “Buena Vista”, Bilbao (1925)

Arkitektoak: Tomás Bilbao

*Elementua aukeratzeko irizpidea-Landscape element selection:* the element is known to the researcher

*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMA data-base search: Buena-Vista planos [design plans Buena-Vista]



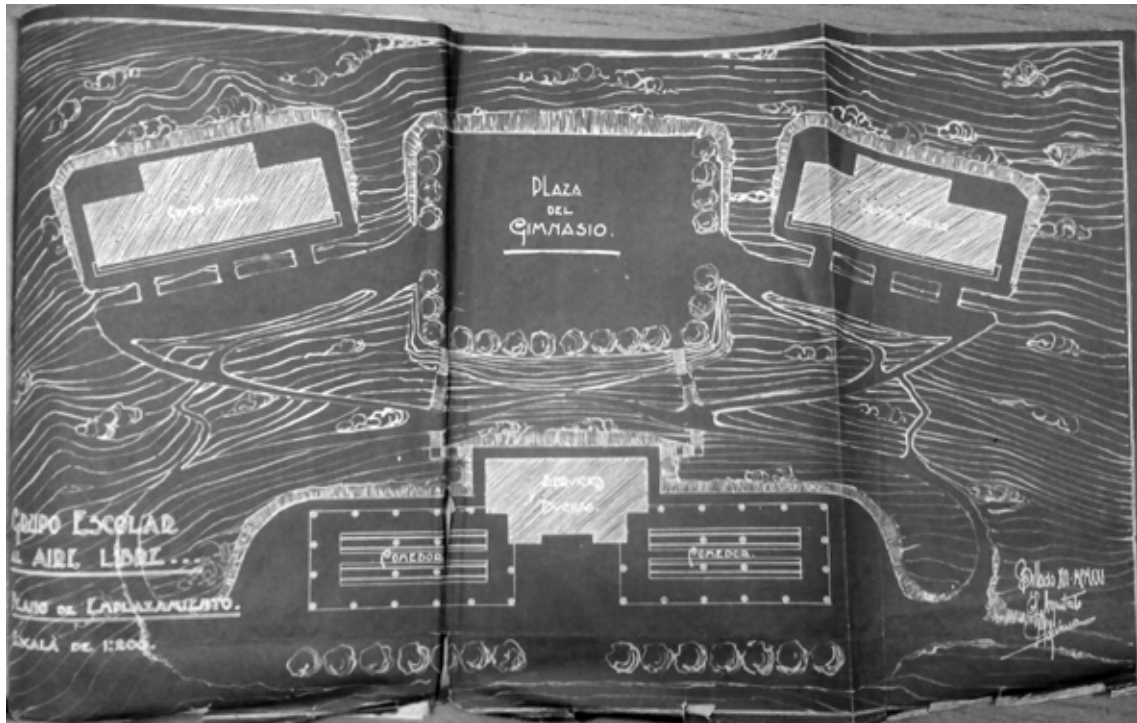
Irudia-Image: site plan showing the pedestrian access and the ground-floor of the houses.

**MBiF.3-** Escuela Aire Libre Artxanda (1922-26)**FSM.3-** Design for an Open Air school in Artxanda, Bilbao (1922-26)

Arkitektoak: Pedro Ispizua

*Elementua aukeratzeko irizpidea-Landscape element selection:* the element was found by chance in the Archive, it was never built. However the criteria was to look for school projects since there are a number of these located on the hills.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* RHA data-base search: escuela planos Archanda [Artxanda school esigns]



Irudia-Image: floorplan of the proposed school .



Irudia-Image: watercolor composition showing the proposed location of the school to the west of the funicular of Artxanda.



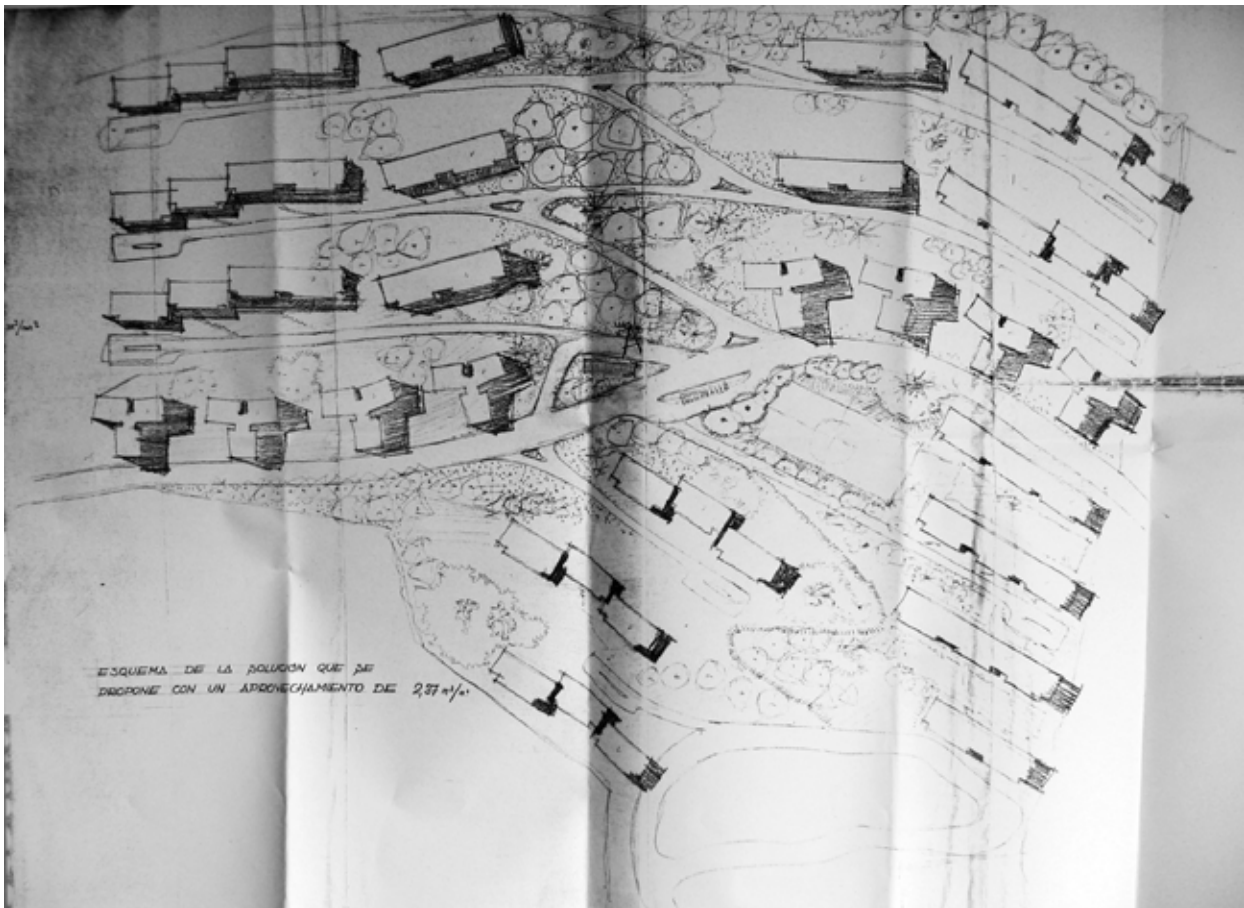
**MBiF.4-** Anteproyecto Urbanización y Ordenación Viviendas Altamira (1959-)

**FSM.4-** Early urbanization and planning design for a housing development in Altamira, Bilbao (1959-)

Arkitektoak: Fco. Javier Sada de Quinto & J. Ramón de Basterra y Larrea

*Elementua aukeratzeko irizpidea-Landscape element selection:* the element was known to the researcher.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMA data-base search: Altamira plano de situación proyecto [Altamira location map development Project]



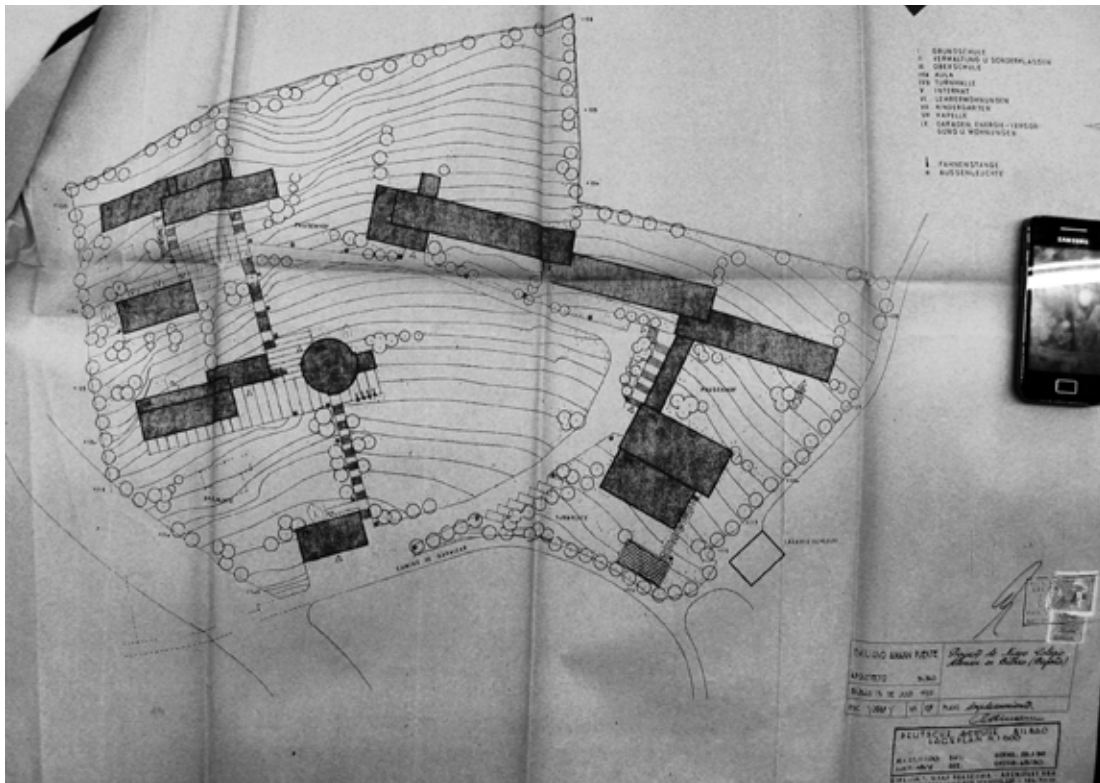
Irudia-Image: Development floor-plan with access roads and public space pedestrian areas..

**MBiF.5-** Nuevo Colegio Alemán (1959)**FSM.5-** Design for the New German School, Bilbao (1959)

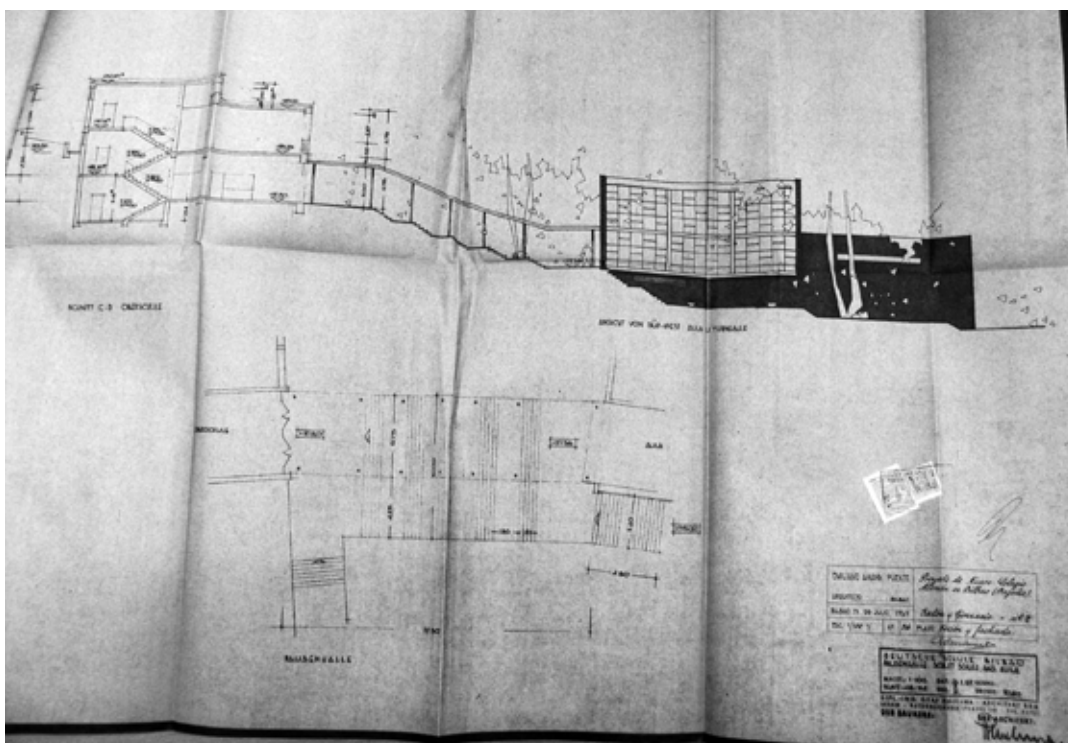
Arkitektoak: Oinarrizko proiektua: Dipl. Ing. Graf Praschma; Burutze Proiektua: Emiliano Amann Puente

*Elementua aukeratzeko irizpidea-Landscape element selection:* the element was known to the researcher.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMA data-base search: proyecto Colegio Alemán [design German School]



Irudia-Image: floorplan of the proposed structure and building distribution on the site.



Irudia-Image: cross-section through the connecting stairway between two buildings.

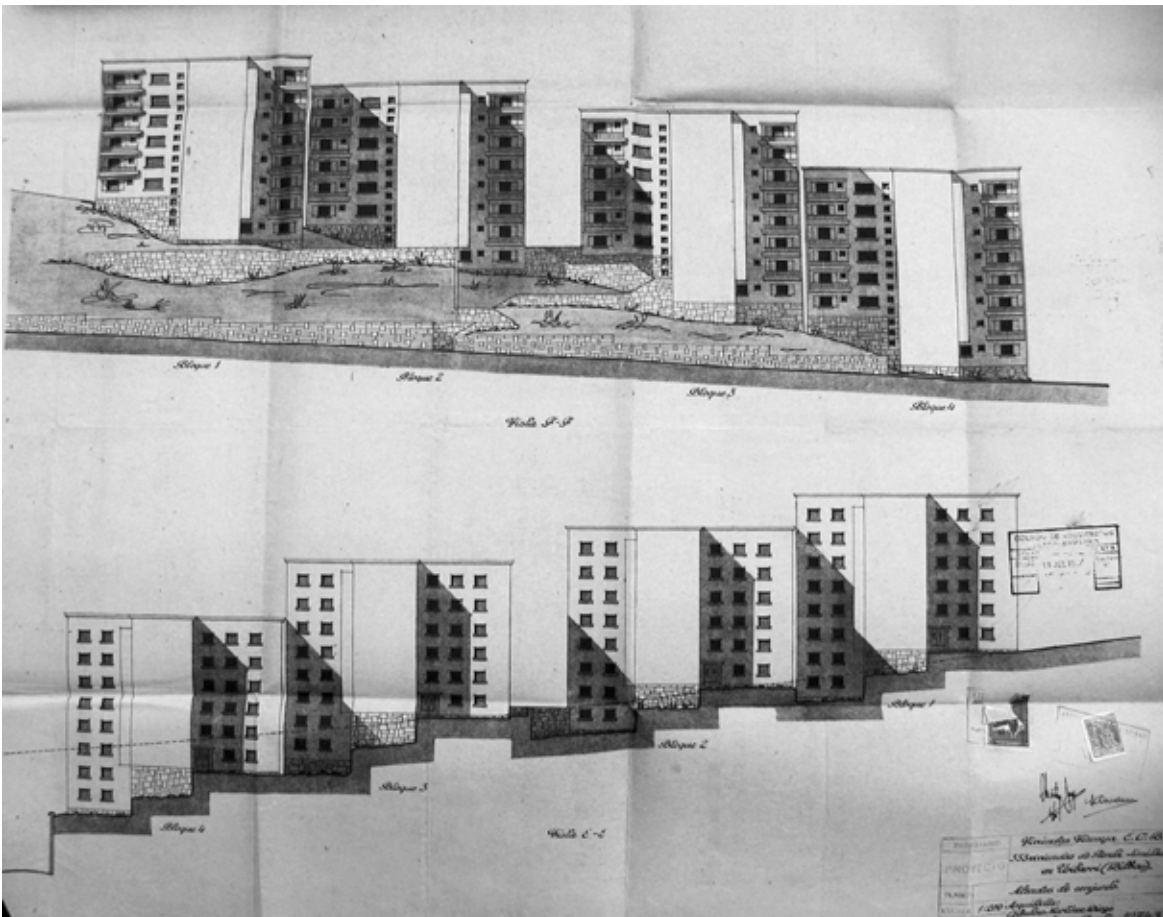
**MBiF.6-** 353 viviendas de Renta Limitada y Locales Comerciales en el Barrio de Uribarri (1966)

**FSM.6-** Project for 353 apartments in Uribarri, Bilbao (1966)

Arkitektoak: Celestino Martinez Diego & Emiliano Amann Puente

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher.

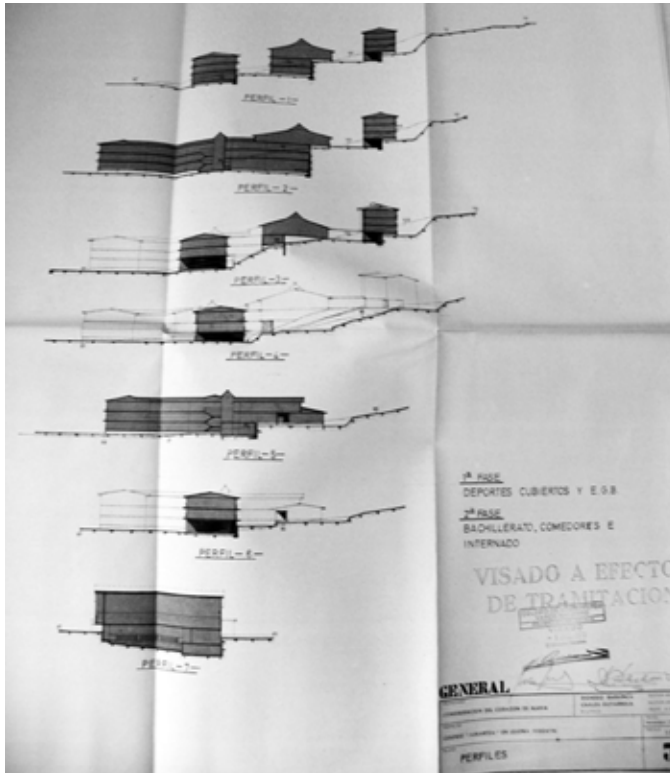
*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMA data-base search: Viviendas calle Monte Aldamiz [residential area Monte Aldamiz street]



Irudia-Image: Cross-section through the site and elevation drawing of the development.

**MBiF.7- Proyecto Colegio "Askartza" (1973)****FSM.7- Design for Askartza school, Leioa (1973)**

Arkitektoak: Dionisio Barainca &amp; Carlos Goyarrola

*Elementua ankeratzeko irizpidea-Landscape element selection: element known to the researcher.**Agiria ankeratzeko irizpidea-Document Selection criteria: LMA data-base search: Colegio Askartza-Claret proyecto [Askartza-Claret school project]*

Irudia-Image: Several cross-sections along the slope and buildings.



Irudia-Image: Building access floor-plan.

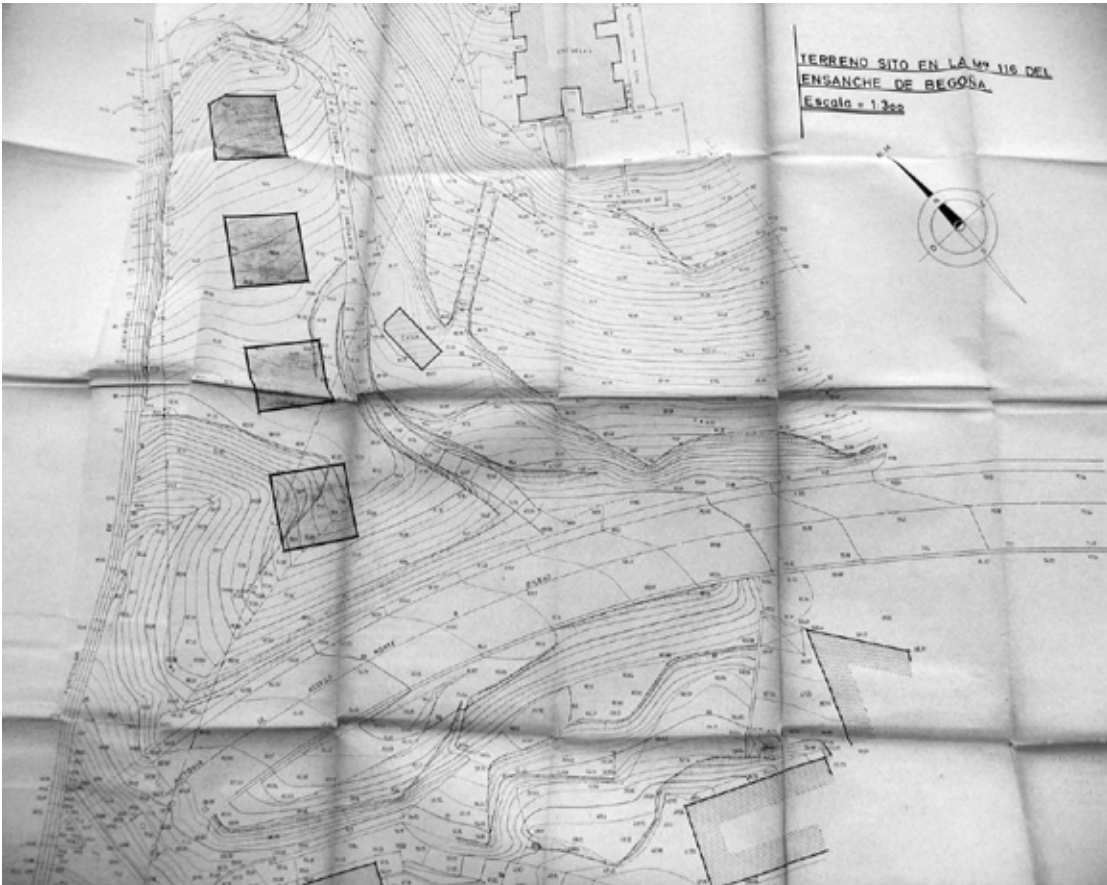
**MBiF.8-** Grupo Mirador Etxebizitzak eta iristeko bide berria (1975).

**FSM.8-** Grupo Mirador housing development, Bilbao (1975).

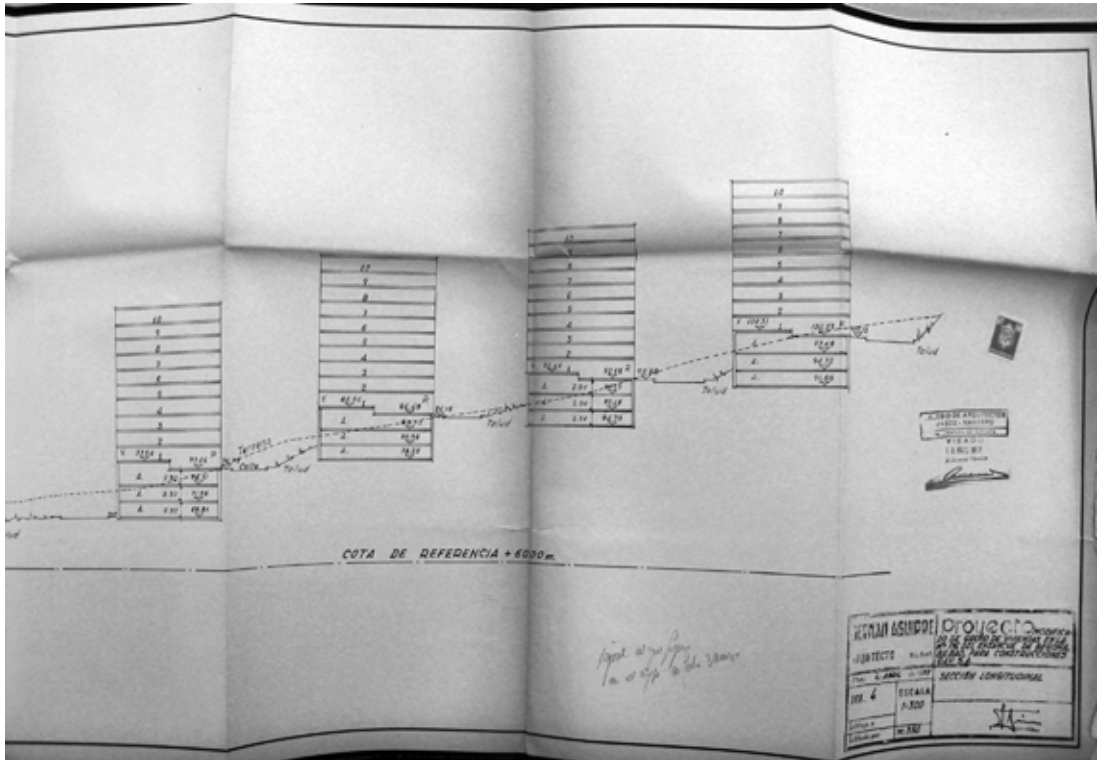
Arkitektoak: German Aguirre;

*Elementua aukeratzeko irizpidea-Landscape element selection:* element known to the researcher.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMA data-base search: Viviendas calle Grupo Mirador [Grupo Mirador housing development]



Irudia-Image: the Irudia-Image shows an overlay of the terrain and the proposed residential development structured by 4 blocks,



Irudia-Image: Cross-section of the project site and the four proposed residential blocks.

## 5.2 MENDIA BIZILEKU INFORMALA-INFORMALLY SETTLED MOUNTAIN

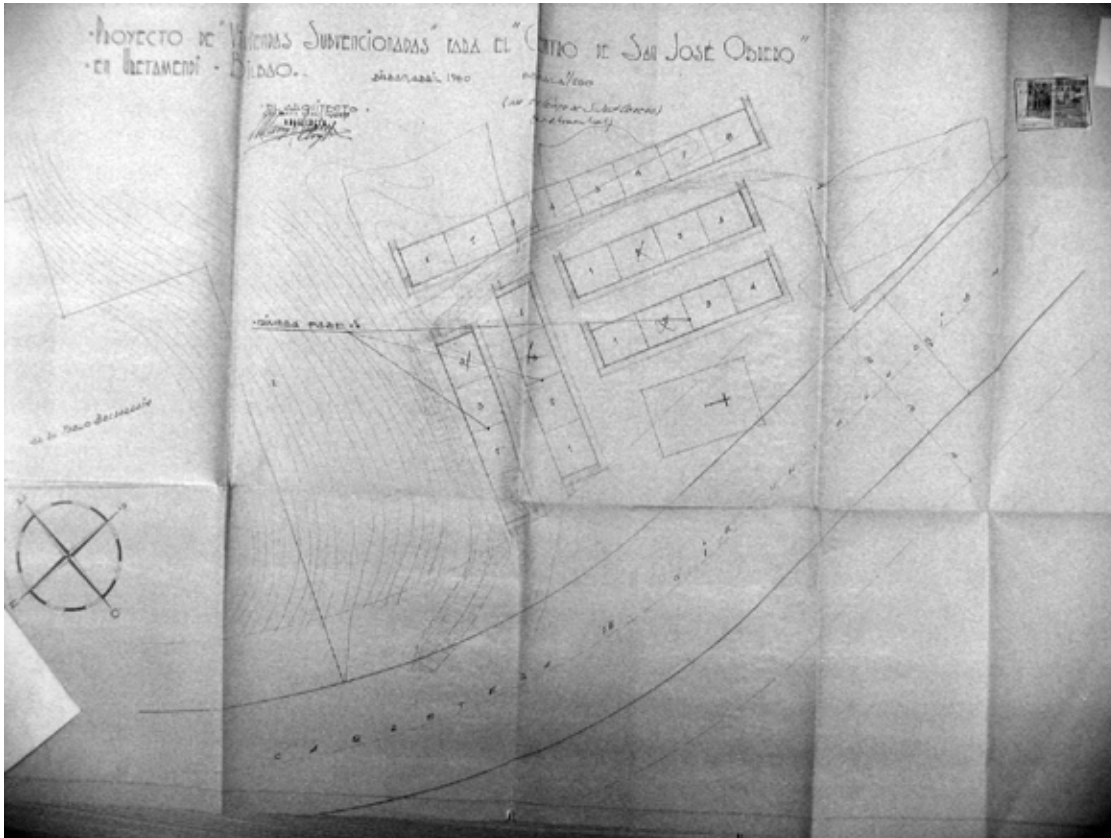
**MBil.1-** Uretamendirako Etxebizitza Proiektuak (1960)eta (1960-71)

**ISM.1-** Housing projects for Uretamendi, Bilbao (1960-71)

Arkitektoak José María Sainz Aguirre

*Elementua aukeratzeko irizpidea-Landscape element selection:* element known to the researcher.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* BMA data-base search: Vivendas Uretamendi [Uretamendi housing development]



Irudia-Image: site-plan of the residential block projects in Uretamendi.

**MBil.2-** Uretamendiko txabolen argazkiak-Errekaldeko begiak (1950-60?)

**ISM.2-** Photographs of the Uretamendi shack neighbourhood (1950-60?)

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* Internet data-base search: Bilbao chabolas [Bilbao shacks]

<http://errekaldkobegiak.blogspot.com.es/>

<http://uretamendi.blogspot.com.es/>



Irudia-Image: the Irudia-Image shows the shack development on Uretamendi hill before the blocks were built



Irudia-Image: Felisito shack n°55 in Uretamendi



**MBil.3-** Ocharcoaga-Jorge Grau (1961)

**ISM.3-** Ocharcoaga-Jorge Grau (1961)

[a short film on the history of a public housing development to house shack dwellers produced by francoist Housing Ministry]

*Elementua aukeratzeako irizpidea-Landscape element selection:* elements known to the researcher.

*Agiria aukeratzeako irizpidea-Document Selection criteria:* document known to the researcher



Irudia-Image: several stills from the short film showing the previous situation of the mountains with shacks, the building of the new residential area *Ocharcoaga*, and the resulting elimination of the shacks from the hill-tops.

**MBil.4-** Otxarkoaga. El nacimiento de un nuevo Bilbao (2011)**ISM.4-** Otxarkoaga (2011)

[a short film on the 50<sup>th</sup> anniversary about the history of Otxarkoaga neighbourhood from the eyes of its inhabitants]

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher.

*Agiria aukeratzeko irizpidea-Document Selection criteria:* internet data-base search: Otxarkoaga historia [history Otxarkoaga]

<https://www.youtube.com/watch?v=kOLqWX5Duh8>



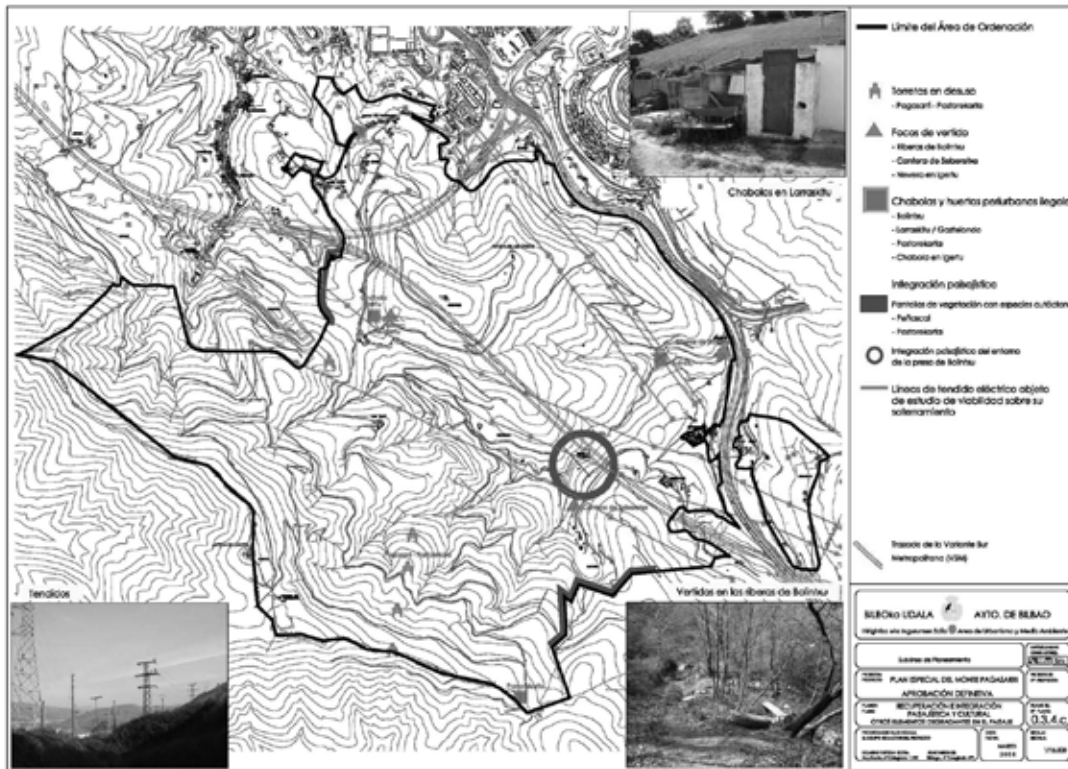
Irudia-Images: several still from the short-film Otxarkoaga showing the conversation of former shack-dwellers and current neighbours of Otxarkoaga recalling their memories of the area.

**MBil.5-** Pagasarriko Plan Berezia (2006-2011)

**ISM.5-** Special plan for Pagasarri. Map indicating the impacting elements of the area (2006-2011)

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher: informal orchards and shacks

*Agiria aukeratzeko irizpidea-Document Selection criteria:* internet included in the Special Plan for Pagasarri [GM.5]



Irudia-Image: Maps showing the impacting elements existing on the Pagasarri mountain area, including the informal orchards and shacks.

**MBil.6-** Masustegiri buruzko berriak (2010-11)

**ISM.6-** a series of newspaper clippings and radio broadcasts about Masustegi area (2010-11)

[an informally developed neighbourhood from the 1950-60s in Bilbao built on private land and recently (2011) acquired by the municipal govern]

*Agiria aukeratzeko irizpidea-Document Selection criteria:* internet data-base search: Masustegi historia [history Masustegi]

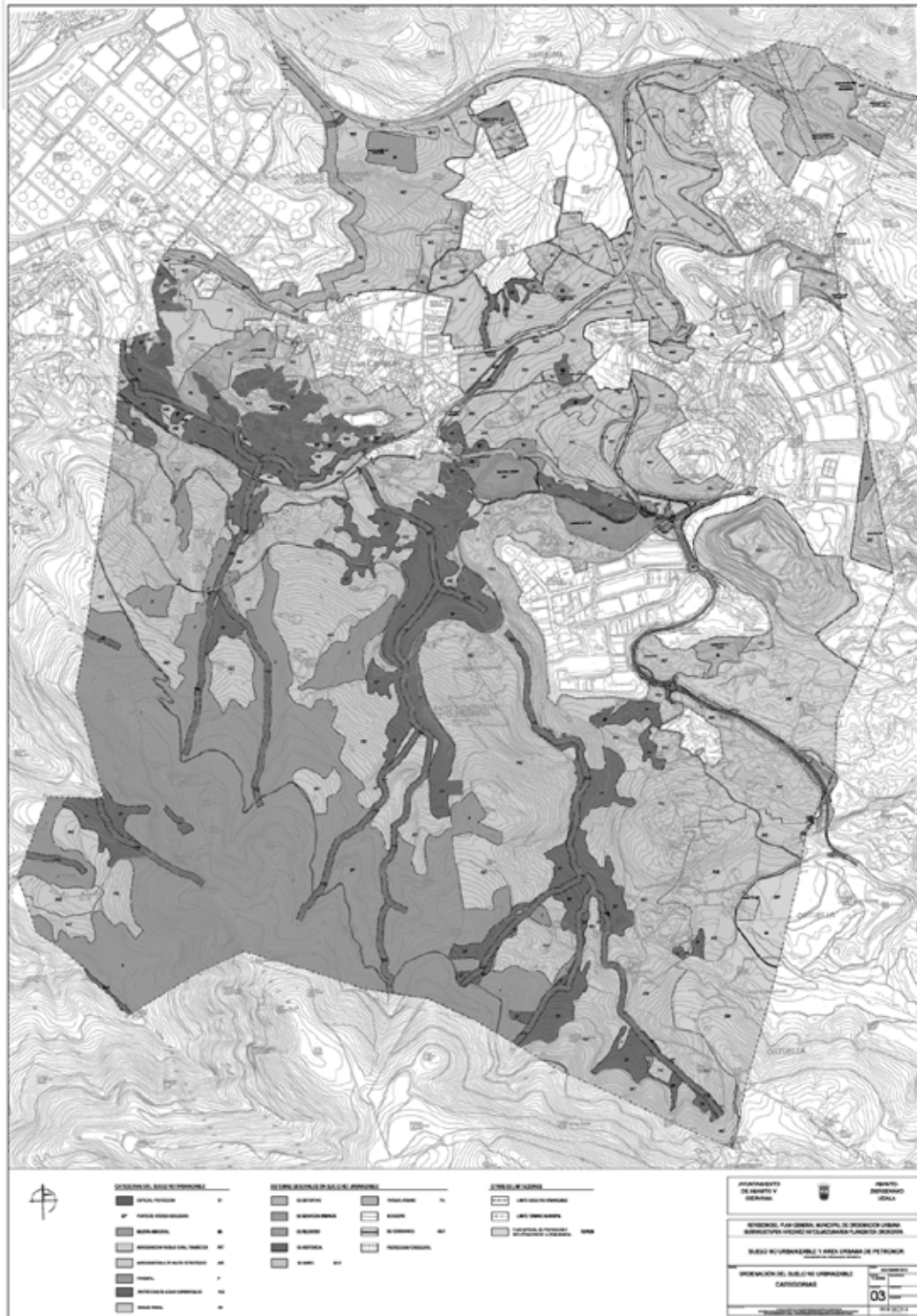
<http://www.elcorreo.com/vizcaya/v/20101007/vizcaya/ayuntamiento-bilbao-compra-barrio-20101007.html>

[http://www.bilbao.net/cs/Satellite?c=BIO\\_Noticia\\_FA&cid=1279109020744&language=es&pageid=3012590376&pagename=Bilbaonet%2FBIO\\_Noticia\\_FA%2FBIO\\_Noticia](http://www.bilbao.net/cs/Satellite?c=BIO_Noticia_FA&cid=1279109020744&language=es&pageid=3012590376&pagename=Bilbaonet%2FBIO_Noticia_FA%2FBIO_Noticia)

**MBil.7-** HAPO Abanto-Zierbena, behin betiko onarpena (2012)**ISM.7-** General Urban Plan of Abanto-Zierbena (2012)

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher: informal housing

*Agiria aukeratzeko irizpidea-Document Selection criteria:* document known to the researcher



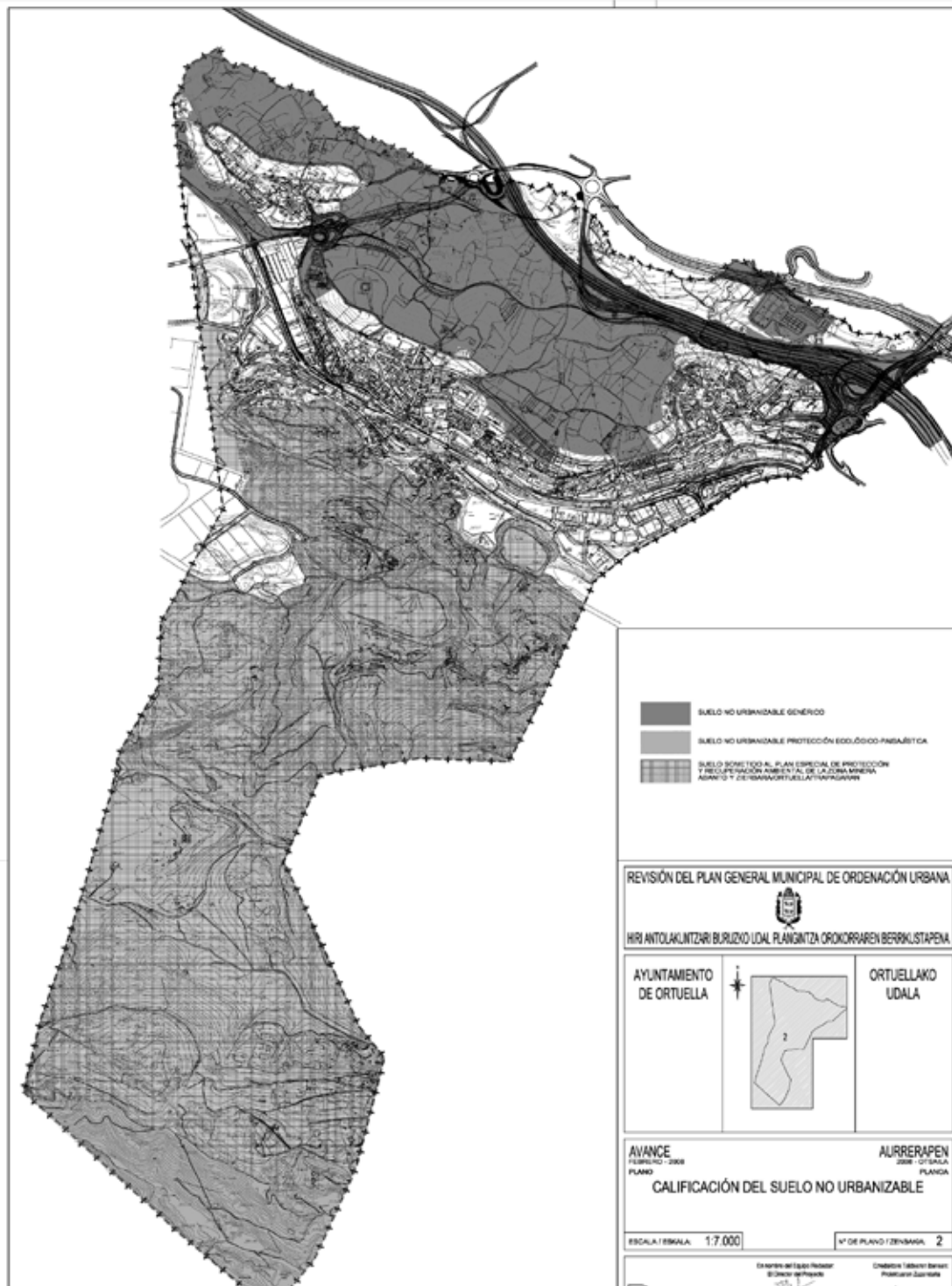
Irudia-Image: the map shows the zoning of land into categorized as non-developable.

**MBil.8-** HAPO Ortuella, aurrerapen dokumentua (2008)

**ISM.8-** General Urban Plan of Ortuella (2008)

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher: informal housing

*Agiria aukeratzeko irizpidea-Document Selection criteria:* document known to the researcher



Irudia-Image: the map shows the zoning of land into categorized as non-developable.

**MBil.9-** HAPO Trapagaran, hasierako onarpena (2010)

**ISM.9-** General Urban Plan of Trapagaran (2010)

*Elementua aukeratzeko irizpidea-Landscape element selection:* elements known to the researcher: informal housing

*Agiria aukeratzeko irizpidea-Document Selection criteria:* document known to the researcher

**MBil.10-** Bilbao y la evolución de sus barrios

**ISM.10-** Bilbao, (2007). *Bilbao y sus barrios: una mirada desde la historia*, Bilbao: Ayuntamiento de Bilbao, Área de Cultura y Euskera.

[a series of volumes that include historiography descriptions of the neighborhoods in Bilbao]

*Agiria aukeratzeko irizpidea-Document Selection criteria:* BPL data-base search: Bilbo historia [Bilbao history].

Same document as TM.9



## **G ERANSKINA. Galdetegi Eredua**

### **APPENDIX G. Questionnaire Example**

Gehigarri honetan adierazten da 6+2 Paisaia Ikuspegi bakoitzeko agirien fitxak bildu eta gero egin den datu bilketaren, analisiaren eta interpretazioaren eredu bat. Kasu honetan, 3. Paisaia Ikuspegia den Mendi Erabilgarriari dagokion informazioa da aurkezten dena formulatutako Paisaia Ikuspegi bakoitzarekin egin den bilketaren adibide moduan.

*The Appendix shows the data collection, analysis and interpretation carried out for each of the files included in each of the Six Landscape Perspectives, in this case, the #3 Available Mountain Landscape Perspective. This Appendix serves as an example of the way in which documented information has been processed in the Second Scene.*

#### **1. DIMENTSIOA-IDEIA/IDEA**

*Is the document's idea of land agreed with that of its Landscape Perspective category?*

-Sailkapeneko perspektiba betetzen al da? [aztertu portzentajeen arabera eta interpretatu emaitza]

Bai 9/9 (PT Aranzadiren argazkia eta fabrika onartzen baldin baditugu)

Ez 1 (Zuhatzuko fabrikaren inguruko infoa)

Ezin esan 0

*Which other Landscape Perspectives are connected to this document?*

Horrezaz gain mendia OZTOPOA ere bada, 2 kasutan: Artibako Urtegiaren kasuan hoderterari dagokionez eta Ur Partzuergoaren Txostenaren kasuan ere.

Bestalde, ARTigas eta Zabalgarbiren Plan Berezian, eremuaren parke izaera gorai patzen da, hortaz, hondakindegien izaera berdea eta mendi-berde perspektiba ere ageri dira.

*Which purpose does the document have?*

-Dokumentuei begiratu ondoren, Perspektibaren helburuak zeintzuk direla esango zenuke?

Zerbitzuak eskaintzea, hiriko nahiz gizarteko arazoei aurre egingo dieten zerbitzuak eta jarduerak kokatzeko tokia bilatzea.

Toki horien ezaugarriak dira batetik, edukiontzia forma ona, isolamendua edo distantzia hirigune nagusiarekiko, eta aurretiaz artifizializatua egon izana. Horrela ulertzen du mendi magala perspektiba honek.

#### **2. REPRESENTATION DIMENSION**

*Map, design map, planning map, drawing:*

*In which ways are site and mountains graphically represented?*

*What is the scale?*

*...graphic perspective?*

*...symbols and key?*

*...orientation and location of north?*

*Are there overlapping layers of information?*



*Photograph, film-still, etc.*

*In which ways are site and mountains graphically represented?...optical perspective?*

*Is there any written text?*

*Which is the main focus of the image?*

*Elements in foreground, midground and background Content Analysis of the written Representation (2.D).*

*Is there any mention of the mountain when the site or location are described?*

*Is there any mention to pre-existing elements? How are the pre-existing elements mentioned?*

*In which ways is the mountain-slope conceptually represented? Which features are mentioned?*

*In which ways is the site described and represented? Which features are mentioned?*

-zein da mota?

Grafikoa, Idatzia, Kobinatua, Bideoa

-Nola irudikatzen da kokapena?

>Grafikoki,

-Argazkiak:

PT Aranzadiren argazkia: kokapena izenaren bidez adierazten da, Sta Marina

-Planak:

PE Artigas eta Zabalgarbi: ohiko mapa topografiko estandarren bidez

-Proiektuak

Artibako urtegia: kokapena urtegiarena izateaz gain, hoditeria eta argindar lerroen ibilbide osoa da; kokapen planoak erabiltzen dira, urtegitik ur depositurainoko eremu zabala hartuz. Tartean, KAdagua ibaiaren ibarra zeharkatzen da.

Finagako subestazioa-Iberduero: kokapen plano txiki batean ageri dira Burgoserako errepidea ardatz nagsi gisa, eta inguruko auzoetako eraikinak. Finaga auzoko xehetasun gehiago ematen dira: etxeak, auzo-izenak, elizak

Artea: topografiko orokorrari gainjartzen zaio, zirkulu batez seinalatutako tokian, komertziogunearen planta. Testuan, kokapena adierazten da hango lurren kalitate kutsatuak eta ezegonkorrak aipatuz. "Las Canteras" leku izena ere ageri da kokapen planoan.

El Campillo Industriagunea: hainbat planotan ageri dira plano topografiko ohikoak, toponimia, eraikinak, meatze azpiegiturak, meatze kontzesioak etabar.

-Mapak:

Ur Partzuergoaren triptikoa: toki izenen bidez, azpiegiturak eta geografia fisikoaren sinplifikatu baten bidez.

>Testu bidez

-Txostena:

Argalarioko hondakindegia: argazkien bidez eta hondakindegientzako kokapen egoki gisa, Barakaldon dagoen kontrolatu gabeko hondakain kantitate altuak eta bertan zegoen zabortegea direla eta. Bertan lehenago zegoen zabortegea aipatzen dira, kontrolatugabea. Baina hau ez da mendiari egiten zaion

aipamena, mendiaren aurreko erabilerari baizik.

~~Artigaseko zabortegia:~~

Zuhatzuko Lehergailu fabrikaren historia: Zuatzu, Pagatza, San Anton mendiak aipatzen dira.

-*Nola irudikatzen da mendia?*

>*Grafikoki,*

-Argazkiak:

PT Aranzadiren argazkia: magalaren argazkia da, sastrakaz garbitua, zenbait eraiki txuri magalaren kontra jarriak eta euren artean trenbide bidez eta bidexken bidez elkarlotuak.

-Planak:

PE Artigas eta Zabalgardi: mendiaren topografia, landaredia, geomorfologia, estratigrafia, tektonika eta maldak aipatzen dira.

-Proiektuak

Artibako urtegia: mendia sestra kurben bidez, hormaren altzera planoan saietsez ikusia edo moztuta lerro bidez, eta arginda lerroaren ibilbidearen profilean moztuta eta bertan ageri dira hainbat elementu.

Finagako subestazioa-Iberduero: mendia sestra kurba bidez, nahiz eta planoaren azalera osoan ez ageri, soilik estaziotik gertuen dauden eremuan.

Artea: modu arruntean, sestra kurben bidez.

El Campillo Industriagunea: sestra kurben bidez, topografiaren deskribapen grafiko oso zehatza eskala handiagoko planoan. Memorian, topografiaren artifizialtasuna aipatzen da.

-Mapak:

Ur Partzuergoaren triptikoa: mendiak diruditen berde koloreko formen bidez, tontorren izenak eta altueraren bidez.

>*Testu bidez*

-Txostena:

Argalarioko hondakindegia: Mendia kokapena bera da. Artigaseko zabortegia

Zuhatzuko Lehergailu fabrikaren historia: San Anton mendia aipatzen da hiru.com-eko sarreran, eta El País-eko artikuluetan, tokia ezkutatuta dagoela aipatzen da.

***Can there be any trends identified by Landscape Perspectives and by periods of time as to how place and mountain are represented?***

*-Joerak MENDIA irudikatzerakoan ?-Joerak KOKAPENA EDO TOKIA irudikatzerakoan*

Mendia ez da inolaz ere aipatzen, espazio zati konkretu bat baino ez da irudikatzen orokorrean. Nahiz eta magalen morfologia den proiektua burutzeko baldintza nagusienetakoa, batez ere biltegiak (zaborra, ura), komunikazio tokiak (subestazioak) edo jarduera arriskutsuak urruti/isolatuta (subestazioa, lehergailu fabrika, zabortegiak...) kokatzeko, mendiaren aipamenik ez da egiten. Zergatik?

Bestalde, aurretiaz eremuak duen ezaugarri edo izaera antropogenikoa ere esanguratsuak dira tokia beste proiektu bat osatzeko kokapen egoki gisa: Argalario zeldaren, El Campillo industriagunearen edota ARTEa komertzio-gunearen kasuetan. Denetan dago tokia aurretiaz egoera txarrean edo kutsaia. Zabalgardiaren kasuan ere, aurretik zegoen harrobiaren eremua aprobeztatzen da.

*-Joerak GARAIEN ARABERA*

Ez dago aldaketa nabarmenik, ez bada aspektu grafikoan, beste kasuetan bezala, plano topografiko osoak erabiltzen direla zenbat eta proiektua edo dokumentua modernoagoa izan. Kokapen planoak,

alegia, estandarizatuagoak direla datu base publikoak geroz eta gehiago erabiltzen diren heinean.

Kontzeptualizazioari dagokionez, denborak aurrera egin ahala, sumatzen da industrializazioaren garai ezberdinen arrastoak lurraldean ageri direla eta ekonomia- jardueren bilakaerari nahiz hiri-funtzionamenduaren bilakaerari dagokionez ( hiritarrek eta hirtartuak diren eremuen eskariak, zerbitzuak eta beharrak konplexuago bilakatzen dira, sistematizatuak), eremuen aukeraketan eragina duela hur lehenago erabilia izan den ala ez. Hots, lurra kutsatua eta transformatua baldin badago, hantxe kokatuko da hondakindegia, industrialdea edo komertzio-gunea.

Iparralde globalean, hiriguneak dentsifikatzen joan diren heinean, hainbat zerbitzu, batik bat hondakinen kudeaketa, geroz eta urrutiago kudeatzen dira. Esaterako, NYCko zaborra, hegoaledeko estatu batek kudeatzeko ordaintzen du, eta bertara barkuz garraiatzen da.

Hots, deserosoak diren funtzioak, inguruko lurretan kudeatu beharrean (Bolboaldean mendian) geroz eta lurralde urrunagoetara bidaltzen diren joerari kasu eginez, eta gainera, hiri inguruak geroz eta berdeagoak nahi direnaren joerari kasu egiten baldin badiogu ere, Bilboaldearen kasuan, mendian baino urrunago dagoen tokietan kokatu beharko lirake. NIMBY eta BANANA.

### ***What is hidden or concealed in the representation, and what might this mean?***

*-Zer ez da ageri? Eta zer esan nahi du honek?*

Ez da apenas aipatzen mendiaren morfologiak kokapena aukeratzeko zenbateraino baldintzatzen duen. Adibidez, urtegia eraikitzerakoan, edo zaborte-gunea, edo uraren garraioari zenbat laguntzen dion, edo lehergailu fabrika...

Ez da aipatzen ere, zergatik aukeratu diren toki kutsatuak zenbait jardura bertan kokatzeko; industrialdeak, komertzio-guneak, zabor gordailuak.

Eta lehen esan bezala, mendia bere osotasunean, ekosistema berezi bezala ez da aipatzen, ezta hiri ertza ere.

Honen interpretazio bat hau da: Proiektuen kokalekua eremu mugatu bat da, isolatua, ingurukoengandik ongi bereizten dena edota ezerk inguratuko ez balu bezala proiektatu izan dela.

## **3. AGENCY**

### ***Who are the promoters and authors of the document?***

*-Egileak:* ingeniariak, konpainia pribatuak, erakunde publikoak, enpresariak

### ***Which are the purposes of the promoting agency in general?***

*-Ze motako erakundeak eta zein helburu ditu, orokorrean?*

PT Aranzadiren lehergailu fabrika: pribatua-argazkia Pedro Telesforo Aranzadik egina da, lehergailu fabrikaren hastapenak ageri dira bertan.

Artibako urtegia: publikoa-Barakaldoko udala, herria urez hornitzeko urtegiaren eraikuntza

PE Artigas eta Zabalgardi: publikoa-BFA, bi zaborgune horien eremua bir-ordenatu

Artea: pribatu-publiko-MPR eta Leioako Udaletxeak sustatuta, Hondatua zegoen eremu bat berreskuratu, urbanizatu eta bertan komertzio-gunea bat eraiki.

Finagako subestazioa-Iberduero: pribatua-Iberduero, argindarraren garraioroko eta transformaziorako estazio bat eraikitzea

El Campillo Industriagunea: publikoa-Abanto-Zierbanako udala, hondatua zegoen eremua aprobetxatu industriagune bat eraikiaz lanpostu berriak sortzeko esperantzan

Ur Partzuergoaren triptikoa: pribatua-UR Partzuergo, Bilboaledko ur hustiaketa eta saneamenduaren funtzionamendua- eta azpiegitura-sistema irudikatzea

Argalarioko hoindakindegia: publiko-EVE, lindane hondakindegia kontrolatu gabeak zelda/biltegi kontrolatu bakarrean biltzea.

Artigaseko zabortegia

**Public or Private promotion and funding?**

-Dokumentuaren Sustapen Publikoa (5) ala Pribatua (4)?

**Distance to the place: insider or outsider, objective or subjective?**

-Zeintzuk dira nabari diren joerak?

-Egiletzan:

-Sustapenean/babesean:

publiko (4/8: Artiba urtegia Barakladoko udalarena, Zabortegia eta Errauskailuko lurzoruen plana Bizkaiko Foru Aldundiak, El Campillo industrialdea eta EVEk sustatuko Argalarioko hondakin toxikoen zelda)

privatu (3/8: Lehergailuen fabrikari buruzko artikulua, baita lehergailu fabrika ere; Finagako subestazioa Iberduerok egina eta Ur Partzuergoaren dokumentazioa)

publiko-privatuak (1/8: ARTEako lurzoruaren urbanizazioa)

-Distantzia: barne ala kanpo?

Barne (0/8)

Kanpo 4/8: Zuhatzuko lehergailufabrika, Bilboladeko zaborren eremuko plana, Finagako subestazioa, eta Ur Partzuergoaren dokumentazioa eta sarea);

Kanpo-barneko: 4/8; ARTEako proiektua lurzoruaren egoera zein zen zekitelako udalekoek, baina proiektuak ez duelako ingurua aintzat hartzen; Artibako urtegia, Barakaldoko ur beharretan oinarritzen delako, baina lurzoru ugari zeharkatzen dituelako kanpotarra; El Campillo, lurzoruaren egoeraz jakitun baita udala, baina lurralde mailako proiektua dalako kanpotarra; EVE Argalario, lurzoruaren egoraz jakitun zirelako, baina lurralde eskala duelako kanpotarra).

-*Epistemologia: objektiboa ala subjektiboa?* O (8/8) S (0/8): denak dute oinarri objektiboa gidari, arrazoia erabilgarritasuna, egokitasuna eta eraginkortasuna hornitzeko, edo etekin ekonomikoa eratoritzeko.

	Pub	Prib	K	B	K+B	?	S	O
Zuhatzu-		1	1				1	
Artiba	1				1		1	
Artigas-Zabalgarr	1		1				1	
ARTEA	1/2	1/2			1		1	
Finaga		1	1				1	
El Camp.	1				1		1	
Ur partz.		1	1				1	
EVE	1				1		1	
	4.5	3.5	4	0	4		8	

#### 4.ELEMENTS DIMENSION.

*Is there any mention to Elements caused by the implementation or projection onto land of the Landscape Perspective?*

-Egoerak dira proposatutakoak?

Zuhatzuko lehergailu Fabrika: ez

Artibako urtegia:Ez

PE Artigas eta Zabalgardi:ez

Artea:Ez

Finagako subestazioa-Iberduero:Ez

El Campillo Industriagunea:ez

Argalarioko zelda:ez eta bai: kontrolatu gabe dauden hondakinak behin betiko gorde eta zaintzea.

-Eraikinak edo elementu natural konkretuak dira?

Zuhatzuko lehergailu Fabrika: lhergailu fabrika fase ezberdinak

Artibako urtegia: urtegia

PE Artigas eta Zabalgardi: eremuaren antolaketa, “parke eta guzti”

Artea: eremu bat berreskuratu, hiritartu eta koertzio gunea eraiki

Finagako subestazioa-Iberduero: subestazioa eraiki

El Campillo Industriagunea:industriagunea eraiki

Argalario: hondakin toxikoentzako gordailu behin betiko bat eraikitzea

How are the new elements connected to the site?

*Implications of the new elements onto the landscape construction?*

*-Zein da eragina paisaia eraikitzerakoan?*

Zuhatzuko lehergailu Fabrika: Pedro Telesforo Aranzadi izan zen fabrikaren lehen sustatzailea, Nobel-en patentea erosi eta gero, dinamita garatzeko.1.go kokapean Santa Marina mendiaren magaletan izan bazen ere, gerora Zuatza lekualdatu zen. Hainbat eskuetatik pasa egin da fabrika urteetan zehar. Zuatza egungo kokapena hainbat pabeloik eta bidek osatzen dute, mendiko ibarretan eta basoetan antolatua. Eragin nabarmena izan du bertako landarediaren mantenuan, izan ere, hostozabalen basoa nabari da fabrikaren lurretan, inguruko lurzoru pribatuetako pinuaren oso paisaia ezberdina osatuz.

Artibako urtegia: Artibako urtegiaren erabilera ez dakit zein den egia esan, hau nolabait ezkutuan baldin badago ere, Gurutzeta gaineko magaltxoan urtegiarekin lotura zegoen depositua nabarmen ikusten da hainbat tokietatik eta Ur Partzuergoaren sarearen baitan dagoela esango nuke.

PE Artigas eta Zabalgardi: Plana burutu egin da, bere osotasunean ez dakigu. Baina zaborraren ekoparke bat sortzearen egitasmo iradokitua ez dakit zertan den...Eremuak harremana du, nola edo hala, Bilboko eraztun berdearekin, gaizki xamar seinaleztatua baldin badago.

Artea Komertzio Gunea: 1997an ireki zituen bere atea komertzio guneak. Aurretik ezaguna zen bertako zaborte giaren alboan, hura itxita baldin badago ere, bere presentzia dagoeneko ez da apenas nabari, Lehenago itxatxoriak bertan ibilitzen zirenean ez bezala. Bertako lurak kutsatuak zeuden eta aurretiaz tratatu egin behar izan ziren Artea komertzio guneak arrakasta handia izan duela esan daiteke, inguruan garapen erresidentzial handia egon delako 97tik gaurdaino eta irisgarritasuna bermatua izan duela hasieratik, Uribe-Kostako ingurabideari esker. Errepidearen eraikitzea komertzio gunearen eraikitzearekin bat etorri zen. Bestalde, inguruko nekazaritza jarduera edota etxebizitza auzoetatik

irisgarritasuna, lehengo auzo bideetatik egin daiteke. Bide hauek ia ez dira ezagutzen, edota erabiltzen duten estatusunagatik. Inguru hauetan hala ere, etxebizitza gehiago eta Loiutik, Unibertsitatera doan errepede berri baten luzapena igarotzeko plana egina dago.

Finagako subestazioa-Iberduero: Subestazio honek martxan jarraitzen du. Eraiki zenean, rremua “Zona Libre” gisa kalifikatua zegoen eta Iberduerok, baimenik gabe eraiki zuen. Hala ere, bere arriskua zela eta, herritik edo biztanleriarengandik isolatuta eraiki zenez gero, Gran Bilbao Korporazioak (eskualde planaren burutzea kudeatzen zuen elkarte) baimendu egin zuen. Isolatuta egote horrek baina, ez zeun haintzat hartu Finaga auzoko etxebizitza/baserriak ezta bertan dagoen ermitaren garrantzia ere.

El Campillo Industriagunea: Abanto-Zierbena eremuan 80. Hamarkadako krisialdearen eragina zenbaterainokoa izan zen ez badakigu ere, bertan SPRIlurrek eremu bat erosi zuen industria sektorearen berriz suspertu zedin. Eremu hau aurreriaz erabilia edo eraldatua zegoen jada meatzaritza jardueren eraginez. Hots, bertako topografia guztiz antropogenikoa zen. Gainera, 1961eko planean ikusten den bezala, eremua “zona de reserva” gisa kalifikatua zegoen, garapen berezia izango zuelakoan babestua, nolabait. Aurrebaldintza honek industriagunearen garapena ekarri bazuen ezin dut esan. Egun, El Campillo industriagunea, beste bi fasetan handiagotu egin da. Bere presentzia fisiko eta bisuala nahiko indartsua da, gain batean kokatua baita. Urbanizazio maila eskasak eta errepedeen malda gogorrek haren pertzepzioa negatiboa bilakatzen dute. Batere integratua ez dagoen eremua dela esan dezakegu. Planak zituen asmoak, bisten probetxua edota altueren zainketa etabar, tokitan geratu direla esango nuke.

Argalarioko zelda: Lindane hondakinen aferak oihartzun handia izan zuen, kontrolatu gabe jaurtitzen zirelako edonon. Honen aurrean EJak erabaki zuen Argalarion zelda hau eraikitzea. Urrutitik nabarmentzen da zabortegea estaltzen duen berdeguneko parterrek duten ikurrin forma dela eta. Proiektuak bestelako asmoak zituen integrazio paisajistikorako, zuhaitzak landatuz etabar; hauek ez zirela aurrera eraman esan daiteke. Albotik behin soilik pasa egin naiz, eta berdegune izaera baldin badu ere, ez du ematen oso toki irisgarria ezta erakargarria ere. Ez dakit zertan den bertako hondakinen kontrola edo zaintza.

***What is the connection with the Available Mountain Landscape perspective?***

***What is the connection with the character of the urban fringe landscape?***

*Zein da lotura perspektibarekin? Hiri ertzaren izaterarekin?*

Zuhatzuko lehegailu Fabrika: Perspektibarekin lotura fabrikaren arriskua dela eta behar duen isolamendua mendian topatzen duelako sortzen da. Hiri ertzaren kontzeptuarekin beren beregi loturarik ez du, baina hiri-ertzaren parte da noski, esan bezala, hiritik gertu eta era berean isolatua egon behar duelako.

Artibako urtegia: Artiba urtegiak lotura zuzena du Perspektibarekin mendian ura biltzeko baldintza egokiak dituelako. Hiri ertzaren kontzeptuarekin zerikusirik ez du haren eraikuntzak, baina hiri ertza eraikitzen du, hiritik nahikoa gertu nahiz urruti dagoelako ur garbia bildu eta garraiatu ahal izateko.

PE Artigas eta Zabalgardi: Planak berak ez du zerikusirik perspektibarekin, ordea Zabalgardi eta ARTigas-en kokapenek bai. Artigasen kasuan, urtegiaren bezala mendiaren formek biltegia osatzeko baldintza egokiak dituztelako. Zabalgardiaren kasuan, lursail horretan utzita zegoen harrobi bat eta meatze bat zeudelako, hots, aurretiaz hondatua zegoen eremua zelako. Bestetik, biak ala biak daude hiritik (Bilbotik) nahikoa gertu eta urruti. Gainera, mendi magalak Bilboaldera ematen ez duenez, kokapena are egokiagoa (isolatuagoa, ezkutatuagoa) suertatzen da. Haizeen norabideek ere bertako usainak eta kedarrak uxatu egiten ditu. Baina, Alonsotegirekin sortzen den harremana guztiz bestelakoa da, izan ere herri honetan izugarritzko presentzia dute biek ala biek. Hrotaz, hiri-ertzaren kontzeptuarekin lotura dute, nahiko zuzena, ertzean kokatu egin direlako bi azpiegiturak, bertako (Alonsotegiko) kulturak eta biztanleak aintzat hartu gabe.

Artea: Perspektibarekin duen lotura mendian zegoen lurzoru kutsatuak ematen dio. Baina, bestalde, hura eraiki egin zen errepede eta etxebizitza garapena planifikatuak zeudelako. Gainera, 80. Hamarkadako krisialdiaren berreskurapenaren ondoren, kontsumo mailak hauspotu egin behar zirelako.

Baina, Perspektibara bueltatuz, Artea eraikitzeke toki aproposa zen Kurkudi mendi muturreko lurzoru kutsatua. Hura berreskruatu egin zen tratamenduaren bidez. Alboan zegoen zabortegia itxi egin zen 2006 (nahiz eta lixibatuak eta malda beherako urak kutsatzen darraien). Hortaz Perspektibarekin lotura zuzena du: mendi hondatua erabilgarria da komertzioarena eraikitzeke, bestelako bokazio berezirik ez duelako. Hiri-ertzaren kontzientziarekin ez dago eraikia, baina bertako elementu edo ezaugarri oinarritzak dira. Hots, hirietako periferietako elementu esanguratsuak dira komertzioarena.

Finagako subestazioa-Iberduero: Perspektibarekin duen lotura zuzena da, hiritik urrun dagoen eta AT lerroen ibilbidean egoki kokatua dagoen eremua da berau. Duen arriskuagatik, hiritik behar bezain modu isolatuan kokatzeko baldintzak eskaintzen ditu mendi magal honek. Hiri ertzaren kontzientziarekin ez dago eraikia hau ere ez, baina hiri ertzeko elementu esanguratsua dela esan daiteke, hirigunera garraiotzen den energia elektrikoaren transformazio faseetako bat delako, hir barnera sartu baino lehen. Argindarraren hiriranzko fluxuaren baitako beharrezko geltokia, hiritik kanpo egin ohi dena.

El Campillo Industriagunea: Honek ere mendialdean aurkitu zuen bestelako bokaziorik ez zuen lursaila, haren kutsadura eta transformazio artifizial maila zela eta. Hiri ertzeko elementu esanguratsuak dira industrialdeak era berean, hiritik kanpora ateratzeko mugimendu horren baitakoa, eta irisgarritasun motorizatu lasterraren bidez zerbitzatutako lantokiak sortzeko joeraren ondorioz sortua.

Argalario:Hemen ere Perspektibarekin lotura, hots mendiaren erabilgarritasuna, mendi magalaren formez gain, haren nolakotasun negatiboek emana da. Aurretiaz zegoen zabortegiak tokia lindano gordailua eraikitzeke aproposa egiten du. Hiri ertzarekin duen zerikusia, bada isolamendua izan daiteke, baina inguruan lanpostuak eta Barakaldoko auzoak existitzen direnez gero, ez da oso zuzena hori esatea. Nolanahi ere, hiri ertzaren kalitatea da hiri-gunean jarri ezin diren elementuentzako kabida duten tokiak izatea. Hortaz, hiri-ertzarekin lotura horixe da, toxikotasuna hiritik kanpo egon daitekeela.

### ***Landscape construction through analysed elements and documents***

*-Joerak paisaia eraikitzerakoan:*

	In-v	In-s	Pol	Inh
Zuhatsu-	1	1	1	
Artiba	1	1	1	
Artigas-Zabalgar	1	1	1	
ARTEA	1	1	1	
Finaga	1	1	1	
El Camp.	1	1	1	
Ur partz.	1	1	1	
EVE	1	1	1	
	8	8	8	0

-Irudikatzen eta osatzen den espazioaren izaera politiko edo bizitua?

Politikoa (8/8) Bizitua  Ezin esan

-Irudikatzen eta osatzen den espazioaren irudikapena: pertzibitua, kontzibitua ala bizitua?

8/8 dokumentuk osatzen dute espazioa irudikapen pertzibitu eta kontzibitu baten arabera: izan ere denak dira zerbitzu konkretuak eta etekin ekonomikoa lortzeko egitasmo eta planak dokumentatzen dituzten agiriak

0/8 espazio bizitu bezala irudikatzen dutenak dira

-in visu eta in situ:

Elementu guztiak daude in visu eta in situ eraikiak

***Summary of the documents categorized into the Available Mountain Landscape Perspective (LP) and an overview of the type of document, combination with LPs other than the categorized LP***

(Available Mountain), apparent purpose of documents, the proposed intervention and transformation of each document, and unformulated perspectives.

AVAILABLE MOUNTAIN					
	Type of document	Apparent purpose	Additional Landscape Perspective	Proposed intervention and/or transformation	Unformulated Perspectives
AM.1	sta marina-ko argazkia	lehergailuen negozioia eta segurtasuna	mendi erabilgarria	Mendi magalean lehergailuekin frogak egiteko espazioak eraiki, tuneletan bezala eod meatzeak bailiran	Mendi ISOLATUA eta SEGURUA, EZ-KUTUKO mendia
AM.2	Planoak ETA Expediente bat	Argindarraren transforazioa edo garraioa	Erabilgarria	Subestazio bat eta langileentzako etxeak	Mendi ISOLATUA, Mendia HUTSIK
AM.3	Planoak	Uraren horniketa	Erabilgarria, Oztopoa	Urtegia, hoditeria eta Argindar linea	ez
AM.4	PLANOAK ETA MEMORIA	indus-triagunearen eraikuntza, lanpostuen suspertzea	erabilgarria	Industrialdearen eraikuntza	Mendia ARTIFIZIALA, KUTSATUA, MOLDATUA, BERERABILGARRIA
AM.5	PLANOAK ETA MEMORIA	Komertziogunearen eraikuntza	Erabilgarria	Kutsatua dagoen lur-saila tratatu eta bertan komertziogunea eraiki	Mendia BERERABILGARRI, Mendia KUTSATUA ETA ARTIFIZIALA
AM.6	hemen analizatu IHOBEn web-orriak dakarrena	hondakin arriskutsuak modu sihurrean biltzea eta gordetzea	mendi erabilgarria	hodankin toxiko arriskutsuak gordetzeko "zelda" seguru bat eraikitzea mendi magaleko ibar txiki batean	mendi BERERABILGARRIA, mendi SEGURUA? Mendi BIRSORTUA, hondakindegia kamuflatua: mekanismo baten kamuflaia
AM.7	triptikoan azaltzen den mapa	uraren hornikuntza	mendi erabilgarria eta oztopoa	mendi gainetan ur deposituak jartzea grabitate bitartezura banatzeko	ez



AM.8	BFAko web-orriari dagoen informazioa.	zaborren kudeaketa	mendi erabilgarria	Zonalde bi: ARRAiz eta Artigas: bakoitzean azpizonak. Zaborren Kudeaketa eta ingurumenaren berreskurapena. Paisajistikoki integratu beharra dago dena.	Mendi ANTROPGENIKOA, ALPERRIK GALDUA, BIZKARRA EMATEN DUENA, TRASTELEKUA. Izan nahi du MENDI BERDEA ETA ERABILGARRIA/BERERABILGARRIA.mendi BERDEA
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