

When the Artifact Becomes Image: Representing Geometrical Query with Tangible Tools. Catalogues Physical Models at the Turn of 1900

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SU IMMAGINI E IMMAGINAZIONE  
3rd INTERNATIONAL AND INTERDISCIPLINARY CONFERENCE  
ON IMAGES AND IMAGINATION

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# INDICE



## IMAGE LEARNING

### PAPERS ARTICOLI

ID001	IRIS NENTWIG-GESEMANN The Imaginary and Imatative in Children's Drawings. Interpretative Approaches with the Documentary Method	30
ID002	EDNA BARROMI-PERLMAN Images of Emancipation. Analysis of Photographs of Jewish Italians after the Liberation of the Roman ghetto in 1870	31
ID004	SOFIA MENCONERO Image processing for knowledge and comparison of Piranesi's Carceri editions	32
ID006	ALESSANDRO PEPE Using Image-Based Research Methods in vulnerable populations as a culturally sensitive approach: ethical and methodological aspects	33
ID007	SANDRA MIKOLAJEWSKA Video mapping for Cultural Heritage: state of the art and future developments	34
ID008	MARINELLA ARENA Learning from the city: an emotional journey	35
ID010	GRETA ATTADEMO Narrative space in videogames	36
ID011	GIULIA CORDIN IS THE FUTURE OF EXHIBITIONS IN DIGITAL STORYTELLING? Curatorship in the age of internet and the rise of the amateur curator	37
ID012	ADRIANA TREMATERRA The Restoration Drawing by Images: The Dominican Monastery of the Holy Cross in Croatia	38

ID014	PAOLO BELARDI IT IS YOUR TOWN: KNOW HOW TO PROTECT IT The comic writing of Yona Friedman	39
ID016	LAURA MUCCIOLO Settled / Nomadic: The Disappearance of the Project and the Invention of the Image. Two Projects by amid.cero9	40
ID017	ANTONELLA TIBURZI The use of photographs in the teaching of the Shoah. A critical guide	41
ID018	FEDERICO O. OPPEDISANO The "First Step" of Images The Tangible Illusion of Stop-Motion Animation	42
ID019	GENNARO PIO LENTO Drone survey of the Monastery of Panagia Kosmosoteira	43
ID020	GIANLUCA CAMILLINI Imitate, Cite, Contextualise. Approaches and the use of history in the teaching of graphic design	44
ID021	ELISABETTA CATERINA GIOVANNINI, MASSIMILIANO LO TURCO, ANDREA TOMALINI BACK TO THE PAST. Narrative and storytelling learning in a digital modeling reconstruction process	45
ID022	VALERIA MENCHETELLI Images Save Life. The Role of Graphic Communication in Social Health Education	46
ID023	ULRIKE STADLER-ALTMANN Pictorial & Spatial Image Learning – Using diamond ranking to understand students' perception of learning environment	47
ID024	LORENZO GIORDANO Image: necessity and truth. The narrative medium in Valerio Olgiati	48
ID025	BARBARA PIGA, MARCO BOFFI, GABRIELE STANCATO, NICOLA RAINISIO, GIULIO FACCENDA Emotional and Cognitive Maps for Urban Design Education: a human-centered design learning approach	49



ID026	BARBARA E. A. PIGA, NICOLA RAINISIO, MARCO BOFFI, SILVIA CACCIAMATTA, GIULIO FACCENDA, GABRIELE STANCATO The effectiveness of digital visualization tools to enhance co-design activities in urban planning	50
ID027	ANTONELLA POCE, MARIA ROSARIA RE, MARA VALENTE, CARLO DE MEDIO, ALESSANDRA NORGINI Narrating the museum: developing Critical Thinking skills through a collaborative Storytelling experience	51
ID028	ANTONELLA CONTIN, VALENTINA GALIULO Unveiling Beauty through Maps Affective image determination for spatial learning through Metropolitan Cartography Maps	52
ID029	ALEXANDRA COSIMA BUDABIN Interventions for Dissonant Heritage in Bolzano	53
ID030	LUCA GALOFARO L'immagine fotografica nel lavoro di Josef Albers. La fotografia come strumento didattico e interpretativo	54
ID031	STARLIGHT VATTANO The woman in the propaganda posters. Categories and graphic structures	55
ID032	CLAIRE SALLES Vulva Moulding. Contact Image as a Feminist Practice Producing Knowledge	56
ID033	ARIANNA PAPALE Representation and environmental damage The case of Edward Burtynsky	57
ID034	SUSANNE SCHUMACHER On the habitus of students - Reconstruction of explicit self-concept and incorporated norms in mental images of the future profession	58
ID035	MARIA GRAZIA BERLANGIERI, VINCENZO MASELLI Hackcity - Hackbodies Images and narratives of cyborg architectures in Japanese anime and urban utopias	59
ID036	ELENA CARATTI, CAMILLA PILOTTO From the verbal to the visual. An example of intersemiotic translation of Calvino's Invisible Cities	60

ID037	GIUDITTA CIRNIGLIARO, ANGELICA FEDERICI Digital Spaces and Digital Places: Recovering Ancient Traditions with Contemporary Forms in Rome	61
ID038	ROBERTO GIGLIOTTI, NINA BASSOLI Displaying displays. Contemporary architecture exhibitions and their production of images	62
ID040	ROSSELLA SALERNO Re-Imagining Spaces and Places. Spatial imaginary methods: the creative process and iconographic circulation	63
ID041	MICHELA BENENTE, CRISTINA BOIDO, MELANIA SEMERARO Virtual representation to narration Roman Turin. Interactive didactic paths from the city to the museum	64
ID042	RAISSA D'UFFIZI Visualizing the Italian way of life: Italian design products through the pages of Domus, 1955-1975	65
ID043	MICHELE VALENTINO, ENRICO CICALÒ, MARTA PILERI Stick Images. Learning by drawing lines with objects	66
ID044	MARTINO MOCCHI, CARLOTTA SILLANO, LORENA ROCCA Sound beyond the hedge. Towards an acoustic construction of images	67
ID046	ALESSIO CACCAMO, IDA CORTONI Infodemic, Visual Disinformation and Data Literacy. How to Foster Critical Thinking Through the Emerging Dataficacy Competence	68
ID047	FEDERICA CODIGNOLA Image variables of collectible design: Art, luxury, and country-of-origin effect	69
ID048	CRISTINA COCCIMIGLIO The repression of techno-aesthetic creativity	70
ID049	ELISABETTA VILLANO Black Space, White Space. Transdisciplinary Reflections for a Pedagogy of the Void	71
ID050	PATRIZIA GARISTA Drawing as a reflective practice in life-long learning	72

ID051	ROB EAGLE Augmented reality as a Thirdspace: Simultaneous experience of the physical and virtual	73
ID052	GIULIA PETTOELLO Animalizing: Immagination to enhance italian towns	74
ID053	ANDREA LUPACCHINI Architectural Imaging Design	75
ID054	E. RATTALINO, M.M. MORETTI, S. SCHMIDT-WULFFEN Learning from scientific visualisations: knowledge exchanges between science, design and art	76
ID055	VINCENZO MOSCHETTI Sylva as Anima Mundi Animals, maps and outposts as project-related tools in the work of Luis Buñuel	77
ID056	M.L. BELISARIO, B. DI DONATO, M. GILLI, E. MANCINO INSIDE and OUTSIDE SCHEMES. STEREOTYPES and CREATIVITY IN CHILDRENS' IMAGES	78
ID057	ISABELLA FRISO, GABRIELLA LIVA Museum in Absentia The Staging of the Image	79
ID058	STEFANO BRUSAPORCI 'Ἐστία' or Notes on Architectural Heritage Imaging	80
ID059	AUROSALISA ALISON From visual studies to interactive design: What about digital aesthetics?	81
ID060	CINZIA ZADRA, SIMONA BARTOLI KUCHER Graphic journalism: Multi-perspective and intersubjective visions Seeing, thinking and recognising the other	82
ID061	VINCENZO CIRILLO, VALENTINA ALFIERI, IGOR TODISCO From Art image to video/comic-image learning. The video spot Stay at home	83
ID062	PAMELA MAIEZZA, FABIO FRANCHI, ALESSANDRA TATA, FABIO GRAZIOSI What Images Say / What Users See. Exploring Mobile Augmented Reality for Visual History-Telling of Architectural Heritage	84

ID063	ENRICO CICALÒ What Images Say / What Users See. Learning by drawing. Learning to drawing	85
ID064	CHIARA ROSTAGNO, CHRISTIAN AMIGONI, EZIO BOLZACCINI The breath of the Leonardo's Last Supper. Climate change effects on the "natural temperament" of the painted wall	86
ID065	ANNA CHIARA CIMOLI All Things Sacred. An Experience in Diversity and Active Citizenship at a Contemporary Art Museum	87
ID066	NICOLETTA FERRI A video-performance as a (professional) mirror. The use of composition in a performative research with Primary School teachers	88
ID067	ENRICA LOVAGLIO COSTELLO Reimagining Cognitive Visualizations: Designers' Leading Edge & Innovative Power	89
ID068	JUNA CARLOS CASTRO-DOMINGUEZ, CARLOS BARBERÁ PASTOR, ALEXANDRA RODES GÓMEZ Victimsville. Or how Hedjuk landed in Berlin 2030	90
ID069	NICOL ELLECOSTA, DEMIS BASSO Knowledge and appreciation of manga comics in an Italian sample	91
ID070	ELIANA BILLI. ALESSANDRA MARIA GENOVESE, STEFANO SDOIA From mutilated to complete image. Lacunae in paintings through the eyes of restorers, art historians and ordinary viewers	92
ID071	LETIZIA BOLLINI Knowledge Atlases. Spatial visualisations as (inclusive) learning tools	93
ID072	MARCO VEDOÀ Grasping the Fragility Aspects through Spatial Inequalities mapping. The Case of the Alpine Areas in Lombardy, Italy	94
ID073	SONIA MOLLICA, ANDREA MARRAFFA Bauhaus-room: design at the service of new didactic applications	95
ID074	ADELAIDE TREMORI, MARCO RICCIARINI Illustration and architecture	96

ID076	DEMIS BASSO, YURI BORGIANNI The design of product's packaging: different perception from different perspectives	97
ID077	MASSIMILIANO CIAMMAICHELLA This Person Does Not Exist. Representation Theories and Practices of a Desired Face	98
ID078	STEFANO BOTTA, DANIELE CALISI Using virtual reality as a tool to research, analyze and learn: the competition for Palazzo del Littorio in Rome	99
ID080	AGOSTINO URSO, FRANCESCO DE LORENZO The power of the image in the comics culture. Two examples applied to architectural themes	100
ID081	FABIANA GUERRIERO Images of property market analysis in a GIS environment. The exploration of a Unesco site	101
ID082	GIUSEPPE CAPRIOTTI, ROSITA DELUIGI Educating spaces and hybrid images. Learning strategies in school buildings on the Kenyan coast	102
ID083	LUCA CARDANI, FABRIZIO BANFI Thinking and Design Through Analogical Image Knowledge, Visual Simulation and Modeling Learning: the Uncanny Space of the Hall	103
ID085	ANDRÉS LUPIÁÑEZ, IÑIGO UGALDE-BLÁZQUEZ La Casa de los Toros de Barcelona When architecture, photography and cultural life are synthesized in a work of art	104
ID086	RAFAEL SUMOZAS, MARIA CACIQUE Decay buildings and their impact on urban regeneration through art: a case study in Taiwan	105
ID087	MARCELLO SCALZO Hervé Morvan, artist and poet of the "optique de la rue"	106
ID089	GIORGIA POTESTÀ, VINCENZO GELSOMINO Archaeological documentation from Drone. The theatre of Locri Epizefiri	107
ID090	MARÍA EUGENIA GARCÍA-SOTTILE, SEBASTIÁN GÓMEZ-LOZANO, ALESSANDRA DE NICOLA Image and Choreography. Transmitting to replicate, transferring to create	108

ID094	MARGHERITA CICALA, NICOLA CHIACCHIO The new frontier of images NFTs. The digitalization of the image in the art world	109
ID095	LETIZIA BOLLINI, MARIA POMPEIANA IAROSI Educational power of images. Visual narrativity and iconicity in scientific dissemination	110
ID096	FEDERICA MAIETTI, ANDREA ZATTINI Learning by representing. Architectural drawing between visual simulations and graphic abstractions	111
ID097	FLAURA AIELLO The image of sacred space in Desiderius Lenz's drawings The aesthetics of the rule	112
ID099	MAURIZIO PERTICARINI, VALERIA MARZOCHELLA, ALESSANDRO BASSO Lidar Sensor for the Enhancement of the Architectural Heritage	113
ID100	DAVIDE CARLEO, MARTINA GARGIULO, GIOVANNI CIAMPI, LUIGI CORNIELLO, MICHELANGELO SCORPIO, PILAR CHÍAS Survey and lighting retrofit as instrument of knowledge and valorisation: the Casa de Vacas	114
ID101	FRANCESCA BASSI, RITA BONFANTI, ALESSANDRA DE NICOLA, FRANCA ZUCCOLI A partire dalla O di Giotto	115
ID102	VALERIO MARIA SORGINI, GRETA MARIA TARONNA That (interrupted) refined ludus Imagination and architecture in the reality of fragments	116
ID103	FABIO LUCE, GIOVANNA A. MASSARI, CRISTINA PELLEGGATTA Verbal Space and Visual Space between Reality and Imagination	117
ID104	MATTEO MORETTI Design for graphicacy: the case of Glocal Climate Change	118
ID105	ISABELLA SCURSATONE, MARIA EUGENIA GARCIA SOTTILE The development of images in Mass Choreography. From manual notation to computerised notation	119
ID106	MARIO BOTTINELLI MONTANDON, CRISTIANA CANONICA MANZ Image as a vehicle of cultural expression between education and society. Experiencing an artistic-visual workshop for young adults between upper secondary education and university of teacher education in teaching at primary level in Italian-speaking Switzerland	120

ID107	ORNELLA ZERLENGA, LUCIANO LAUDA Drawing COVID-19. The viral image	121
ID108	MARÍA-ISABEL MORENO-MONTORO, ALICIA MARTÍNEZ-HERRERA, ESTRELLA SOTO-MORENO From head to toe: an “exquisite” hopscotch as learning and research through drawing	122
ID111	JOSÉ CARRASCO HORTAL, SARA PRIETO GARCÍA-CAÑEDO, JOSÉ A. SÁNCHEZ FAJARDO Interpretive Communities: When collaborative writing meets metaphor- based object design	123
ID112	PAOLA RAFFA Images in motion: perceptive codes for shared space	124
ID114	DEMIS BASSO, GIOVANNI LECCI, ALESSANDRO EFREM COLOMBI Students’ eyes like reality-based sceneries in e-learning	125
ID115	MANUELA PISCITELLI The image of touristic Italy in the magazines of the late 19th and early 20th century	126
ID116	MARTA QUINTILLA CASTÁN 3D GIS Information System for the inventory of the Mudejar heritage in Aragon. Architecture and territory	127
ID117	CORRADO CASTAGNARO The image of the contemporary city, a critical reflection on the spaces we live in	128
ID120	DOMENICO CRISPINO Historical views: images for comprehension of the modern garden	129
ID121	BEATRICE STEFANINI, ALESSANDRA VEZZI, MARTA ZERBINI Holographic representation tools and technologies for new learning actions: DhoMus Project applied to Pitigliano and Vetulonia Museums, Tuscany	130
ID122	SILVIA PUTEO, EZIO GIOVANNI BOLZACCHINI, CHIARA ROSTAGNO The Micromega’s eye. Image analysis in our cultural heritage and the challenges of global change	131
ID123	MARTA ZERBINI The graphic representation of data in architectural scientific research. The definition of visual elements	132

ID124	DALIA GALLICO @Re-Art Archive Experience. Innovation and beauty	133
ID125	SILVIA BALZAN, SUSANNE KÄSER, ALYIN TSCHOEPE Icono-Ethnography as Methodology. Connecting visual communication and ethnography in participatory urban planning processes	134
ID126	MICHELA PACE Housing narratives. Stories of distortion, promotion and originality linked to the marketing of heritage	135
ID129	FRANCESCO BERGAMO The Observer's Distance Scopic regimes in the Age of Intelligent Machines	136
ID130	LUCA ROSSATO, MARTINA SUPPA A course of architectural documentation through the clouds. The challenge of teaching survey techniques during the pandemic emergency	137
ID132	PATRICIA MÉNDEZ, JESSICA FUENTEALBA QUILODRÁN, MATÍAS RAMÍREZ BRAVO, CONSUELO EMHARDT Insights of images within the Chilean student architecture press, 1930-1990	138
ID133	MONICA GUERRA, LOLA OTTOLINI Participatory actions in virtual spaces. The role of images in the construction of shared spaces	139
ID134	CATERINA CUMINO, MARTINO PAVIGNANO, URSULA ZICH When the Artifact Becomes Image: Representing Geometrical Query with Tangible Tools. Catalogues Physical Models at the Turn of 1900	140
ID138	FRANCESCA RONCO, GIULIA BERTOLA New narrative and graphic tools in museums. Experiments of motion graphic technique applied to Japanese illustrations of Museo d'Arte Orientale (MAO) of Turin	141
ID139	DONATELLA FANTOZZI Street Art: from impertinent transgression to inclusive citizenship	142
ID140	CAMILLA CASONATO Picture books as a source for mind mapping. An experience in secondary schools	143



ID141	LUISA CHIMENZ Style, taste, trend. Perceptions, statements and misunderstandings in design theoretical discourse	144
ID142	RITA CAPURRO Photography and Representation of the Museum Visit Experience. Getting to Know Museum Audiences through the Photographic Image	145
ID143	FRANCESCO MAGGIO Drawing Modernity	146
ID145	IRENE CAZZARO Learning from patterns: information retrieval and visualisation issues between bioimage informatics and digital humanities	147
ID147	FABRIZIO AVELLA, STEFANIA AGNELLO The Mathematical Table of the Palazzina Cinese in Palermo. Animation and virtual reality techniques for an edutainment project	148
ID148	ALESSIO BORTOT Unusual rainbow. Images and projections between art and science	149
ID149	MARIAPAOLA VOZZOLA Images as communication of a new normality. The representation of the new social habits introduced by the Covid19 emergency in public spaces	150
ID150	MICHAEL RENNER Drawing Labs – from the Copy of the Master to the Inquiry into the Design Process	151
ID152	LUIGI CORNIELLO Processes and tools for understanding the survey image	152
ID153	ELISABETTA BIFFI, LUCIA CARRIERA, FRANCA ZUCCOLI ABR Training for Educational Research: The Global Classroom project	153
ID155	RICCARDO AMENDOLA, MONICA BATTISTONI, CAMILLA SORIGNANI ARCHITECTURE BEYOND IMAGES The storytelling in the collages of Fala Atelier	154
ID157	ALESSANDRA DE NICOLA Silent poetry. The images of gesture among the arts. Pretexts and reflections on a language with great educational potential	155

ID158	ALICE PALMIERI Coloured patterns: designing urban spaces through chromatic abstractions	156
ID160	FAUSTO BREVI, FLORA GAETANI The role of images in the dematerialisation of design presentations during pandemics	157
ID162	PEDRO JOSÉ ZARZOSO LÓPEZ Read or watch	158
ID163	GIOVANNA RAMACCINI THE "ALLEGORICAL FACADE" Between temporary set-up and collective well-being during health emergency	159
ID165	ELEONORA FARINA, LETIZIA DELLA ZOPPA Future teachers' implicit ideas on creativity: visual stimuli for idea-generation activities	160
ID166	GIAN MARCO GIRGENTI, ELEONORA MANCUSO Image Education and Didactics of Cultural Heritage. Graphic and creative workshops within the project "La scuola adotta la città"	161
ID167	NATHALIE KERSCHEN Emphatic Designs: Reclaiming Imagination in Architectural 'Thinking'	162
ID168	ALESSANDRO CASTELLANO Real digital world(s). Indizi di realtà nell'esplorazione virtuale di spazi reali	163
ID169	NICOLETTA SORRENTINO 1964 - 2020, From Tokyo to Tokyo. Heritage and actuality of pictographic communication	164
ID170	ANITA MACAUDA, VERONICA RUSSO Image education and visual digital storytelling	165
ID173	CHIARA PANCIROLI, LAURA CORAZZA OPEN Communication of Science: the role of audiovisual language in the digital museums	166
ID175	VINCENZA GAROFALO, EMANUELE ROMANELLI, CHIARA VASTA Animated representations. Multimedia techniques for storytelling	167

ID177	CEDRIC KAYSER Narratives of glitch: towards a new understanding of the imaginal	168
ID179	MAURIZIO UNALI, GIOVANNI CAFFIO Semantic Model Learning Cultural hybridizations and aesthetic recycling for architecture and design	169
ID180	JUDIT ONSÈS The power of images to imagine and create worlds yet-to-come	170
ID182	ALESSANDRA MESCHINI Poliphony of Gazes in an Emergency. What Images relate and How. The Tangible and Intangible Elements of Suspended Time	171
ID183	STEFANO MORIGGI "Infuturarsi". Imagination and argumentative competence in digitally augmented learning contexts. Notes and reflections on a didactic experience	172
ID184	ALESSANDRA AGRESTINI, MATTEO COLLEONI, ANDREA MANGIATORDI, STEFANO MALATESTA, GIAMPAOLO NUVOLATI, ENRICO SQUARCINA, FRANCA ZUCCOLI From mental maps to art: a project on the University-Bicocca sense of place	173
ID185	FABIANO MICOCCI The Collages of Athens. The Representation of the City in the 21th Century	174
ID192	DANIELE ROSSI Pittronica Towards an Archaeology of the Electronic Image on Italian Television	175

# When the Artifact Becomes Image: Representing Geometrical Query with Tangible Tools. Catalogues Physical Models at the Turn of 1900

## Abstract

Traditionally, communication in mathematics passes through symbolic representations and visual ones, whether they are images, models or other artifacts, both in the theoretical speculation phase and in the transmission of knowledge with educational and disseminative aims. This dichotomy of representations has its roots in the epistemology of the discipline. In the European context, during the second half of the 19th century, a set of Catalogues of models for the study of geometry born. The contribution analyses their structures based on visual operations of a mathematical nature, with an indisputable aesthetic content, realized following the developments of mathematics at that time and the foundational studies by Monge, which explicitly identified the educational use of models for the geometry of surfaces. Catalogues are therefore tools for the promotion of visual artifacts of great impact, designed for the materialization of complex mathematical queries. Therefore, we propose a critical analysis of the images used in such Catalogues, of the modalities of model interpretation and of the possible repercussions in the current context of interdisciplinary studies.

## Keywords

representation, geometry, algebraic surfaces, didactic, models