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# CIRCULAR PLANNING AND ADAPTIVE DESIGN STRATEGIES TO RECYCLE WASTED LANDSCAPES – THE PERI-URBAN TERRITORIES OF CAMPANIA PLAIN AS A CASE STUDY

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The Campania Region, in the South of Italy, is a territory where numerous Wasted Landscapes (WL) are recognisable, as the result of serious social and governmental problems.

Through the last decades, many factors have been overlapping in this complex palimpsest: illegal developments and the measures to legitimize them can be paradoxically understood as real cornerstones for the local planning system; the traces of the post-Fordist abandoned landscapes are mixed with the historical remains, showing the deep sense of identity that still persists in the territory. On the other hand, the Campania Plain is a porous territory characterised by an adaptive resilience. This is interwoven with the presence of areas of outstanding natural beauty, with a resilient interstitial agriculture, and with a fragmented but resistant economy.

In this paper, two emblematic case-studies are discussed (Casaluce and Est-Naples), understanding WL as an additional category of waste with the urgent need to be recycled, in order to: reactivate urban metabolism; to improve the quality of life, the spatial quality of the territory, and the regional economy.

## **Keywords**

Wasted Landscapes, Recycle, Peri-urban, Urban Metabolism, Resilience

## **How to Cite**

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## INTRODUCTION

Through the last decades, many factors have been overlapping in the complex palimpsest of Campania plain, in the South of Italy. The lay of the land comes from a process based on an economy which uses the land, both public and private, as the main resource for parasitic urbanization. A typical condition of the Italian capitalism, centered, since the 1949 Piano Casa (Housing Plan), on the economic cycle of constructions. In the Piana Campana region, this condition is supported by a real technology by which the syndicate - composed of political system (national and local), legal and illegal shareholders, and productive forces (backward and essentially tied to construction) - ensures huge profits to each of the actors involved in the process of urbanization. The agreement is “insured” by the pervasive presence of criminal organizations, occultly participating in the cartel and ensuring compliance with the covenants and the role of each of the actors<sup>1</sup>. On one hand, the illegal developments and the measures to legitimize them<sup>2</sup> can be paradoxically understood as elements that constituted the history of the planning system of this region. On the other hand, the traces of the post-Fordist abandoned landscapes are interwoven with the historical remains, the deep sense of identity and permanence that still persists in the territory of Naples and its surroundings. Today, this problematic condition is mixed with the presence of areas of outstanding natural beauty, with a resilient interstitial agriculture, and with a fragmented but resistant economy. Therefore, a large amount of Wasted Landscapes (WL)<sup>3</sup> is emerging in this territory, as the result of serious social and governmental problems.

This paper aims to understand WL examining two exemplar cases in the Piana Campana. Through them, strategies for re-cycling WL are presented as a way to improve the urban metabolism of peri-urban areas<sup>4</sup>. Urban metabolism, similar to what happens to a living organism, produces waste that should be re-interpreted as material for urban projects. Re-cycling WL is a necessary strategy for the contemporary urban design that aims to turn waste, and WL, back into resources. Through more flexible approaches, it is possible to re-create new values and new directions for existing artefacts. To face these challenges, the paper, consistently with ecological-landscape urbanism, outlines an adaptive and systemic approach.

This work concerns the urbanisation of the province of Caserta, and the study of the Eastern part of Naples. It takes into account the state of both places, and strategies for the re-interpretation of WL. It creates the substrate that keeps them together and creates a link between the two, giving us the opportunity to make a comparison between them. The main purpose is to present new scenarios to re-use WL in the two areas, connecting them to broader and more comprehensive interpretive images, of landscapes, networks and impressions of the city<sup>5</sup>.

## PIANA CAMPANA: THE CONDITION OF PLACES

The *Piana Campana* is a deeply compromised territory from an environmental point of view and because of the significant influence that criminal organisations have in the area<sup>6</sup>. This territory is suspended in a state in-between “beauty and threat”<sup>7</sup>. Today, this problematic condition is mixed with the presence of areas of outstanding natural beauty, with a resilient interstitial agriculture, and with a fragmented but resistant economy.

In the Campania Region, WL are not only polluted areas<sup>8</sup>, but also abandoned open spaces and vacant edifices at the end of their original planned life-cycle. WL are usually places forgotten by the authorities and they often become the object of illegal practices, compromising their environmental and spatial integrity. Therefore, innovative design approaches and re-cycling strategies are needed for WL in the Campania Region.

This conurbation is an extreme exemplification of the contemporary urban condition: in the background is the accumulation of elements iterated with monotonous and constant rhythm (the residential buildings and craft sheds: every time identical in structure but different in form); in the foreground, bursts of colour and matter (shopping malls, public buildings, major equipment), like a giant action painting, light up, from time to time, different points of the agglomeration; in the folds, appear lacerations and gashes, absences, empty of meaning and matter -- brownfields, *terrain vagues*, legal and illegal dumps of urban and industrial waste -- as “vertical cuts”.



FIGURE 1 Casaluce (CE), March 2013

## PLANNING THE TRANSFORMATION OF CASALUCE: CHAOTIC AND DIFFUSE CITY

The City of Casaluce<sup>9</sup> is a part of the diffuse conurbation in which the phenomena of the dismantling of urban fabrics or transformation of agricultural areas in urbanised territories are interwoven with the illegal spread of new urbanisations and with the loss in attractiveness of the historical centre, that is actually becoming increasingly empty. In addition, the spatial domain of large infrastructures generates spaces that have no intentional relationships and are not integrated with the city and the territory<sup>10</sup>.

In this kaleidoscopic territory, public spaces, historical and archaeological sites, fragments of landscapes, abandoned areas, disused buildings, WL and polluted sites, and peri-urban interstitial areas coexist. They create a sense of disorientation in the perception of spaces and they represent the evidence of changes in land-use<sup>11</sup>. In addition, the interstitial areas in between the infrastructure axes, generated by a sectorial and/or engineering point of view, don't make sense in the landscape. They become elements out of context representing, sometimes, insuperable barriers<sup>12</sup>.

These paradoxical spatial conditions can be found all over the world but in the *Piana Campana*, where the Neapolitan widespread conurbation extends, they assume extreme proportions.

## WASTED LANDSCAPES IN CASALUCE

### WASTED LANDSCAPES OF DWELLINGS

The urban expansion of Casaluce that has happened in the last 40 years is characterized by a succession of detached houses, always with the same design, and having no more than three floors above ground, erodes the open space that is becoming increasingly residual. The public spaces and the spaces for social interactions in general, in these areas, are replaced by shopping malls, that establish themselves as out-of-scale objects in the territory, accessible only by private car. Emblematic of these places is also private car-ownership and the almost total absence of public transport that generates separation between individuals and urban places that are for pedestrian of little interest, ugly and even unsafe. Here the public space consists of streets and squares bound by walls with surveillance cameras on top, as a symbol for the desire to close off the public urban spaces and with the aim to defend private parcels.

### WASTED LANDSCAPES OF ILLEGAL PROCESSES

In the Southern area of Casaluce, outside of the ancient centre, a “latent city”<sup>13</sup> developed made up of spontaneous and low-density settlements, characterised by low levels of physical quality. It developed in contrast with the prevision of the Town Land-Use Plan of 1986, that identified these areas as Agricultural Areas. These peri-urban fringes are lacking in public spaces and infrastructure networks and without a shared design vision. This common and low quality landscape affects the global image of the entire city.

### WASTED LANDSCAPES OF WAITING CONDITIONS

Just outside of the centre of Casaluce it is possible to find some multi-family residential buildings, resulting from illegal authorisations (cancelled by the Municipal Administration, in the meantime put under temporary receivership for camorrist infiltrations, while the works were in progress). They remain unfinished and in a suspended condition because of having been seized by the Judiciary.

### WASTED LANDSCAPES OF AGRICULTURE

The agricultural landscape of the Campania Plain is in a state of suspension between degraded areas of WL and valuable permanence of precious agriculture. Within the former agricultural areas, which today are defined as peri-urban hybrid spaces, it is possible to identify several degraded areas, defined in the Territorial Coordination Plan Provincial of the Province of Caserta as ‘denied areas’<sup>14</sup>, without a uniquely defined function.

## RE-CYCLING WASTED LANDSCAPES IN CASALUCE AND PLANNING STRATEGIES

Re-considering, re-launching and re-integrating the network of WL in the urban metabolism, have a strategic value for the Municipality of Casaluce but also for the wider surrounding area.

Re-cycling of WL represents a new challenge for the new urban design proposing a network of open spaces and/or multifunctional areas for the contemporary city by relating them to consolidated urban settlements, reassembling the mosaic of rural and peri-urban areas and, more generally, with the structural components of the urban landscape. Plans and projects should always provide a functional mix to achieve new ideas for the city where there are inter-relationships at different scales.

The proposed strategies involve different scales, from the metropolitan large scale area, including several municipalities, to the renewal of individual urban parts. They will be implemented in a medium to long-term period but there are also actions that can be taken immediately in the territory<sup>15</sup>.



FIGURE 2 Casaluce City Plan 2015, Comune di Casaluce (CE)

## RE- CONCEPTUALISE EAST NAPLES: PERI-URBAN TERRITORY

East Naples<sup>16</sup> is the emblem of the shrinking post-Fordism areas lying idle in a suspended post-industrial condition. In this territory, the areas of major interest are the ‘middle lands’<sup>17</sup> between the various fanned out areas, which are spaces where major projects are being undertaken. Here many areas brownfields are currently in a phase of transformation, such as the Q8 area, which is a large former oil area slated for disposal, the Feltrinelli area, the Tobacco Factory, Vigliena and others. These projects, although showing a great potential for urban transformations, still remain closed within their own borders, giving rise to the formation of ‘intermediate areas’ for which there is no clear purpose or planned project. The ‘middle lands’ have strong potential; their transformation can re-create the missing links between the different logistical sectors overlapping in these places.

## WASTED LANDSCAPES IN EAST NAPLES

In the entire territory of East Naples there are lots of Wasted Landscapes at an institutional but also private level. WL emerged throughout the years, at different moments during the dismissal of these areas. These spaces have a strong capacity for urban regeneration.

In East Naples WL are sections of discarded areas that the city refuses and expels from its urban dynamics; they are characterised by different degrees of contamination. The design approach for East Naples is to intervene in the fragmented landscape recomposing it to re-discover the lost relationship between different urban areas and the interdependence between humans and the environment. In this area, almost entirely urbanised and consumed, in which there are abandoned industrial enclaves, technological machines, urban inhabited settlements and peri-urban areas, in juxtaposed layers.

## WASTED LANDSCAPES OF DWELLINGS

Dispersed houses are shaping the peri-urban core of East Naples. The quality of the architecture is always quite deficient. They are separated from public streets by high fences or gates. Public spaces are lacking in maintenance and quality.

After the Second World War, until the end of the 1970s, the ‘public city’ has been built through consecutive mono functional additions located in the urban periphery of Naples, on the border of the agricultural territory and at the edges of the irregular and illegal urban developments, often built next to big infrastructures that cross the area. Here public spaces are incomplete and there is a lack of public amenities. Here the sectorial way of understanding the territory is evident.

## WASTED LANDSCAPES OF ILLEGAL PROCESSES

Illegal dumping is affecting a large proportion of the open spaces in the Eastern part of Naples. Waste is accumulating along the roads, and under bridges, making the area site impossible to cross on foot, thus isolated and unsafe.

## WASTED LANDSCAPES OF WAITING CONDITIONS

The diffused city also usually generates abandoned and empty spaces, fences, uncertain spaces, parts of infrastructure, fragments of agricultural land that derive from unplanned, poorly designed and unmaintained open spaces. WL in the dispersed city are fragmented, degraded areas such as empty properties, strips, lots and a large amount of various in between spaces, that generate interruptions among different urban areas. WL are delimited by enclosed areas of specialised functions.



FIGURE 3 Wasted Landscapes of infrastructure in East Naples

## WASTED LANDSCAPES OF INFRASTRUCTURE

The rigid infrastructural system is overlapped in East Naples with the macro-gated enclaves, until you come to the spread out settlements area. This organisation of the territory through multifunctional enclaves has given rise to a succession of enclosures that alternate with each other and characterizes the roads system, devoid of urban character.

## WASTED LANDSCAPES OF OBSOLESCENCE AND CONTAMINATION

East Naples is characterised by a very high presence of WL that are mostly the result of the de-industrialisation. It is necessary today re-think the remains of the industrial era, that area characterised by physical and social decay, combining this approach with an accurate consideration of the critical analysis of these shrinking areas in the wider territory. In East Naples, what we can define as a 'petroleumscape'<sup>18</sup>, is a WL that is the result of the combination of contaminated sites and (former) industrial areas.

## WASTED LANDSCAPES OF DERELICTION

In the industrial area of East Naples the presence of WL, particularly related to open spaces and determined by the crisis in the different productive sectors, is a potential for a contemporary urban project. Open spaces represent a starting tool for urban regeneration avoiding further soil consumption, creating ecological re-connections of ‘Third Landscapes’<sup>19</sup> and giving new centrality to the ‘waste’ of territorial systems<sup>20</sup>.

Openness relates to the ecological function of communities within their everyday territory, identifying their character as a basis for the commonalities of contemporary cities, building a sense of identity and belonging within the urban metabolism, as initially assumed by Jane Jacobs in 1961<sup>21</sup>.

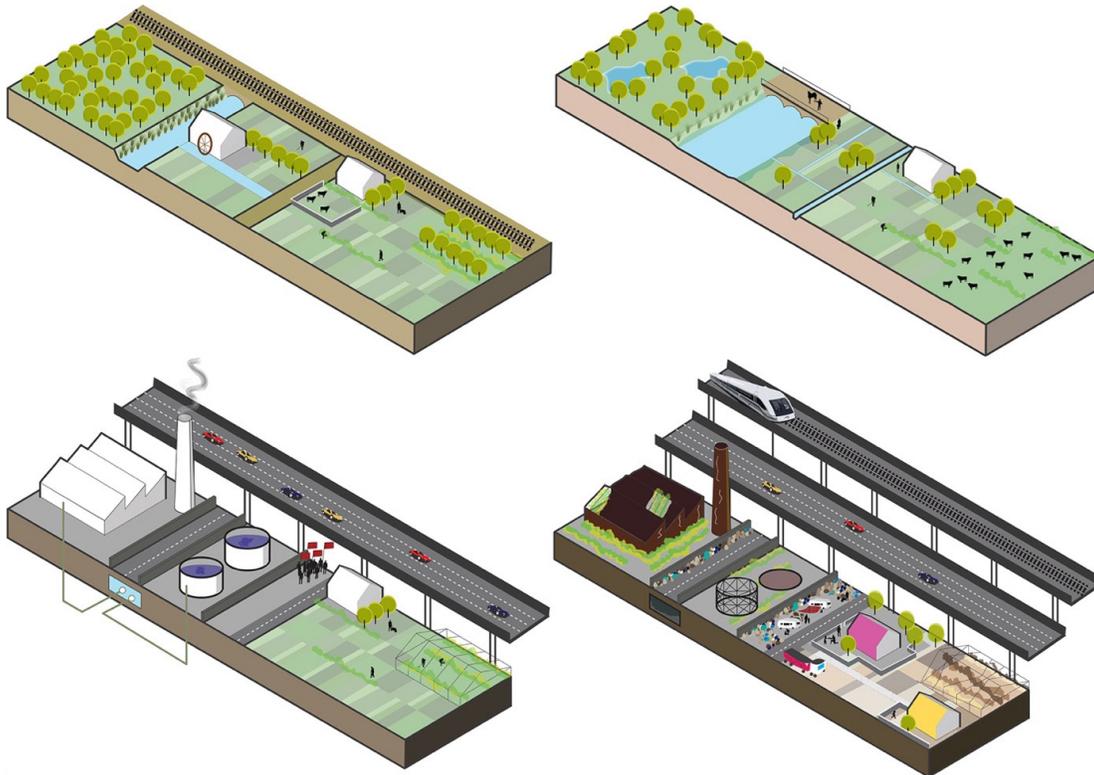


FIGURE 4 East Naples: a retro-active conceptualisation

## WASTED LANDSCAPES OF AGRICULTURE

Among the different kinds of WL, we can recognise WL of agriculture are very often micro-areas, ignored by real estate investors, in between the ‘hard’ urban parts (former industrial areas and other enclaves of big projects). They are abandoned and not valorised that could be immediately re-used to create a network to connect the urban fabric through temporary uses, clean regenerate the “waterscape” and canals and creating green ways, also as a new possible form of latent economies.

## RE-CYCLING WASTED LANDSCAPES IN EAST NAPLES

In East Naples the 40% of the whole territory is occupied by WL. Re-using under-used or no-longer used spaces is an alternative to the spatial isolation and abandonment that characterise WL. The future of East Naples can be re-imagined in a cyclical way, through a new paradigm that sees the re-cycling of WL as a strategic action to re-discover the previous fertility that characterised the Campania Felix, rediscovering the different life-cycles which have followed each other in the area, constructing an inverse palimpsest, focusing on the green core of the rural-scape located outside the Urban Implementation Plan Boundaries, but also on the WL of industrial processes developed in the area and in other discarded areas.

It is a retro-active conceptualisation<sup>22</sup> to re-discover the residual tracks of past cycles, the remaining memories, cultures and local identities, looking for hidden project images, erasing the “ground noise” of hybrid landscapes (dispersed settlements, “in between spaces”, rural-urban fringe, etc.).

## CONCLUSIONS

### IMPROVING THE QUALITY OF CONTEMPORARY CITIES THROUGH HYBRID METABOLISMS

In the Campania Region the major causes of the formation of WL are mostly linked to urban dispersion and to the illegal urbanisation of the territory. In addition, the de-industrialisation process is leaving large industrial areas partially or totally empty or in a state of dismission, creating a petroleumscape.

WL are also due to the abandonment of agricultural fields and the contiguous built structure in the peri-urban areas where the lack of public spaces is related to the abandonment of open spaces. They are considered as marginal areas ignored by real estate investors and forgotten by public authorities.

The urban reality in the Campania Region is complex. Therefore a way of planning, that is not capable of answering the new question of public space and able to share its objectives with the various stakeholders in order to reach a common goal, is not realistic any longer<sup>23</sup>.

The reuse of marginal areas brings new possibilities for ecological continuity and public networks. This continuity, primarily aimed at creating public space, uses the horizontal surface as a matrix and disconnects infrastructure from building use: the soil in this sense may be thought as the material fabric of this new urban realm. These surfaces “constitute the urban field when considered across a wide range of scales, from the sidewalk to the street to the entire infrastructural matrix of urban surfaces”<sup>24</sup>.

The most relevant spatial consequence of this innovative planning is a massive return of nature in urban contexts: landscape and ecological infrastructures become civic instigators for new city structures.

Matter is also relevant in the vision of the city as an organism, assembling living and mechanic bodies intertwined in metabolic chains. Urban metabolisms are understood as processes generated by the device-city<sup>25</sup>, binding, in codified chains the infinite possible reactions (as chemical reaction and, metaphorically, territorial metamorphosis) between heterogeneous things and actors.

The design process is defined by the interaction of different actors and things, human and nonhuman. It comes as a systemic framework structurally devoid of hierarchy, without differences between active and passive components. In this system, the world of “drosscapes”<sup>26</sup>, and Wasted Landscapes, and oppressed humans, may drive the changes, breaking the obduracy of the status quo. This position reverses the perspective of traditional planning, charging his techniques of political values, discovering prospects and innovative semiotic chains.

This approach is particularly needed if the planning object is mostly spoiled and oriented to further decay. It may be crucial to plan for transformation, where the socio-economic deprivation, spatial injustice, environmental and ecological disaster, reach, as in the Campanian Plain, considerable levels, opposed to common goods and civil life.

## Disclosure Statement

No potential conflict of interest was reported by the authors.

## Notes on contributors

All the paragraphs have been written and approved by both the authors Libera Amenta and Enrico Formato.

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## Endnotes

- 1 Formato, “Recombinant hybrid ecologies”.
- 2 Cfr: Italian laws: no. 47/1985; no. 724/1994; no. 326/2003.
- 3 Amenta, “Reverse Land | Wasted Landscapes”.
- 4 Wolman, “The metabolism of cities”; Kennedy et al., “The changing metabolism of Cities”; Kennedy et al. “The study of urban metabolism”; GeemeteRotterdam, et al. “URBAN METABOLISM, Rotterdam”; Tansley, *Use abuse vegetational concepts*; Timmeren, “Concept of Urban Metabolism”; Ferrão and Fernández, *Sustainable Urban Metabolism*.
- 5 Russo, “Urbanistica senza crescita?”.
- 6 Laino, “Post-metropoli senza metropoli”.
- 7 Kastani and Schmid, “Napoli. Beauty and threat”.
- 8 In Campania Region the number of potentially contaminated sites is 2551. It has emerged that the 15,8% of the entire region is polluted and there is a total of 2.157 km<sup>2</sup> of contaminated area in the Campania Region (ARPAC, 2008).
- 9 The topics presented here are part of on-going research in the Department of Architecture of Naples. for the preparation of studies in support of the New City Plan for Casaluze. The scientific director of the Convention is Professor Michelangelo Russo.
- 10 Choay 1992, cit. in Pavia R. *Babele. La città della dispersione*.
- 11 Russo, “Urbanistica senza crescita?”.
- 12 Amenta and Formato, “Diffusione, scarti e tracce di felicità”.
- 13 The original term in Italian was ‘città latenti’, in Zanfi, F. *Città latenti. Un progetto per l’Italia abusiva*, Milano: Mondadori, 2008.
- 14 In the definition of the plan ‘aree negate’ (cfr. Ptcp: De Lucia et al, 2012).
- 15 For further information, see the Preliminary City Plan for Casaluze developed in the year 2015; four design actions have been identified for Casaluze in order to improve the quality of life of citizens and to re-create the missing territorial and local relations.
- 16 The topics presented in this part are part of the research carried out within the Prin Program 2012 Recycle Italy. The academic research group Recycle Italy, in which both the authors of this paper are members of the Unity of Naples, is focusing on the issue of drosscapes in the Italian situation and in particular on new life-cycles for architecture and the infrastructure of cities and landscape. For further information see the website at the link: <http://www.recycleitaly.it/>.
- 17 Russo, M. “Terre di mezzo”.
- 18 Hein, “Between oil and water”.
- 19 Clément, *Manifesto del Terzo Paesaggio*.
- 20 Lynch, *Wasting away*.
- 21 Formato and Russo, “Re-Use/Re-Cycle Territories”.
- 22 Ibid.
- 23 Russo and Lucci, *Napoli verso Oriente*.
- 24 Corner, “Terra Fluxus”.
- 25 Deleuze G. *Che cos’è un dispositivo?*
- 26 Berger, *Drosscape: Wasting Land in Urban America*.

## Bibliography

- Amenta, L., "Reverse Land | Wasted Landscapes as a resource to re-cycle contemporary cities", PhD diss., University of Naples Federico II, 2015.
- Amenta L., Formato, E. "Diffusione, scarti e tracce di felicità nella Piana Campana", in: Atti della XVI Conferenza Nazionale Società Italiana degli Urbanisti, *Urbanistica per una diversa crescita*. Napoli, 9-10 maggio 2013, in *Planum, The Journal of Urbanism*, vol. n.27 Vol 2/2013, 2013.
- Berger, A. *Drosscape: Wasting Land in Urban America*. New York: Princenton, 2006.
- Choay, F. *L'orizzonte del post urbano*, Roma: Officina Edizioni, 1992.
- Clément, G. *Manifesto del Terzo Paesaggio*, Macerata: Quodlibet, 2005.
- Corner, J. 'Terra Fluxus', in: Waldheim, C., *The landscape urbanism reader*, New York: Princeton Architectural Press, pp. 21-33, 2006.
- Deleuze G. *Che cos'è un dispositivo?*, Napoli: Cronopio, 2007.
- Di Biagi, P. *Città pubbliche. Linee guida per la riqualificazione urbana*, Milano: Mondadori, 2009.
- Ferrão P. C., Fernández J. E. *Sustainable Urban Metabolism*, Cambridge (Massachusetts): MIT Press, 2013.
- Formato E. 'Recombinant' hybrid ecologies and landscapes: Piana Campana, South Italy, in *Planning for a Material World*, Edited by Lieto L., Beaugard R. A., Routledge, 2016.
- Formato, E., & Russo, M. "Re-Use/Re-Cycle Territories: A Retroactive Conceptualisation for East Naples". *Tema. Journal of Land Use, Mobility and Environment*, 2014.
- GeementeRotterdam, IABR, FABRIC, JCFO, and TNO "URBAN METABOLISM, Sustainable development of Rotterdam", Aivalable: [http://iabr.nl/media/document/original/urban\\_metabolism\\_rotterdam.pdf](http://iabr.nl/media/document/original/urban_metabolism_rotterdam.pdf) [24 March, 2015], 2014.
- Hein, C. 'Between oil and water' in N. Bhatia & M. Casper (Eds.), *The logistical petroleumscape*, New York: Actar Publishers & Architecture at Rice, 2013.
- Kastani, J., Schmid, C. 'Napoli, Italy. Beauty and threat', in: ETH Studio Basel (ed.) *The Inevitable Specificity of Cities*, Zürich: Lars Müller, 2013.
- Kennedy, C., Cuddihy, J. and Engel-Yan, J. "The changing metabolism of Cities". *Journal of Industrial Ecology* 11 (2):43-59, 2007.
- Kennedy, C., Pincetl, S., & Bunje, P. "The study of urban metabolism and its applications to urban planning and design". *Environmental Pollution*, 159(8-9), 1965-1973, 2011.
- Laino, G. "Post-metropoli senza metropoli?", in: Atti della XVI Conferenza Nazionale Società Italiana degli Urbanisti, Società Italiana degli Urbanisti, *Urbanistica per una diversa crescita in Planum, The Journal of Urbanism*, n.27, Vol.2/2013, pp. 1-9, Napoli, 2013.
- Lynch, K. *Wasting away*, edited by Michael Southworth, San Francisco: Sierra Club Books; trad. it. (1992), Deperire, Napoli: Cuen, 1990.
- Pavia R. *Babele. La città della dispersione*, Roma: Meltemi, 2002.
- PTCP Provincia di Caserta "Piano Territoriale di Coordinamento Provinciale", Coordination: De Lucia V. Frisch G.J.; Scientific committee: Coppola, A., De Lucia, V., Ranieri, A., Stranges N, 2012.
- Russo, M. "Terre di mezzo: l'interconnessione come strategia", in Lucci, R., Russo, M. (eds.), *Napoli Verso Oriente*, Napoli: CLEAN, pp.175-179, 2012.
- Russo, M. "Urbanistica senza crescita?" in Russo, M. (ed.) *Urbanistica per una diversa crescita. Progettare il territorio contemporaneo. Una discussione della Società italiana degli urbanisti*, Roma: Donzelli editore, pp. XV-XXX, 2014.
- Russo, M. *Terre di mezzo*, in: Ricci, M., Gausa M., *Med.net.rep.01, ListLab Trento*, pp. 208-213, 2012.
- Russo, M., Lucci, R. *Napoli verso Oriente*, Napoli: Clean, 2012.
- Tansley, A. *The use and abuse of vegetational concepts and terms*. *Ecology* 1935, 16, 284-307, 1935.
- Timmeren, A. van "The concept of the Urban Metabolism (UM)", TUD (Delft University of Technology) [taken from: Inaugural speech of A. van Timmeren, "ReciproCities. A dynamic Equilibrium"], 2014.
- Viganò, P. *I territori dell'Urbanistica. Il progetto come produttore di conoscenza*, Roma: Officina Edizioni, 2010.
- Waldheim, C. *The landscape urbanism reader*, New York: Princeton Architectural Press, 2006.
- Wolman, A. "The metabolism of cities", *Scientific American* 213 (3):179-190, 1965.
- Zanfi, F. *Città latenti. Un progetto per l'Italia abusiva*, Milano: Mondadori, 2008.

## Image sources

Figure 1: Photograph by Libera Amenta, March 2013.

Figure 2: Graphic representations elaborated by the authors, within the research group of the Department of Architecture of the University of Naples; Scientific director Professor Michelangelo Russo.

Figure 3: Photograph by Libera Amenta, January 2014.

Figure 4: Image elaboration by the authors, within the Research Group of the unit of Naples, PRIN Research Program 2012 'Re-cycle Italy. Nuovi cicli di vita per architetture e infrastrutture di città e paesaggio'.