

# EMPTY SPAIN AND VERNACULAR ARCHITECTURE. AWARENESS AND CONSERVATION FROM THE TEACHING OF ARCHITECTURAL RESTORATION

**José-Luis Baró Zarzo, Valentina Cristini, Camilla Mileto, M. Josefa Balaguer Dezcallar, Pasquale De Dato, Lidia García Soriano, María Lidón De Miguel, Sergio Manzano Fernández, Matilde Caruso, Francesca Trizio, Fernando Vegas López-Manzanares**

*Universitat Politècnica de València (SPAIN)*

## Abstract

The First Industrial Revolution brought about the attraction to the cities of much labor force coming from the countryside. In Spain, this migratory phenomenon accelerated during the period of development of the 1960s. Today, even it seems not to have reached bottom: there are already many deserted areas in the so called "empty Spain" and more the nuclei that will disappear in the coming years if nothing remedies. This territorial imbalance has led, on the one hand, to the pollution and overpopulation of large metropolitan areas, often located on the coast, and on the other, to the progressive extinction of an ancestral way of life that has been maintaining a tight balance with the natural environment through agricultural exploitation.

It is in this context that the Empty Spain teaching initiative arises, applicable to several subjects of the degree in Fundamentals of Architecture taught at the ETS of Architecture (Universitat Politècnica de València, Spain), and encouraged by the Sustainable Development Goals of the 2030 Agenda promoted by United Nations, especially with regard to No. 10 "Reduce inequality", No. 11 "Sustainable cities and communities", and No. 12: "Responsible production and consumption". A team of professors with a long teaching and research career linked to the course on Architectural Restoration promotes this idea.

The experience was developed in two phases: learning and dissemination. In order to undertake the learning phase, a triple challenge was proposed: raising awareness of the seriousness of the problem and the urgency of finding viable solutions; fostering knowledge of vernacular architecture, predominant in the affected area; and acting through an incipient architectural project applied to a traditional building. In short, knowing vernacular architecture and learning from it.

For its part, the dissemination phase is being deployed in parallel through several channels. A temporary exhibition is organized with a selection of the most suggestive works aimed at the students and teachers of the School. This strategy is joined by participation in two international congresses, one on research and the other on teaching.

Keywords: rural exodus, rural heritage, traditional techniques, architectural restoration, Sustainable Development Goals.

## 1 THE PROBLEM OF DEPOPULATION IN INLAND SPAIN

The industrial revolution brought with it the mass movement of manual labour from rural to urban settings. In Spain, this migration, which took off in the development experienced in the 1960s, does not yet appear to have abated. There are now numerous examples of depopulation found in "empty Spain" [1] and many more nuclei are expected to disappear in coming years if nothing puts a stop to this<sup>1</sup>. This territorial imbalance has led firstly to the overpopulation and pollution of major metropolitan areas, often found on the coast (such as Barcelona and Bilbao), and secondly, to the progressive devaluation of the ancestral way of life in the villages of inland Spain, which over the years have maintained a fragile balance with the natural environment through mixed farming.

This phenomenon is not unique to Spain. Similar situations are observed in countries in southern and eastern Europe. However, this situation is so alarming in the interior of the Iberian Peninsula that its low population densities, comparable to those of the northernmost latitudes where living conditions are

<sup>1</sup> Note: Ironically, some of the adverse situations worldwide such as the 2008 financial crisis or the 2020 Covid-19 pandemic, have provided lifelines to these villages for different reasons which have to do with sheltering the economy or health respectively. Even so, these have not managed to reverse this negative trend. Nor does it seem that the displacement of provisions and services to small inland municipalities through remote work will bring in enough new blood to halt the continuous drain from these villages.

extreme, have even been compared to those in Lapland. Specifically, depopulation mostly follows an east-to-west arc covering the Iberian Peninsula along the north of Madrid, affecting the communities of Castilla-La Mancha, Aragón, La Rioja, and Castilla-León, especially villages at higher elevations and with poorer communications [2] [3]. This depopulation especially affects younger people keen to map out a future for themselves and women, who have fewer work opportunities in rural settings.

To this demographic issue we must add personal drama, as every person forced to leave home in search of a better future is affected by deep-rooted feelings of nostalgia, which are somewhat lessened thanks to holiday stays but are gradually dying off as the older generations disappear and younger ones lose this connection. Are smaller nuclei doomed to only open in summer or at most, at weekends?

There are many causes for this. This phenomenon is in line with the global trend which tends towards the concentration of population in large conurbations in coastal areas. It is also in keeping with a globally aging population, which unfortunately particularly affects municipalities at risk of depopulation where this has been an issue for decades. Furthermore, it is important to note the major imbalances in territorial policies from one region or province to another. These imbalances have resulted in greatly deficient basic care services for residents in the more disadvantaged areas, particularly health and education, as well as transport and leisure.

Given this unfortunate situation there have been many imaginative attempts to halt or at least contain this drain. In 1985, the American film *Westward the Women* (dir. William Wellman) inspired the residents of Plan (Huesca) to take out an advertisement hoping to attract women to the village, an initiative which provided 33 new partners in a population of 300 [4]. Another proposal, the “Children’s Caravan” (2010) caused a notable increase in the census of Castelnou (Teruel) in the last ten years due to the appealing financial incentives on offer to any family with children settling in the village [5]. Another recent initiative is the establishment of *Smart Villages*, “rural communities that use innovative solutions to improve their resilience, building on local strengths and opportunities” [6]. One of these villages, Valverde de Burguillos (Badajoz), has set up a platform thanks to which young people forced to move to other cities to study can maintain close links with the village and not lose contact with their roots [4].

However, this policy of *every man for himself* does not appear to have found a global solution to the problem. More than ever, there is a need for public territorial strategies and investments which should go hand-in-hand with private initiatives undertaken in collaboration with Europe [7]. Education can also play an important role.

## 2 THE EMPTY SPAIN INITIATIVE

Against this backdrop of unease, the *Empty Spain* initiative was born as part of student learning at the Higher Technical School of Architecture of the Universitat Politècnica de València (Spain). This educational innovation experience is implemented in different subjects of the Bachelor’s degree in Fundamentals of Architecture. Its main objectives are the knowledge and valorization of vernacular architecture [8], learning about the potential for respectful interventions and further exploring the advantages of popular know-how and the sustainability of materials and techniques used (that is to say, knowing vernacular architecture and learning from it) [9]. The methodology followed is developed in two phases, teaching in the strictest sense and a second phase focusing on dissemination, as detailed at a later stage.

This initiative aims to follow the Sustainable Development Goals of the new 2030 Agenda promoted by the United Nations. Special attention is paid to points 10: “Reduced inequalities”, in subsection 10.3: “Equal opportunities”; 11: “Sustainable cities and communities”, especially subsection 11.4: “Cultural and Natural Heritage”; and finally 12: “Responsible production and consumption”, focusing on subsection 12.8: “Education for sustainable development” [10].

A team with a long teaching and research trajectory, led by Camilla Mileto and Fernando Vegas [11] [12] [13], has devised and promoted this undertaking from the classrooms. The practical experience and theory relating to the knowledge, conservation and valorization of constructive techniques, based on their identity and culture, have been incorporated, also taking into consideration the ecosystemic benefits they can currently provide to society [14].

This initiative is included within the Versus+ Heritage for People European research project [15], in which researchers from Universitat Politècnica de València, Escola Superior Gallaecia (Portugal), Università degli Studi di Firenze (Italy), Università degli Studi di Cagliari (Italy) and the International Center for Earthen Architecture CRAterre de Grenoble (France) take part.

## 2.1 The learning phase

In order to successfully complete the learning phase, the challenge proposed within the subject of Architectural Restoration was three-fold: to raise awareness, to learn and to act.

### 2.1.1 *Raising awareness on the issue seriousness and the urgent need to find solutions*

Raising awareness on global issues affecting society is essential in the awareness of social responsibility in education [16]. This is even more the case for any professionals in training, especially architects, directly involved in key decisions on forms of construction and choice of materials. From the start it was felt that this involvement could help shape the framework needed to prompt motivation and undertake the changes to follow.

This challenge was first approached with a presentation talk in class which highlighted all these issues. From this point, students were organized into groups of 5 or 6 to track the affected areas and identify buildings where the practical work of the subject could be carried out. For the smooth development of the work, the building must feature traditional techniques which are as exposed as possible, a degree of deterioration (non-restored construction but with no safety issues) and be small enough for in-depth study.

### 2.1.2 *Promoting knowledge of traditional and vernacular construction*

Knowing is wanting! [17] Traditional and vernacular construction are the most representative architecture in rural nuclei at risk of depopulation. This interest stems not only from the inherent cultural value of these buildings but also - as stated earlier - from the recognition of their sustainability, acting as a model for the optimization of natural resources through local economies and with limited impact on surroundings.

The exercise begins by researching the history through indirect sources such as published bibliographical references or unpublished documentation (written, graphic or oral). Once this research is complete it is possible to define the values of the building and justify the decision to conserve it.

Once the historical information is known the metric and descriptive survey is carried out on the floor plan, elevation and section. This allows students to learn about the irregular and imperfect nature of popular architecture, while also providing advance information detecting occasional deformations to be analysed at a later stage.

Subsequently a study of constructive materials and techniques is carried out, placing special emphasis on those more commonly found in the location. This requires an initial qualitative and quantitative classification of the materials and techniques using written and graphic resources.

Following this, and without losing sight of materials, degradation phenomena are analysed. Students are asked to formulate hypotheses on the causes of these phenomena based on their effects and the mapping on plans.

Another further aspect of study of the buildings is that of structural pathologies. Individual groups must record the mapping and characterization of the fissures, cracks and deformations observed in order to establish hypotheses for these causes.

This section concludes with a stratigraphic study detecting the different strata observed in the walls due to the different construction and modification phases throughout the history of the building.

### 2.1.3 *Proposing concrete actions for conservation and reuse*

This challenge closes the learning circle. As these are architecture students the obvious action is to draw up a preliminary project applied to the building studied. This design develops architectural proposals with the firm conviction that the recovery of built legacy is possible and desirable, with no need to compromise on the current demands of living standards or to sacrifice the picturesque charm of popular architecture [18].

First and foremost, the proposal requires a selection of criteria or rules with which to play the game. The different restoration theories covered as the theoretical part of the subject provide the basis for this selection. The students must also set objectives and intentions prior to the initial decision-making.

The project itself includes three complementary aspects: the solutions provided for the degradation phenomena and structural pathologies, as well as the adaptation of the building to a specific use but not necessarily a different one, and finally, the improvement of habitability conditions without compromising the values of the building.

## 2.2 The dissemination phase

Up until this point students have worked on the application of theory through the increased awareness, learning and proposal of solutions applicable to constructions found in nuclei at risk of depopulation. However, the involvement of teachers and students in the cause does not end here. It is important to disseminate the results so that others may benefit from the experience, repeating, improving or critically analysing it.

### Vivenda al barri de Las Clochas, Fuentes de Rubielos

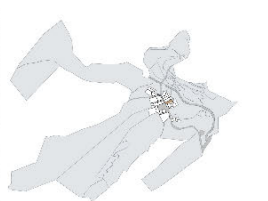
Estudi Previ i Projecte de Restauració

#### INTRODUCCIÓ | ESTUDI HISTÒRIC I ALÇAMEN MÈTRIC-DESCRIPTIU

Descripció general

El conjunt de vivendes al barri de Las Clochas, a Fuentes de Rubielos, és un exemple de arquitectura rural de la zona de Teruel. Les vivendes són de planta rectangular i estan construïdes amb pedra i maó. Les cobertes són de teula i tenen un perfil de carener. Les vivendes estan agrupades en un petit nucli i estan rodejades per un mur de pedra. Les vivendes són de planta rectangular i tenen una superfície de construcció de 100 m². Les vivendes són de planta rectangular i tenen una superfície de construcció de 100 m². Les vivendes són de planta rectangular i tenen una superfície de construcció de 100 m².

Emplaçament

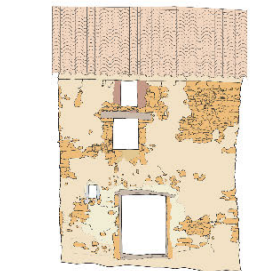


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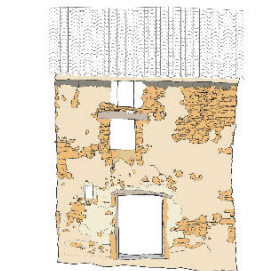


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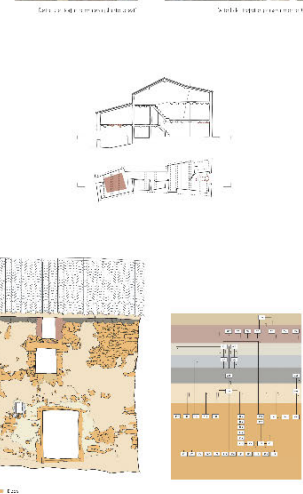
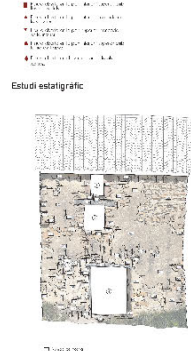
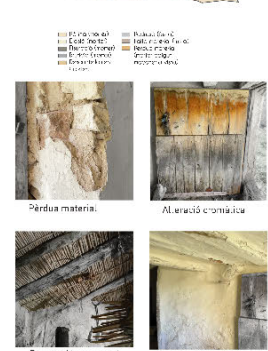
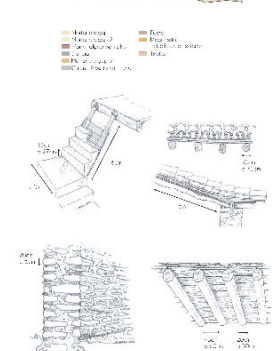
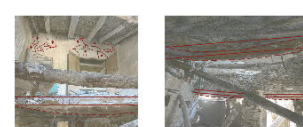
Estudi constructiu



Degradació material



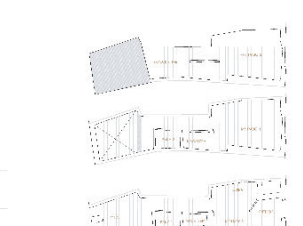
Danys estructurals



#### PROPUESTAS PARA EL FUTURO | CRITERIOS Y OBJETIVOS DE RESTAURACIÓN

Los objetivos que se pretenden conseguir a través de las propuestas son:

- Garantizar la habitabilidad del edificio.
- Conservar el patrimonio arquitectónico.
- Mejorar las condiciones de vida de los habitantes.
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Restauración Arquitectónica | Curso 2021-2022  
Grupo A  
Profesores: Jose Luis Daró, Lidia García, Sergio Marzano

Alumnos: Alba Lara Vega, Cristina Soriano Vila



Figure 1. Example of panel for the exhibition "Empty Spain" (Students: Alba Lara Vegas and Cristina Soriano Vila. Location: Las Clochas, Fuentes de Rubielos, Teruel, Spain)

In this regard, the planned dissemination is carried out through different channels. With the students and teachers of the School of Architecture in mind, a temporary exhibition with a selection of the most noteworthy projects, summarized on A1 panels, is under development (Fig. 1). The exhibition will include a total of 20 panels, including one devoted to presentation and another to conclusions. The edition of an open access digital catalogue is also planned.

In addition to this plan, two papers, one on research and another on education, will be presented at two international conferences. The first, focusing on major technical-constructive aspects will be presented at the 2022 Heritage Conference, to be held in Valencia in September 2022, while the second, examining the objectives, methodology and results of this educational innovation experience will be presented at EDULEARN 2022, in Palma de Mallorca in July. This dissemination work will also continue indefinitely thanks to the open access publication of the proceedings of both conferences.

### 3 CONCLUSIONS

Currently, two of the most pressing challenges to society are climate change at global scale and the phenomenon of depopulation at a national scale. In relation to the latter, awareness is increasing among the population, and has even been highlighted by politicians. The academic sphere is an excellent source of contributions through reflection, raising awareness, learning and the proposal of new ideas. It must be borne in mind that the students of today are the professionals of tomorrow.

In the specific field of architectural teaching from the experience presented here it can be stated that *Empty Spain* was particularly enlightening for students. Proof of this is the fact that 85% of teams undertook to present exhibition panels based on their practical work, despite this being voluntary. Collaborative group work was also a success as it promoted internal debate and collective decision-making. Finally, increased awareness of the seriousness of the problem tackled acted as an incentive for this work, which was extremely laborious. Difficulties encountered by some students include that of mobility, as they repeatedly had to travel considerable distances from Valencia for data collection.

As aspects to be improved we highlight obtaining more specific objectifiable feedback, proposing the possible incorporation of general debate and a survey at the end of the course in future reeditions.

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