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*Productive intensification and loss of rurality,
at the origin of the loss of natural knowledge:
the example of the cattle farmer of the San Sebastián Region*

The research that we develop has its main precedent in the proposal of a model for the construction of knowledge of the natural environment by the farmer. This model showed the spatial and social keys (lived environments) that allowed passing from subjectivity to shared knowledge. The study area was close to the Western Pyrenees, from the valleys that border the Midi d'Ossau massif to the Aldudes, coinciding with the Ossau-Iraty Origin Protected Designation, but it focused especially in the region of Zuberoa, in the French Basque Country.

In the investigation about the Pyrenees, it was decided to apply the methodology to the territory of Guipúzcoa, focusing on the study of sheep and cattle farms in Donostialdea (San Sebastián region). The environment, similar in many respects to the area analysed, was characterised by urban immediacy and the pressure that the city exerted on agriculture. The knowledge of the farmer was noticeably less but the investigation did not deepen on the causes. In the work that we present, we are going to deep into the causes that generate the alteration of knowledge that a farmer may have about the natural environment in an environment different from a space that we can qualify as ideal.

I. STATE OF THE QUESTION:
LIVED SPACE AND LOCAL KNOWLEDGE,
TWO INTERRELATED VARIABLES

In geography, the studies about “lived space” are interested in the direct relationship between people and

their close space. These studies include dissertations at different levels, from the cultural construction of proximity, to those that address the lived space on a regional scale.

The methodology that uses the local perception to propose development actions is common in rural areas and is even increasingly used in landscape science. Consulting and gathering the knowledge of the farmer is also a highly developed line of research that, supported by agroecology, tries to collect information on local knowledge about crops, seeds and even meteorological phenomena. It is also from the field of ethnography, to analyse the evolution of their environments, their lives and the changes they perceive in land uses.

But the studies that delve into how they build their knowledge about the natural environment that surrounds them are few and generally not complete. If the aim is to deepen the farmer's local knowledge, the places he frequents must be analysed in order to understand their construction methods and the content of his naturalistic intuition.

Artano (2020) develops a theory that sheds light on the conditions by which the farmer acquires his naturalistic knowledge. She proposes, from the field of geography, a construction model based on the environment the farmer frequents. In the farm space, she highlights three spatial entities.

- The Observation Domain (DO), which includes all the “places-environments” that the farmer observes and frequents on a regular basis. Repeated

daily, at fixed times and from always similar places or routes, it constitutes a record of the natural events that take place in it, by an actor who distinguishes regular phenomena from occasional ones, even seasonal ones.

- The Neighbourhood Territorial Unit (NTU). Neighbouring farmer share the “locations” of their respective observing domains. The local naturalistic knowledge built from this entity and related to its natural phenomena is consolidated through permanent exchanges within the local group of observers.
- The Reticular Space for Spatial Observation (RSSO), which refers to the places that the farmer observes in his daily life, beyond his Exploitation Domain.

The researcher comes to the conclusion that the local naturalistic knowledge of farmers about biodiversity is inseparable from their way of “doing with space”, from their “life”, which at the same time determines the places and environments they frequent daily and the way they do it. These observations are aimed in the first place to prevent possible dangers that could affect the herd or pastures, but they allow acquiring a more global knowledge of the environment in which they live.

II. DIFFERENT MEDIA, DIVERSE KNOWLEDGE: APPROACH TO THE GEOGRAPHICAL FRAMEWORK

The comparison between the knowledge of the cattle farmer who develops his activity in the Atlantic Pyrenees region (France) with that of the one who develops it in Guipúzcoa (Spain) becomes a preferential object of this research. The presentation of both Territories, underlining their similarities and differences, can be a key aspect to observe the influence that the lived space can have on the configuration of knowledge that one and the other have about the natural rural environment.

The spaces chosen have many similar characteristics: livestock specialisation, mountain agriculture areas, pasture uses, family farms, surface area for similar exploitation, mostly arranged by the farmhouse both in France and Spain and even their location in areas of recognised biodiversity (Net Natura 2000, Natural Park of the Pyrenees, Natural Park of Peñas de Aia).

The distinctions, however, are also important. In addition to the differences inherent to agrarian structures

(sheep specialisation, less fragmentation), Ossau-Iraty is characterised by being a rural society, in which community agrarian structures are present, where farmers interact with others in the vicinity and are widely represented in their neighbourhood.

Faced with them, Donostialdea cattle farmer faces a whole series of peculiarities inherent to its urban condition that influence the achievement of a territorial and more fragmented unit, the need to resort to land with precarious leases and the bet on many cases due to external energy contributions. But also in the lack of agrarian referents in its proximity, this farmer has not people to share, obtain and contrast information about their environment. The structures for the acquisition, transmission and validation of knowledge seem to be much more weakened here.

III. OBJECT AND METHODOLOGY OF THE RESEARCH, AIMED TO DEEPER INTO THE LOSS OF NATURAL KNOWLEDGE

The research of Artano provides fundamental lessons to understand the construction of local naturalistic knowledge. She proposes that the local naturalistic notion of farmers about biodiversity is inseparable from their way of dealing with the space, places-environments that they frequent daily and the way they do it. But the environment she investigates is a living rural environment, with neighbourhoods and neighbours in which farmers are present. It is in these environments where individual knowledge, to a certain extent subjective, is contrasted with other people and acquires the character of knowledge.

But, what happens if the characteristics of the territory and / or the farmer are different? Is the acquisition of knowledge altered? Achieving the main objective requires answering a whole series of related questions. We hope to answer some of them through the results obtained in the research related to the Western Pyrenees. Other questions require a deepening of the causes that generate this knowledge is less.

Responding to the questions that demand a deepening of the causes that justify the less knowledge acquired by the farmers of the San Sebastian area is addressed using the organisation of discussion groups and the technique of prioritisation by pairs.

In our research we consider important the characteristics of the people who have to participate in the workshops, especially valuing two criteria.

- People who share a personal experience with a more open vision about the environment and the way of life of the farmer.
- People who know the reality of agriculture in the French Pyrenees, very common among agricultural technicians and, although less so, also among farmers, especially the French Basque Country agriculture.

Group dynamics are structured similarly, although the operation is adapted to the dynamism of the group. The pandemic situation, in which the end of the investigation takes place, forces the participating groups to be reduced, opting for meetings of 5 representatives. In the farmer's workshop all the participants are men, a common situation in a subsector with a high degree of masculinisation, while among the technicians one representative is a woman.

IV. RESULTS: THE URBAN ENVIRONMENT AS A CONDITIONER

The results of the research confirm the development of a similar model of internalisation of natural knowledge, based on the domain of exploitation and the environmental spaces that the farmer frequents, but the knowledge that is acquired is less and simpler. The current dynamics of the proximity of urban space is presumably in the acquisition of less knowledge. This dynamic is characterised, among others, by the following attributes:

- Progressive loss of farmers. The number of farmers is significantly reduced, organizing themselves into two different typologies: professionalisation and leisure farmer, in which production is not the primary objective.
- In a clear productivity strategy, many of the professional farmers resort to the use of salaried labour that progressively replaces family support. Despite having a choice, they do not expand the territorial base used much more than they currently have, or if they do it is on account of precarious contracts, however increasing the consumption of external energy contributions.
- Away from any economic objective, most of the farms keep small flocks of sheep, a small number of cattle or horses, a small apple or some vegetable areas in the open air. It is a type of modality

with productivity and a degree of residual dedication, maintained more for sentimental or cultural reasons (use of the inheritance) than productive.

- Difficulty of public initiatives to change the regressive trend of agricultural activities and uses. These policies do not take into account such transcendental aspects as the lack of labour to work these lands or the ownership of an enormously parcelled land that prevents the implementation of actions that allow their use, intensive or extensive. These initiatives, which in areas dominated by farms with a larger territorial base or in areas with less urban pressure, can be and are conditioning factors, they are not in a territory where the value of the land does not depend on its agrological possibilities and the farmer is not the owner of more than a part of the surface that he use and, therefore, cannot decide on all of it.
- Mental urbanisation of rural society, which is reflected in a continued loss of traditional rural social structures, especially neighbourhood ones, in favour of a physical and social approach to urban conceptions. The social support structure is the family, a unit that already resides in the urban environment that develops in the proximity.

The situation, therefore, is very different from that observed in the Ossau-Iraty area. The agrarian neighbourhood and even the production structure are subjected to oppressive urban pressure. The farmer that continues cannot sustain its productive structure on plots that it is only allowed to under-exploit. The farmer focuses more on the productive improvement of livestock and less on its territorial base. He observes less the events that occur on its plot, he contrasts little in a very small neighbourhood territorial unit and the acquisition of natural knowledge is simplified.

Farm activity is in danger of disappearing and with it the knowledge that the farmer possesses about the natural environment. It is not a recent process, it has been underway for at least two generations, but it is marking the transition from a rural environment to an increasingly urbanised one, from cattle based on taking advantage of his inheritance to another increasingly imbued with an industrial and urban mentality. And in this process the relationship with nature is neglected and the loss of knowledge spreads.

The research carried out opens many questions. The incidence of urban proximity is evident in the example studied, but what is the natural knowledge of the farmers

who have opted for an industrialised production model and who use a large part of the Spanish territory with machinery? Or what happens with the knowledge of the natural environment in those regions in a clear process of depopulation? What knowledge are they missing?

The evolution of production activities, the demand for land to urbanize, the massive abandonment of the ac-

tivity by a population that already exercised it part-time, together with the arrival of a generation born in an urban society to ownership of the farmhouse, with new values and new economic realities, accelerate the abandonment of activity near to urban spaces. Productivity, employment, landscape and also local knowledge and natural knowledge are lost.