Indice

13 Prefazione
Marco Cella, Rettore del Politecnico di Torino

15 Presentazione
Vito Carbone
Presidente UID

23 DISEGNO & CITTÀ* DRAWING & CITY
Anna Maria Norelli, Giuseppe Novello

25 Dizionario e Città: pensieri per un convegno UID ... Drawing & City: thoughts for a UID conference ...
Anna Maria Norelli

41 Entità e rappresentazione, ovvero la Città e il Dizionario interpretata. Acume note sulle molte ragioni delle attuali visioni
Representation and being, or rather The City and the Dizionario explains. Some personal notes about many reasons of other points of view
Giuseppe Novello

DISEGNO PER LA CITTÀ PENSATA
DRAWING THE CONCEIVED CITY

55 Il disegno di Atlantide tra mito e realtà
The Atlante's draw between myth and truth
Laura Alfio

63 Charles-Eduard Jeanneret: un paesaggio urbano da componere
Jean-Louis Martin: a cityscape to compose
Adriana Arena

71 Il disegno di terre nuove fiorentine: strategia per la conquista del contado
The plan of the Florentine “terra nuova”: strategy for the conquest of the countryside
Barbara Janci, Alessandro Noscenti

79 La città dei morti: due disegni per il cimitero di Sant’Antico
The city of the dead: two design proposals for the cemetery in Sant’Antico
Vincenzo Baguada

87 Archeologia in 3D: Ricostruzioni di città romane
3D Archaeology: Roman city reconstruction
Manuela Banetta

93 Rappresentazioni grafiche della città. Due esempi: Amsterdam e Bologna
Graphical representations of the city. Two examples: Amsterdam and Bologna
Manuela Banetta

101 Comunicare la città e le sue immagini.
Due casi studi per la reinterazione di immagini urbane di Littoria
Communicating the city and its images. Two case studies for the reintegration of Littoria's urban images
Michela Calvano, Elena Ippoliti

111 Una città senza tempo. Luoghi reali e illuzioni tra mondo barocco e ricordi classici
A city without time. Real places and illusions between baroque and classical memories
Cristina Ciancio

121 Da “La città ideale” a “Grecorific city”
From “La città ideale” to “Grecorific city”
Franco Cerulli

129 Il disegno e la pianificazione della città romana: fondazione
Design and Plan of the Roman city
Emiliano Della Bella

137 Scene urbane ideali nelle tarsie prospettiche rinascimentali
Ideal urban scenes in the perspective Renaissance tiles
Marco Fasolo

147 Cartagine, rappresentazioni di una città perduta
Carthage: representations of a lost city
Francesca Patta, Andrea Mancini

159 Primitive urbane
Analisi interpretativa dei processi figurativi dell’immagine della città
Urban primitive
Interpretative analysis of the processes figurative in the image of the city
Marco Filippucci

169 “... un disegno così suggestivo da sfuggire al muro delle tombe”... categorie classiche e valori di gusto nella scuola di La Città immortale
“... a pattern so subtle it could escape the tomb’s graving.”_cristic categories and values at play on the wall of Calvino’s invisible Cities
Fabrizio Goy

177 Uno strumento per il disegno della città pensata da Filippo Jovanni: la Galleria architettonica
A drawing tool for the conceived city of Filippo Jovanni: the Gallery of architecture
Elena Giammarchi

185 Rilevare l'esistenza per rappresentare il consistente e prefigurare il conseguente
Detect the existing to represent the consistent and predict the consequent
Paolo Giardino

193 Genova una città senza piazza
Genoa a city with no square
Gustavo Guidoni, Carlo Bruschi

201 Il lato dei desideri. L’area di Parco Sempione e del Castello Sforzesco di Milano, tra storia e costruzione di una città reale
The forum of the desires. The area of Parco Sempione and Castello Sforzesco in Milan, between history and construction of an actual city
M. Pompaiana Iannetti, Sara Conte

209 Orientamenti e ritmi: le Addizioni Eraclee di Ferrara (1492) e Modena (1546)
Oriental orientation and rhythms: the herculan additions of Ferrara (1492) and Modena (1546)
Manuela Incerti

217 La città dei sogni
The city of dreams
Alfonso Ippolito

225 "T*: as Image, "T: as Information. From the easy survey up to the digital photomodeling
Massimiliano Lo Tonio

231 Il disegno e la poesia sulla città dal frammento all’unità spaziale.
L'uomo e il mondo tra D'Annunzio, Saha, Sironi e Paozoli
Drawing and poetry about the city: fragments to unit space.
The man and the world between D’Annunzio, Saha, Sironi and Paozoli
Rosario Marzocco

243 La macchina del tempo.
Viaggio virtuale nell’irrealizzato quartiere preciso di Alvar Aalto e Leonardo Mosso
The time machine
Virtual journey through the urban district designed for Pavia by Alvar Aalto and Leonardo Mosso
Giovanna M. Massari, Luca Mizzoni

249 Disegno, visione e città nel XVIII secolo: note sull’esperienza grafica di Giovanni Battista Piranesi
Drawing, view and city in the 18th century: the graphic experience of Giovanni Battista Piranesi
Carlo Matti

261 Rilevare, disegnare e organizzare la città digitale
Surveying, drawing and organizing the digital city
Sandro Pierucci

271 I disegni di Rocco Capellino per le città di Oristano e Sassari
Rocco Capellino’s drawings for the cities of Oristano and Sassari
Andrea Pirani

279 Utopie contemporanee. La città rappresentata nei videogiochi di simulazione
Contemporary utopias. The city representation in simulation videogames
Manuela Piscicelli
DISEGNO PER LA CITTÀ COSTRUITA
DRAWING THE BUILT CITY

371 Surveying, modeling and interpreting urban historical heritage
Fabrizio I. Apollonio, Federico Fallavollita

379 La Micro_città di Piuminengi: un caso di studio nella costa ionica
La Città Micro di Piuminengi: a study case on the Ionian Coast
Massimiliano Arena

389 Perugia in particolare, l’attuale digitale e lo strumento cartografico dell’architettura storica umbra
Perugia in particular, the current digital and cartographic tool of the historical Umbrian architecture
Paola Belardi, Valeria Minciaffelli

397 Il contributo del rilievo urbano dei centri storici italiani per la recuperazione e la prevenzione della vulnerabilità sismica: alcuni casi studio in Abruzzo, Toscana e Umbria
The contribution of urban survey of the Italian historical city centers for the recovery and prevention of seismic vulnerability: case studies in Abruzzo, Tuscany and Umbria
Stefano Bertucci

407 Lo spazio urbano e l’edilizia minorire dei centri storici. Il caso di Volterra
Urban space and minor architecture in historical cities: the case of Volterra
Marco Giorgio Badalucco, Stefania Landi, Alessandro Ariel Ferrarossa

415 PVL (Palazzo Venier dei Leoni): la forza dell’assenza
PVL (Palazzo Venier dei Leoni): the power of absence
Malvina Boreghini, Giovanni Assandri, Riba El Amor, Alessandro Foresti

421 Los dibujos cosmográficos de Valencia. La ciudad que fue y la que pudo ser
Cosmographic drawings of Valencia: the city that was and could be
Pedro M. Cañavate-Bernal, Juan J. Cimorra-Viñas

429 Trasformazioni e mutamenti nell'iconografia tradizionale delle città costiere del Pearl River Delta, nel sud della Cina
Transformations and changes in traditional iconography of coastal cities of the Pearl River Delta in southern China
Mariana Culler

437 Per una comprensione dei tessuti urbani storici e materiali: una pratica per la ricostruzione
For a better understanding of urban historical fabrics: a practical approach for the restoration
Daniela Cattin

445 Un enseigno settile nell'evoluzione dei sistemi di conoscenza dell'architettura e dell'ambiente
Massimiliano Campi

451 Nuovi strumenti per il rilievo delle trasformazioni
New tools for survey transformations
Santa Maria Incoronata church in Naples
Mara Cipone

459 Il rilievo e il disegno della città per la lettura, la conservazione e la valorizzazione di Antivari
Survey and drawing of the city for the reading, the conservation and the valorization of Antivari
Tiziana Cranko

477 “Roma from behind” Notes on Gaspar van Wittel’s landscape of the Tiber for camera optica
Marco Cappellos, Fabio Colombo

483 Immagini iconiche e simboliche per la rappresentazione della complessità urbana
Iconic and symbolic images to represent the urban complexity
Federico Cipriano

495 Insegna la modellazione reality based.
Fotomodellazione e tecnica LiDAR per la chiesa di Sant’Uberto a Venaria Reale
Rudy reality based modeling technique for the St. Uberto Church in Venaria Reale
Filippo Chiappe, Elisabetta Bonutti, Andrea Lingua, Giada Sammaritano, Antonia Spanò

497 Les reales cidades en Espanol: de la imagen ideal a la ciudad construida
The Spanish royal estates: from the ideal projects to the built cities
Pilar Chiesi Navarrete

507 Ritratti di architettura. Disegni di edifici moderni e contemporanei romani
Portraits of architecture. Drawings of modern and contemporary Roman buildings
Emmanuela Chiavoni, Alesio Dussodimetti, Giulia Petruzzo

515 Tracciare, scavare, edificare: gesti e segni antropici della città contemporanea
Tracing, excavating, building: anthropic gestures and signs of the contemporary city
The Via Latina and the urban transformations of the Tor Fiscale area of Rome
Maria Grazia Gentili, Sara Colaceci
523 Disegnare la città, insegnando a rilevare. Tecnologie integrate per un rilievo urbano 3D
Drawings of city as teaching method. Integrated techniques for urban 3D models
Paolo Cinti, Ramon Quasimini, Renato Neppa, Giulio De Carolis
531 Il disegno multidimensionale della città di Ohrid in Macedonia
The multidimensional design of the city of Ohrid in Macedonia
Ljudi Cornecco
539 Il rispetto della città storica: conoscere per intervenire
Respecting historical towns: know to operate
Carmelo Ciccio
547 Le architetture vegetali urbane tra documentazione e salvaguardia
The vegetal urban architectures between documentation and safeguard
Laura De Carlo, Leonardo Parisi
555 La villa romana del Canale a Piazza Armerina, tra rilievo e disegno
The Roman Villa del canale, between survey and design
Giuseppe Di Gregorio, Salvatore Agosti
563 Questions di rilevamento urbano e ambientale
Questions about urban and environmental survey
Andrea Donelli
571 Disegnare la città: la lettura della continuità per la composizione dell'innovazione
Drawing the city: reading continuity to compose innovation
Maria Linda Paoli Lino
577 Per un disegno dell’autontopografia dell’area di Tiestacco a Roma: stratificazioni cartografiche e luoghi delle descrizioni
For a drawing of the anthropic area of Tiestacco in Rome: cartographic paths and places of
description
Laura Fassoni, Silvia Rinalduzzi
587 Le nuove forme urbane: dall’esperienza della città giardino alle Opernstadt teosche di Schumacher e Tessenow
The new urban forms: from the experience of the garden-city to German Opernstadt of
Schumacher and Tessenow
Erika Piccarilli
595 Eumenocrates e rappresentazione della città
Hermenotile and representation of the city
Riccardo Fionio, Teresa Della Vorte, Carmela Frugoci D’Amato
605 Le città dello “Stato di San Germain”, rappresentazioni tra il XVI e XVIII secolo
The cities of the “State of San Germain”, representations between the sixteenth and
eighteenth centuries
Arnaud Gaillot, Michela Cigola
643 Prime note per una mappatura sintetica dei centri storici
Some preliminary notes on historical town seismic mapping
Giorgio Gazzarri, Bernardino Chisina, Elena March
621 La città di Gerusalemme e le sue porte – Parigi – “un progetto di rappresentazione”
The city of Jerusalem and its ports – Paris – “a project of representation”
Gianluca Ginex
631 Redescrivere la città e i suoi trasformazioni: due esempi in Palestina
Gian Marco Girgenti, Giuditta Campanella
639 Il canale di Venezia e lo sviluppo dell’architettura: il rilievo e lo studio della costruzione
di Venezia
Carlo Inglessi, Antonio Pizzo
647 Architectural and Landscape Heritage of the Russian Imperial Age (1763-1843)
under the Conditions of Urban Transformation
Marta Komarova
651 Un approccio metodologico per la lettura integrata di un luogo urbano. Il caso studio di
Acitrequa
A methodological approach for the integrated reading of an urban place. The case study of
Acitrequa
Maria Rosaria Lisso, Sebastiano Giuliano, Salvatore Savarino
657 The integrated survey aimed at the regeneration of the urban scene in the historical urban fabric
Federico Maitelli, Federico Ferrari, Marcello Badolato
663 Il disegno della città e l’imagine di secondo grado
The drawing of the city and the image of the second degree
Anna Christiana Massaro
667 Città aperte al territorio. Il disegno di nuovi modelli urbi in a piana pontina e nella
provincia di Civitavecchia nel XX secolo
Open cities to the territory. Drawing of new urban models in Pontina plain and in the
province of Civitavecchia in the 20th Century
Mara Marone, Marco Marano Badolato, Mattia Rossi de Haer, Flaviana Pappalardi
687 Il disegno della città di genova: una morfologia complessa
Design of the city of Genoa: a complex morphology
Giuseppe Mazzocca, Chiara Pietropaolo
695 Isola di Piana: città fantasma 2015
Island Piana: ghost city 2015
Matta Erolia, Mafel, Andrea Maiacchi
700 La Città di Diana e la Real de Susamón
The Church of Santa Maria la Real de Susamón
Susana Mora Alonso-Mancayero, Pablo Velez, Cucu, Sara Pinedo Martín
710 Cazadores de paseo urbano e arquitectura histórica.
Algunos dibujos inéditos de Toledo en 1845
Cazadores de paseo: Urban landscape drawings and historic architecture.
Some unpublished drawings of Toledo in 1845
Pablo Navarro Estere, Pablo Navarro Campanella, Hugo Antonio Barros de Costa and Rocha
719 La costruzione di un monumento pubblico in la Città di Valencia durante il secolo XVI.
El arte de la ebanisteria come modelo
The construction of a public monument in the city of Valencia during the 16th century.
The art of the cabinetmaker as a model
Pablo Navarro Campanella, Hugo Barros Costa, Pablo Navarro Estere
721 Modulazione e sincronismo della città
Dynamic and synchronous readings of the city
Caterina Levisi
741 Modulazioni e immagini di luogni
Changes and images of places
Rosaria Palombaro, Daniela Palombaro, Giuseppe Di Gaudio
749 Disegnare per la città dell’industria: l’immagine di Torino e i disegni di Friso Bussani
Drawing for the industrial city: the image of Turin and Friso Bussani’s planning drawings
Francesca Palaia
757 Il cultural identity on Pescia island through the project design
Maria Ines Panciarulli
763 Rilevare per la memoria della città: l’esperienza di via del Suffragio a Trento
Surveying for the memory of the city: the experience of via del Suffragio in Trento
Cristina Pellegatta, Fabio Lucce
771 Representations for the revitalization of brownfields: a comparison between Italian and Polish
experience
Assunta Pelliccio, Magdalena Zduniszczik Nowak
RAPPRESENTARE LA CITTÀ IN DIVENERE
REPRESENTING THE CHANGING CITY

The sustainable urban design of a part of Isfahan’s structural and historical centre (Sepah Street)
Alessia Aghili, Massimo Kortum-Arani, Fatemeh Mouadebbagh

905 Strumenti di comunicazione inclusivi per persone con disabilità visiva: il disegno in rilievo
Inclusive communication tools for sightless people: relief drawing
Maria Cristina Azzone, Angiela Lucianio, Rosco Redi

911 La città in divenire. Come la tecnologia indissolubile immersiva cambia la rappresentazione della città
Carlo Bianchini, Dafne Ippoliti, Cristina Bartolomei

917 Rappresentare le dinamiche volumetriche
Cecilia Bolognini, Giovanni Propeco

923 The storytelling in the travel practice: from the travel diaries to the digital guided tours
Giovanni Castaldo, Davide Mazzino

929 Rappresentare le dinamiche del paesaggio, comunicare il rischio
Representing landscape dynamics, communicating risks
Enrico Cicala

935 Mapping, open data e rappresentazione della città
Mapping, open data and representation of the city
Alessandro Ciriciello

945 Disegno “Urb-tecnico”: dalla parte della città?
“Urban technician” drawing: on behalf of the city?
Luigi Cucchiarella

953 Borghi rurali in divenire
Changing rural villages
Antonio Conte, Antonio Bitteo, Mario Annonezita

963 Gli interventi architettonici del primo periodo sabaudo nella nuova capitale
The architectural changes in the new capital of the Savoy period
Cesare Candand, Fabio Lanfranchi, Giuseppe Antonio, Gian Maria Bagordi, Valentina Naccitelli, Laura Carnevori, Giancarlo Cavalli, Marcello Maccio, Marcello Leonardo

973 Le stelle non si possono toccare: troppo lontane, troppo calde!
The stars can’t be touched: too far, too hot!
Mauro Luca De Bernardi

997 Relazione fra la forma urbana e i luoghi dell’alimentazione: dal rilievo manuale all’optoeengineering
Connection between urban morphology and spaces of nutrition: from manual survey to optoeengineering
Massimo De Pauli, Sereno Innocenti, Alessio Capone, Vincenzo Menafuso, Michele Sgitolli

987 Smart data management with BIM and AR in Malaysia
Matteo di Giulio, Stefano Giovanniotti, Anna Cecilia, Ariè Ari, Robert Thomas Backmann

991 L’opposizione urbana come forma di conoscenza dell’ambiente: dalla filosofia analoga a quella digitale
Urban exploration as a way to get to know the built environment: from the analog to the digital
Tommaso Empoli, Fabio Quici, Graziano Mario Volante
Patria Focare

1009 Identità & Sviluppo nella città cinque: Riqualificazione del distretto di Beilin nella città di Xi'an, Shanxi, (RPC) 
Identità & Development in the Chinese City. Urban District Urban Design in Xi'an city, Shanxi (RPC) 
Antonino Fronda, Weiwei Jiang, Xianyu Jiang

1015 La città connessa: il monitoraggio del disagio per la rigenerazione urbana 
The connected city: the monitoring of unused areas for urban regeneration 
Paolo Giandrea, Giorgio Bianchi

1025 One drawing at time 
One drawing at time 
Renato Gaudio

1031 Panoramici narrativi per il progetto della Città Universitaria. Raccontare per immagini attraverso il foglio 
Narrative panoramas for the University City project. Telling about places through images 
Elena Ignited, Giulia Santucci, Marco De Francesca

1041 El análisis gráfico del origen y evolución urbana de centros históricos: el caso de Zamora como ejemplo de superposición sucesiva sobre un territorio 
Graphical analysis of the origin and evolution of historic urban centers: the case of Zamora as an example of successive overlapping over a territory 
Víctor Antonio Latorre Sánchez, Daniel López Brugués

1051 Morfologia e dinamismo della città delle acque 
Morphology and design of the city of water 
Antonio Civita Latera

1059 From representation to communication. About architectural drawing in the participatory process 
Marchi Maggiore

1063 Smart cities e rappresentazione. Appunti e annotazioni su Agrigento 
Smart cities and representation. Notes and annotations on Agrigento 
Francesco Maggio, Starlight Fantino

1071 Easy survey methods for the representation of abandoned industrial buildings 
Anna Maria Marsaglia

1077 Collare City vs Glacial City 
Collage City vs Glacial City 
Alessandro Marotta

1083 Disegnare e rappresentare la logistica nella Smart City 
Drawing and representing logistics in the Smart City 
Elena Teresa Crotta Marchio

1089 Mosca-Torino: un viaggio attraverso le immagini 
Moscow-Turin: a journey with pictures 
Anna Marotta, Olga Derzhavina

1105 Immagine urbana e la Lega di Cambrai: il Regno di Napoli 
The League of Cambrai and the urban image: the Kingdom of Naples 
Barbara Messina

1113 Valletta: città fortificata, protetto, colonia imperiale, capitale repubblicana 
Valletta: fortified city, protected, imperial colony, republican capital 
Antonio Melle

1121 Immagine urbana e la Lega di Cambrai: il caso della Serenissima Repubblica di Venezia 
The League of Cambrai and the urban image: the case of the Most Serene Republic of Venice 
Cosimo Monticone

1129 Drawing the Changing City. A Tribute to Gordon Cullen 
Carlo Moroni Serrano, Maria Alonso Rodríguez

1133 Mapping the invisible: Creative cartography as a tool for representing the changing contemporary city 
Marco Musacchi

1139 La ruina come momento nell’evoluzione dell’idea di paesaggio: rappresentazione e paradigmi culturali 
The ruin as moment in the evolution of the idea of landscape: representation and cultural paradigms 
Daniele Papi, Francesco Fortunato Boncora

1147 Drawing & City in the town-planning experience 
André D. Racin, Marco Vitali

1151 Il Bene urbano con strumenti GPS in un’esperienza nel quadrante est di Milano 
Mapping the City with GPS Handheld Devices: An On-Field Experience in Milan 
Andrea Berti, Alessandro Scandellini

1159 Le immagini della città in trasformazione nel not 
Matteo Romano

1160 Rappresentare lo sviluppo urbano della città di Ascoli Piceno: proposta per un atlante innovativo 
Representing the urban development of the city of Ascoli Piceno: proposal for an interactive atlas 
Daniele Rossini, Francesco Di Lorenzo, Alessandro Meroni, Enrico Petracchi, Filippo Simionato

1171 A critical survey and a design proposal for Al Balad, the Historic District of Jeddah, KSA 
Livio Sacerdoti

1179 Oltre la mappa verso un rilevamento sensoriale 
Beyond the map towards a sensory survey 
Rossella Salvador

1185 Il cimento per disegnare la storia di una città 
The effort to draw the history of a city 
Giacinto Testa, Rita Valenti, Emamuel Paterini

1191 Turin smart city: BIM and interoperability for data management 
Francesco Maria Ugoletti, Atanasio Maria Giunta, Anna Quaresima, Antonio D’Angelo, Alberto Bellia, Giuseppe Petrolone

1197 “What is the City but the People”? 
Redmore the Precend Townsend: Visual Genealogies and Contemporary Trends 
Daniele Villa

1205 Torino ne “Le Città d’Italia”: rappresentazione e narrazione di una realtà in trasformazione tra XIX e XX sullo dalla casa editrice Sonzogno Turin in "Le Città d’Italia": Sonzogno publisher representing and narrating a reality in transformation between the XIX and XX centuries 
Ursula Zich, Ugo Comollo, Mariana Fasignano

1213 Pò-Design. Il disegno delle periferie nell’esperienza contemporanea di Madrid 
Pò-design. The design of the peripheries in the contemporary experience of Madrid 
Giacomo Zucchi
Methods of analysis and detection of the urban landscape of Samara city center

Francesca Picchio*

This contribution is a part of an experiences aimed to analyze different urban context, with different formal characteristics, and, with photogrammetry methodology of data acquisition, obtain products that can be compared with each other. The city of Samara (Fed. Russian) is one of those that presents more complexity both from the formal point of view and from that of acquisition. In this paper is shown some of the work still underway on a portion of the historical center of Samara, from the analysis of the inner blocks till the study of the urban aspects of the main streets, trying to define survey methodology for the conservation of the image of the city.

Keywords: SFM survey, reality-based survey, urban fronts, schedules

History of the old town
Samara was founded in 1586 under the command of Tsar Fëdor I to protect, with the construction of a fortress in the confluence between the rivers Volga and Samara, the Russian borders from forays of nomads and to ensure navigability from Kazan to Astrakhan. Samara acquired the title of city in 1688 and began to serve as a military base and major trade center with the East. On December 6th 1850, Tsar Nicholas I issued a decree for the establishment of the province of Samara. In this period the city consisted of a population of 15,000 inhabitants, and in 1916 reached 150,000. In this period the province of Samara became one of the most important commercial centers of the Russian Empire, in particular for products such as wheat, wool, skins and cattle. In the second half of the nineteenth century the brick buildings began to occupy more and more of the city center, confining the wooden architecture to more remote areas and creating a strong contrast. The great development of the early XX century led to an enrichment of the Samara bourgeoisie who turned their tastes from the traditional Russian style to art nouveau. The main streets of the city were quickly reshaped with new style buildings. At the beginning of World War I, however, this predilection to art nouveau underwent a rapid slumber and was followed by a rediscovery of classicism.

From January 1925 to January 1991 the city was renamed Kuibyshev, in honor of Bolshevik leader Valerian Kuibyshev. During World War II, between 1941 and 1943, the city was chosen to be the capital of the Soviet Union should Moscow fall to the invasion of the German troops. During this period a bunker for Stalin was built but never used. A great tragedy in terms of architecture was the loss of a dozen churches and cathedrals during the Soviet period, leaving only two of them standing nowadays. A new type of building was designed, the dwelling unit for workers. Starting from 1927 the new quarters were designed using new models and using a new approach. In agreement with the industrial development program and five-year plans, Samara played a crucial role in the economy of the region of the Mid-Volga. New architectural complexes were built without violating the current structure of the city, laid out in quarters around courtyards and the churches were replaced with clubs for workers and kitchen-factories.

Samara’s architecture of this period is characterized by an innovative use of reinforced concrete and steel structures. The architecture was simple, functional but with a reference to the forms and classical symmetry typical of Stalinist architecture. The apartments of the Soviet period form the majority of the city’s building stock. After the war, Kuibyshev became the largest industrial and cultural center of the Soviet Union, in particular for the aerospace, building, metallurgy, oil refining and light industry. The city also witnessed a rapid development of the defense that led to a very closed city. In 1979 the city’s population reaches 1.2 million people. In 1986, the city reached its maximum population - 1.267 million people.

Given the importance of the industrial sector, the factories were and still remain an important element of urban development, greatly influencing the planning of the city. The population for the First World War, the Soviet period and the Patriotic War of 1941-1945 further contributed to the growth of the city, but this led to a crisis during the period between 1980 and 1990 due to the conversion of the military industry. The result of the conversion was the bankruptcy of many large enterprises.

This led to unemployment and an economic slowdown that had a negative impact on the demographic situation and the quality of infrastructure. Since the 80s onwards a period of speculation began during which the historic quarter was considered as an empty ground good for investment, significantly reducing the list of monuments and, in particular, crossing out from it the typical wooden houses. This led to the demolition of many areas characterized by typical architecture, and to the deterioration and abandonment of those left standing. In January 1991, the historical name of Samara was given back to the city. The economic crisis that began in the Soviet period peaked in 1998 with the collapse of the last enterprises that had failed to switch to a civil production. Since 2000 Samara has become a great center of development for the construction industry. Unfortunately, urban development has led to vast violations in the architectural style of the city by not following a general strategy. However, despite the losses of the conversion process, the city retains its leading position in the region, especially thanks to the oil and petrochemical industries. The modern city is one of the largest industrial and cultural centers of Russia, with a multi-ethnic population.

Blocks structure
In 1782 the first general plan for the city was approved, which determined the standard dimension of 250 x 125 meters for the quarters of the city. The longer side of the quarters were disposed parallel to the Volga and the shorter sides formed steep descents to the river. This system led to a characterization of the urban grid through the presence of courtyards. They were divided in two forms: urbanized brick houses around the outside of the block and a free settlement (sloboda) with wooden houses and household buildings within. Towards the end of 1800 however, the houses built along these lines were almost completely replaced with new brick buildings.

Disegnare per la città costruita 785
After the October Revolution, life within the courtyards of Samara was subject to significant change. The owners had their rights severely restricted. Those who remained in the city were forced to move into smaller homes and flats, or moved to occupy one of the rooms of their old apartments, now converted into communal properties. During the industrialization of the 1930s and the Great Patriotic War of 1941-1945 the city was filled with migrants from villages and evacuees. Many institutions were transferred to Samara. The population underwent a significant increase and the houses were not sufficient. The new arrivals were lodged into already full houses, transforming the structure of the courtyards, which began to cluster small buildings and shacks.

The relevant problem of the historical center of Samara lies in the total abandonment of the interior spaces in these blocks: walking along the main streets it is very frequent to find, along at least one of the four urban fronts of a considerable stylistic value, a access to an inner space. The clear distinction of the public and the private space is completely canceled. We rely on our perception to understand the formal and the social distinction of these spaces. And our perception tell us that the street and the courtyards are two different things inside the city, and the limit that separates them is represented on the screen of the buildings façades.

Analysis of Urban Facades

The study of the city of Samara conducted, in recent years, to involved the analysis of the urban front and its context. This interest is part of a larger project, which involves Italian and Russian Universities, and a research project within the PhD School in Survey and Representation of the Architecture, who intends to analyze and compare different case studies of urban landscape and methodology approach to the detection and representation of the same. The analysis of the city facades is one of the most consolidated topic of the urban landscape design: the facade is the most prominent element of the building and, for this reason, establishes the general character and a common image of the city.

The facades of Samara city center not always are the transposition of the interior space of the apartments to the outside. Most of the time they are rebuilt separate to the building structure, and sometimes they expose an architectural style and materials utilization different from the function of the building itself.

In other cases, only the portion of the front facing the street is destroyed and rebuilt, according to the needs of the customer or of the public for the new function of the building. In any case, the variety of styles available, ranging from art nouveau to significant examples of Soviet architecture, through the traditional wooden houses, give to Samara a quite unique image. To define the plurality of the aspects of the city and understand the quality of this public space in order to describe and preserve it, it has been necessary planning a deeper analysis of these systems. The study started from the understanding of the components of the public space till the smaller elements of which the front is composed. To understand and repre-
2/ Some images of the old City of Samara. From the top: Samara in 1636, in XVIII century, in a picture of the beginning of XX century. Below, comparison between the old (1906) and the new (2008) image of Samara in a postcard.

3/ Historical map of Samara in 1927, in which it is possible to see the situation of the opposite waterfront before the urbanization. On the right an historical map of Samara city center in 1910. The area of analysis is concentrated around the Lenin Square. It includes 10 blocks arranged in a regular grid. The blocks have a complex internal structure that present a lots of decay buildings.

4/ Morphology of ideal block in Samara: Counter yard 15x30 fathoms comparing with existing situation of a block in the city center. Below: situation of a case study area. Four blocks analyzed with functional division of the building. On the right 3D model of four block in the city center: in pink color the administrative buildings, in brown social buildings, in blue residential buildings and yellow mixed-functional buildings. The model show the disposition of the new residential structure in relation to the lower wooden traditional architecture.
sent the complexity of the area of intervention first had to be broken down into levels of investigation. These levels, including both the formal structure of the place and the set of specific descriptive features of each subset, are defined through the structuring of a drawing capable of describing the sphere of interest that generated them. After an initial evaluation of the general understanding of the place, has been planned the organization of data acquisition activities. For the planning of this step was decisive the choice of instrument, bound by the opportunity to acquire a large amount of data in few time. In order to get a product that contains much information as possible, regarding the description of the actual conservation of the front building and its context, the work involved the creation of three-dimensional models highly specific and descriptive. These models, obtained by a sequence of pictures made from different position, contain information about the shape and the texture of each object, and provide an excellent reliability in geometric and matetic aspect. Photography and representation have always been closely related: photography is considering the most accurate way to recording of the aspects of the real world, and graphic representation as necessary to analyze and synthesize the surroundings. With structure from motion methodology it is possible to cross both these techniques in order to create a model of the object and digitally recreate the environment that is around it. This approach create a new way to synthetize the context and the building: each element must be break up in order to identify the characteristic features and acquire them individually to increase the level of detail and precision. The choice of an instrument taking advantage of image based acquisition methods, able to develop a three-dimensional model closely corresponding to reality from a photographic sequence.
in some ways constrained the organization of the phase during which the data acquired was broken down and managed. All the fronts of the street have been analyzed according to the camera acquisition movement. The first acquisition campaign focused on the overall appearance of the street front and elements of the spatial context. So the acquisition is keeping along the axis parallel to the front road, including cars, trees, benches and other street furniture elements that sometimes occlude part of the front of the building. To detect completely the front was performed additional campaign on individual buildings that would allow to integrate the previous product with a later complete and metrically accurate model. To get this, the operator approach to the object trying to decompose the forms and obtain first a general model of the single facade, then an accurate model of all its components. The camera has been calibrated with different focal lenses to get to describe distant elements. Some portions, however, necessarily remain occluded by the presence of terraces or protruding elements respect to the front surface. In order to get an accurate description of the street acquisition phase is then related to every single item of street furniture.

Conclusions
The product thus generated, describing on the one hand the fronts of each building, and on the other the pieces of furniture, made it possible to obtain a model in which all the complexities at various levels of investigation of the entire area, were repurposed spatially, and the relations between the spatial elements and color tones of the scene represented. Thanks to the development of photogrammetric software the relationship between the real scene and photographic image seems to seek a renewed confrontation: the space of representation becomes virtually three-dimensional, and the photograph is modelled in this space, describing each surface, to make it as similar as possible to the reality perceived.
The analysis of the context for the planning of the photogrammetric survey activities. Division of the street fronts of each block and study of the elements present in the urban landscape.
With a view to digitalizing the architectural heritage the 3D model has proved an effective support for documenting and investigating the transformations of an object to facilitate its diffusion in the community.

The output of this application ranges from virtual navigation to the realization of GIS systems with descriptive schedules. In this system it could be possible to draw thematic maps essential for the understanding of the relationship between different systems, natural and human, that coexist in the same area. With these instruments it is also possible to identifying intrinsic dynamics of the areas elements that have determined unusual developments or specific urban phenomena. The study of the current appearance of the Samara city center is necessary to set analysis on the building conservation. So, starting from the analysis of the architectural and environmental systems for the production of atlases for the landscape, till the analysis of systems for the restoration, conservation and valorization of the architectural heritage, it has been possible realized a structure in which all the complexity related to the appearance of the street are synthetize with all the quantitative and qualitative information needed for the complete configuration of the place.

Notes

1 The collaboration with the Russian Samara State University and Perm State University started in 2012 with three workshop finalized to students exchange for the study of Russian Landscape and city center. The project is carried out by the author inside the Laboratory of Landscape, Survey and Design, coordinated by Prof. Stefano Bertiocci, University of Florence, and Prof. Sandro Parrinello, University of Pavia. The project include some urban cases, with different characteristics of density and structure, from the Karelian village (Fed. Russian), passing through the Caribbean village of Portobelo (Panama), up to more complex and dense urban systems in Russia and Italy. Cfr. Kevin Lynch, The image of the City, 1960.

2 Lynch argued that the analysis of the shape of the city and its effects on citizen perception is one of the foundations of urban design, capable of generating products in which the citizen himself can configure its mental structure clear and organized. Cfr. Kevin Lynch, The image of the City, 1960.


4 Ibidem

5 The purpose of the 3D model must be established before starting the acquisition campaign, the amount of data which the shape from motion method is able to convey is vast and only by establishing the scope and purpose of the model in advance breaking down and recomposing the landscape using structure from motion survey methods applied to urban structure, is it possible to optimize and make the data produced easily utilisable on different scales and for different type of users.

6 For a more in-depth treatise of the topic see De Luca, 2011.

Disegnare per la città costruita 791
Bibliografia - Bibliography


Navarro, P. R., (2012), *Digital photogrammetry versus the system based on active 3D sensors*. in *Expresión gráfica arquitectónica*, numero 20.

