The background of the cover is a photograph of a hillside. On the left, a steep, rocky slope descends towards the bottom. In the middle of the hill, a small town with several buildings is visible, including a prominent white building with a dome. To the right, a large, multi-story stone tower with arched windows and a crenellated top stands vertically. The overall color palette is muted, with earthy tones and a slightly desaturated appearance.

# ARQUITECTURA Y PAISAJE

transferencias históricas  
retos contemporáneos

VOLUMEN II

A B A D A E D I T O R E S





**ARQUITECTURA  
Y PAISAJE**  
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**VOLUMEN II**

## LECTURAS

Serie **H.<sup>a</sup> del Arte y de la Arquitectura**

DIRECTORES Juan Miguel HERNÁNDEZ LEÓN y Juan CALATRAVA

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**Coordinadores de la edición**

David Arredondo Garrido  
Juan Manuel Barrios Rozúa  
Emilio Cachorro Fernández  
Juan Calatrava Escobar  
Ana del Cid Mendoza  
Francisco Antonio García Pérez  
Agustín Gor Gómez  
Bernardino Líndez Vílchez  
Juan Carlos Reina Fernández  
Marta Rodríguez Iturriaga  
María Zurita Elizalde



<b>PRESENTACIÓN</b> .....	XIX
Juan Calatrava	

## VOLUMEN I

### 1. PAISAJE URBANO Y CULTURA ARQUITECTÓNICA

<b>ARCHITECTURE AND THE URBAN LANDSCAPE, PUBLIC SPACE AS A TRANSFORMATION OF CONTEMPORARY CITIES (1945-1970)</b> .....	25
Adele Fiadino	
<b>“LES RUINES D’UNE RAISON...”</b> . DESONTOLOGIZACIÓN DEL PENSAMIENTO Y DESTRUCCIÓN DE LA ARQUITECTURA Y EL PAISAJE .....	37
Federico L. Silvestre	
<b>MENDELSON Y AMERIKA: DOS VISIONES DE LA CIUDAD ILUMINADA</b> .....	55
José Manuel Pozo Municio	
<b>PAISAJE O ARTIFICIO: LA IMPLANTACIÓN DE JARDINES EN LAS PLAZAS DE GRANADA EN EL SIGLO XIX</b> .....	69
Fernando Acale Sánchez	
<b>EL TERCER ESPACIO DE LA CIUDAD: LA IDENTIDAD URBANA DE LOS PAISAJES INTERMEDIOS</b> . .	81
Luisa Alarcón González, Francisco Montero-Fernández	
<b>EL BLOQUE: INSTRUCCIONES DE USO</b> .....	91
Mónica Aubán Borrell	

<b>ARCHITECTURE, CITY, AND LANDSCAPE IN THE SABAUDIA PROJECT IN THE AGRO PONTINO . .</b>	103
Gemma Belli	
<b>THE LANDSCAPE IN THE ITALIAN PUBLIC SOCIAL HOUSING DURING THE '50S: ROBERTO PANE AS AN ARCHITECT FOR THE INA-CASA PLAN . . . . .</b>	117
Ermanno Bizzarri	
<b>PERCEPTION OF URBAN SPACE AND ARCHITECTURE IN THE NORTHEAST OF ITALY BETWEEN THE 15TH AND 16TH CENTURIES: THE ROLE OF COLOR AND LIGHT . . . . .</b>	129
Federico Bulfone Gransinigh	
<b>A CITY OF MARBLE. URBAN READINGS THROUGH THE LENS OF A MATERIAL. . . . .</b>	141
Charlotte Bundgaard	
<b>APERTURISMO ESPACIAL FRENTE AL LUGAR. EL CONCEPTO REDEFINIDO DE VENTANA COMO MECANISMO EVASOR . . . . .</b>	153
Emilio Cachorro Fernández	
<b>DAMAGED IDENTITIES. EARTHQUAKES, HISTORICAL CENTRES AND RECONSTRUCTIONS BETWEEN ABANDONMENT AND URBAN REGENERATION . . . . .</b>	171
Stefano Cecamore	
<b>MEMORIAS FRANCISCANAS: UNA VISIÓN SOBRE LOS PAISAJES DE LAS CIUDADES DE LIMA (PERÚ) Y SALVADOR (BRASIL) A PARTIR DE LOS CONVENTOS SERÁFICOS . . . . .</b>	179
Maria Angélica da Silva, Katherine Edith Quevedo Arestegui	
<b>MAKING THE CITY. . . . .</b>	191
Martina D'Alessandro	
<b>LAS CASAS DE ALQUILER DE LUJO ENTRE MEDIANERAS EN EL PRIMER TRAMO DE LA GRAN VÍA DE MADRID. 1910-1920: PEDRO MATHET Y SEGUROS LA ESTRELLA . . . . .</b>	205
Juan de Andrés Martínez	
<b>CONTEMPORARY URBAN LANDSCAPES: THE CONSTRUCTION OF PUBLIC HOUSING IN THE 1950S IN SOUTHERN ITALY . . . . .</b>	217
Carolina De Falco	
<b>UNIDAD EN LA VARIEDAD: ARQUITECTURA DE PAISAJE EN BERLÍN HANSAVIERTEL. . . . .</b>	229
Manuel Rodrigo de la O Cabrera	
<b>PAISAJES FORTIFICADOS EN CLAVE CONTEMPORÁNEA: UNA PUESTA EN VALOR PATRIMONIAL DE LA SIERRA SUR DE JAÉN A TRAVÉS DEL PROYECTO DE ARQUITECTURA. . . . .</b>	241
Rafael de Lacour, Manuel Sánchez García	
<b>PRECURSORES DE LA MOVILIDAD URBANA . . . . .</b>	253
Miguel Ángel Díaz González, Daniel Gómez Magide	
<b>RENZO PIANO ENTRE EL MAR Y LA CIUDAD. ANÁLISIS DEL CENTRO BOTÍN Y LA TRANSFORMACIÓN DEL FRENTE MARÍTIMO DE SANTANDER . . . . .</b>	267
Daniel Díez Martínez	

LA CIUDAD Y EL OASIS: DOS CAMPUS DE DAN KILEY EN NUEVA YORK Y CALIFORNIA . . . . .	281
Marta García Carbonero, Laura Sánchez Carrasco	
UNA MIRADA DE VUELTA. A PROPÓSITO DE ANTONIO JIMÉNEZ TORRECILLAS . . . . .	291
Alba Jiménez Navas, Mario Martínez Santoyo	
PAISAJE CULTURAL URBANO E IDENTIDAD TERRITORIAL. CEMENTERIO, MEDINA Y ENSANCHE DE TETUÁN . . . . .	303
Bernardino Líndez Vílchez	
LA TRANSFORMACIÓN URBANA DE LA CIUDAD DE LUGO A PARTIR DE LA IMAGEN FOTOGRÁFICA . . . . .	317
Francisco Xabier Louzao Martínez	
(RE)CONSTRUIR LA CIUDAD SEGÚN SU CARTOGRAFÍA Y ARQUITECTURA: DEL MEDIO NATURAL AL TEJIDO URBANO INDUSTRIAL . . . . .	329
Miriam Martín Díaz, Enrique Castaño Perea	
LA METAMORFOSIS DE CUSCO ENTRE CAMBIOS DEL PAISAJE URBANO Y CONSERVACIÓN DE IDENTIDAD CULTURAL . . . . .	339
Claudio Mazzanti, Vianey Bellota Cavanaconza, Crayla Alfaro Auca	
LAS CASAS DE MIES VAN DER ROHE: DEL ESPACIO CONTINUO AL PAISAJE ENMARCADO . . . . .	351
Ricardo Merí de la Maza, Clara E. Mejía Vallejo	
UNA CIUDAD DENTRO DE UN JARDÍN: EL LAGO DEL OESTE DE HANGZHOU . . . . .	363
Antonio José Mezcua López	
UNA ARQUITECTURA DEL OLVIDO: EL PAISAJE PATRIMONIAL DEL CASTILLO Y FORTALEZA DE LA VILLAVIEJA EN BEAS DE SEGURA (JAÉN) . . . . .	371
Pablo Manuel Millán-Millán, José Miguel Fernández Cuadros	
RHINOCEROS ESPERIMENTI: LA REPROGRAMACIÓN URBANA DESDE EL CONTEXTO HISTÓRICO . . . . .	383
Fernando Moral Andrés, Elena Merino Gómez.	
“DES RACINES POUR LA VILLE”: REFLEXIONES DE RENÉE GAILHOUSTET EN TORNO AL PAISAJE URBANO. . . . .	397
María Pura Moreno Moreno	
ESO PARECE UNA IGLESIA. SOBRE EL LENGUAJE MODERNO Y LA IDENTIDAD DE LA ARQUITECTURA DEL TEMPLO . . . . .	409
Juan M. Otxotorena	
THE PORTICOES OF BOLOGNA BETWEEN URBAN SPACE AND ARCHITECTURAL CULTURE. FROM THE MIDDLE AGES TO THE UNESCO NOMINATION . . . . .	421
Daniele Pascale-Guidotti-Magnani, Elena Ramazza	
ABANDONO Y REGRESO. REHABITAR PEQUEÑOS PUEBLOS HISTÓRICOS ITALIANOS . . . . .	435
Claudia Pirina	

TRES CARTOGRAFÍAS AMBIENTALES EN USA 1963-1975 . . . . .	449
Fenando Quesada López	
GEOGRAPHICAL FORMS AS ETYMOLOGY OF THE URBAN LANDSCAPE: A CONTRIBUTION TO THE (RE)DESIGN OF ARRABIDA (PORTO, PORTUGAL) . . . . .	461
Sílvia Ramos	
EL TRÁNSITO ENTRE ALCÁZAR Y MEZQUITA EN LA CIUDAD DE MADINAT AL-ZAHRA: EL SABBAT	473
Manuela Rodríguez Bravo	
LOS PROYECTOS PARA LA FINCA EL SERRALLO EN GRANADA: CRÓNICA DE UN PAISAJE . . . . .	487
Marta Rodríguez Iturriaga	
LLEGANDO A MADRID. MEMORIA DE UNA SILUETA . . . . .	503
Eva J. Rodríguez Romero, Rocío Santo-Tomás Muro, Carlota Sáenz de Tejada Granados	
EL PAISAJE COTIDIANO: NARRACIONES Y CARTOGRAFÍAS DEL SUR DE MADRID . . . . .	515
Carlota Sáenz de Tejada Granados, Eva J. Rodríguez Romero, Rocío Santo-Tomás Muro	
CONTRA LA DESMEMORIA. LA TRANSFORMACIÓN DEL PAISAJE PORTUARIO DE SEVILLA . . . . .	527
Victoriano Sáinz Gutiérrez	
DE LA GRIETA DE ASFALTO A LA COSTURA VERDE: TRES EJEMPLOS DE RECONVERSIÓN URBANA	539
Laura Sánchez Carrasco, Marta García Carbonero	
CONSERVACIÓN EN LOS ESPACIOS PÚBLICOS HISTÓRICOS: ACTUACIONES EN LOS ESPACIOS GENÉRICOS DE LA CIUDAD HISTÓRICA . . . . .	551
Silvia Segarra Lagunes	
ESCALERA Y PAISAJE. LUGARES INTERMEDIOS ENTRE LO URBANO Y LO DOMÉSTICO. . . . .	561
Juan Antonio Serrano García	
THE RURAL ITALIAN VILLAGES OF THE 1950S: PLACES TO KNOW AND RELIVE . . . . .	573
Simona Talenti, Annarita Teodosio	
PAISAJE COLLAGE. LA INTEGRACIÓN DE LAS QUINTAS DE RECREO DEL CAMINO DE ARAGÓN EN LA CIUDAD DEL SIGLO XXI. . . . .	587
Carmen Toribio Marín, Rosana Rubio Hernando, Rafael García García	
EL PAISAJE DE LAS MEDINAS MARROQUÍES TRAS EL PROTECTORADO ESPAÑOL DE MARRUECOS (1912-56): EL LEGADO DE ALFONSO DE SIERRA OCHOA. . . . .	601
Jaime Vergara-Muñoz, Miguel Martínez-Monedero	
EL PAISAJE HISTÓRICO URBANO COMO RECURSO PARA EL PROYECTO DE ARQUITECTURA. ESTRATEGIA DE REGENERACIÓN URBANA PARA EL CONJUNTO SANTA CLARA-DON FADRIQUE EN SEVILLA . . . . .	613
Cristina Vicente Gilabert, Marina López Sánchez, Mercedes Linares Gómez del Pulgar	
ARCHITECTURE IS <i>OUTIL</i> . . . . .	625
Luca Zecchin	

REMIRAR PAISAJES HABITABLES: ESPACIOS DE CENTRALIDAD Y DE PROXIMIDAD URBANA. CONJUNTO PEDREGULHO Y EQUIPAMIENTOS DE BARRIO SESC EN BRASIL . . . . .	639
Carla Zollinger, María Pía Fontana, Miguel Mayorga	

## 2. EL PATRIMONIO PAISAJÍSTICO ANTE LOS DESAFÍOS DE LA CONTEMPORANEIDAD

REPERCUSIONES DE LA ENAJENACIÓN DEL PATRIMONIO REAL EN EL PAISAJE DE LOS REALES SITIOS. EL CASO DE ARANJUEZ (MADRID, ESPAÑA) . . . . .	651
Pilar Chías, Tomás Abad	
LA DEFINICIÓN DEL PAISAJE Y SU PROTECCIÓN: EL DEBATE ITALIANO ENTRE 1904-1939 . . . . .	663
Fabio Mangone	
PAISAJES DE RUINAS. UNA MIRADA SOBRE EL VALOR MEMORIAL DEPOSITADO EN LOS ASENTAMIENTOS URBANOS ABANDONADOS EN EL TERRITORIO EUROPEO CONTEMPORÁNEO . . . . .	671
Carlos Bitrián Varea	
TRES FALLIDAS INTERVENCIONES EN EL PAISAJE: LO INAUTÉNTICO, EL ESPECTÁCULO TECNOLÓGICO Y LA PRESERVACIÓN ENCARECIDAMENTE PERVERSA. . . . .	679
Joan Casals Pañella	
WRIGHT'S INFLUENCE IN NAPLES. . . . .	687
Vincenzo Esposito	
CONSIDERACIONES DESARROLLISTAS GEOGRÁFICO-ESTRATÉGICAS DE LA ALPUJARRA. PROGRESIÓN TRADICIONAL ALPUJARREÑA Y EFECTOS ADVERSOS MEDIANTE UN EJEMPLO REPRESENTATIVO . . . . .	697
Juan Luis Fernández-Quero	
<i>HABITAT ÉVOLUTIF</i> : LA CIUDAD VERTICAL DE ATBAT-AFRIQUE. . . . .	707
Cristina Quiteria García Dorce	
PARQUES PERIURBANOS EN ÁREAS METROPOLITANAS: DE PAISAJES PERIFÉRICOS A ESPACIOS DE SOCIALIZACIÓN . . . . .	717
Francisco José García Fernández, Blanca del Espino Hidalgo	
PAISAJE EMPAQUETADO . . . . .	731
Iñigo García Odiaga, Iñaki Begiristain Mitxelena, Ibon Salaberria San Vicente	
LA ARQUITECTURA DEL TURISMO DE MONTAÑA Y LA CONSTRUCCIÓN DE SU PAISAJE: DEL REFUGIO RURAL A LA ESTACIÓN DE ESQUÍ. EL CASO DE SIERRA NEVADA (GRANADA) . . . . .	743
José V. Guzmán Fernández	
EMERGING LINKS BETWEEN ALPINE LANDSCAPE HERITAGE AND MEGA-EVENTS IN THE MILAN-CORTINA 2026 WINTER OLYMPICS . . . . .	755
Zachary Mark Jones, Francesca Vigotti	

EL PATRIMONIO CULTURAL DEL VALLE DE RICOTE (MURCIA) Y LA CARTOGRAFÍA DEL <i>GENIUS LOCI</i> . BASES TEÓRICAS Y METODOLÓGICAS PARA LA ELABORACIÓN DE UN MAPA CULTURAL A PARTIR DE ACCIONES DE PARTICIPACIÓN SOCIAL . . . . .	765
Joaquín Martínez Pino, Marta Ruiz Jiménez	
THE BUILT LANDSCAPE OF THE CINQUE TERRE . . . . .	775
Mauro Marzo, Viola Bertini	
CHALLENGING THE ARCHITECTURAL LANGUAGE: THE BAMBOO CASE. . . . .	787
Giulia Pezzullo	
PATRIMONIO PAISAJÍSTICO Y ASENTAMIENTOS RURALES. REGENERACIÓN Y RECUPERACIÓN SOSTENIBLE DE LOS POBLADOS AGRÍCOLAS MODERNOS EN ITALIA Y ESPAÑA. . . . .	797
Raffaele Pontrandolfi, Jorge Moya Muñoz, Manuel Castellano Román	
PAISAJES PRODUCTIVOS Y ESPACIO PÚBLICO. CUANDO LA CIUDAD QUIERE SER MÁS CAMPO. . . .	809
Juan Carlos Reina Fernández	
PAISAJE Y ANTIGUAS INFRAESTRUCTURAS. UN LAZO IDEAL ENTRE AFINIDADES Y DIVERSIDADES CULTURALES . . . . .	819
Emanuele Romeo	
EL PROYECTO PAISAJÍSTICO COMO INSTRUMENTO PARA SOLVENTAR LA PRECARIEDAD EN EL BARRIO HISTÓRICO DE BAJO DE GUÍA DE SANLÚCAR DE BARRAMEDA . . . . .	829
José Antonio Romero-Odero	
THE CASTLES OF <i>PAYS CATHARE</i> . A MULTI-LAYERED HERITAGE? . . . . .	841
Riccardo Rudiero	

## VOLUMEN II

### 3. OTROS PAISAJES, OTRAS ESCALAS: EL PROYECTO ARQUITECTÓNICO EN EL TERRITORIO DISPERSO

LA TRANSFORMACIÓN MUDA DEL PAISAJE URBANO . . . . .	857
Antonella Falzetti, Veronica Strippoli	
CAMBIAR EL PAISAJE: LA OBRA DEL INSTITUTO NACIONAL DE INDUSTRIA (1941-1975). . . . .	869
Ángeles Layuno	
DISEÑO Y CONSTRUCCIÓN DE UN PAISAJE AGRÍCOLA MODERNO. EL AGRO PONTINO EN LA “BATTAGLIA DEL GRANO”. . . . .	887
David Arredondo Garrido	

THE HUMAN ECODYNAMICS OF THE ARCHITECTURAL ICELANDIC LANDSCAPE: THE HISTORICAL EXAMPLE OF TURF HOUSES AND EARTHWORKS. . . . .	903
Pablo Barruezo-Vaquero	
THE SOTTOBORGO AND THE CAPILLA-ESCUELA: THE SERVICES OF THE PLANNED DISPERSED SETTLEMENT OF THE 20TH CENTURY IN ITALY, PORTUGAL AND SPAIN. . . . .	913
Tiziana Basiricò, Rui Braz Afonso, Luis Santos y Ganges	
EL PAISAJE Y LOS PRIMEROS PUENTES DE HORMIGÓN ARMADO DE ANDALUCÍA ORIENTAL, 1920-1945	925
Antonio Burgos Núñez, Juan Carlos Olmo García	
ARQUITECTURA DEL OLIVAR EN LA VEGA DE SEVILLA. FRAGMENTOS DE UN PAISAJE EXTINTO	939
Manuel Chaparro-Campos, José-Manuel Aladro-Prieto	
REGENERACIÓN, PAISAJES Y ARQUITECTURAS: ESTRATEGIAS DE INTERVENCIÓN EN EMPLAZAMIENTOS MINEROS ABANDONADOS EN CERDEÑA . . . . .	953
Pier Francesco Cherchi, Marco Lecis	
EL VÍNCULO AFECTIVO ENTRE ARQUITECTURA Y TERRITORIO. . . . .	963
María Fandiño Iglesias	
EL UNIVERSO ATRAPADO EN UN FRAGMENTO DE CIELO: LA INTERPRETACIÓN DEL PAISAJE LLEVADA A CABO POR JAMES TURRELL A TRAVÉS DE LOS SKYSPACES. . . . .	975
Tomás García Píriz	
JUAN BORCHERS, UNA MIRADA SOBRE EL ESCORIAL . . . . .	987
Ignacio Hornillos Cárdenas	
THE TREND OF SPANISH-STYLE ARCHITECTURE IN JAPANESE HOUSES, HOTELS, SHOPPING CENTRES, OUTLETS, AND THEME PARKS IN THE 20TH CENTURY . . . . .	1001
Ewa Kawamura	
THE PERTINENCE OF PERCEIVING THE VISIBLE: THE OPTICAL TELEGRAPH TOWERS OF THE CASTILLA LINE IN THE LANDSCAPE . . . . .	1015
Laura Lalana-Encinas	
ARQUITECTURAS DE LA LLANURA, POÉTICAS DE LA INMENSIDAD . . . . .	1027
Alejandro Lapunzina	
EL ESTABLO-GRANERO DEL DOTTI, UN MODELO DE AUTOR . . . . .	1039
Fabio Licitra	
DE HABITAR UN TERRITORIO A CONSTRUIR UN PAISAJE: SAN JULIÁN DE SAMOS . . . . .	1053
Estefanía López Salas	
ARQUITECTURA Y PAISAJES DEL PROGRAMA INDUSTRIAL DEL FRANQUISMO PARA EL BIERZO Y LACIANA (LEÓN, ESPAÑA) . . . . .	1063
Jorge Magaz Molina	

<b>ESCAPE FROM AVANT-GARDE: ARCHITECTURE AND LANDSCAPE IN HANNES MEYER'S KINDERHEIM IN MÜMLISWIL (1938-39)</b> . . . . .	1075
Andrea Maglio	
<b>LAS “TIERRAS ALTAS” Y LA LECCIÓN DEL PAISAJE</b> . . . . .	1087
Paolo Mellano	
<b>COLONIZACIÓN DEL TERRITORIO Y CONSTRUCCIÓN DEL PAISAJE</b> . . . . .	1099
Plácida Molina Ballesteros, Rui Manuel Braz Afonso, Rui Alves	
<b>DEL COUNTRYSIDE AL TESLA WALD: EL COMPROMISO DEL PROYECTO ARQUITECTÓNICO EN UN BOSQUE DEGRADADO</b> . . . . .	1111
María Ocón Fernández	
<b>NUEVOS MODELOS DE ASENTAMIENTO EN LA TRANSFORMACIÓN DEL PAISAJE RURAL ENTRE LA TRADICIÓN Y LA MODERNIDAD. LOS PUEBLOS DE LA REFORMA AGRARIA EN ESPAÑA E ITALIA A MEDIADOS DEL SIGLO XX</b> . . . . .	1123
Raffaele Pontrandolfi, José María Guerrero Vega, Francisco Pinto Puerto	
<b>LA TORRE ALQUERÍA DE MÁGINA. CARTOGRAFÍAS Y ARQUITECTURA DE LA ALQUERÍA DE DÚRCAL</b>	1137
David Raya Moreno	
<b>EL PAISAJE DEL RÍO MAGDALENA, DISPOSITIVO INTEGRADOR DE CIUDAD</b> . . . . .	1149
Luz Mery Rodelo Torres	
<b>HÁBITAT RURAL DISEMINADO Y NUEVAS FORMAS DE EXPLOTACIÓN DEL TERRITORIO EN LA SIERRA DE LA CONTRAVIESA (GRANADA - ALMERÍA)</b> . . . . .	1157
Luis Miguel Sánchez Escolano, Noelia Ruiz Moya	
<b>GEOMETRÍA. LO QUE EL HORIZONTE MIDE</b> . . . . .	1169
Rafael Sánchez Sánchez	
<b>LA PARTICIPACIÓN COMO PRÁCTICA DE MEDIACIÓN ENTRE EL PROYECTO ARQUITECTÓNICO Y EL PAISAJE RURAL: EL CASO DEL MÁSTER UNIVERSITARIO EN ARQUITECTURA ETSAV-UPC</b> . . . .	1179
Marta Serra-Permanyer, Roger Sauquet Llonch, Isabel Castiñeira Palou	
<b>THE MYTH OF THE CAUCASIAN SOUTH: HOLIDAY DESTINATION OF THE WRITERS DURING THE SOVIET REGIME</b> . . . . .	1191
Chiara Simoncini	
<b>LOS PROGRAMAS DE REHABILITACIÓN ARQUITECTÓNICA E INTEGRACIÓN SOCIAL DEL TERRITORIO RURAL ANDALUZ. ALAMEDILLA COMO CASO DE ESTUDIO.</b> . . . . .	1203
María del Carmen Vílchez Lara	
<b>TERRITORIOS INVISIBLES, PAISAJES IMAGINADOS: ANÁLISIS Y ALTERNATIVAS SOBRE LA PROBLEMÁTICA DEL NO-LUGAR EN EL LEVANTE ALMERIENSE, SIGLOS XIX-XXI.</b> . . . . .	1215
María Zurita Elizalde	
<b>PAISAJES AGRARIOS EXCAVADOS: EL CASO DE LA COMARCA DE HUÉSCAR</b> . . . . .	1237
Eduardo Zurita Povedano, Ángel Aguilera Delgado	

LOS CULTIVOS DEL AZÚCAR DE CAÑA, PAISAJES PRODUCTIVOS DE IDA Y VUELTA: EL CASO DEL LITORAL GRANADINO Y LAS FUNDACIONES CARIBEÑAS. . . . .	1251
Eduardo Zurita Povedano, Carmen Zurita Sánchez, Elías Mhend Cabrera	

#### 4. DESCRIBIR EL TERRITORIO, COMUNICAR EL PAISAJE

PAISAJE Y POLÍTICA EN LA OBRA DE JOSÉ MARÍA DE PEREDA. . . . .	1265
Juan Calatrava	
EL CIELO NOCTURNO COMO PAISAJE . . . . .	1279
Marta Llorente Díaz	
LA VENTANA INDISCRETA. LE CORBUSIER Y LA CONSTRUCCIÓN DEL PAISAJE. . . . .	1295
Jorge Torres Cueco	
51° 30' 46.20" N, 7° 1' 08.85" E . . . . .	1311
Francisco Arques Soler	
PAISAJE Y MEMORIA. LA VEGA DE GRANADA EN LA OBRA DE FEDERICO GARCÍA LORCA. . . . .	1323
Paloma Baquero Masats	
ESTÉTICA PINTORESCA VERSUS DESARROLLISMO. LA DESTRUCCIÓN DEL PAISAJE Y EL AMBIENTE HISTÓRICO-ARTÍSTICO EN ESPAÑA . . . . .	1335
Juan Manuel Barrios Rozúa	
LA DISTANCIA DEL PAISAJE EN EL SENTIDO TERRITORIAL DEL CUERPO. . . . .	1349
Aarón José Caballero Quiroz	
FROM SCANDINAVIAN SATELLITE TOWNS TO NEW TOWNS IN THE DESERT: ADA LOUISE HUXTABLE'S OVERSEAS REPORTAGES, 1965-1969. A TRAVELING ARCHITECTURE CRITIC'S PERSPECTIVE FOR CULTURAL MEDIATION . . . . .	1359
Valeria Casali	
PAISAJES INVENTADOS: DEL HOTEL COMO PROMESA DEL HOGAR EFÍMERO, AL <i>BLING</i> DE LOS OBJETOS COTIDIANOS. CONVERGENCIAS ENTRE LA ALTERIDAD DE LO DOMÉSTICO EN EL CINE DE SOFIA COPPOLA Y LA INVASIÓN A LOS OTROS, EN LA OBRA DE SOPHIE CALLE. . . . .	1371
María de los Ángeles Castillo Soriano, J. Alberto Canavati Espinosa	
RECUPERAR LA LECTURA PARA COMUNICAR EL PAISAJE . . . . .	1383
Antonio Alberto Clemente	
ONE YEAR FROM VENICE TO INDIA LEARNING FROM THE LANDSCAPE: THE "SLOW JOURNEY" OF DOLF SCHNEBLI . . . . .	1393
Alessandra Como, Isotta Forni, Luisa Smeragliuolo Perrotta	
PAISAJES DE EXPORTACIÓN. EL RELATO BIDIMENSIONAL DE LA ARQUITECTURA CHILENA CONTEMPORÁNEA. . . . .	1405
Felipe Corvalán Tapia	

CONTROL SOCIAL DESDE LA CIUDAD BASURAL EN <i>ISLA DE PERROS</i> DE WES ANDERSON. . . . .	1417
Bernardita Cubillos	
LA CONSTELACIÓN DE TUSCIA: EL MANIFIESTO PAISAJÍSTICO DE PIER PAOLO PASOLINI. . . . .	1429
Ana del Cid Mendoza	
DRAWING THE WATER TO SEE ROME. CULTURAL LANDSCAPE AND FLUIDITY. . . . .	1443
Francisco J. del Corral del Campo, Carmen M. Barrós Velázquez	
VER EL PAISAJE SIN LOS OJOS. SENTIR EL TERRITORIO A CIEGAS . . . . .	1453
Francisco J. del Corral del Campo, Laura Muñoz González	
DE VALPARAÍSO A SACROMONTE. IMÁGENES DE UN PAISAJE ENCRIPTADO EN LA GRANADA DE FINALES DEL SIGLO XVI. . . . .	1467
Francisco A. García Pérez	
LA POESÍA VISUAL COMO METODOLOGÍA DE APRENDIZAJE Y ENSEÑANZA DE LA CIUDAD . . . . .	1479
Rafaele Genet Verney, Antonio Fernández Morillas, Xabier Molinet Medina	
OTEANDO LA PALABRA. APROXIMACIONES A LA IDEA DE PAISAJE EN LA POESÍA HISPÁNICA DEL SIGLO XX . . . . .	1489
José Miguel Gómez Acosta	
ESCALAS DEL PAISAJE EN LA NARRATIVA CINEMATOGRAFICA DE PAUL THOMAS ANDERSON . . .	1499
Agustín Gor Gómez	
THE ANCIENT CITY OF PAESTUM. THE EVOLUTION OF AGRICULTURAL LANDSCAPE REFLECTING THE VARIOUS SHAPES OF CIVILIZATIONS . . . . .	1515
Ludovica Grompone	
(RE)PRESENTAR UN PAISAJE PRESENTE: SOBRE LA CONDICIÓN ENVOLVENTE DE LA ARQUITECTURA	1527
María Elia Gutiérrez Mozo, Ángel Cordero Ampuero	
LOS SUBURBIOS DE BARCELONA EN LOS AÑOS SESENTA A TRAVÉS DE LA LENTE DE ORIOL MASPONS Y JULIO UBIÑA . . . . .	1539
Arianna Iampieri	
GRANADA: LOS ALREDEDORES DE LA CIUDAD CRISTIANA A LA LUZ DE SU REPRESENTACIÓN GRÁFICA. . . . .	1551
Carlos Jerez Mir	
NUEVAS LECTURAS PATRIMONIALES DE LA CIUDAD DE CÓRDOBA. EL PAISAJE URBANO A TRAVÉS DE SU DIFUSIÓN HISTÓRICA . . . . .	1563
Ángela Laguna Bolívar, Lourdes Royo Naranjo	
ENTRE VIENA Y SICILIA: ESPACIOS Y PRÁCTICAS DEL SABER CARTOGRAFICO EN EL SIGLO XVIII	1575
Valeria Manfrè	
EL COLOFÓN DEL VIAJE: NARRACIÓN Y PAISAJE DE ESTADOS UNIDOS EN EL SIGLO XIX . . . . .	1587
Nicolás Mariné	

<b>CARTOGRAFÍAS DE LEYENDAS: UNA APROXIMACIÓN GRÁFICA AL CAMPO TRANSILVANO A TRAVÉS DE SU PAISAJE LITERARIO</b> . . . . .	1597
Mario Martínez Santoyo, Alba Jiménez Navas, Tomás García Píriz	
<b>TERRITORIOS REHABILITADOS: EL IMAGINARIO PAISAJÍSTICO A TRAVÉS DE INSTALACIONES ARTÍSTICAS CONTEMPORÁNEAS</b> . . . . .	1611
José Luis Panea	
<b>VALE DO AVE. PERCEPCIONES CONTEMPORÁNEAS DEL PAISAJE</b> . . . . .	1623
Júlia Cristina Pereira de Faria	
<b>LA CONSTRUCCIÓN DEL ESPACIO FÍLMICO A TRAVÉS DEL CAMINAR EN ERIC ROHMER.</b> . . . . .	1635
Yolanda Pérez Sánchez	
<b>EXCAVAR EL TERRITORIO A TRAVÉS DEL MAPA.</b> . . . . .	1647
Ana Isabel Rodríguez Aguilera, Elena Rocchi	
<b>“EL MARIDAJE DE LO BELLO CON LO ÚTIL”: EL PAISAJE EN LA CUENCA DEL NOGUERA RIBAGORZANA, 1946-1962</b> . . . . .	1661
Isabel Rodríguez de la Rosa	
<b>PAISAJES INESCRUTABLES: LOS AUTOCROMOS DE LA GRAN GUERRA DE JULES GERVAIS-COURTELLEMONT.</b> . . . . .	1673
Carmen Rodríguez Pedret	
<b>MIRANDO MADRID. VISIONES DESDE EL CONTORNO DE LA CIUDAD</b> . . . . .	1687
Rocío Santo-Tomás Muro, Eva J. Rodríguez Romero, Carlota Sáenz de Tejada Granados	
<b>THE RADICAL TRAVERSE OF SPACE-TIME IN THE EIGHTEENTH-CENTURY PICTURESQUE GARDEN</b>	1697
Rebecca J. Squires	

# **Dibujar el agua para ver Roma. Paisaje cultural y fluidez**

## ***Drawing the Water to See Rome. Cultural Landscape and Fluidity***

FRANCISCO J. DEL CORRAL DEL CAMPO

Universidad Politécnica de Madrid, asis@waterscales.com

CARMEN M. BARRÓS VELÁZQUEZ

WaterScales arquitectos, cbarros@waterscales.com

### **Abstract**

Roma es agua. Roma y su paisaje cultural, han fascinado a los viajeros a lo largo de los siglos. El sabio uso de los materiales es ejemplo de contemporaneidad permanente gracias a su misteriosa sencillez, entre ellos, el agua, estructurante del paisaje y origen del asentamiento humano. Proponemos un viaje que desvele el espacio urbano gracias al agua. Para ello, hemos “dibujado para ver”. Hemos tratado de descifrar los códigos que hacen posible el paisaje romano y la liquidez de sus espacios.

Proponemos volver a pasear por Roma, que ya será fluir, y escuchar la alegría del agua ofrecida por la piedra. Volver a mirar Roma como paisaje cultural líquido para, gracias al dibujo, desvelar su emocionante misterio.

*Rome is water. Constructive materials have been used with such wisdom that Rome is an example of extemporal contemporaneity. Among materials, the water, is one of the most interesting ones. We propose travelling to the heritage, to understand the essence of water as sound, flux, transparency, reflection or pressure at that time.*

*“Seeing the water with our hands” would be as decoding the way that the cultural waterscape of Rome has been created. We have been walking around Rome during months, drawing the water of its fountains, river, aqueducts and rain, and reading and visiting different archives in order to create graphic and written information based on different scales. In the following article we show a drawn travel through water spaces. We will listen to the voice of water and understand its language.*

### **Keywords**

Agua, Roma, paisaje cultural, dibujo

*Water, Rome, cultural landscape, drawing*

## Introduction

Rome’s cultural landscape has fascinated travellers from centuries who have shown its beauty in drawings, pictures or engravings. Constructive materials have been used with such wisdom that Rome is an example of extemporal contemporaneity. Among materials, the water, which has structured the landscape and the city, is one of the most interesting and enigmatic ones. We would like to understand water, the essence of Rome’s heritage and show it to the new travellers.

We propose travelling to the heritage, to a specific time at a place which has changed along centuries. Travellers should understand the essence of water as sound, flux, transparency, reflection or pressure at that time. From mid-15th century, till mid-18th century, the city enjoyed the *Renovatio Romae*, a transformation of its public spaces. Water was used on a sustainable way for developing the city. Nowadays we could learn from water heritage in order to understand Rome and transmit it to future generations.

As our master Carlo Scarpa said, for “seeing” spaces, hand drawing is one of our best tools. “Seeing the water with our hands”<sup>1</sup> would be as decoding the way that the cultural waterscape of Rome has been created. We would like to show a drawn travel through waterscapes. We have tried listening the voice of water and understanding its language.

We have been walking around Rome during months, drawing the water of its fountains, river, aqueducts and rain, and reading and visiting different archives in order to create graphic and written information based on different scales. We have flown from one water piece to another following the three main renovated water networks. In this article we will focus on the Acqua Vergine as an example of how Acqua Felice and Acqua Paola work. It could be enough for understanding how water pieces dialogue with the liquid and their surrounding spaces.

We have studied Rome’s urban spaces focusing on three different scales. Urban scale shows the relationship between the different public spaces structured by water. These spaces are related by topography, height and canalizations under the pavement. Domestic scale shows the relationship between water pieces, fountains and *mostras* with their urban spaces. Intimate scale shows the relationship between stone and the water drop, the water surface and its sound, and the light and other water features as jets and our perception.

The drawings are made in two different ways. One, more technical, show the exact measures of the fountains, its height in relation with each other and the surrounding spaces, and the height of each spring (fig. 1). This information helps us to understand the design of each piece of water and its relation to the liquid. Other drawings, made *in situ*, try to show how each fountain was built and its dialogue with the squares and how stone and water join and their constructions details. Apart from showing the water heritage, we propose interpreting it in order to relate today’s spaces to the ones created on that period.

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<sup>1</sup> Francisco J. del Corral, *Agua. Esencia del espacio en la obra de Carlo Scarpa* (Valencia: TC General de Ediciones de Arquitectura, 2013), 36.

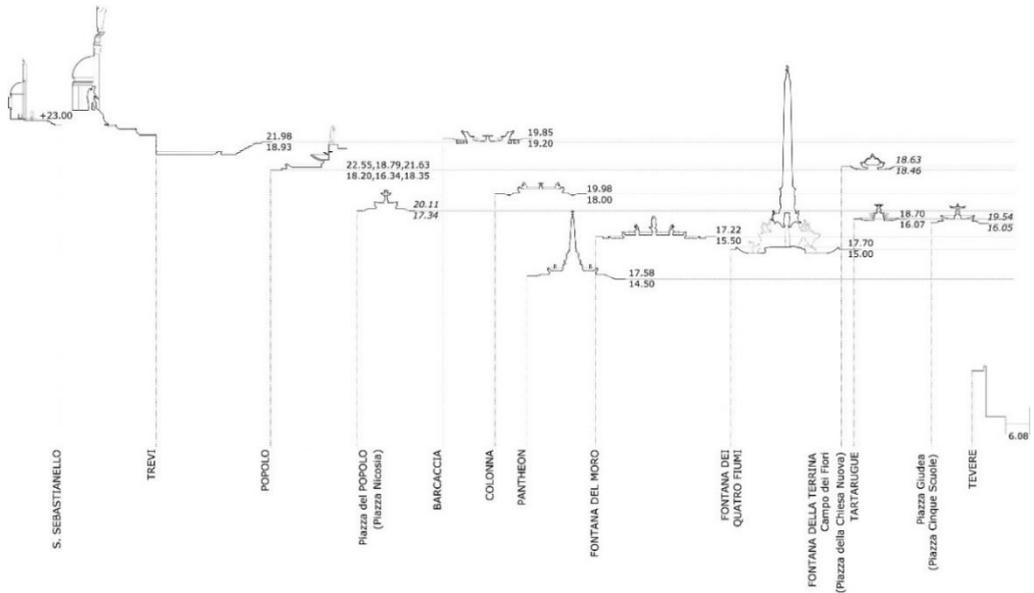


Figure 1: Francisco J. del Corral del Campo and Carmen Barrós Velázquez, *Acqua Vergine. Topography and fountains*, 2016. Levels: basement and upper water jet. In italics the present level which is different from the original.

Gaston Bachelard shows to us two different imaginations; “one imagination feeds the formal reason and the other feeds a material one”<sup>2</sup>. When water find other materials appears the form. Rome is an example of liquid materiality. Along our liquid pilgrimage through its urban landscapes, we have tried flowing with the fluid and make a travel guides by time, gravity and water.

### Rome is water, nature and topography

The best way to understand Rome is looking at the water. Thanks to the man hand its natural landscape has turned into a cultural one. Water and stone, together, create the city, explains Marino Manieri<sup>3</sup>. The roman hills, made in tufa stone, thanks to its volcanic porosity, leave water feeds the Tiber and also the creation of a friendly topography for the human settlement. To the east of Rome, a young woman shown the spring to Agripa’s soldiers. That would be the born of Acqua Virgo, one of the eleven aqueducts during the roman period. Appia, Anio Vetus, Marcia, Tepula, Iulia, Alsietina, Claudia, Anio Novus, Traiana and Alexandrina named the others. Water conduits intervene the natural cycle to irrigate the city and guarantees life. The channel, aqueduct, is a topographic line which underlines landscape. Afterwards, it creates an inhabited water filter, liquid net which defines the urban fabric which pours the water to the Tiber. Rome would be a sequence of landscapes joined thanks to natural and conducted waters.

<sup>2</sup> Gaston Bachelard, *El agua y los sueños* (Mexico: Fondo de Cultura Económica, 1988),7.

<sup>3</sup> Marino Manieri, *Roma, dall’acqua alla pietra* (Rome: Carocci, 2009), 112.

### **Acque. Liquid sceneries**

The barbaric invasions left a dried city. The Tiber, its main spring, had become unhealthy. The mills inhabited its riverbanks till 17th century, and the *aquareoli* (water carriers) where the joint between the river and the hills.

Nowadays, Rome doesn't embrace the river. From the end of 19th century is canalized, namely banalized. Today, its inhabitants have to descend along the big walls in order to dialogue with the liquid or cross Cestio or Fabricio bridges to arrive to the Isola Tiberina, still a water landscape. Close to the stream, under its flotation line, we understand that the island was a boat. In its bow, a keel made in travertine show its draft.

Before the protecting walls were built, the river overflowed several times creating a kind of liquid topography map. Inscriptions along the city testify the events. Some signals say “Tiberis sereno aere ad hoc signum crevit” (“In a clear day, the Tiber rises up here”). Others say “Huc Tiber ascendit iamque obruta tota fuisset Roma nisi huic celerem Virgo tulisset opem” (“Tiber rises up here and Rome would have been completely flown if the Virgin had not interceded”). Sometimes, is god's hand the one who shows the level in the stone, horizon, water and air joint.

Thanks to these water levels, Rome shows a related topography between its squares. As different architects from the 16th century understood, water pressure data were essential for creating water pieces.

Arriving to the 15th century, Rome needed a complete hydric renovation. For the popes, also a moral one. Nicolo V, Parentucelli (1447-1455), began the *Renovatio aquae romae*, a complete feeding and distribution system based on the renovation of three aqueducts: Acqua Vergine, Acqua Felice and Acqua Paola.

Thanks to Pio V, Ghisleri (1566-1572), during mid-16th century, the water returned to Trevi. Giacomo Della Porta, guiding the Water Committee, made the plan for seventeen new fountains related to the Acqua Vergine. He listened to the liquid, followed its rules and shown it as the main matter in dialogue with stone. Each fountain is a kind of palimpsest. Thanks to its shapes, materials or place, they tell us a story. Thanks to the water, they could be seen as alive, but sometimes with a voice and volume really different than the originals.

We have visited most of the liquid sceneries. We have flown trying to discover pressure, reflexions, refractions, water drops, splatters, jets, waves and other forms related to the liquid. It has been kind of travel through the shapes of water guided by stone.

In this article, we will show some pieces to illustrate the dialogue between Giacomo Della Porta's and Bernini's pieces.

### **Piazza Navona. Confluence of waters**

Before arriving to Navona, the wall inscriptions talk about its original use, the Stadio di Domiziano, its name comes from the roman *circo agonale*. Thanks to Innocenzo X, Pamphilj (1644-1655), the *piazza* was structured by San Agnese in Agone, the palazzo Pamphilj and three fountains. The two fountains on its sides were the first intervention. Because of the low pressure, Giacomo Della Porta designed in 1575 two small basins in *portasanta* marble. Water and stone were the main elements in the first fountain made by the architect without chalice. Thanks to its shape, the southern fountain received four tritons designed by Della

Porta who blew water from their double trumps. They occupied the water next to the semicircles in order to dialogue with the curved limits. There were also placed four figureheads surrounded by dolphins and dragons inside the basin symbolizing Gregorio XIII.

Until the end of the Fontana dei Quattro Fiumi there were not news in the square. Then, Bernini created a new low basin surrounding the original one and change the position of the figureheads for leaving them pouring water on it. As if it was a flow, the fountain limits were extended. It remembers ancient *naumachie*, precedent of the *piazza allagata*; celebration which changed the square during the summer sundays. Closing the water escapes, the square shows a venetian appearance which dialogue with fountains and inhabitants. Bernini also designed the central sculpture called *moro* who fights against a dolphin. It shows one of Bernini's mottos; the dynamic and harmonic relationship between liquid and sculpture. The body rotation canalizes the effort towards dolphin's mouth; a gargoyle which blows water. The fountain transforms the traditional structure of a chalice inside a basin. On the other side of the square, another basin, leaved empty until the 19th century, when was occupied by a Neptune on a rocky composition.

After several proposals for square interventions, Innocenzo X call for a fountain competition on the centre. It should incorporate an obelisk and be as important as a *mostra*. Thanks to a crafty movement, Bernini was the winner. The fountain shows a rocky composition of a planisphere placed on a low elliptical basin, "sea", which rises the obelisk on four stone legs. The *scogliera*, structural boast, is sculpted stone looking for its naturalization. Bernini listens to the water and sculpts the travertine following natural energies. He worked by his own using a kind of "scalpelo acquatico"<sup>4</sup> instead of leaving the work to his pupils. On the top of the *scogliera*, four brilliant, but academic marble sculptures, represent the rivers Nile, Danube, Rio de la Plata and Ganges.

The fountain is a complex and dynamic piece. The water springs from the stone over our heads. Thanks to different compositions and rhythms, the water guides our contemplation. Two laminar streams appear from the Rio de la Plata, just veils that capture light and air. A third one transforms a shadowy fissure into light (fig. 2).

The Nile river throw another laminar flux against the rock, it bounces as water works and create a new flowing course throw the stone. From the feet of the sculpture, water slides, jumps and pours into the basin creating a deep gush.

The Ganges' stick is watershed of two laminar fluxes that goes straight to the basin. Next to it, a liquid umbrella seems to build a hole, spring that feeds a thirsty dragon. Definitively, Bernini used a liquid *scalpelo*. Guided by the master, the water is the designer (fig. 3).

Close to the Danube, a dolphin opens its mouth to confirm the end of the liquid cycle. A door for new springs along the city.

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<sup>4</sup> Marcello Fagiolo, *Roma Barocca. I protagonisti, gli spazi urbani, i grandi temi* (Rome: De Luca, 2013), 186.

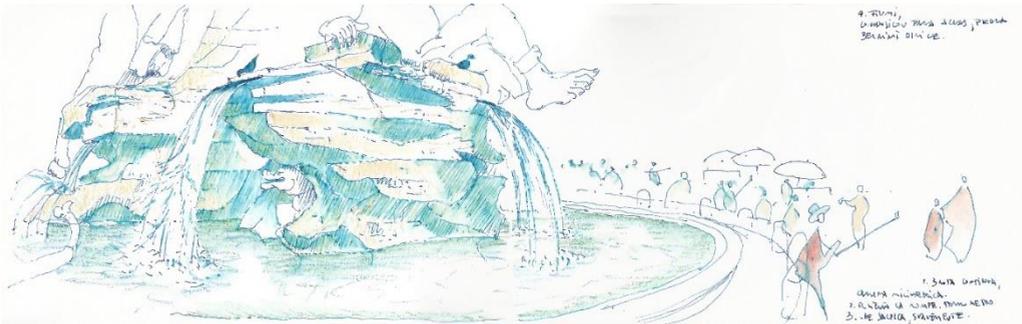


Figure 2: Francisco J. del Corral del Campo, *Fontana dei Quattro Fiumi. Rio de la Plata. Stone, water and air*, 2015.



Figure 3: Francisco J. del Corral del Campo, *Fontana dei Quattro Fiumi. Rio Ganges. Stone, water and air*, 2015.

Inaugurated in 1651, it was a place for bourgeois walks. Looking at the jets and fluxes, they could understand and dialogue with the territory. Each spring, thanks to gravity, let them know it's far origin at the mountains.

### Upstream from Navona

Towards Acqua Vergine's spring we find some liquid sceneries. The Piazza del Popolo, renovated during 19th century, was an empty esplanade without present churches and obelisk. Della Porta designed on its centre a fountain as a welcome for pilgrims. It was a simple structure of basin, shank and chalice let the water be, but it was not clapped by the pope.

Not far, in Piazza di Spagna there is one of the master works of the first baroque. The Fontana della Barcaccia links liquid and stone (fig. 4). Because of water pressure, the piece should be a low basin dug in the pavement. Designed by Pietro Bernini and his son Gian Lorenzo, nearly everything is water. The stone follows the liquid laws. Its energy seems having modified its background scenography; the stairs designed by De Sanctis. The piece is heart of an overflowing space. Perhaps in our next visit to Rome it would has less stone and more water.

The liquid pilgrim also flows along Rome. The street follows again the hydric net. The via dei Condotti shows its liquid origin written in marble. Rome is a fluid map where water draw the spaces.

The fountain in Piazza Colonna it's one of Della Porta's masterpieces (fig. 5). It had a simple design but a masterly construction. Because its low pressure, the architect decided using a big basin made in *portasanta* marble which shows the water without inhabitants, except a central overflowing chalice and four small jets. The architect left water sings. Its vibrant surface could be contemplated from the next palaces. The basin not only shows its content but also admits its effort expanding its limit of stone. It is a solid and undulating mass rhythmmed thanks to sixteen bands made in white marble ended by lion heads and claws seeming supporting it. The limit between water and stone is natural thanks to its curved section. The edge is like a river bank, temporal joint of water, stone and air. The masterpiece is a "urban oasis"<sup>5</sup> which presents water and shows its weight.



Figure 4: Francisco J. del Corral del Campo, *Fontana della Barcaccia*. *Soft stone and liquid*, 2015.

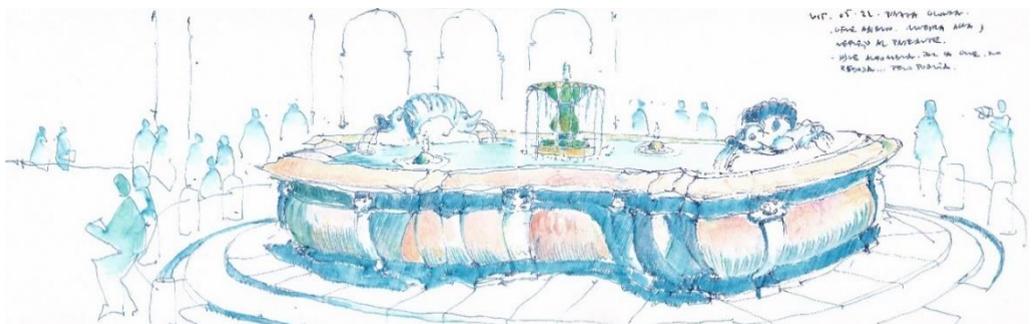


Figure 5: Francisco J. del Corral del Campo, *Fontana in Piazza Colonna*. *Swollen marble, oasis*, 2015.

In front of the Pantheon, the centre of Piazza della Rotonda shows another piece designed by Della Porta, but it is so changed. Originally, the multilinear basin was not as full as today.

<sup>5</sup> Katherine Wentworth Rinne, *The waters of Rome. Aqueducts, fountains and the Birth of the Baroque City* (Virginia: Yale University Press, 2010), 97.

The grey African marble with white veins was occupied by the symbolic anxiety of the pope, Clemente XI, Albani (1700-1721), who didn't want listening the water and built an obelisk on a rockery. Nevertheless, the jets that blow from masks, the fluxes that do from dolphins and the tiny ones that seem whistling, purpose a rich sound landscape that invites the traveller resting around the fountain.

The basin receives the water pleasantly. Its borders are edges that receive waves. Its section expands to receive the liquid. Then it leans on the soil with three travertine steps made as parallel waves from the basin creating a place for the contemplation of the matters that build the Pantheon; light, stone and also water. Inside the temple a nine-meter-wide circle links sky and earth thanks to light and rain. Outdoors the nine-meter-wide fountain does the same. Water and light guide our emotions. The stone is their mediator.

### Downstream from Navona

The Acqua Versine system flows down the Tiber. Next to Piazza Navona, in the popular Campo dei Fiori, it was one of the last fountains created by Della Porta. It was placed one meter down the street level in order to leave water springs. It could influence the design of the Barcaccia, several years later. The lower basin could have been oval shaped and surrounding steps<sup>6</sup>. The last fountain fed by the Acqua Vergine, had a marble chalice on its centre containing a small jet through the sky and four through the ground, placed on the expanded surface. At the very beginning, there were four dolphins prepared for the Fontana delle Tartarughe, but removed in 1622, when the fountain was covered by a travertine coerture. That's why it was called Fontana della Terrina. From that age, the water sprouted from four roses through carved stones that mitigate its impact. The fountain was removed because of the placement of Giordano Bruno's sculpture in the centre of Campo dei Fiori. It was replaced in 1889 close to the Oratorio dei Filipini dialoguing with a leafy and sumptuous *pawlonia*.

The water net continued through the Jewish ghetto. In its heart, in the Piazza Giudea, Della Porta created another interesting piece which show the design evolution from its predecessors (fig. 6). It still has a classical composition of steps, lower basin and chalice with vertical jet, but the stone is carved in clear relationship with the stone. Done from roman columns, Della Porta search about the way it receives the liquid and the importance of water sheet. The basin has a lobulated edge with different curvatures in order to kindly receive the liquid waves. The composition of a successive join of vessels hiding its base, create a lightness effect in order to receive water happiness.

It was finally fed by four *oncie* of water thanks from the Acqua Felice. At the end of 19th century, because of the renovation of the Jewish ghetto, Piazza Giudea was demolished. After being disassembled, the fountain was placed in the near Piazza Cinque Scole where nowadays sleeps between vehicles.

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<sup>6</sup> A drawing in the *pianta di Roma* from Maggi show the fountain as a piece placed inside an oval and stepped hole. Maria Pia Sette, *Sisto V. Architetture per la città* (Rome: Multigrafica Editrice, 1992), 210.

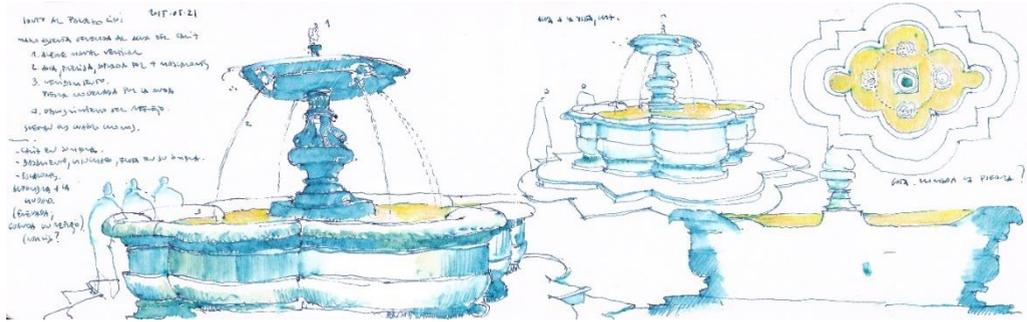


Figure 6: Francisco J. del Corral del Campo, *Fontana in Piazza Giudea. Liquid geometries*, 2015.

Not far from Piazza Giudea, is Piazza Mattei, inhabited by one of the most subtle fountains in Rome, the Fontana delle Tartarughe. Giacomo Della Porta change previous designs and creates a more aerial and sculptural piece which seems fighting against the lower pressure offering a high vertical jet (fig. 7). Four ephebus made in bonze, placed in front of a beige African marble, seem supporting a black chalice with four angel masks which blow water through the lower basin. They ride on dolphins, also springs through four marble valves made in *portasanta* marble. The swollen valves overflow the liquid calmly. The fountain is a summatory of delicate elements and materials joined by the water. It offers an unusual visual and sound dynamism announcing the next baroque period. Four turtles, attributed to Bernini, seem climbing to the chalice thanks to ephebus hands. Thanks to this detail, we perceive the fountain as a stopped instant. The small turtles climb from the ground to the water. A travel that, thanks to Bernini, activates the hole between their hands and the chalice.

One hundred twenty years was the time spent in renovating the Acqua Vergine. The water flown and the Campo Marzio was a sponge. Years later, during mid-18th century was built the Fontana di Trevi, the great liquid scenography of Rome, confluence of the evolution of the forms of water along Rome's history and the last symbol of the liquid renovation. Trevi is the great basin that satiates our dream of returning to the liquid city. We would like returning to walk, flow, along Rome and listen the happiness of the water guided by the stone. Returning to look at Rome as a liquid cultural landscape and reveal, thanks to drawings, its amazing mystery.

### Water is Rome

We would like that this article, part of a next book, could be as a guide for travellers flowing along Rome's beauty. "Seeing the water with our hands" has been the way we could have decodified the cultural waterscape of the city and the liquidity of its urban spaces and water pieces. We have understood that Rome is an echo of water materiality. Our "water pilgrimage", thanks to gravity, time and topography, has flown following the travel of the liquid. We would like having learned from traditional values in order to be more respectful with future interventions.

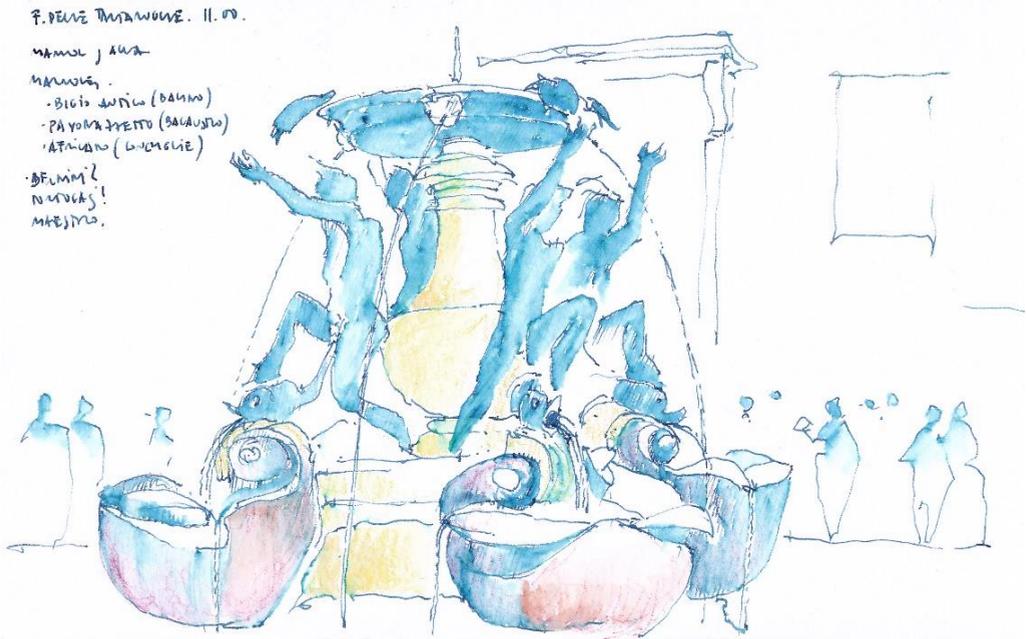


Figure 7: Francisco J. del Corral del Campo, *Fontana delle Tartarughe. Dialogue between stone and water. Della Porta and Bernini speaking*, 2015.

El paisaje es hoy un tema crucial en el debate arquitectónico, urbanístico, artístico, territorial, político, ecológico y antropológico. En la pregunta sobre qué es un paisaje se entrecruzan muchas de las grandes cuestiones que tienen que ver con la construcción y con la percepción de nuestro entorno, en un momento determinado por una crisis global que convierte a la mirada sobre nuestro hábitat en un asunto marcado por la urgencia. La centralidad del paisaje en la cultura contemporánea es un fenómeno tan reconocido que ha dado lugar a elaboraciones teóricas específicas tendentes a dar cuenta del mismo. Está claro que hoy las cuestiones relacionadas con el paisaje, en su sentido más amplio, constituyen uno de los núcleos conceptuales en los que en mayor medida se entrecruzan naturaleza, cultura, historia y contemporaneidad.

La complejidad y variedad de temas que el paisaje convoca solo puede abordarse desde una mirada transversal y desde la complementariedad de diferentes saberes y disciplinas. Tal fue el objetivo que se propuso el Congreso Internacional *Arquitectura y paisaje: transferencias históricas, retos contemporáneos*, celebrado en Granada del 26 al 28 de enero de 2022, cuyas aportaciones se recogen en el presente volumen.



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