

# WORKSHOP ON TRADITIONAL ARCHITECTURE. EXPERIENCE INDIA-SPAIN AT UPV CAMPUS

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## Abstract

Traditional architecture is closely linked to the territory it is found in. However, in some instances it is also possible to find similarities and points in common between constructive techniques that are very far apart in terms of location. This text presents a teaching experience where the main aim was to bring into contact two constructive realities connected with the tradition of earthen construction and tiled vaulting.

The contemporary world is comprehensive and global, and links between students must also be so. Therefore, it is necessary to encourage multicultural reunions where students can further their knowledge of a given topic.

In this context, an experimental workshop was carried out in July 2017 at the campus of Universitat Politècnica de València (UPV) with the participation of students from the SAL School of Architecture in Ahmedabad and the Higher Technical School of Architecture of Valencia. This workshop allowed students to work with distant constructive traditions that were similar to their own and this exchange allowed them to broaden their knowledge. This experience also showed the Indian students how conservation, assessment and restoration work is carried out on local heritage, extremely important now that the city of Ahmedabad has been chosen as a UNESCO World Heritage Site.

Keywords: Innovation, multicultural experience, active methodologies.

## 1 INTRODUCTION

This text presents the collaborative teaching experience between SAL School of Architecture in Ahmedabad and the Higher Technical School of architecture of the UPV, carried out through a seminar-workshop held at the UPV campus in July 2017.

Earthen architectural heritage is found worldwide and is an essential part of numerous cultures [1]. Moreover, this heritage currently presents an interesting line of learning both from the perspective of intervention in architectural heritage and from that of new constructions in contemporary architecture as it is a salubrious and sustainable material which provides energy savings throughout the constructive process and bears relationship to local culture [2].

## 2 TEACHING OF TRADITIONAL ARCHITECTURE IN AHMEDABAD

In 1962, when the first School of Architecture was established in Ahmedabad at the Centre for Environment Planning and Technology (CEPT), the study of traditional architecture was a key point in its curriculum [3]. In order to address the new architectural identity that modern independent India would require the need for understanding India's own architectural identity became unquestionable<sup>1</sup>. This approach prevailed during subsequent curriculum revisions in 1976, 1988 and 2001, the last of which mentioned the 'validity of appropriate technology and use of local techniques and their continued relevance in developing economics (sic)' [3].

The recent inclusion of Ahmedabad as a UNESCO World Heritage Site has been a combined effort between the Ahmedabad Municipal Corporation and the Centre for Conservation Studies at CEPT University [4]. This was the culmination of the research carried out with the support of national and international experts [5].

Today, despite the growing academic interest<sup>2</sup> and the need for professionals in the field of conservation, the topic has not yet fully permeated<sup>3</sup> the architectural curriculum. Also in recent years and with the emergence of new architecture schools<sup>4</sup>, there appears to be a shift in architectural

education towards new technologies and software-developed design, adapting to changing employment prospects.

However, it is becoming extended practice to expand students' exposure to the complex and multidimensional architecture field through short but intense learning experiences. These activities planned during the semester breaks were previously conducted in the form of related study programmes and more recently as workshops<sup>5</sup> with a varied range of topics not necessarily covered in the established course structure.

In view of the above an interest in an educational exchange experience fuelled the collaboration between SAL School of Architecture in Ahmedabad and the Higher Technical School of Architecture of Valencia, which took the form of an international workshop.

### **3 OBJECTIVES**

The main objective of this experience was to bring earthen construction and construction with tile vaults closer to students, as well as encouraging meetings, exchange and collaboration between students of the UPV and students from Ahmedabad, India. This workshop is thus understood as an experience for exchange which allows students to come into contact with other construction settings.

Therefore the aim of this workshop is for the students involved to gain more in-depth knowledge on traditional earthen architecture and understand its importance as local heritage in different geographical areas.

### **4 METHODOLOGY AND ACTIVITIES**

The workshop developed was organised into two parts: a brief theoretical introduction to the vernacular constructive contexts of India and Spain to provide students with an overview of the specific architecture, differences and similarities of both countries; and a second block (lasting two days) made up of practical activities and focused exclusively on direct experimentation with some traditional materials and techniques, mostly earthen construction (with the production of adobe, rammed earth and earth rendering) and experimenting with the construction of tile vaults.

The activities carried out during the workshop were based on a "learning by doing" methodology [6] so that students could learn about the material while working and experimenting with it directly.

#### **4.1 Practical activities**

The two one-day practical work sessions were organised to work on the two main themes proposed: the first was devoted to working on earthen architecture while the second was devoted to the construction of tile vaults.

##### *4.1.1 Session on earthen construction*

The first work session on earthen construction was divided into four independent workshops: a workshop on the knowledge of earth as a material, another on the production of adobe, a third on the production of earth rendering and finally a construction workshop for rammed earth walls.

To ensure a manageable number of students the group was divided into two subgroups which worked on the activities simultaneously. It was essential for these subgroups to be made up of students from both schools in order to encourage joint work and exchange.

The aim of the workshop on the recognition of earth was for students to learn more about it: types of earth, basic properties, states, etc. For this purpose some of the students worked on sensory exercises with different types of earth so that they could learn to distinguish them, using simple field experiments to obtain data on its characteristics. They carried out experiments to observe the resistance reached in small test samples, assembled based on several factors: degree of humidity, degree of compactness.

The other three workshops were used to learn construction techniques with specific types of earth. Students were thus able to produce adobe, rammed earth walls and renderings, learning about the specific aspects of the mix for each constructive technique.



Figure 1. Left: Image of students at the start of a practical workshop. Right: Preparation of adobe mix.



Figure 2. Left: Workshop on earth rendering. Right: Workshop on rammed earth construction.

#### 4.1.2 Session on the construction of tile vaults

The second work session focused completely on construction with tile vaults, with a skilled builder showing students the technique of tile vaults. The session began with a more theoretical activity examining the outline and design of different types of tile vaults. Each group selected a design to build, with the construction phase following this initial design phase. In order to build the vaults the students also learned how to work with gypsum, mixing the mortar, and learned about the operation of this type of structure which is so common in different settings of vernacular architecture. Given the ease of construction and savings in terms of materials, these vaults can be built without falsework and with minimum auxiliary elements.



Figure 3. Left: Workshop on the design and outline of tile vaults. Right: Vault construction workshop

## 5 CONCLUSIONS

Following completion of this international workshop some conclusions can be drawn from this experience. The importance of this sort of learning initiative based on active methodologies [7] is increasingly apparent, as is the demand for such activities among university students who are generally used to learning in master classes where they are mere spectators. Students are very enthusiastic about these new learning experiences in which they are in control of their own learning [8]. Direct experience with earth has provided students with a more in-depth knowledge than they would have acquired in a classroom following a more traditional methodology.

Moreover, the joint experience of students from different schools of architecture and constructive situations has improved quality by encouraging exchange, giving rise to broader and richer learning.

## NOTES

<sup>1</sup> CEPT School of Architecture's curriculum in 1962 states that: 'Architecture in twentieth century must necessarily be different than it was in the time past. However these new forms of the 20th century must relate to age old traditions. Therefore architecture in India will naturally be different it is in other parts of the world.' [3]

<sup>2</sup> An example of which is the Symposium 'History and Conservation: as if People Matter' held at CEPT University on 2-3rd August 2017 with the partnership of Sushant School of Art and Architecture in Delhi and ICOMOS India. [9]

<sup>3</sup> In Ahmedabad, only CEPT University offers Masters in Architecture with specialization in Conservation (since 2009) [10]. The Ahmedabad University offers a Master of Heritage Management.

<sup>4</sup> Since 1962, 6 new schools have been established, all of them after 2011. In the state of Gujarat there are 28 architecture schools, from which 20 were funded after 2011. [10]

<sup>5</sup> The format of the workshops varies from in-campus activities, study trips, as well as partnerships with other national or international universities or institutions. In Gujarat, a reference institution that conducts workshops on traditional construction techniques is the Hunnarshala Foundation, located in Bhuj.

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