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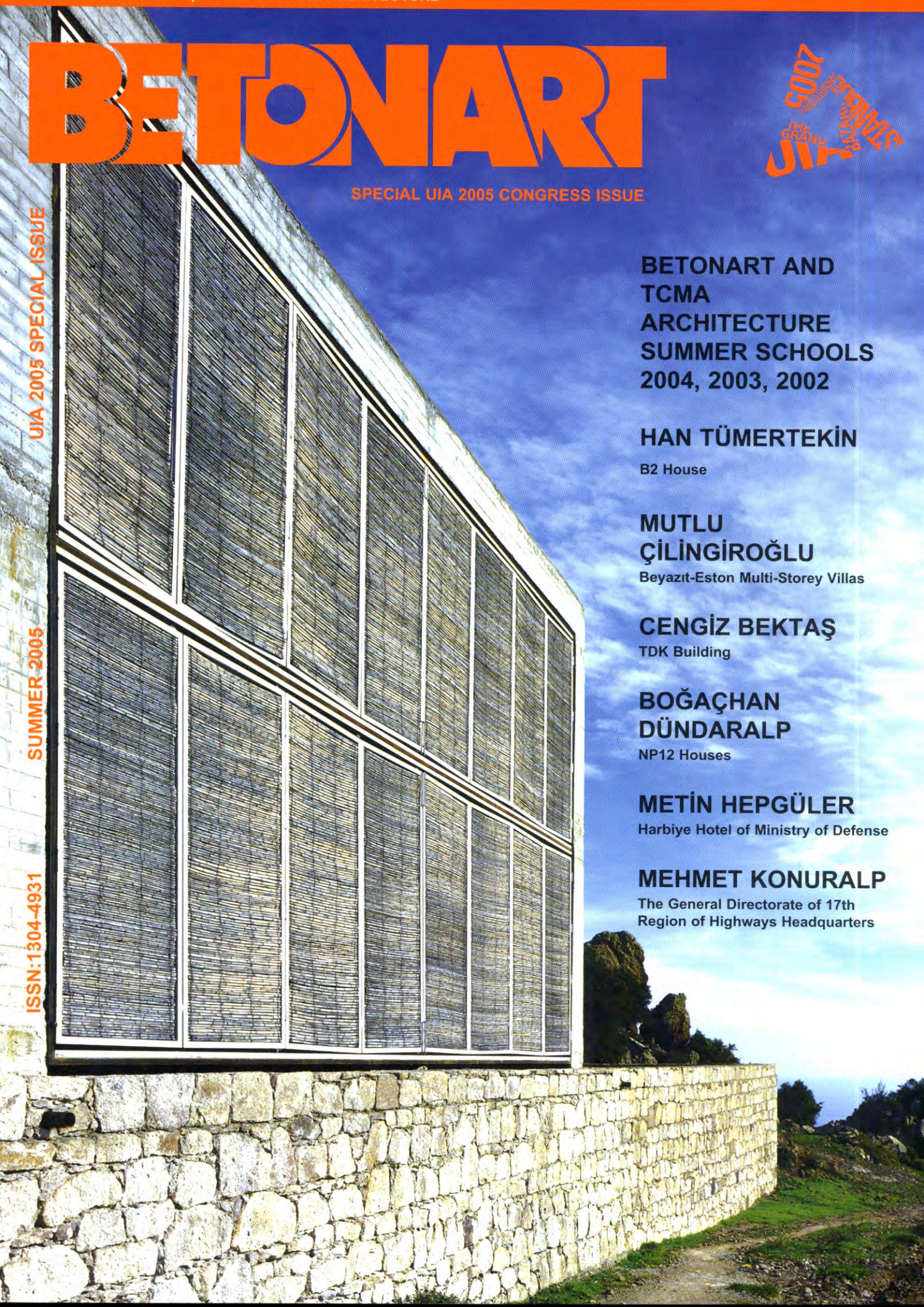


BETONART AND TCMA ARCHITECTURE SUMMER SCHOOLS 2004, 2003, 2002

HAN TÜMERTEKİN
B2 House

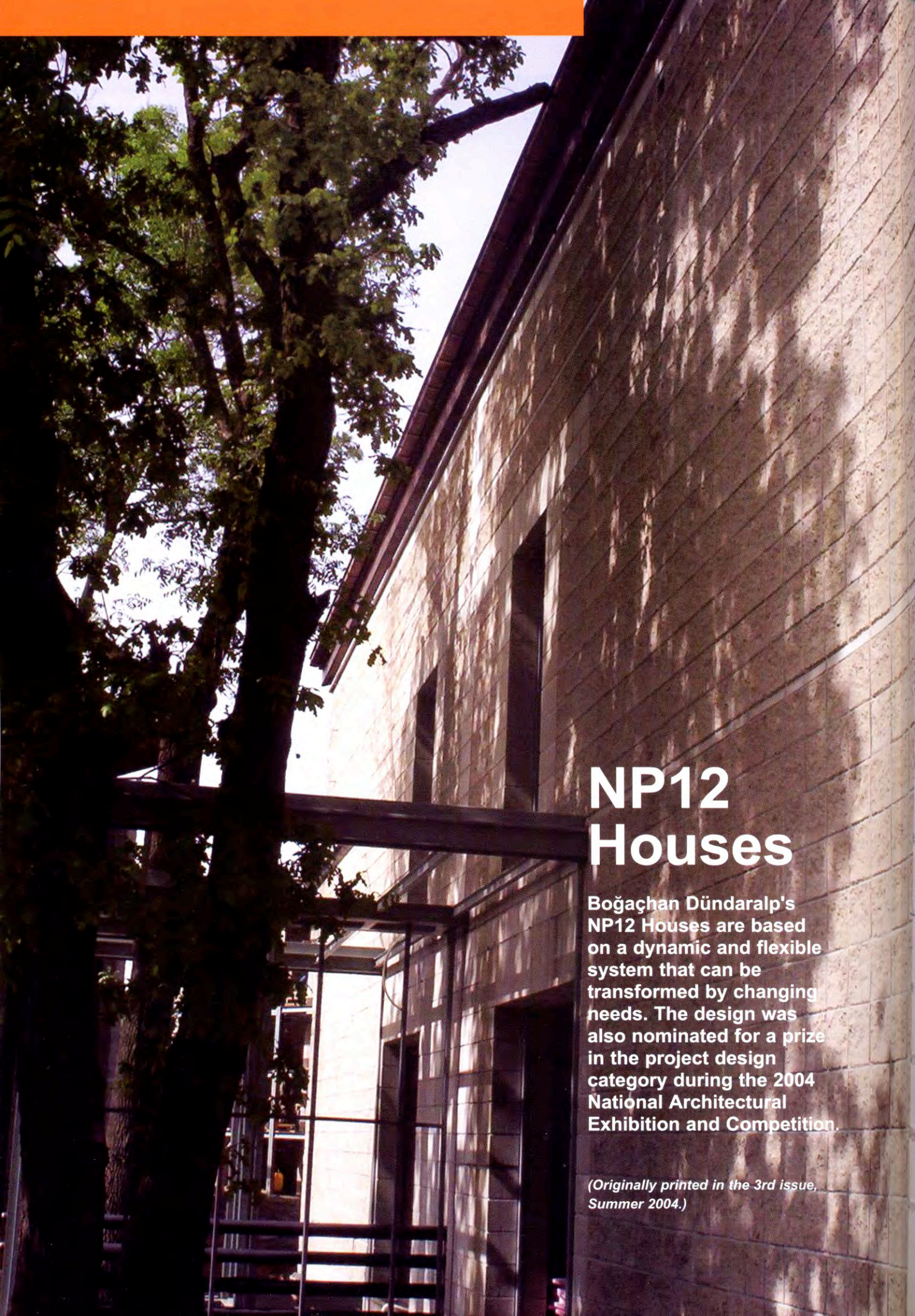
MUTLU ÇİLİNGİROĞLU
Beyazıt-Eston Multi-Storey Villas

CENGİZ BEKTAŞ
TDK Building

BOĞAÇHAN DÜNDARALP
NP12 Houses

METİN HEPGÜLER
Harbiye Hotel of Ministry of Defense

MEHMET KONURALP
The General Directorate of 17th Region of Highways Headquarters



NP12 Houses

Boğaçhan Dündaralp's NP12 Houses are based on a dynamic and flexible system that can be transformed by changing needs. The design was also nominated for a prize in the project design category during the 2004 National Architectural Exhibition and Competition.

(Originally printed in the 3rd issue, Summer 2004.)

Constant Boxes, Flexible Lives...

BOĞAÇHAN DÜNDARALP

Today the "house" stands before us as a design object stuck between the state of being a commercial merchandise in contemporary production relations and life.

The essence of the problem is how one will face this complex concept which, despite your wishes, inescapably forces all kinds of variables upon you before you start designing. In an effort to be a byproduct of such confrontation, NP12 houses represent that quest: A quest that will generate other answers for us when it blends into life.

There were very clear expectations set forth by the marketing and operations teams of Company[1] related to the houses. One of desired outcomes was to come up with 6 twin villas with floor plans and square footage that will appeal to the general expectations of the target market.

The other, was the expectation that the design would be an implementation of the prefabricated construction system (fab-tek®[2]) which was being manufactured for this company. Furthermore, there were the following limitations: Limitations set forth by the National Heritage Commission due to the special circumstances related to the site, mass dimensions, requirement for a pitched roof, etc.

Past experiences show us that a special structure like a house, especially in urban life, raises different needs changing from person to person, family to family, and that these needs differentiate the use of space.

Therefore, a standardized, commercialized residential house is usually deformed in most cases by additions and annexes in the hands of the economically affluent, in an attempt to make it fit their lifestyles.

How should these expectations, requirements, and observations be taken into consideration in the systematic solution of the design problem?

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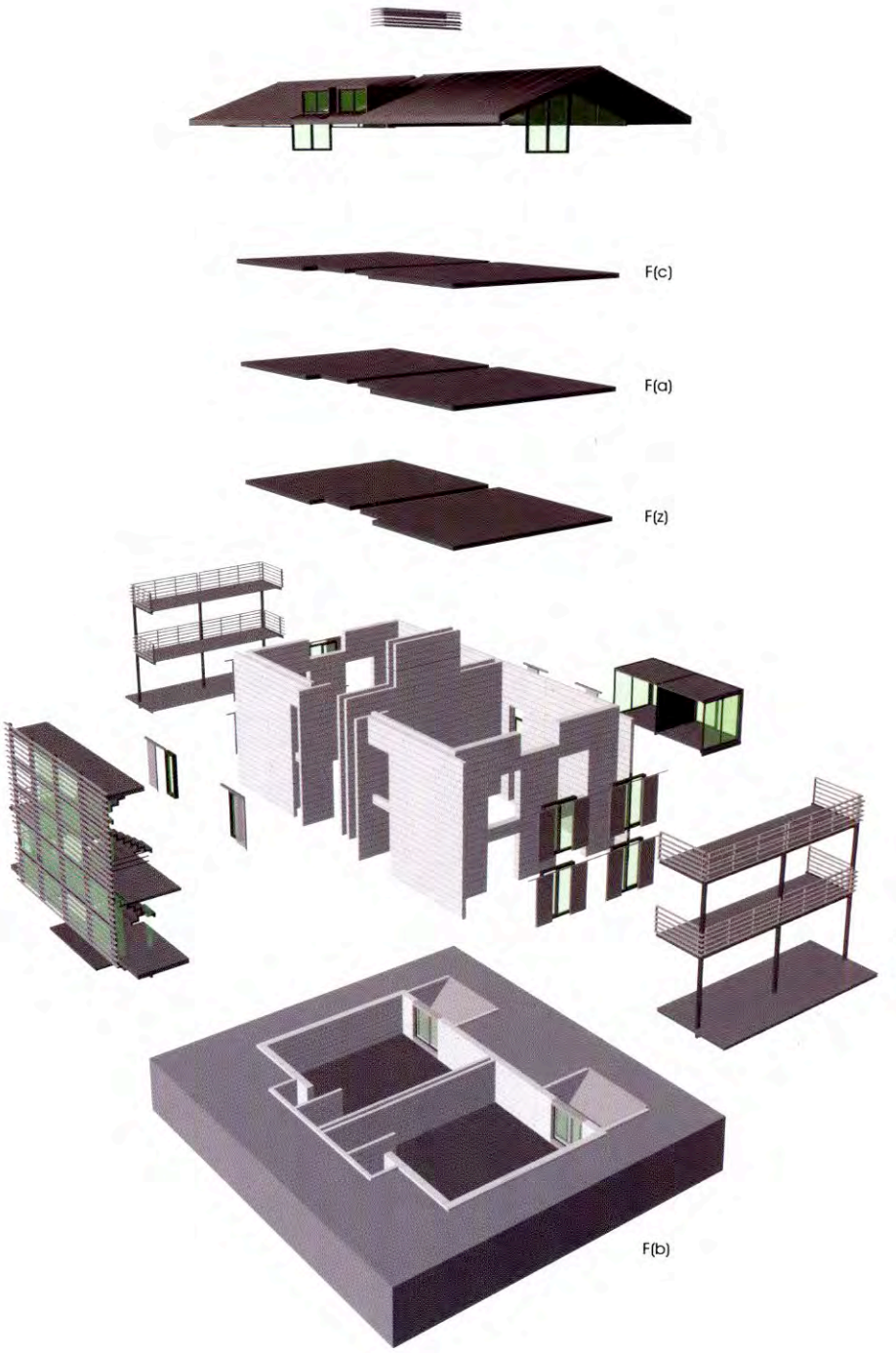

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1 Backyard façade view
2 Layout plan
3 The mass ascension perspective

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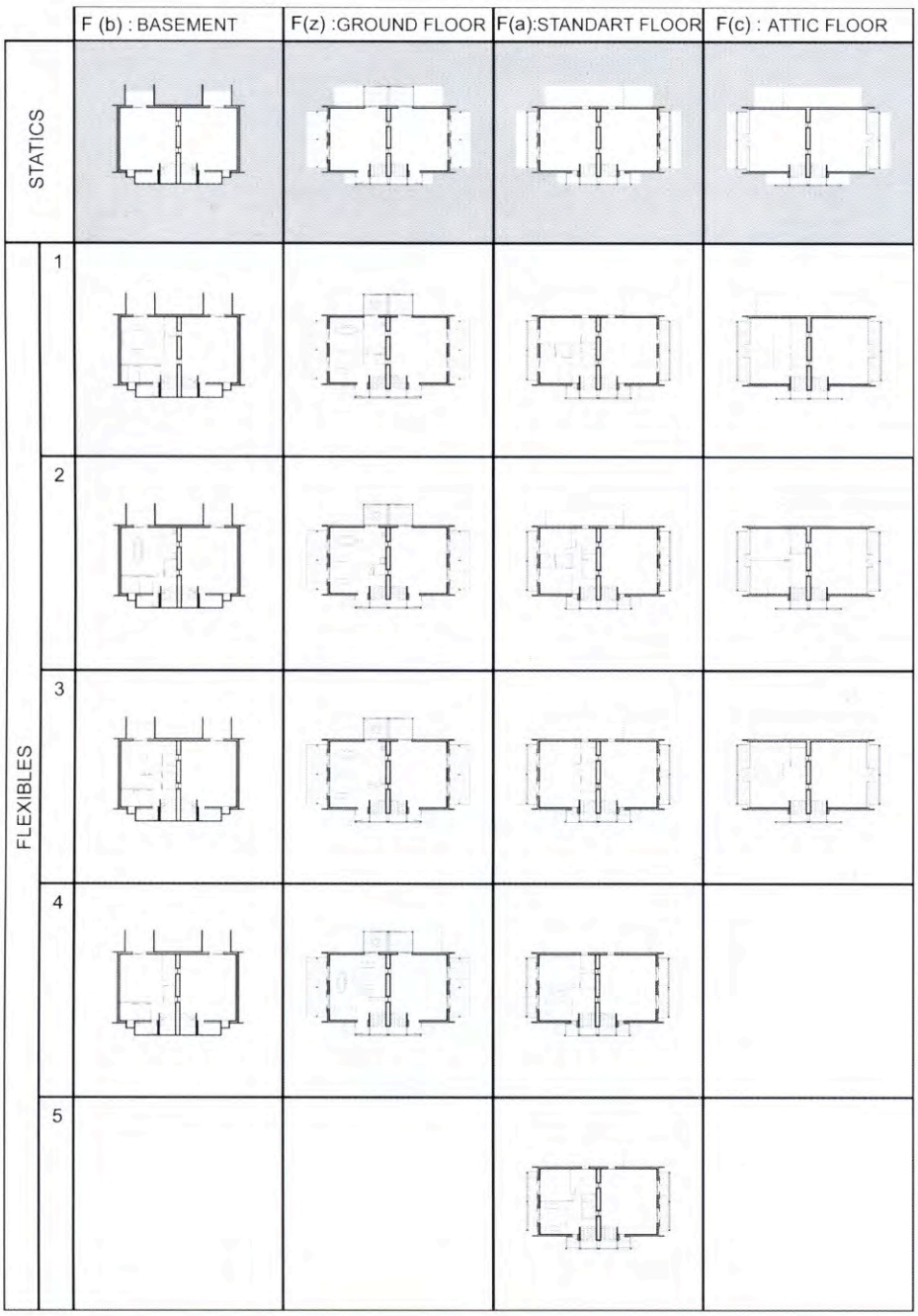

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The Design;

The questions shaping the design centered on the relationship between what was relevant to construction and what was relevant to life.

What kind of a *constant* structure should it be, accommodating both standard and mass production, and at the same time allowing *flexible* options for the different lifestyles of its unknown user?

The Solution;

What was relevant to construction was made *constant*, and shaped into a box (with standard structural characteristics of interior-exterior, emptiness-fullness) that could be replicated. While this *constant* structure displayed invariable, inflexible external characteristics, its interior was designed to accommodate the lives of those with different preferences, hence making the flexible possible.

The fact that the creation of the *flexible* design was based on the characteristics of the *constant* ones, and that its emancipation was achieved through limitations and restrictions were inevitable byproducts of the design process

All components (space, carrying frame, mechanical and electrical components) sharing the same goal, namely the formation of the *flexible* design, were considered to be synchronously designed parts of a whole.

How?

The *constant* structure is made of a carrier box based on the fab-tek® building system, and adjoining steel and wood components. The common wall dividing the shell into two residential units transforms into a utility wall, hence enabling a common and uniting functionality. All structural voids on the shell (including the utility shaft voids) have been fixed in place in a way that would accommodate the potentially different floor plans. By laying alternative floor plans on top of each other and tracing the lines of the walls on the floor, a similar approach has been taken for the floor heating system and the heating modules have also been fixed in place. Even when the function of any given

space changed from being that of a living room, to a bedroom, or to a bathroom, the design mentioned above ensured that the heating system provided the desired level of comfort.

The internal functions of a *flexible* house are divided in to two parts; spaces requiring plumbing infrastructure and living areas. The wet spaces linked to the utility wall in each floor plan attain a flexibility in size and quantity that's limited by this wall. By reserving accessible permanent shafts in the utility wall, standards allowing ease of formation and use of wet spaces have been achieved. The aggregation of wet spaces around the blind internal surfaces of the shell enables the use of spaces facing the exterior as living areas that can be divided according to different needs.

A similar arrangement was created for the electrical infrastructure serving the living area. Shafts, structural voids, and empty ducts were set aside, forming an infrastructure that could meet the demands changing with time.

Within the principles determined by the *constant* shell, each floor plan was transformed into living areas with flexible characteristics.

The box, designed as a *constant* structure that enables *flexibility*, was created according to the characteristics of the fab-tek® building system. With the walls forming the box evolving into a carrier system, fab-tek® -which eliminates the need for lining, creates structural voids providing inherent advantages for building physics and utility units, and enables quick implementation- has, therefore, been treated as the tectonic foundation of the permanent structure.

Having constant and flexible characteristics, the building has been implemented in two phases. In the first phase the implementing contractor builds the permanent structures of the building. In the second phase, the customer determines the flexible components and shapes the internal space with the help of the contractor or another architect of their choice. As the design architect of this project the question I asked myself at this point was *"How far should I isolate myself as an architect"*

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The answer to the question presented itself naturally during the design process: *"To the point that makes the flexible and its benefits possible."*

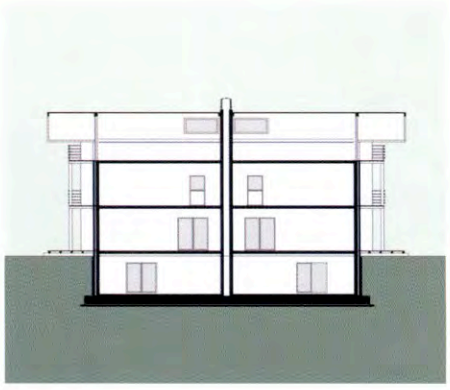
Today, the NP12 houses are 6 static shells. They are being materialized as a product of a quest that will turn 300 different residential alternatives, 12 different lives, and its own adventure into a different experience.

Endnotes

1 Yapı Merkezi Group Companies (Yapı Konut Construction Inc., Yapı Merkezi Construction and Industry Prefabrication Inc.)

2 The contruction system developed by Yapı Merkezi Prefabrication Inc.

4, 5 Views related to the structure mass
6 Table of plans
7 The appearance of the main entrance
8 Attic floor view
9 Internal view



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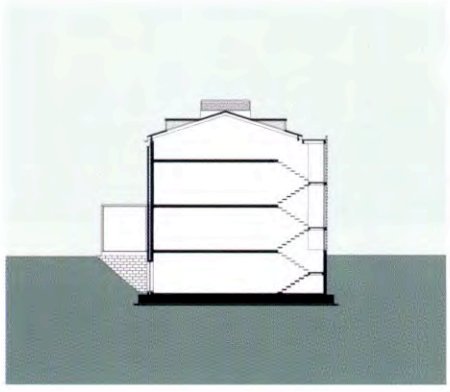

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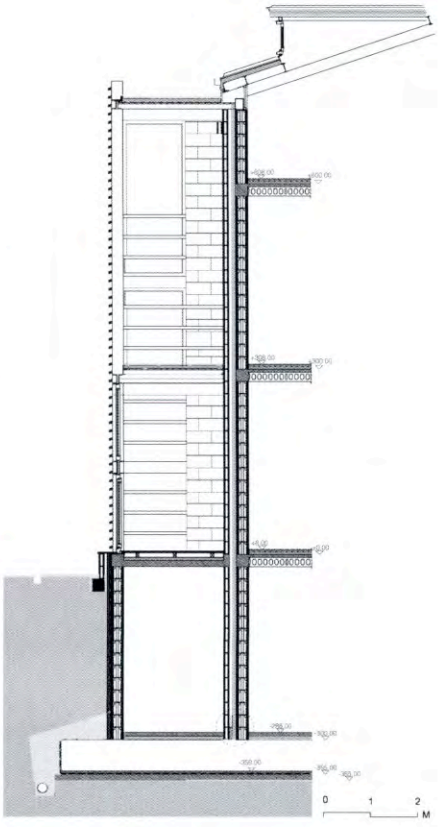

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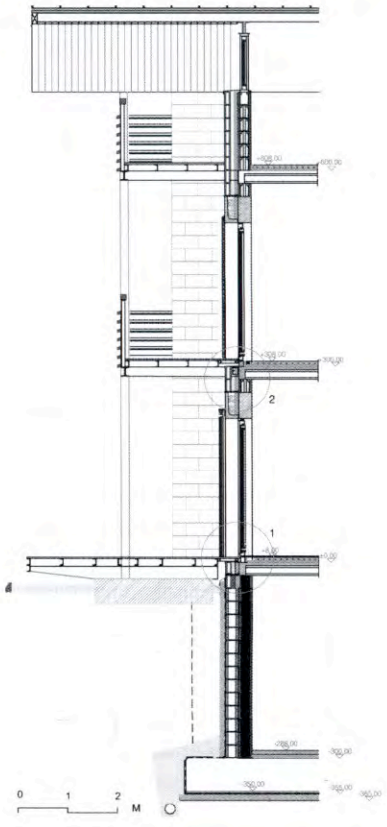

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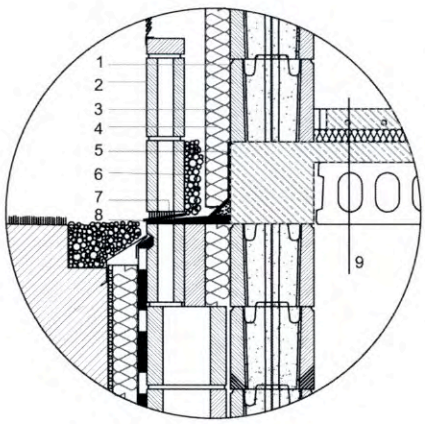
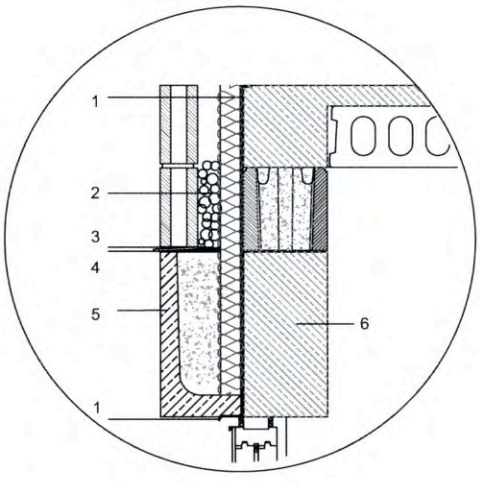


1 interlocking yapiblok 20 cm
2 yapiblok 9 cm
3 heat insulation
4 ventilation shaft 6cm
5 copper sheet
6 gravel
7 copper pipe
8 sika topseal 107 elastic
9 covering
heat insulation
diafram concrete
panelton



1 galvanised sheet
2 gravel
3 copper pipe
4 sika topseal elastic
5 yapıblok head jamb
6 concrete head jamb

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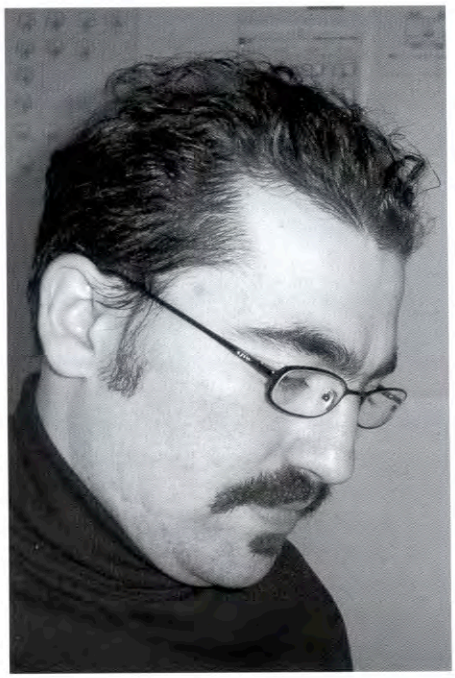
10, 11 The constant cross sections
12 Entrance area system cross section.
13 Balcony area system cross section
14 Point details

15



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Boğaçhan Dündaralp

He was born in 1974 in Aydın and graduated from Dokuz Eylül Üniversitesi in 1997. He worked with Nevzat Sayın, and with TH & İdil in 1997-1998. He has been working for the Yapı Merkezi Conglaromete since 1999 on Building System Design and Implementations. He participated actively in several events since his school years. In addition to the prizes he has won in several competitions, he has several conference papers, presentations, published papers, designs and buildings. The design for NP12 houses was nominated for a prize in the project design category in 2004 in the 9th National Architectural Exhibition and Competition. ■

Translated by Sinem Şenol

15 A view from the balcony and the terrace area
16 Boğaçhan Dündaralp

PHOTOS
Boğaçhan Dündaralp