

Housing the Future

Alternative
Approaches for
Tomorrow

Edited by
Graham Potts and
Rachel Isaac-Menard

Series Editor
Graham Cairns



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GUYA BERTELLI

Politecnico di Milano

SCHOOL OF ARCHITECTURE AND SOCIETY

The Politecnico di Milano is a public university with a science and technology focus. It was founded 1863 and in 1987 opened additional campuses in Como, Lecco, Cremona, Mantova and Piacenza. It incorporates engineering, architecture, urban planning and design into its portfolio. The Piacenza Campus was founded in 1997, and hosts the three-year course, Bachelor in Environmental Architecture, as well as the Master's in Sustainable Architecture and Landscape Design, established in 2007. Issues dealt with on the programme include environmental sciences and technologies, and sustainable regeneration and urbanism. It offers a combined theoretical, methodological and technical-constructional approach.

The work on housing as expressed in the projects collated in this chapter are drawn from the design studio 'Multi-Scale Architecture and Urban Design' and concludes work from Italy and work carried out in conjunction with the Universidad de Sevilla in the neighbourhood of La Virgen del Carmen. It is premised on the need to provide affordable, healthy and sustainable dwellings as an integral part of broader regeneration of residential neighbourhoods. The projects are located in several countries in which the question of housing is seen as 'critical' for different reasons. They are based on the *process* of transforming existing neighbourhoods and buildings, and consequently emphasis is placed on practices of reuse, recycling and the regeneration of existing urban landscapes and the retrofit of existing buildings.

Students have been encouraged to rethink the 'product' of the house, but also the 'act of inhabiting' it. They have done this at the scale of the room, individual buildings and the urban intervention. As a result, projects engage landscape architecture, planning, architecture, public space design and the study of contemporary aesthetic scenarios. The common denominator in this multi-faceted approach is 'multidisciplinary practice'. Dealing with the question of housing in this way means some of the projects deal with

issues of planning prevision, others address community empowerment, and some proposals develop alternative forms of space planning – such as an *urban foyer*. In other cases, technological fixes, new forms of construction and alternative models are used and sought. Examples include the employment of resilient materials, easily transportable 'kit-of parts buildings' and hybrid typologies that combine the small office and the home etc. The projects collated here were coordinated by Martina Sogni with Giuliana Bonifati.

Project A: Creative Housing. Diaphragm as a Tool Generating New Spaces

Anna Chiari, Ana Laisa Chirolí, Irene Manzini Ceinar, Aigesha Ospanova

Today, the neighbourhood of Virgen del Carmen feels like an isolated enclave in the city of Seville. It falls into the category of projects known in Spain as *polígonos* and has a mono-functional residential character. The goal of this project is to integrate the neighbourhood with its surrounding context through two paths. The first of these paths relates to agriculture and establishes a direct relationship between Virgen del Carmen and Charco de la Pava – it is a path that interacts with towers, both supporting native flora and fauna (*Barriadas Verdes*). The second is a 'cultural path' – a succession of creative spaces connected with the Conservatorio Público Elemental de Música and the Colegio Público de San José de Calasanz. It is intended to completely change the meaning of the areas public space (*Barriadas Creativas*).

The idea of memory is represented in the project through maintaining the existing buildings and redefining a new border that spreads out towards the river and, at the same time, offers protection from the street (*Barriadas Seguras*). The project thus aims at maintaining the existing structure to preserve the identity of the place, whilst also giving a new meaning to its spaces. In particular, it tries to preserve the idea of the neighbourhood: a community with a defined border and spaces of internal relations operative at the human scale.

Key to the project is the design of a filter space between the totally private residential areas and the public road – seen as a *diaphragm* that generates a sequence of spaces that interact with the 'housing'. This diaphragm, made of corten steel, spreads along the cultural path in different forms – sometimes being a sign on the ground, at others rising up to be benches. When appearing between buildings generating public spaces on the ground and first floors it creates public space. These become creative spaces: theatres, exhibition spaces, sharing spaces, co-working spaces, and interactive spaces. It changes the surroundings of the houses in the area radically.

Next to these are apartments (*Vivienda Híbridas*). Designed to be flexible, they can accommodate artists and other residents. They are integrated with creative spaces

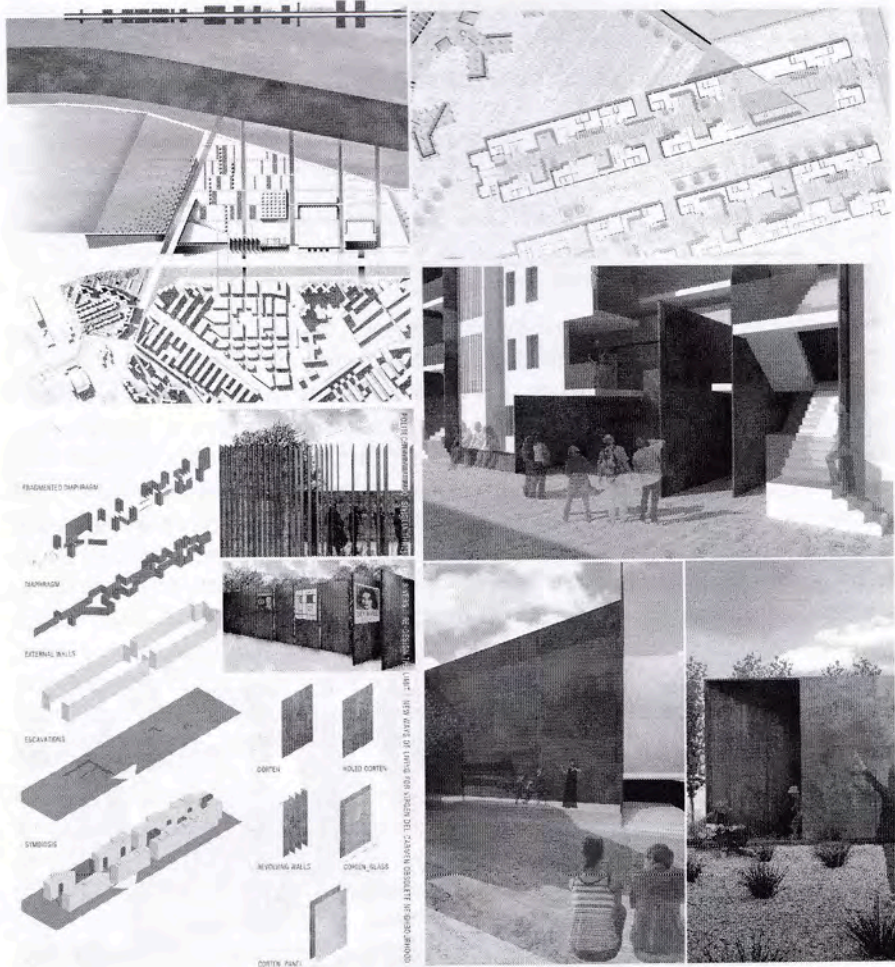


Figure 1. Site concept. Floor plans. Exploded concept axonometric. Visual perspectives

that, in most cases, result in houses connected directly to an exhibition gallery or private workspaces (*Viviendas en Comunidad*). They are spaces that can be private most of the time, but opened out to be public exhibition spaces at others (*Viviendas Flexibles*). Other apartments are seen as duplexes or triplexes, with private roof spaces that can be ateliers and/or secret gardens (*Viviendas Diversas*).

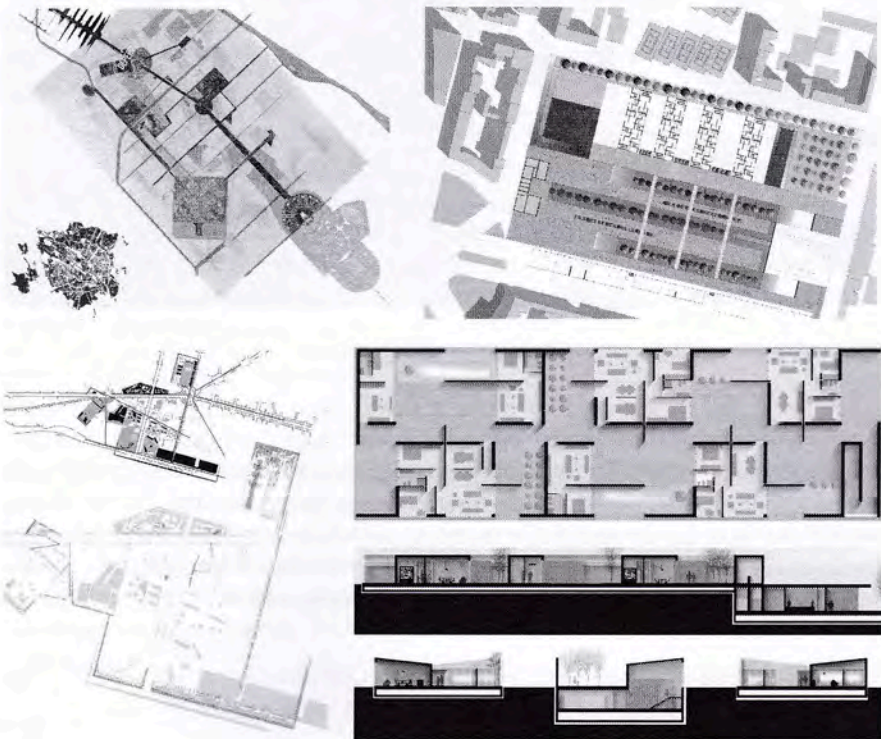
Project B: Re-Naturalization of Milan

Marina Di Pumpo, Federica Farè, Martina Gasparoli, Sara Grassi, Giorgia Zocchi

The reading of the city in this project provides macro and micro fragments of vacant courts and gardens along the historical axis *Corso Sempione* in the contemporary city of Milan. The strategy employed in the design is a *fil rouge* that brings a discontinuous sequence of built-up and open spaces which includes residential blocks that will improve the living conditions and suitability of the housing in the area.

The masterplan of *Piazza Firenze* is the key element in this initiative to improve housing / living conditions. It was born from the concept of folding that allows different levels to become detached from the ground. It is divided into four functional areas connected through public open spaces. The first area is occupied by a series of greenhouses, the second by a covered market, the third by a co-working space, and the fourth is an exhibition place. The public space is accessible through a walkway that runs through the area to the social housing at one end. The objective is to ensure a vibrant and sustainable urban context for modern living.

Figure 2. Area plan. Site plan. Urban concepts. Floor plan. Elevations and sections



Four separate residential buildings are connected underground by a series of collective services and spaces, such as a gym, children's play areas, and common laundries. The interiors of the housing units themselves are integrated with the external space, producing a hybrid space. In the design of these homes, particular attention has been paid to the architectural details with, for example, the interpenetration and the nodes between surfaces using different materials that allow an interesting façade composition to be formed. The central point behind the proposal, is that for quality housing, one has to consider the urban context, the facilities required and desired by modern residents and the need for common spaces to facilitate community life.

Project C: Through the River. The Spaces In-Between, Gate of Seville

Iman Gerveh, Nguyen Anh Tuan, Nazila Salehia, Vulov Mihail, Vuong Thuy Duong

There has always been an attraction to Seville since its Roman origin years ago, one that grows stronger today, with the layers of architecture showing the combined influences of two thousand years of artisan work. The city itself is an *urban palimpsest*. From here comes the suffocating confrontation between old and new, the need to change, the need of unchanged perception, the urge to grow, and the reality of *shrinking cities*. This project is situated on the edge the city near the flow of Guadalquivir River and is composed of residual spaces on the river bank and the social housing area named Virgen del Carmen.

Naturally, the perception of *rhythm and time* became an inspiration and led our design thinking to the well-known theories of Henri Lefebvre; '*The city is constructed by overlapping and interacting rhythms, to become one single flow that is city life*'. It was not only a very powerful metaphor, but also had a strong visual impact on the design. Using landform and green stripes as the background, the city and nature can both be said to reach out to each other. Where these contradicting elements meet the concept of *in-between* is introduced through subtle, sensible interventions that make a series of transversal, open spaces.

The centre point of the urban plan is the diagonal axis that connects both sides of the river and re-discovers the human traces on one bank, and the landscape on the other. This axis is continued as a creative garden that leads straight to the re-generated social housing area, which the project includes in its art-and-action process.

The concept for the social housing site is to keep the familiar residential towers surrounding the site, but then to confront them with emotionally charged dramatic 'events'. A water mirror is created on the ground floor of specific low-rise inner buildings; walls are dismantled and replaced by partitions, surfaces, and walkable routes that lead through several spaces; and activities are placed on top of the 'water mirror'.

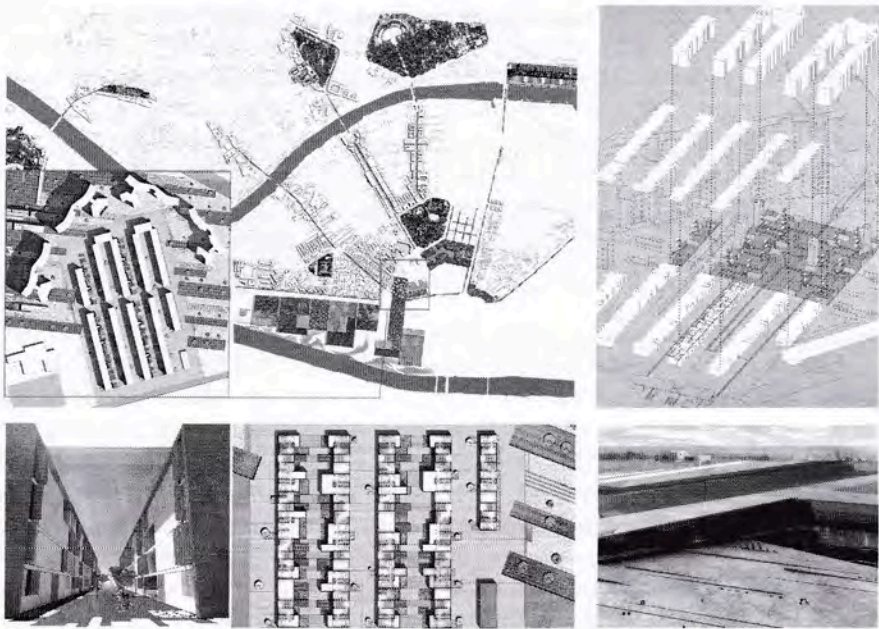


Figure 3. Site plan. Axonometric. Perspective and plan. Aerial perspective.

The mirror is the heart of this neighbourhood. From this heart grows the *aortas* and lesser *blood veins* – metaphors that flow from a hierarchy of water streams that circulate to the other side of the neighbourhood, enhancing the tranquil feeling of peace and quietness of the place. Where these small streams connect with the residential blocks small communal spaces are inserted and treated with a surface pattern inspired by the famous Alcazar water garden.

The new intervention is distinguished from the existing façade by a small gap between them. Spaces inside the apartment are shaped by their own use through partitions that also function as furniture. There is a minimum use of doors and diffused light and ventilation. The spaces define themselves. Less is more.

Project D: Special Symbiosis and Seasonal Dwelling. Exploring the Opportunities of Transformable Living Space.

Lida Ansari, Behdad Bolouhar, Ana Maria Estrada, Khaled Kaddouh, Krasimir Krumov, Yosif Histrov, Ivanka Ivanova, Ralitsa Yordanova, Cesar Mauricio Sanchez, Mihails Zuravlovs

Seville is famous for its architectural richness but the recent economic crisis has had a very negative impact on the city, with particular implications being felt in its housing.

The area examined in this project, Virgen Del Carmen, is in a state of obsolescence and not able to offer residents what they need for contemporary life. This project attempts to deal with these deficiencies from an urban and sociological point of view. Virgen Del Carmen is an urban enclave detached from the city. People complain they do not feel secure. Houses do not accommodate the diversity of the ways people live, and the common external spaces are empty and abandoned. The project aims to provide a new architectural and social environment by upgrading these existing dwellings and open spaces.

At the urban scale, the project develops active relationships with the consolidated city, whilst at the architectural scale, it creates an interactive space in which the public and private work in symbiosis. The project sees dwellings as places in which people can work and live at the same time. It proposes a hybrid typology for the housing aimed at providing a flexible habitat. The units are thus designed to allow the easy rearrangement of architectural components through the use of moving walls and service elements. During the day, residents can reduce the sleeping area and increase the living space. This increased living space can also be used as working space. This space in turn is linked to an urban foyer and placed between the apartments in which a co-working space is located. The expected effect is the regeneration of the buildings, but also the giving of new meaning to the entire area and its public spaces.

Figure 4. Urban site plan. Plans and visual perspectives. Façade – day and night. Interior view.

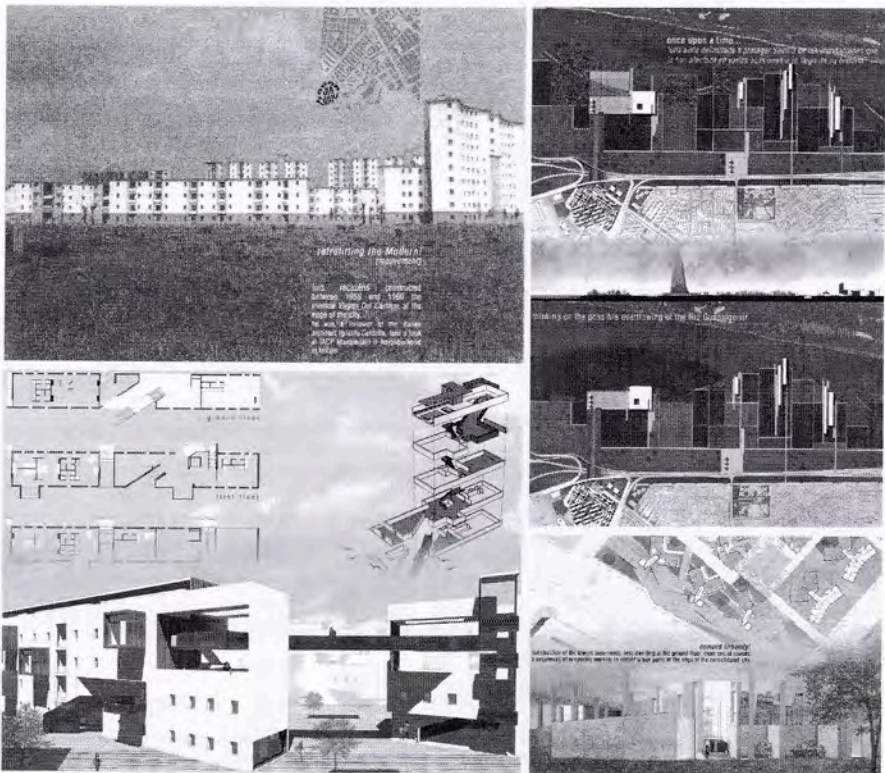


Project E: Housing the Future. Alternative Approaches for Tomorrow

Lida Ansari, Behdad Bolouhar, Ana Maria Estrada, Xavier Mendez, Fernanda Ordoñes, Shenona Rodrigues, Cesar Mauricio Sanchez

The Virgen del Carmen site is located on the edge of Seville, next to the Guadalquivir River in the Triana neighbourhood. It is comprised of residential apartments for families, but it lacks collective spaces. It was only constructed during the 1960s, but today many of its buildings are unoccupied. Over the years they have increasingly failed to meet the needs of changing users and, as a result, many people have opted to move out. Today, the social housing programme of the city has an important role to play in the successful and sustainable regeneration of the area. However, given the financial crisis, there is very limited expenditure possible. In this context we as architects have a social responsibility to bear.

Figure 5. The existing site. Proposed site plan. Axonometric plans and proposed exterior.



The design strategy employed here tries to revive the connection of the peripheral neighbourhood to the city of Seville and its forgotten landscape alongside the river. For this reason the neighbourhood and the landscaped areas nearby are bridged so as to turn the site into a hinge, and in the process, bring about urban regeneration. The central space of the neighbourhood is opened up to create a site for social interaction, around which are collective services that create flux and movement.

As for its approach to the housing units, this project focuses on the interiors, redefining the boundary between public and private spaces, and turning them into semi-public or semi-private spaces. For example, selected staircase cores were linked to the rejuvenated landscape and elevated public spaces were created on the buildings' roofs, thus livening up the space and creating a further positive flux of movement through the neighbourhood. These elevated public spaces were in keeping with the social culture of Seville, where terraces are often used to enjoy its Mediterranean climate.

The inhabitants of the apartments are given the flexibility to create or modify their own space. This is achieved by providing a service core inside that frees up the rest of the space for different uses by employing a module of moveable panels. As a result, a 2-bedroom apartment can be adapted to a 3-bedroom one, and possibly even a 1-bedroom apartment. This DIY approach allows growing families to adapt the house as per their needs and requirements over the years, thus making it a sustainable housing solution for their future.

Housing The Future – Alternative Approaches for Tomorrow offers three perspectives on the problems of housing today with an eye on tomorrow. It brings together world-leading practising architects with academics from seven countries and teams of international students. World leaders in the field of residential design, such as UN Habitat Award winner Avi Friedman, present built projects whose design criteria and aims they lay out in text. Academics from the UK, the USA, Spain, Germany and elsewhere follow these project descriptions with extended essays from a more theoretical perspective but remain focused on the realities of practice. Finally, ideas on current housing problems from the next generation of designers are brought together in student projects from Europe and North America. With an introduction by Dr Graham Cairns, this book highlights the practice of residential design internationally at a time when affordable housing provision is seen as a critical issue by designers, planners and policy makers alike. This book is the first in the 'Housing the Future' series.

Graham Cairns, series editor, is Honorary Senior Research Associate at the Bartlett School of Architecture, UCL, and is currently based at Columbia University, New York. He is director of the research group AMPS (Architecture, Media, Politics, Society) and principal editor of the scholarly journal *Architecture_MPS*.



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