

1. BACKGROUND

Construction has been an important economic activity for many centuries, however the construction procedures used in Mexico have never been particularly innovative. The great pyramids of pre-Columbian times were basically built from large volumes of earth that was transported and pounded down, and then covered with a facing of stone and mortar to avoid its destruction by rain. The method used for the facing may have varied from culture to culture, but the basic principle remained always the same. The few roofed spaces were covered with very elementary wood beam structures and it was only in the Mayan area that a stone roofing method was developed, called "Mayan vault" or "false arch". As the second term suggests it, this procedure is not particularly efficient.

Pre-Columbian building procedures practically fell into oblivion, since they were not very useful for the type of construction needed by the Spaniards. The new buildings, such as palaces and churches, were built with European methods. Only a few prehispanic techniques were used during the sixteenth century, for masonry, waterproofing and mural painting, although very little of this field has yet been researched. In any case, the construction quality was never first class, for two reasons: in the first place, there was a scarcity of professional architects and of qualified labor; in second place, the authorities were never able to enforce compliance with existing ordinances. These conditions still persist to date.

Some procedures were typical to certain regions. In Mexico City, the Spaniards used to sink an infinite number of logs to increase ground-bearing capacity and to prevent the buildings from sinking into the muddy soil. Aztecs did the same, but there is no proof that the Spaniards learned this technique from them, since it is found throughout the world. On the other hand, no special method was developed to improve the resistance of buildings in the face of earthquakes. In areas such as Oaxaca and Chiapas, where earthquakes are more frequent and strong, the solution was simply to make thicker and lower structures. The dry climate and the abundance of good clay in the Guadalajara and Bajío regions, facilitated the building of so called "catalan vaulting", i.e. very flat vaults and domes made of brick and without centering. Other differences were mainly due to the use of regional materials in the decoration, e.g. reddish tezontle-stone facades in Mexico City, brightly colored tile and white stucco ornaments around Puebla and Tlaxcala, delicately carved limestone facades in Querétaro and San Luis Potosí and so forth.

These regional differences have gradually faded since the nineteenth century, as the principles of modern architecture spread about the country. At the same time, the new materials and procedures, such as iron, steel and concrete, are more and more commonly used and this has contributed to the disappearance of regional techniques. Political, social and material progress allowed for a significant improvement in building standards at the beginning of this century, but these advances were lost due