# CONFERENCE PROCEEDINGS BOOK OF PAPERS

24th ISUF International Conference
Valencia 2017

City and territory in the Globalization Age







ISUF International Seminar On Urban Form



#### Congress UPV

Proceedings of the International Seminar on Urban Form 24th ISUF 2017

The contents of this publication have been evaluated by the Scientific Committee which it relates and the procedure set out <a href="http://ocs.editorial.upv.es/index.php/ISUF/ISUF2017">http://ocs.editorial.upv.es/index.php/ISUF/ISUF2017</a>

#### **Editor Committee**

David Urios Juan Colomer Ana Portalés

#### **Publisher**

Editorial Universitat Politècnica de València, 2018 www.lalibreria.upv.es / Ref.: 6366\_01\_01\_01

The full proceedings are published in http://ocs.editorial.upv.es/index.php/ISUF/ISUF2017 under the ISBN 978-84-9048-574-3

DOI: http://dx.doi.org/10.4995/ISUF2017.2017.7017



International Seminar on Urban Form 24th ISUF 2017
This book is licensed under a Creative Commons Atribution-NonCommercial-NonDerivates-4.0 International Licensed. Editorial Universitat Politècnica de València http://ocs.editorial.upv.es/index.php/ISUF/ISUF2017

Adolfo Vigil

Universitat Politècnica de

Agustín Hernández

Universidad Politécnica de Madrid

Anna Agata Kantarek

Politechnika Krakowska, Kraków

Ana Portalés

Universitat Politècnica de València

Ángel Martín

Universitat Politècnica de Barcelona

Ángel Martínez

Universitat Politècnica de

València

Antonio Font

Universitat Politècnica de Barcelona

Asenet Sosa

Universitat Politècnica de València

Beaoña Serrano

Universitat Politècnica de

València

Borja Ruiz-Apilánez

Universidad de Castilla La

Mancha

**Brenda Case Scheer** 

University of Utah

Carla Filipe Narciso

Universidad Nacional Autónoma de México

Carmen Blasco

Universitat Politècnica de

València

Carmen Jordá

Universitat Politècnica de

València

César D. Mifsut

Universitat Politècnica de

València

**David Urios** 

Universitat Politècnica de

València

Diego Ángel Vegara

Universidad de Guadalajara,

México

**Eloy Solís** 

Universidad de Castilla La

Enrique J. Giménez

Universitat Politècnica de

València

Fernando Gaja

Universitat Politècnica de

Francisco Javier Monclús Universidad de Zaraaoza

Giancarlo Cataldi

Università degli Studi di Firenze

Giuseppe Strappa

Università degli Studi di Roma

"La Sapienza

Gonzalo Vicente-Almazán

Universitat Politècnica de

Horacio Capel

Universitat de Barcelona

Ignacio Bosch

Universitat Politècnica de

Iván Cabrera Universitat Politècnica de

València

**Ivor Samuels** 

University of Birmingham

Javier Cenicacelaya

Universidad del País Vasco

Javier Pérez Igualada

Universitat Politècnica de

València

Javier Povatos

Universitat Politècnica de València

Javier Ruiz Universidad Politécnica de

Madrid

Jeremy Whitehand

University of Birminaham

Jesús Leal

Universidad Complutense de Madrid

Joaquin Sabaté

Universitat Politècnica de Barcelona

Jorge Iribarne

Universidad de Buenos Aires

Jorge Torres

Universitat Politècnica de València

José Fariña

Universidad Politécnica de

Madrid

José Luis Miralles

Universitat Politècnica de València

José María de Lapuerta

Universidad Politécnica de

Madrid

José María de Ureña

Universidad de Castilla La

Mancha

José María Ezquiaga

Universidad Politécnica de

Madrid

Jose María Lozano

Universitat Politècnica de

València

Juan Cano

Universitat Politècnica de

València

Juan Colomer

Universitat Politècnica de

València

Juan Luis de las Rivas

Universidad de Valladolid

Escola Tècnica Superior d'Arquitectura de la Universitat Politècnica de València

Iván Cabrera Director

Julia Deltoro

Universitat Politècnica de València

Kai Gu

University of Auckland, New **Zealand** 

Laura Lizondo

Universitat Politècnica de València

Luis Alonso de Armiño

Universitat Politècnica de València

Maretto Marco

Università degli Studi di Parma

Margarita Green

Universidad de Santiago

María del Carmen Mota

Universidad de Castilla La Mancha

María Dolores Aguilar

Universitat Politècnica de València

María Emilia Casar

Universitat Politècnica de València

María Teresa Palomares

Universitat Politècnica de València

Matilde Alonso

Universitat Politècnica de València

Michael Barke

University of Northumbria

Michael Conzen

University of Chicago

Miguel Camino Universidad de Manta

Nuria Salvador

Universitat Politècnica de

València Pablo Martí

Universitat Politècnica de

Paolo Carlotti

Università degli Studi di Roma "La Sapienza'

Pilar de Insausti

Universitat Politècnica de

València

**Rafael Temes** 

Universitat Politècnica de València

Teresa Marat-Mendes

Instituto Universitário de Lisboa

Vicente Colomer

Universitat Politècnica de

València

Vicente Manuel Vidal

Universitat Politècnica de València

Vicente Mas

Universitat Politècnica de

València

Vitor Oliveira

Universidade do Porto

Wendy McClure

University of Idaho

**Wowo Ding** 

University of Nanjing

**ORGANIZING COMMITTEE** 

Ana Portalés

Universitat Politècnica de València

Universitat Politècnica de

València

Juan Colomer

Universitat Politècnica de

València

**ETSAV (UPV) COMMISSION** 

Ana Portalés

Universitat Politècnica de

València

Ignacio Bosch

Universitat Politècnica de

València Iván Cabrera

Universitat Politècnica de

València

Javier Pérez Igualada

Universitat Politècnica de

Luis Alonso de Armiño

Universitat Politècnica de

València

María Teresa Palomares

Universitat Politècnica de

València

Vicente Colomer

Universitat Politècnica de València

Vicente Mas Universitat Politècnica de

València

**ORGANIZING TEAM** 

Ana Portalés

Universitat Politècnica de València

César D. Mifsut

Universitat Politècnica de

València

**David Urios** 

Universitat Politècnica de

Gonzalo Vicente-Almazán

Universitat Politècnica de València

Javier Pérez Igualada Universitat Politècnica de

València

Juan Colomer

Universitat Politècnica de València

Julia Deltoro

Universitat Politècnica de

María Dolores Aguilar

Universitat Politècnica de València

María Teresa Palomares

Universitat Politècnica de

València

Nuria Salvador

Universitat Politècnica de

València

Rafael Temes Universitat Politècnica de

València

LOGISTIC AND DESIGN

Alberto Santiago

Universitat Politècnica de

València Spain

Mariví Monfort Universitat Politècnica de

València. Spain

**EXHIBITION CHAIR** 

Luís Perdigón Universitat Politècnica de

València. Spain

Vicente Colomer Universitat Politècnica de

València

**TOUR MANAGEMENT** 

César D. Mifsut Universitat Politècnica de

## 24th ISUF International Conference

City and territory in the Globalization Age

## INDEX OF PAPERS

#### 1. Stages in territorial configuration

Making a sustainable network-community for refugees from the Fukushima nuclear plant disaster in a stable historic castle town and region Shigeru Satoh

Measuring compactness of the urban landscape within a city territory for environmental capabilities: The case of 50 cities in eastern China Shuang Sophia Chen, Tong Zhang, Guangyu Li, Yue Yan

Stages in the configuratio of urban form in urban development planning: the emerging role of open spaces as sustainability mechanism. The case of Valladolid (Spain)

Miguel Fernández-Maroto

The substratum permanent structures of Roman Valencia Giancarlo Cataldi, Vicente Mas Llorens

Dysfunctions in the territorial form: The case of Valencia Josep Lluis Miralles i Garcia

Poly-nuclear urban system, landscape identity and economic development: The Vega Baja of the Segura River (Alicante) case study Clara Garcia-Mayor, Gregorio Canales Martínez

The industrial architecture of Mauro Lleó in the growth of the modern Valencia

Carmen Martínez Gregori

The processes of urban sprawl in the environment of mid-size cities during the period of expansive urbanism. Territorial impact in an interior area, Castilla-La Mancha, Spain

Francisco Cebrián, Irene Sanchez

Uninhabited territories: contemporary strategies to recover and preserve abandoned settlements and their areas of influence in Alto Aragón Sixto Marin Gavin, Alejandro Navarro Planas

Marinilla's cultural landscape and spatial characterization, Colombia Catalina Montoya Arenas, Lina María Escobar Ocampo, Claudia María Vélez Venegas

Stages of territorial configuration in the non-planned occupation of the Huerta de Murcia, 1929-2015

Marcos Ros, Fernando Miguel García

Neoliberal hegemony and the territorial re-configuration of public space in Mexico City

Carla Filipe Narciso

Can our cities be planned? Does the function follow the form? The New York experience

Alberto Peñín Ibáñez, Alberto Peñín Llobell

#### 2. Urban form and social use of space

Spatial structure in Chinese and Japanese cities: A comparative study of the supergrid and superblock structure

Xiaofei Chen

Analysis and application of mountainous city profile methodology. A case study on Yuzhong Peninsula of Chongqing

Zhu Mengyuan, Leng Jiawei

The Hybrid Block as Urban Form

Javier Pérez Igualada

Social risk map. The design of a complementary methodology to vulnerability indexes applied to urban regeneration activity

Ana Ruiz-Varona, Jorge León-Casero

Comparison of urban form based on different city walls between Quanzhou and Newcastle upon Tyne

Di Wang, Jianyi Zheng

Plot systems and property rights: morphological, juridical and economic aspects

Evgeniya Bobkova, Lars Marcus, Meta Berghauser Pont

Self-organisation and meaning of urban structures: case study of Jewish communities in central Poland in pre-war times

Malgorzata Hanzl

The transformations of the peripheral urban form in Brazilian listed heritage coastal cities and their morphological typologies: Classification and concepts Ramon Fortunato Gomes

Urban form and vacant shops: can one explain the other? A case study in Portugal

Miguel Saraiva, Teresa Sá Marques, Paulo Pinho

Spatial distribution of economic activities in heritage cities: The case of the historic city of Toledo, Spain

Borja Ruiz-Apilánez, Eloy Solís, Irene García-Camacha, Vicente Romero de Ávila, Carmen Alía, Raúl Martín

The loss of semi-public spheres within the Vienna urban parterre system. Cause and effect study

Angelika Psenner

The "demonstration city": a model from a global architectural process Anna Rita Donatella Amato

An Analysis of the Applicability of Conzenian School in China: Exemplified by Shangqiu

Zijing Shen, Xirui Feng, Shuying Cheng, Yanhui Shi

Extending the concept of the morphological frame: A case study of Tangshan old military airport

Rongxi Peng, Zijiao Zhang, Yixi Li, Feng Song

The shaping process of urban form under a socialist system: Townscape diversity and its formation in Sanlitun, Beijing

Yang Meng, Miao Zeng, Feng Song

Explaining the relationship between changes in Iranian lifestyle and metamorphosis of urban form of residential environment in contemporary Iran: Case study: Mashhad, Iran

Ali Abedzadeh, Abdolhadi Daneshpour, Maryam Ostadi

Between the heritage and the contemporaneity of the industrial city of Alcoy Maite Palomares Figueres, Ciro Vidal Climent, Ivo Vidal Climent

Dealing with mass housing estates legacy: The need of specific diagnoses from an urban design perspective

Javier Monclús, Carmen Díez Medina

Introverted and knotted spaces within modern and contemporary urban fabrics: Passages, gallerias and covered squares

Pina Ciotoli, Marco Falsetti

Evaluation of generating mechanism of residential building patterns in contemporary cities: Case study on Xi'an and Nanjing

Ruoyao Li, Lian Tang, Wowo Ding

The role of the plot in engendering environmental quality: From unplanned favelas to the planned subdivisions of new blocks

Maria Cristina Villefort Teixeira, Marieta Cardoso Maciel, Staël Alvarenga Pereira Costa

Self-organization in planned Danwei and Dayuan: A case study of the transitional Houzaimen neighborhood of Nanjing in urban China Oian Zhao

Citizen participation plan for València Parcs de Barri

Asenet Sosa Espinosa, Ana Portalés Mañanós, David Urios Mondéjar, Juan Colomer Alcácer

Urban form and social cohesion: the socio-morphological definition of the residential fabrics of the Metropolitan Area of Barcelona

Rosina Vinyes, Sergio Porcel, Fernando Antón, Mariona Figueras, Laia Molist

Heterotopic space characteristics of urban village in China: Take Guandongdian district in Beijing as an example

Lu Tingying, Li Jiali, Peng Ning

The social structure and physical form of the state-owned farm in north-east China

Hongpeng Fu, Xiujie Li, Meng Yang

Between territories: Incremental changes to the domestic urban interface between private and public domains

Agnieszka Wir-Konas, Kyung Wook Seo

Understanding cycling in Quito through the lens of social practice theory José Antonio Vivanco

Clothing consumption practice and its impact on the transformation of "public space". Vía primavera, El Poblado, Medellín

Natalia Uribe, Diana Carolina Gutierrez

Reading Nablus' urban print: Towards an understanding of its morphology Muath Taher, Jorge Correia

Urban sprawl and citizen participation. A case study in the municipality of La Pobla de Vallbona, Valencia

Eric Gielen, Yaiza Pérez Alonso, José Sergio Palencia Jiménez, Asenet Sosa Espinosa

Void of Power

Francesco Mancini, Tanja Glusac

Rethinking urban design problems through morphological regions: Case of Beyazıt Square

Ezgi Küçük, Ayşe Sema Kubat

#### Obsolescence of urban morphology in the historic center of Villena (Spain). Spatial analysis of the urban fabric in the ISUD/EDUSI candidature

Fernando Miguel García Martín, Fernando Navarro Carmona, Eduardo José Solaz Fuster, Víctor Muñoz Macián, María Amparo Sebastià Esteve, Pasqual Herrero Vicent, Anna Morro Peña

Practices and forms of open space at territorial scale: A comparison between Matera and Valencia, two cities crossed by minerals rivers

Maria Lucia Camardelli, Maria Valeria Mininni, Adolfo Vigil

Urban form and the social use of space Jorge Iribarne

Study of morphological structures of historical centres as a basic toll for understanding the new conditions of social habitat. Quito, Siracusa and Suzhou

Andrea Gritti, Veronica Rosero, Juan Carlos Dall'Asta, Daniele Rocchio, Riccardo Porreca, Franco Tagliabue

The urban form in the city of Tulcán, Carchi - Ecuador Yolanda Tapia, Adolfo Vigil, María Dolores Montaño

DiverCity: Urban perception of sociocultural minority groups Katharina Lehmann

Evolution of the urban form in the British new towns Julia Deltoro, Carmen Blasco Sánchez, Francisco Martínez Pérez

#### 3. Reading and regenerating the informal city

Towards informal planning: Mapping the evolution of spontaneous settlements in time

Maddalena Iovene, Graciela Fernández de Córdova, Ombretta Romice, Sergio Porta

The changing pattern of urban form: Example of Tripoli, Libya Almabrok Alkahal

The primary role of routes, in interpretation and design. An experiment in San Martin de las Flores' self-built fabric, San Pedro de Tlaquepaque -Guadalajara, Jalisco-Mexico.

Vincenzo Buongiorno

Central Lancashire New Town: The hidden polycentric supercity Victoria Jolley

Urban Art and place. Spatial patterns of urban art and their contribution to urban regeneration

María Laura Guerrero Balarezo, Kayvan Karimi

#### Land regularization and quality urban spaces

Ana Paula Seraphim, Maria do Carmo Bezerra

The diagonal city: Crossing the social divisions

Roberta Gironi

#### 4. Efficient use of resources in sustainable cities

A quest to quantify urban sustainability. Assessing incongruous growth

Malgorzata Hanzl, Lia Maria Dias Bezerra, Anna Aneta Tomczak, Robert Warsza

Optimal urban density for a carbon free city in different climates

Udo Dietrich, Hsiao-Hui Chen

Pilot studies on optimizing land use, building density and solar electricity generation in dense urban settings

Zhongming Shi, Shanshan Hsieh, Bhargava Krishna Sreepathi, Jimeno A. Fonseca, François Maréchal, Arno Schlueter

Making the most of daylight in town planning

Bengt Sundborg

Environmental and energetic operation in "El Ensanche" of Valencia

Juan Colomer Alcácer, Ana Portalés Mañanós, David Urios Mondéjar

#### 5. City transformations

Contribution of planned built environments to city transformation: urban design practice in Montreal from 1956 to 2016

François Racine

Establishing the political and economic power through public buildings: Analysis of ministry buildings in Ankara, Turkey

Ezgi Orhan

From the so-called Islamic City to the contemporary urban morphology: The historic core of Kermanshah city in Iran

Sahar Pakseresht, Manel Guàrdia Bassols

The role of plots and building types in the morphological research of Chinese traditional village tissues

Guo Pengyu, Ding Wowo

Assessment of the process of urban transformation in Baghdad city form and function

Mazin Al-Saffar

#### Influence of energy paradigm shifts on city boundaries. The productive peripheries of Madrid

Carlota Sáenz de Tejada Granados, Eva J. Rodríguez Romero, Rocío Santo-Tomás Muro

Urban contrast of two cities from globalization. Gentrification, socio-cultural and economic aspects in Mexico and Valencia

María Guadalupe Valiñas Varela, Arturo España Caballero

Intensive residential densification: Impact on the urban morphology of Santiago de Chile

Magdalena Vicuña

Urban morphology in China: origins and progress

Ming Liu, Feng Song

Henri Prost in Istanbul: Urban transformation process of Taksim-Maçka Valley (Le parc n°2)

Pelin Bolca, Rosa Tamborrino, Fulvio Rinaudo

Urban morphology and sustainability. Towards a shared design methodology Marco Maretto, Barbara Gherri, Greta Pitanti, Francesco Scattino

Plot structure and housing form: Pierre Le Muet vs Athanasio Genaro

Luis Alonso de Armiño Pérez, Gonzalo Vicente-Almazán Pérez de Petinto, Vicent Cassany i Llopis

Geometric and poliorcetic inertia in the fortified system vs urban morphological inflections in 18th-Century Barcelon

Juan Miguel Muñoz Corbalán

A first approach to the possible urban form of the city of Alcoy for the 21st century

Ivo Vidal Climent, Ciro Vidal Climent, Vicente Vidal Vidal

Research of the morphological types of urban blocks in the old city of Nanjing Haiqian Liu

Second life of great American parking garages: Exploring the potential of adaptive reuse of urban parking structures in the American cities Ming-Chun Lee, Manasi Bapat

City-like settlement to industrial city:

A case of urban transformation in Huwei township

Chih-Hung Chen, Chih-Yu Chen

Urban traces: revitalization strategies for abandoned villages Letizia Gorgo, Gloria Riggi

The morphological approach in the reading of the territorial city Maria Gagliardi

Redefining the Smart City concept: the importance of humanizing 'Intelligent' cities

Raquel Pérez-del Hoyo, Megan Claire Lees

Altea Urban Project: An academic approach to the transformation of a coastal Spanish touristic city based on the improvement of the public space

Vicente Iborra Pallarés, Francisco Zaragoza Saura

The intervention of Víctor Eusa in the 2nd Ensanche of Pamplona: The artistic transformation of a technical model

Andrés Caballero Lobera

A configurat onal perspective on the transformation of small and mediumsized historical towns in Zhejiang, China

Ye Zhang, Xiangya Xie, Jie Zhang

Re-reading morphological concepts to face globalization: using typomorphology to excavating modern and contemporary forms Mazyar Abaee

Nova Imago Urbis: the transformation of city walls in early Renaissance as a model to recover the image of contemporary city

Aritz Díez Oronoz

Building a timeline, developing a narrative: visualizing fringe belt formation alongside street network development

Ilaria Geddes, Nadia Charalambous

The impact of bridges on spatial transformation of urban pattern: The case of Golden Horn, Istanbul

Demet Yesiltepe, Ayse Sema Kubat

Urban compactness and growth patterns in Spanish intermediate cities Carlos Jiménez Romera, Agustín Hernández Aja, Mariano Vázquez Espí

Dialectic contradictions of global and local within the city transformations. (Case study of Russian cities)

Irina Kukina

Development of urban areas of the Russian Federation on the Trans-Siberian

Evgine Petrosyan, Ekaterina Kilina

The heritage of the Modern Movement in the conformation of the city. The Casa Guzmán of Alejandro de la Sota

Alberto Burgos Vijande, Teresa Carrau Carbonell

Linear Parks understood as vertebration instruments of the city

Ignacio Bosch Reig, Luis Bosch Roig, Valeria Marcenac, Nuria Salvador Luján

Resilient urban morphology to the flood risk in the final stretch of the Girona River (Alicante province)

José Sergio Palencia Jiménez, Eric Gielen, Yaiza Pérez Alonso

Topological analysis of contemporary morphologies under conflict:

The urban transformation of Dobrinia in Sarajevo

Inés Aquilué, Estanislao Roca, Javier Ruiz

Building transformation in Bandung city centre: Expansion of land lot at Pasar Baru area

Soewarno Nurtati, Hidjaz Taufan, Virdianti Eka

Urban form in special geographical conditions: A case study in Kenting National Park

Chih-Hung Chen, Chun-Ya Chuang

Plastic City/Elastic City: A critical interpretation of urban transformations Antonio Camporeale

Ruine and city: Procedure suggestion for the Imperial Forums of Rome

Valeria Marcenac, María José Ballester Bordes, Luis Bosch Roig, Carlos Campos González, Ignacio Bosch Reig

The role of residential fabric in the configuration of the city in Spain in the 1940s and 1950s. The case of Jaca

Raimundo Bambó Naya

Learning from Slussen: Place, idea and process in the transformation of central urban interstices

Álvaro Clua

The University-Residence Hall paradigm. Urban transformation of Alcalá de Henares in the Renaissance

Miguel Ángel Gil Campuzano, María Teresa Palomares Figueres

Arrival city: Refugees in three German cities

Hajo Neis, Briana Meier, Tomoki Furukawazono

Historic urban fabric as basis for further urban renewal: later 20th century public urban interventions in Ciutat Vella, Valencia

César Damián Mifsut García

Nowa Huta, Krakow, Poland. Old urbanism, new urbanism?

Anna Agata Kantarek, Ivor Samuels

The forming process of Fiumicino

Giuseppe Strappa, Marta Crognale

#### 6. Cartography and big data

Exploring patterns of socio-spatial interaction in the public spaces of city through Big Data

Aminreza Iranmanesh, Resmiye A. Atun

Cartographying the real metropolis: A proposal for a data-based planning beyond the administrative boundaries

Juan R. Selva-Royo, Nuño Mardones, Alberto Cendoya

Morphological and functional attributes of preferred urban public spaces in Alicante province

Pablo Martí, Leticia Serrano-Estrada, Almudena Nolasco-Cirugeda

Urban form in the tourist cities of the coast of the Canary Islands.

The morphologies of the leisure activities

Rafael R. Temes, Moisés Simancas, Alicia García, María Pilar Peñarrubia

Case study on emerging trends in geospatial technologies for study of urban form

Ming-Chun Lee

Because people act, cities can be smart: Promoting social innovation in smartcity design-tools in the Mediterranean

Carolina Mateo, Miriam Navarro, Begoña Serrano, Vera Valero

#### 7. Tools of analysis in urban morphology

Medieval porticoes of Rome: Revealing Rome's architectural and urban heritage digitally

Selena Kathleen Anders

The life-cycle of the city: a morphological perspective

Nicola Marzot

The effect of buildings on atmospheric turbulence in open spaces in Western São Paulo State, Brazil

Antonio Jaschke Machado

How to design the metro network for maximal accessibility potential? A comparative analysis of Shanghai

Lingzhu Zhang, Alain Chiaradia

Defining typological process in the transformation of Turkish house Duygu Gokce, Fei Chen

Researching the morphology of the city's internal micro structure: UPM Urban Parterre Modelling

Angelika Psenner, Klaus Kodydek

Morphological analysis of frontier villages in Cyprus

Erincik Edgü, Nevter Zafer Cömert, Nezire Özgece

What explains neighborhood type statistically? Morphological and spatial analytic approaches in urban morphology

Todor Stojanovski

Spatial processes of mass housing estates. Six case studies in Madrid Sergio García-Pérez, Borja Ruiz-Apilánez Corrochano

Energy efficiency in the urban scale. Case study Prague, Czech Rep Ernest Shtepani, Anna Yunitsyna

Recovering the habitat concept within urban morphology

Teresa Marat-Mendes, Maria Amélia Cabrita

The nine forms of the French Riviera: Classifying urban fabrics from the pedestrian perspective

Giovanni Fusco, Alessandro Araldi

Quantitative comparison of the distribution of densities in three Swedish cities

Meta Berghauser Pont, Gianna Stavroulaki, Kailun Sun, Ehsan Abshirini, Jesper Olsson, Lars Marcus

Typology based on three density variables central to Spacematrix using cluster analysis

Meta Berghauser Pont, Jesper Olsson

Perceptive approaches to the morphological characterization of the urban contour: The case of the peri-urban landscape of Madrid

J. Rodríguez Romero, Carlota Sáenz de Tejada Granados, Rocío Santo-Tomás Muro

Diachronic transformations of urban routes for the theory of attractors Alessandro Camiz

A multidisciplinary approach to urban fabrics analysis. The historical centre of Valencia

Marco Maretto, Vicente Mas, Eva Alvarez, Barbara Gherri, Carlos Gomez, Maria Rosaria Guarini, Anthea Chiovitti, Gianluca Emmi

Location-based density and differentiation – adding attraction variables to Space Syntax

Lars Marcus, Meta Berghauser Pont, Gianna Stavroulaki, Jane Bobkova

Quantitative methods of urban morphology in urban design and environmental

Irem Erin, Giovanni Fusco, Ebru Cubukcu, Alessandro Araldi

Spatial patterns in mass consumption: The fast food chain network and its street patterns, clusters and impact on street safety

Genevieve Shaun Lin, Kayvan Karimi

Visual analysis as a tool for urban intervention comparative studies Ana Elena Builes, Leonardo Correa, Diana Carolina Gutiérrez

A study of Chinese traditional wetland island settlement combining morphological and narrative analyses

Dongxue Lei, Andong Lu

Identify urban spatial patterns based on the plot shapes and building setting in downtown of Nanjing

Yusheng Gu, Lian Tang, Wowo Ding

Towards new traditional urban fabrics: Learning from London

Mario Gallarati

The impact of a new transport system on the neighbourhoods surrounding the stations: The cases of Bermondsey and West Ham with the Jubilee Line extension in London

Po Nien Chen, Kayvan Karimi

Morphological analysis: to evaluate the pattern of residential building based on wind performance

Yihui Yang, Wei You, Yunlong Peng, Wowo Ding

A study on the history of urban morphology in China based on discourse analysis

Limeng Zhang, Andong Lu

Morpho-based study on urban street spatial configuration: The case of Nanjing city, China

Lian Tang, Jiaojiao Miao, Wowo Ding

Future scenario's for post-industrial Eindhoven. A fringe-belt perspective Daan Lammers, Ana Pereira Roders, Pieter van Wesemael

Urban landscape assessment

Vicente Collado Capilla, Sonia Gómez-Pardo Gabaldón

Towards the contemporary city. Reading method of post-unification restructuring of Trastevere in Rome

Giancarlo Salamone

Morphological evolution of the fringe-belts of Krasnoyarsk

Elena Logunova

Virtual reconstruction of urban environments from historical photographs through Image Based Animations (IBA). The Plaza de la Virgen de Valencia around 1870

Jose Luis Cabanes Ginés, Federico Iborra Bernad, Carlos Bonafé Cervera

Urban efflorescences of the global and the local: An analysis of the territory of Gipuzkoa, Spain

Madalen González-Bereziartua

How does urban morphology influence the walkability

Ana Paula Borba Gonçalves Barros, Luis Miguel Martínez, José Manuel Viegas

Towards a typomorphology of public spaces: Relating place type and measures of enclosure

Stephen Marshall, Yuerong Zhang

Can speed enhance our understanding of the role of spatial connectivity? The creation of a 'Spatial-Speed' map

Paul Goodship

Urbanization dilemmas in delta cities: Interdependencies between formal and informal urbanization processes in Barranquilla, Beira and Ho Chi Minh City Like Bijlsma

Historic-geographical and typo-morphological assessment of Lefke town, North Cyprus

Sanaz Nezhadmasoum, Nevter Zafer Comert

Space Syntax in an idiorrhythmical conglomerate: the case of Jardim Piratininga, São Paulo, Brazil

Luciano Silva, Heraldo Borges, Bruno Futema

Study for a new definition of the southern side of Prato della Valle in Padua, Italy

Enrico Pietrogrande, Alessandro Dalla Caneva

Murcia and Sant Mateu. Plots form and band of pertinence. Meaning for architectural design

Paolo Carlotti

Tourist settlements in the Comunidad Valenciana coast: A typological map Marilda Azulay Tapiero, Vicente Mas Llorens

Hermeneutics and principles of quality in urban morphology Javier Poyatos Sebastián, José Luis Baró Zarzo

#### 8. Urban green space

The role of historical green spaces in the identity and image of today's cities: The case of Madrid

Eva J. Rodríguez Romero, Carlota Sáenz de Tejada Granados, Rocío Santo-Tomás Muro

The virtual earth. The case study of the Rose garden in Alcoy Maite Palomares, Ciro Vidal Climent, Ivo Vidal Climent

New York high line as urban catalyst: Impact to neighbourhood Koichiro Aitani, Vrushali Kedar Sathaye

Reconfiguring welfare landscapes: A spatial typology Asbjørn Jessen, Anne Tietjen

On the formulation of green open space planning parameters: A parametric

Tze Ming Leung, Irina Kukina, Anna Yuryevna Lipovka

Transformative urban railway: Ankara commuter line and lost landscape Funda Baş Bütüner, Ela Alanyalı Aral, Selin Çavdar

Agro-urban landscape: The case study of Monteruscello-Naples Alessandra Como, Luisa Smeragliuolo Perrotta, Carlo Vece

Resistance and permanence of green urban systems in the Globalization Age Rita Occhiuto

Greening in narrow urban spaces. An urban development concept for the old town of Berlin-Spandau Katharina Lehmann

# 24th ISUF International Conference Valencia 2017

City and territory in the Globalization Age

3. Reading and regenerating the informal city

### The diagonal city: Crossing the social divisions

#### Roberta Gironi

Departamento de Proyectos Arquitectónicos, Escuela Técnica Superior de Arquitectura, Universitat Politècnica de València. Spain E-mail: roberta.gironi@gmail.com

Abstract. Contemporary cities are affected by transformations that put in discussion the claim of control and stability to which the urban project aspires. All those gradual adjustments are manifested according to the demand, bring toward a less formal and more flexible spatial order, for which the traditional forms of the "static" city become the background of the "kinetic" landscape of informal cities. On the contrary of the formal processes of urban planning, informality process is configured as an organic development model and a flexible dynamic system opened to changes. The informal space is produced according to principles of spontaneity and self-organization. A consideration on the possibility to assume different approaches can be proposed. Those approaches should integrate in the design reasoning all the dynamics usually excluded by the discourse on the urban project, which processes can become catalysts to enrich the methods of planning and design of the urban space. Through the analysis of the case-study Previ Lima and the Living Room at the Border of St. Ysidro, the aim is to delineate in which way the contemporary architecture can absorb and metabolize these processes, triggering a different approach to a different method to intervene in the spaces of relationship among formal and informal. It is believed that the informal urban qualities cannot be eliminated and is impossible to ignore the inhabitants' practices, but rather to work on the intersection between collective and individual actions.

> Keywords: Informal processes, dynamic transformation, new planning approach, flexible space, self-organization

#### Introduction

Addressing the issue of informality is quite complex. Cities are undergoing fast processes of change which are making the boundary between formal and informal weaker and weaker. The origin of the word informal is related, first and foremost, to the acknowledgement of an economic market beyond the formal rules of the officia one. It was only in the '80s that the term started to be used with reference to physical aspects of spatial shape and, therefore, to city planning. The fact that flexibility and change are intrinsic factors of the contemporary society is an issue of paramount importance: it inevitably takes

the discussion towards a in-depth analysis of informal processes that become integrated in stabilised realities like planned cities. Indeed cities are containers of different forms of urbanism that coexist or collide in a continuous attempt towards a synthesis, giving them a multi-faceted appearance. According to Rahul Mehrotra, such a continuous tension produces an intertwining of formal city and informal city or, using his words, of "static city" and "kinetic city". The physical manifestation of the static city becomes the background of a dynamic landscape and, therefore, temporal of the kinetic city (Hernandez F., Kellett P., Allen L.K.: 2010).

The intrinsic dynamism of the informal

city has a typically temporary character which is often related to the use of non-durable materials (plastic, wood waste, scrap of various kinds, etc), that make this dynamism hard to figure out in a bidimensional way. On the contrary, this happens in the static city. On the one hand the concept of the static city is grasped through the representative value of its architectures, on the other hand the concept of the kinetic city is related to a specialization of associative values that it implies, resulting thus connected to a specific occupation modality of the spaces. Informality is thus conceived in a wider acceptation which is related to its development and articulation in time according to a local logic, being tightly connected to occupation of the space it creates, and thus specifically bound to the situation. Conversely, the static city aims at codifying the space in an abstract, generally valid order. The instability and the temporary character of the kinetic city are related to the logic of spatial appropriation by inhabitants. Indeed the frequent demolitions and evictions hat are carried out in such realities by institutional police, force inhabitants to find solutions that have a degree of flexibility and mobility through systems of resources recycling and saving. Yet, this separation between static city and kinetic city doesn't end up being a dichotomy without any points of contact nor interactions. On the contrary the intertwining they generate reveals a rich urban condition which is not connected to a "big urban vision, but to a big regulation".

The interrelation of static city and kinetic city, from different points of view (economic, spatial, organisational, etc.) makes boundaries between the two terms weak and supports an overall view that is more oriented towards concepts like hybrid and simultaneity aiming at conceiving informality as a "contagious phenomenon that will humanize the city" (Hernandez F., Kellett P., Allen L.K.; 2010).

According to a vision of the two terms that rejects dichotomy in favour for a dialogic concept that integrates the two aspects, we ought to shed light on something that is often neglected or simply not considered in the project: the informal and spontaneous practice which is bound to the use and appropriation

of the spaces by inhabitants. The relation that establishes between spatial form and social, economic and cultural processes is complex and, as such, requires an "open" analysis that refuses an approach of dogmatic meaning giving of the terms. Considering the complexity and the size of the phenomenon, greater delimitation and definition of the field are considered necessary in order to identify its manifestations which not always coincide with the mere physical appearance of the city, but which are actually related to the organisation itself, be it social, economic or cultural.

Thus, the relationship between formal and informal is perceived as a socio-spatial continuum and such a continuity is mirrored in the city's organisation and in the process of space appropriation. The large introduction about the expanded boundaries of informality prepared the ground for an analysis of which project characteristics can be catalysts of these fields, emphasizing the necessity to hypothesise a wider operational approach which would be valid in general terms, instead of limiting it to the merely informal reality in the physical sense.

#### PREVI-Lima project: encounter between informal city and urban design

Currently, the city of Lima has almost nine million inhabitants, the 70% of which lives in informal accommodations. The matter of informality in Perù has already been tackled in the past by the architect John Turner, who writes speaking of the owner of a house in a barriada<sup>1</sup>: "la ve como el arquitecto mira a su edificio en las etapas delicadas de su nacimiento; no como el desastre que parece en ese momento ni como el caos que ven los no entendidos, sino como una promesa de lo que está por venir"<sup>2</sup> ( John F C Turner; 1963).

Turner used to see exactly in the barriadas the solution to the problem of accommodation for the poor and claimed that self-constructed houses near the city centre were the solution to rural immigrants' problems since the position allowed to save time in the journey to work, which did not happen by decentralizing them in the suburban areas. With his expression "housing is a verb", he highlighted a separation line between the "helpful shack" and the "oppressive house", stating, in this way, the importance of the houses' use value (McGuirk J., 2015).

The remarkable increase of the population of Lima between 1940 and 1960, which was due to the migration of big masses seeking a job from Andeans regions towards the city, generated, as a result, a further increase in the creation of fabrics called "young towns". They were real barriadas that arose concerns in the Peruvian government. During the first administration of the architect and urbanist Fernando Belaúnde (1963-1968)housing programmes undertaken in order to find a solution to this phenomenon. The activities aimed at building social housing and accommodations for the middle class. Lastly, an experimental housing project was launched: the PREVI (Proyecto Experimental de Vivienda).

The experiment (1965- 1973) is the result of the cooperation among different actors: the Peruvian government, the United Nations Development Programme (UNDP), the United Nations (UN), the Banco de Vivienda de Perù and the British architect Peter Land who was entrusted with the project supervision. The government provided economic capitals, local staff and the lands, the UN and the UNDP contributed with technical assistance, international staff and bearing the costs of the international competition.

The PREVI was divided into 3 experimental projects: the PP1, which was focused on the building of a new district; the PP2 that aimed at recover a degraded fabric through a series of operational plans; lastly the PP3 that involved the project of the services and the arrangement of the lots for the rationalization of selfconstructed houses.

After the earthquake that destroyed most of the city of Lima on the 30th May 1970, the PP3 was divided into two subprogrammes: a self-construction project of the Ministerio de Viviendas on the one hand, and a post-disaster reconstruction project on the other hand (PP4), which was based on earthquake proof systems and the employment of local materials with methods of self-construction.

For the experimental project PP1 an international competition was organized, where the requirement in the announcement was the design of short houses at high density -vivienda de baja altura y alta densidad (BAAD)<sup>3</sup>-. World-class Architects were called to participate, in total 13 international teams and 13 Peruvian ones under the direction of Peter Land.

The land of about 40 hectares 8 Km north of the centre of Lima would see accommodations for 1500 families on lots of 80-150 square meters rising up with houses of 60-120 square meters with one or two floors, but able to bear the addition of a possible third one.

The PREVI was conceived as a formal district that could develop informally, a platform for its transformation, where the houses were nothing more than the principle itself and not the final objective. It was a real urbanistic collage in which each architect analyzed the behaviors of the future users and transformed them into living spaces. The novelty, indeed, was Peter Land's choice to build the kind of houses with a patio that belonged to the Peruvian tradition instead of building the tower blocks typical of the social construction of the '60s. The limited height would allow the following development: what was recognized and absorbed of informality was the growth capacity, in line with the fundamental principle of the barriadas according to which a house is a process and not an immutable object (García-Huidobro F., Torres Torriti D. and Tugás; 2008).

What makes the success of this experiment so evident is the fact that although the economic conditions of the inhabitants changed, they did not move, they stayed in the district making changes and improvements and transforming a district of social houses in a vital fabric similar to the one of the middle class. The main aim was to develop a generalized method that would be applicable and reproducible, becoming thus part of housing policies of the Peruvian government. The project aspired to build lowcost houses with the related services based on the development of innovative technological solutions by better exploiting resources and by cutting building costs through innovation of the construction methods. It is precisely in the building rationalization and in the prevision

of the future continuous growth in the initial phase that is the importance of the experiment: the project is considered a transitional stage where to channel the fulfillm nt of inhabitants' needs and not an end point.

The project design implies associative and growth forms that would stimulate the formation of the neighborhood also through the compactness of the conglomerates, spaced out by small squares accessible on foot from narrow streets. Moreover, the low- cost prefabrication system and the one of dry-stone assembly would implement the local industrial production. Although in some cases choices that belong to the prefabrication on a large scale from Europe have been preferred (Polish and German solutions), in general the PREVI had a series of proposals where there was a union of industrialized techniques which are popular in Europe with the state of development of the Peruvian local reality of that time. It all lead to a choice that aimed at a more than industrial rationalization of the constructive system itself through compatible elements according to a logic that grasped the local construction modalities, allowing thus a further development by the inhabitants themselves. (E.g. Tabibloc – Spain, lighten panels - Switzerland, modular concrete blocks - Colombia).

The PREVI provided a planning key that perceives architecture as an open process which is in continuous transformation in order to adapt to its inhabitants' needs. The houses, indeed, were thought for families with two to six children and they also considered wider families of 10 people. The acknowledgement of the extended familiar composition, related to informal economic activity, allowed to structure living spaces based on the multi-family home. Indeed a different composition of the Latin American family has been acknowledged, which is more extended than the European one, bound to a precise and restricted family unit. There was possibility of growth and development thanks to expansion devices of the project that allowed a dual direction of the expansion: vertically, through static devices (ladders and technical installations that have been prolonged), horizontally, through dynamic elements (patios, gardens and terraces that have been modified and contaminated in order

to insert new spaces or uses) (García-Huidobro F., Torres Torriti D. and Tugás; 2008).

The expansions and modifications that inhabitants added changed the district's overall image both in terms of buildings' height, since, from the three floors of expansion they reached four or five floors in some cases, compromising their static stability, and in terms of uses. Indeed commercial activities were introduced in the residential fabric, eliminating thus the distinction between public and private spaces.

#### The experience of San Ysidro – Living room at the borders

The border line between The United States and Mexico stretches for more than 3000 Km through four states of the USA (California, Arizona, New Mexico and Texas) and six Mexican states (Lower California, Sonora, Chihuahua, Coahuila, Nuevo León and Tamaulipas). Most of the cities along this border have an intense series of economic, social and cultural relationships with the corresponding cities beyond it, to an extent that they can be considered twin cities, just as it happens with Sand Diego and Tijuana. This reality which is rich in relationships and exchanges leads to the creation of a different kind of city which is related to the concepts of transculturalism and multiculturalism. On the one hand San Diego is the symbol of a kind of town planning based on control and planning from above, according to the logic of separation and exclusion (gated communities), on the other hand, Tijuana is a city that can be considered hybrid, the result of informal layerings and dynamic processes of transformation from below.

Such an emblematic situation of the border territory between The United States and Mexico reveals the difficultie of an area that absorbs differ nt migration and cultural flows and has a double value: on the one hand it unites the city in commercial terms since it allows the productive flow to take place (also guaranteed by the Free Trade Arrangement N.A.F.T.A.), and, on the other hand, it creates a clear separation from the anti-immigration objective.

The exchanges that take place through the wall that separates the American part from The Mexican one create relationships of interdependence between the two parts which make this division porous and uncertain, by activating cultural exchanges that generate contamination. Speaking about globalization nowadays implies pondering on the idea of boundary and on the spatial meanings that it encloses. According to Pietro Zanini the term boundary refers to a vital space of cultural hybridisation, but also a space of contrasts, a membrane that lets differ nt realities pass through its pores in an interpenetration process that continuously strives to balance (Zanini P.; 1997). The main theorist of the frontier, the architect Teddy Cruz (professor at the University of California, San Diego) can be considered a "cultural activator in critical areas" and he managed to find a common point between the Mexican informal urban dynamics and the gated communities of American suburbs. He conceives the border line that divides the two cities as part of an imaginary line that he defines as "political equator", that is to say a line that stretches along the Equator and that marks the distinction between formal North and informal South and between the developed world and the developing one (Cruz T.; 2008).

San Ysidro is located in the South part of San Diego (the current border line was established in 1848, after the annexation of the area to the United States), a community made up of Latin American immigrant families located on the border with Mexico, to which its develop as a frontier crossing territory is to be attributed. The San Ysidro experience, developed by the ETC (Estudio Teddy Cruz) in collaboration with the Casa Familiar ONG, starts from an analysis of the ongoing processes in the San Diego territory in the border area with Mexico. In this area, it was noted that informal settlements grew faster than the central areas, according to dynamics that resembled Tijuana's settlements across the border.

According to this logic of informal spatial organization, an intervention was undertaken involving the introduction of heterogeneous elements to the system that could channel planning towards development prospects through a real process of "urban acupuncture".

In addition, Teddy Cruz makes use the concept of the use of multi-dimensional space in informal settlements, according to which a home is a microcosm capable of performing various functions (multifamily home. commercial space, cult place).

The project Living Rooms at the Border is significant for its proposal to combine private life and common activities through a combination of functions (multi-family homes, services and infrastructure) inspired by the spontaneous housing aggregation system of the Tijuana urban center.

The housing units are surrounded by a public garden and are built on a concrete structure in which the ground floor is considered a urban plant capable of performing community and collective functions, privileging an open and indefinite character and avoiding a specific definition

The living area is a place of family conviviality and is often in common, while the church fulfills the function of a multifaceted social center. The main objective of the project was to convert unused lots into a dense and rich housing program integrated with a range of services.

The project uses the bar code logic, cutting the lot into thin strips allocated to different uses and activities (open spaces, closed, opencovered, public and private) maintaining a flexible system ready to accommodate to the changing community's reality.

The functional program is based on two parcels, the first one offers different types of housing (small flats, larger family houses, studios for artists and flexible units for temporary guests) assisted by a service system, while the second lot includes houses for elderly people with built-in nursery schools, according to the concept of intergenerational system (McGuirk J.; 2015).

An important feature of the project lies in the involvement of several actors that have allowed the development of the design chain, allowing communication and collaboration between the various parties involved. The non-profit company Casa Familiar has been fundamental in mediating between institutions and residents both from a social and economic point of view,

by carrying out bureaucratic procedures until residents have acquired housing units.

The main characteristic of this experience was the creation of a participatory microdevelopment model, a real micro-policy strategy (AHOZ - Affordable Housing Overlay Zone) where housing is seen as a system of economic and cultural interaction, which make the residing community an active component of the whole process.

The fundamental novelty behind the idea of the project lies in the diversified use of the land, Cruz claims in this regard that: "Necesitamos un nuevo concepto de densidad. La densidad se sigue midiendo como un número de cosas – de unidades - por hectárea. ¿Por qué no medirla como el número de intercambios sociales y económicos por hectárea?"4 (McGuirk J.; 2015). In this sense, Teddy Cruz's study has seen in social density, not the housing-density, the key to the success of the initiative.

All stages of the project have been supported by a number of political structures that initiated a development process in which the ONG Casa Familiar could act as a promoter and facilitator between institutions and residents, promoting a subsidy system and administering microcredit to individuals. Redefining the concept of ownership has been the core of the project itself, as residents have become partners of Casa Familiar and therefore co-owners of resources and active part (Cruz T.; 2008).

The innovative character is considering the value of the project as a spatial capital that can generate exchanges and interrelations, enabling socialization and avoiding marginalization of people.

#### Conclusion

In the cases discussed it is highlighted that the informal city is not conceived as a design tool as such, but as something capable of stimulating the creation of flexible spaces, hybrid environments that allow the dynamic qualities of the kinetic city to manifest themselves.

In PREVI Lima, thanks to the variety of housing solutions since its first conception, it was possible to adapt the spaces to the needs of the inhabitants, avoiding urban monotony. The monofunctional nature that characterized the district at the beginning was contaminated by the spontaneous introduction of commercial activities within the fabric, especially evident in homes that, having double access, are more predisposed to accommodating these activities inside them.

The hybridization to which informal cities tend suggests that projects where there is no separation between public and private space and between different functions and activities can be more able to meet the needs of the inhabitants.

possibility of foreseeing future expansions with a view of total flexibility has seen a recent improvement in the incremental housing of Alejandro Aravena (eg: Quinta Monroy project). Although in this case enlargement is less free and more constrained than in the PREVI: in Aravena's houses the expansion takes place in spaces between the houses, in PREVI Lima it took place in different directions (from inside out, horizontally, and from bottom up, vertically).

The logic of the fragmentation and assembly of the informal city is transposed into the constructive system, preferring small elements to the large-scale prefabricated systems, this has allowed the inhabitants to fit into this constructive system and integrate it.

Ultimately, PREVI is an urban collage of streets and different types of houses whose outcome is an image of a heterogeneous landscape. Thus, this variety combines the life project of the inhabitants with the project of architecture.

The second case analyzed above, the Living Room at the border of Teddy Cruz, refers to the notion of open-ended projects, which consider the concept of living closely to social and educational programs, thus increasing the capital space of the inhabitants.

The adoption of systems that can combine public spaces for mixed use that join the private aspects of family dynamics with public and commercial activities -it all supported by the collaboration of different actors in finding a meeting point between bottom-up planning and public planning, conceives the theory of mixité, for typology as well as characters involved, as a design strategy-.

In San Ysidro, inhabitants are active contribution as well as final users and the ONG Casa Familiar is a mediator between institutions and communities. The innovative value of the project lies in the rethinking of the concept of living itself, that, from being a material datum of housing density, gives up the place to cultural exchanges, becoming social density.

Such densification of social exchanges is achieved through a combination of uses able to generate a vital community tension. The hybridization of building types and uses at the base of the design idea gave the possibility to attribute a different value to the houses themselves, and urban complexity is achieved through a series of material and immaterial elements.

The project appears as a mediation between formality and informality according to an interdisciplinary approach, whereby design ideas and urban policies are inseparable.

In line with what Alfredo Brillembourg and Hubert Klumpner claim: "the planned city can neither eliminate nor replace the informal qualities and practices of its inhabitants"5. For them, the XIX century had generated the horizontal city, the XX century the vertical city, and thus the XXI century is the century of the diagonal city, which recaptures social divisions (McGuirk J.; 2015).

The project should be a means of knowledge and a useful tool for re-connecting material and social reality, as well as an infrastructure capable of working on various scales (from the territorial dimension to architectural punctual injections).

#### **Notes**

- <sup>1</sup> A shantytown section on the outskirts of a large city in Latin America (source: www. dictionary.com)
- <sup>2</sup> The inhabitant sees the house as the architect looks at his building during the delicate stages of his birth; not as the disaster that seems at the moment nor as the chaos generated by misunderstanding, but as a promise of what is to come

- <sup>3</sup> Low-rise and high-density housing
- <sup>4</sup> We need a new concept of density. Density is still measured as a number of things - of units - per hectare. Why we don't measure it as the number of social and economic exchanges per
- <sup>5</sup> From an interview with Alfredo Brillembourg y Huberto Klumpner, Urban Think Tank founders "La ciudad planificada no puede ni eliminar ni subsumir las cualidades y prácticas informales de sus habitantes. Lo informal persiste; sus fortalezas inherentes resisten y rechazan los esfuerzos por imponer orden. La ciudad totalmente planificada, por tanto, es un mito"

#### References

- Alexander, E. R., Reed, K. D., & Murphy, P. (1988). Density measures and their relation to urban form. Milwaukee, Wisconsin (USA): Center for Architecture and Urban Planning Research. Retrieved from http:// dc.uwm.edu/caupr mono/37
- Brillembourg A., Feireiss K., Klumpner H. (2005), Informal City (Prestel Publishing, Munich)
- Cruz T. (2008), "De la frontière globale au quartier de frontière: pratiques d'empiètement", Multitudes, 31(1)
- Hernandez F., Kellett P., Allen L.K. (2010), Rethinking the informal city: critical perspectives from Latin America (Berghahn books, New York, Oxford).
- Jacobs J. (1961), The death and life of great American cities(Random House, New York-Toronto).
- García-Huidobro F., Torres Torriti D. and Tugás (2008), ¡El tiempo construye! El Proyecto Experimental de Vivienda (PREVI) de Lima: génesis y desenlace, (Gustavo Gili, Barcelona)
- Matos Mar J. (2004), Desborde popular y crisis del Estado. Veinte años después, Fondo editorial del Congreso del Perú, Lima
- McFarlane C., Waibel M., (2012), Urban Informalities: Reflections on the Formal and Informal (Ashgate, Farnham)
- McGuirk J. (2015), Ciudades radicales. Un

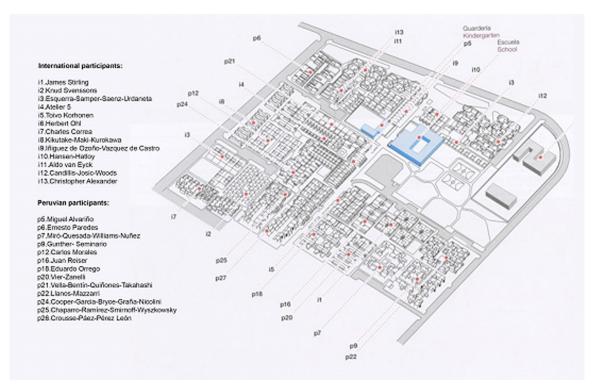


Figure 1. PREVI housing collage (source: García-Huidobro F., Torres Torriti D. and Tugás (2008), ¡El tiempo construye! El Proyecto Experimental de Vivienda (PREVI) de Lima: génesis y desenlace, (Gustavo Gili, Barcelona)



Figure 2. Growth and development of PREVI Lima from 1978 to 2003, from left to right: Miro-Quesada-Williams-Nuñez project, Josic-Candillis-Woods project and Charles Correa project (source: García-Huidobro F., Torres Torriti D. and Tugás (2008), ¡El tiempo construye! El Proyecto Experimental de Vivienda (PREVI) de Lima: génesis y desenlace, (Gustavo Gili, Barcelona)



Figure 3.Living room at the border project (source: http://blog.ted.com)

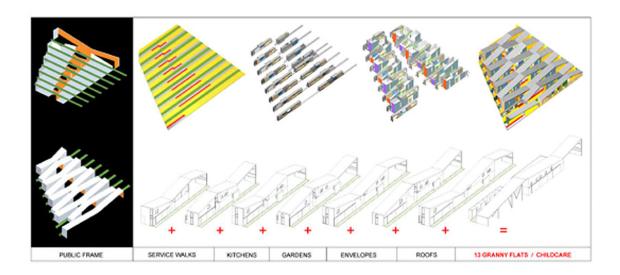


Figure 4. Diagram for Senior Housing with Childcare. (source: www.moma.org from **Estudio Teddy Cruz)** 

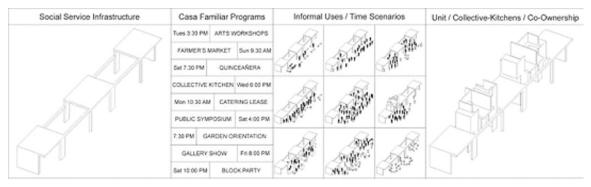


Figure 5. Applications of multiuse frame over time (source: www.moma.org from Estudio **Teddy Cruz)** 

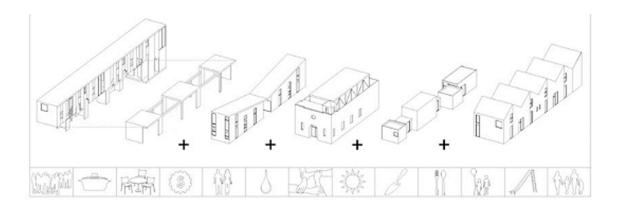


Figure 6. Typologies included in Living Rooms at the Border (source: www.moma.org from **Estudio Teddy Cruz)** 

viaje a la nueva arquitectura latinoamericana, (Turner, Madrid)

Roy A., Alsayyad N., (2004) Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia (Lexington Books, Lanham)

Zanini P. (1997), Significati del confine: i limiti naturali, storici, mentali, (Bruno Mondadori, Milano)

John F C Turner, "Dwelling Resources in South America", Architectural Design 8, August 1963.