

ECLAS Conference 2017 / Proceedings

## Creation/Reaction/

University of Greenwich  
Department of Architecture & Landscape  
*London UK*

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Department of Architecture & Landscape  
*London UK*

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# Contents

11	<b>Welcome to the University of Greenwich</b>
	Professor Nic Clear
13	<b>Welcome to</b>
13	<b>Creation/</b>
13	<b>Reaction/</b>
	Duncan Goodwin, Benz Kotzen, Ed Wall & Tim Waterman
15	<b>Conference proceedings</b>
17	<b>Conjectural Landscape Cities</b>
	Mick Abbott Paul Roncken Woody Lee Tenille Pickett
29	<b>Productive landscapes, slow landscapes and sustaining beauty</b>
	Mick Abbott
45	<b>The Creation of Outdoor Spaces and Public Engagement, Jeddah, Saudi Arabia</b>
	Abdullah Addas
57	<b>Interaction of Urbanization and Ecological Processes: A case study in Bursa, Turkey</b>
	Anil Akin
69	<b>A transdisciplinary holistic landscape planning approach: Osmaneli an Anatolian city</b>
	Gül Aslı Aksu Ayşen Akpinar
91	<b>Branding The Urban Forest</b>
91	<b>Recent experiences in the City of Milan</b>
	Maria Beatrice Andreucci
101	<b>Radioactive Compositions: 'El Encín', An Atomic Garden</b>
	Dr Francisco Arques Soler Dr Concha Lapayese Luque Dr Manuel Rodrigo de la O Cabrera
113	<b>Measuring Social Performance In Historical City Centers For A Sustainable Urban Landscapes: A Case Study In Bursa Unesco Heritage Site</b>
	Gul Atanur Taner R. Ozdil Sibel Polat
127	<b>Teaching Geology in an International Landscape Architecture Program</b>
	Eszter Bakay
137	<b>Breaking Down the Barriers in Downtown Haifa</b>
	Yael Bar Maor Laila Murad
157	<b>Modscapes: The Modernist Reinvention Of The Rural Landscape - An example of collective farms in the Baltic states</b>
	Simon Bell Friedrich Kuhlmann Martti Veldi Oksana Zhukova
171	<b>Landscape, Public Space And Memory Through The Ict: Sound Diagram</b>
	Camilo Blanco Pampin
189	<b>War destruction and landscape design: from preserved memory to ecological listening</b>
	Covadonga Blasco Veganzones Lucía Jalón Oyarzun
207	<b>Bioclimatic Planting Design In Temperate Continental Climates</b>
	Vladimir Ionut Boc
219	<b>Landscape character before and after a forest fire: subjective perceptions and objective descriptions</b>
	Andrew Butler Ann Åkerskog Ingrid Sarlov Herlin Åsa Sang Igor Knez Elin Ångman
237	<b>Landscapes Of Freedom.</b>
237	<b>A Project For A Female Rehabilitation Centre In Panama</b>
	Manuela Casado
251	<b>Mixed Reality and the Emerging Cybernetic Regime of Quasi-physical Space</b>
	Fin Church
275	<b>Algorithmic Form-finding in Indeterminate Landscapes: Application of Strategies for an Informal Settlement in Medellin, Colombia</b>
	Joseph Claghorn
293	<b>Time, Patination and Decay: The Agents of Landscape Transformation.</b>

	Simon Colwill
315	<b><i>Climate and Decay: The impact of the urban climate on built landscape</i></b>
	Simon Colwill
335	<b><i>Metropol-ing. Fundamentals for a metropolitan curriculum. Shaping the new metropolitan discipline for the quality of dwelling in the Bigness-Era</i></b>
	Antonella Contin
	Pedro Bernardo Ortiz
349	<b><i>Creating prototypes for cooling urban water bodies</i></b>
	João Cortesão
	Sanda Lenzholzer
	Lisette Klok
	Cor Jacobs
	Jeroen Kluck
367	<b><i>Inhabitable Bridges</i></b>
	Delagah Dadbeh
389	<b><i>The Garden Territory: René Pechère, the Service of the Green Plan and the influence of the German Autobahn on the Belgian Highway Project</i></b>
	Koenraad Danneel
	Bruno Notteboom
	Greet De Block
409	<b><i>The Blue Lagoon: Transforming Waste Into Resource</i></b>
	Catherine De Almeida
427	<b><i>The effect of affect</i></b>
427	<b><i>A plea for distance through theory</i></b>
	Greet De Block
	Vera Vicenzotti
443	<b><i>Representing Nature. Late twentieth-century green infrastructures in Paris</i></b>
	Saskia de Wit
	Rene Van der Velde
455	<b><i>Power On Landscapes: An Evaluation Of Urban Interventions In The City Of Istanbul</i></b>
	Çisem Demirel
	Ebru Erbaş Gürler
473	<b><i>Italo Calvino: From Literature To Landscape Creation</i></b>
	Fabio Di Carlo
485	<b><i>Between The Diffuse Limits Of Art And Architecture In Public Spaces</i></b>
	Esther Diaz
501	<b><i>Body And Space Appropriation In Urban Waterfront Areas Towards A Transformative Practice In ‘La Marina’ (València, Spain)</i></b>
501	Rolando Durán Cavieres
	Julia Antúnez Bernal
515	<b><i>“Hands off our Green Belt!” – finding a way forward on the Green Belt battleground</i></b>
	Joanna Ede
531	<b><i>Urban landscape as a key for community engagement: An example from Novara (Italy).</i></b>
	Luca Maria Francesco Fabris
	Guido Granello
543	<b><i>Resilient Landscape Reserves.</i></b>
543	<b><i>The Transformation Of Obsolete Airfields As New Productive Landscapes</i></b>
	Sara Favargiotti
557	<b><i>Arlington National Cemetery – Community Engagement of Another Sort</i></b>
	Mayra Filippone
573	<b><i>Mapping: past, present and future</i></b>
	Karen Foley
	Philip Crowe
	Aoife Corcoran
585	<b><i>Revolutionary landscapes as a chronicle of life: Continuity in time and movements</i></b>
585	Mª Auxiliadora Gálvez Pérez
605	<b><i>Investigating an Integrated Design Strategy (IDS) for Resilient Urban-Rural Development</i></b>
	Narges Golkar
	Saba Mohammadian
	Ali Rashed
621	<b><i>The Urban Tree</i></b>
	Duncan Goodwin
633	<b><i>Conflicting Relationship between Green Structure and Urbanism: Analysing the New Master Plan 2016 of Helsinki, Finland</i></b>
	Ranja Hautamäki
651	<b><i>Rural cemetaries and arboreta: A case of symbiosis or conflict at Arlington National Cemetery</i></b>

	Nathan Heavers
<b>665</b>	<b><i>Innovative design practices for rural estates</i></b>
	Steven Heyde
	Sylvie Van Damme
<b>675</b>	<b><i>The role of the landscape project during rehabilitation of polluted industrial sites</i></b>
	Zhu Hong
<b>687</b>	<b><i>The creation of a profession</i></b>
	Karsten Jørgensen
<b>697</b>	<b><i>Creative design transformation in large scale postindustrial landscapes in Greece. Examples from educational process to professional practice.</i></b>
	Panita Karamanea
<b>711</b>	<b><i>The Origin and Evolution of Botanical Gardens in Korea</i></b>
	Jung-hwa Kim
<b>725</b>	<b><i>The Green Green Roofs of Greenwich</i></b>
	Benz Kotzen
<b>739</b>	<b><i>The Byzantine perception and vision of the landscape</i></b>
	Emmanouil Laoutaris
<b>753</b>	<b><i>Beauty in the Flow</i></b>
<b>753</b>	<b><i>Towards the integration of the design process into aesthetics discourse</i></b>
	Nitay Lehrer
	Bruno Notteboom
<b>771</b>	<b><i>How does Design Get to Landscape? Translation Strategies to Qualify Large Public Landscapes</i></b>
	Dagmar Lezuo
<b>785</b>	<b><i>Assessment of Drought Tolerance in Urban Trees and Planting Site Selection</i></b>
	Keke Li
	Deshun Zhang
<b>797</b>	<b><i>Recent Trend of Undergraduate Landscape Architecture Program Changing from Five to Four Years in the United States</i></b>
	Ming-Han Li
	Ned Crankshaw
	Brad Davis
	Kim Douglas
	Robert Hewitt
	Kristopher Pritchard
<b>803</b>	<b><i>Landscape architects and performance artists playing together</i></b>
	Gunilla Lindholm Swedish
	Susan Paget Sveriges
<b>815</b>	<b><i>An examination of the significance of the Landscape Strategy in post-graduate Landscape Architectural Education.</i></b>
	Lisa Mackenzie
<b>827</b>	<b><i>Map vs. Mappings: An Approach to Landscape Studies Based on Recent Conceptual Shifts in Cartographic Theory</i></b>
	Nicolas Mariné
<b>837</b>	<b><i>Visual methods for speculating transformative landscape processes</i></b>
	Cathy Marshall
<b>855</b>	<b><i>Deciphering Design Solutions Through Drawing the Multiplicities of Landscape:</i></b>
	Cathy Marshall
	Sheryl Fishel
<b>881</b>	<b><i>Empirical and Experiential: Capturing the Temporality of Landscape Space</i></b>
	Suzanne Mathew
<b>911</b>	<b><i>What makes a successful Blue Space? A review of projects providing access to urban blue space and derivation of design guidance.</i></b>
	Himansu Sekhar Mishra
	Simon Bell
	Jekaterina Balicka
	Friedrick Kuhlmann
	Peeter Vassiljev
	Gloria Niin
	James Grellier
<b>929</b>	<b><i>Southern Las Pinas District as a Transit-Oriented Development, Landscape Planning through Identification, Connection of Public Urban Spaces</i></b>
	Angelo Paulo Mogul a
	Zenaida Galingan
<b>945</b>	<b><i>International intensive course experience</i></b>
	Natalija Nitavská
	Madara Markova
	Daiga Zigmunde
<b>959</b>	<b><i>'Lived Practices' - 'Folk' and 'Place' Planning</i></b>
	Gerard O'Brien
<b>971</b>	<b><i>Sheltered homes for battered women –in need of formal</i></b>

	<b><i>planning processes and restorative environments</i></b>
	Anna Maria Pálsdóttir Swedish University of Agricultural Sciences Anders Larsson Petra Thorpert
977	<b><i>Role and practice of landscape architects engaged in the sustainable energy transition: New empirical findings from France and the Netherlands</i></b>
	Roberta Pistoni Wageningen University, Amsterdam University of the Arts
	Patrick Moquay
993	<b><i>'This too shall pass': Semiotic predictability of stakeholder resistance in the face of climate change, the case of the New Meadowlands, New Jersey</i></b>
	Kevin Raaphorst Adri van den Brink
1009	<b><i>Design within extreme conditions</i></b>
	Eva Radionova Anna Andreeva
1021	<b><i>Narrating landscapes: digital contents to know Spanish cultural landscapes</i></b>
	Javier Ruiz Sánchez David Escudero Boyero Nicolás Mariné Carretero <b>Manuel Rodrigo De La O Cabrera</b> Madrid School of Architecture
1035	<b><i>The dynamics of courtyard spaces in historical cities cores: A case study of Vienna, Austria</i></b>
	Adrian Rybchynskyi Simon Bell Simon
1049	<b><i>Social dialogue – its implications in teaching</i></b>
	Magdalena Rzeszotarska-Palka Magdalena Czalczynska-Podolska
1065	<b><i>From GIS to GeoDesign : Technological change in Higher Education for Landscape Architecture and Planning</i></b>
	Neil Sang Swedish
1079	<b><i>The long time habitat: Recolonization versus Renaturalization</i></b>
	Roberto Sanna
1093	<b><i>Transforming Territories: a landscape of 'in-tensionalities'</i></b>
	Giovanni Santamaría
1107	<b><i>ON QUILTS AND COASTS. Creatively disturbing processes of landscape transformation with metaphors</i></b>
	Henrik Schultz
1119	<b><i>Landscape Identity: The Power of Urban Public Spaces</i></b>
	Yuhan Shao Binyi Liu
1133	<b><i>Adapting the Dérive: Mapping in the Cognitive, Physical, and Virtual Realms</i></b>
	Jennifer Shields
1147	<b><i>Preserving the flow!</i></b>
	Jörg Sieweke
1157	<b><i>Vacant land in city: potential functional, ecological and aesthetic role in the urban landscape</i></b>
	Ana Luísa Soares <b>Sónia Talhé Azambuja</b> University of Lisbon, University of Algarve Eduardo Brito-Henriques University of Lisbon Ana Rita Simões
1169	<b><i>A methodology to identify the potential green roofs of the city of Porto</i></b>
	Maria Inês Sousa Beatriz Castiglione Paulo Palha Isabel Martinho Da Silva
1181	<b><i>Forensic Hydrology of the United States</i></b>
	Halina Steiner
1193	<b><i>The importance of architectural knowledge in education of landscape architects</i></b>
	Stanko Stergaršek Iva Rechner Dika
1209	<b><i>Implementing educational games in urban planning practices - Comparative analysis of the games 'ParticiPécs' and 'Urbanity' in the Hungarian urban planning context</i></b>
	Anna Szilagyi-Nagy Eszter Tóth
1231	<b><i>From Meadow to Masterplan: Community engagement and landscape change in Dartmoor National Park, England</i></b>
	Kirsten Tatum

	Nicole Porter Jonathan Hale
<b>1251</b>	<b>Perspectives on the Future of Nature in Europe: Visualisation</b>
	Alexandra Tisma Ed Dammers Henk van Zeijts Sandy van Tol
<b>1269</b>	<b>Re-Creation of the Baroque Castle Garden in Bratislava / Reaction of the Public</b>
	Attila Tóth Slovak <b>Lubica Feriancová</b> Eva Wernerová
<b>1283</b>	<b>Aftermath: Landscape Creation and Its Reactions</b>
	Marc Treib
<b>1295</b>	<b>Ethics ≠ Aesthetics; Beauty and Responsibility</b>
	Marc Treib
<b>1309</b>	<b>Landscape, disturbance and migration</b>
	Maria Gabriella Trovato Martin van den Toorn A reflective design representation, Action and reaction in designing Rudi Van Etteger The Philipsdam revisited Peter Vrijlandt
<b>1379</b>	<b>Road Landscape project evaluation and future development</b>
	Kristine Vugule Janis Vagolins Simon Bell
<b>1393</b>	<b>The interactivity of open space</b>
	Kathrin Wieck
<b>1413</b>	<b>Disruptive Innovation in Land Planning</b>
	Peter Wilder
<b>1441</b>	<b>Methods vs. results - The field of tension between design, production and form of street furniture</b>
	Florian Zwangsleitner

# Resilient Landscape Reserves. The Transformation Of Obsolete Airfields As New Productive Landscapes

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**Keywords:**  
Airport Landscape, post-logistic infrastructures,  
infrastructure resilience

What do huge flocks of sheep, hundreds of rabbits, business parks, metropolitan parks, leisure parks, high-tech parks have in common with airports? These are the most frequent visitors to airports recently constructed in Europe. These are the new ways of inhabiting an airport and connecting it to its context. Having so many airport infrastructures has caused a premature obsolescence of many of them. Many airports were abandoned becoming a problem for cities in terms of space and cost. However, airports are challenging case studies because they are very difficult to try to put back into the old structure of the city. The combination of centrality, emptiness, environmental contamination and economic capability makes a good case for study from a landscape perspective. What to do with these flat, concrete, highly complex sites, often urban spaces, once they are no longer needed for air travel?

## View From Above

Airports and the view from above have fascinated and influenced landscape architects as well as urban designers since the beginning of aviation. Modern imagery has been significantly affected by looking at places and territories from above. The aesthetic of distance<sup>1</sup> has always been predominant. Le Corbusier enthusiastically praised the bird's eye view that the airplane has endowed us with. However, that eye looks with alarm at places where we live because the spectacle is frightening, overwhelming. If, as for Le Corbusier, the airplane eye reveals a spectacle of collapse,<sup>2</sup> today, according to Augé, the images transmitted by geostationary satellites and aerial photos have accustomed us to a global vision of things. However, airports and infrastructures in general have also had significant effects on the transformation of urban and natural landscapes. If it is acknowledged that until the 1990s, the development of the infrastructure networks in Europe caused an unexpected acceleration of change in urban development, than during the last decade this statement has become invalid. The idea that infrastructure produces

economic development in peripheral areas and the belief that there cannot be economic development without the creation of new infrastructures are not univocally valid anymore. Although the role of accessibility in economic development is important, it can't guarantee economic development by itself and its role has been overestimated.<sup>3</sup> European landscapes are full of "infrastructure ruins" that represent a widespread situation of on-hold infrastructure. At the same time, throughout the world, there are hundreds of inner-city airports that will cease to exist in the next decade. However, non-material infrastructures<sup>4</sup> are able to establish the immediate artificial proximity to remote places, with the possibility of reconstructing places in the network that emulate real physical spaces, with the design of the new vectors: this technological evolution will have dramatic effects, though still undefined, that will influence the airport infrastructural system. The scenario is set to change in unexpected ways.

Meanwhile, a new urbanity has been gradually defined by new environmental and landscape qualities with a higher respect and consideration of local territories and identities. New temporal regimes have been identified by new work life and social attitudes. The scarcity of non-renewable energy, economic change and new lifestyles enhanced a more conscientious ecological awareness. This generated a complex change in the way of thinking and living in the territory, the landscape and the city. Governments and municipalities increasingly reduce budgets for the building of public space, but still they are moving important resources for the improvement and development of infrastructures. This constitutes a precious opportunity that cannot be left to engineers alone, nor can it respond to transport needs only. Recovering places and ideas, overlaying the transport system with other systems and public spaces constitutes a realistic opportunity to improve the environmental and social performance of the city in a more sustainable way.

## **Planning Obsolescence**

Specific objects may become functionally obsolete when they do not function in the manner that they did when they were created. Obsolescence occurs frequently because repurchasing has more advantages than the inconvenience related to the replacement of parts; or when the cost of repairs is higher than the cost of buying a new one and it is typically preceded by a gradual decline in popularity. Defined as "planned obsolescence"<sup>5</sup> it is a compulsory business practice that involved the deliberate reduction of product life to increase consumer consumption. In contrast to this, Serge Latouche calls for a change in thinking: a cultural shift in which reuse, recycling and reinvention could bring new uses and second life for many objects.<sup>6</sup> The same thing can happen to airports infrastructures, when they become inadequate to still be airports due to physical, technical or environmental problems. It can refer to multiple aspects: technological, economic and aesthetic and it becomes interesting to shift the perspective from "planned obsolescence" to "planning for obsolescence" as a societal change of culture.

## **Tendencies**

Airfields can be classified through categories of centrality, which imply system of flows and land use as well as physical and geographical proximity to the city. Airports can be engulfed, insulated or marginal according to a system of centrality, flows and attractors that determine the territorial value. Many abandoned airports have already become part of by the urban fabric: they have been engulfed by the growth of the city. Others airports are insulated from the city. Others airports are more marginal in the urban context. Worldwide case studies and research experiments show different ways to activate airports' second life, starting the process that Dümpelmann has defined as *Airport Afterlives*.<sup>7</sup> After decommissioning, many former military airports were not re-used and they have remained in an abandoned state for years. But due to

growing populations and the high demand for new housing, many of these airports have been re-developed as a new part of the city. Starting with the transformation of the air connection infrastructure (runway, technical street) into roads and streets and continuing this new urban development with houses, public services, commercial and business areas. The addition of public urban parks will add value to the gradual renovation of existing structures and the new urban development area. This development is extremely well connected to the nearby cities, but the memory of the airport is almost completely removed. This is the case of **Stapleton City** in Colorado or **München Riem** in Germany. In other cases, many problematic airports no longer present themselves in the potential range for urban expansion. These airports, which were once peripheral, have now been engulfed in the urban context, becoming physically central in the city. This simplifies their re-conversion into park and recreational places. These cases can make the transformation into public urban parks as clearly shown by **Tempelhofer Park** in Berlin or **Downsview Park** in Canada.

In addition, the proliferation of low-cost companies started to promote the revitalization of secondary airports. After the post war decommission of many small and medium airports they remained unused for years until local municipalities focused their attention on these airfields to find alternative use solutions. The fundamental role of these airports as strategic hubs in the new low-cost air model and their moderate but well connected dimensions make them crucial airport infrastructures on the local and European scale. They generate a rapid transformation of land use and of the infrastructure network relating to land transportation. **Stockholm-Skavsta** Airport in Sweden and **Liege Airport** in Belgium clearly show how the integration of new economic, cultural and leisure activities at these airports contributed to a dynamic renewal of the surrounding territories and improved local businesses. In this way, the secondary low-cost

airports became landmarks in the territory and important elements for the local economies.

Within this framework, it is possible to highlight some paradigms that have increasingly gained attention with recent design projects: landscape that reclaim and compensate for what has been destroyed, re-cycle as paradigm to renew abandoned places looking for new meaning.

### *1. Landscape Reaction*

Nowadays, the trend is moving away from the modern attitude of domination and submission that characterized previous decades towards a mechanism of atonement for the excesses of the past, towards an attitude of understanding and balance with the legacy that has been inherited. Thus, people have felt obliged to repair the damage caused by several generations of their forefathers. This moral recovery, beyond that of a simple physical recovery, implies atonement for actions committed, by reinstating existing values in the case of the natural environments or by recovering uses within the urban environments.

Even if the slow rhythms of the landscape inevitably collide with the incoming mass of passengers, landscape becomes a medium that generates processes of recovery also for airport infrastructures. The economic centrality, environmental impacts and cultural relevance of airports, as well as their abandonment, has provided landscape architecture with new territories and opportunities to be explored. The airport is claimed as a site of and for landscape. Airports can have a new meaning, by conceiving airport transformation through Landscape. According to Charles Waldheim, describing an airport as a landscape is already an important conceptual break through: just claiming the airport as an ecological or environmental field to be managed.<sup>8</sup>

Landscape architects have recently reasserted their historic interest in the airfield as a site of design through a range of practices that most

often involve biological and ecological strategies for dealing with the management of the airport. In fact, it is not just a matter of simple engineering or a solely architectural project. «Planning, design, development and re-use of airport sites is accomplished by focusing on the relationship between the human and the non-human, as well as on the flows of people, wildlife, machines, energy, water and waste».<sup>9</sup> The aim is to design within a more coherent and interdisciplinary framework. And most often it is a mechanism that also allows one to plan for the ecological function of the site over time. This allows one to think about what is outside the airport and what is on the airport, in relationship to each other. In fact, thinking in a “landscape way” supposes thinking about buildings, land use and ownership. The landscape approach allows one to plan a new airport, thinking about the entire life of the airport, including its decommissioning as one long life cycle. And it is an international process.<sup>10</sup> Many projects show a variety of landscape forms that can be the outcome in the remediation of an airport, like public urban parks, residential neighborhoods, nature reserves and solar parks. But it must be approached on a site-by-site and project-by-project basis.

Airports are not just engineering projects and architectural objects but more complex urban ecologies with significant environmental implications. Operating and abandoned airports comprise complex urban ecologies. Landscape is an opportunity to address airport's critical environmental issues and public health hazards. Furthermore, landscape systems typically cost less to build and maintain than conventional infrastructure, creating an economic benefit. Architects and planners have engaged in the design of airports, mitigating and remediating the adverse environmental impacts of aviation. Airport planning, design and development have led to the creation of new landscapes, event programs and synthetic ecologies.

## 2. Re-cycle creation

Recycling helps to reduce waste, to limit its presence, to reduce disposal costs and to limit production of new waste. It is an experimental idea that stresses the interpretation of design as an adaptive practice carried out by specific tactics. Accordingly, the recycling of airports could become an operative strategy for other urban transformations. The conversion of airport infrastructure, in fact, increases quality and development of the surrounding urban and social condition, transforming airfields into catalytic processes. These new infrastructures generate trade with landscapes but also allow us to see new landscapes. Therefore, the airport infrastructure can be considered as a place of permanence and not just a transition, as a biological material<sup>11</sup> originating from the surrounding area and as an integral part of the new territorial condition. The airport becomes a place to live in, not just a doorway to another destination. The airport infrastructure could be organized to satisfy not only one specific sector (flight operation) but it adapts itself and its efficiency in relation to the surrounding context, it can exchange flows (physical and immaterial) with the surrounding territory and accommodate multiple functions. Valuing and anticipating the correct strategy of re-cycling for airports is an increasingly urgent necessity, in order to anticipate the inevitable decline of these structures and to activate recovery processes in synergy with the different urban realities.

The recycling process of an airport is not exhausted with the total assimilation of the infrastructure into the city. After a recycle transformation and re-activation, the airport leaves physical traces of its memory and of the presence of the previous life or of the former activity. Like **Ypenburg** project in which the former runway has been converted into an ecological landmark and urban promenade, called "*Landingslaan*". Or **Maurice Rose Airfield** project that leave the signs of airport activities through the re-elaboration and re-interpretation of the concrete and asphalt into urban parks

and ecological environment. In many cases, these design opportunities seem to show the airport in terms of archaeology, as a place to be rethought rather than as a place of innovation and progress.<sup>12</sup> However, the re-significance and renewal of this infrastructure could activate processes of growth, develop transport and communication networks, and increase the availability of landscape and places in which to live. The recycling of airports could also become an operative strategy for other urban transformations. Furthermore, with the dispersion of the contemporary city and the privatization of buildings and activities, open space increasingly gains importance as the place of relationship in the city; pursuing environmental sustainability objectives is a necessity. In that sense, recycled obsolete and underused airports are imagining as latent public spaces, with relational engines and ecological devices.

### **Resilient Landscape Reserves**

The theme of new life cycle for infrastructure could bring interesting possibilities for landscape and urban design: faced with the uncertainty of the market and of the future, hybrid infrastructures could define changeable scenarios of resilience. Many airport facilities will become obsolete, many will serve other functions and many will begin new life cycles generating new trade within the cities, landscapes and territories they serve. It seems that the destiny for many airports will be adaptation as points of territorial aggregation with multiple functions: environmental, touristic, and leisure. The projects above mentioned show the transformation of airport sites for a variety of new uses—from public parks to ecological corridors, from energy farms to new urban districts. These re-interpretations of the airfields allow to understand the crucial step that many small and medium airports are currently facing: they conceive the airport not only as transport infrastructure but also as a key element for the development of territories. They may become the new backbone of the city, improving the

quality of urban life and becoming "a place to live instead of a place to leave."<sup>13</sup> But, when neither the landscape nor the city has the chance to expand towards the airport, how can the relationship between the cities and the airport be changed? Among all the possibilities and trends, the option of destroying the infrastructure does not seem to be the most convenient. Resilient and ecological airport infrastructures could generate a reserve for cities in which the function of aviation could remain active as possibility, overlapping with other ecological and urban systems. Similar to cities, resilience should be the ability of an infrastructure exposed to hazards to resist, absorb, accommodate and recover promptly the efficiency from the effects of the hazard. In this scenario, the hazard exists as fact.

Transposing the concept of resilience to infrastructures refers to the capacity of a structure to express diverse meanings over time, beyond its original function or use. In that sense, the exploration of fostering new life cycles is a particularly significant issue for the airport but it can be transferred to other types of infrastructure. If an infrastructure is no longer used (or needed), it is possible to be rethought through its resilience, in order to activate a process of renewal of its own physical and functional condition. Resilience is therefore a function of sustainability, which requires a thorough review of the organizational and management models upon which urban coexistence relies. All ecosystems are constantly evolving, often in ways that are discontinuous and uneven. While some ecosystems are perceived to be stable, this is not strict stability in a mathematical sense; this is simply our human, time-limited perception of stasis.<sup>14</sup> But resilient infrastructure is also something that we can plan to produce a long term strategy that ensures social homeostasis through a shared governance, in order to generate the conditions for better efficiency as we move in the direction of creating a low carbon civilization - through new technologies

for a collaborative management of land, energy resources and mobility. Resilient infrastructure represents a system capable of renewing its balance within the changing surroundings, able to adapt to the stresses arising from climate change and tasked with finding solutions for some of the social, economic and environmental crisis that characterizes our era.

Airport's resilience value consists of two factors: the large amount of available space that could become an agricultural field, a park, a public space or a square and in being an infrastructure that is limited and used in a specialized way. Additionally, airports, thought temporarily unused, can still be returned to usefulness. In the end, infrastructural resilience is the capability of structures to regain value. It may come back in value as infrastructure, or as open space, or as a combination of both. According to this, the reconversion of airport infrastructure could become an operative strategy for other urban transformations. Their re-significance could increase quality and development of the surrounding urban and social conditions. The urban design approach aims to rethink airfields, imagining them as latent public spaces, in synergy with engines of change and ecological devices.

### **Endnotes**

1 Augé M., *Nonluoghi*. Elèuthera, Milano, 2012, p. 13.

2 Le Corbusier, "Preface". In: *Aircrafts*, Paris, May, 1935, p. 5.

3 Outcome from ESPON Seminar in Paphos, Cyprus, December 5-6, 2013.

4 The reflection comes from Paul N. Edwards quotation: «Mature technological system – cars, roads, municipal water supplies, sewers, telephones, railroads, weather forecasting, buildings and even computers in the majority of their uses – reside in a naturalized background, as ordinary and unremarkable to us as trees, daylight and dirt. Our civilizations fundamentally depend on them, yet we notice them mainly

when they fail, which they rarely do. They are the connective tissues and the circulatory systems of modernity. In short, these systems have become infrastructures». Paul N. Edwards, "Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems". In: Misa T. J., Brey P., Feenberg A. (eds.), *Modernity and technology*, Cambridge, Massachusetts, MIT Press, 2003, pp. 185-225.

5 The concept was identified in the 1930s when the entrepreneur Bernard London argued that the only way to revitalize the economy from the economic collapse of 1929 was to stimulate consumption.

6 Referred to the conference of Serge Latouche at Genoa on March 5, 2014, and to the book of the same author, *Usa e getta. Le follie dell'obsolescenza*. Bollati Boringhieri (collana Temi), 2013.

7 *Airport Landscape Exhibition*, curated by Charles Waldheim and Sonja Dümpelmann, assembles canonical cases, projects and practices, as well as specific species and selected sites in support of this claim. The exhibition was organized within two broad thematic categories - Operations and Afterlives - and it has been held in at Harvard University, Graduate School of Design on October 30 - December 19, 2013. The projects exhibited are collected in the volume: Dümpelmann S., Waldheim C. (eds.), *Airport Landscape: Urban Ecologies in the Aerial Age*, Harvard Design Studies, Cambridge, 2016.

8 Referred to the "Interview with Charles Waldheim", carried out at Graduate School of Design, Cambridge, on December 12, 2013.

9 Referred to the Conference *Airport Landscape: Urban Ecologies in the Aerial Age Exhibition*, Panphlets, October 30 - December 19, 2013, Harvard University, Graduate School of Design, Cambridge.

10 The best case studies are from Germany or Scandinavia. However the operating airports Schipol Airport, Oslo Airport and Munich Airport are good examples. In America there are many examples of decommissioned airports being converted. Furthermore, there are many others interesting international examples such as in

Morocco, Island, or Taiwan.

11 The infrastructure is considered as a place of permanence and not just a transition, a biological material originating from the surrounding area and an integral part of the new housing situation. It is an *Osmotic Infrastructure*: an infrastructure in osmosis with the surrounding area. Referred to the book of Mosè Ricci, *New Paradigms*, LISt Lab, Barcellona/Trento, 2012.

12 Referred to the essay of Sara Marini, "Spazi del volo e territori. Risonanze europee". In: Pippo Ciorra, Fernanda De Maio (eds.), *Piccoli aeroporti. Infrastruttura, città e paesaggio nel territorio italiano*, Marsilio, Venezia, 2008, p. 145.

13 See Sara Favargiotti, *Airports On-hold. Towards Resilient Infrastructures*, Trento, LISt Lab, 2016, 104-107.

14 Referred to the essay of Chris Reed & Nina-Marie Lister, "Parallel Genealogies". In: *Projective Ecologies*, Actar New York, 2014.

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