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Analysis and interpretation of environment: images commentary methodology¹

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Abstract. In the present work a methodology of analysis and description of photographs is developed, in order to show and value the importance they charge, today, in the study and knowledge of the geographical environment, in general, and the environment, in particular, the use of a correct structure of interpretation of the territory, through the comment of images of specific geographical spaces.

Key words: Images; commentary; analysis; environment; methodology.

[es] Análisis e interpretación del medioambiente: metodología del comentario de imágenes

Resumen. En el presente trabajo se desarrolla una metodología de análisis y descripción de fotografías, con el fin de mostrar y valorar la importancia que cobran, hoy en día, en el estudio y conocimiento del medio geográfico, en general, y del medio ambiente, en particular, el uso y empleo de una correcta estructura de interpretación del territorio, a través del comentario de imágenes de espacios geográficos concretos.

Palabras clave: Imágenes; comentario; medioambiente; metodología.

[fr] L'importance de la gouvernance climatique mondiale et vingt et unième Conférence des Parties à la lutte contre le changement climatique

Résumé. Dans le présent travail, une méthodologie d'analyse et de description de photographies est développée, dans le but de montrer et d'évaluer l'importance qu'elles revêtent, de nos jours, dans l'étude et la connaissance de l'environnement géographique en général et de l'environnement en particulier, l'utilisation et l'utilisation d'une structure correcte d'interprétation du territoire, à travers le commentaire d'images d'espaces géographiques spécifiques.

Mots Clés: Images; commentaire; analyse; environnement; la méthodologie.

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Sumario. 1. Introduction. 2. Methodology of images analysis in Geography and Environment. 3. Imagens in Geography and Environment: naval museum of Madrid 4. Imagens in Geography and Environment: Plaza de Oriente. 5. Imagens in Geography and Environment: The New Ministries. 6. Sheets in Geography and Environment. Smallholding: view of Meiro (Bueu, Pontevedra). 7. Sheets in Geography and Environment. Smallholding. Forest exploitation: Ermelo (Bueu, Pontevedra). 8. Bibliographic references.

1. Introduction

At the current moments, we are in the era of the culture of knowledge, where the University consolidates, or should be consolidated, as the center of all social, cultural and ideological transformations, and, through research, innovation and technology, allow to improve and increase knowledge competence and, thus, the intangible competence.

At present, the transmission of knowledge has been institutionalized by society, so it shows or reproduces the identity features of it, and, at the same time, influences or marks each and every one of the individuals that compose it –since if they want to become integrated into their society they must keep in mind that they need the knowledge that is generated in them-; all this without forgetting that, in these institutions the processes of transmission of knowledge take place that obtain or acquire a productive direction, as a result of the demands of society, against other processes of a formative nature. Reality that has to be in constant change and transformation, allowing to create institutions that respond quickly to new ways of doing and acting, favoring the reorganization of existing institutions and motivating the adaptation of people to them. These changes have driven the progress of different social, economic, political, educational systems, etc., to the point of consolidating colossal superstructures of such dimensions that, in many cases, they are unable to carry out changes or modifications. Even though, where the individual – the educator-, has to be shown as a primordial element, both in the functioning and development of these structures and in the training process.

The educator in geographical and environmental matters must always keep in mind that education has to seek the optimization of the environment, through solid training and ethical and exemplary behavior, in order to train future generations in the protection, conservation and regeneration of the environment in which they live and live. For all this, the educator must have the capacity to analyze and interpret the geographical and environmental reality, through some teaching materials and new methodological forms that evolve and evolve, constantly transforming through new technologies. In this way, interpreting with method is opposed to everything casual and messy, in which, the different interpretations we can make of reality within the scientific activity prevail, which is why the importance of analysis and interpretation of environment, through a correct images commentary methodology.

2. Methodology of image analysis in Geography and Environment

It must be taken into account that, for the comment of an image, all aspects that can be analyzed from this perspective must be considered and that are in a photograph; what is seen is commented, nothing else; that is, the landscape and the peasantry contained in the image. This can contain very varied elements (natural, agricultural, industrial, tertiary or service, cultural, etc.) so all of them have to be taken into account and their interrelationships when developing the comment.

1. Elements:

1. Analysis of the physical environment or natural elements:

- a) Relief:
 - Forms of relief (mountain, plain, coast,...).
 - Modeling forms (granitic, calcareous, clayey, product of differential erosion,...).
- b) Vegetation: Types (forest, scrub, meadow,...), species, extension, distribution,...
- c) Soils: Types (Southern brown earth, alluvial, volcanic soil,...), quality.
- d) Water: Type (sea, rivers, streams, aquifers,...), location, regime and flow.
- e) Climate: To deduce from the previous sections (color,...).

2. Analysis of the human and economic environment or anthropological elements:

2.1. Rural landscape:

Rural landscapes result from the combination of the natural environment with the agrarian activity of the human being. Therefore, when commenting on them, both aspects have to be taken into account.

- a) Location: interior landscape, coast, mountain, valley, etc.
- b) Habitat: concentrated or dispersed.
- c) Analysis of the natural elements (apply section I, summarizing the main aspects).
- d) Analysis of human elements: a) Traits of the agrarian structure:
 - Size, shape and boundaries of the plots.
 - Production techniques (traditional or modern, machinery, type of subscriber, greenhouses, drip irrigation,...)
- e) Rural population and habitat: type of population (concentrated, dispersed,...) and grouping (linear, crowded); other form of settlement (urbanizations,...); characteristics of the rural house (traditional, new models,...) and its integration with the environment.
- f) Road network: Type, impact on the rural environment, etc.
- g) Political actions: Hydraulic works, land consolidation,...

5. *Analysis of the uses of rural space:*

- a) Location and extension of each use of the soil: agricultural, livestock, forestry.
- b) Agricultural land uses:
 - Types of crops, livestock and forest species.
 - Agricultural production systems (crop rotation, fallow, dry-no / irrigated-hydraulic operations) and livestock production (natural pastures, stabling,...)
 - Performance and productivity: extensive or intensive systems, high or low productivity.
 - Destination of production: self-consumption, market, industrial transformation.
 It can be inferred from the degree of development of the landscape, the specialization of products, the presence of agri-food industries, etc.
- c) Other land uses: residential, industrial, tourist, etc.

2.2. *Urban and industrial landscape:*

Specific geographical location and physical characteristics of the land and the environment.

- a) Location factors:
 - Historical.
 - Classics: raw materials, energy sources, market, transport, labor, capital,...
 - New: industrial diffusion, endogenous industrialization, CBD,...
- b) Types of location (habitat): Concentrated or dispersed.
- d) Concrete location in the industrial space:
 - Isolated industry, classic industrial estate, modern industrial estates (business and technology parks); organization and size of the polygon; Size of the plots occupied by the industry.
 - Services directly or indirectly dependent on the industrial (workshops, warehouses, offices, transport,...) and their quality or deterioration.

3. *Cultural landscape: Historic-artistic heritage*

4. *Interrelations between the natural environment, human activity and cultural aspects:*

A synthesis will be written in which the previous aspects are interrelated (between three and six lines). The latter will be picked up in "ladillos" or in footer. Analyze the influences between the environment (relief, vegetation, soil, water, climate) and the human being (possible use of resources, whether or not they favor certain economic activities or human settlement, etc.). In the event that the landscape is strictly natural, this section focuses on the possible impact of human activities on the environment and the measures and policies for environmental protection and conservation.

3. Imagens in Geography and Environment: naval museum of Madrid

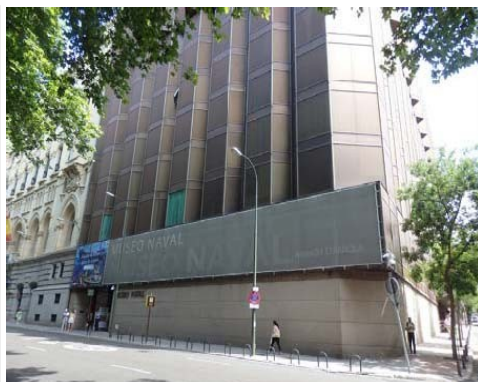
NAVAL MUSEUM OF MADRID

Cuartel General de la Armada.
Paseo del Prado, 5, 28014 Madrid

General description:

The Naval Museum of Madrid is a state institution of cultural character, whose main purposes are the acquisition, conservation, exhibition and research of the books, objects and instruments of the Spanish Navy. Its origin dates from the year 1792, by Royal Decree of King Carlos IV, at the proposal of the Secretary of State for the Navy, Antonio Valdés and Fernández Bazán -the illustrated project had as its object to instruct and train the guardamarines-; although, it was not inaugurated until 1843 under mandate of Queen Isabel II. In its beginnings, the Museum was located in the Palace of the Councils, although it has been modifying its headquarters according to its needs. Currently, since 1932, it has been located in the General Headquarters of the Navy and reports to the Ministry of Defense.

The building, of eclectic style, was built in 1928 and stands out for the sobriety, in which its walls become the decorative elements par excellence, and the abundance of windows provide lighting and air to the rooms. This predominant aesthetic during the first half of the twentieth century, provide functionality to it; its facades are decorated with representative pieces of the Spanish navy such as ships and shields, and with vegetable and fruit objects. Likewise, to point out that, during the seventies of the last century, a postmodernist extension was made in which the main entrance to the Museum is located.



Source: Own elaboration.

As you can see in the attached photographs, the Museum is composed of twenty- four spaces, including two halls, two chambers, eighteen wings and two large patios. They are exhibited, in chronological order from the fifteenth century to the present, maps, globes, models, pictures, maritime instruments, weapons, among other pieces, favoring the exhibition and the conservation of all the objects collected in the Museum.

In turn, the Museum is endowed with a file, a map library and a library in which more than two thousand five hundred copies are stored, around one thousand seven hundred nautical charts and some eighty thousand photographs, among other documents, which are available to researchers and students; as well as a warehouse and several rooms for the restoration of the different materials housed in the Museum.

Specific description:

The Naval Museum of Madrid was promoted by the ideas of the French Revolution and the Enlightenment that, at the end of the 18th century, they generalized the association between collection and history and, whose public and didactic character was consolidated during the 19th century, although, throughout the 20th century, it was adapted to a modern "museology" in which the visitor learns by interacting with the contents of the museum. In this way, the Museum has a considerable didactic and educational activity, directed to a wide diversity of public, with the purpose of exhibiting, illustrating and explaining the maritime history of Spain, in particular, and, economically, politically and socially, in general. Among all the activities, it is worth mentioning the realization of didactic workshops for young students, painting contests, active participation in Science Week, the Night in White, the International Day of the Museums and, mainly, the development of exhibitions -permanent and temporary-, free of charge -although, a voluntary contribution of 3€ is requested.

4. Imagens in Geography and Environment: Plaza de Oriente.

PLAZA DE ORIENTE

Plaza de Oriente 28013 Madrid

General description:

Located in the old town of the capital, the Plaza de Oriente was designed in 1844 by the architect Narciso Pascual y Colomer, following the projects previously carried out - especially, those carried out during the reign of José Bonaparte, main architect of said works-. The most noteworthy feature of the square is its rectangular plan and curved head, whose functional disposition is complemented by its monumental character.

As we can see in the attached photographs, the square is presided over by the Royal Palace, the square is presided over by the Royal Palace, which has its origin in the year 1738, under the reign of Felipe V who commissioned the design to the architects Filippo Juvara and Juan Bautista Sachetti -who also carried out one of the first designs of the Plaza de Oriente. The Palace bases its foundations on the foundations of the Real Alcázar, destroyed in a fire in the year 1734. Currently, it is National Heritage and has the function of a museum and is used in a concrete way by the Spanish kings for acts of state and solemn ceremonies.

In front of the Palace we find the Royal Theater, promoted by King Fernando VI was founded in 1818 and inaugurated in 1850. The Theater is a Site of Cultural Interest of the Spanish Historical Heritage, in the category of Historical Monument (Royal Decree 1387/1993 of July 30, 1993).



Source: Own elaboration.

In the one it is carried out a substantial one, at the same time that varied, representation of theatrical works, concerts, ballet and other activities related to the performing arts.

At the same time, the Plaza de Oriente is decorated with playgrounds and gardens where it is exhibited, permanently, a substantial and interesting sculptural collection of historical character, in which the sculptures of the Gothic kings stand out. Much of the gardens -called Lepanto gardens, Central gardens and gardens of Cape Noval- they settle on what, primitively, were the gardens of the Convent of the Incarnation -that we found behind the blocks of houses, north of the square.

In turn, presiding over the Central Gardens, is the effigy of Philip IV, work of the Italian sculptor Pietro Tacca, maximum Tuscan representative of Baroque art.

Specific description:

Among the most relevant issues, we can highlight that the sculptures of the kings of Spain, which at first were going to go on the roof of the Royal Palace, were located along the Plaza de Oriente, for security reasons emanated from poor planning in the architectural project and the precarious state coffers -only noble materials were used for the construction of the sculptures, so the building would not support the weight of the same-. Similarly, note that the Royal Palace has visits in order to exhibit, show and narrate, the history of Spanish royalty, in particular, and, the history of Spain, in general. Among all the activities, the exhibition includes various pictorial collections, textiles, of upholstery, clocks, musical instruments, sculptures, carriages and armory. As well as cultural programs oriented, among others, to teachers and students. While the Royal Theatre offers the general public a wide, at the same time varied, selection of concerts, opera, ballets, as well as the possibility of enjoying the views of the Plaza de Oriente from its cafeteria.

5. Imagens in Geography and Environment: The New Ministries

THE NEW MINISTRIES

It is called an area framed in the area of the block bounded by the Paseo de la Castellana, Raimundo Fernández Villaverde street, Agustín de Betancourt street and San Juan de la Cruz square.

General description:

The New Ministries located in the Chamberí district and integrated into the so-called AZCA and Castellana complex, they make up a “governmental” group composed of the Ministry of Development, the Ministry of Agriculture, Food and Environment, and the Ministry of Employment and Social Security.

It has its origin in the General Extension Plan of Madrid (whose Memory dates from 1926, written later in 1931 by the Municipal Technical Office, and approved by the Ministry of the Interior in the year 1933; emanates from the Municipal Statute of 1924 as well as the Laws of Enlargement and Reform), whose purpose as legal-technical instrument was to regulate the peripheral growth of the city of Madrid. The initial competition for its implementation fell on the project of the architects Zuazo and Jansen, although, although this was never carried out, as established by its original creators, the initial bases were used for its application.



Source: Own elaboration.

The demographic growth of the city of Madrid and the new needs emanating from the urban expansion of the capital of Spain, they are the origin of the appearance of new plans of prolongation of the Walk of the Castellana original projects of Zuazo in 1930; fostering the creation of the New Ministries, thus the railroad, metro and surrounding streets. Subsequently, "the New Ministries" are subject to planning with the Madrid General Plan (1946), the Plan de Ordenación de la Castellana (1947) and COPLACO (1979), in order to intensify public works, thus expanding the railroad, metro and surrounding streets.

Specific description:

The New Ministries are the enclave of three fundamental levels in the same territory, in which they are clearly defined;

1. - A territorial planning, oriented to the adaptation and correlation between the urban, functional and settlement systems, in which the objective is the optimization of the territory and the adequacy in the location of the public powers; as well as the hierarchy of urban facilities and, therefore, of their infrastructures.
- 2.- Territorial planning and urban planning, through a new regulation of land uses.
- 3.- And, finally, a spatial localization of the public powers in governmental matters, being the seat of various Spanish Ministries.

6. Sheets in Geography and Environment. Smallholding: view of Meiro (Bueu, Pontevedra).



Latitude: 42.303294; Length: -8.782310; Altitude: 153 m. Image made by María Sotelo Pérez.

6.1. Landscape overview

The landscape is presented as the juxtaposition of a series of schematic profiles integrated by a complex reality in which synchronic and diachronic aspects of the physical, human and economic environment of this coastal area of southern Galicia converge. Thus, on a hidden geological base, on slopes of steep slope have been located an endless number of scattered houses, caused by the adaptation of its inhabitants to a sometimes hostile environment. Eucalyptus, Pyrenean oak, fruit trees, penetrate a space marked by parcels of small dimensions, yesterday occupied by the corn or the vineyards, today by constructions fruit of the last speculation of the real estate market. Traditional rural space, in which the smallholding is giving way to new needs (road infrastructures, power lines,...) in a clear transition to new rururban spaces.

In this way, if in other times the smallholding, that is, the small family farm, achieved a balance between lifestyle, culture and market, despite falling into excessive parcelling of farms and properties, the structure of land ownership, favored

the achievement of a sufficient dimension to ensure economic viability, quality of life, inherited cultural practice and respect for the natural geographical environment in which it was registered. However, at present, the small villages are transformed by the arrival of the automobile that contributes to the overcoming of "enclave" or isolation phenomena, as we can see in the present photograph, in which the essential morphological facts, which the smallholding once showed us as a closed system, nowadays it is surpassed by new human and economic reasons that overlap the reality of the physical environment, whose tangible reality is marked by the different shades of green (forest stands, trees, crops, ..., complemented by lush gorse, heather and brechina scrub) for an oceanic climate characteristic of Atlantic Galicia, rich in rainfall, although with rather dry summers, and in which the thermal amplitudes are nuanced by the aforementioned proximity to the sea, and the absence of frost.

6.2. Landscape units

The three landscape units that are distinguished in our photography, the forest mass resulting from the repopulation carried out with *Eucalyptus globulus* in alternation with *Quercus pirenaica* and *Pinus pinaster*, in the first place; the central zone occupied by a village, in the second place, and, lastly, the space occupied by the isolated dwellings in which the structure of the ownership of the land is the indicated smallholding, makes us intuit that what were barely inhabited spaces, are giving way to areas of high population densities that occupy these territories, gradually, generating a culture that we could qualify in transition. The following three landscape units are clearly delimited:

- a) Forest spaces
- b) The village
- c) The scattered habitat

a. Forest spaces

They cover one third of our photography, highlighting the eucalyptus of repopulation on the other tree species. Introduced as an ornamental species, a century and a half ago, those that we can observe in origin come from cultivation, although its remarkable extension by the Morrazo Peninsula, it is due to its remarkable spontaneous reproduction, of a species that we could call a pioneer in these lands, whose soils (moderately acid, more than fifty centimeters deep, and not waterlogged) are very suitable for reproduction. Note, also, that although its use was ornamental, currently it is lumber, and for obtaining pulp, specifically in the company located in the vicinity of Marín. These alternate their existence with different types of oaks, the Carballo (*Quercus steal*), trees of right trunk, short and very thick with thick and somewhat tortuous branches; grayish or whitish bark, very cracked and of brownish hue in the old and isolated specimens, that in many cases the eucalyptus trees are

hidden, the pyrenean oak (*Quercus pirenaica*), the chestnut tree (*Castanea sativa*) and a dense and rich undergrowth of shrubs, herbs and bushes, that in many cases the “enchanted forest” of our admired Wenceslao Fernández Flórez has been idealized as in the wonderful work.

b. The village

It is a very small population group; forty to sixty houses inhabited by as many families, arranged around a church or a hermitage, places where the patron saint is venerated (in our case the one of Meiro), originally composed of small buildings with little artistic merit, which surrounds an extension that is at the same time the cemetery of the villagers. Starting from the idea that they were based in the places where the land is most fruitful, that is, on the slopes of the mountains, on the back of the winds, that of the photograph is set in the sun, over a small valley, close to the currents of the rivers and streams, whose waters the villagers used for irrigation, and that in the current moments they want their remarkable mansions to be supplied from the waters “brought” by the Morrazo Mancomunidad (far is the process according to which, of the three social circles of the Celtiberian organization, tribe, clan and family, the second seems to have been the progenitor of the village; this one, was constituted by the meeting of all the collateral families that came from a single ancestor, grouped around your boss; the village comes from a small number of families that have been increased by the successive unions of males and females and some strange element from another group of nearby population that has come to the village).

c. Dispersed habitat

It is marked by scattered houses whose disposition in the territory not only takes place in isolation, but by a structure of property of the land that traditionally has been denominated “smallholding”. The smallholding and the family farm was understood as a small agrarian property incapable of ensuring basic livelihood for all members of the family unit and source of many of the evils that happened to the Galician society; in addition, the smallholding was the origin of lawsuits and litigation that, by the definition of boundaries between plots, they were too frequent in Galician rural areas. Today in Galicia the smallholding and the family farm can be defined as a way of life that, adapted to a postproductivist and multifunctional rural world, it loses its negative connotations. As authors such as Ferrás point out, contracultural counter-urbanization drives a recent settlement in small cities, towns, villages and villages and the disappearance of migratory flows from the countryside to the city, and this generates a functional, economic and cultural diversification that it can revert in new possibilities of development for the rural spaces and less developed; all in connivance with standards that are gradually permeating the rural world of Galicia (Subsidiary norms, Xeral Urban Planning Plans, Soil Laws,...), in general, and in this zone of expansion of Vigo, in particular.

7. Sheets in Geography and Environment. Smallholding. Forest exploitation: Ermelo (Bueu, Pontevedra).



Latitude: 42.309275; Length: -8.765379; Altitude: 407m. Image made by María Sotelo Pérez.

7.1. Landscape overview

Leptosols and regosols are floors with thickness less than 30 cm, limited in depth by continuous hard rock or by cemented layers (igneous postcinematic rocks, in our case), "poor", they are qualified, base of the vegetal mass that we observe in the present photography, direct consequence not only of the recent erosion processes generated in areas of certain altitude, in topographic positions favorable to the instability of the materials such as the top areas or the ridges of the slopes on which they settle, with steep slopes. Anthropic actions such as forest fires, almost continuous felling or grazing, sometimes excessive, plus the climatic conditions, like the very abundant precipitations, mark the reality that surrounds the present forest exploitation of eucalyptus (*Eucalyptus globulus*), that after the short strips, they let glimpse their coexistence with chestnut trees (*Castanea sativa*), pyrenean oak (*Quercus pirenaica*), chestnuts (*Quercus robur*),..., along with gorse (*Ulex gallii*), heaths (*Erica tetralix*), diverse bushes and meadows of tooth and semi-natural,

arranged in mesh surrounded by living hedges (of the rich flora that house the abundance of grasses and other plants) with a use that barely exceeds the domestic economy (the summer drought has made the human response has been to replace cattle with cattle or goats). Even the large number of existing streams shows us the appearance of small gallery forests, with birches (*Betula alba*) and alders (*Alnus glutinosa*).

7.2. Landscape units

In the present photograph we can differentiate three parts, related to different types of forest exploitation. The first is composed of the juxtaposition of eucalyptus, pyrenean oak and chestnut trees, which occupies most of the aforementioned photograph; the second is integrated by the juxtaposition of gorse, heathers, scrub,... which are observed in a close-up, which can be seen after cutting the eucalyptus trees; the third, in the central part, around a supposed course of water, we found a small meadow of substitution, and a small forest gallery, with birches and alders. This forest wealth allows us to differentiate three units depending on the vegetation in:

- a. Forest
- b. Scrub
- c. Meadow

a. Forest

It shows us the predominance of eucalyptus that come from direct cultivation, and that properly constitutes a forest exploitation related to the use of its wood by the cellulose industry (specifically, in our case of the ENCE factory located in Marín), and, secondarily, its medicinal use. As the Atlas of Galicia points out, coordinated by professors Precedo and Sancho Comíns, eucalyptus wood splinters easily, deteriorates quickly and it is not easy to work, which explains why it is not used for furniture or quality uses, and yes for obtaining pallets, plywood, laminated wood, and, above all, due to its long fibers, for obtaining paper pulp; also, to point out that its leaves have antiseptic properties, due to its high content of cineol or eucalyptus. In addition, in recent years the eucalyptus trees are at the center of a notable and controversial controversy, the existing between the ecological groups and the one of not few scientists, because the repercussion in the landscape is one of the greater disadvantages that it generates at present. In the opinion of movements such as “Amigos da terra”, the advance of the species threatens “all native forest formations”, since, “the foreign species lack of natural enemies reason why its invasive character is accentuated”,..., they assure, to which the “pyrophyte” character (resistant to the fire) of the tree is added, what favors its expansion. They do not think in the same way from the CIDEU, where they consider that the eucalyptus, like any other forest

species, tends to fight against its “neighbors” for all the nutrients that allow its survival, and compare their behavior with that of a dense mass of cork oaks or beech trees, where vegetation hardly grows. In one way or another, in what scientists and ecologists agree is in its “undoubted” industrial and commercial utility, and by the fact that their wood is cheap and useful for construction. When for different reasons they are cut, other species that have a smaller exploitation in our area are discovered, but of great environmental wealth, chestnuts (whose existence in Galicia reaches 18,000 years, although its introduction in these lands was linked to the romanization of the same; at present, the chestnuts of photography are threatened by diseases such as ink, canker and the plague of forest fires), the different types of oaks trees.

b. Scrub

Integrated by gorse, heather and scrub, a direct consequence of human action as a result of the exploitation of the territory, so that in our study area we can talk about the existence of a gorse culture; in fact, after the benefit of wood, the human being provokes through fire the periodic return to initial stages. Fire was always a work tool used by Galician farmers, particularly the surface burning of the forest for the cultivation of cereals (taking advantage of the ephemeral increase in chemical fertility as a consequence of the accumulation of ash and, therefore, of nutrients, from burned vegetation) burning brush, etc. However, since the late sixties of the last century, uncontrolled fires have been increasing to reach historically unknown values. Also, highlight in our study area the remarkable value of heathers in beekeeping.

c. Meadows

The third part, the center of the photograph, is made up of small meadows that were traditionally used by the inhabitants of the villages to raise livestock, although nowadays, little by little, they are giving way, along with the alders and birches, to recreation and leisure areas of people coming from the large nearby urban centers, such as Vigo, developing ecological paths,... In short, that slowly, but gradually, this rural space is becoming a more urban area of the area of influence of this great conurbation.

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