

Architecture in the Fourth Dimension

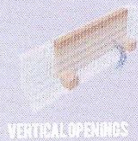
Methods + Practices for a Sustainable Building Stock

November 15 - 17, 2011 / Boston, Mass., USA

Proceedings of an International Conference of

CIB W104: Open Building Implementation and

CIB W110: Informal Settlements and Affordable Housing



VERTICAL OPENINGS



SUPPORT STRUCTURE



SHAFTS



FLOOR MATTING



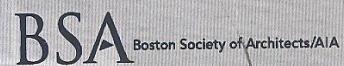
UNIT PARTY WALLS



WET CELLS



LOGGIAS



Architecture in the Fourth Dimension

Methods and Practices for a Sustainable Building Stock

Proceedings of the Joint Conference of CIB W104 and W110
November 15 - 17, 2011 - Boston, Massachusetts, USA

Editors

Michael D. Gibson
Assistant Professor of Architecture, Kansas State University
A4D Conference Co-Chair

Stephen Kendall PhD,
Professor of Architecture, Ball State University
A4D Conference Chair and
Joint Coordinator, W104 Commission on Open Building Implementation

Conference Organizers

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BSA Boston Society of Architects/AIA

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Sustainable Incremental Support (S.I.S.)

Jorge I. Andrade Narváez, Alma Rodríguez de la Peña, Alleck González Calderón

Taller de Vivienda. Universidad Autónoma Metropolitana; Unidad Xochimilco (TAVI-UAMX), México D.F.

ABSTRACT

It is well known that Mexico is going through difficult times. It is imperative that most of the population's standards of living should be improved in the near future. However, the viable options of doing so are not clear enough. It goes without saying that there is a strong need to face this reality and to accept the challenges attached to it. One of these challenges is the self-produced housing issue.

The information and ideas presented in this essay, are part of a research carried out at TAVI (Taller de vivienda: Housing workshop) in the Universidad Autónoma Metropolitana located in Mexico City. This research began in September 2007 and has continued up to now. It must be said that an advance of the work was presented in the XV Open Building conference held in Holland, November 2009.

This new analysis enhances the previous report since it deals with the theoretical and methodological approaches as well as with the architectural design proposal. The paper describes briefly the process of knowing, understanding and developing architectural options to improve the quality of life on self-production housing in Mexico City.

The first part deals with the background at a worldwide level as it happened in the XX century. The second part defines the self-production housing problem in Mexico City. In the third part, we briefly describe our conceptual and methodological approach whereas in the fourth part, we present the San Luis Tlaxialtemalco (Xochimilco) case study. At the end we present some reflections and final comments.

KEYWORDS:

Self-produced housing, incremental housing, supports, design methods

INTRODUCTION

This paper is about the process of self-production housing as it happens in most third world countries. The main focus is on the idea of improving the architectural design of this kind of dwellings. The assumption is that, instead of just developing mass-housing projects to substitute the informal settlements, there is a strong need of first, accepting the existence of informal settlements, secondly, understanding them and finally, developing proposals to improve them.

In the first part, there is a background which tells us about the last century main processes of building housing which can still be found in both developed and underdeveloped countries. In the second part, we present the problem of the self-production of housing as it occurs in Mexico. In the third part, there is a brief description of the theories and methods supporting our approach to the self-production of housing. The fourth part, San Luis

Tlaxialtemalco (Xochimilco) is presented as a case study, partially showing our way to tackle the architectural design process, as we think it could be done.

At the end, as final comments, we do a reflection on our work and the attempt to focus it on making architectural design proposals which should preserve the participatory design main ideas of working together with the inhabitants in order to improve the quality of their dwellings and habitat.

BACKGROUND

The concept of housing has been continuously changing since the Industrial Revolution. Due to the fact that there have also occurred many radical changes in society as well as in urbanization processes all over the world, there is in the cities a big demand for places to live in.

Last century brought us a legacy of knowledge which unfortunately turned out to be either wrong or incomplete. It could be said that during the first half of the XX Century, technology and economy were the main issues on urban and housing development. The environmental impact of these approaches was not a main factor to be considered and it was, most of the times, sacrificed to the benefit of the economic and technological aspects. After the Second World War, the need to rebuild many cities in Europe for example, brought back some previously developed ideas such as the Athens Document and hence, thousands of dwellings were built based on the ideas of functionalism and international architecture.

Years later and according to the new standards of living of European population (England, Germany, France, Italy, Belgium, Netherlands, etc.), those new cities and housing developments were either limited or not entirely satisfactory. To some extent, this gave birth to the participatory design methods developed in those countries during the Sixties. This was the case of the Support and Methodology developed in S.A.R. (Stichting Architecten Research) under the direction and ideas of John Habraken in Holland. The majority of the changes took place in the countries up north or in the developed ones.

On the other hand, the south countries and under developed ones, were going through strong changes in their urban and natural environment transformations. This was the case of Mexico which since the middle of the century had begun to undergo important changes. As far as the growth of main cities is concerned, Mexico City, Guadalajara and Monterrey became a serious problem. Nowadays Mexico City with its more than twenty million inhabitants including the metropolitan area, is one of the biggest cities in the world. The fact remains that conditions such as the economic income or the educational level of the population, are completely different from

Revitalize and Density Housing Downtown Merida, Mexico

Andrea Martin-Chavez

Universidad Autonoma Metropolitana-Xochimilco, Mexico

ABSTRACT

Merida is the capital city of Mexico's state Yucatan, and a very important center of economic and touristic growth within the Yucatan Peninsula. It has a very rich cultural, artistic and gastronomic heritage that goes as far back as the Mayas and the Spanish conquistadores. It is a beautiful colonial city, like many in Latin America, in which the downtown area has been consistently abandoned by its original middle-class inhabitants in favor of suburban housing. Large housing areas are deserted and the patrimonial buildings are slowly degrading either by supporting uses ill-suited for them or by plain abandonment. In 1981, the Federal Government declared a large part of the central city as a Heritage Value Area and in 2003 the Fund for the Preservation of Downtown Merida was created (known as the 'Patronato'). The Patronato is a non-profit organization that coordinates and supervises all interested stakeholders and actions that want to contribute to preserve and promote the area. This paper is about the academic experience of two years working with our students and the Patronato, providing different architectural proposals to address the three main issues that our urban diagnosis brought about: 1. Improve Mobility. 2. Revitalize and densify housing. 3. Make the city "greener".

KEYWORDS:

revitalizing through housing, housing diversification, low income housing.

INTRODUCTION

The study area is located in the City of Merida which is the capital of Yucatan's state in Mexico's South East. Yucatan, along with the states of Campeche and Quintana Roo, form part of the Yucatan Peninsula. The Peninsula is surrounded by the Gulf of Mexico and the Caribbean, and has 1100 Km of coast. It was the cradle of the Mayan civilization and it is an important touristic destination. In fact, tourism is the main economic activity of Yucatan followed by commerce.

Merida was founded in 1542, over the original Mayan city of THo adhering to the rules of the gridiron plan prescribed in the laying out of all new American cities founded by the Spaniards (called *Leyes de Indias*). The space is organized hierarchically in sections with different functions: religious, government, commercial and social. In its origins, as in any other city, there was a balance between these functions and the population inhabiting the residential and common areas imbedded in the urban grid. With the technological and industrial revolutions the density of the city changed. There used to be a generally smooth and respectful urban and architectural transformation of the building stock

until the beginnings of the 20th century. With the modern view the old city was seen as an obstacle for progress. The former residents venture for the new ways of life in the suburban areas. Thus Merida downtown residences were progressively abandoned leaving large housing areas deserted with the patrimonial buildings degrading either by supporting uses not suited for them or by plain abandonment.

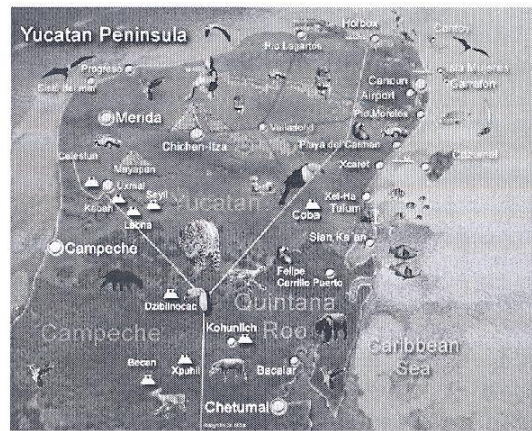


Figure 1: Yucatan Peninsula

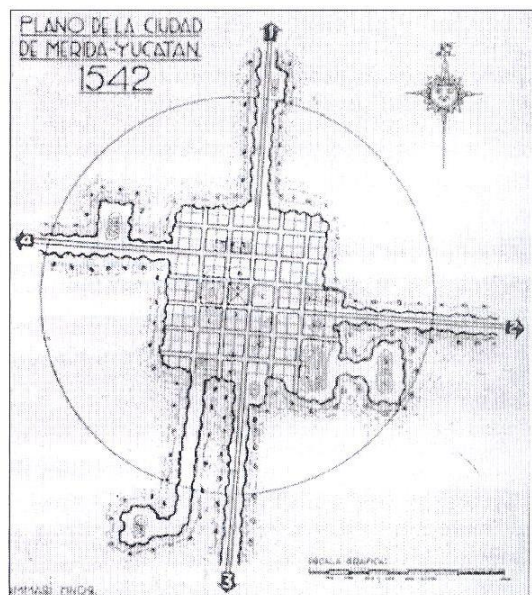


Figure 2: Plan of Merida 1542