Rome's Landscape

LE:NOTRE Landscape Forum 2013

Edited by:

Richard Stiles, Sabine Bouche-Pillon, Marlies Brinkhuijsen, Jeroen de Vries, Fabio Di Carlo,

Ellen Fetzer, Harlind Libbrecht, Gabriela Maksymiuk, Sophia Meeres, Frederico Meireles Rodrigues

LE:NOTRE Landscape Monographs

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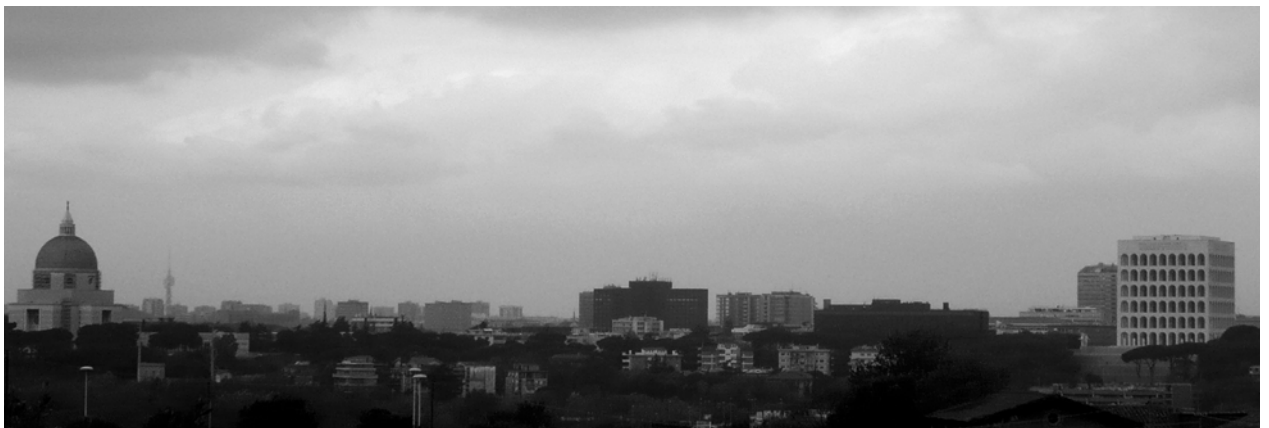
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Introduction to the Rome Forum

Richard Stiles, Fabio Di Carlo

Designing the Rome LE:NOTRE Landscape Forum

Fabio Di Carlo and Richard Stiles

This volume is the main tangible outcome of the second LE: NOTRE Landscape Forum, held in Rome in April 2013, and hosted by the Faculty of Architecture of La Sapienza University.

The format of the Forum was 'road-tested' for the first time the previous year in the context of the 2012 LE:NOTRE Landscape Forum which took place in Antalya and was hosted by Akdeniz University. This represented the initial attempt to fashion and try out a new 'species' of academic event type that differs substantially from the familar academic conference in both its structure and its dramaturgy. Its goal was to break down the rigid relationship between speakers and audience with the explicit intention of responding positively to the overall desire for more active involvement and participation by all concerned.

All the experience gained in the course of the project LENOTRE, since 2002, starting with the Spring Workshops and the previous Summer School, can be said to have led us towards focussing on the current model of the Forum as it was staged in Rome in April 2013. Previously, a number of different approaches were used to structure the annual meeting of the Network. At the beginning, the primary focus was a rather introspective one. The meeting was seen as providing a common opportunity for the representatives of the Network member organisations to meet and work together in small thematic groups, with the simple aim of making progress in the preparation of the various project outputs.

With the inception of the new format, the annual meeting of the Network changed its character fundamentally. One of the main motivations for reconsidering the nature of the event was the growing need to look beyond the end of the LE:NOTRE Project as a European Union co-funded event. At the Antalya Forum, during the presentation made by the representative of the EACEA, the agency which manages the ERASMUS Programme on behalf of the European Union, it was officially confirmed that there would be no more funding for networks of the LE:NOTRE type during the forthcoming 2014-2020 programme period. Luckily this merely echoed a decision which had already been taken by the LE:NOTRE Steering Committee in advance of the previous funding application, that there would be no 'LE:NOTRE IV' bid, and that from the end of LE:NOTRE III, the network would have to do its best to become self-sufficient.

Depending on how one looked at it, this drive for freedom and independence from European Union funding or alternatively, the imperative for the project to become sustainable, suggested the need to re-think the format of the annual meeting well in advance of the formal end of the project. The outcome of the resulting deliberations was a concept involving an event which concentrated on integrating theoretical approaches with the acquisition of new knowledge, coupled with the analysis of the landscape of a specific place, and finally the synthesis of these aspects into a joint planning and design response on the part of the participants. The whole process was designed to encourage the sharing of knowledge and experience between the participants, who would be colleagues from different cultural backgrounds and academic disciplines. In other words, the event was to do more to capitalise on the nature of the broader network into which LE:NOTRE had evolved over the course of its life.

Specifically, the event was to offer more space and time for debate and discussion by way of a response to what is one of the most frequent reactions to the majority of academic events, which all too often are characterised by bringing together people from different countries and specialisms, but failing to provide sufficient opportunities for them to interact, except perhaps in the coffee breaks. In its first year, the LE:NOTRE Landscape Forum sought actively to compensate for this deficiency and the Rome Forum, the last meeting of the LE:NOTRE III Project and of the LE:NOTRE Network as a whole, intended to continue and intensify this approach in a meeting which would be the culmination of the project – all roads led, as it were, to the Rome Forum!

The intention, however, was to do more than merely repeat the success of the Antalya Forum in other surrounding, instead the organisers aimed to build on the experience gained there and to continue with the evolution of the idea of the Forum, something which is reflected in the expanded format of this publication.

In order to place discussion, dialogue and discourse even more firmly at the centre of the event, the number of formal keynote presentations was limited, and these were focussed on giving focussed introductions to the four main issues to be addressed by the Forum. These were complemented by presentations aimed at providing particular information on the situation prevailaing in the local Roman landscape. Similarly, the four round table discussions were designed to stimulate the work of the four thematic groups so that these would be in a position to integrate the introductory information provided by the local experts from the host university with their own background knowledge in the light of the impressions which were gained from the field visits to the four areas chosen for investigation and of the discussions which took place in the plenary sessions.

A further important characteristic of the Forum was the way in which it was designed to respond to the perceived need to broaden the basis of discourse on landscape issues at the international level and simultaneously to begin to overcome some of the cultural and academic barriers which have developed between the landscape disciplines over time. In recognition of this goal, the theme for the Forum was chosen as:

'Meeting in the middle – A point of contact for different landscape cultures'

This emphasis on the role of 'landscape cultures', rather than simply focussing on 'cultural landscapes', provided the Rome Forum with an important further opportunity for innovation. Thus it was the intention of the Forum to find new 'common ground' in a number of ways. In particular it aimed to bridge the often separate worlds of landscape education, research and practice. A further innovative aspect concerned the direct engagement with the local landscape as an exemplar for wider issues and concerns. Finally, although the initiative for the event has come from landscape architecture, there was to be a stress on the broader trans-disciplinary nature of landscape, as a field of practice and research.

Behind all these considerations the stimulus to the discipline which has been provided by the European Landscape Convention could be clearly sensed. In this sense, the title of the Forum 2013 well expressed the intention of LE:NOTRE to build strong connections between different organizations and initiatives which, in recent decades, have dealt with landscape issues in education and research and practice, including amongst others ECLAS, the Landscape Biennials of Barcelona and the Canary Islands, IALE, UNISCAPE, IFLA Europe. From this perspective, ECLAS and the LE:NOTRE project, together with teachers and professionals, academics, designers and stakeholders outside the

academic context, on an increasingly multidisciplinary level, have sought new definitions for contemporary landscapes of and the transmission of this landscape architecture knowledge in different countries.

As has been mentioned briefly above, another important component of the new format of the Forum is certainly the active engagement with place where it takes is held. The specific nature of Rome, as a place of a highly complex landscape structure, provided the theme which ran through all stages of the field study and work in the seminars. As a result, the choice of the specific places which would form the case study areas was a critical step, which involved the whole organising team. Continuing from the four overarching themes established in the context of the Antalya Forum, these were both maintained but also slightly modified to adapt them to the situation presented by the Rome context. These were:

1. URBAN AND PERIURBAN LANDSCAPES
2. SUSTAINABLE TOURISM: STRATEGIES FOR LANDSCAPE REGENERATION
3. THE RURAL FRINGE AND ROME: PRODUCTION OR CULTURE?
4. HERITAGE AND IDENTITY.

To match these four generic themes it was necessary to find four specific case study areas. As a result the following study areas were selected:

1. The EUR district
2. Appia Antica Regional Park
3. Acilia and the Dragona Loop, close to Ostia Antica
4. The Landscape Context of Ostia Antica

Following the agreement on these areas, which were proposed by the host university, a process of research and information gathering was initiated by a team from the host university, La Sapienza, comprising a group of teachers, four local experts on the four themes selected as well as students from the 27th cycle of the PhD in environmental design. Together they undertook two separate activities: firstly the four sections making up part 1 of this publication together with the contributions of some of the keynote speakers, were prepared by way of an introduction to and to provide background reading about to the landscape of Rome. This was to furnish the participants at the Forum with preliminary information so that they could make a 'running start' when they arrived in Rome. The second task which the local team undertook was to prepare the preliminary documentation of the four case study areas and the definition of the specific themes relating to them, which was undertaken by the local experts.

The introductory information which was produced for the Forum participants of the four thematic groups is summarised briefly below:

1. URBAN AND PERIURBAN LANDSCAPES: Introduction of the landscape perspective
The European Landscape Convention clearly embraces urban and peri-urban areas in its conception of 'landscape', and several other European policy documents (including the Leipzig Charter on Sustainable Cities and the European Union's Thematic Strategy for the Urban Environment) have pointed to the significance of the urban environment. The European Environment Agency published an important study on urban sprawl in 2006 and the PLUREL Project (www.plurel.net) was funded under the 6th Framework Programme to focus on the peri-urban landscape. The urban landscape can also be seen as a common thread running through all of the themes identified in the EEA's 2010 state of the urban environment report, including climate change mitigation, land use, nature protection and biodiversity, water re-

sources, pollution and waste management. In the context of Rome the urban fringe is characterised by a number of specific aspects such as modernist public and private housing with many social problems, left over land, transport infrastructure and an admixture of archaeology.

The post-war growth of Rome in a south-westerly direction resulted in one of the main expansions of the city as part of the never-ending efforts to establish connections to the coast. These areas show a discontinuous and incoherent mixed structure including both, planned and spontaneous development. Consequently the excursion site offers opportunities for a reflection on various visions of modern urban landscapes.

The workshop explored how landscape management, planning and design can contribute to coming to terms with development pressure. What influence had landscape architecture already had and what ought to be the future strategy for the region. What was the role of landscape in:

• Public participation to help prevent/manage urban sprawl (Local Agenda 21)?
• Promoting green infrastructure within new urban areas?
• Designing public space as a strategy for stimulating high quality urban development?
• Influencing landscapes of urban metabolism in a rapidly growing metropolitan region: inputs and outputs – water supply; urban farming; refuse disposal, sewerage and waste management?
• Research approaches for studying the urban landscape in growing cities?
• Understanding the [Rome] Urban Region as a Teaching Resource for landscape planning and design?
• Ameliorating the impacts of climate change?

2. SUSTAINABLE TOURISM: STRATEGIES FOR LANDSCAPE REGENERATION
Around famous landmark tourist cities such as Rome, there are frequently areas which contain the potential for tourism but which have not yet been realised. These may be areas that have somehow missed out for a number of reasons, and the local economy may suffer as a result, as they are often in the shadow of the famous and well-developed products and services offered by the cosmopolitan centre. In particular, the hinterlands of such cities, where urban sprawl and low intensity agriculture prevail and where there are few if any famous and iconic monuments, may be economically depressed.

In the south-east of Rome is the regional park of Appia Antica, an important green wedge in the

form of greenway, which starts from the historical centre and reaches to the outside of the city, close to Ciampino Airport. The park is centred on the old Appian Way of Roman times and the system of ancient Aqueducts which used to supply the city. Although it is a protected landscape it is almost unvisited by tourists, yet its interesting and significant elements could be turned to advantage as another tourist destination, or at least a place where tourists who wish to see something in addition to the main sights of Rome could go.

In the workshop the possibilities of tourism in this landscape by sampling the Appia Antiqua area were explored. Opportunities offered by landscape management, planning and design for protecting and regenerating the landscape were examined, as well as those for developing new possibilities for sustainable tourism which benefit the local economy and population. The study focussed on the regional park area transected by an aqueduct and other elements. Questions, challenges and themes included:

• What kind of tourism development should/could be accommodated in future in the Appia Antiqua area and others like it?
• Is the heritage and landscape of tourism interesting, characteristic and valuable in its right?
• How and to what extent can tourism rediscover and uncover the character of such landscapes?
• How can the landscape be maximised as an asset for sustainable tourism?
• What does a sustainable tourism landscape look like?

3. RURAL FRINGE. PRODUCTION OR CULTURE?
In this workshop the possibilities for culture, agriculture, leisure and development presented by an almost intact swathe of un-built land-reserve on the city edge were explored. These green fields and woodlands are reminiscent of a not yet forgotten rural past - a relatively recent past. This area was once an extensive system of malaria ridden marshes, reclaimed, and transformed into agricultural land between 1870 and 1930, but quickly overwhelmed by the south west city growth that reduced it to little more than a large residual area of rural character. In addition to current agricultural uses this land presents a certain vernacular heritage.

The workshop addressed the question of in what ways this "piece of countryside" added to the quality of city life? What were its current uses and trends? What did the future hold for this land? What reflection could be offered by the team? Questions, chal-

lenges and themes included:

• What could the role of "agriculture" be in this changing landscape?
• Was this land destined to become a landscape of leisure? What kind of leisure does Rome need?
• Should the landscape character be maintained once the agricultural processes that created it have been abandoned? Should new roles for existing features be found so as to conserve the cultural landscape?
• Should this land be protected from development? Could urban expansion occur in harmony with cultural, leisure and agricultural land-use? Did we need a repair-kit?
• Were planning and design strategies enough to attract alternative forms of agriculture (or substitute agriculture, forestry, horticulture biodynamic or organic or otherwise)? Were there alternative forms of agriculture that could lend meaning and perhaps economic aid to this land?

4. HERITAGE AND IDENTITY:
THE LANDSCAPE OF OSTIA ANTICA
The ancient Roman city of Ostia was in antiquity situated at the mouth of the river Tiber, some 30 kilometres to the west of Rome. The shoreline moved seawards, due to silting, from the Middle Ages until the 19th century. As a result Ostia Antica is today still lying next to the Tiber, but at a distance of some three kilometers from the coast. Ostia is Latin for "mouth", the mouth of the Tiber. The river was used as harbour, but in the Imperial period two harbour basins were added to the north, near Leonardo da Vinci airport.

The archeological park of Ostia Antica is one of the iconic heritage sites in the neighbourhood of the city of Rome. Still today, new discoveries are being made by archaeologists using the most modern research methods. The site and the route to the site will gave the heritage group the key concept that was discussed during the Forum, namely the future vision of heritage in the city of Rome, and the need to not 'freeze' a whole city environment.

Both identities– the 'past within the present' and the 'future in the present' – speak to us about the role of heritage (very broadly defined, see below) in society, and in economic and environmental terms. Notably heritage, tightly entwined with memory as it is, contributes to the formation and modification of identities. This role of heritage is explored in the Faro Convention ('The Value of Cultural Heritage for Society'), which provided one of the touchstones of the workshop, as did the ELC and the ESF/COST Landscape Policy Briefing.

For the workshop, heritage was defined to mean, not only monumental heritage 'sites', nor just the most ancient, but also everyday heritage even if relatively 'modern', including 'small' heritage, working heritage, and taking into account heritage in the form of associations, activity, custom etc.
One aim was to raise awareness about the relationship between individual ('public', 'tourist') monuments and sites on the one hand and on the other hand the wider functional, historical, perceptual and symbolic landscape which underlies present day identities. Questions, challenges and themes included:

• Was it possible to think about the Roman heritage as a kind of living heritage?
• Was it possible for people to identify themselves with privatised heritage sites?
• If in the city of Rome, every possible site has its heritage value, how should one look from this idea to the concept of future developments (permanence versus transformation)?
• How are the different time layers experienced by the different groups such as local town-dwellers, rural populations, incomers, tourists, professionals and practitioners, politicians?
• Is professional practice currently involved in heritage / identity? What were the interdisciplinary relations between University Departments (archaeology, landscape architecture, social science or tourism etc)?

This publication falls into several sections reflecting the process of planning and structuring the Forum as described above. Following this introduction comes Part 1 which provides a detailed and comprehensive introduction to the landscapes of Rome, and comprises five separate chapters. This is followed by the second part which represents the responses to Rome's landscape by the four thematic groups into which the Forum participants were organised. These make up sections 1 to 4 covering urban and peri-urban landscapes, sustainable tourism, the rural fringe and heritage and identity. This is followed by an appendix containing the poster contributions on the four above themes and an overall conclusion.

LE:NOTRE Landscape Forum | April 17ᵗʰ-20ᵗʰ| Rome, Italy

Tue	April 16ᵗʰ 2013	Wed	April 17ᵗʰ 2013	Thu	April 18ᵗʰ 2013	Fri	April 19ᵗʰ 2013	Sat	April 20ᵗʰ 2013
LE:NOTRE Steering Committee meeting	9⁰⁰ Plenary 0 Welcome and Introduction **Renato Masiani** *Dean of the Faculty of Architecture La Sapienza University* **Presentation of Antalya Publication** 1 Keynote **Carlo Pavolini** **Massimo de Vico Fallani** *Moderation Richard Stiles* *Co-moderation Fabio Di Carlo*	9⁰⁰ Plenary 3 Keynote **Franco Zagari** Round table 1 **Urban** *Franciscu Sedda* *Daniela Colafranceschi* *Catherine Ward Thompson* *Roberto Secchi* *Local urban expert* *Emma Tagliacollo* *Moderation* *Co-moderation Gabriela Maksymiuk*	9⁰⁰ Plenary 5 Keynote **Günther Vogt** Round table 3 **Rural** *Pere Sala* *Bob Bunce* *Marti Franch* *Eliana Cangelli* *Local rural expert* *Cristiana Costanzo* *Moderation Nilgül Karadeniz* *Co-moderation Pier Paolo Balbo*	9⁰⁰ Plenary **Workshop results** and discussion *Moderation Simon Bell,* *Richard Stiles*
	10⁴⁵ break	10⁴⁵ break	10⁴⁵ break	10⁴⁵ break
Arrival & registration LE:NOTRE Steering Committee meeting	11¹⁵ 2 Keynote **Mirella Di Giovine** 12⁰⁰ Introduction Field Trips *Emma Tagliacollo* *Sara Gangemi* *Cristiana Costanzo* *Paolo Camilletti* *Moderation Richard Stiles* *Co-moderation Fabio Di Carlo*	11¹⁵ 4 Keynote **Jaap Lengkeek** Round table 2 **Tourism** *Mariella Zoppi* *Marlies Brinkhuijsen* *Richard Tellström* *Penny Travlou* *Local tourism expert* *Sara Gangemi* *Moderation Simon Bell* *Co-moderation*	11¹⁵ 6 Keynote **Marina Döring** Round table 4 **Heritage** *Sam Turner* *Barbro Santillio Frizell* *Gert-Jan Burgers* *Graham Fairclough* *Local heritage expert* *Paolo Camilletti* *Moderation Ingrid Sarlöv Herlin* *Co-moderation Francesca Mazzino*	11¹⁵ Keynotes + Farewell 7 Keynote **Enzo Siviero** Venice 8 Keynote **Carlo Bruschi**, IFLA Eur *reflecting statement* Outlook: L:N Institute and ECLAS *Moderation Karsten Jørgensen* *Co-moderation Piero Ostilio Rossi*
	13⁰⁰ lunch + transfer to Piazza Borghese	13⁰⁰ lunch + transfer to Piazza Borghese	13⁰⁰ lunch + transfer to Piazza Borghese	13⁰⁰ lunch + transfer to Piazza Borghese
14⁰⁰-18⁰⁰ PhD and Teachers' Workshop see separate programme Venue:	14³⁰ – 18³⁰ **Field visits** theme group 1-4 1 Urban growth & peri-urban sprawl: landscapes of the contemporary city **EUR & surroundings** 2 Sustainable tourism: strategies for landscape regeneration **Appia Antica & Aquaducts parks** 3 Heritage and identities: permanences vs. transformation **Ostia Antica** 4 Rural fringe: production or culture? **Dragona meander**	15⁰⁰ Parallel sessions **Workshops** theme group 1-4 1 Urban growth & peri-urban sprawl 2 Sustainable tourism 3 Heritage and identities 4 Rural fringe 16⁴⁵ break 17¹⁵-19⁰⁰ Sessions continued 1 Urban growth & peri-urban sprawl 2 Sustainable tourism 3 Heritage and identities 4 Rural fringe	15⁰⁰ Parallel sessions 16⁴⁵ break 17¹⁵-19⁰⁰ 1 **Sessions** continued as necessary **Heads of Schools** meeting	Departure
20³⁰ Welcome Cocktail and Evening Speech by Gert-Jan Burgers	free evening	Dinner	LLF Dinner	

SAPIENZA UNIVERSITÀ DI ROMA   LE:NOTRE III LE:NOTRE Institute   ECLAS EUROPEAN COUNCIL OF LANDSCAPE ARCHITECTURE SCHOOLS

Staff Coordination and Layout of the Forum: Lorenzo Decembrini and Anitza Horhat

Part 1

An introduction to the landscape of Rome

Images from Rome. Acknowledgements and introduction to Part 1.

Fabio Di Carlo

LE:NOTRE Landscape Forum 2013 offered a further opportunity to reflect on the complexity and layered structure which characterize the landscape of Rome, and how such complexity is a growing and evolving element.

The strong dialectic - which often seems a conflict between forms, elements and values of the territory and the development of human settlements - has shown the connotative and contradictory picture of the overall strong human landscape, often messy and rude, which dialogues with the ruins of a natural landscape, strong but not invasive, often abandoned. Such is the urban sedimentation of Rome, from the Emperors to the Popes, home to noble families as well as lower classes immigrated to find better living conditions.

Ludovico Quaroni, who had taught and designed for a long time in Rome, perfectly understood that aspect described in Picture of Rome (1976). Also, Pierpaolo Pasolini was aware of it when he settled his stories on the labour class outskirts of Rome after World War II.

The First Part of the present publication offers a partial representation of such complexity. It aims to provide all the participants of LLF 2013 with some basic information to enable them to get further elements and impressions from the place, to join the workshops of the Forum and elaborate their ideas.

To me, as anyone else who was born, grown and educated in Rome, the organization of the workshop and especially the construction of the First Part of this publication, allowed to check information, common thoughts, and – obviously – consolidated representations of the city.

Such knowledge, however, substantially differed from the most part of the friends and colleagues of ECLAS. In fact, the comparison was not based on the well-known parts of the city, but it focused on remarkable parts not usually studied as excluded from the main touristic routes.

Therefore, the main task was to organize and convey information about the reality, so clear and usual to us, thus often ignored or scarcely considered. Beauties and weaknesses were told, unfinished transformation processes and urban planning failures were illustrated. Moreover, illegal and spontaneous growth of the suburbs were explained. Finally, the absence of widespread improvement of the landscape was highlighted, despite the permanence of areas of remarkable natural value.

The preparation of Part 1 was a choral work with many collaborators, from Sapienza University and external experts. My words would firstly thank all those who contributed to this work.

I cannot start without a warm thanking all the PhD student of the 27th PhD course in Environmental Design of Sapienza University, who have been working for a long time on writing and scientific documentation, graphics, and photographs. I would highlight that the graphic and photographic documentation - with the exception of iconographic, historical, and regional planning maps - are original and made for this publication. Most of the abovementioned PhD students are architects, and only some of them have experience in landscape architecture. Thus, their interest in a new field of study should be eulogized.

In thanking them, I am also grateful to their PhD course coordinator prof. Eliana Cangelli, for her support to the project, and prof. Romeo Di Pietro, botanist and ecologist, for his scientific contribution.

The first contribution was written by the architect and landscape designer Mirella Di Giovine, titled "Trends in contemporary landscape in Rome" (Chapter 1). Mirella Di Giovine is an experienced manager at the Town Council of Rome. In her career, she has worked in management and design of urban spaces, parks and gardens. For the Forun, she delivered an overview of the current state of planning and management of landscapes in Rome.

In Chapter 2, there are two contributions by eminent experts. As architect and landscape designer, Massimo De Vico Fallani served for many years as superintendent of the Archaeological and Historic Gardens. Prof. Carlo Pavolini, archaeologist, coordinated archaeological excavations of great importance, including some campaigns in Ostia Antica. Both them have worked within the dialectic between heritage and landscape, interpreting the natural relationships of these elements in the Roman area. Similarly, they always had to deal with the great dichotomy between the need of knowledge and conservation, and the needs of development.

The following contribution was written by the PhD stu-

dents in Environmental Design, divided in four thematic chapters.

Slightly changing the usual order to present the topics, we started with a section of images mainly focused on the key points and elements of the urban and natural landscape of Rome. Chapter 3 , "Roman landscapes and selected Portraits", collects many of these images, often imprinted in people common imaginary as determined by centuries of international tourism in Rome, and in numerous representations resulting from history and literature as well as cinematography and photography. Several famous Neorealist films for instance directed by Federico Fellini and international masterpieces such as Wyler's Roman Holiday with Audrey Hapburn were set in the study areas. Chapter 4 , "Environment, ecology and natural structure", has been introduced by prof. Romeo Di Pietro - a botanist who has always taught in the landscape courses of our faculty - to present scientific data on the environment through the time, both in terms of floristic knowledge and geographical-hydrological structure of the area. Chapter 5, "Configuration and transformation of the urban landscape in Rome", analyzes the evolution of the urban landscape from the Roman era to the current one, investigating on the morphological structure of the plain shaped by the river Tiber through meticulous map reconstructions based on historical iconography. Finally, Chapter 6 "Rome and its territory" summarizes the main events of urban transformation and offers a report on the current status of urban planning, particularly regarding the landscape.

Summary of contaings

Chapter 1
Trends in contemporary landscape in Rome
Mirella Di Giovine
1.1 The structure of the identity landscape – the ancient Rome; 1.2 The ecologic network underlying the landscape; 1.3 The objectives of the ecologic network – green corridors; 1.4 Protected natural areas; 1.5 Historical vegetation. The villas and the historical landscape; 1.6 The archeological parks; 1.7 The city walls' parks; 1.8 The river parks; 1.9 The farming areas; 1.10 Trends in contemporary landscape; The new parks – suburbs and farming areas; 1.11 The European Landscape; Convention: participation in city ;projects: the identity landscape; 1.12 Management issues; 1.13 References

Chapter 2
Archaeology as a variable component
of the image and the town-planning of Rome
Carlo Pavolini, Massimo de Vico Fallani

Chapter 3
Roman landscapes and selected Portraits
PhD students: Viola Albino, Maria Beatrice Andreucci (co-ordinator), Filippo Calcerano, Sonja Radovic-Jelovac
3.1 Selected portraits: 3.1.1 Nature: Nature, Regional Parks; 3.1.2 History: Villas, Fountains, other open spaces; 3.1.3 Contemporary. 3.2 Suggested essential international readings and movies; 3.3 References

Chapter4
Environment, ecology and natural structure
Romeo Di Pietro, with PhD students: Maria Luigia Fiorentino (co-ordinator), Manuela Crespi, Sandra Persiani, Davide Ventura
4.1 The structure of the identity landscape – the ancient Rome; 4.2 The Geographical Framework: 4.2.1 Geological framework in Rome's area; 4.2.2 Stratigrafy and Geological structure in Rome's area; 4.2.3 Principal typologies of rocks and querries; 4.2.4 Idrogeological structure; 4.2.5 The Tiber's floods; 4.2.6 Rome's historical sources; 4.2.7 Soil's charachteristics and consequent problems; 4.3 Landscape and Structure ecology: 4.3.1 The provincial ecological network (REP); 4.3.2 Classified habitats (4.3.2.a The seashore's and the coastlin's dune's vegetation, 4.3.2.b the river's wetland vegetation, 4.3.2.c the woods, 4.3.2.d chain zoning the ravines, 4.3.2.e antropizes habitants); 4.4 Preservation of biodiversity, The Botanical Garden: 4.4.1 Rome's botanical garden; 4.4.2 Tor Vergata's Botanical garden; 4.5. The Environment: 4.5.1 The Climat; 4.5.2 Enviroment strategies in operation (4.5.2.a Energy: sustainable energy action plan (SEAP), 4.5.2.b Jeremy Rifkin's masterplan, 4.5.2.c Mobility: «Roma sceglie sostenibile» (Rome chooses sustainable) stratetigal project of Rome's province); 4.6 References

Chapter 5
Configuration and transformations of the urban landscape in Rome
PhD students: Michele Conteduca (co-ordinator), Francesco Antinori, Elnaz Behnam Kia, Dorina Pllumbi
5.1 Introduction; 5.2. Ancient Rome: Ancient Rome_ VIII c. B.C. – V c. A.D.; Foundation Age _ VIII c. B.C.; Republican Age _ VI century B.C. – I century B.C.; Imperial Age _ I century B.C.-V century A.D.; 5.3. Medieval Rome: Medieval Age _ VI century A.D. - XIV century; Medieval Age _ XIII century; 5.4. Modern Rome: Modern Age _ XV century - XIX century (Pre-Unification); Renaissance and Mannerism_XV century - XVI century; Baroque _ XVII century - XVIII century; Neoclassicism _ XVIII century - XIX century (Pre-Unification); 5.5 Contemporary Rome: From the Unification of Italy to the First World War (1871 – 1914); The result of the first Master Plans; The first Post-war Period (1918 – 1939); From the Reconstruction to the '70s; From the '70s to nowadays; References

Chapter 6
The Regional Context
PhD students: Giorgio Tosato (co-ordinator), Ata Aminian, Juljan Veleshnja
6.1 Foreward; 6.2 The "Plan of certainties"; 6.3 City plan: 6.3.1 General considerations, 6.3.2 The principle of sustainability; 6.4 Provincial Plan: 6.4.1 Goals and strategies at 2015, 6.4.2 Environmental system; 6.5 The PTPR; 6.6 Basin Plan of River Tiber: 6.6.1 Plan goals, 6.6.2 Plan identity, 6.6.3 River Corridors of Tiber and Aniene, 6.6.4 Strategic nodes; 6.7 References

Chapter 1

Trends in contemporary landscape architecture in Rome

Arch. Mirella Di Giovine

Chapter 1
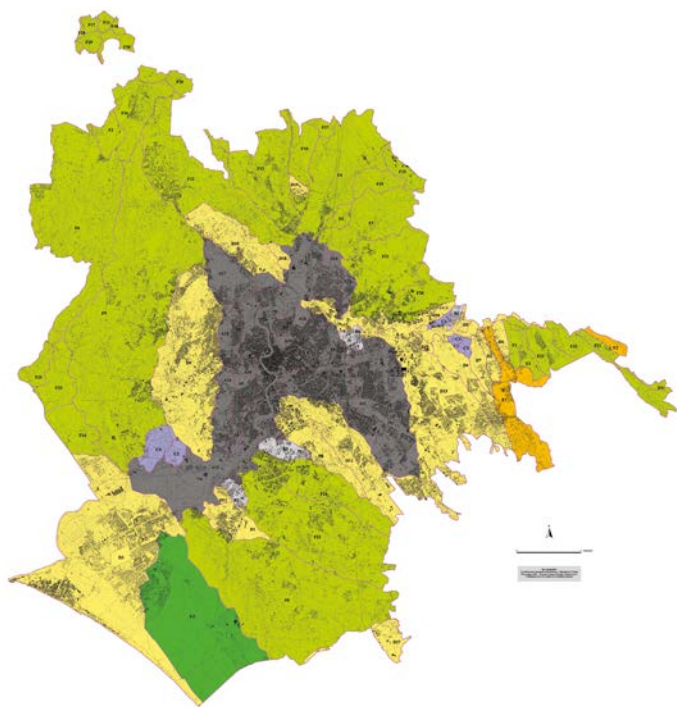## TRENDS IN CONTEMPORARY LANDSCAPE ARCHITECTURE IN ROME
Arch. Mirella Di Giovine

Fig.1_ Units of the Landscape of Rome

Today, Rome is a large conurbation with over four million inhabitants, sprawling over 128.000 hectares, with a discontinuous urban fabric. The Township area is empty in parts and full in others – large and small woodlands, grazing land, vineyards, even large ones, olive groves, vegetable gardens and orchards are interspersed with blocks of houses, terraced houses and buildings, crossed by infrastructures and moats, on hills and plains, still perceptible in the vast territory surrounding the city.

Rome is a city that has preserved extraordinary archaeological testimonies of the various stages of its history, from the great Roman Empire to historical villas where old noble families have lived since the 14th century, or prestigious spaces that were a symbol of the old power (the Vatican gardens, the Quirinale gardens, etc.).

Part of the peri-urban area contains cultivations and/or grazing land, but also a housing sprawl – of formerly illegal settlements - often a result of the spontaneous expansion in the "agro romano" (countryside around Rome*) of small agricultural villages, or the disorderly expansion over old areas of artisans' settlements. Within the "agro romano", disrupted by bouts of urban fabric, we can still see today traces of archaeological remains, medieval towers, traces of roads and farmsteads, which define a landscape where history, nature and urbanization intertwine, a very striking and unique feature for a European capital. Because of its history and nature, Rome's countryside has been and still is a significant part of the landscape of the conteporary city.

1.1 The structure of the identity landscape – the ancient Rome

When talking about identity and landscape, we have to bear in mind that for Rome both can be traced back a long time. Indeed, the design of the historical city was deeply influenced by topography (the seven hills are the most famous example of the complex orography of Rome's countryside) and by the presence of natural resources (of all of them, just think of the Tiber, water, and the complex system of aqueducts). People didn't settle only in the most densely urbanized part, which was enclosed within city walls only later on, but leaned on a tight network of production villas, villages and suburban areas, the memory of which has been handed down to us through the organization of fields, architectural ruins and toponymy.

The most significant Roman landscapes are mostly found at the periphery of the city, a testimony of the suburbs of ancient Rome. In the most resplendent centuries of its urban planning history, from Cesar to the Severans, Rome had no walls, instead it was an open city, where the green got right into the heart of the city through huge gardens, lawns, public and private parks of grand villas, and where the built up area extended and thinned out, becoming integrated in the countryside, diluted in a territory without apparent visual limits, then joining up again with the buildings of near-by towns on the hills. Some very significant examples are the archaeological parks of Villa dei Quintili, Villa Sette Bassi, placed at the outskirts of the city.

The residential areas extended largely along the consular roads, following a centrifugal radial system, competing for space first with monumental areas, public parks and residential villas, then with the great cemeteries, thus making up neighbourhoods, hamlets, hubs that got more and more dispersed in the countryside.

This evolution of the urban structure is confirmed by the abrupt passage from the enclosed configuration of the old republican city to the open one of the imperial city, rich in green and free areas, integrated into a productive countryside.

It is interesting to note that this interpretation, that looks at ancient Rome as inspiration for works in the current city, suggests to steer the work in areas to be redeveloped towards an approach to the landscape that integrates city and countryside, to propose once again a wide-spread urban quality such as it emerges from the pattern of the ancient metropolis, that is able to read the sedimentation that took place over the centuries.

These surviving traces of agricultural activities and historical settlement, within an extraordinary evocative scenery, can, in some cases, need carful reconstruction and repurposing with a modern take, but their rediscovery, protection and enhancement as sedimentation is not only a necessity for historical and archaeological clture, but offers interesting and multiple possibilities to those reconstruction projects of the landscape and the identity of the contemporary city as a whole, to be shared with the interested parties, i.e. the citizens.

1.2 The ecologic network underlying the landscape

Starting from the urban ecosystem we can build a new green public and private structure, not only to optimize the current condition, but to make it dynamic too, in view of its future development, integrating it with other natural resources, such as the hydrographic grid, the system of protected areas and natural reserves, farming areas, the sys-

tem of green city areas, and from this setting comes what the General Town Planning of Rome calls the "ecologic network" of the area of Rome.

This network includes and links up areas, linear and areal elements, and the most important environmental units with a different naturalistic degree, with above surface hydrographic grids (even lesser ones), and takes into account the ecologic flows and dynamics that can improve the environmental situation on the whole. The whole of Rome's green areas - protected natural areas, green city areas and farming areas – covers 86.000 hectares, equal to 67% of the entire territory.

In general terms, an ecosystem is a system of relationships between the various components of the environment and the description of the dynamic processes that determine its evolution. So if we see the city as an ecosystem, the possible actions and transformations of a certain area can't be considered exclusively in relation to its characteristics, limitations and peculiarities, but must be identified and assessed taking into account the role that this area plays within the whole system.

It is a pioneering approach on which the sustainability of an urban environment is based. The assessment of the quality of a single element, or rather an "environmental unit", be it ordinary or exceptional, comes second place to the assessment of the role and the dynamic relationships with the other components of the system of which it is part, in order to guarantee the cycles of water, air and soil.

1.3 The objectives of the ecologic network – green corridors

The objectives that have brought about the ecologic network are therefore more complex than the simple protection, conservation or reproduction of a specific natural resource, where one exists, and can be summarized as follows:

1. protection and enhancement of important ecological systems through land-use restrictions, creation of protected areas and the protection of those that already exist;
2. protection, enhancement and reinstatement of the hydrographic grid;
3. environmental enhancement, recovery of farming areas;
4. recovery of degraded, even abandoned areas, that are strategically placed for the construction of the network;
5. protection and enhancement of specific characteristics of linear elements, the so-called "corridoi verdi" (green corridors), even if strongly anthropized, to take into account what their functions are or could be in the dynamic functioning of the network (integration, filter or link);

6. definition of management and maintenance choices on the vegetation in the green areas and protected areas, specially on arboreal heritage (choice of the species, treatments, etc.) of the whole system;

7. definition of apt choices for protection operations on fauna in the urban environment;

8. improvement of biodiversity in the urban environment; 9. identification of elements for the best environmental integration of transformation projects, and the definition of "nature indexes" to be made mandatory for these operations;

Together with the areas of high environmental value, in the network there are also strategic areas to be protected and recovered from degra-dation with specific operations, in order to create and/or strengthen the so-called "biological corridors" (which should somehow also ensure genetic interchange between areas which would otherwise become too artificial) and anyhow guarantee the ecosystemic potential.

The network should thus guarantee to the city, the city as an organism, the biological cycles (air, water, land) of nature, and therefore improved biological functions. Protecting and managing space with an ecosystemic logic is the only way to get, in the future, to the structural reduction of air pollution, better ventilation and an efficient ther-moregulation of the most urbanized areas, better oxygenation and enrichment of the aquifer, even

LEGENDA

COMPONENTI PRIMARIE

IL SISTEMA ECOLOGICO PRIMARIO

Aree a forte naturalità

Elementi lineari a forte naturalità

Componenti di sistema

Core Area "Riserva Biosfera MAB"

Verde pubblico e privato

Aree agricole (Zone H)

Reticolo idrografico

Corsi d'acqua - fasce di rispetto

COMPONENTI SECONDARIE

IL SISTEMA ECOLOGICO SECONDARIO

Aree a naturalità media e/o parzialmente compromessa

COMPONENTI DI COMPLETAMENTO

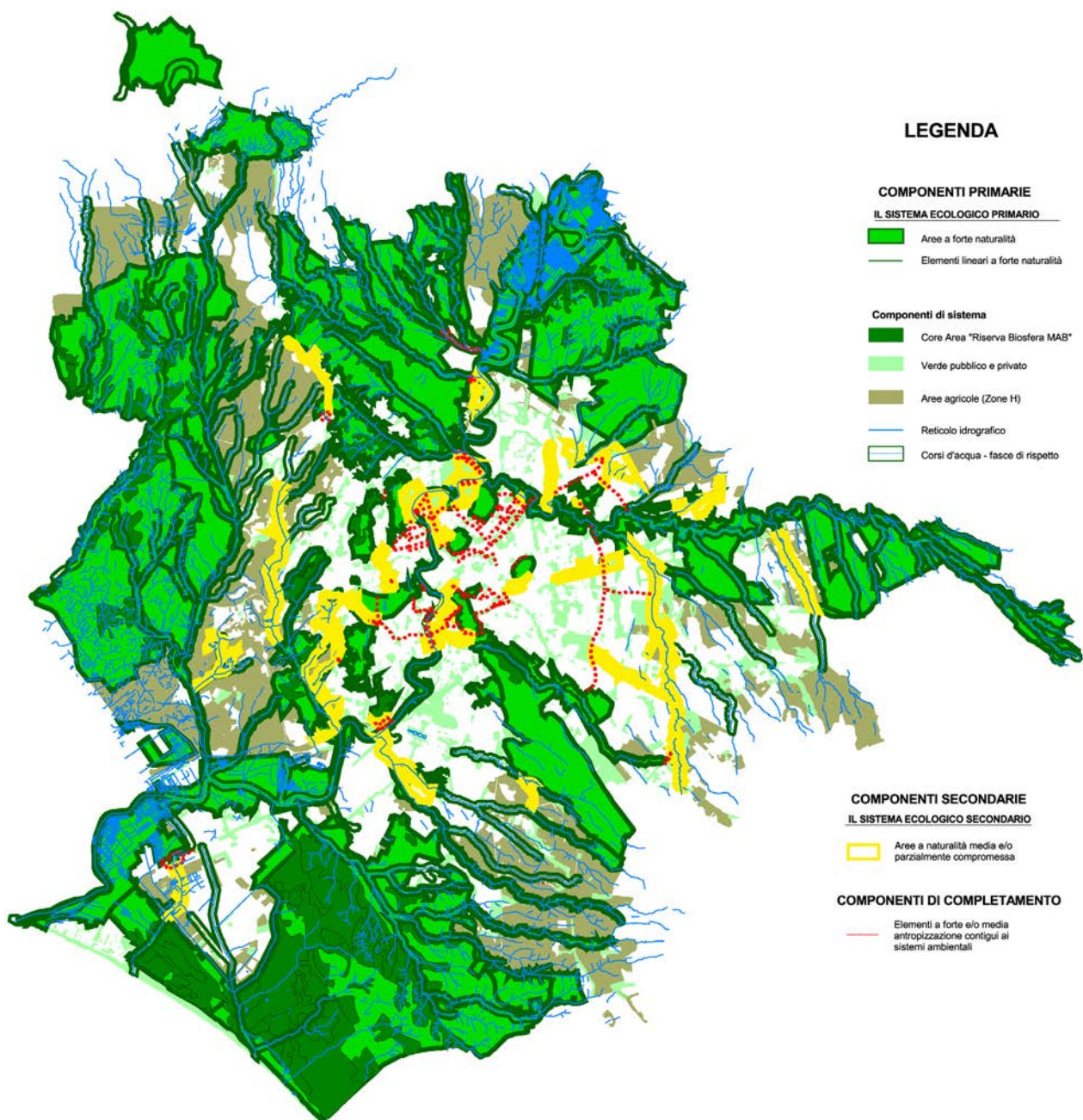Elementi a forte e/o media antropizzazione contigui ai sistemi ambientali

Fig. 2_ Diagram of the ecological network of Rome

through reduced land impermeabilization, and also to more efficiently preserve and recover the urban landscape, quite sizeable in Rome's case.

If applied to Rome, this setting, besides its naturalistic aspect, addresses ecological system and the identification of resources such as water, land, vegetation and farming areas within the city; a deep integration of the network and the space of the historical settlement from a landscape point of view, something distinctive in the case of Rome, which holds important and diversified landscape elements to be used in all operations of landscape redevelopment.

To describe the model used to identify free or green areas included in the ecologic network, we need to bear in mind that Rome, unlike other European capitals, still has a significant percentage of areas that are rich in environmental resources. Furthermore, on the basis of studies made on the territory in cooperation with Università di Roma, the area of Rome seems to have high indexes of biodiversity, which can be thus summed up:
- 1500 species of spontaneous flora in the GRA area (Atlas of spontaneous flora 1995);
- 190 species of spontaneous or naturalized trees;
- 75 species of breeding birds*, 38 wintering and 13 in stopover (Atlas of breeding birds in Rome, 1996);
- 7 plant consociation: wet woodland, woods of mixed deciduous mesophiles, Turkey oak woods of the countryside around Rome, mixed sclerophylls and deciduous thermophilic* woods, coastal cork oak woods, holm oak woods, Mediterranean scrub;
- 15 species of reptiles and 6 species of amphibians;
- over 5200 species of insects;
- 23 ecotopes;
- 20 SIC

The network also defines some strategic corridors of continuous areas which are very important for the territory of Rome.

The biological corridor which can be considered primary goes from North to South-West, and is created by the Tiber, which plays a very important role since it crosses the centre of the city and links the vast protected areas of Vejo and Marcigliana to the great coastal areas.

This corridor brings great advantages to the network and tells the story of settlements on the territory since ancient times, and has extraordinary environmental value for the way it develops, cutting the city diagonally and linking the great parks with the Riserva del Litorale Romano, the natural reserve of the coast of Rome.

There is also a corridor running along the East-West line, made by the Aniene river, which flows into the Tiber, a basin that also develops in the Acqua Vergine area, of great importance due to its springs.

Another biological corridor follows the NW-

Fig. 3_ The Caffarella Valley

SE line, cuts the city diagonally and starts with the vast Parco di Vejo, links up with the Riserva dell'Insugherata, and links up with the archaeological park of the Fori Imperiali after crossing the Tiber, then connecting with the areas of the Parco dell'Appia Antica up until the Parco dei Castelli.

1.4 Protected natural areas

Within Rome's Township, which, as mentioned above, is very extended (128.000 hectares), there are no less than 19 protected natural areas with a predominant aspect given by a 1997 environment protection policy chosen together with Regione Lazio; this means that these natural areas benefit from strong protection conditions thanks to the Township's town planning and the regional environment laws. These areas and reserves protect important environmental "resources": water, flora, fauna and geomorphology, and together with the hydrographic grid they define the basis of the vast environmental system of the urban ecologic network (system of protected areas: 80.000 ha).

1.5 Historical vegetation. The villas and the historical landscape

The rich history of Rome, a city of noble aristocratic families such as Barberini, Borghese, Torlonia and Pamphili, has left a mark in the gardens of historic residences such as Villa Borghese, Villa Ada, Villa Pamphili, Villa Torlonia and Villa Albani, a testimony of different ages, garden tastes, fashions and novelties that make up landscapes of extraordinary interest, and that today are public, no longer private. They are true "outdoor museums" that narrate important moments of garden arrangement, from the 16th to the 17th, the 18th or the 19th century up until the gardens of the 20th century.

Rome also has many 19th century and 20th century historical parks linked to the development of the city, EUR among them, and the headquarters of the World Exhibition of the 40s, with an interesting scattering of green areas and avenues.

A great variety of park structures, together with the great variety of species of plants used, the weather conditions and the morphology of the territory, have always favoured the use of many species and variety on the territory of Rome, with obvious composition potential.

1.6 The archaeological parks

The history of Rome, as has already been mentioned, couldn't help but define a specific type of archaeological park, from the most famous and important, such as that of the Forum in the centre of the city, to the parks of Appia Antica, Villa dei Quintili, Villa Sette Bassi, up to numerous archaeological parks even more closely linked to the peripheric districts like Parco di Torre del Fiscale, Parco dei Centocelle and Parco degli Acquedotti.

A clear example of the close integration between these parks and the fabric of the historical and consolidated city is Parco della Caffarella, part of

Fig. 4_Appia Antica park: Villa dei Quintili along the Appia Antica

the bigger park of Appia Antica.

Archaeology is closely connected to nature; in some cases the project of the park starts being a testimony of a museum of the history of the place, in others it aims at rebuilding landscapes where these elements merge in view of a new fruition and enhancement of more general landscape and green structures.

Fig. 5_ The Roman countryside, south eastern suburbs, suggestive intersection between the acqueduct Claudio and countryside

1.7 The city walls' parks

Among the most striking testimony of ancient, imperial Rome are the great Aurelian city walls with the gates to the city, some of which have been modified in the Middle Ages, the Renaissance and in modern times. It is a historical heritage of the construction of the city to be read as a park that marks the urban dimension and landscape of the city throughout the various ages.

It is the definition of linear parks along the city walls that enhance the most significant points, including the famous "gates" according to a fascinating tale built on perspectives and great spaces.

1.8 The river parks

Rome is crossed by two important rivers, the Tiber, whose banks have collected the ancient Roman settlement, and the Aniene, an affluent. The whole of the Tiber basin is the main feature of vallies and dips that mark Rome's morphology. It is the Tiber and its affluents' vast water basin which include rivers such as the Almone, which have each defined areas of river landscapes.

The Tiber crosses the whole city and presents very diverse spaces and nature conditions which are highlighted by works along the banks which are able to define a river park rich in the history of the river and its nature.

1.9 The farming areas

Well over 50% of the territory of Rome is still farming land. As is known, Rome is among the townships with the greatest farmed expansion in Europe and the so-called "Agro romano" is still largely present, despite the constant threat of edification and the tangible land erosion due to the housing sprawl, though it is often in critical abandon.

It is the famous "Agro romano", a countryside with a rich history, described by poets and painters such as Goethe, Stendhal, Corot and Coleman.

A countryside illustrated by painters and waterpainters, so extraordinary and remarkable with its gentle hills and dales, its agriculture and vast pastures, interspersed with extraordinary surfacings,

Fig. 6_The redeveloped space of the Alessandrina square

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archaeological remains, such as the Aqueducts of Appio Claudio, Felice, Alessandrino, etc., or the medieval towers or the old farming hamlets with various farmsteads of great architectural and typological interest as defence for cultivation and a testimony of the various historical moments.

It is a unique landscape condition, which still today offers the possibility to give local identity and structure to the districts of the periphery, even greatly degraded ones, with operations that aim at working on the landscape to reorganize urban structure.

It is an extraordinary chance for contemporary landscape projects: the coexistence of the productive landscape with the urban one, and also with what we could define the places' identity feature, so diverse in Rome and strongly felt by citizens, who show special interest in landscape identity.

1.10 Trends in contemporary landscape; The new parks – suburbs and farming areas

The expansion of the city and the extraordinary number of areas protected by environmental or historical-archaeological restrictions has given the possibility to carry out works, in peripheral areas, that are important for the landscape and strategic for the ecologic network and the redevelopment of the farming landscape within the Agro Romano, through a strategy of projects for the landscape.

In parts of the peri-urban territory of Rome there are many illegal squats, some a consequence of the spontaneous expansion of small farming hamlets, others that grew over areas of ancient Roman or medieval or nineteenth century settlements of which we can still see traces thanks to archaeological remains, medieval towers, road traces, farmsteads.

The countryside of Rome, for its history and nature, has taken part, and still takes significant part in the construction of the city. The same results of the disorderly building development that was sketched out above could be read in a positive light, and carefully lead back – through landscape recovery projects - to forms of urban sprawl where it is possible to try out new landscape projects.

For the City Administration I have dealt with the upgrade of the suburbs of Rome, and the strategy has been to set as goal the reversion of the negative perception of the landscape at the margins of the built city, to develop the theme of a "new urban landscape" and its reconstruction as a positive element on which to base the redevelopment projects of the city, strictly connected to the ecologic network.

Landscape projects which were able to give back identity and structure to the territory were used to give an urban structure to districts in degraded areas.

The Programme "Landscapes and identity of peripheries" is such a project, which has seen the creation of parks in peripheries, with a strong participation and involvement on the part of citizens, who were a sort of stimulus for redevelopment, defining landscape structures to redevelop urban fabric.

The Programme follows the principles of the European Landscape Convention, recently signed by all European Member States and implemented in Italy with Law n. 14/2006. Specifically, Rome has conformed to the RECEP network, a network created to spread and implement the Convention and its principles, that deal with identity and the participation of citizens, as elements to be taken as the basis of projects and landscape choices. The experiences made so far in the periphery of Rome have confirmed the effectiveness of this orientation, since they have had satisfactory results, besides several awards.

The projects developed inside the Programme, therefore, have as their objective to rediscover the potential that peripheric areas have within the more general city layout. The goal is to eliminate the degrading conditions that are typical of these areas, highlighting their specific landscape potential after a judicious interpretation of the evolution of the landscape, be it anthropized or natural. Resources of environment, history, identity, places and communities must be emphasized. Project choices are based on a vast active process with the citizens involved, because it is the only way to rediscover identities based on the belonging to places, and to identify the values that are important for the people living in that area.

The surviving traces of farming activities and historical settlements sometimes need careful work to reconstruct and give a more modern functionality; but their rediscovery, protection and enhancement is not only needed by historical-archaeological culture, but opens, in my opinion, varied and interesting possibilities for reconstruction projects of landscape and identity of the contemporary city, to share with the interested parties.

It is here that we can highlight and strengthen the possible green corridors that link outside natural areas with the semi-natural areas preserved inside the urban fabric and which therefore become strategic elements of the whole city's ecologic network which is being created.

In implementing environmental redevelopment projects for peripheries, the programme "Landscape and identity of the suburbs ecological" also fulfils the notable objective of developing, creating and strengthening the city's ecologic network, an essential base to give way to projects of urban landscape redevelopment in a more general sense. In short, we can say that the environmental impro-

vement of more central areas, the structure of the environmentally-compatible city model and the landscape of the contemporary city depend on the redevelopment of peripheral areas.

In order to address the habitat's physical degradation and the inhabitants' social unease, all projects set themselves multiple goals of physical, social, economic and cultural transformation. They incorporate various functions for social cohesion, like parks with cultural centres and libraries, which have special financing and are integrated with specific operations to support the improvement of economic conditions ad general local development. They aim at finding the history and the identity of places also through perception, based on a constant process of participation.

The projects that have already been carried out usually involve areas included in the new systems of peripheries' main features, as identified by the General Town Plan that has been recently adopted; these are areas connecting urban fabric, parks, meeting places and green areas, and are created in observance with redevelopment plans for urban recovery.

Others are intended to recover history and nature systems, like the recovery of Parco della Caffarella (300 hectares) and Parco degli Acquedotti (400 hectares), included in the greater regional park of Appia Antica (2,500 hectares). In these contexts, highly degraded by improper use and neglect, the landscape projects that were developed contrasted neglect and helped recreate a landscape, even a farming one, that would tell the story of these territories, from their origins up to today,

paying special attention to reconstruct the landscape, so it would evoke the past. The operations aimed at giving a uniting perception of the values at hand, at the same time trying to offer a fruition in line with citizens' current needs.

Another innovative landscape planning element is linked to the idea of the new centres indicated in the new General Town Plan, and consists, when reconstructing landscape, in integrating multiple functions and identity elements all aimed at improving urban quality in the peripheries. An example is the project of the park of "Collina della Pace", in a very degraded area east of Rome. After tearing down a huge illegal building, the injured morphology was reconstructed with embankments planted with olive trees, thus recreating the "hill" that had been devastated in the past. Places are liveable again, and in the new park, which evokes the farming history of the place, a series of enhancing public functions in the old farmsteads are expected, in areas that have been confiscated from mafia speculation companies.

A similar example is the operation carried out to rebuild the identity and the public spaces of a difficult and confused urban fabric in the Alessandrino area. It is the creation of a square and a sort of linear park along the remains of the Alessandrino Aqueduct, a local centre very much felt by its citizens who wanted to gather as a community, which identifies and enhances the significant elements of the history of that territory, starting from the origins of the Roman Empire. There are also other operations where urban fabric is very degraded.

Fig. 7_ The urban fringe and the Roman countryside (rendering)

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Still in the east periphery of Rome, inside the public park created when refurbishing the establishment of "Prato Fiorito", severely damaged by illegal occupation, some abandoned farming areas where some vines and fruit tress remained have been recovered and made productive. The existing vine has been integrated in a park, functioning as the memory and the identity of the place, but also giving new to the function landscape thanks to the new layout of the fields and the inclusion of rows of rose beds.

This operation has a strong symbolic value, an example of the new relationship that there could be between farming areas and the city: areas that are vital for the rebirth of the territory, that must be preserved as morphologic and archaeologic testimony, or as simple reminder of historical settlements and productive areas.

An operation was carried out also south of Rome in "Parco di Torre del Fiscale", 11 hectares in a badly degraded neighborhood which is nonetheless rich in history with the ancient aqueducts, Appio Claudio and Felice, and also traces of the ancient Via Latina, and proof that farming was carried out there. The operation on the public park is based on the organization of the landscape layout of the whole district; through lawns, rows of trees, the farming of olive trees and vines, and the recovery of existing farmsteads it has created a particularly striking place. Loved and tended by the citizens, this place has created a new social, economic and cultural dimension for the whole district, and has acted as stimulus for a more general redevelopment.

Another interesting and creative operation is that of "Piazza Elsa Morante", that puts together various elements: the park and pavil ions for a place of culture on a vast abandoned parking lot, which becomes a meeting place in a socially very difficult neighborhood. An area created by defi-

ning a green space, which also integrates a sort of sprawling cultural centre: a library, a theatre, and refreshment areas deep inside the park. All this makes this place "the Agorà" square of the neighborhood, where about 28.000 people live.

The programme that has been launched for the peripheries of Rome seems a helpful experiment for a model of urban life, that is less estranged from nature, and is a new model of rural landscape to propose to inhabitants and be shared with other citizens like something precious, something essential to give body to damaged fabrics and create a dialogue with the city's history.

1.11 The European Landscape Convention: participation in city projects: the identity landscape

The developed programme of operations on landscape refers to the "identity of places", following up on the principles expressed in the recent European Landscape Convention.

With the concept of landscape, these principles identify the determining role of the identity factor of a community, that sees an essential value in "places", i.e. the contexts of the territories of origin, and underline the role of citizens' participation in the enhancement process.

That is why the "suburbs landscapes" programme, to be carried out, needs the keen participation of the interested communities in the process, seeing in the inhabitants the primary makers of those transformations defined by the project, with the ambitious objective to address and reshape the relationship between society and landscape.

All these considerations have lead to participation processes and some experiments of planning laboratories with citizens, which were active for months. It was done in neighborhood considered difficult even from a social point of view, where it was necessary to rethink the city planning solutions first adopted, as in council blocks like "Corviale and Laurentino", or find new solutions, since some districts have sprouted without any plan or design, but only through widespread illegal building.

Fig. 8_ Archaeology and agricolture in the Tor Fiscale park

Fig. 9_ The settlements processes of transformation: the research for identity

Fig. 10_ Participatory processes with children

Sadly, we have to admit that in Rome today we don't apply adequate techniques nor appropriate management models. Furthermore, the cultural sensitivity of companies and guilds on these topics has not improved. There isn't a gardening school to train specialists for the management of historic green areas, nor to take care of nature. Overall, administrations today have been deprived of a great amount of economic resources, and are unable to act adequately given their scarce economic resources, even though citizens' sensitivity has grown, like the request for better city quality and environmental quality. An inadequate management is without doubt one of the growing threats to contemporary landscape.

The participation of citizens and their involvement in planning choices, their constant information during the execution of projects, have been vital to make the communities aware and to direct the choices of architects in order to address needs being expressed. However, participation and the constant relationship between operators and users also seems to be vital if vandalism is to be minimized, and hopefully if a fruitful and respectful relationship is to be found between the resources of the environment and the landscape of the city.

1.12 Management issues

Rome's extraordinary and varied green heritage, in all its different forms, significant for quantity and quality, is not in great shape because too many administrations are involved, because of how protection laws are articulated, but mostly because of the lack of management capability of the administrations of the Township and the Region. There are many maintenance problems, most of all a severe lack of ordinary maintenance. A green heritage is a dynamic condition, which must be followed with scientific attention based on accurate and constant operating methods and choices.

Furthermore, it must be clarified that, obviously, special management is needed for protected areas, which are so many, that should be based primarily on natural and ecological criteria, and should be able to preserve the existing "naturality" and biodiversity levels, and also avoid degradation. According to the various types of existing urban green areas, appropriate maintenance with a congruent level of expertise is needed, or in any case constant care based on scientific criteria, even to regulate the relationship with the users.

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Chapter 2

Archaeology as a variable component of the image and the town-planning of Rome

Massimo De Vico Fallani e Carlo Pavolini

Chapter 2
ARCHAEOLOGY AS A VARIABLE COMPONENT OF THE IMAGE AND THE TOWN-PLANNING OF ROME

Massimo de Vico Fallani, Carlo Pavolini

In 1991 David Coffin thought about the physical and mental association between the ruins and the image of Rome as one of the original grounds for the making of papal and cardinal's Renaissance gardens (Gardens and Gardening in Papal Rome, Princeton, New Jersey, 1991). Brought it back again to the contemporary Rome, such observation seems absolutely still relevant. The Aurelian Walls, built towards the end of the 3rd century a.C., convey the ideas of "in" and "out" to the today's citizens, a city centre distinct from the outskirts. On the contrary, until their lacerating construction, Rome extended to the Agro (countryside) uninterruptedly, taking the urban tissue in the same areas which, from the Second World War on, have been invaded by low quality and cynical building, to which the innumerable and scattered ruins mainly represented an annoying impediment.

Mostly thanks to associations such as Italia Nostra, and to the contribution of Neorealist literature and cinema, with the films of Vittorio De Sica, Renzo Rossellini, and subsequently Pier Paolo Pasolini, the ruins on the outskirts, or rather the outskirts themselves as a congenital association between ruins and buildings, have been revalued not only by the researchers, and the finally hypostatized archaeology has been considered as one of the most authentic timeless symbols of the image and urban design of Rome.

The vegetation is an integral part of the association between ruins and modern construction, and the interplay of such three elements is a variable foundation of the image through time. The green areas of the Imperial Rome were zoned in horti, gymnasia, viridaria, or colonnades, but since the Middle Ages Nature rendered an image that after the Renaissance has been considered a monumental value, like the pre-Romantic vision of Roma quanta fuit ipsa ruina docet (How great Rome was, its ruins teach). Form the 18th century on, the new-born Archaeology, which was conceptually hostile to the parasitic vegetation, clean the ruins to study and preserve them. In the following century, two trends may be observed. On one hand, the purist and illuminist approach made Luigi Canina (1795-1856) see the ancient Via Appia completely free from vegetation. On the other hand, an active concept increased to enhance the role of the association between ruins and vegetation as a project aim.

The iniziator was Giacomo Boni (1859-1925), director of the excavations of the Roman Foro and the Palatino hill, pupil of John Ruskin. He partially disagreed with his master, landscaped the Roman Foro and the Palatino with trees and shrubs, according to the strict method which he elaborated and entitled: «Flora dei monumenti romani» (Flora of the Roman monuments).

In his method, together with a 'naturalistic' compositional concept that was not entirely new as close to the so-called 'Landscape Gardening' and to its classical pastoral roots, the reclamation of the ancient topiary art is identifiable as a tool for the

restoration of monuments. Giacomo Boni himself made use of landscape works at the Roman Foro, as well as in the early years of the 20th century Raffaele de Vico (1881-1969) did in the Garden of Colle Oppio and some years later Antonio Muñoz (1884-1960) in the Venus and Roma Temple.

Furthermore, a few years later the archaeological park of Ostia Antica, which deserves an accurate analysis, appears full of charm. On this point, during the presentation for the Workshop some extraordinary and partly unpublished images, kindly available from the Archives of the Archaeological Superintendence of Ostia, will be rapidly shown. Such pictures highlight how the great experts who succeeded to the excavations in those crucial years – first of all, Rodolfo Lanciani and Dante Vaglieri between 1880 and 1913 – conceived and partly made some landscape works which aimed to integrate the contemporary perception of the classical ruins, yet with shapes that would have been deeply changed by the final and current arrangement.

The zenith of such event can be seen in the wonderful watercolours of the landscape design of Ostia, by Michele Busiri Vici. He was involved when the big excavation for the EUR (Universal Exposition of Rome) was already completed, in 1941, and proposed his model and solutions which were very close to those actually adopted. Identity and differences with regard to what can be still seen whilst walking in Ostia represent two mirror elements, but addressed to arouse equal interest. It is true especially where signs of the concept of "ancient garden" can be perceived which, after a few decades, are already part of the history of archaeology and culture more than the current approach.

In the recent years, architects of the staff of the Local Council of Rome such as Mirella Di Giovine, have focused with remarkable and contemporary sensibility the relationships between ruins and the town sprawl in several peri-urban areas, i.e. the Park of Caffarella, the Aqueduct Alessandrino, the Aurelian Walls along via Carlo Felice, and other projects.

Fig. 1_The Ostia Antica Archeological area today (Googlemap)

Chapter 3

Roman landscapes and selected Portraits

PhD Students: Viola Albino, Maria Beatrice Andreucci (Coordinator),
Filippo Calcerano, Sonja Radovic-Jelovac

Chapter 3

ROMAN LANDSCAPES AND SELECTED PORTAITS

Viola Albino, Maria Beatrice Andreucci (Coordinator), Filippo Calcerano,
Sonja Radovic-Jelovacv: PhD candidates in Environmental Design at «La Sapienza»

The narrative of the following chapter is to present Rome directly through a selection of snapshots, recently taken by the authors, depicting in a spontaneous and non-guided way, the variety of its landscapes, thus leaving the readers with the possibility to fill the blanks with their own, unique, imaginative captions. The declination of the chapter in three sections - Nature, History and Contemporary - reflects the categories which have been investigated throughout the research work.

3.1 Selected portraits
3.1.1.a Nature

Since its foundation, Rome has always been rich of woods and forests, which were mostly admired and respected by Romans. Being aware of the power of plants, they soon emanated special laws to protect nature and trees. Woods became temples and this tradition lasted for long times, even when Rome expanded both geographically and in terms of political power.

As of today, 70% of the municipal territory is dedicated to natural environment, with a total of 88,000 hectares of green areas. For high percentage of agricultural lands - over 60,000 hectares - Rome is the first agricultural municipality in Italy.

Roman countryside is not only around the city but also penetrates deeply in its hearth, with large green wedges often linked to gardens and public parks, thus creating ecological corridors, as key connections to preserve bio-diversity.

50% of Roman green areas are protected by law, to preserve and promote environmental, aesthetic and landscape values throughout the Region.

In the Capital City, there are 20 protected parks, reserves and marine areas, counting for over 41,000 hectares, 15 of which are directly managed by the Regional Authority, RomaNatura.

The system comprises:
a) 9 Natural Reserves, created by Regional Law n. 29/97:
b) 2 Regional Parks created before RomaNatura
c) 3 Natural Monuments

Riserva Naturale della Marcigliana (ha 4696) (1)
Riserva Naturale della Valle dell'Aniene (ha 620) (3)
Riserva Naturale di Decima-Malafede (ha 6145) (4)
Riserva Naturale del Laurentino – Acqua Acetosa (ha 152) (5)
Riserva Naturale della Tenuta dei Massimi (ha 774) (7)
Riserva Naturale della Valle dei Casali (ha 469) (6)
Riserva Naturale dell'Acquafredda (ha 249) (8)
Riserva Naturale di Monte Mario (ha 204) (10)
Riserva Naturale dell'Insugherata (a 697) (11)

Parco Regionale Urbano di Aguzzano (created in 1989 – ha 60) (2)
Parco Regionale Urbano del Pineto (created in 1987 – ha 243) (9)

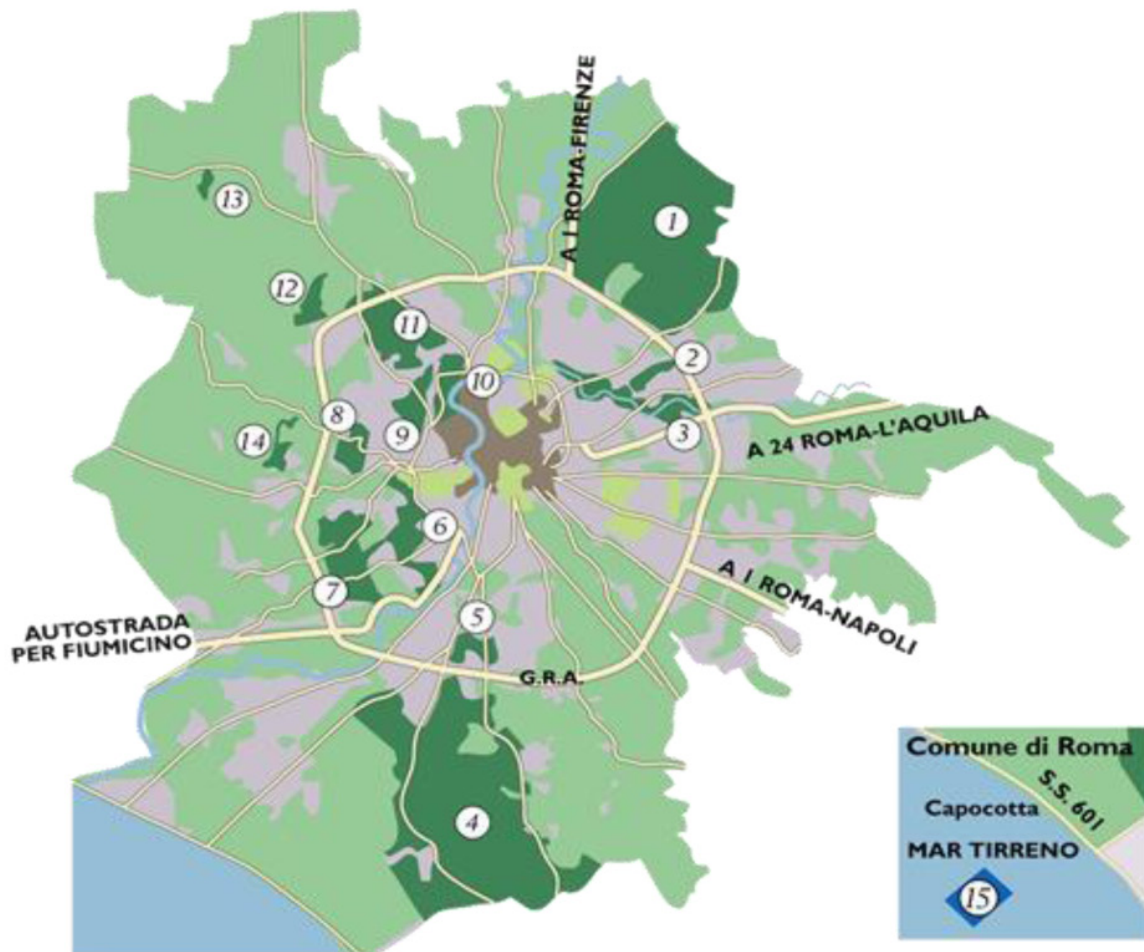Monumento naturale di Mazzalupetto - Quarto degli Ebrei (ha 180) (12)

Fig. 1_Parks and nature reserves

Monumento Naturale di Galeria Antica (ha 40) (13)
Monumento Naturale Parco della Cellulosa (ha 100) (14)
1 Protected Marine Area, created by Decreto del Ministero dell'Ambiente, 29 novembre 2000
•Area Marina protetta delle Secche di Tor Paterno (ha 1200) (15)

3.1.1.b Regional Parks

1. The area of the natural reserve of Monte Mario with its height of 139 meters is the highest hill of the Monti della Farnesina and represents for its environmental features a true mosaic of biological diversity now rare in Rome.

A large presence of typical Mediterranean vegetation, in the lower zones (Ilex, Cork and Rockrose) is accompanied by the typical vegetation of sub-mountain conditions in the higher areas (hornbeam, Linden, Maple, Ash, Hazel, Privet and Dogwood). The development of the area has greatly disturbed the original fauna present today: rodents (Dormouse, Woodmouse) and birds (Robin, Blackbird, Long-tailed tit, Greenfinch, Goldfinch, Jackdaw and Starling). Already in Roman times

the Hill housed the residential villas and noble poets and was crossed by the armies returning from military campaigns along the via Trionfale crossed also by the pilgrims on their way to Rome, becoming the last stretch of the via Francigena, the medieval route from Canterbury to Saint Peter and down to Jerusalem. The area includes historical villas, including Villa Mazzanti, RomaNatura, and Villa Mellini, home of the famous Astronomical Observatory.

2. The natural reserve of the Insugherata stretching between the districts arose in the East, along the Cassia, and the via Trionfale, in the West, represents an important natural corridor between urban boundaries to the North of the city and the great system Veio – Cesano, included in the area of the drainage basin of the Acqua Traversa.

Along these two boundary lines are numerous archaeological remains of Roman villas and tombs. The vegetation is very articulate. Slopes exposed to the South host the downy oak, Cork oak or holm oak on rocky hills, while those on the West side present a vegetation completely different, with mixed forests consisting mainly of hornbeam, manna-

ash, oak and Maple. There is also the chestnut and Hazel in the lower parts. Along watercourses are the willow and poplar and notable is the presence of ferns. Rich is the area's fauna: among mammals, Hedgehogs, Moles, the Porcupine, the Dormouse; among the birds of the Kestrel, Pheasant, Turtle-dove and Cuckoo. Among reptiles the Slow worm, the Grass snake and among amphibians is the presence of the Spectacled, exclusive species of the Italian peninsula.

Fig. 2_ Wetland (Photo Maria B. Andreucci)

3.1.2 History
3.1.2.a History Villas

The "peaceful abodes of the gods", in this way Lucrezio colled the horti of Romans, where the they could find thermal baths, libraries, theaters, gimnasium, cared parks and gardens, close to the aesthetic nature of the English gardens design of the eighteenth century, there was always present a ambulation, a path for walking, enriched by a colonnade, of which the most famous example is the Villa Adriana Pecile, studied even by Giambattista Piranesi.

The fall of Rome caused the slow surrender of his villas, such the Villa di Nerone , the villa Quintili, at the Villa di Orazio, the Villa di Livia and the Villa di Plinio: it was not until nearly ten centuries to see revive the culture of the villas. Perhaps the beginning of modern thought will be the early XVI century thanks to the Agostino Chigi, who will entrust to Raffaello Sanzio and Peruzzi the construction of his villa: the Villa Chigi, defined the first Villa Romana, with installation of Italian gardens and the riverport. Ended the wars of Italy, Rome sees the rise of the Villa Medici on the Pincio, a masterpiece of half the 500, Villa Giulia at Flaminio, spectacular design of Vignola and Ammannati, the casino Mattei on Celio, but it 's during the

seventeenth century to be carried out many of the Roman villas still visible today: the most important is the Villa Pamphili, ordered by Pope Innocente X and headed by Alessandro Algardi, fortunately preserved by the speculation of war. So will be built the villas of families Spada, Farnese, Pallavicini, Corsini, Barberini and Sciarra, the Esquiline and the Pincio will be also interested by construction of new villas. If the sale of the land of Villa Ludovisi has deprived the city of one of its most beautiful villas, so it was not for Villa Borghese, sold to the City of Rome and preserved as a public park, within which stands the famous casino Borghese, now a museum. Before 1870, when Rome became the capital of the Kingdom of Italy, few villas were built: at the beginning of the century Giuseppe Valadier built on the Pincio hill the famous Villa casina Valadier, then was built Villa Torlonia, a true masterpiece of architecture and decoration neoclassical recently reopened to the public. Unless some other rare exceptions , Villa Mazzanti, casina Vagnuzzi , villa Poniatowskj , three quarters of a century ends there. Will be the new zoning of Rome Capital to provide information about a new type, the cottage, which will affect large part of new development areas.

1. To give life to the gardens of Villa Adriana was the water: the villa as well as beingimmersed in the green was filled with fountains, waterfalls and pools. unlike the «drama» scenes of Villa d'Este, here the water dominates gently, with peristilo gardens and terraced gardens, triclinium, all designed according to the Roman landscape tradition, in respect for the configuration of the land.

After the death of Adriano the Villa suffered 10 centuries of neglect, exposed to weather and continuous pillages for the construction of Christian churches, and was finally covered with earth, on which grew olive trees. Only in the Renaissance was recognized the role of residence of Hadrian,

Fig. 3_ Villa Adriana (Photo Maria B. Andreucci)

Roman landscapes and selected portaits

and in 1942 began the excavations. Villa Adriana was recognized UNESCO World Heritage in 1999.

2. Villa Borghese, the queen of Roman villas, is considered one of the few remaining untouched by extension, but almost entirely devoid of plant and archaeological characteristics, and furniture that made it famous.

The introduction of random species unrelated to the original character, the lack of care of fields,

Fig. 4_ Villa Borghese (Photo Maria B. Andreucci)

and the opening of many roads, have distorted the reality of this beautiful villa but it is still possible to admire the monumental entrances, the picturesque Lake Garden, and the Secret Gardens, as well as the gardens of the Pincio, which still offer one of the most famous and characteristic views of the city.

3. Villa Doria Pamphilj with its 184 hectares is one of the most important and extensive historical Roman villas, which are well documented, and preserved in part, the arrangement seventeenth century and the subsequent transformations.

The park of the villa, designed as a combination of different types of garden, became the protagonist from the beginning, and an element of mediation between architecture and landscape, justifying the name of the villa as a "Bel respire" (deep breath), an innovative arrangement that incorporates the grounds of Italian formal garden. In 1939 the City

of Rome started the first expropriations, and the Italian State in 1957 acquired the original nucleus, part of the current 184 hectares were acquired by the City of Rome in 1965 and 1971, making it finally possible since 1972 to open to the public this wonderful park. The opening of Via Leone XIII on the occasion of the 1960 Olympic Games, has divided the complex into two parts: the east sector more rich in monuments (buildings and historic gardens, fountains, furniture), west of the more «wild» and naturalistically more qualified.

Fig. 5_ Villa Doria Pamphilj (Photo Maria B. Andreucci)

3.1.2.b History Fountains

Founts had always be a natural consequence of geological structure of the region and many natural springs characterized the area before the Romans colonization. The first fountains appeared with the need to collect and store water, and became parts of Ancient Roman landscape with the built of acqueducts that allowed to build fountains without springs in their surroundings. According to Sextus Julius Frontinus, the Roman consul who was named curator aquarum or guardian of the water of Rome in 98 AD, Rome had nine aqueducts which fed 39 monumental fountains and 591 public basins, not counting the water supplied to the Imperial household, baths and owners of private villas .

One of the first new fountains to be built in Rome during the Renaissance was the fountain in "Piazza Santa Maria in Trastevere" (1472), which was probably a rebuilding of a pre-existing ancient roman fountain. During the 17th and the 18th century after the reconstruction of three acqueducts, new monumental fountains appeared in Rome as a caratheristic sign of Catholic power against Protestant Reformation. A brief selection of fountains of this period can't ignore the "Fontana della Barcaccia"(1627-29) located in "Piazza di Spagna" made by Pietro Bernini, the "Fontana del Tritone"(1642)

in "Piazza Barberini" and the "Fontana dei Quattro fiumi"(1648-51) of "Piazza Navona" made by Gian Lorenzo Bernini and "Fontana di Trevi" by Nicola Salvi, one of the most recognizable symbol the city thanks even to the renowed scene of "La Dolce Vita" by Federico Fellini (1960). A traditional legends holds that if visitors trow a coin backwards into the fountain, they are ensured a return to Rome. About 3'000 euro are thrown in the Fountains each day and are given by Comune di Roma to Caritas. The 19th of October in 2007 the Italian militant Graziano Cecchini inked in blood red the fountains as a protest against the global market.
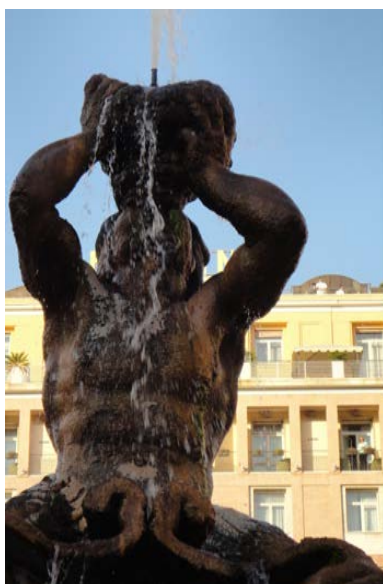
Fig. 6_ Fountain (Photo Sonja Radovic-Jelovacv)

Selected portraits - History
3.1.2.c Other open spaces

Squares

The squares of downtown Rome once was the centri nevralgici of inhabitants activity, and represents today a node of life and history where the thoughts run through the superb buildings that rules the square as if it was a monumental atrium and an invite to admiration (G.Toselli – Le piazze di Roma – Fratelli Palombi Editori Roma 1967). The monumental characterization of squares like "Piazza del Popolo", "piazza Navona" (where were once held naval battle, or "Piazza di Spagna" has little in common with the new squares of contemporary Rome where the historical and monumental value gives the pace to a more functional and usually traffic-jammed type.

Religious Squares

Rome's religious role was during the centuries consolidated by the Pope's presence and it's easy to comprehend how the city can be called the "One thousand church City".

Churches are not always the most important feature of the square that are not always characterized by mystical meanings as the relationship with the church would suggest.

The most important example of mystical symbolism of religious square in "Piazza San Pietro" where the space configuration represents the "hug" of Christian church to their believer, and where the fideles can search his contact with god. Otherwise a square like "Santa Maria Maggiore" (known as the best "rear square of Rome") Represents a formidable way to deal with the slope of Esquilino hill enhanced by the volume of the church with a genial solution of different planes, from the top to the bottom.

Districts

The first urban subdivision of Rome was made by "Servio Tullio" in the VI sec b.C. and was composed by four districts, that under Ottaviano Augusto became fourteen. During the medieval time they became 13, under the French occupation a new rationalization took the number down to 12,

Fig. 7_ Piazza San Pietro (Photo Sonja Radovic-Jelovacv)

cut down again to eight. With the Italian unification a new subdivision created the current subdivision in fifteen different districts called "Rioni", placed inside the ring of "Mura Aureliane" (except Borgo and Prati). Outside the ancient city wall ring there are other 35 districts called "quartieri" each one with great building density and typology difference, from the cultural and sporting peculiarity

of Flaminio, from the high upper class housing scheme of Parioli, to the Garden City structure of Monte Sacro, to the popular characterization of Tiburtino, Prenestino and Tuscolano, to the ex-industrial vocation of Ostiense and Portuense, until the disctrict of Lido di Ostia Ponente, Levante e Castelfusano that borders the sea. There are then 6 territories ex-districts and up to fifty-three zones

Fig. 8_ District (Photo Viola Albino)

dividing the roman countryside (Agro Romano).

Public Promenades

Were designed for the first time during Napoleon's rule, as samples of greenery in urban tissue and allocated for all citizens with recreational and commemorative usage. As symbols of rising democracy which advocated right to entertainment for all social classes, designed to resemble French public promenades and they immediately became qualifying element of new urban space. At the moment, the typology refers solely to Pincio and The Janiculum (it. Gianicolo), but we also need to recall magnificent unrealised project for Celio promenade or history of archaeological walkway, a system of vegetation made between 19th and 20th century to accentuate monuments such as Circo Massimo and Terme di Caracalla, and then opening of Kristopher Columbus street, which is background of one of the most important rapid traffic arteries. Walking today along Celio, between boulevards with tram rails and asphalt, watching perched and poor lawns with scattered monumental fragments, it is hard to recall project that was approved in the beginning of 19th century at the time of Napoleon's rule. That place abundant in historical memories was allocated for large public walkway, conceptualised as pedant, for the southern part of the town, from Pincio hill and located on a wonderful position that predominates the Coliseum, overlooking the Palatino hill. However, while the garden of Great Caesar, known as Pincio, became immediately privileged town

meeting place, competed and enriched even after the return of the Pope's rule, Celio garden saw just a few interventions soon annulled by spreading of surrounding districts, until any trace of its initial image was destroyed.

1. Piazza San Pietro is all about perception. The solution used by Bernini is at the same time: a

Fig. 9_ Pincio (Photo Sonja Radovic-Jelovacv)

mean to balance the width of Maderno's facade of the church, considering the lack of two bell tower that were never made, a way to save the Michelangelo's dome concealed by the extraordinary length of the church, a space made to hold the blessing extended to the whole world <<urbi et orbi>> during Easter celebration .

From a perceptive point of view, the piazza retta (the trapezoidal part) is a solution (already used by Michelangelo in Piazza del Campidoglio) to narrow the front facade and make it seem taller, while the piazza obliqua (the elliptical part) make it seem closer to the viewer. The effect is strengthened by the height of the side wall of the piazza retta, that become shorter approaching the church, so that the height of it, is measured in relation of smaller pillars than those at the beginning of the square. The system center, the obelix, was out of the axis of the church to south of about 4 meters. This irregularity is now impossible to detect in a conscious way because was balanced in a subliminal way by Bernini with a gap of height between the two exedras of the piazza obliqua of about half a meter towards north . The square is full of small optical illusion/solution (the details of the statues, the geometrical design of the paving, the relationship between different orders...) that grants to the observer the unity and the perceptive awareness of a space so huge.

Another important feature of the square is that the piazza obliqua can be considered at the same

time closed and open. The space is firmly defined, but the elliptical form creates an expansion towards the transverse axis even powered by the "transparent" arcade. The effect is of perfect integration between the square and the external reality. The space becomes the match point of the entire humanity .

 Piazza San Pietro is a supreme example of spatial composition, and demonstrate that a system of

Fig. 10_ Vaticano (Photo Sonja Radovic-Jelovacv)

"places", put in a particular relationship with the setting, can symbolize a content that embraces the most deep issues of human existence.

2. Gianicolo (or Janiculum) is famous for being one of the most charming corners of Rome a balcony with breath taking views over the expanse of

Fig. 11_ Gianicolo (Photo Sonja Radovic-Jelovacv)

churches, piazzas, and monuments below, with the meandering Tiber taking centre stage. Towards the east, the hill descends to another famous and ancient Roman quarter: Trastevere.

The name Janiculum comes from the belief that in ancient times it was the place where the god Janus was worshipped. The Janiculum Hill (Monte Gianicolo) is a long ridge on the right bank of the

Tiber, running almost due north from a point opposite the Aventine to what is now called Monte Mario, a distance of about 5 kilometres. This was in the Ager Vaticanus (q.v.), and was sometimes called Mons Vaticanus. It is separated from the plateau behind by a long depression, and is itself not entirely continuous, being partially broken on the south, west and north-west of the Vatican by natural and artificial valleys.

3. Pincio Promenade, between Piazza del Popolo, Villa Medici and Muro Torto with direct link to villa Borghese through the street of Magnolias, is conceptualised during Napoleon's rule, and implemented in Rome in 1810.

The park was designed and built under the auspices of a Roman architect and archaeologist Giuseppe Valadier in the context of broader reconstruction boundary and systematisation of Piazza del Popolo zone, which included, in addition to the garden, Pincio hill and Casina, monastery Agostiniani, reception streets Ripetta and streets Babuino and military base. Brought to the end between 1881 and 1823, the promenade was until middle of 20th century, a true town park, urban promenade, garden for roman people to enjoy many events and plays, pyrotechnical attractions, concerts at the end of the century, to musical events of today. There is Napoleon's square in the middle of the promenade overlooking the Pizza del Popolo which was Romans' and tourists' favourite gathering place with unique panorama and vistas. One of curiosities, no doubt, is mentioning of more than 200 busts of famous Italian persons from all ages.

3.1.3 Contemporary
1. Ara Pacis Museum commissioned in 2006, designed by international architect Richard Meier. The edifice was erected to house an ancient roman

Fig. 12_ Pincio (Photo Sonja Radovic-Jelovacv)

Roman landscapes and selected portaits

treasure, from the Hellenistic period Ara Pacis - Altar of Peace.

The building really stands out in the ancient structure of the city with its white walls, very dynamic design, sophisticated relation between the particular forms and use of simple materials. As always in his works, architect mastered to perfection the art of combining the modern materials: stone, white painted thick walls, glass. Further elements were created using the steps and water, while the entire building stands on the pedestal. The area surrounding the building creates a friendly place for visitors and a perfect meeting point

2. The EUR Lakes Park is located inside a residential and business disctrict in Rome, originally chosen to become the site for the 1942 world's fair under Benito Mussolini to celebrate twenty years of Fascism.

EUR (Universal Exposition Rome) owes its fame to its «simplified» neoclassicism made of monumental marble architecture, the «Palazzo della Civiltà e del Lavoro» also called «Colosseo Quadrato» (squared colosseum) is one of the main and iconic project of the disctrict. The site hosts other masterpieces like Adalberto Libera's «Palazzo dei Congressi» and Pier Luigi Nervi and Marcello Piacentini's «Palazzo dello Sport» and the contemporary site of M.Fuksas «Centro dei Congressi» also called «cloud». The metaphysical essence of the neighborhood inspired directors like F.Fellini, B.Bertolucci and M.Antonioni. The Eur Lake Park is located around the reservoir near the Sporting Palace and hosts many Sakura (Japanese cherry tree) donated by the city Tokyo to complete the so-called «walk of Japan» inside the park. The lake is home of a rowing team and it is recetly being built the «Mediterraneum - Acquario di Roma» museum. The work, mostly underground the lake, aim to recover the history of Rome's central role in Mediterranean culture.

Fig. 13_ Ara Pacis (Photo Sonja Radovic-Jelovacv)

Fig. 14_ Eur, laghetto (Photo Paola Ghirotti, www.francozagari.it)

Fig. 15_ Eur, laghetto (Photo Paola Ghirotti, www.francozagari.it)

3.2 Suggested essential international readings and movies

Classics

FILETICI L. (a cura), GIUNTI A., Living in Contemporary Architecture, Actar Editorial, Roma, 2011

GRIMAL, P., Églises de Rome - Imprimerie national, Paris,1997

Preliminary report of the Rome team, Today's public urban space: the case of Rome, IFHP/FIHUAT working party 'Present-day urban public space', 43° international Congress of IFHP/FIHUAT - Habitation for the future, Sendai, 13-18 October 1996, CUEN, Napoli, 1996

FAGIOLO M., Roma delle delizie : i teatri dell'acqua: grotte, ninfei, fontane - English translation by Antony Shugaar, F. M. Ricci, Milano, 1990

GRIMAL P., Frontin, Les Aqueducs de la ville de Rome, translation and commentary by Pierre Grimal, Société d'édition Les Belles Lettres, Paris, 1944

Miscellaneous
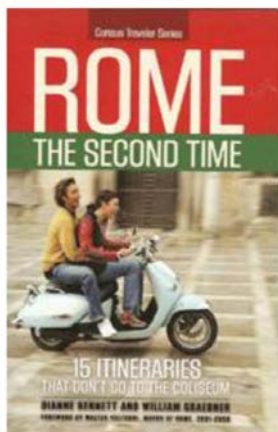
ROME, THE SECOND TIME AROUND, by Dianne Bennett and William Graebner
The eclectic selection of itineraries includes an exploration of Rome's Fascist architecture, its remaining aqueducts, and the middle-class neigh-

borhoods of Nomentana and Pineto. The authors have included sidebars on such random topics as reading the inscriptions on momuments, ordering coffee, a brief history of the Jews in Rome and a glossary of Italian real estate terms. Paperback, pub. Curious Traveler Press, 244 pp. 2009
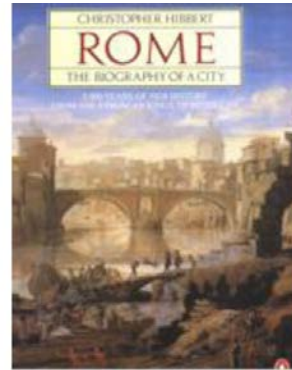
ROME, BIOGRAPHY OF A CITY, by Christopher Hibbert
This is Rome 101, it's a complete history of the
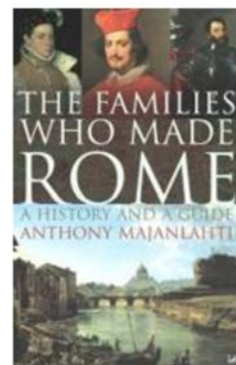
country from the earliest days to World War II. Paperback, pub. Penguin, 400 pp. 1987

THE FAMILIES WHO MADE ROME: A HISTORY AND GUIDE, by Anthony Majanlahti
Visiting or living in Rome, you'll hear and see the same names over and over again: Borghese, Chigi, de Medici, Farnese. This book tells you the stories
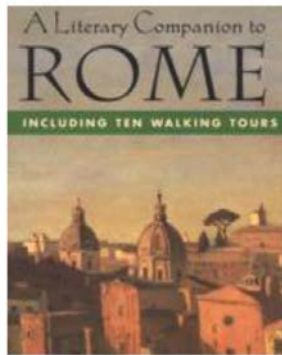
of the great families who built the city, the grand palazzi and villa, the family cardinals and popes, the intrigues, the intermarriage, the scandals and conflicts and wars. It includes walking tours so that you can follow the histories of the great families through their legacies. Paperback. Pub. Pimlico, 432 pp. 2006

Rome has inspired writers and artists since the
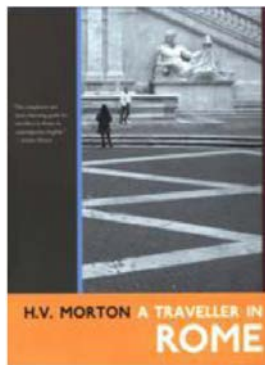
days of Pliny and Cato. Varriano organizes ten walking tours of the city, and gives us literary quotes, so we can compare our own reactions with those of writers like Gore Vidal, Eveyln Waugh, Edith Wharton, John Updike and a host of others. Paperback, pub. John Murray, 298 pp 1992

A TRAVELLER IN ROME, by H.V. Morton
One of the great classics of the traveling writing genre, first published in 1957. Morton gives a full
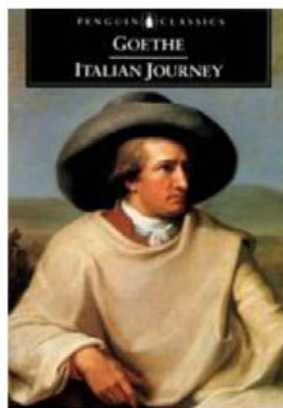
and rich, highly readable background for all of Rome's top attractions and many of it's charms, from the cats of Trajan's market to the joys of St. Peter's in the early morning. Paperback, pub. Methuen, 430 pp. 1957

ITALIAN JOURNEY, 1786-1788, by Johann Wolfgang Von Goethe
The great Goethe is a young man on an adventure and amazingly chatty in this book, compiled from a series of letters home. He falls in love with Rome and all of Italy, of course, and gives a running update of his experiences, cultural, artistic and social. Paperback, pub. Penguin Classics, 512 pp

Movies

1.Habemus Papam, 2011, Nanni MORETTI
2.Accattone, 1961, Pier Paolo PASOLINI
3.Il ventre dell'architetto, 1987, Peter GREENAWAY
4.The talented Mr. Ripley, 1999, Anthony MINGHELLA
5.Tre soldi nella fontana, 1954, Jean NEGULESCO
6.Ladri di biciclette, 1948, Vittorio DE SICA
7.L'eclisse, 1962, Michelangelo ANTONIONI
8.Roma, 1972, Federico FELLINI
9.Nell'anno del Signore, 1969, Luigi MAGNI
10.Quo Vadis, 1951, Nervyn LE ROY
11.Un americano a Roma, 1954, STENO
12.Bellissima, 1951 Luchino VISCONTI
13.Totò, Fabrizi e i giovani d'oggi, 1960, Mario

HARITAGE_Tiber River (Photo Maria B. Andreucci)

HARITAGE_Insugherata (Photo Maria B. Andreucci)

HARITAGE_Ostia and dunes (Photo Filippo Calcerano)

HARITAGE_Monte Mario (Photo Sonja Radovic-Jelovacv)

ARCHEOLOGY_Appia Antica Park (Photo Viola Albino)

HARITAGE_Ostia Antica (Photo Viola Albino)

CITY PARKS_Laghetto dell'Eur (Photo Viola Albino)

CITY PARKS_Botanical Gardens Photo Maria B. Andreucci)

IDENTITY_Trastevere (Photo Sonja Radovic-Jelovacv)

IDENTITY_Isola Tiberina (Photo Sonja Radovic-Jelovacv)

IDENTITY_Pinus Pinea a Villa Doria Pamphilj (Photo Sonja Radovic-

NEW DEVELOPMENTS_Eur "Nuvola"_Fuksas (Photo Viola Albino)

NEW DEVELOPMENTS_Ostia Waterfront Duilio" (Photo F. Calcerano)

TOURIST SPOTS_Spanish steps (Photo Sonja Radovic-Jelovacv)

Roman landscapes and selected portaits

MATTIOLI
14.Il Mostro, 1994, Roberto BENIGNI
15.Profumo di donna, 1974, Dino RISI
16.Roma città aperta ,1945, Roberto ROSSELLINI
17.Lo sceicco bianco, 1952, Federico FELLINI
18.Le fate ignoranti, 2001,Ferzan ÖZPETEK
19.Vacanze Romane,1953, William WYLER
20.Sciuscià, 1946, Vittorio DE SICA
21. La Dolce Vita, 1960, Federico FELLINI
22.Teorema, 1968, Pier Paolo PASOLINI
23.Il Decamerone, 1971, Pier Paolo PASOLINI
24.Una giornata particolare, 1977, Ettore SCOLA
25.Febbre da cavallo, 1976, STENO
26.Ieri, oggi e domani, 1963, Vittorio DE SICA

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Chapter 4

Environment, ecology and natural structure

Prof. Romeo Di Pietro, botanist and ecologist
PHD students: Maria Luigia Fiorentino (Coordinator),
Manuela Crespi, Sandra Persiani, Davide Ventura

Chapter 4

ENVIRONMENT, ECOLOGY AND NATURAL STRUCTURE

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4.1 Introduction
The vegetation's biodiversity
in Rome's area
Prof. Romeo Di Pietro

The Province of Rome is an area characterized by a significant diversity of flora and vegetation, certainly among the most varied and interesting of those inherent in the Italian territory.

It is in fact a real mosaic of species and plant communities that unfold in relation to subtle changes in lithology, microclimate, soil and morphology. There are several factors that determine the high degree of floristic and vegetational diversity that is found today in the province of Rome.

The Bioclimatic factors (Blasi, 1994): The Province of Rome is characterized by the presence of four macroclimatic regions (Temperate, Temperate Transition, Mediterranean Transition, Mediterranean), Edaphic factors: Factors Litomorphology.

Finally, over 2000 species of vascular plants that currently can be found in the province of Rome are the result of causes phytogeographic current and past. Rome, Lazio, and more generally, represent a crossroads (Montelucci 1976), where we can meet Biocore from different backgrounds. The quota W-Mediterranean and Atlantic present mainly in the coastal area (*Quercus suber, Rubia peregrina,*

Fig. 1_ *Cercis siliquastrum (Photo Maria B Andreucci)*

Ilex aquifolium, Erica arborea...) counterbalanced by the European contingent SE-Illyrian-Pontic instead characterizes the hilly areas (*Ostrya Carpinifolia, Fraxinus ornus, Carpinus orientalis, Paliurus plug-Christi, Cercis siliquastrum*...) In corotipo stenosis that characterizes the Mediterranean coastal landscape with a large number of species in leaf sclarofillica (*Quercus ilex, Phillyrea latifolia, Rhamnus alaternus, Smilax aspera, Myrtus communis*...) meets the quota or Orofilo Circumboreal south-European summit this in the areas of pre- and Apennines Apennines (*Juniperus nana, Arctostaphylos uva-ursi, Rosa pendulina, Daphne oleoides, Cotoneaster tomentosum*...).

However, the most interesting aspect is that of the Roman as well as presenting a very marked heterogeneity of the real landscape (not surprising given the age-old human activities in these places) and it shows a potential heterogeneity equally varied.

For this reason, in relatively restricted spaces is possible to observe different types of potential vegetation in close contact with each other. The interesting thing is that this phenomenon is not limited only to the most natural of the province which usually coincide with those located further away from urban settlements and therefore less affected by the environmental point of view, but it invests directly across the metropolitan area of Rome. For example, in urban park dell'Insugherata in the NW quadrant of Rome (distance as the crow flies just over a mile from the dome of St. Peter), you can see a transect vegetation in the space of 500 meters meet six types of forest vegetation in potential contact with each other ie: evergreen Woods, *Quercus suber* slope facing south, Woods thermophilous , *Quercus pubescens, Q. cerris* and

Fraxinus ornus areas summit, mesophilic forest of *Quercus cerris* and *Ostrya carpinifolia* of north-facing slopes, lowland forest of *Quercus robur* and *Carpinus betulus* in the valley, forest ravine in *Corylus avellana* and *Sambucus nigra*, riparian forest with *Salix alba*.

On the basis of the well known principles of integrated Phytosociology (Gehu & Rivas-Martínez 1981) each type of natural vegetation potential is at the head of a series of vegetation composed of well-defined stages successional that vary significantly passing from one series to another . Thus, the great heterogeneity of potential dell'Insugherata Park (as well as that of other urban parks such as the Park of Veii, Tenth Malafede Acquafredda etcv.).

We can observe today a mosaic fitocenotico extremely varied in key cenologica that over the woods provides grasslands pseudo -steppes in *Dasypyrum villosum* (Fanelli, 1998), mesic grasslands in *Cynosurus cristatus* and *Lolium perenne*, Pratelli terofitici to *Trachynia distachya* and *Trifolium scabrum*, cloaks ecotone in *Rubus ulmifolius* and *Rosa sempervirens*, scrub neutron basifili to *Spatium junceum*, scrub acidophilus *Cytisus scoparius*, garrigue *Cistus salvifolius*, pre-woods with *Acer campestre* and *Ulmus minor* and *Pyrus spinosa*. Clearly it is sufficient to leave a few kilometers from the territories that are closely with the City of Rome, join in the neighboring areas of his province that there has been a further increase in the diversity fitocenotica to which is added a dutiful reporting of certain types almost unique in the Italy peninsular. It 's the case of thermophilous oak forests, beech forests to the depressed areas and acerete *Acer monspessulanum* of Monti della Tolfa (Di Pietro et al., 2010), to the ripisilve and to

Fig.2_ *Pinus Pinea (Photo Maria B. Andreucci)*

Alnus glutinosa Monterano's channel, Barbarano Romano and the Tolfa (Scoppola Filibeck & 2010), the dry mountain meadows with very high species richness in *Bromus erectus* and *Koeleria splendens* of Mountains Affilani and Lucretili, to the bushes in *Styrax officinalis* Mountains Cornicolani (Di Pietro & Germani, 2007) of a low shrub *Genista radiata* and *Rosa pendulina* of the Author's Moint, that is the easter end part of the province (Fortini et al., 1995).

Fig. 3_ *Spartium junceum (Photo Maria B. Andreucci)*

From the point of view floristic the province of Rome has some interesting appearances, among the Italian endemic species are the *Allium pendulium, Arisarum proboscideum, Cardamine celandine, Digitalis micrantha, Euphorbia corallioides, Linaria purpurea, Cerastium tomentosum, Festuca exaltata.*

Between the entities to be considered rare in Italian and European level to refer the following species in the areas surrounding the city of Rome (see Anzalone et al., 1990; Lattanzi et al., 2005; Anzalone et al., 2010; *Tamarix dalmatic, Asparagus aphyllus, Malcolmia dwarf, Daphne sericea* (Castelporziano) *Simethis mattiazzi* (Maccarese), *Asphodelus fistulosus, Styrax officinalis* (Monti Cornicolani, Lucretili and Colli Albani), *Linum maritimum, Cyperus polystachyus* (Roman Coast), *Chenorrhinum rubriflorum, Clypeola jonthlaspi, Agrostis Montelucci* (waters Albule Tivoli), Betula pendula (Manzanita), *Beckmannia*

eruciformis, Apium crassipes, Apium inondatum (Bosco Foglino).

As regards the area of relevance of the city of Rome ss will highlight some interesting flora's peculiarities, the data are compared from different Italian cities. In particular, limiting the area inscribed on the ring road of Rome (Celestial-Grapow, 1995), there were a number of vascular plant species in 1301 amounted to 1049 (81%) native and 252 (19%) exotic. 252 114 of these exotic species belong to the category of naturalized while 138 species are occasional. Comparing the values of Rome with those of other major Italian cities (Milan, Palermo, Ancona, Cagliari) we find that the floristic richness of Rome is significantly higher than that of other cities while the percentage of exotic species is very limited. Among the exotic species most common in the Province of Rome in the metropolitan area and in particular we find entities from different sources. These included some species normally used in avenues and gardens including *Platanus occidentalis, Acer negundo, Gingko biloba, Thuja occidentalis, Ligustrum lucidum, Prunus pissardii*. In addition, we point out some of the species concerned at a higher degree of invasiveness in the world including: *Robinia pseudoacacia, Phytolacca dioica, Amorpha fruticos*a (North America), *Ailanthus altissima* (China), and in coastal areas *Carpobroyhus acinaciformis* (South Africa), *Opuntia ficus indicates, Agave americana* (Mexico), *Acacia saligna* (Australia).

4.2 The Geographical Framework
4.2.1 Geological framework in Rome's area

Geological morphology Rome's area, is the result of the milion year collision between the Eurasian, the Adriatic and the African continental plates, once sparated by an ocean.

About 30 million years ago began a major phenomenon of rising the Apennine mountain chain (10 million years ago) and letting the continental plate gradually emerge together with Rome's area, at that time below the sea level. Proofs of this phaenomenon are the many sand and clay sediments, rich with mollusc fossils, scattered throughout the
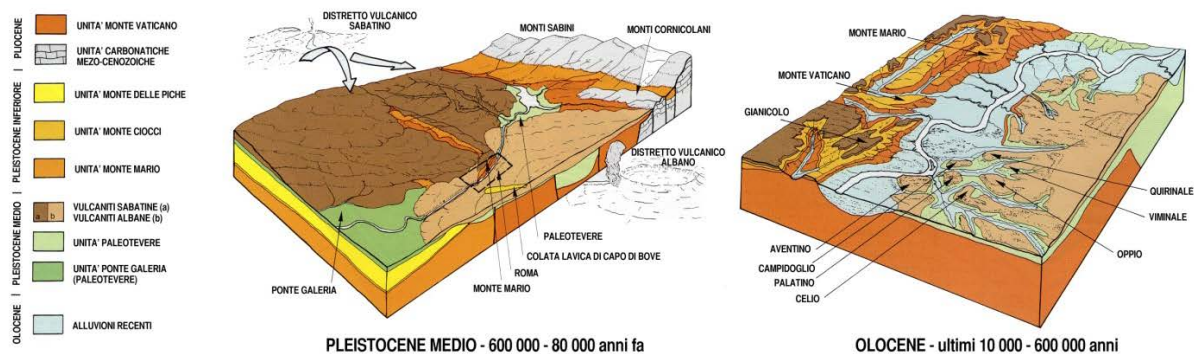

PLEISTOCENE MEDIO - 600 000 - 80 000 anni fa

OLOCENE - ultimi 10 000 - 600 000 anni

Fig. 4

Environment, ecology and natural structure

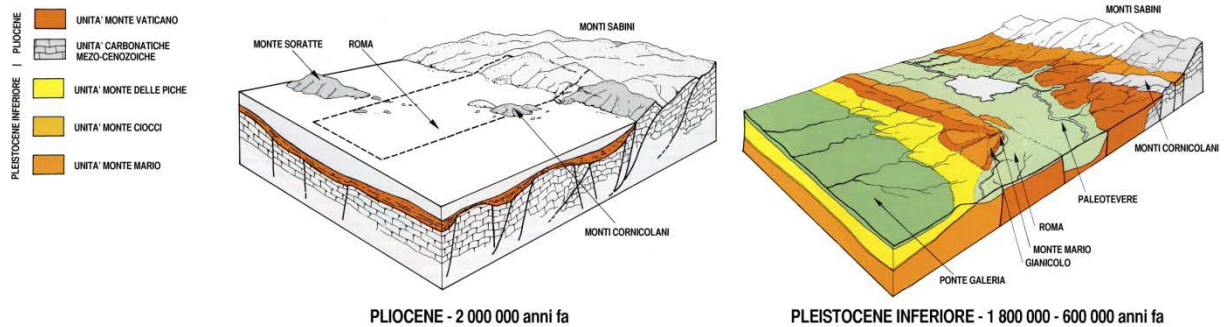PLIOCENE - 2 000 000 anni fa   PLEISTOCENE INFERIORE - 1 800 000 - 600 000 anni fa

Fig. 5

area and of which Monte Mario and Ponte Galeria are the most significant parts.

1-2 million years ago various vulcanic district emerged: the subarine vulcanoes in the Tyrrhenian basin, and between these The Monti Sabatini and Colli Albani are the most important vulcanic districts to determine the essential features of Rome's area: the elder geological layers are buried under the thick piroclastic outcomes (mainly tuffs) from these vuclanic explosions. Today, the craters have collapsed and appear as a series of circular and semicircular basins containing lakes: huge reservoirs served by several acqueducts that bring the water to Rome.

The flow of the old Paleo-tiber, blocked by the new morphology of the ground, progressively digs a new route across the dorsal in the area of the Gianicolo into the actual position.

The sea level undergoes cyclic periods of raisings and lowerings throughout the different glaciation periods, creating deep erosion and digging valleys in the sedimented vulcanic flows, sucessively filled by fluvial sediments of the Tiber (gravel, sand, slit and clay). Thus the alluvional plain is Bove formed: limited to the west by the ridge Gianicolo - Monte Mario and east by the remains of the plateau created by the flows from the Albano vulcanoes: various reliefs, including the famous "seven hills". The following eruptions were more of a magmatic consistance, as the flow of Capo is the best example: it flowed out frome the side of the crater into an existing valley, dug by a branch of the Tiber, filling it up completely and forming a gentle plateau, topographically raised above the surrounding countryside in a straight relief later used by the Romans to build one of their most important roads: Via Appia. Certainly the Roman engineers learned the art of road building by observing nature and it isn't a coincidence that the

first consular road was just the Appian Way. The geomorphological features of the flow of Capo di Bove made it an ideal way: resistant foundations, flat and smooth surface, elevation than the areas.

4.2.2 Stratigrafy and geological structure in Rome's area

The Tiber's valley is bounded by the "seven hills" on the east, and by the Gianicolo, Vatican and Monte Mario hills on the west.

Fig. 6
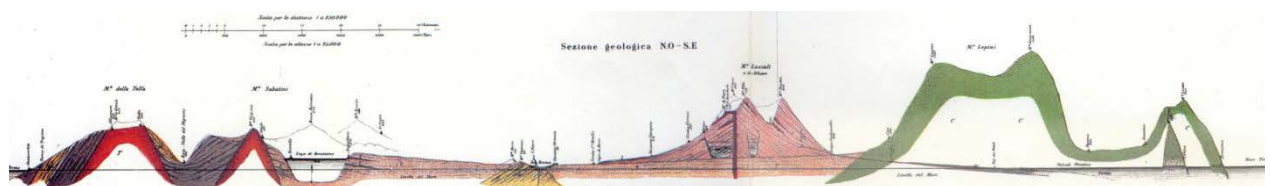
Fig. 7

The area between the two ridges is built on the river's sediments, left by its activity and consolidated throughout the millennia of urban development and compression of the soil.

The gradual expansion of the city to the southeast has been favored by the slight slope of the land descending from the Albano hills to the coast whereas the expansion to the noth has been significantly slower, hampered by the rough morphology of the terrain: by the natural barrier of the Tiber and by the steep sides of the Gianicolo, Vatican and Monte Mario dorsals, limiting the acess to the Bracciano lake, as evidenced by the persistence of large green areas that penetrate into the city in the form of greenways.

4.2.3 Principal typologies of rocks and quarries

The term "tuff" generally means a soft quality of tufa rock, consisting of consolidated deposit of ash, pumice and various fragments of an explosive eruption – also named pyroclastic flow – of wich the Roman area is particularly rich.

These materials are carachteristic for being found in massive deposits, mostly without fractures, tough but soft enough as to be easily carved out, cut and processed. The use of different kinds of tuffs in the various periods of Rome's history goes along with the development of mining and building technologies and with the ability ot select the appropriate materials.

Fig. 8

Environment, ecology and natural structure
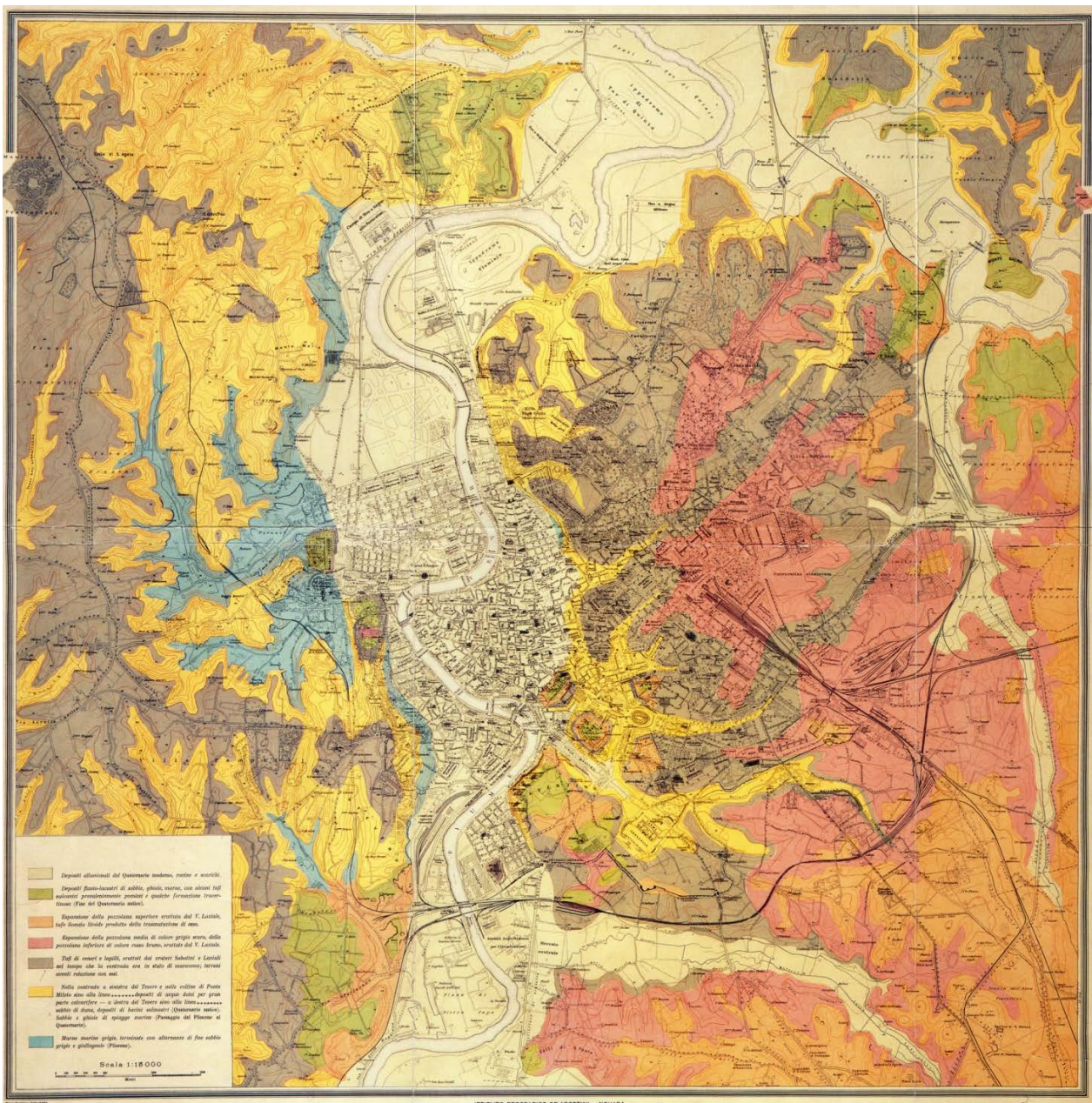
Roman quarries can be found all over the whole area, the documentated ones are concentrated in the central / eastern part (quarries of pozzolanic material and tufs from the Albano volanoes' eruptions), however there are some even in the north (materials from the Sabatini volanoes' eruptions).

The first pits of pisiolitic tuff were dug very close to the urban area, some were have been found under the current Termini railway station, others in the slopes of the Palatine hill. Later, even Etruscan quarries began to be exploited, bringing yellow tuffs from via Tiberina: tougher and of better quality, from the violent explosions of the Sabatini volcanoes.

The term peperino indicates two different kinds of tuff, both made of very fine-grained ash from the eruptions of the Colli Albani district.

Roman travertine is a sedimentary rock comosed almost entirely od calcium carbonate. It was quarried in the baths of Tivoli, and is still today. The road carrying the stone to the city progressively took its name from the material turning it into "via Tiburtina".

Geologically the travertine formations are always located next to the volcanic formations and next to very old limestone mountains. Roman travertine is therefore characteristic of a precise area in the territory: between the Aniene river and the Tiber.

So it fall into the mountains Cornicolari, the Tuburtini, the Lucretili, and the volcanic slopes of the Alban Hills. The main characteristics of travertine are the compactness, coloring, basic white, but the influence of exogenous agents causes a change in color from yellow to brown to dark brown in some cases, the permeability.

The Alban Hills are once again forge another geological feature of Roman history, the flint.

The Roman flints are in fact fragments of lava that poured out from the ancient Latium Volcano of the Alban Hills. This, split by the pavers in pieces of various shapes and sizes and arranged by Selciaroli on Roman roadways, is used for flooring

taking the name of sampietrino. The shape and dimensions of the elements are varied over the centuries, as the provisions of the individual elements has changed in the roadway.

Geologically, then the travertine formations are always located next to the volcanic formations consist of limestone mountains and very old. Roman travertine is therefore characteristic of a precise area in the territory, or between the Aniene river and the Tiber. So it fall into the mountains Cornicolari, the Tuburtini, the Lucretili, and the volcanic slopes of the Alban Hills.

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The Roman flints are in fact fragments of lava that poured out from the ancient Latium Volcano of the Alban Hills. This, split by the pavers in pieces of various shapes and sizes and arranged by Selciaroli on roadways Roman, is used for flooring taking the name of sampietrino.

The shape and dimensions of the elements are varied over the centuries, as has the provisions of the individual elements in the roadway.
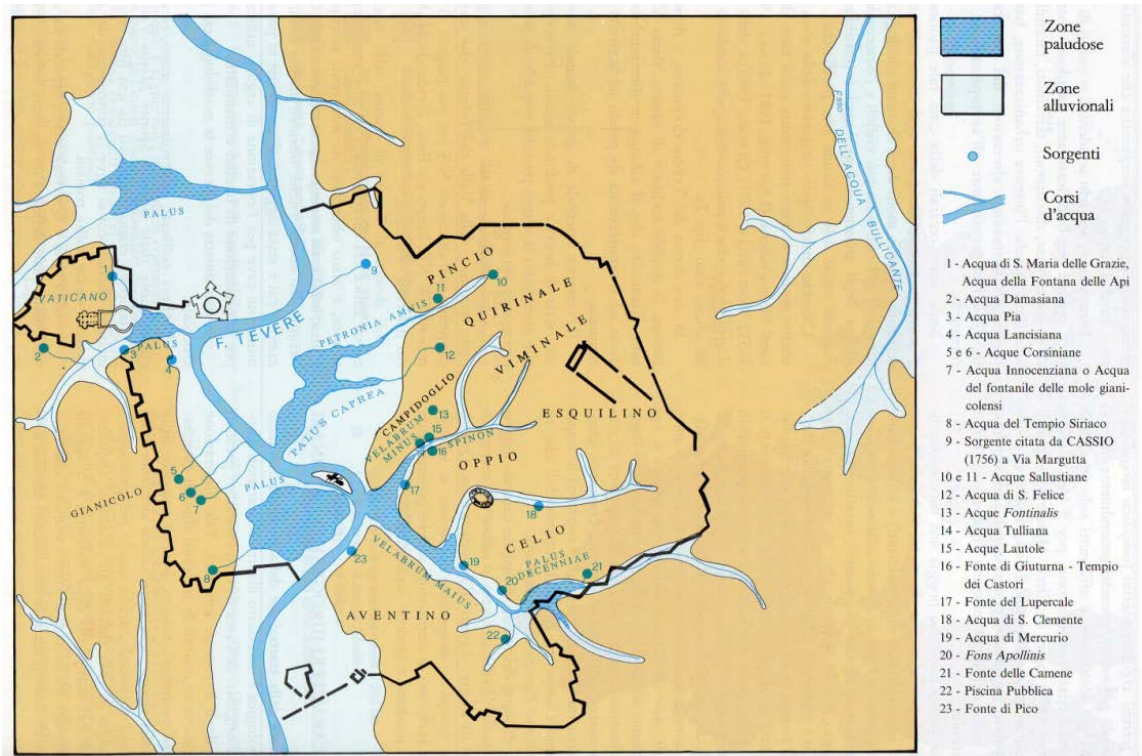
Legend says that the first floor with small regular elements has been realized at the end of the seventeenth century, in the square S. Peter. All the elements were then cut standard defined popularly and in a totally generic cobblestones. It should be remembered, however, that sampietrino is, in technical jargon, the small element traditionally used for the sidewalks. Geologically, then the travertine formations are always located next to the volcanic formations consist of limestone mountains and very old.

Roman travertine is therefore characteristic of a precise area in the territory, or between the Aniene river and the Tiber. So it fall into the moun-

Fig. 9 Tuff cave in Salone (Photo Silvia Giulietti)

Fig. 10 Basal stone «Sanpietrini» (Photo Guendalina Ria)

tains Cornicolari, the Tuburtini, the Lucretili, and the volcanic slopes of the Alban Hills.

The main characteristics of travertine are the compactness, coloring, basic white, but the influence of exogenous agents that causes a change in color from yellow to brown to dark brown in some cases, the permeability.

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Myth has it that the first floor with small regu-

Fig. 11

lar elements has been realized at the end of the seventeenth century. in the square S. Peter, all the elements were then cut standard defined popularly and in a totally generic cobblestones. It should be remembered, however, that the sampietrino is, in technical jargon, the small element traditionally used for the sidewalks. The block of flint most common, present in the Roman roads, the truncated form, is defined quadruccio.

4.2.4 Idrogeological structure

The hydrogeological structure of Rome has its center in the Tiber and in the secondary and tertiary auction system that innervate the area.

The Tiber sources in the Apennines between Tuscany and Emilia Romagna, at a height of 1268 m, and flows into the Tyrrenian Sea after running through Tuscany, Umbria and Latium, with a total length of 403 km. The basin of the river is the largest of the whole peninsula and covers about

17150 km². The minor rivers flowing into the Tiber have flood flows depending on the degree of permeability of the soils.

The main streets of the historical center - via Barberini, via Vittorio Veneto, via del Tritone, via Cavour, via delle Terme di Caracalla and via Labicana – follow the old paths of the tributary rivers flowing into the Tiber, carving the valleys between the seven hills. The flows are no longer recognizable, being buried under filling materials and the intense urbanization.

4.2.5 The Tiber's floods

The urban planning at the time of the Romans was extremely attentive to the topography of the area: the valleys of the Tiber's tributaries were ideal places for forums, markets and other public buildings (theaters, pantheon...), easily evacuated and restorable after each flood, while the hilly areas, healthier and easily defensible, were intneded for private construction.

Environment, ecology and natural structure

In the middle-ages the residential areas developed even in the valleys with the consequent periodic flooding of the inhabited areas of Piazza Navona and Trastevere.

The city was periodically flooded until 1876 when it was decided to build the system of walls along the river (lungotevere), a water reservoir and several dams north of the city. These works have played a key role preventing floods, although the natural and original aspect of the river has irrevocably been changed.

4.2.6 Rome's historical sources

The natural sources, the wells and the Tiber were for many centuries the city's only water supply. With the construction of aqueducts the city

cause for stability problems in buildings subject to subsidence: the vertical lowering of one part of the earth's surface.

Underground cavities

Nobody knows exactly the extent of the underground cavities and caverns under Rome. In the last 2800 years the labyrinthic tunnels beneath the city have been excavated for very different purposes: in the oldest times it was mainly the cheapest way to carve building materials, instead of an open air exploitation, especially in the densely built zones where the ground had great economic value. These spaces have served for burrying entire generations. Moreover, in the basements entire summer houses were built along with cisterns, drainage tunnels,

Fig. 12

Fig. 13

became served with larger quantities of water, wich made unnecessary the use of the elder springs and wells, wich were abandoned. Some sources were, however, sacred and preserved for many centuries.

Between the sixteenth and eighteenth century, new sources were sought and dug out by the will of several Popes. During the nintienth and twentieth centuries, the most famous sources were sought and sometimes even found.

4.2.7 Soil's charachteristics and consequent problems
Instabilites

The different degree of compacting undergone by the soils all over the city's area, depending on the different nature of the sediments, is a recurrent

theatres, houses, villas, churches, tombs and more recently service tunnels.

All tunnels are man-made. Many cavities are documented, but many more have been abandoned or forgotten. The underground caverns are the main cause for instabilities resulting in rather frequent sinkhole phenomena: in the last 100 years 96 cases have occurred.

4.3 Landscape and Structure ecology

4.3.1 The provincial ecological network (REP)

In order to identify natural habitats with high floristics and faunal (emergenze) and others specifics roman land habitats, with historic and landscape value, it was made reference to the Provincial ecological network (Rete Ecologica Provinciale (REP).

The Provincial Spatial Plan (Piano Territoriale Provinciale Generale (PTPG)) of Rome subdivide the land in 17 Environmental land unity (Unitá Territoriali Ambientali (UTA)), identified by homogeneous criteria of litological, morfological and hidrogeological kind. The UTA are represented in the REP.

4.3.2 Classified habitats

In classifying habitats that characterize the Roman territory we could make a distinction between the purely natural or however indirectly affected by man and the antropized. In this regard, the following is a brief description of the system of dunes, the Tiber, forests and gorges, in the first category and agricultural landscapes and urban gardens with regard to habitats characterized by the presence of man.

4.3.2.a The seashores's and the coastline's dune's vegetation
The Dune's system_The seacoast

The Roman Coast Lines is mainly characterized by sand deposits of fluvial origin that have distributed from marine currents and wind. The potential vegetation series of the coastal Mediterranean environments is determined from the shoreline as a function of decreased salinity, from the reduction and the noise of the wind and sea and the evolution of the soil. The sandy beaches are often subject to beach cleanups to encourage the enjoyment that lead to the systematic destruction of the

Fig. 14_ Pineta Litorale (Photo Viola Albino)

belts of vegetation. Above this band of shoreline, there is the innermost zone, that is characterized by first plants communities of pioneer species, the Cakile maritime. In the backward zone there are the perennial grasses, including Elytrigia juncea and Ammophila arenaria , that comes to degrees of ripeness important vegetation. In the ammofileto's zone, where the vegetation of the dunes id higher, there are Medico marina, Calystegia soldanella, Eryngium spinosa, Pancratium maritimum ed Anthemis maritima. When the salinity decreases, the environment becomes less selective and from populations paucispecifici is passed to situations of greater floristic richness ,up to reach a level of low salinity there is a hygrophilous flora.

4.3.2.b The river's wetland vegetation
The Tiber

The vegetation along the Tiber is wetland's type. The depositional system has determined the formation of corrugated millimetric irregular layers and clay material and iron oxides that determine uneven water 's accumulations and located in correspondence of morphological depressions. Where the water is permanently grow the number of associations of the burying - Phragmiti Magnocaricetea. In conditions of relatively high water we
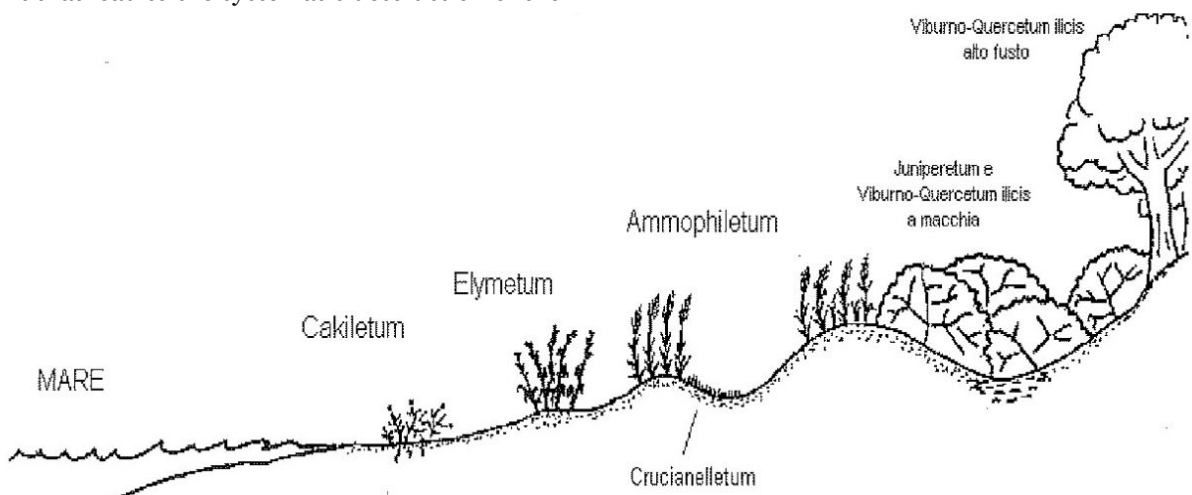
Fig. 15_ Serie Alopsammofila

Fig. 16_ Psammofila (Photo Filippo Calcerano)

have Holoschoenetalia of the reeds. The associations of this class form typical paucispecific belts and they are distributed according to gradients related to the frequency and duration of floodingand water quality and rooting substrate . They are typically dominated by boulbos plants, by perennial or biennial herbaceous, and semiaquatic vegetation in large size such as Phragmites australis, Sparganium erectum, Typha latifolia and Cyperus longus. Where the waters become more rare species occur in the coastal zone are Glycerio-Sparganion.

In the coastal zone are again the aquifer outcrop but in the hight salinity conditions, the Eriantho-Schoenetum. In the Valley of the Tiber the composition of grassland species is contaminated by the entrance of the Stellarieta and Molinio-Arthenatheretea, such as Dactylisglomerata, Hordeum bulbosum, Poa trivialis, Trisetaria panacea, Trifolium repens.

4.3.2.c The woods
The Mediterranean maquis
The vegetation of Mediterranean forests is characterized by leaf type sclerofillo, considered a functional adaptation to aridity summer, but not

Fig. 17_ Ripariale Tevere (Photo Maria B. Andreucci)

specifically referenced in the current climate, that have remained for genetic homeostasis. The oak forests occupy an ecological space (Pignatti 1988) between 15 ° and   17 °C average temperature and annual average rainfall of 500-1300mm. The most typical alteration is the transformation of the forest of oaks, after cutting, fire and grazing, in to the typical Mediterranean vegetation, composed of shrubs more or less elevated. Then we have the sugherata, an important vegetation for the whole of Lazio. The presence of the Cytiso-Quercetum Suberis and Cytisus villosus in the undergrowth has importance from the point of phytogeographical view.
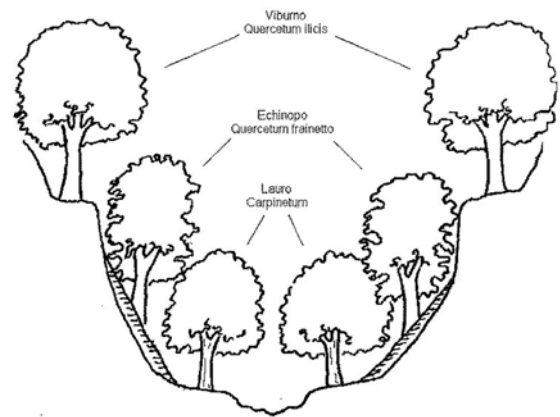
Fig. 18_ The ravines

Deciduous woods
The deciduous forests are found in the Roman territory with high diversity. There are types of vegetation such as Quercetalia pubescentis, Fagetalia, Populetalia, those reflect the influence of groundwater, and human impact of the change of the mesoclima in deciduous forest. The shrub vegetation below 1600m includes shrub groupings as Rubus ulmifolius, Prunus spinosa, Crataegus monogyna, C. oxycantia. In the plane we find the broom formations such Spartium junceum, Cytisus scoparius, Cytisus sessilifolius.

Fig. 19_ Quercus ilex (Photo Maria B. Andreucci)

Fig. 20_ Mediterranean maquis (Photo Sonja Randovic-Jelovac)

Fig. 22_ *Quercus suber (Photo Maria B. Andreucci)*

4.3.2.d Chain zoning the ravines

A diffuse structure in the Lazio region and then in the Roman Province are the ravines, or gullies produced by erosion of the soil. Specifically in the province site the ravines are excavated in the volcanic tuff. In theme there is a series of zoning that is fresh and moist on the bottom and a series of zoning that is hot and arid on the edge.

This zoning is in part related to a phenomenon of thermal inversion, in part with the chain soil, because the soils are thin on the side and become gradually thicker towards the bottom .The contacts of the chains between the different vegetations give rise to transition phenomena that complicate the interpretation phytosociology. The most common associations are those turkey and they have rich variants of Fagetalia, while the carpineti are presented in more or less dry situations.

We have an mild example in the Pineto Park, where there aren't deep.The chain of ravines is present in a repetitive manner throughout the territory, but every indifferent areas of the individual associations are different in relation to microclimatic differences. Specifically, the most common are: Carpinus betulus,Carpino-Coryletum, Lauro Carpinetum; Quercus cerris, Ostrya carpinifolia, Quercus cerris;Quercion ilicis,Quercion ilicis,Quercion ilicis,, respectively, in moderate slope, in sloping hard, in athermophile.

4.3.2.e Antropized habitats
Rural landscapes

12 rural landscapes are identified in the PTPG. 7 of 12 are inside the limits of the Municipality of Rome:

-The coastal landscape agroforestry and back coastal: distinguished by deciduous forests of Quercus robur, Quercus cerris e Quercus fairnetto, pastures and reforestation with pines. Herbaceous (fodder and cereals) and irrigue plantations can be encountered.

- The hilly landscape with agricultural crops mixed: Landscape typical of the hill country around Roman Campagna, it is characterised by horticulture cultivations, fruit trees (olive groves, vineyards and orchards), sown fields and pastures.

- The Agricultural landscape of irrigated plain: distinguished by broad irrigui plantations along Tiber River axis, that gives a typical aspect to the landscape.

- The Agricultural landscape of irrigated plain: landscape modified by drainage works undertaken since the final of the XIX century, originally covered by marshlands and hygrofilous forests. Scattered evidences of this original landscape are still there. Nowadays, in those areas of the Agro Portuense, agricolture enterprises of horticolture, horchards, cereals and sown products are based, together with zootechnical product's sector.

- The Agricultural landscapes of urban and peri-ur-

Fig. 21_ Meadow (Photo Viola Albino)

Fig. 23_ Arundo (Photo Maria B. Andreucci)

Environment, ecology and natural structure

ban: Urban and periferical areas characterised by different habitats, where rural fields are encountered, isolated or bordered by green areas (nature reserves, parks and historical Villas).

Frequently those areas, especially the intensive ones, are left without sufficient care in expectation of future valuations and estate planning.

- The two Agricultural Landscapes of the "Campagna Romana"
The flat territory called "Campagna Romana" extends from the coast to the "preappenninic's" hills and mountains, along the valleys of the Tiber and Aniene. The particular morphology of a network of ditches, within more or less deep valleys, and plateaus, has created a characteristic natural vegetation altered, however, in large part, by farming and pastoral dating since Roman times and still present today.
From the point of view of landscape the "Campagna Romana" has high complexity due to the presence of archaeological ruins and historic buildings.

- Agricultural landscape of the "Campagna Romana" beyond the Tiber
The territory that extends on the northern-western part of Rome is cultivated with cereals and fodder for animal husbandry and is crossed by a network of waterways, governed by public works of soil conservation and land reclamation of Consorzio di bonifica Tevere ed Agro Romano.
There are also Woods of evergreen or deciduous broad-leaved trees, especially oaks, limited to areas along streams, areas not suitable for agricultural use.

- Agricultural landscape of the south-eastern "Campagna Romana"
This area of the "Campagna Romana" has a flat landscape cultivated for forage and pasture, especially in the area of the Aniene valley and the Sacco valley, also characterized by urban areas, especially along the routes.
Most of the territory of the "Campagna Romana" is protected through the system of green ribbons (Territorio Agricolo Tutelato - TAT), as indicated in the supplementary processed PTPG. In particular, the TAT area of the western "Campagna Romana" (Arrone Bracciano) includes the agricultural landscape of the Campagna Romana beyond the Tiber.

4.4 Preservation of biodiversity
The botanical gardens

The Botanical Gardens of the University of Rome La Sapienza and Tor Vergata University are part of the Working Group for the Botanical Gardens and of the Historical gardens of the Italian Botanical Society, which consists of 76 facilities, of which 31 belong to the University and 45 to other public bodies. The Group is part of the international network BGCI (Botanic Gardens Conservation International) and the European Botanic Gardens Consortium.

4.4.1 Rome's botanical garden

The origin of the first botanical garden in Rome dates back to the reign of Boniface VIII (1295-1303). Until the seventeenth century botanic gardens were for the exclusive use of the Vatican. In 1660 Pope Alexander VII donated to the University the land adjacent to the Fontana Paolina on the Janiculum. Since 1883, when it became property of the State, the current headquarters of the Botanical Garden is in the garden of Palazzo Corsini. The garden covers an area of about 12 hectares.
The main collections include: The Gymnos-

Fig. 24_ Vegetation of wetland's type

Fig. 25 Chamaerops humilis (Photo Maria B. Andreucci)

perms, the Bamboo (one of the richest in Europe), the Mediterranean wood (composed mainly of oaks), The Palms, The Rose Garden, The Garden of Herbs, Valletta of Ferns, The Garden Mediterranean (species typical of the Mediterranean zone and exotic species), The Hortus of Simple (with herbs), The Ponds, the Monumental Greenhouse (with a collection of euphorbias), The Corsini Greenhouse (collection of succulent plants), the Japanese Garden, the tropical Greenhouse (recently built, with species of tropical and subtropical habitats), Monumental trees (individuals with centenarians).

Among the projects of the Garden of the University of Rome, the most important is the Germplasm Bank for Ex Situ Conservation (RIBES) of the Italian Spontaneous Flora, which has over 1300 accessions divided into the following taxa: 133 families, 580 genera and 936 species.

4.4.2 Tor Vergata's botanical garden

The establishment of the Botanical Garden of the University of «Tor Vergata» was created in 2007 on the occasion of the project funded by the Lazio Region, under the Programme for Agricultural Research in Lazio (PRAL), for the characterization of ecotypes of legumes of particular interest.

Currently there is a project for the construction of buildings, gardens and greenhouses, divided into two sub-sectors: VA4a and Va4b of the Detailed Plan which occupies a total area of 82 hectares.

It is expected that V4a sector has two characteristic areas: the Carboniferous Garden, the Lake of Phytoremediation and an Experimental nursery area. While the V4B sector is divided into the following areas: the Arboretum (intended to be a permanent environmental education center) and the Green City. This includes Thematic chains (with cultivated plants of interest in native food of Central Italy and educational farms with gardens open

to the public) and the Wellness Gardens (with aromatic plants and herbs used in alternative medicine).

Since 2008 the Building house n. 5 of the Botanical Garden hosts the conservation of germplasm of the Department of Biology of the University, which is intended as the conservation of the genetic resources of plant species of trees, shrubs and herbaceous plants of the Region Lazio, ensuring the survival of endangered species and protecting native species in order to preserve the local flora.

4.5. The Environment

4.5.1 The Climat

Talking about the vegetation we can't be leave out from what is the relationship that this has with its climate, since it conditions the presence or absence of dates plants.

The vegetation is understood as the expression of the climatic conditions of a place over time and in the same way affects its effects on the climate itself.

The Phytoclimate

The area of the city of Rome assumed a climate «special» as represented in «Fitoclimatologia of Lazio» (Blasi, 1994). Rome is part of the ninth unit phytoclimatic which includes the Roman Campagna and the Maremma of Lazio and is characterized by:
- Termotipo mesomediteraneo medium or lower hills.
- Ombrotipo subhumid higher.
- Region xerothermic / mesaexerica (sub esomeranean / ipomesaxerica)

The Temperatures

Analyzing data and charts Bagnouls-Gaussen, for the two thermo-rainfall stations of Rome Ciampino and Rome Monte Mario, is both a dry period of
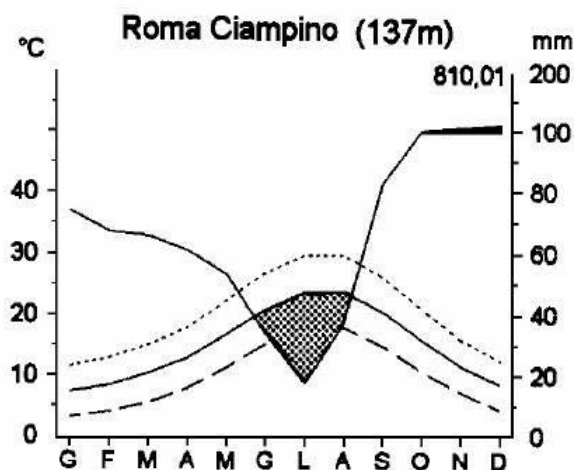
Fig. 26
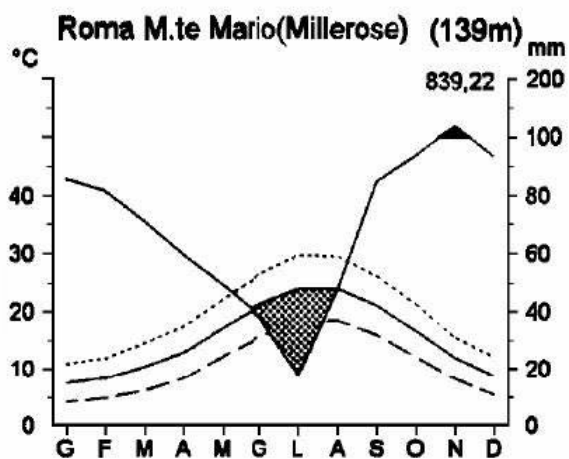
Fig. 27

three months (June, July, August) and a semi-arid period in the month of May only for M.te Mario. The monthly average maximum temperatures do not exceed 30 ° C, the average minimum monthly temperatures do not fall below 3 ° C, the values of the average monthly temperatures of the station of Mt Mario are slightly higher than those of Rome Ciampino . The mean monthly rainfall exceeds 100 mm for a period of three months (October, November, December) to Rome Ciampino and only for one month (November) to Rome Mario Mt. Overall, the collection of climate data confirm that the area of the city of Rome is part of the climatic zone IV, which is a transition zone of the Mediterranean type. Due to the ability to warm the soil and buildings in urban areas occurs the phenomenon of «urban heat island» with higher temperatures than surrounding rural areas especially at night and in the winter months (Colacino, 1989).

The classification of varieties climate allows the definition of the main distribution of vegetation on the earth's surface with respect to certain geographic areas.

By indices of Mitrakos is possible to evaluate both the intensity and the duration of cold (cold stress) and aridity (heat stress). From the diagrams of Mitrakos related to the stations of Rome and Rome Ciampino Mt Mario that the cold stress (MCS) occurs for the same period in the two stations, but with lower values for Mario Mt. Due to drought stress (MDS) reaches its maximum in July for both stations, while Mt Mario is apparent in the months of May and with lower values in August to the higher contribution of atmospheric precipitation. In general, both the cold stress that drought will be attenuated within the city (Mt Mario).

The coefficient of Emberger (Q) is a bioclimatic index based on the relationship between the value of annual rainfall and the difference between the square of the mean maximum of the hottest month and the square of the average minimum of the month.

The values of Q are much lower as the climate is arid and much higher as it becomes wet. In the Mediterranean region this ratio varies between 50 and 250 and allowed the distribution of bioclimatic following types: semi-arid, sub-humid, humid. The analysis of all these data confirm that Rome is in an area with a Mediterranean climate. This results in hot summers with low rainfall (dry period) and average low winter temperatures with rainfall concentrated mainly in autumn and winter (wet period).

The Winds

In Roman territory it is noted that in most of the year the wind speed is between 1 and 10 knots. Due to the different seasonal barometric conditions on the entire Mediterranean basin have increased the speed and frequency of winds during the cold season than the warm period.

During the winter the winds coming from the North, the Tramontana, and the North-West, Grecale characterize the Tyrrhenian coast the weather is cold and dry, while in the more humid winds from the south-east (Scirocco). During the summer the Tyrrhenian Sea establishes an area of high pressure (the Azores Anticyclone) which gives rise to the prevailing winds of the South West quadrant. During the summer, the city of Rome, given the different rapid heating of the land that is produced during the day between the sea and the land, trigger the movement of air masses that determine the expiration of light winds (breeze sea) including the well known «Ponentino.» In the world Ponentino is known as the wind qualifier of the city of Rome, it is often called «Roman». This wind occurs from 12.00 till evening and that wedges inland to a distance of 50 km from the coast and reaches peaks of 20 knots on the beach in front of the city.
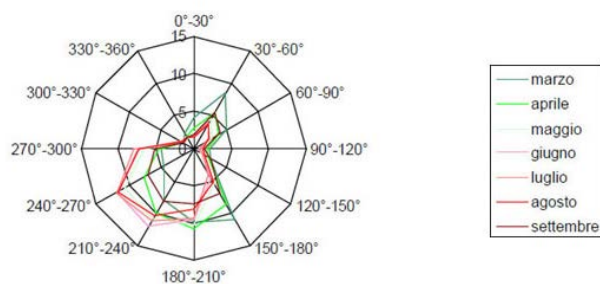
Fig. 28
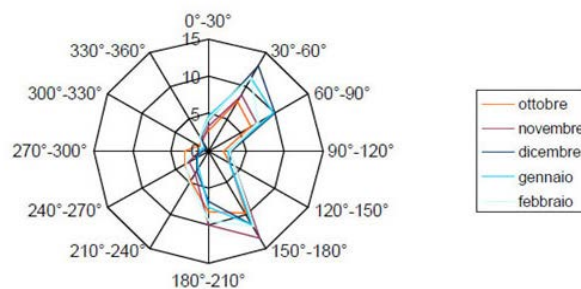
Fig. 29

4.5.2 Environment strategies in operation

4.5.2.a Energy: Sustainable Energy Action Plan (SEAP)

The need to put in place actions to reduce greenhouse gas emissions has led Roma Capitale to contribute on the path to energy and environmental sustainability. On 4 May 2010, the municipality has signed in Brussels on the Covenant of Mayors of European cities (Covenant of Mayors). The main objective is to reduce by more than 20% of greenhouse gas emissions by 2020. The main areas which focus on the actions of signatory cities of the Covenant are sustainable mobility, energy production from renewable sources, energy upgrading of public and private buildings and public awareness regarding energy consumption.

Rome Capital is committed to prepare a «Plan of Action for the Sustainable Energy», «Sunstainable Energy Action Plan» (SEAP), which indicate the concrete measures and policies to be implemented to achieve the goal of reducing greenhouse gases. Therefore, on behalf of the City of Rome, the Research Centre of KYTHERA «University of Rome La Sapienza, headed by Prof. Ing. Livio de Santoli, had the task of drawing up a preliminary document SEAP on the basis of a thematic workshop held in Rome in December 2009 and the Master Plan for Energy Development and economic interest prepared by Jeremy Rifkin. This document sets out the indication of the strategies to be followed, the priority areas of intervention and possible improvement actions in line with the EU directives. The general strategy is based on a precise model of energy policy and governance. The SEAP represents a real commitment to a strategic plan and operational sustainability and energy saving. The «implementation of actions under the SEAP lead to a reduction in CO2 emissions by 2020 of 20% compared to 2003, corresponding to approximately 2.2 million tonnes per» year. Overall, the investments planned for the achievement of the objectives of SEAP, in the ten years of activity, amount, depending on the activities carried out, for a total amount of about 5.

4.5.2.b Jeremy Rifkin's Masterplan

Jeremy Rifkin, the American known economist has prepared together with 100 of the world's leading companies in the field of renewable energy, construction, Architectural, information technology, electrical utilities, transport and logistics a Master Plan to transform Rome the first city in the world the time of the biosphere and the post-oil era.

The Plan for its implementation in 2030 will lead to a reduction of CO2 emissions by 46%, enhance the interconnectivity of the territory of Rome zonal melting the agricultural belt with residential and commercial areas in a single relationship between locally generated renewable energy and shared through distributed power and intelligent grids. The development model designed by the American plans in detai is : three concentric rings (Agro Romano, periphery and center) connected with each other all the buildings with energy-self-sufficient micro gardens and the greening of the city, through public and private gardens, to encourage agriculture.

The center, with its new open spaces and pedestrian areas which restores humanity to the streets, will become a place high livability and long-term it will transform the city into a real «park the biosphere.» Center around a more «sustainable», the ring will rise commercial / industrial development of technologies and services to transform Rome into a model of low-carbon economy. There will be an important juxtaposition of green spaces in buildings and factories powered by renewable

Fig. 30

Fig. 31

Environment, ecology and natural structure
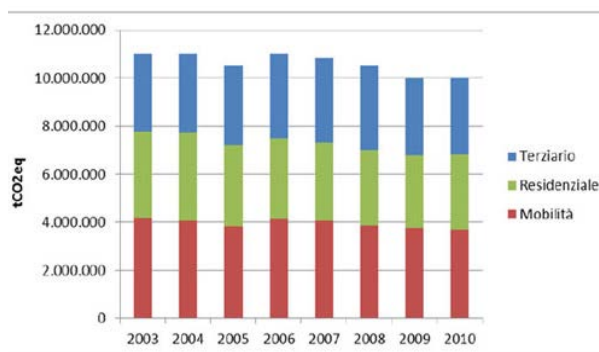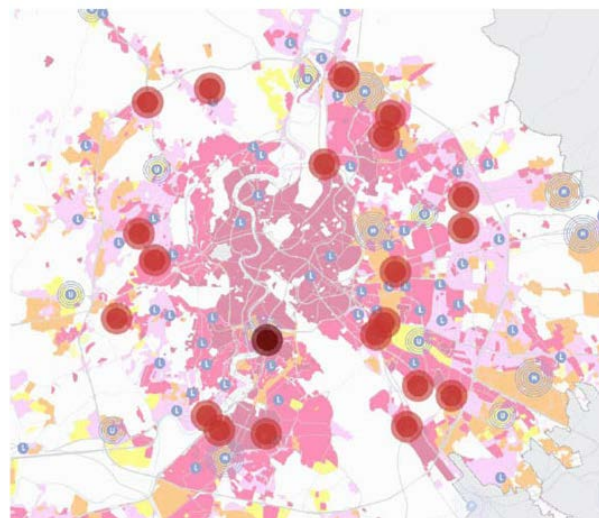
energy, and this energy self-sufficiency. Also it will provid for the upgrading of the Roman (which occupies 60% of the territory) «because Rome can also be self-sufficient in terms of food," said Rifkin. The green area outside of the city will also offer a unique opportunity for the production of renewable energy on a large scale, with projects that could use solar technologies, wind and bio-mass. Greenhouses and solar energy parks could be created in agricultural areas and integrated into the landscape and rural activities in order to support the region in its transformation to self-sustaining ecosystem, to meet at least part of the energy needs food of the Roman population. The Master Plan has a twenty-year projection. The estimated cost of the project is around 450 million a year - 10 billion over two decades - with an energy saving of about 800 million a year.

4.5.2.c Mobility: «Roma sceglie sostenibile» (Rome chooses sustainable) Strategical project of Rome's Province

Rome Capital has been involved for several years in the important goal of transforming the city according to the paradigm of sustainability, having joined the «Aalborg Charter» in 1994, the «Aalborg Commitments» in 2004, the National Association of Local Agenda 21, the Network of Sustainable European Cities «ESCTC» and the group «C40 Cities» of world cities actively engaged in fighting climate change.

The commitment of the City of Rome is confirmed by numerous plans and measures taken by the Municipality, the Plan of eco-mobility fits organically with the objective of designing a structured finish with 2020 to introduce a significant amount of electric vehicles and methane in the fleet in the capital, which assist the development of the charging both public and private.

The Strategic Plan for Sustainable Mobility (PSMS) was created to «photograph»urban mobility in all its forms, public and private, rail and road transport, interurban, to the aviation and maritime transport in order to have the elements to plan and schedule future mobility according to one organic logic of the system that will allow in Rome to transform into metropolitan city with a modern transport system, capillary and efficient.

The strategic plan defines some necessary actions: the structured and progressive limitation of movement in the central part of the city, including the Aurelian Walls, through an increase in restricted traffic zones (ZTL) enabling parallel provision of new infrastructure for public transport to serve by substitution of private, working to increase the efficiency of the existing network and intermodality is of rubber on steel and also intervening to develop the pedestrian, to build a network of cycle routes connected and to restore the navigability of the river Tiber.

From the point of view of sustainable mobility and innovative Strategic Plan provides for the creation of: flexible and innovative transport services (bus on call, car sharing, car pooling), development of mobile information services, support for cycling through the development of bike sharing and ability to load your bike on public transport both urban and interurban road and rail, the demand for mobility management interventions on mobility management commuting, city logistics solutions for the distribution of goods in the last mile. Finally, even in the PSMS is expected to be adopted fleets of vehicles with low environmental impact, both for freight transport people with incentives to purchase and spread of distribution points of energy and / or biofuels.

Roma Capitale has decided to set its goal of eco-mobility in 2020, to be achieved by promoting the use of electric vehicles, hybrid and natural gas and infrastructure associated with them, or charging points for electric vehicles and distributors for CNG vehicles. The involvement of the companies that handle engaged in the production and manufacture of these vehicles is especially crucial in the initial phase to support its dissemination. The medium-term objective is the introduction of 1,000 vehicles by the end of 2014.
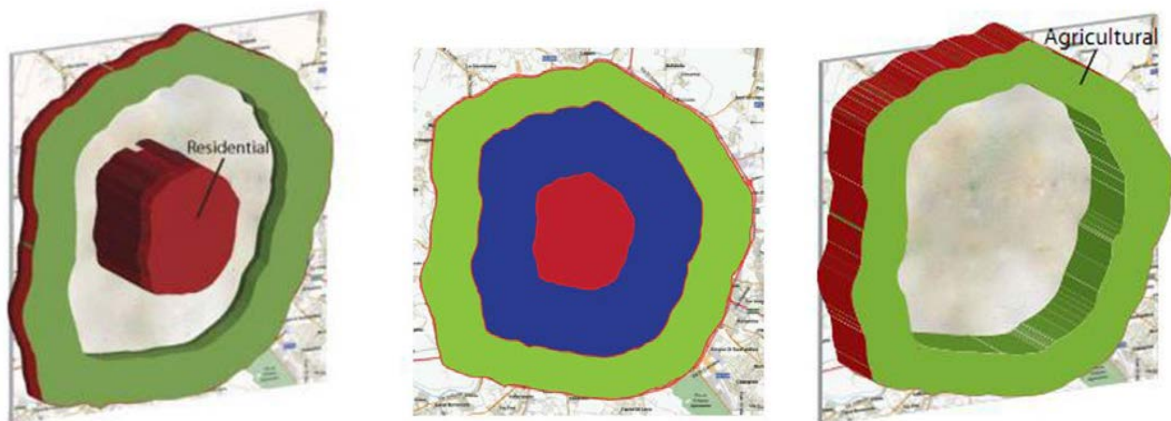

Fig. 32

Based on the objectives identified in terms of vehicles is possible to estimate the necessary charging infrastructure, made up of private and public recharging points. To this end ultimate goal is the realization of a positioning map of charging stations.

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Chapter 5

Conformation and transformation of the urban landscape in Rome

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Elnaz Behnam Kia, Dorina Pllumbi

Chapter 5

CONFORMATION AND TRANSFORMATION OF THE URBAN LANDSCAPE IN ROME

PhD Students: Michele Conteduca (Coordinator), Francesco Antinori, Elnaz Behnam Kia, Dorina Pllumbi

1. Introduction

«The map stands as the most direct and faithful interpretation of the image of the city as it has evolved» (Italo Insolera, 1996).

In this chapter, is proposed to address the issue of the development and transformation of the urban landscape of the city of Rome through the identification of key historical moments. This will allow us to understand the different phases that led to the current image, through the collection of maps and views and historic photographs.

The research starts from these documents, or the image of them that has been handed down over time, with the objective of showing the evolution of the primitive nucleus of the city, the consolidation of its dominant structure, and following the subsequent transformations of the city, through a chronological sequence.

The cartographic analysis, the historical and socio-political analysis, and the accompanying literature have led to the identification of seven key moments that have influenced the development of the urban landscape of the city of Rome. These are presented as Summary Maps –and for some of them there are additional explanatory schemes of the fundamental phases of the urban and landscape transformations.

The ancient city has experienced a steady development culminating in the imperial period, reaching its maximum expansion in the IV century AD.

After the fall of the Roman Empire there was a gradual decline of the urban centre that continued throughout the medieval period. Only after the return of the the Papacy in the XIV century, has the city experienced a new development, although the inhabited area would remain confined to the nuclei of the Campo Martio, Rinascimento, Trastevere and Borgo districts until the XIX century.

In this large space of time the structure of the historic city took shape through new public spaces and perspectives, and was surrounded by villas and country estates.

After the Unification of Italy Rome experienced its first expansion outside the city walls towards the countryside, the so-called «Campagna Romana». This process, now marked by various planning instruments, has continued uninterrupted to contemporary times, and still today the territory of Roma Capitale has still a large number of protected areas of high naturalistic value, which need to be preserved from an often uncontrolled expansion, and constitutes, together with the historical and archaeological heritage, the memory of Rome's urban landscape for the next generation.

2. Ancient Rome

2.1. Ancient Rome_ VIII c. B.C. – V c. A.D.

The urban nucleus of Rome experienced a millenary evolution during the Roman Age, from the foundation of the city, which took place on the Palatine hill, through the Republican enlargement, reaching its peak during the imperial period and, which, with one million inhabitants, was the largest
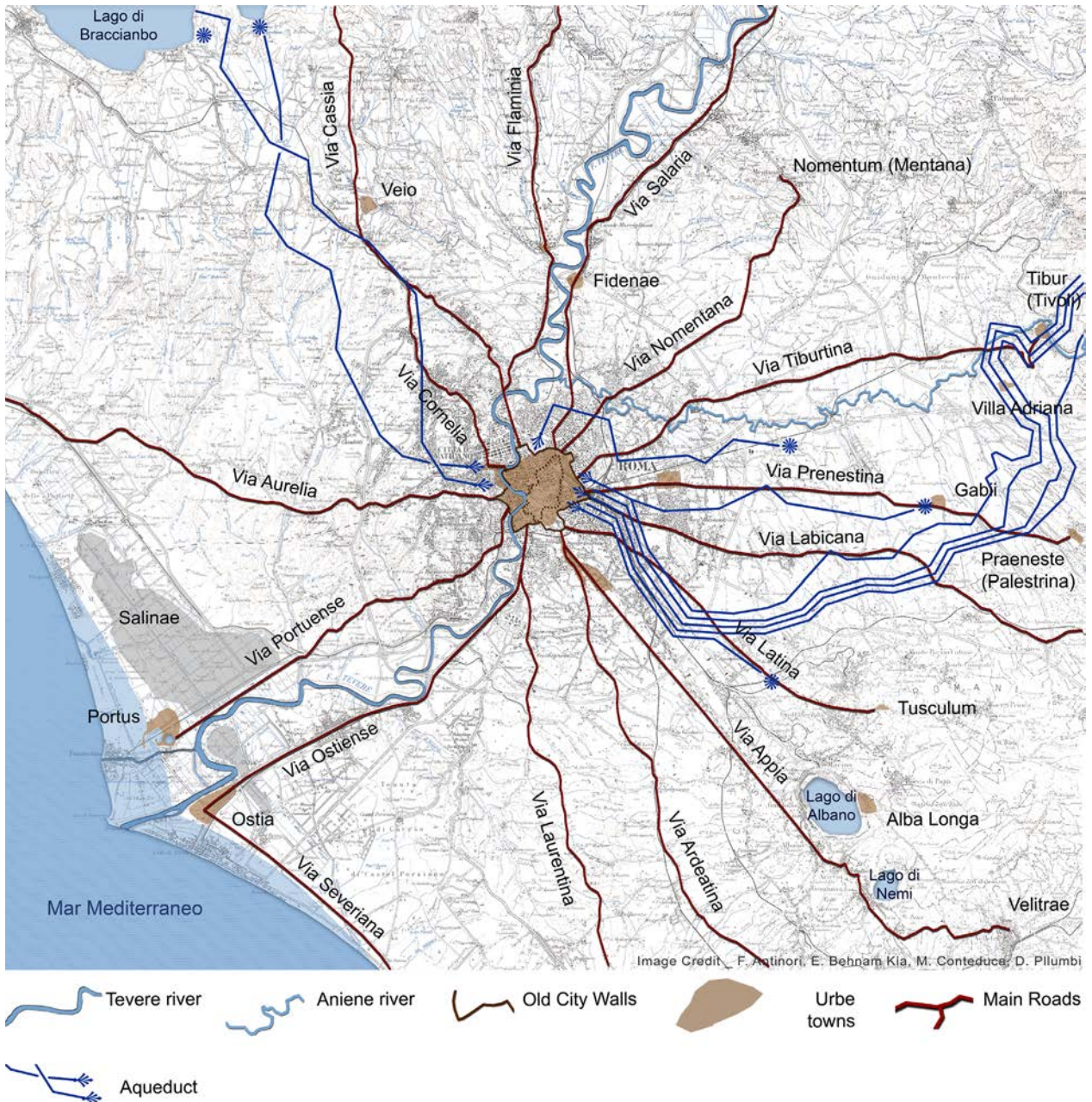
Fig. 1 _ Summary map _ Ancient Rome_ IV century A.D.

metropolis of antiquity.

The ancient town, surrounded by walls, appears as very compact and dense, while the suburban areas are crossed by the aqueducts and the main communication routes, Vie Consolari, along which there are villas, mausoleums and important sites, of which today it is possible to retrace the structure: Tivoli and its sanctuaries, the imperial Villa of Hadrian, Ostia Antica and Harbours of Trajan and Claudio. Note the different course of the river Tiber near Ostia, and the retreat of the coastline, along which were the Saline.

2.1.1. Foundation Age _ VIII c. B.C.

The primitive nucleus of the city of Rome was built on the heights of the Palatine Hill and Capitoline Hill, both for epic and holy reasons, both for defensive reasons, both for defensive purposes, and because they were close to the point where the river Tiber had, and still has its lower level, where the main routes of communication were located. The Town consisted of two fortified citadels, the landscape was characterized by a quite complex landform, crossed by many rivers, and it can still associated with the seven hills.

2.1.2. Republican Age_ VI century B.C.–I century B.C.

In the five centuries of the Republican Age the growth of the urban area makes it necessary to build larger City walls, the Servian Walls. The Consular routes were traced through the valleys between
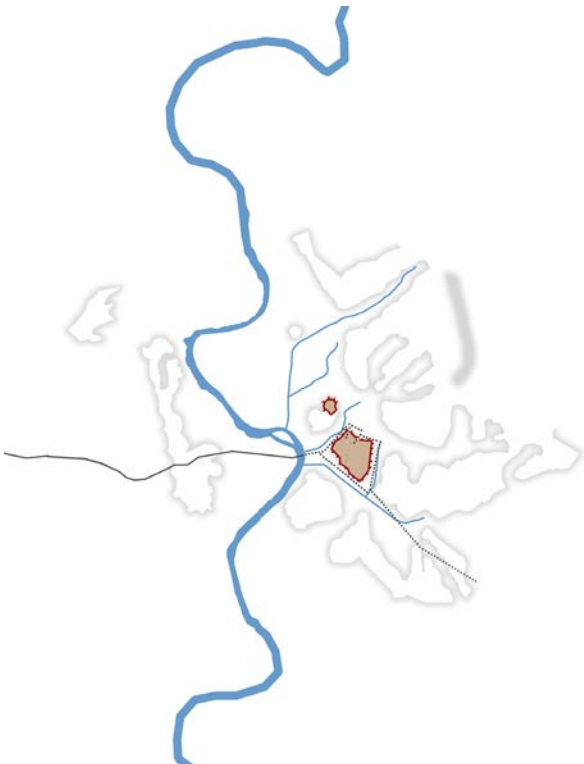
Fig. 2 _ Rome scheme _ Foundation Age _ VIII century B.C.
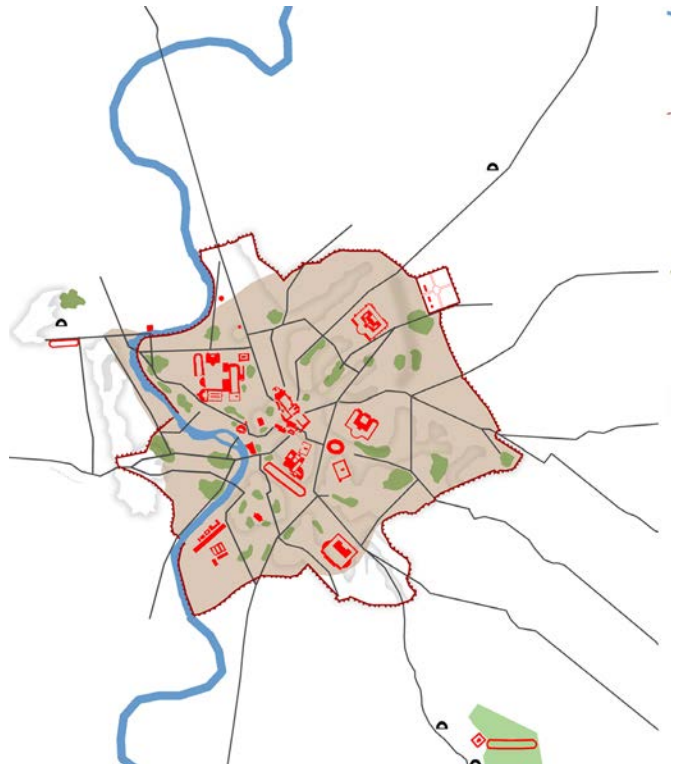
Fig. 3 _ Rome scheme _ Republican Age _ I century B.C.

Fig. 4 _ Rome scheme _ Imperial Age _ IV century A.D.

Tevere river

Defense Walls

Urban Built

Urban Street

Great Building

Conformation and transformation of the urban landscape in Rome

the hills, and important public buildings such as the Forum, the Circus Maximus and the Theatre of Pompeo were constructed.

2.1.3.Imperial Age _ I century B.C.-V century A.D.
The City reached its maximum expansion in the IV century A.D. In the III century A.D. were built the Aurelian Walls was built surrounding a very dense city, enjoying few green spaces, with the exception of the "Holy Forests". The road network was enlarged, and many public buildings were erected, including the Imperial Forum, the Baths, The Coliseum, the Stadium of Domitian, the Emporium and river harbours. Expansion also took place outside the walls, although with a suburban character, in fact along the consular routes Imperial and patrician villas and, as well as burial grounds were located.

3. Medieval Rome

3.1. Medieval Age _ VI century A.D. - XIV century
The fall of the Western Roman Empire led to the depopulation of the countryside, and the great imperial estates passed to the Church. As a result of continuous looting by barbarians and feudal struggles, the villae rusticae of the imperial age turned into domuscultae (VIII century A.D.), fortified villages near a church or an abbey, located along the ancient routes. These roads also acquired the function of pilgrimage routes to Rome, which had become the centr of Christianity.
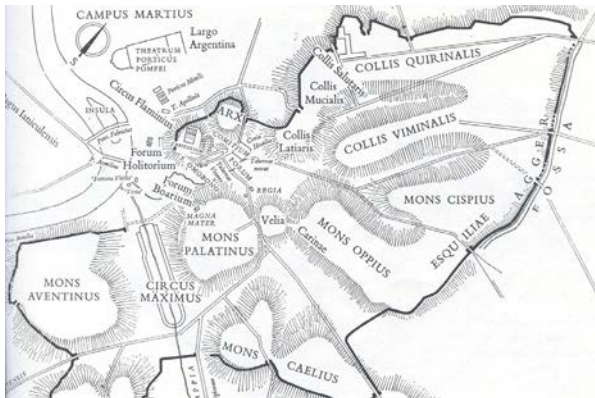
Fig. 5_ Leonardo Benevolo, Republican Rome

Fig. 6_ Giovanni Battista Brocchi. Pianta fisica del suolo di Roma antica (1820)

Fig. 7_ Johann Jakob Frey, Aqueducts in the countryside, 1865.

Fig. 8_ Mario Cartaro. Celeberrimae urbis antiquae fidelissima topographia.

Fig. 9_ Giovanni Battista Piranesi, Arch of Septimius Severus and Temple of Saturn, 1774.

Fig. 10_ David Roberts, The Forum, Rome, 1859

The ancient Roman ruins were used as quarries. The area was characterized by the widespread presence of towers and castles to defend the land leased to farmers; such lands were destined for extensive cultivation of cereals and pasture for livestock.

Subsequently, following the rise to power of some noble feudal families, farmhouses and villages were built on lands previously belonged to the Church.

In order to repopulate the countryside, with the preparation of the Catasto Alessandrino, the civic use of abbandoned land and tax exemptions were granted to farmers, small landowners and inhabitants of the villages.

3.1.1. Medieval Age _ XIII century

After 476 A.D. Rome was devastated by the barbarian invasions: this led to the abandonment of large parts of the city, a general depopulation and an inevitable contraction of the urban nucleus.

The power vacuum left space to the Byzantine officials and the papal court, which took the place of the Empire, and with the expansion of Christianity, the city had to accommodate the constant inflow of pilgrims. For this purpose new churches and sanctuaries were built around the graves of the martyrs.

In the ninth century Pope Leone IV fortified the Civitas Leonina (Vatican City), symbol of political power assumed by the popes, protected by the noble families, who expanded their palaces with what remained of the ancient ruins: Castel Sant'Angelo, for example, was built on the ancient

Fig. 11_ Summary . Medieval Age. XIII century

Tevere river
Defense Walls
Leone IV Walls
Urban Built
Urban Street
Christian Church
Great Building
Catacombs

12. Rome scheme. Medieval Age. XIII century

Fig. 13_ Giovanni Battista Falda, Drawings of the city of Rome, 1676.

Fig. 14_ Georg Braun, Franz Hogenberg, Civitates Orbis Terrarum, Cologne, 1572 – 1617; Roma, Biblioteca Angelica.

Fig. 15_Giovanni Battista Piranesi, St. Lawrence Outside the Walls, 1750.

mausoleum of Emperor Hadrian.

Around the middle of the twelfth century the consular Municipality on Capitol Hill was founded, and during this period the Aurelian walls were recovered and new defensive bastions were built.

4. Modern Rome

4.1. Modern Age _ XV century - XIX century (Pre-Unification)

With the return from Avignon (1378), the papacy settled permanently in Rome; this was the beginning of a period of greater stability that will culminate with Pope Julius II (1503-1513), during this period the legal-administrative and territorial division of the Papal States was delineated.

During the papacy of Nicholas V (1447 - 1455) the plan of reconstruction and expansion of the city was started which, though interrupted by the "Sacco di Roma" (1527), will continue until the eighteenth century.
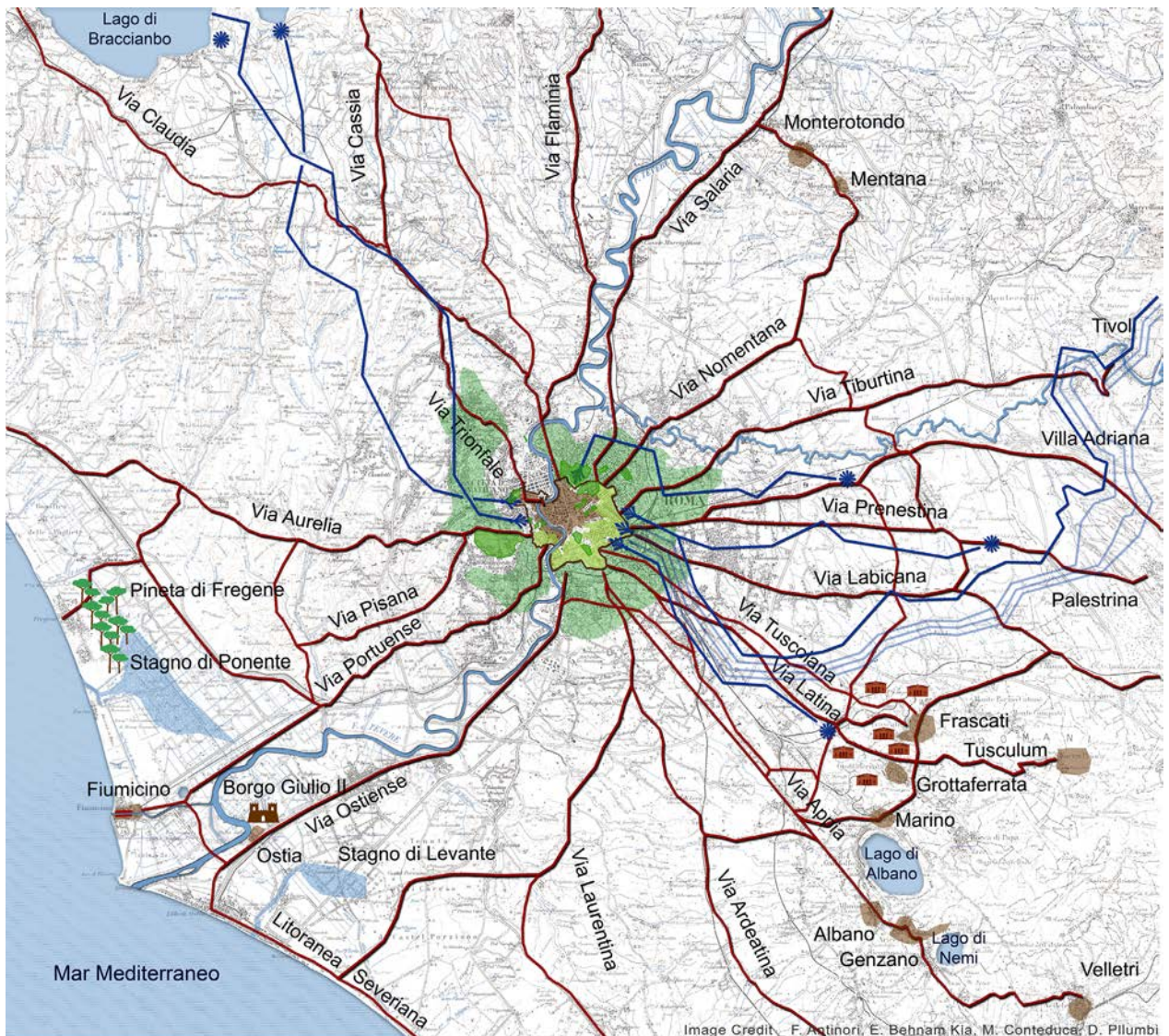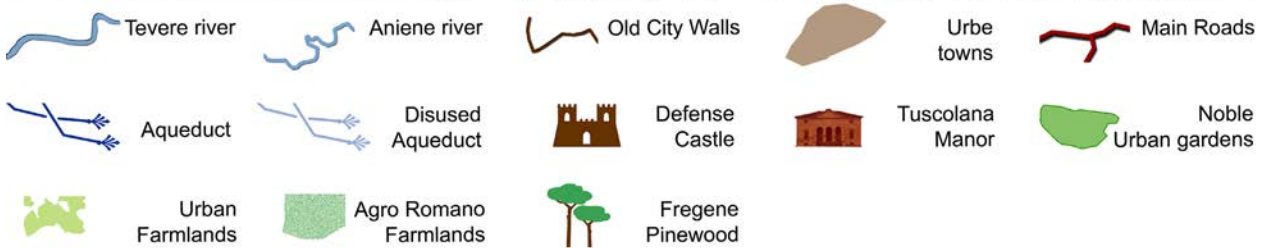
Fig. 16_ Summary map _ Modern Rome _ XVIII century

Rome, surrounded by a "belt" of suburban aristocratic villas, experienced, during this period, a series of operations on a regional scale: the restoration and repair of some aqueducts (the Mariano, Vergine and Felice, which was built on the oldest Claudius aqueduct), the renovation and expansion of the road network. It was also exempt from the renewal of the urban fabric also in the neighbouring towns to the city with the construction of new noble buildings, churches and villas: for example the Ville Tuscolane on the Castelli Romani Hills, the village of Julius II in Ancient Ostia and the Villa d'Este in Tivoli.

4.1.1 Renaissance and Mannerism_XV century - XVI century

The sixteenth century opened with the papacy of Julius II, characterized by the start of the construction of the basilica of St. Peter (1506) and the opening of new roads to link the Rinascimento and the Trastevere districts with the Vatican city (Via della Lungara and Via Giulia).

With Pope Leone X began a series of urban interventions, such as the urbanization of the Campus Martius, the redevelopment of the Medicean trident (the present Via del Corso del Babuino and
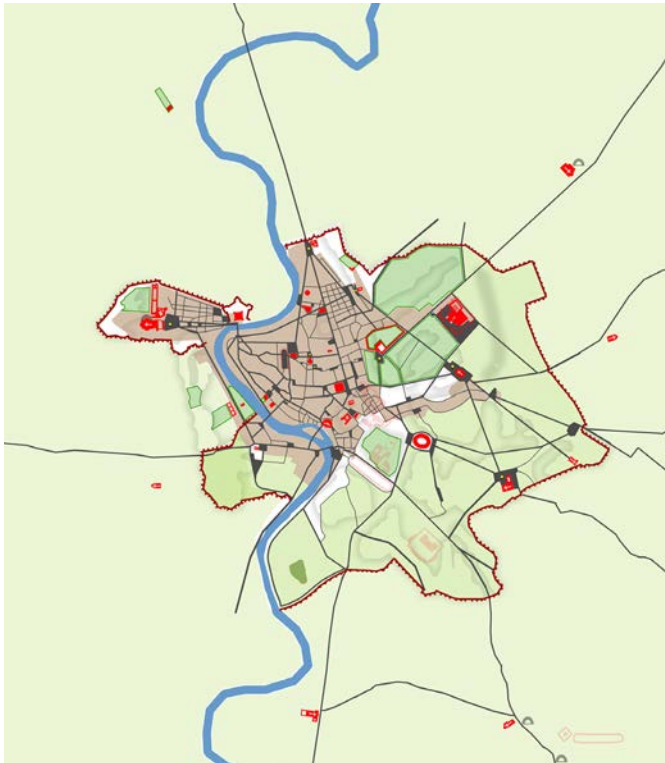
Fig. 17 _ Rome scheme _ Renaissance and Mannerism _ XVI century
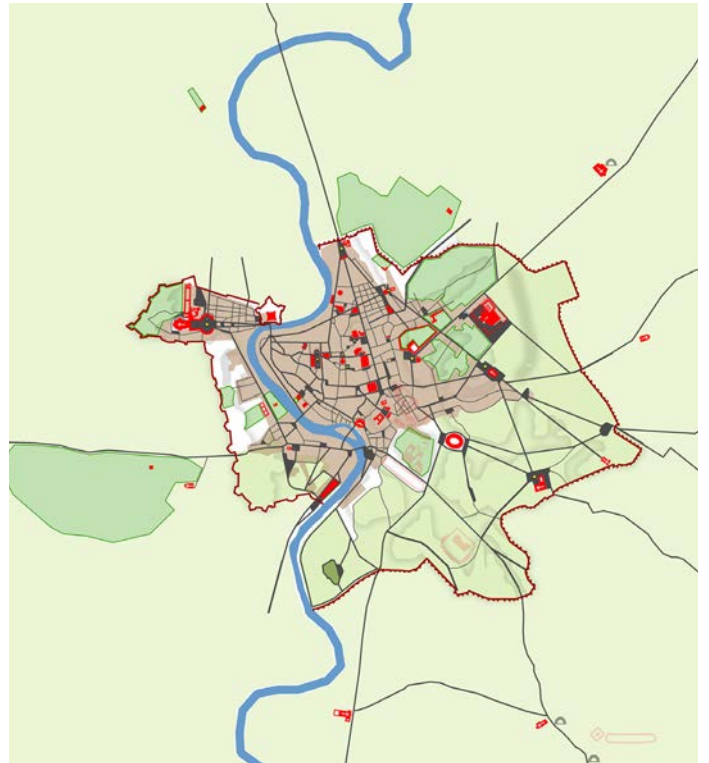
Fig. 18 _ Rome scheme _ Baroque _ XVIII century
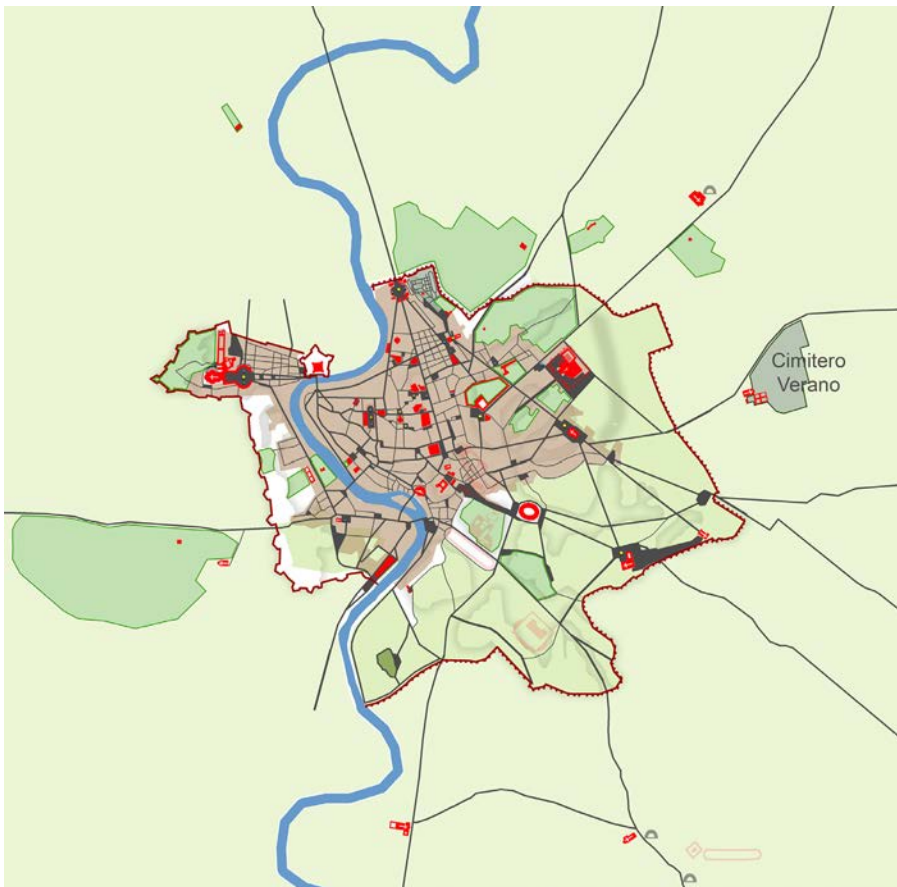
Fig. 19 _ Rome scheme _ Neoclassicism_ XIX century (Pre-Unification)

Tevere river

Defense Walls

Urban Built

Urban street and public spaces

Agro romano fields

Urban fields

Noble urban gardens

Great Building

Great fountain

Obelisk

Ancient building

Catacombs

Conformation and transformation of the urban landscape in Rome
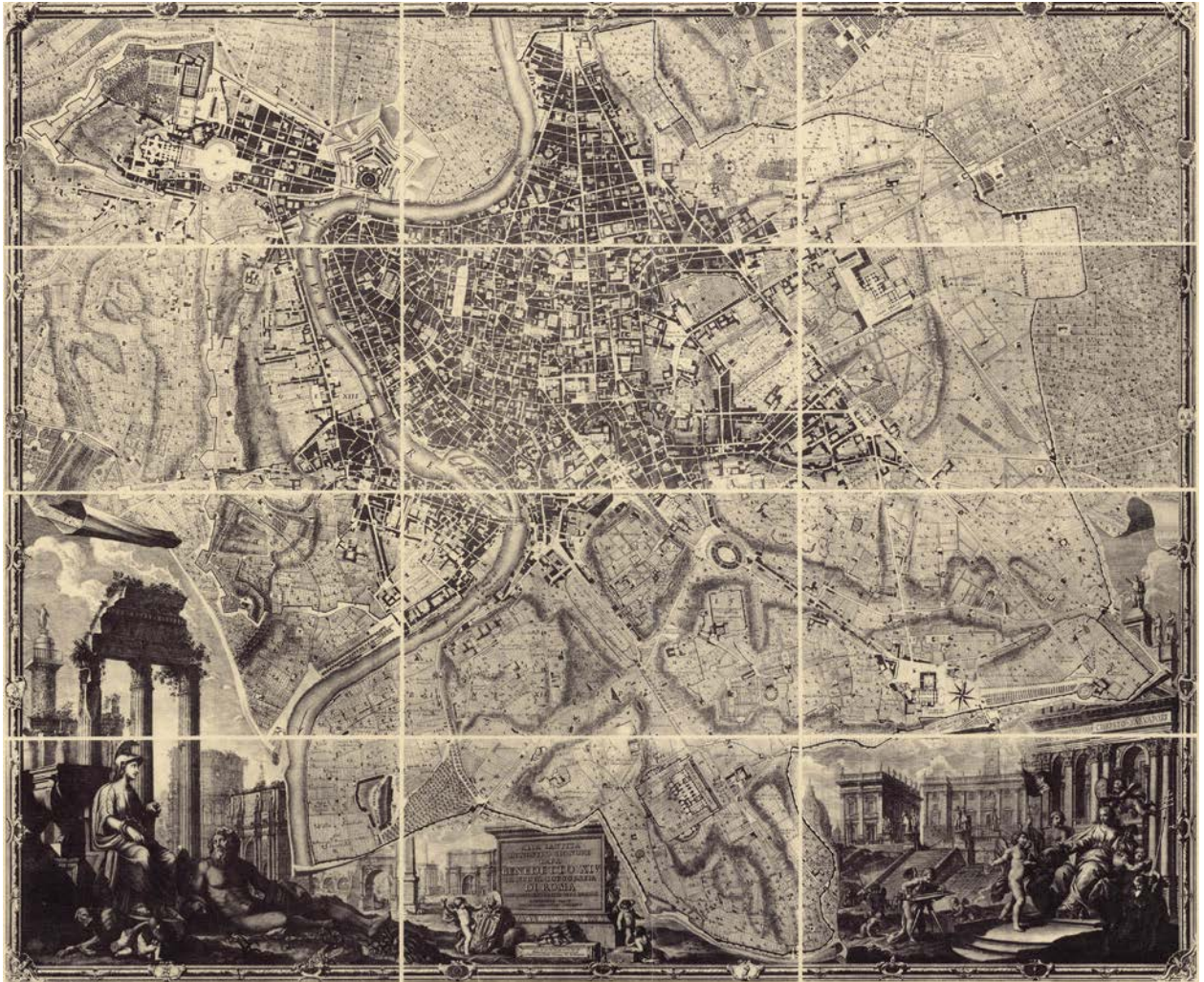
Fig. 20 _ Giovanni Battista Nolli, Roma (1748); in Amato P. Frutaz, Piante di Roma, Roma, Istituto Nazionale di Studi Romani, 1962.

Ripetta), with the head of the Piazza del Popolo, which will become the privileged access to the city from the north.

Later Pope Sixtus V launched a plan aimed at defining perspective axes identified by obelisks, mainly concentrated in the Esquiline, which culminated with the routing of the Via Felice and Via Merulana, connection between the patriarchal Basilicas of St. John Lateran and St. Maria Maggiore. The focal point was the crossroads of the four fountains nearby the new papal residence, the Palazzo del Quirinale.

The area inside the Aurelian walls started to lose its agricultural character, and there began the gradual process of privatization, with the aristocratic villas, such as Villa Ludovisi and Villa Peretti.

4.1.2. Baroque _ XVII century - XVIII century

The changes affecting the urban nucleus in the seventeenth and eighteenth centuries concerned mainly the construction of new villas (such as the Villa Borghese and Villa Doria Pamphili) and the restructuring of the public spaces of the city (Piaz-za Navona, Piazza del Popolo, Piazza San Pietro , the Spanish Steps and the Trevi Fountain). It the restoration of the Aurelian Walls with their enlargement on the Janiculum Hill was also realized.

4.1.3. Neoclassicism _ XVIII century - XIX century (Pre-Unification)

The Napoleonic period marked the beginning of a planning phase of urban modernization of Rome, characterized by greater attention to public spaces and the health needs its citizens: the Verano cemetery was built along the Via Tiburtina near the basilica of St. Lawrence Outside the Walls, as well as the public gardens of the Pincio and the renovation of the Piazza del Popolo.

Fig. 21 _ Pietro Ruga, Roma (1824) ; in Amato P. Frutaz, Piante di Roma, Roma, Istituto Nazionale di Studi Romani, 1962.
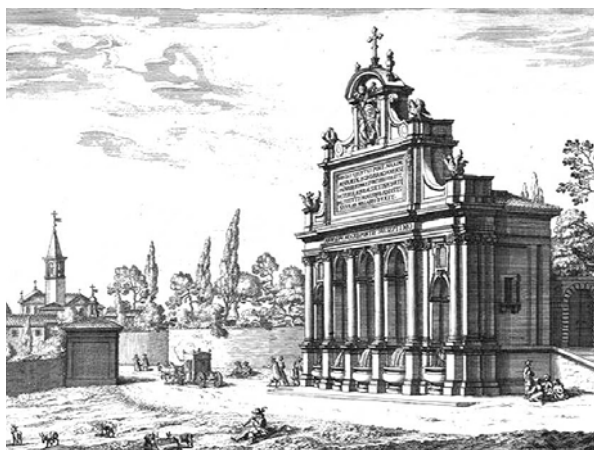
Fig. 22 _ Giovanni Battista Falda, Fontana e Castello dell'Acqua Paola, in G.G. de Rossi (a cura di), Le Fontane di Roma Nelle Piazze, e Luoghi Publici Della Citta, con il Loro Prospetti, 1691; Roma, Biblioteca Nazionale Centrale.

Fig. 23 _ Giovanni Battista Piranesi, View of the Port of Ripetta, 1753

Fig. 24 _ Gas Gaspar van Wittel, View of the Square and the Palace of Montecavallo (Quirinale), 1682; Roma, Pinacoteca Capitolina.

Fig. 25 _ Jean Baptiste Camille Corot, Veduta di San Pietro e Castel Sant'Angelo, 1828; San Francisco, Fine Arts Museum.

Conformation and transformation of the urban landscape in Rome
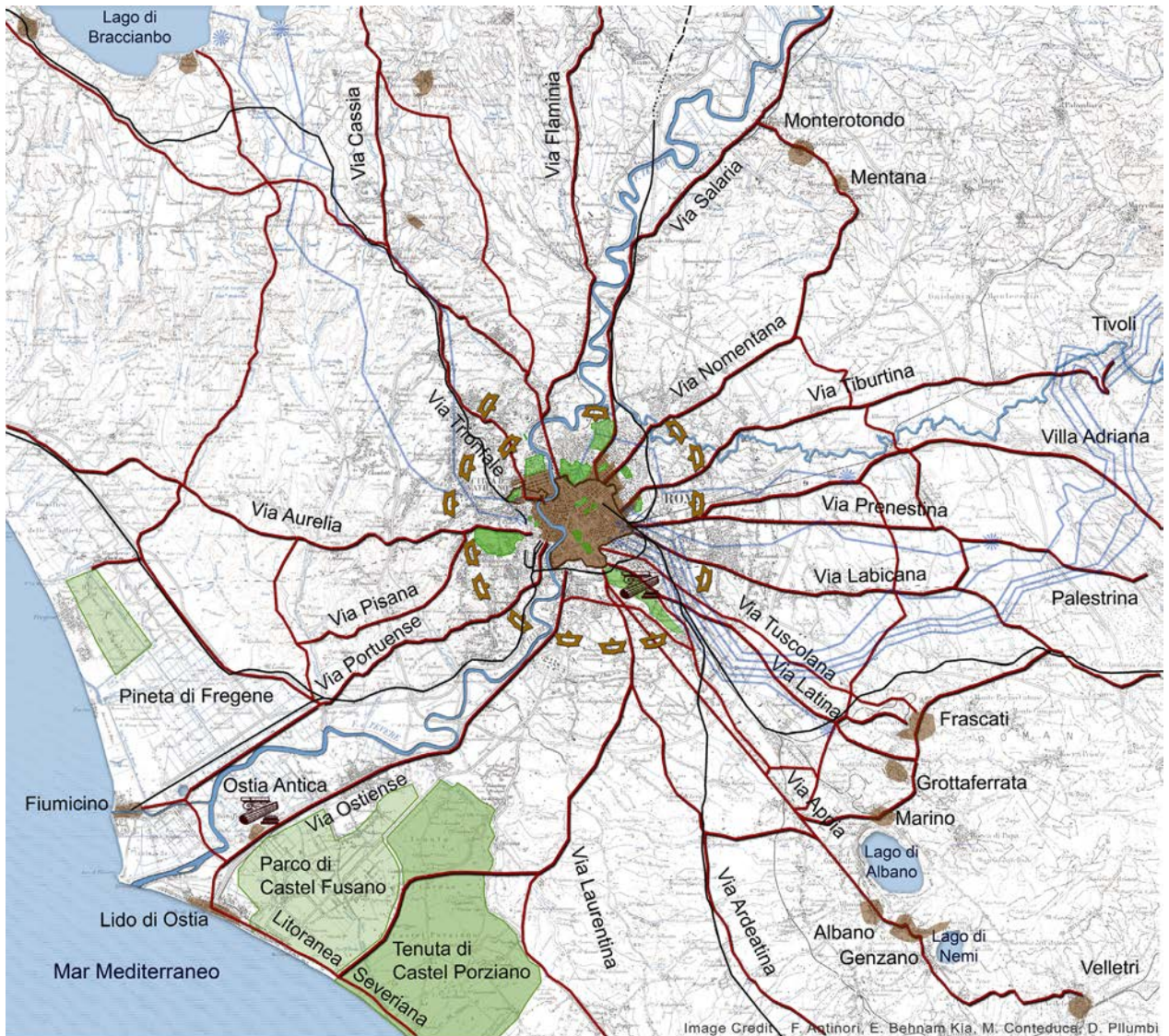
Fig. 26 _ Summary map _ Contemporary Rome _ Early XX century

5. Contemporary Rome

5.1. From the Unification of Italy to the First World War (1871 – 1914)

In 1870 the Breccia di Porta Pia marked the end of the temporal power of the Popes and led to the proclamation of Rome the following year as the capital of the Kingdom of Italy.

The new function of the city made it necessary to adapt its structure and for this purpose the first restructuring and expansion urban plans were launched, as embodied in the creation of the so-called "quartieri piemontesi", neighbourhoods characterized by the development of a regular grid (Esquilino Pinciano, Ludovisi and Prati districts), often at the expense of historic villas.

The process of the modernization of the city unfolded through the expansion of the railway and roads network system and the identification of productive areas, which were concentrated in the Testaccio and Ostiense districts.

A belt of military forts was also provided, located along the main roads, for the defence of the capital.
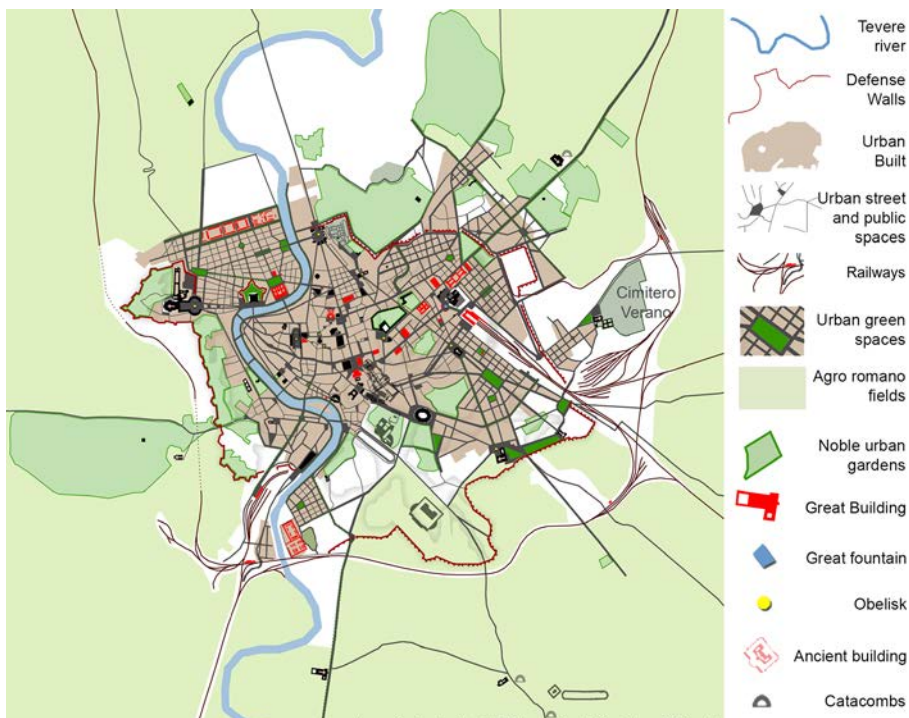
Fig. 27 _ Rome scheme _ Early XX century

Fig. 28 _ Roma disegnata dal Genio Militare (1900; in Amato P. Frutaz, Piante di Roma, Roma, Istituto Nazionale di Studi Romani,

Fig. 29 _ Amedeo Simonetti, Night view of Rome, 1922; Roma, Museo di Roma in Trastevere.

Fig. 30 _ Piazza Cola di Rienzo, Foto d'epoca, primi '900

Fig. 31 _ Piazza Venezia, Foto d'epoca, primi '900

Conformation and transformation of the urban landscape in Rome
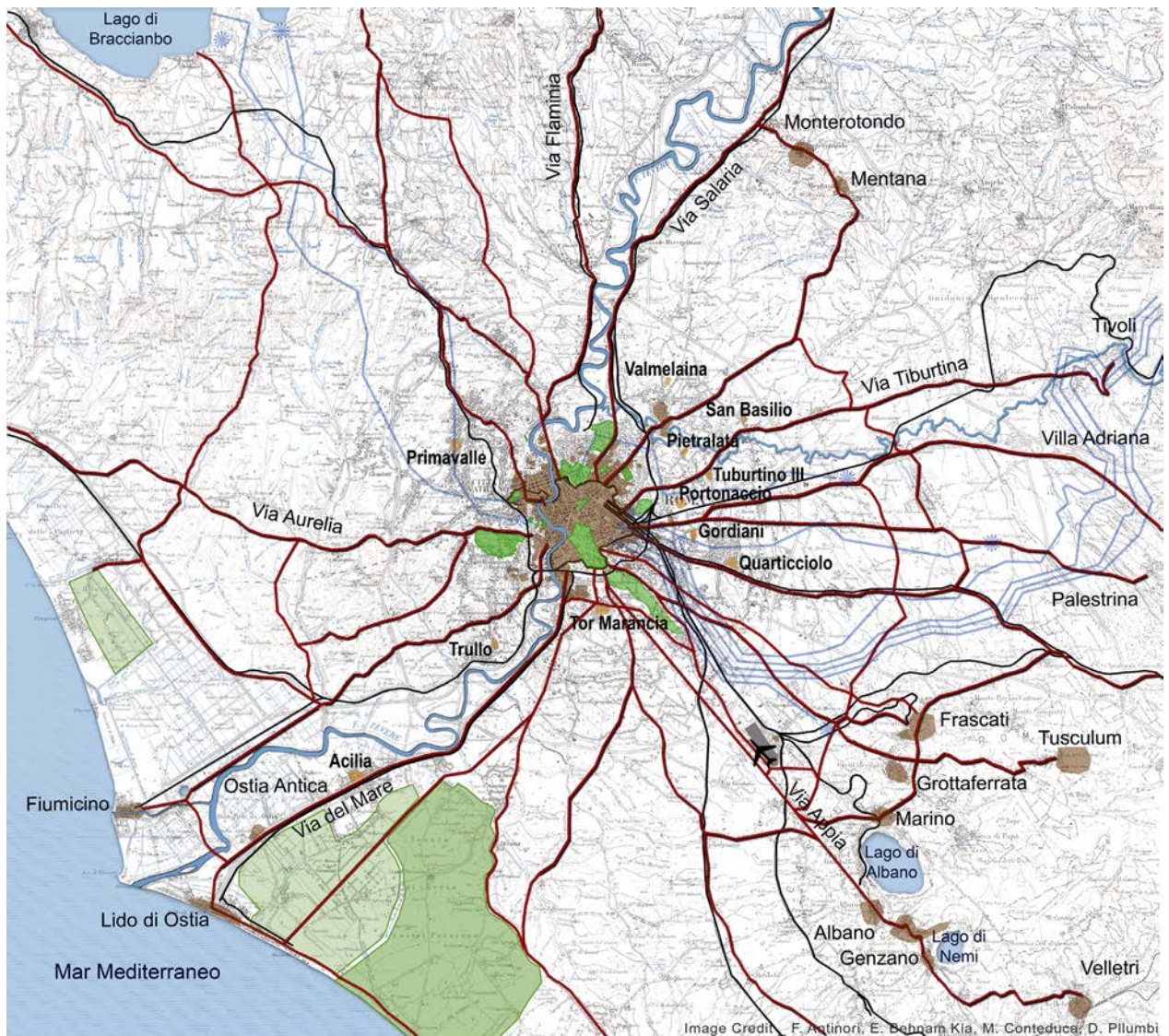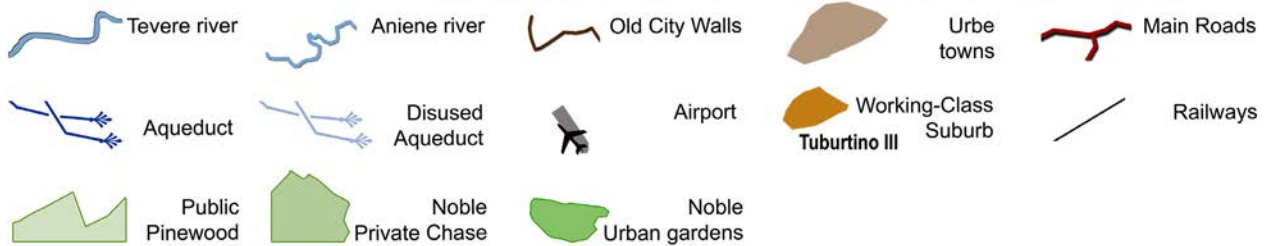
Fig. 32 _ Summary map _ Contemporary Rome _ The '30s

Through the reclamation of coastal areas it was also possible to start the construction of the Lido di Ostia.

The next Master plan of 1909, called "Sanjust", provided a further expansion of the city, through radial diagrams (for example the quartiere delle Vittorie), defined by radial avenues and squares.

5.1.1. The result of the first Master Plans

With the proclamation of Rome as the capital of Italy, it was decided to localize the functions of government along the axis of Via XX Settembre, thus promoting the city's expansion to the East For this purpose the villa Peretti and villa Ludovisi were parcelled, for the construction of via Nazionale, the Esquilino district and via Veneto.

As a result of the decision to initiate the housing development of the Prati di Castello, confirmed the position of the political center in the Campus Martius was finally, and, to ensure its accessibility, the demolition of parts of the city centre (Corso Vittorio Emanuele, Via del Tritone and Piazza Venezia) became necessary.

The new districts were characterized by a regular grid, defined by boulevards and squares on the model of the English Square.

The surviving historical villas, such as Villa Bor-

Fig. 33 _ Quartiere E42, Esposizione universal 1942, oggi EUR – Foto aerea

Fig. 34 _ Quartiere IACP Garbatella; Google Maps, Foto aerea.

Fig. 35 _ Excavation and demolition in progress in the area of the Roman Forum, demolition of buildings in the Alexandrino district, 1932; Roma, Mediateca

Fig. 36 _ San Pietro e Spina di Borgo, 1908

Fig. 37 _ Lavori di demolizioni in corso nell'area dell'Augusteo, 1937; Roma, Mediateca.

ghese, became public parks.

The most extensive urban renovation of the historic centre, however, concerned the construction o the new banks of the river Tiber to eliminate the problem of the continuous river floods. The embankments were built as tree-lined walks, albeit radically altering the relationship between the city and the river.

5.2. The Inter-war Period (1918 – 1939)

In the early '20s, to address the need for social housing IACP Garbatella and Montesacro neighbourhoods were built, modelled on the garden city.

However, the urban expansion of Rome provided by the Master Plan of 1909 was completely revisited with the advent of Fascism, which was more interested in transferring its ideology to the urban fabric. To this end, many demolitions were planned in the historic city, fortunately only partly implemented, such as the demolition around the Augusteo, the current Corso Rinascimento, the demolition of the Alessandrino district for the construction of Via dell'Impero, as well as in Borgo Pio because of the construction of via della Conciliazione.

To relocate the residents of the areas affected by previous interventions in the peripheral areas, the so-called "borgate" were identified (for example Acilia and Vitinia), which were also developed in abusive households.

Most of these settlements were located along the Via del Mare, helping to draw a line of urban expansion in the direction of Ostia, and therefore
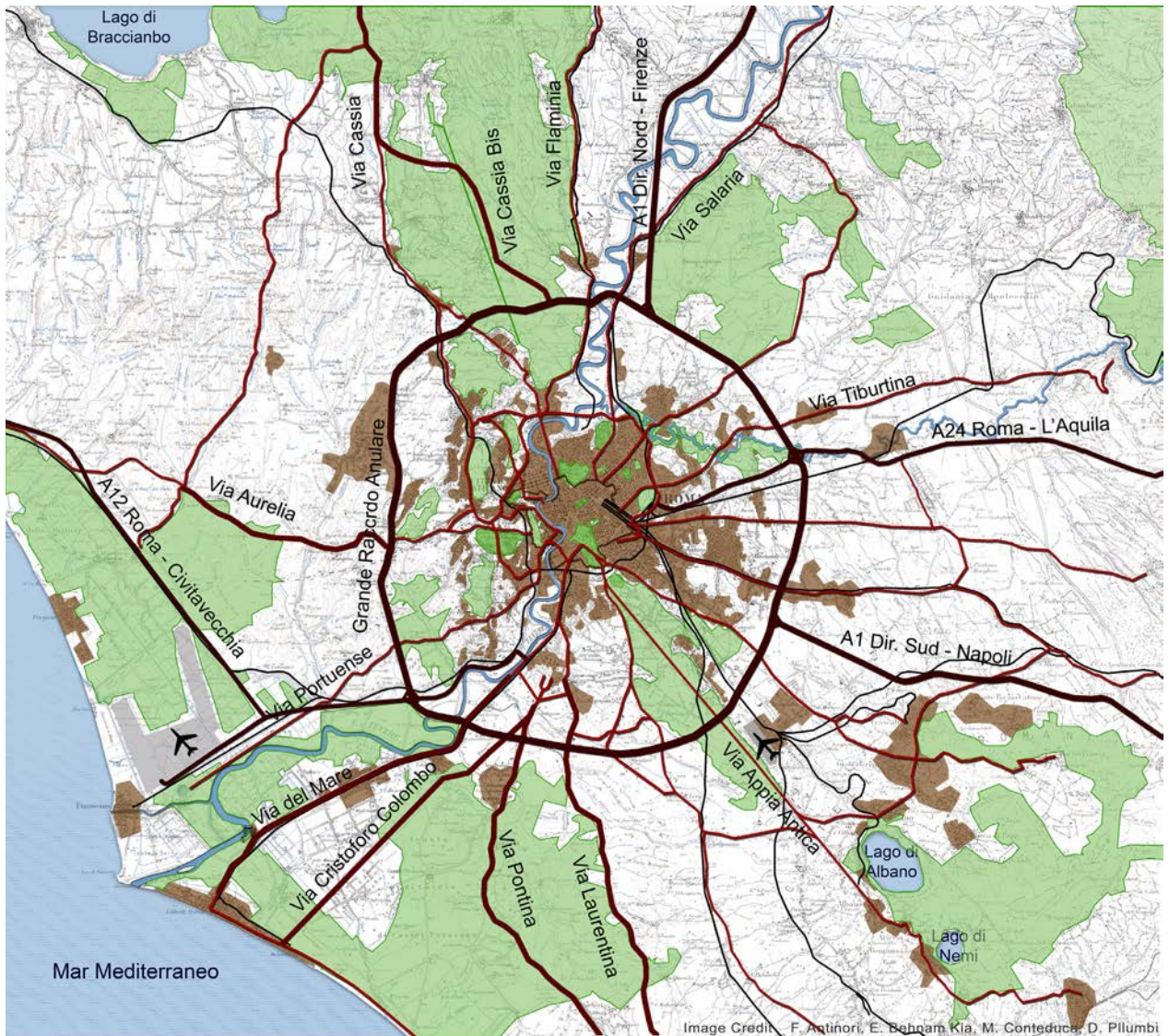
Fig. 38 _ Summary map _ Contemporary Rome _ The '70s

of the Sea (Plan of the Comet).

In 1931, with the implementation of the new PRG, the criteria for expansion of the city, the functions and building types were defined: for example, if the areas to the east and west were designated for residential building, those in the South were designated for the industry.

In those years, the landscape of the city changed through the implementation of important infrastructure (for example the university campus and the Foro Italico sports complex) and for the accommodation of large public green spaces (for example Villa Aldobrandini, the park of Colle Op-

pio, The Aventine, the Archaeological Promenade and the excavations of Ancient Ostia).

5.3. From the Reconstruction to the '70s

At the end of the Second World War, Rome had to face not only the reconstruction, but also the need to meet the growing housing needs. To the population explosion of the '50s, which resulted in a considerable increase in demand for housing, corresponded a disorderly expansion of the city and, thanks to the growing of illegal buildings, extreme fragmentation of the landscape.

The residential sector, however, was not the

Fig. 39 _ Don Bosco district; Google Maps, aerial photo.

Fig. 40 _ Nuovo Salario district; Google Maps, aerial photo.
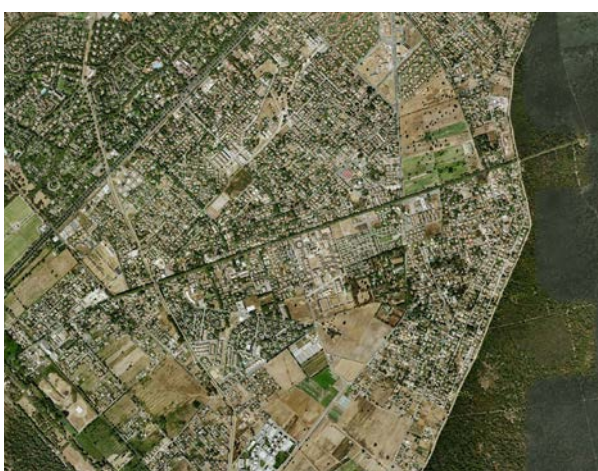
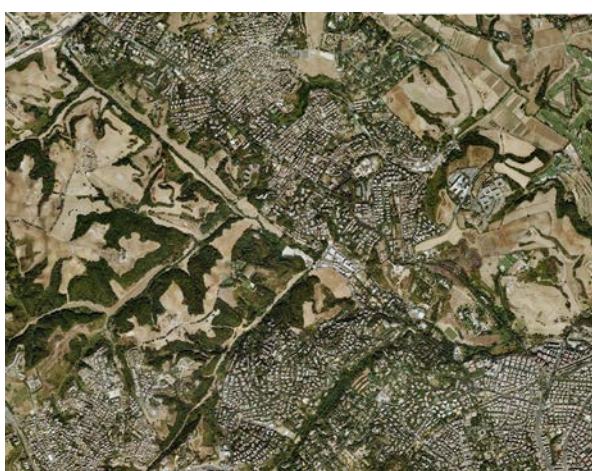Fig. 41 _ Casal Palocco district; Google Maps, aerial photo.

Fig. 42 _ Insugherata Park; Google Maps, aerial photo.

only one to be characterized by considerable ferment: with the Olympics Games of 1960 the urban landscape saw the intensification of the infrastructures (for example Fiumicino Airport and the Olympic route). Although the Master Plan of 1962 had proposed to rationalize the existing parts of the city, and to identify functional areas (SDO Eastern Directional System), primarily through zoning, and further through stimulating the development of infrastructure (motorways), the non-application of the provisions, due to the many variants, did not change the overall framework until the '70s.

The beginning of the 70s, in fact, showed a renewed interest to the landscape that is manifested in the protection of the historical center, in the creation of regional parks and nature reserves (for example the parks of Appia Antica, Tiber Valley, Veio, and Roman Coast).

5.4. From the '70s to nowadays

Urban sprawl continued from the 70s, and only with the Master Plan of 2008 was there an attempt to put a limit to this trend. This plan, currently in force, is characterized by the guiding principle of the metropolitan centrality, embodied in the idea of a polycentric city. In order to limit the further expansion of the city, there is also the aim of the enhancement and redevelopment of abandoned parts of the city (Auditorium, MAXXI, Città dei Giovani) and the protection of the Roman countryside, the "Agro romano".
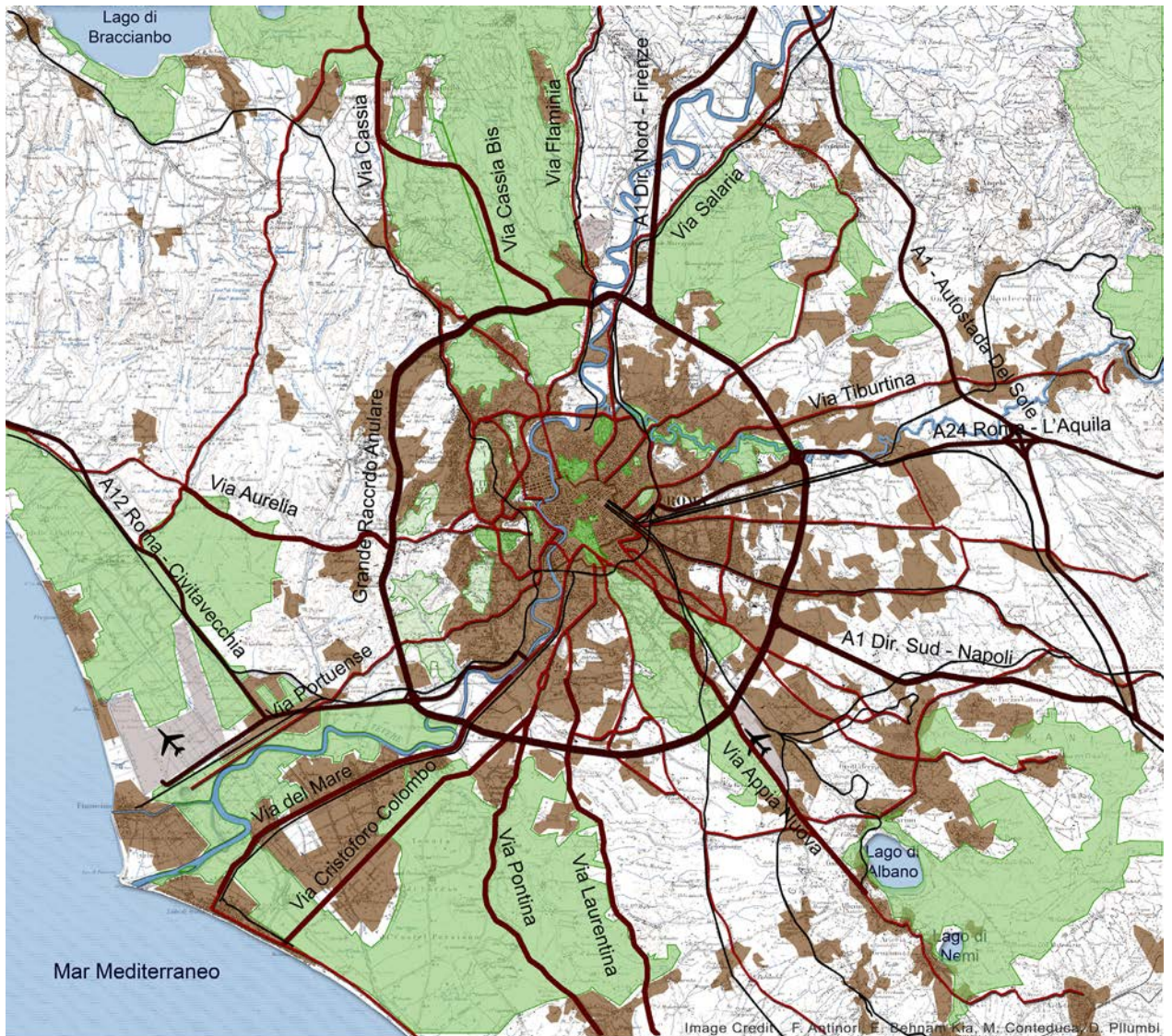
Tevere river   Aniene river   Old City Walls   Urbe towns   Main Roads

Aqueduct   Disused Aqueduct   Airport   Highways   Railways

Park and Natural reserves   Noble Urban gardens

Fig. 43 _ Summary map _ Contemporary Rome (2012)

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Chapter 6

Rome and its territory

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Chapter 6

ROME AND ITS TERRITORY
Ata Aminian, Giorgio Tosato (coordinator), Juljan Veleshnja

6.1 Foreward

The structure of Rome territory planning is ruled by a system of hierarchy, based on three levels corresponding to the three levels of local government: the "Piano Regolatore Generale" (City Plan at the municipal level), the "Piano Territoriale Provinciale Generale" (Provincial Plan) and the "Piano Territoriale Paesistico Regionale" (Landscape Plan at Regional level). These plans are in force together with the "Piano di Bacino" (Basin Plan), an extra-territorial tool, ruling the area of

Fig. 1_ The "Plan of Certainties" (1997)

influence of the Tiber River.

In this chapter, the above Plans will be analysed, with particular focus on the landscape perspectives of each, leaving out other aspects that – although fundamental to the management of a metropolitan city, like Rome – are less significant for the purposes of this publication. We conclude highlighting that all of the texts in the following paragraphs are taken by the technical reports and documentation of the individual plans analysed; we believe that a summary re-elaboration of these documents produced by designers is the best way to proceed in this brief analysis. We suggest a comprehensive study of the plans and specific readings to those wanting to have a complete knowledge and / or deepen some issues.
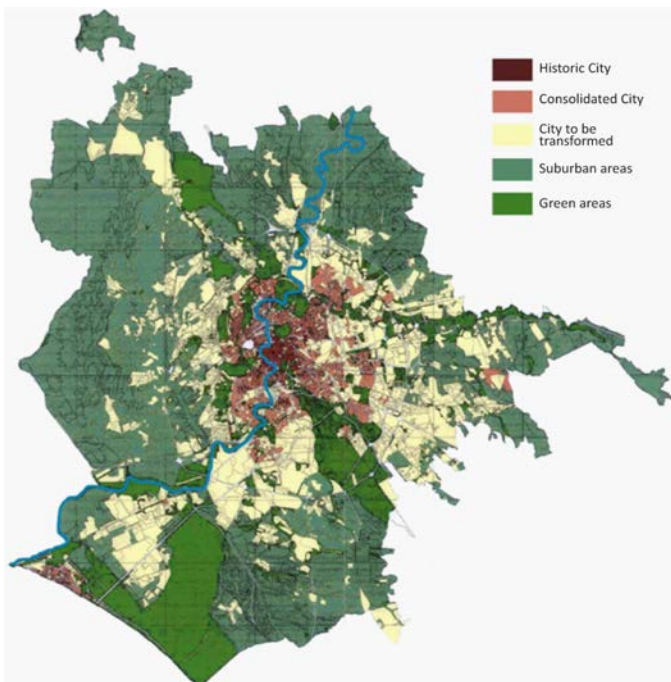
6.2 The "Plan of certainties"

The Municipality of Rome extends over about 129,000 hectares and its present structure is due to the "Plan of Certainties", a variance to the former City Plan approved in 1999. The new lay-out resulted, although improved in the new City Plan (which we will discuss later in this chapter), is still basis in the management of Rome territory, which can be considered as divided into three major areas of reference to design the urban transformation processes: Suburban Area, Consolidated City, City to complete and transform.

The first, Suburban Area, consists mainly of the system of large parks and roman agricultural areas (which form the green belt and wedges) for

a total of over 82,000 hectares, equal to the 64% of the entire territory. In these zones the main theme is environment protection, enhancement and promotion of agricultural or similar activities. The new rules include a strong reduction of new constructions, allowing only compatible changes, even not directly linked to agricultural purposes, only throughout special procedures of environment defence (PAMA, Environmental Plan for Agricultural Improving, and VAP, Prior Environmental Assessment). The classification of Suburban Areas for protection and inclusion of the so-called «essential areas» moves from environmental criteria based on the presence of binding constraints and forecasts of Landscape Plans.

The second area, Consolidated City, extends for about 6,700 hectares and includes the historic centre (where only Restoration and Conservation interventions are allowed) as well as other central areas with a structured urban fabric and a well defined roads net, for a total of 5% of the entire territory. In these areas, the urban law regulates the transformation processes throughout the procedure of direct construction license and the freedom of splitting large apartments in smaller units, in order to subsidize the re-use of existing building heritage. This legislation foresees a classification in high and low level protection areas, the first ones with allowed interventions limited to Demolition and Reconstruction. This

strategy aims to extend the idea of historic centre, expanding from the actual boundary to a new border which includes more recently constructed neighbourhoods, valid reference of urban models.

The final reference area extends for the remaining 31% of Roman territory, about 40,000 hectares, and includes a variety of zones (built and not-built) described by the absence of a distinguished plan. We are talking of the so-called "city / not-city", where partially realised zones for social housing exist near spontaneous neighbourhoods, industrial areas, empty urban spaces never developed and city service hubs. The "City to Complete and Transform", therefore, contains all new possible volumes, an occasion to be used for a general requalification process of the entire periphery.

It is very clear form all above that the "green" system is now the main structure of the municipality and joins all environmental interest areas (from all point of view), where the biological cycle of nature takes place and history happens. Up to 18 areas (Natural Reserves, Natural Monuments, Parks and Restricted Zones) have been defined and are now subject to special protection system, which highlight "the green vocation" of Roman territory plans. Even for other areas outside the above perimeters, similar rules individuate protected parts, where only developments and new destinations in line with environment safety and sustainability are allowed.
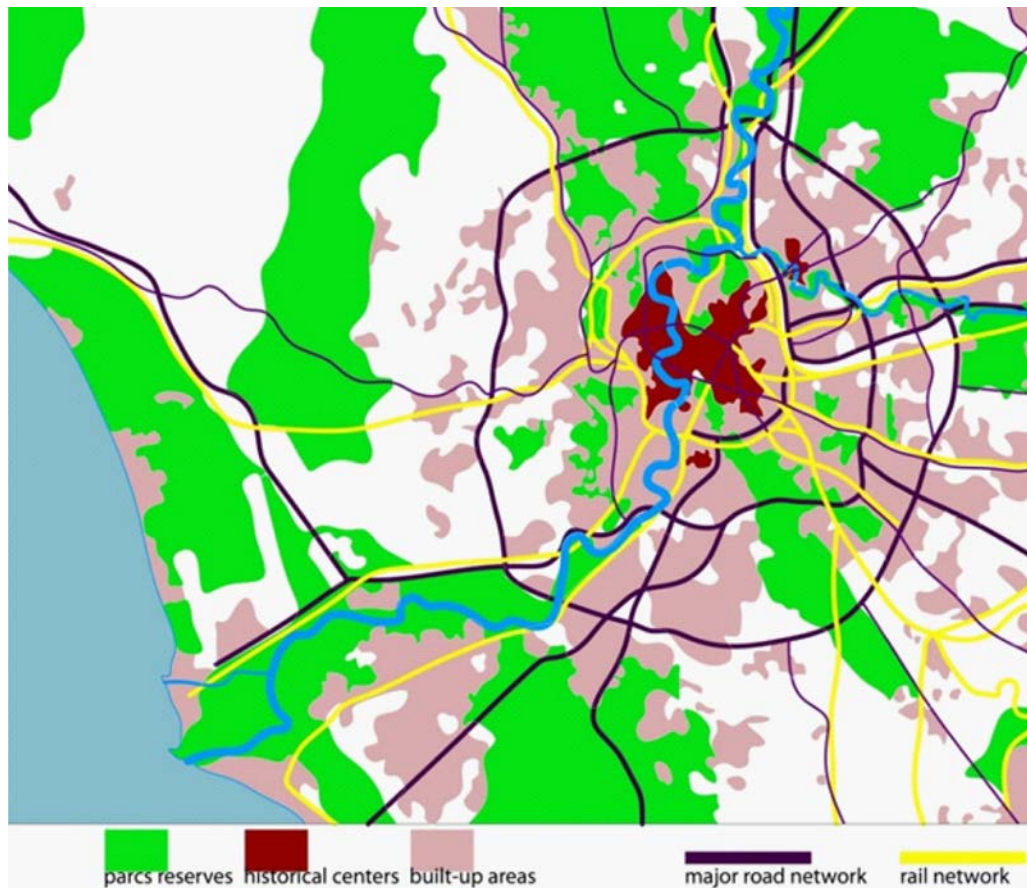

parcs reserves   historical centers   built-up areas   major road network   rail network

Fig. 2_ City Plan Scheme

6.3 City plan

6.3.1 General considerations

The new City Plan tends towards the redevelopment and revitalization of a city that is undergoing major economic changes economically; it is generally a "policy of modernization". The plan extends on the whole city, not as many separate parts but an integrated system of the urban fabric that needs to reconnect the different parts, even with the suburbs. This new Plan defines structural elements, but at the same time a system of procedures and rules that ensures the widespread regeneration of the city. Structured elements are: the historical system environment, the mobility system and the system of new centralities, therefore a polycentric reorganization.

The focal points of this of structural and operational Regulatory Plan are:

a) the cities of the metropolis, metropolitan dimension here is the articulation of the territory in autonomous municipalities;

b) the principle of sustainability;

c) the new system of mobility;

d) the primacy of the disadvantaged city;

e) a qualitative transformation: the role of history-

Detailing these focal points determines also «the shape of the city», over which the Plan gives his contribute: a city open towards the territory and articulated inside, highly accessible in order to enhance the possibilities of relations between different parts, crossed by a system of green stripes towards the heart of the city, not only as a contribution to environmental regeneration but as a support to the physical design of the urban shape and the definition of its borders. All the different centralities are based on existing social identities and the exchange nodes (parts of the network), are intended as corner points constituting assets for revitalizing and requalifying activities, not forgetting all historical elements and heritage.

6.3.2 The principle of sustainability

The predictions for the environmental system of the new City Plan complete and refine the structure already defined, at least for the suburban area, with the «Plan of Certainties». As described in paragraph 2, in this document were delimited all the parks and was also modified the regulation of agricultural areas accentuating some environmental characteristics and production of Rome. Summarizing, about 82,000 hectares were protected, almost 64% of the entire municipality, a dimension that brought Rome to the European leaders for availability of «open area».

The new Plan, in addition to confirm the choices mentioned above, adds the completion of the environmental system within the urban system that also runs through the new settlement provisions, in the form of a network, ensuring connections between composing parts to maximize the ecological effects. Reminding that the green system was a «green belt» consisting of regional parks and agricultural areas, whose rays were also formed from the regional parks, penetrating into the core of the city.

With the new Plan the design of the green areas is much more complex than before and touches the entire urban systems and transformations. The final amount of the free areas provided is approximately 87,740 hectares, with new important quantities
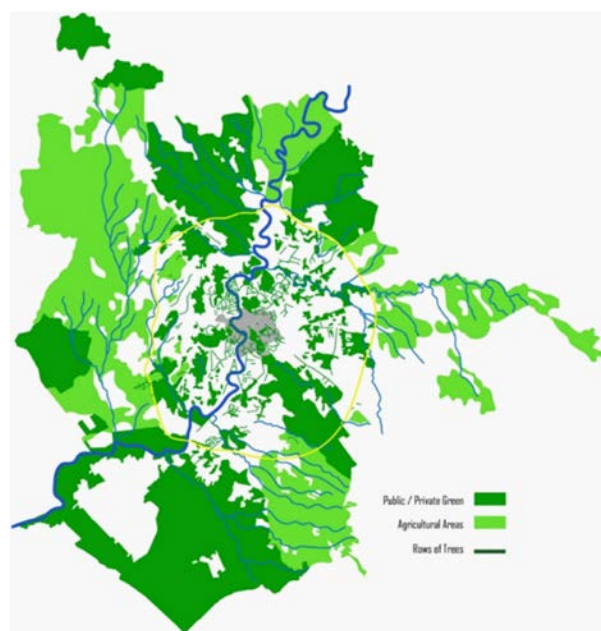

Fig. 3_ Green system

in areas of the city, where they are most needed. The components of the environmental system identified by the Plan are: the «parks set» (the set of natural protected areas, national and regional), agricultural areas, river areas, areas for services system and new transformation.

The Plan fully confirms the choices of «parks», whose area extends on about 41.000 hectares, to provide a dynamic revision of perimeters and quantity. The estimates of agricultural areas will change due to the reallocation of large areas, tied to «green services» and the limitation of some provisions of residual settlement, whose development was transferred to other residual areas with an improved accessibility. As per agricultural areas rules, the instrument of Agricultural

Environmental Improvement Plan is established, aimed to regulate residential construction activity related to the agricultural production. The preventive environmental assessment has been absorbed into the general framework of an article of the Technical Implementation, which identifies in a systematic way the procedures for the evaluation of environmental components and categories of environmental intervention.

A great importance plays the decision on the new system of urban green spaces: the city already has a good amount of public green with a relative standard of 12.4 sqm/inhabitant, amounting to 3.713 hectares, calculated on a theoretical population increased of the quota for the unused existing buildings. The standard for public parks and facilities reaches a good level considering the whole city of Rome, with a value of about 23.7 sqm/inhabitant; this becomes possible thanks to the existing public parks and facilities as well as the recovery of the green areas of the "historic city", of the "consolidated city" and fringe areas with environmental system. The remaining part is due to planned forecasts and to be programmed. The result is a new system of urban green, which is almost the double of the existing one, and it is possible through expropriation instruments. The goal of the City Plan is to ensure the provision of public parks, not only on paper but a concrete provision of implementing the plan with a feasible public intervention. The "motto" of the Plan is «the green grows if the city is transformed». Along the system of public parks, there are the new provisions of 'private green' that the Plan introduced in all transformations and urban fabrics, both fundamental for a 'sustainable plan' for their contribution to ensure the required levels of permeability of the urban land and the growth of biomass. The environmental system of this Plan must be read as an ecological network, which represents the whole hierarchy of the areas and the natural elements that makes up this system; this representation aims to a better management. In the definition of the concept of ecological network, 'network' means the connections that must be ensured between all the affected areas in order to maximize the environmental effects; the character 'ecological' means concrete conditioning on the urban environment and the livability of the city, this for the environmental protection on the
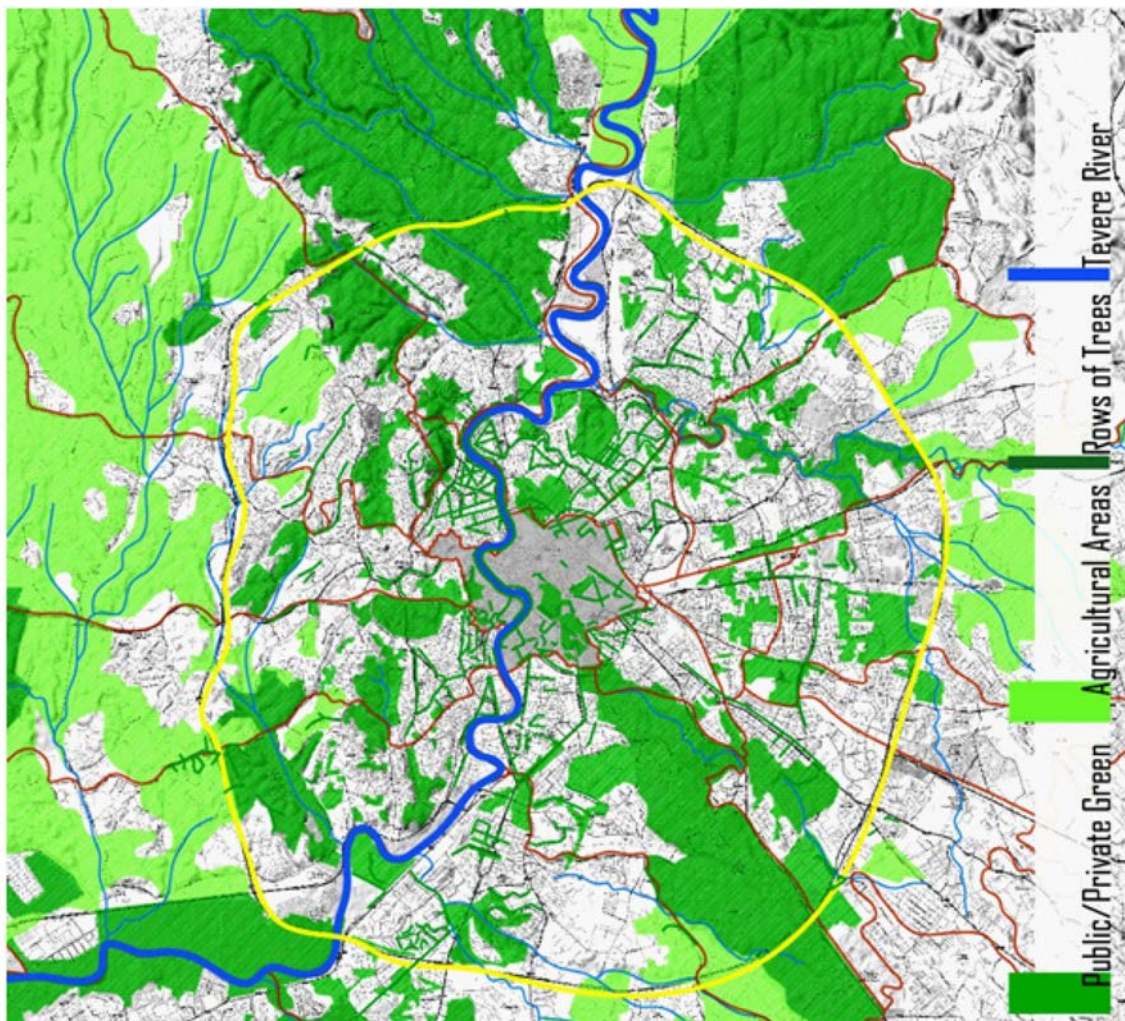

Fig. 4_ Green Network (source: City Plan)

environmental characteristics of the area of the territory.

The ecological network consists of three categories of areas:

-    primary components: the delicate and sensitive elements of the environmental system, covering in particular the areas with the strongest natural component, like rivers and superficial drainage network, Bioitaly areas, agricultural areas with environmental significance, protected areas, the system of the public and private urban green; for these components the Plan activate protective measures, banning any change to land uses;

-    secondary components: important elements in ensuring the connectivity of the network (they are partly compressed areas, partly convertible); for these areas the Plan activates action of recovery, rehabilitation and compensation;

-    components of completion: connecting elements of both the extra-urban territory and urban spaces; the Plan foresees actions aimed to ensure the connection between the components of the network.

The elements that guarantee the network connectivity are important because they make possible the continuity of spatial and functional ecological network. These elements can be of natural or artificial type, such as the network of 'greenways' walking and cycling or just the masts of urban roads. The City Plan tries to put in the foreground, as a key of understanding, the ecological network, ensuring sustainable urban development as part of the process of conservation and regeneration of fundamental natural resources, with regard to the economic aspects of the territory development that does not erode the same resources.

For the urban-ecological planning were considered some strategies such as: avoiding consumption of renewable resources, to minimize the consumption of non-renewable resources, reduce pollution and maintain, or increase, the biomass and the biodiversity. Some of the actions to be taken in consideration of this plan are: protection, rehabilitation and completing of the ecological network trying to strengthen the areas of biodiversity in the urban environment as a key indicator of the environmental quality.

6.4 Provincial Plan

6.4.1 Goals and strategies at 2015

The main target, which aim all programtmatic scenarios for 2015 of the Provincial Plan, as a main frame of all landscape choices, is the social and economic development of the entire Province, unifying environment respect and safety with strengthening of economy and tying between environment and development. The chosen strategy is based on two elements: the first one provides a quality upgrade of functions offer, throughout an improvement of the offer system itself; the second one is the enhancement of market efficiency, throughout the specialisation of productivity in different contexts, a better distribution of homes and productivity points and the devlopment of Provincial Metropolitan Network System.

The Provincial Plan, with its themes-goal system as a whole, constitutes a programmatic image of territorial lay-out in a medium-term perspective. The proposal is based on the following key elements:

-    the shape of the Province territory, characterized for two thirds by the belt of hilly and mountainous areas and the rest by the more settled lowlands of the river valleys of the Tiber and Aniene and coastal territory, subject to necessary defence and security actions for natural resources (air, water, soil, flora and fauna);

-    the belt of protected green areas of environmental reserve that runs along mountains and lakes to the sea, and their extension through the parks and the primary and secondary connections of the Provincial Ecological Network, which constitutes a radial system to the central area of Rome and to the coast;

-    the two green ribbons of agricultural areas, running along to the urban area of Rome and disconnecting it from the contiguous urban centers, which extend south along the coast and north into the Tiber valley;

-    a cellular design of the Province, articulated (in terms of a functional profile) into 12 subsystems plus Rome (job markets and mobility sub-areas), defined by resources and development paths with different prevalent specialization, but competitors at the same time to form a unified and efficient metropolitan system;

-    the double polycentric settlement system, determined by a re-grouping of the dynamics of urban expansion and territorial spread settlement of the urban area of Rome (zipped and upgraded in the suburbs and articulated by connection parks in urban areas and municipalities of different characters) and of other centres and urban constructions of the province organized in 41 local morphological systems.

Fig. 5_Urban centres and relationships: programme at 2015
(source: Provincial Plan)

6.4.2 Environmental system

The Provincial Plan focused undoubtedly its most attention on the environmental system, as a cornerstone of the entire territory. It's now clear, not only in laws but also in regional (and national) planning development policies, that territory in all its forms is to be considered base point for local development as well as economic and social aspects.

On one hand, the goal of this Plan is to ensure, prior to any decision of land use change, resource protection of the physical environment (land, air, water and energy) and the maintenance or restoration of conditions of stability and security, taking into account the vulnerability of the assets, and the risks caused by new developments.

On the other hand, the Provincial Ecological Network (PEN) was introduced. Always starting from the goal of protecting and extending the relevant equipment and variety of natural and environmental resources of the whole Province, this Plan proceeds to the identification of homogeneous territorial areas on which are based all recommendations for protection, recovery and enhancement of existing or potential natural resources (systems and subsystems of territory). The methodology refers to the hierarchical classification of the Territory and the knowledge of the capabilities of environmental systems with special attention to flora and vegetation. The investigation led to articulate the entire Province in 17 Territorial Environmental Unit (TEU), which conservation status has been assessed by the application of an Index of Landscape Conservation (ILC), which takes into account, together with natural areas and habitats, the most populated areas where disorder and fragmentation prevail associated with agricultural activities. For each Unit, the most important actions to improve the conservation status or to monitor and protect the

functionality of the ecological network, in case of well preservation, have been shown. Assessments and detailed knowledge of the natural situation have allowed to synthesize all the information in a complex functional and topological model, constituting the PEN.

In addition to nature priorities, to river system, to green ribbons, to agricultural system, to protected areas, to Nature 2000 sites and to other territorial elements already defined, the Provincial Ecological Network charts the connecting elements of PEN and generally shows the level of structural and functional ecological connectivity (core areas, buffer areas, connections of primary and secondary-green ribbons), evaluated for each Territorial Unit. The PEN, and the Provincial Plan as a whole, were made in a systemic key using as structural invariants the environmental issues. In particular, the processes for the Network definition have been integrated by Geographic Information System (GIS) and environmental evaluation adopted in the Plan. The Provincial Ecological Network, therefore, has guided and validated all the choices for other systems that define the image of Plan.

The areas constituting the PEN are defined according to the richness level of biodiversity (flora, vegetation and fauna), quality conservation and biogeographical and ecological functionality. The primary component (PC), characterized mainly by areas of naturalistic interest, is composed by «core areas», «buffer areas» and «areas of primary connection». The «core areas» correspond to areas of high natural interest, usually already subject to restrictions and specific regulations, within which was reported a «high» or «very high» attendance of flora and fauna (in terms of conservation and biogeographical value). The «buffer areas» are «reservoirs of biodiversity large area», mostly in contact with «core areas» and characterized by the presence of flora, fauna and vegetation of considerable interest, and primarily include large portions of the natural and semi-natural system and play also a role of ecological connection. The «areas of primary connection» (linear connection and landscape mosaic) mainly comprise large portions of the natural system, and semi-agricultural, the hydrographic network, the buffer areas of rivers, lakes and coastal and the forest systems.

The secondary component (SC), characterized mainly by agricultural fields, plays a predominant role of ecological connection (both linear and landscape) and of connection between elements of PEN and agricultural and settlement systems. The SC is formed by «green ribbons» and «linear elements of discontinuity.» The «green ribbons» (landscape mosaics) correspond to large portions of Protected Agricultural Land, often continuing

natural and settlement system. In addition to the high value of urban discontinuity, they are essential to ensure the ecological function of the PEN. «Elements of linear discontinuities», characterized by little extended areas with farms, are essential to ensure the functionality of the PCEN as well, in situations of high human presence.

The goal of protection and improvement of provincial agricultural land is developed in the dual emphasis on productive activities, to be maintained and supported, and the characters of rural areas, to be enhanced as image and treasure of the land itself in cultural diversity, identity and memory produced by human action over time. The Provincial Plan establishes a unified criterion for the identification of agricultural land in city planning or variants, through the perimeter of settlements for urban use. The Plan identifies 12 types of rural landscapes, expression of components and values of landscape image.

The definition of landscape and agronomic goals for each unit allows to target and monitor land development and cities urban forecasts, supporting a model of development closer to environmental and economic-managerial long-lasting balance (think of resources as water and land) and to cultural and touristic heritage valorisation of Province territory.
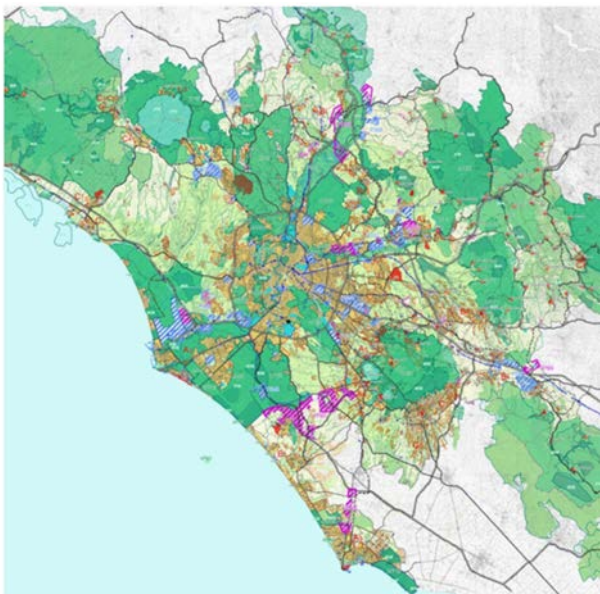
Fig. 6_ Plan proposals and Provincial Ecological Network
(source: Provincial Plan)

The Plan aims to promote a new program tool of territorial development: the Agricultural Park, as a promotional and valorisation plan for assets and agricultural products and for functional services carried out by companies (landscape development, environment protection, paths and rural roads maintenance, archaeological sites promotion, agri and rural tourism enhancement).

6.5 The PTPR

The PTPR represents a unique plan for the entire regional area with the purpose of preservation of cultural, landscape, natural heritage values. The PTPR receives and adapt targets and political policies for European territory in regional scale, respective to the cultural and natural heritage according to "Outline of European Space Developments " (Ssse) and also apply the principles according to " European Landscape Convention".

5.1 Classification of Plan for categories of "Landscape"

5.1.1 Protection and Enhancement – Landscape areas

The drafting of new PTPR considers two fundamental activities: first, a more several type of survey of territory. Second, more effectively planning.

5.1.2 Geographical character of Lazio – Summary of schedule

Structural systems of landscape:
- System of landform
- System of hills
- System of flat areas
- System of fluvial valleys
- System of islands and costal systems

5.1.3 The categories of "Landscape"

PTPR stated the evaluation and enhancement of landscape values …. through reading and assembling of territorial spaces of the Region which have been identified with prevalent category of landscapes and characterized with conventional standards.

5.1.4 Landscape configuration system- Natural Landscape

Landscapes characterized by a high values of naturalness and seminaturalness regarding specific geological, geomorphological and vegetation.

A.1 NATURAL LANDSCAPE SYSTEM

Definition: Territory characterized by greater naturalness and seminaturalness values regarding total presence of specific vegetative factors and geomorphological interests or representing particular ecological niches.

Landscape Quality Objectives: Preservation and conservation of the natural heritage. The protection is aimed at enhancement of heritage and preservation of their values by means of controlling of territorial transformation which are to detriment of safeguarding.

A.2 CONTINUED NATURAL LANDSCAPE SYSTEM

DEFINITOION: Territories with high natural e seminatural values situated within a natural landscape area or immediately adjacent to them which combines with them to constitute a set of environmental unit or/and essential protected area.

Landscape Quality Objectives: Preservation and conservation. Protection of traditions of agricultural land use. In these territories, environmental recovery maybe considered.

A.3 AGRICULTURAL NATURAL LANDSCAPE SYSTEM

Definition: The territory mainly under agricultural use placed in natural areas with high environmental values.

Landscape Quality Objectives: Integral conservation of landscape by means of controlling environmental transformation factors. Along with preservation of traditions of agricultural land use. Typical rehabilitation and requalification of natural character.

5.1.5 Landscape configuration system–agricultural landscape

Landscape characterized by agricultural activities:

B.1 AGRICULTURAL LANDSCAPE SYSTEM WITH SIGNIFICANT VALUE

Definition: Areas containing natural vocations while preserve typical character of traditional AGRICULTURAL landscape. These are areas characterized by copious (abundant) agricultural and specialized productions that have significant landscape value pertaining aesthetic qualities and regarding morphology, significant historical interests and anthropic evolutions. ......

Landscape Quality Objectives: It's preservation of continuity of landscape by means of maintaining forms of agricultural landuse.

B.2 VALUABLE AGRICULTURAL LANDSCAPE SYSTEM

Definition: Agricultural area with landscape qualities, is a territory with significant agricultural functions- productive with permanent character of cultivation or sowable with great extensions, profundity and homogeneity. .....

Landscape Quality Objectives: Is to maintain the rural character and agricultural functions and compatible functions.

B.3 CONTINUED AGRICULTURAL LANDSCAPE SYSTEM

Definition: Agricultural territory also partially are compromised by non-agricultural use. These territories have a general and essential function of maintaining the continuity of agricultural landscape and at the same time the area of this type takes on the function of urban transformation. Landscape Quality Objectives: Maintaining agricultural function; at the same time, in the affected and compromised areas or next to settlements, there could be realized infrastructures, services and useful interventions for requalification of adjacent urban texture; suitable functions of existing technological equipments along with productive activities are also compatible with landscape values.

5.1.6 Landscape configuration system – Settlements' landscape

Landscape characterized by the settling process of human activities and historical-cultural activities. These systems are characterized by specific connotations as follows:

C.1 HISTORICAL CENTERS AND RESPECTIVE AREAS

Definition: Historical settlements formed by historical urban development which was the origin of contemporary city. they are identified as urban structure which have been keeping the recognition of the traditions. .... Urban organism of historical development are identified with the range of over 200 ml, with intention of being preserved and being perceived.

Fig. 7_ Landscape systems

Landscape Quality Objectives: Enhancement and preservation by means of controlling transformation factors which are to the detriment of protection of assets or perception of them.

C. 2 HISTORIC DIFFUSED SETTLEMENT'S LANDSCAPE

Definition: Landscapes characterized by greater value of archaeological and historical evidence. …. They are areas that include specific historical or archeological elements, linear or areal. …..

Landscape Quality Objectives: Safeguarding the structure of settlements and cultural rural and urban landscapes.

C.3 HISTORICAL VILLAS GARDENS AND PARKS

Definition: Villas, parks and gardens, within the limits, which are mentioned separately …… a public interest for the artistic and historical value of architectural and vegetable compositions. …..

Landscape Quality Objectives: Preservation and conservation of natural, cultural and architectural heritage in respect of the overall historical process.

C.4 URBAN SETTLEMENT LANDSCAPES

Definition: New consolidated urban areas

Landscape Quality Objectives: Urban ecosystem management. Rehabilitation and requalification of urban structure and their landscape. …..

C.5 SETTLEMENTS IN TRANSFORMATION LANDSCAPE

Definition: Partially built-up areas and in the process of transformation or compatible urban development.

Landscape Quality Objectives: Promotion of urban settlement quality and requalification of

Fig. 8_ River Corridor of Tiber (source: Exerpt Plan no. 5)

natural and cultural elements.

C.6 INFRASTRUCTURE AND SERVICE NETWORKS

Definition: Landscape of roads, highways, railways and the adjacent areas; of significant landscape value for their distance, historical landmarks and visions.

Landscape Quality Objectives: To protect entirely the landscape along with its visual and functional connectivity. Enhancement and requalification of the road and/or railways marks".

Fig. 9_ Typical landscapes

6.6 Basin Plan of River Tiber

6.6.1 Plan goals

The Basin Plan of River Tiber covers an area of about 17,500 square kilometers, occupying much of the central Appenino Mountains and affecting mainly two regions, Lazio and Umbria, where lays almost 90% of the territory of the Basin, while the rest falls in Emilia Romagna, Tuscany, Marche and Abruzzo. Given the complexity of the area, the Plan has much a coordinating and synthesis role and is applied in a more detailed scale through Excerpt Plans, which concentrate on portions of the basin. Since it is of interest for us only the Roman area, from now on we will refer to the Excerpt Plan no. 5 (PS5), which extends from Castel Giubileo to estuary.

The main goals of the Basin Plan are the protection, control and mitigation of risks associated with hydraulic aspects and uses in relation to the environmental and settlement context, as well as the development of the water system, represented by the following logical chain of physical elements:
underground waters, which have been subject to quantitative protection to restore superficial water system;
- the primary outflow of this system, subject to quality and quantity regulation for an action of requalification of environmental corridors and neighboring territories;
- the river corridors, for which the Plan foresees a River Park.

This is consistent with the importance that the protection and proper management of the «water heritage» covers for environmental, social and urban balance. Relating to all the variety of changes produced by nature or man, the whole water process will be returned to the two fundamental moments of natural and artificial cycle: the contributions due to natural or anthropogenic factors and the subtraction operations, evaluating in both cases the quantitative and qualitative aspects. The PS5 focuses, therefore, on the following strategic points: the conservation and upgrading of primary and secondary drainage network, the hydraulic safety and the definition of risk levels associated with different usage scenarios, the improvement of the situation at estuary, the navigability of the river Tiber, the definition of the optimal level of planning and foresight, along the Tiber and Aniene, of River Park which includes the main basins and the tributaries, along which protection buffers are to be created.

6.2 Environmental corridors

6.6.2 Plan identity

The Excerpt Plan identifies a number of waterways to be protected as «environmental corridors», with the following characteristics: tributaries of Tiber or Aniene, perennial flow, connect Tiber and Aniene with water systems that feed the Roman basin, need for protection or rehabilitation of natural assets. As main tributaries of the two rivers in the Rome area, these waterways play a pivotal role and are protected by the Region as well, through a system of natural areas or «connection corridors» between other protected areas which have to be re-joined in a new environmental network. Each corridor has been subject to deep studies on several aspects: first, the superficial and deep hydrology provided information for the census of waterways with decreased flow or groundwater outcrops; the analysis of human actions allowed also to identify those traits that have undergone significant changes due to urbanization (such as ducting or path change). It was finally developed a priority list of actions for sewerage restore.

The management guidelines of these corridors are intended to rebuild the River ecosystems and to protect the natural character, with:
- creation of a micro-climate network of humid zones to ensure the biodiversity of vegetation and animal species;
- implementation of constructed wetlands;
- limiting the discharge flow rate of the purified water compared to the original outflow;
- interventions for the recovery of ecological continuity;
- projects aimed to encouraging phenomena of oxygenation of the water flowing;
- projects of naturalization.

6.6.3 River Corridors of Tiber and Aniene

For the definition and delimitation of River corridors, the following method has been followed:
a) identification of three groups of subjects that constitute the «River Corridor System» and have a natural component (hydraulic, hydrological and hydrogeological theme; environmental issues; historical and anthropogenic theme);
b) identification of land area to be taken as a «River Corridor» of Tiber (from Castel Giubileo to estuary) and of Aniene (from San Giovanni to the confluence with Tiber). Is defined «River Corridor» the area with centre in the river flow and including of the alluvial valley, up to surrounding hills and confluence of smaller tributaries;
c) criteria for reading and documentation of the

existing situations in relation to the issues under letter a);

d) partition of "River Corridor" into sections and nodes and highlight the potential expressed by current status, the targets identified through verifications and deep studies. The «Sections» are parts of the river corridor characterized by an homogeneous distribution of elements. The «nodes» are, however, areas with a concentration of different elements, constituting a set that can be enhanced and enriched;

e) formulation of criteria, rules and standards for the development of the River Park project.

In the Tiber Corridor we can find a number of functions that are often incompatible with protection of the ecosystem. The overall goal is to establish the conditions of water safety and define the structure and usability of the river and flood plain areas on a basis of continuity and consistency. The PS5 identifies guidelines for the Authorities in order to create, design and manage the Tiber Corridor with the establishment of a River Park. A fundamental choice made by the Plan is the restoration of a buffer zone of natural areas, corresponding to ordinary floods of the river, that will help return it to its living space. This zone becomes an homogeneous area, which specific regulation of all the activities that may compromise integrity. Riding off the river, all present activities are subject to new standards in order to mitigate hydraulic risk, which includes ban of new volumes in such a delicate area.

The basin of Rver Aniene is inside the Tiber metropolitan area as its main tributary in the lower course; the main environmental assets of this basin, where the mix of history and nature have given rise to such a rich and original environment, are subject to a number of «dangerous» phenomena, mainly caused by human actions, which require integrated requalification. If the upper and middle course of the river, from sources to Tivoli, flows in a narrow valley with torrential tributaries preserving natural features, the lower course goes through a broad alluvial plain with dense urbanization where main causes of degradation can be found. In addition to the containment and mitigation of flood risk, the Plan foresees the recovery of the river ecosystem, the rehabilitation of the relevant area for new recreational functions, the improvement and enhancement of the historic environment and the assessment of the compatibility of the new urban development perspectives with the river environment.

6.6.4 Strategic nodes

The «nodes» mostly include peculiar physical situations (river bends, branches, etc.), bridges, historical buildings, functional constructions (parts or crossings) and other multiple activities, that partially overlap with the eight «transverse» of reconnection of banks and surroundings, identified in the strategic area of Tiber in the new City Plan of Rome. We believe that there are two main types of strategic nodes:

- Ponte Milvio, where the concerns of authorities focus in case of flooding or flood risks. Upstream of this part it can be envisaged the establishment of a Naturalistic Oasis and downstream of an linear urban river park;

- The estuary, with its valuable ecosystem. For this special role a large number of interdisciplinary studies and projects area available for protection and enhancement, as well as special laws and conventions at national and international level. Beyond environmental, physical and biological requirements, there is a combination of archaeological, historical and landscape assets due to the density and uniqueness of building heritage and industrial archeology and to their organization in a system of works highly correlated to the environmental system.

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PART 2

Rethinking the Roman Landscape

Section 1: U

Urban and Peri-urban Landscapes

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Chapter U1
Centrality and orientation in the city of the third millennium

The following (Chapter U1) is a summary of Franco Zagari's keynote presentation to the Rome LE:NOTRE Landscape Forum. It is based on the statement of his theses and notes taken during the lecture by Gabriela Maksymiuk.

In the new city, the qualities of centrality and the principles of orientation are changing rapidly. As a consequence, the landscape design is mostly contemporary. However, as we were reminded by Franco Zagari, there is a need for new tools, new methods and strategies, to link tradition and innovation which involve various forms of knowledge and a high level of social participation. Zagari confirmed that the landscape is perceived, not only as a static sequence of elements in space, but also as a lively and interactive process. He pointed out that awareness and experience can contribute to the re-establishment of a participative approach which is at the heart of democracy.

Franco Zagari started his presentation by referring to his personal experience made in Versailles, which he used as a personal tribute to André Le Nôtre, saying: "*To me, the planning concept for Versailles has always been a point of reference with its remarkable jump in scale as compared to Paris, which brings the Louvre to the countryside, serving as a design that physically represented the dimensions of the new country. The outdoor spaces were – I guess – the largest in the world in order to accommodate the first-ever royal court of more than 40,000 people. This I learnt from Giedeon, who also taught me that the changing garden over time represents a laboratory for forms and models of urban development. Such was the case of the square and crescent in the English town, the Allées de Chasse, which anticipated the French boulevard, and the Ringstrasse in Vienna.*"

Zagari stated that André was a great courtier, but his modern resolve never left any detail to chance. He was born into a family of gardeners.

In Versailles he shaped a complex programme as a framework for leisure and political activities, one which has been overshadowed by its current touristic use. The wide-ranging and subtle iconography overwhelms us by presenting an unprecedented courtyard space with its pre-industrial qualities and scale, together with its vast technological systems, such as Marly's waterworks and the magnificent performances and feasts with fireworks and parades which took place there. According to Zagari, André Le Nôtre was a fine urban planner who can be compared with Paxton, Olmstead, Burle-Marx and at a smaller scale, with the Italian Raffaele De Vico.

The theme of the Forum

According to Zagari, the Forum's focus on peri-urban spaces has perhaps raised new issues. He made reference to Lawrence Halprin's designs for squares in Portland, saying that it has been fifty years since Halprin introduced these two provocative projects, which have influenced the debate on public spaces ever since.

Zagari reflected that it was amazing how innovative and open the topic of urban growth is, in particular because the city of the new millennium differs fundamentally from previous precedents.

A totally different city

Zagari claimed that the cities of today, which are "our habitat", are totally different to those in which we were born. He referred to the fact that in numerous areas of the city one cannot determine whether they are urban, rural or natural. Zagari refers to this phenomenon as a "city:non-city", one which has been expanding at a so far unheard of speed. Zagari once again emphasised the need for new tools and methods, and new forms of knowledge regarding ethical and aesthetic values, a new awareness of natural and cultural interactions and a new mental approach. Zagari explained: "*I think I have learnt many things these days, but huge taxonomical apparatus often seem to pursue the course of events. The matter is – I believe – to*

foresee, anticipate it; is it not true that the culture of garden already did it regarding the landscape, by providing prototypes, ideas, behaviours, on which the cities further developed?"

For a theorem of sustainability

Searching for a theorem of sustainability, Franco Zagari wondered why there should not be "a role of the urban landscape in the transformation of open spaces". He pointed out that there is a big discrepancy between those who speak about landscape in merely objective terms, usually claiming to defend it – often without understanding either its condition or the need for transformation – and those who considers it as an approach, a method or a discipline. According to Zagari, the project is thus the casus belli which provides a lens through which to view some landscape issues such as its current crisis, some ongoing trends and also some positive and often highlighted, if unfashionable, reactions. He explains this approach as follows: "*From the flower's corolla up to much larger scales, design faces rising amnesia, omissions, misunderstandings – often not guiltless – which make sharing among communities, networks, people, and the very meaning of policies of conservation, management, and innovation difficult*".

The first aim: massima universalia

The keywords are open process, participation of knowledge and opinion, clear task, beauty, responsibility.

Franco Zagari believes strongly that today there is a need for courage, and that a deep meaning is associated with taking full responsibility for making beauty into a political aim, thereby re-affirming Dostoyevsky's belief that "beauty will save the world".

The second aim: minima moralia

The keywords are relationships and systems, activities and streams, guerrilla, homeopathy, microsurgery, acupuncture, surfing.

According to Zagari, the second aim highlights the fact that in order to regenerate the landscape, every project should first accept it and is contradictions, even if it is less comprehensible. In the same way as one may treat a suffering body piece by piece, with a friendly spirit, patience, a little humour and the best possible expertise, it should not matter if it is a famous location or large parts of a territory which are dull or neglected. It is therefore necessary to understand the aptitudes of the place as well as to agree on the main lines of intervention, but also to discover the extraordinary strength of small things, everything which is close to our everyday experience and our contact with the public.

Zagari pointed out the fact that Cure vs. Crisis is a twofold theme that is dialectic rather than antithetic. He reminded us of Marcel Duchamp, who said that 'Modernity is what transforms crisis into value". Today the theme of landscape management does not imply opting for an approach involving removal, but one of friendliness towards a suffering reality. Zagari also referred to the book "1993 Almanac of the Italian Society" by Laura Balbo. He stated that many of us believe that some strength may be gained from the depths of the crisis. Such energy can transform it into a virtue involving construct and deconstruct the vices, habits and rules that stifled the design, with an attitude that is also creative and not just negative.

The third aim: reset

Here Zagari's keywords are Article 9 of the Constitution and the European Landscape Convention.

At this point Zagari reflected that the realisation of urban plans and public works represents one of the most demanding challenges and they call for a real and radical rethink. It was stressed

Fig. 1_ Saint-Denis Les Abords de La Basilique.
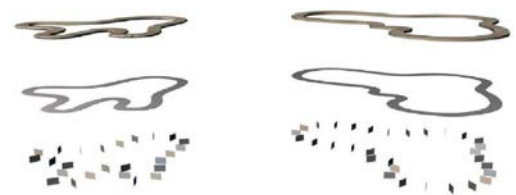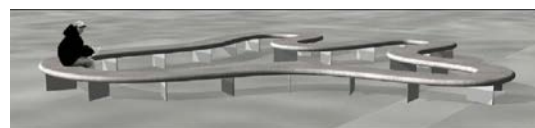
Fig. 2a_ Roma - Parco del Complesso Z5.

Fig. 2b_ Roma - Parco del Complesso Z5.

Fig. 3a_ Porto Sant'elpidio (2002).

Fig. 3b_ Porto Sant'elpidio (2002).

Fig. 4a_ Roma – „Cythera" and „Hashi".

Fig. 4b_ Roma – „Cythera" and „Hashi".

Rethinking the Roman Landscape

that there are not only important reasons for this, but also cultural and socio-economic aspects which must be given top priority in the interest of European countries. Zagari feels that landscape designers can make a decisive contribution because their mission is purposefully to use creative approaches to integrate their specialist knowledge with that of other fields, and above all to seek dialogue with anyone who is involved with a particular landscape.

Projects

In his keynote presentation, Franco Zagari presented several his designs. He chose to present them in a random order, rather than chronologically or geographically, as this corresponds to the contemporary manner making use of moves, short-circuits and elliptical orbits, as on the web. Figures 2 to 4. present his selection of projects.

Zagari referred to Rashomon, the everlasting film by Akira Kurosawa, and to Pirandello's dramas, such as 'Six Characters in Search of an Author', as he believes that it is less important to find reliable truth, but rather to examine different interpretations of the same theme. Therefore, one truth should not be searched for among many, but rather in the combinatorial analysis of reciprocal connections. The lifecycle of a work can be short or long, sparse or dense, and the route from construction to demolition can often be associated with fascinating mystery.

Chapter U2
The EUR district:
Expansion developing into a centre

Emma Tagliacollo

U2.1 Background

The EUR that we know today is a part of Rome that has been planned and developed in various stages during the first truly modern era. Its current form is the result of several phases of development that began with the original concept for the E.42 and has involved its transformation from a monumental symbol into an urban centre, from an ideal place into a city district. A number of planning choices characterise the EUR as a modern district. These include the viale Europa – a wide urban carriageway with a system of views defined by residential and service buildings; the design of green spaces planned at the same time as the area as a whole; and the architectural masterpieces of the 1950s and 1960s which modified parts of the EUR and its initial image. One of these masterpieces is the Propylaea designed by Luigi Moretti. The Propylaea anticipates and transforms the entrance of those coming from the city and characterises this using modern elements of the International Style of the 1950s, bringing a new monumentality to the fore.

Another example is provided by the towers of the former Department of Finance. Together with the Post Office Department, these identify the EUR city gateway for those entering from the south along the *Via Cristoforo Colombo*.

The 1960 Olympic Games brought crowds to
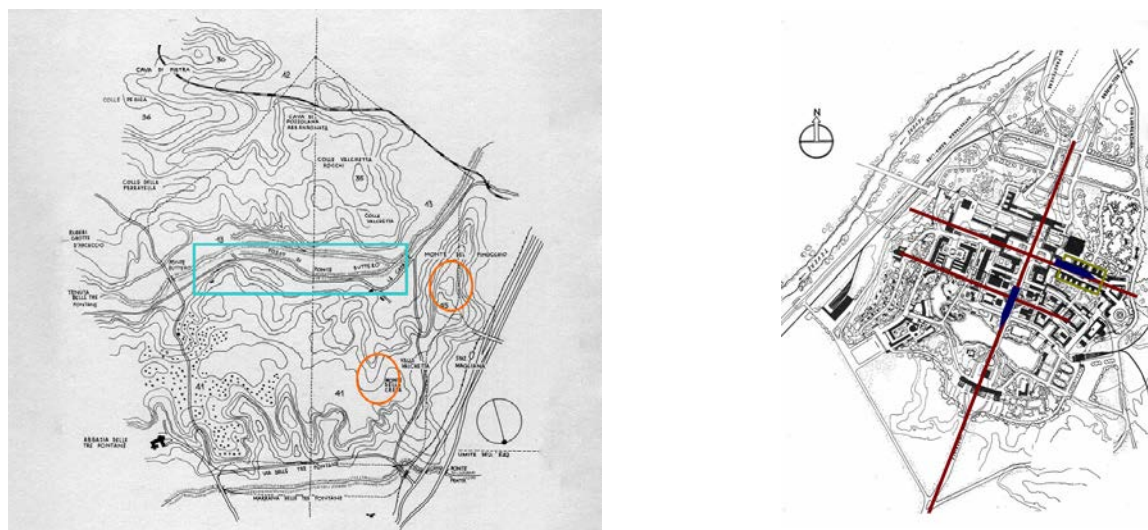
Fig. 5_ a) Topography suggests the lines of the project E.42; b) Plan, 1937. The architecture lies on the territory so as to create a composition in which the vegetation is a unifying element.

this part of Rome, and equipped it with the appropriate buildings (sports hall - Pallazo dello Sport, Velodrome, swimming pool – Piscina delle rose) – while at the same time strengthening the connections between the district and the city. Consequently, EUR became a district of Rome, and as such a built up area, populated not only by those people who already lived there, but also by those who visited the area due to the strong impact of the media coverage of the Olympic Games. The EUR district also became an area of experimentation for post-war architecture, thanks to the art and architecture of its new housing, built by young artists and designers. These new residential areas, built on land purchased by various cooperatives, completes the design of EUR, bringing the financial income necessary to maintain local public services, as well as for reconstruction and new building.

U2.2 EUR as a new city

EUR is directly located on the axis of urban expansion running from the centre of Rome to the south. The centre of Rome is composed of the heart of the historic city, that is, the Forums and the entire central district denoted as an area steeped in history. The Forums are not only particularly important because they illustrate the history of Rome directly, but also because they form part of a programme of expansion planned by Mussolini during the twenty years of Fascism. Under the new administration of Mayor Marino this now represents the potential for an archaeological park.
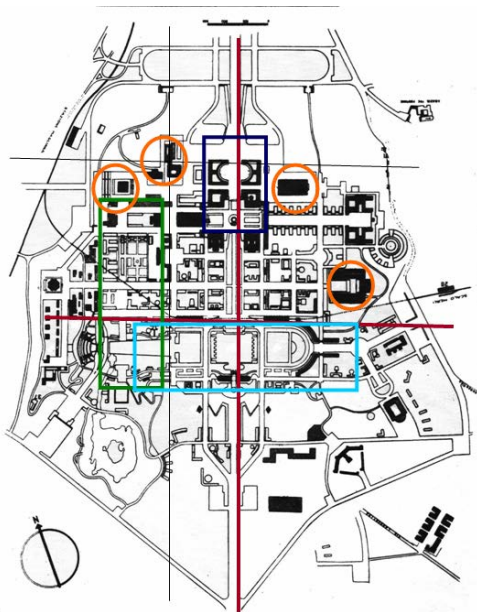
The planned expansion of the city to the south started with the decision to develop the E.42 (the Universal Exhibition) in this area of the city, which is now perceived as being densely built up in terms of both residential development and services, but which was open countryside in the 1930s, prior to the start of this programme of expansion.

The pre-existing geomorphological situation and the topography of the E.42 site provided the planners with several prominent locations on which buildings could be situated, and where several of the strong features and symbols of the E.42, which still persist today, could be positioned. These include the moat of *Ponte Buttero* along which the lake in EUR was located, the church of St. Peter and St. Paul on top of *Monte del Finocchio*, and the *Palazzo della Civiltà Italiana* on *Monte della Creta*.

The 1937 plan followed the initial idea for the architectural design, closely following the topography of the site. The project appears to have been located on the land surface by following the contour lines, so as to create a dynamic composition in which the green areas are a driving force in the project and at the same time provide an element unifying all of the components in the plan.

The project restored EUR in the image of a garden city. Its "naturalness" can be seen in the dilution of what would then become the E.42/EUR as desired by Piacentini – the director of the great exhibition that was to have been held by Mussolini's fascist regime – which used a rigid cardo decumanus system. The layout of the 1937 proposal also follows the topography, with the green areas functioning as unifying elements that provide variety to the plan's composition.

The elements which form the green areas are: the parks, the system of green roads (of different sizes and scales), and the lake, which all form the framework of the E.42 system, linking housing and monumentality (as can be clearly seen in the area dedicated to the Housing Exhibition).

Fig. 6_ Plan 1939. The E.42 is composed of different centres: squares, monuments, the House Exhibition, the artificial lake and parks (top left).

Fig. 7_ Study for the central area of E.42, project by R. De Vico (top right).
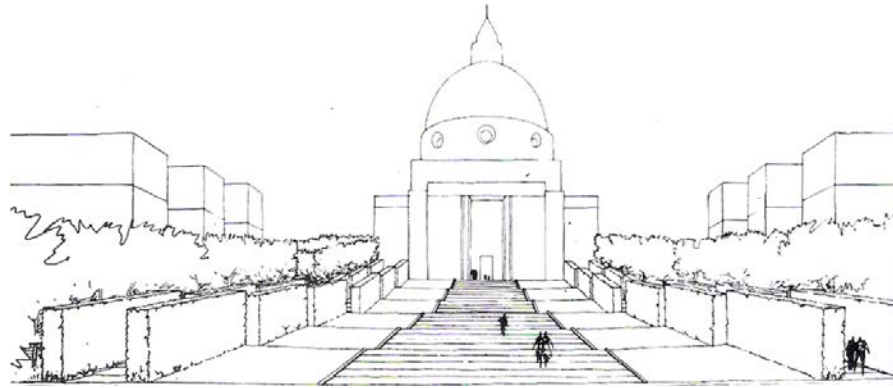
Fig. 8_ Perspective view of the church's steps, project by R. De Vico
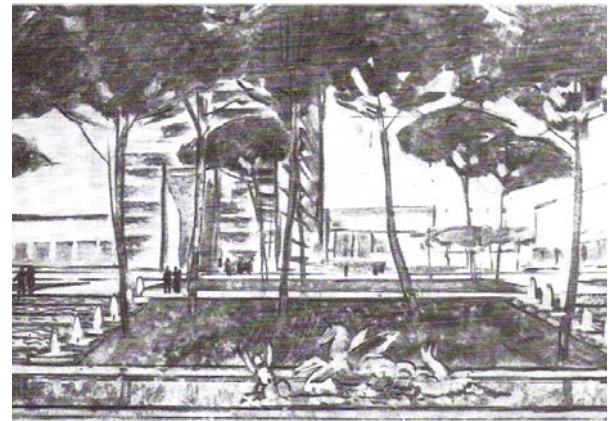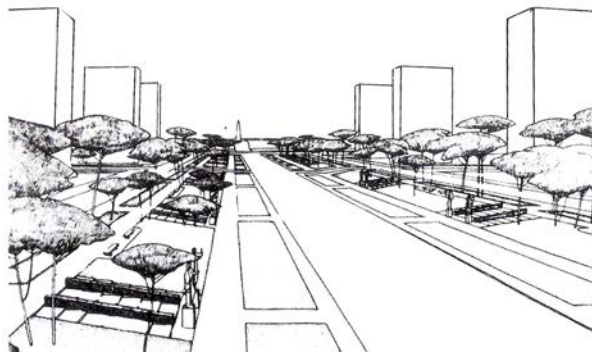
Fig. 9_ Studies for via Imperiale (now via Cristoforo Colombo), project by R. De Vico.

The initial 1937 plan for the 1942 exhibition was based on consolidated schemes for the Roman city. The project is celebratory: the buildings have a landscape character and the architecture is framed by telescopic views, e.g. the orthogonal street systems and a repeating system of towers that reinforces the landscape theme and breathes life into a framework of views laid out so that they are always changing.

The last plan for the E.42 dates from 1939. This is composed of a series of nuclei comprising the squares, the monumental buildings, the Housing Exhibition, the artificial lake and the large park. The main system around which both planes are concentrated is the north-south axis of *Via Imperiale* (planned as an axis to be lined with facilities). From here, the roadways unwind to the various nuclei, following an internal hierarchy that organises the space and which can be identified in other themes, such as the road network, the piazzas, and the green spaces. However, the purpose of the new plan was to rationalise the facilities, creating axes with views perpendicular to *Via Imperiale* and a system of piazzas of increasing proportions leading up to the monumentality of *Piazza Imperiale*. In the initial plan the lake was shaped like a natural basin, but is now regularised, reminiscent of the pecile of *Villa Adriana*.

E.42 was left to itself after the Second World War and records show that it was abandoned. It was only thanks to the initiative of Virgilio Testa, Commissioner of the EUR Development Agency, that the area was re-considered and revitalised. This included the building of houses for the middle-classes, who buy houses in this part of Rome. As a consequence a middle-class district, similar to others in Rome (such as Parioli) was created, with the hope of a better quality of life. Furthermore, the underground railway line between Rome and EUR and the road named *Via Cristoforo Colombo* (formerly *Via dell'Impero*) were completed. In this way the process creating the district of EUR was set in motion and is still in ongoing.

Marcello Piacentini, who had managed the work in the pre-war period, also took part in the reconstruction and organisation of EUR (no longer called E.42).

The new structure and layout proposed EUR as an executive and exhibition centre, where government departments, public companies, and international companies (such as financial institutions), specialised schools, and space for exhibitions and shows could be collected together.

Many buildings left unfinished because of the war were completed during these years (1954-

1963) and new projects were also developed.

EUR was involved in the project for the 1960 Olympic Games, which gave the area new strength and kindled renewed interest in it, providing the administration with the opportunity to expand Rome to the south.

EUR has been developed from a monumental centre into an urban district thanks to the building of new housing, the partial completion of the area with the construction of the buildings according to the original plan for E.42, and by the construction of new buildings.

The green spaces provided by the parks were planned to act as an element which unified the whole project in that they placed the public spaces in a relationship with the private ones.

The architecture moved away from the metaphysical, something that is also portrayed in the film "The Eclipse" directed by Michelangelo Antonioni (1961). This film advances the idea of a district that is no longer metaphysical, but one where, in contrast to the paintings of De Chirico, people are present and live there. As a result, the relationship man has with himself also seems to change. The landscape of EUR is ever present in the film and jars in some way with the rest of the city – with the crowded historic centre full of people, cars, business deals to be made – which is different from EUR with its few people, its stray dogs, thevagrants (in search of an identity), intellectuals (like Victoria and Richard who work as translators and who perhaps have a new way of living in this new culture. Similar ideas are also recounted in the novel by Bianciardi "La vita agra - It's a hard life" -, which set in a Milan not so far from Rome). EUR is slow but dramatic, depicted in black and white, reinforced in the games played by the shadows on the building sites and by the branches of the trees. The long shots of the city are also a representation of a new way of planning: large windows (as in Villa Cavazza) that frame the landscape; the green spaces (still being organised: the trees are small, only just planted, with continuous irrigation); elegant villas and small buildings; compositions with a pure shape built beside the Fungo (the water tower) designed by R. Colosimo, A. Martinelli, and S. Varisco (1957-1959); the indoor sports hall Palazzo dello Sport by Pier Luigi Nervi and Marcello Piacentini (1956-1960) that does not have any buildings near it, so that the long shot describes the continuous image of the bends in the empty and desolate road, which is Via Cristoforo Colombo. In the film "The Eclipse", there are still art houses like the one lived in by Victoria (played by Monica Vitti) at number 307 Viale dell'Umanesimo (plot 717 by Leonardo Benevolo and Michele Valori, 1957), with the purity of the reinforced concrete beams that support the balcony and the large windows, that

continually provide the perception of a relationship between inside and outside. The city at night is also described by the wind that generates noise as it blows through the scaffolding on the building sites, by hermetic statues, and the light from the street lamps. It is easy to imagine a painting of Rome at night by Marcello Muccini that Felice Sigona, one of the creators of the new housing, talks about.

EUR was still a place at some distance from Rome, unreachable on foot, so that the boys who move about in and measure the city on a human scale in films by Pasolini such as Accattone and Mamma Roma never go there.

The expansion of EUR into a district was also formalised in the urban development plans that followed, indicating the importance of this place as a focus for the city. Many of the ideas current at this time converge in the plan of the 1960s.

The aims of the 1957 urban development plan were to avoid poorly regulated ad hoc expansion. It also concentrated on the new arteries to be built or strengthened, and in fact, the EUR area can be seen in the southern part as a precursor to the expansion of the city southward.

EUR was considered to be the only directional centre of the city in the 1959 urban development plan. A centralised radial structure was planned for the expansion of the city.

The Olympic Games and the opportunity of making it part of a media event, also materialised thanks to the presence of Via Olimpica, connected to the Foro Italico, so that development took place to the west in the opposite direction to the urban development plan of the time, but in line with the 1942 plan that was never activated and which provided for an axis of expansion towards the sea.

U2.3 Building experimentation and the relationship between built and open space

The Housing Exhibition – a project that was never realised, and positioned near the church of St. Peter and St. Paul – was planned to draw together experimental homes, often by well-known architects. The residences were to rise from inside the exhibition area with the intention of demonstrating the traditional Roman and Italian building methods, and examples of good practice.

The buildings planned were mainly unfamiliar houses, namely villas surrounded by gardens.

The planning experiment was important in that several examples of how buildings could be planned, above all their relationship with the garden and the surrounding space, could be seen in several examples.

The relationship with the external spaces of the house built for the family Simen Brizzi by Del Debbio is provided by an opening towards the lan-

dscape that was framed according to views defined by the architect. The internal garden was to have a Roman bath (*impluvium*) with the Roman domus as a reference model. Therefore, here nature is governed by the designer.

Calza Bini designed a house for the Masini family on a hill that seems to have been created out of the ground due to the use of tuff as the main and traditional element of its construction. The house is introspective, forming part of the landscape, a landscape interpreted as a union of the built environment and natural elements that become part of its construction.

Adalberto Libera designed a house for himself (*casa per sé*) allowing a lot of open space on the plot for which he designed a garden. This was located in the background, almost out-of-the-way compared to the site as a whole. The architect was always careful with the composition of the spatial relationships and the context. The decision to create a large private garden with a house on the edge of the property reveals attention to open space as a place for living forming a dominant part of the project.

Raffaele De Vico was one of the first Italian landscape architects and he studied several options for the use of vegetation in the EUR district. As a result, green space became an element in the plan, the framework of the whole composition.

His studies for Via Imperiale show vegetation elements that become building material, including a theatre constructed using the vegetation that follows the contour lines which were used as seating. The sculptures and buildings function as wings which reinforces the views.

The green areas create spaces with views without the use of traditional architecture since it is the green areas that define the space and the rationality of the framework. They unite the design of the wood, that seems to thin out in order to become part of the system of walkways between the piazzas that connect them together.

De Vico uses ars topiaria to give form to the hedges in the view of the staircase towards the church. Consequently, in addition to the views down the main avenue, another two narrower lateral avenues have been created where a more intimate scale, that mediates the monumentality of the buildings restoring a human scale, can be found.

The studies for the Via Imperiale (now via Cristoforo Colombo) emphasise the dual dimensions of the street. On the one hand its identity is marked by a long straight section, while on the other it is composed of avenues and service roads connected by gently sloping staircases, which are planned with composed spaces, where there are also seats and fountains, and cosy places to relax as if in a lounge. Domestic pines frame the road axis and harmonise with the buildings. Unfortunately, a great many of of De Vico proposals have not been respected, so that several parts of the EUR district are not particularly usable, and the image of the city imparted by the same urban space is prevalently one of stone.
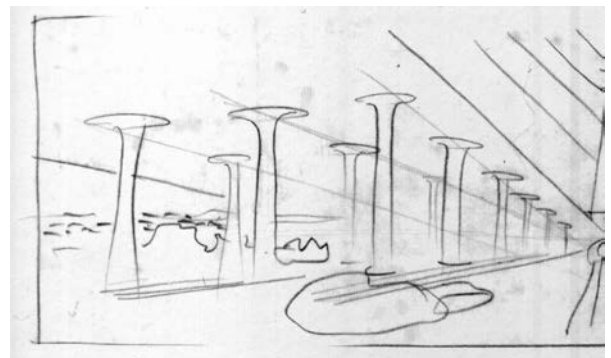
Fig. 11_ Propilei, Edifici Exxon (Exxon buildings), Luigi Moretti, Vittorio Ballio Morpurgo, Giovanni Quadarella, Giorgio Santoro,1961-1966. Sketch of the portico with the columns.

Fig. 10a, 10b_ Palazzo degli Uffici, Gaetano Minnucci, 1937-1939. The external court and the inner court.

U2.4 The initial completion

The initial completion of the new district came after the end of the Second World War and in the early 1960s EUR became a directional centre and residential area, which was also due to the work carried out for the 1960 Olympic Games, an important event for the whole of Rome.

Being under the scrutiny of an international competition released the place from its past as a district created during the Fascist regime, allowing it to become part of the modern city.

Several buildings contributed to the transformation of E.42 into EUR. The most important are: the *Palazzo degli uffici*, the Post Office, the *Palazzo della Democrazia Cristiana*, the Olympic Velodrome, the Department of Finance, and the *Propylaea* (Exxon Building). The various qualities of each one of these buildings together with a different interpretation of the open space, and the contribution it makes to the landscape contributed both to the modernisation of the area and of Rome as a whole.

The *Palazzo degli uffici*, designed by Gaetano Minnucci, (1937-1939), symbolises both E.42 and

EUR because it is here that the planners for the new district are based and because the management and representatives of E.42 were based there too. It is the first thing that people see as they enter the district from the underground railway.

The building designed by Minnucci is distinguished by a system of two courtyards created as a result of the footprint of the building itself: an apparently closed complex that creates two open spaces (a courtyard and a piazza) of urban character.

The part of the complex with a square footprint has a double portico with pillars on the side facing the Viale Civiltà del Lavoro. On passing in through this 'diaphragm', designed with light and shade in mind, there is a fountain the sound of whose running water neutralises the external noise, permitting the well-lit space to be sensed, a space created by the combination of elements it is composed of light, water, shade, and the construction materials. This courtyard functions as a semi-public and semi-private space and forms a garden built of minerals (stone and travertine).

The part of the building with a rectangular footprint has an open courtyard with a view over

Fig. 12_ The area before the construction of the Velodrome

Fig. 13_ The Velodrome

Rethinking the Roman Landscape

the Piazza Konrad Adenauer. This is a large public garden that is in equilibrium with the design of the green spaces next to the building.

The compositional elements are: the light, the water in the fountains, the mosaics, the statues, and the domestic pines as monumental elements combined with the presence of the building itself.

The Department of Finance was designed by Cesare Ligini, Vittorio Cafiero, Guido Marinucci, and Roberto Venturi, (1958-1962) to reinforce the function and image of EUR as an administrative centre in Rome. The building can be viewed as an interpretation of the International Style in the modern day Roman context.

The urban structure of the Department breaks with the overall design of the EUR area. In fact, it is based on an open schema of blocks that contrasts with the shapes designed by Piacentini (based on the more rigid cardo decumanus grid).

The views are created by mixing small repeating elements such as the windows.

The area of the complex is particularly interesting because it is situated opposite the Nuvola project (New Conference Centre) designed by the architect Massimiliano Fuksas. The New Conference Centre project will occupy the last free plot in the district and is part of the recent completion of the expansion.

The Propylaea (Exxon Building) designed by Luigi Moretti, Vittorio Ballio Morpurgo, Giovanni Quadarella, and Giorgio Santoro, (1961-1966), can be read as a new entrance into the EUR district from the city of Rome.

Furthermore, they define a kind of modern city wall surrounding the hexagonal footprint of EUR and reminiscent of the Aurelian Walls (that surrounding the historic city of Rome).

The Propylaea are composed of two symmetrical buildings situated on both sides of Via Cristoforo Colombo and present an open and free ground floor thanks to the pilotis.

The views are formed by metallic "brises-soleil" behind which there is the glass façade.

The top floor is overhanging and is has a continuous glass facade so that it assumes the role of a penthouse.

Moretti interpreted the role of the Propylaea in his design as the entrance and a visible cone. The columns in an initial design for the ground floor later became pillars, there are modern tree trunks introducing a herbaceous floor that is only a few feet away. Consequently, both a continuous physical and perceptual relationship between building and landscape is defined.

The Olympic Velodrome by Cesare Ligini, Dagoberto Ortensi, Silvano Ricci, Clemens Schürman, and Herbert Schürman, (1957–1960), no longer exists, having being demolished in 2007 following

political and economic problems.

In addition to being a work of land art, the project deserves to be remembered for its beauty and unicity as an uncovered (Fig 12 and Fig 13). It was the result of a national competition in 1955 and one of the buildings planned for the 1960 Olympic Games that contributed to the modernity of Rome and to revitalising EUR.

Consideration of the Velodrome and the area around it reveals the importance of the place in which this building was constructed.

This analysis is the result of superimposing maps from the various stages of construction and reconstruction, from aerial photographs, and on-site urban analysis involving measuring the spaces in the city.

In fact, the aerial view of the urban structure shows a "basin building" comparable with the connecting green areas in this district.

Its dimensions correspond to human scale and can be compared with the nearby housing. It is a different type of place from the monumental heart of the district that can be seen in the background of photographs taken in the past.

The location is certainly strategic. In fact, the buildings in EUR on *Viale Oceano Pacifico* contained within the pentagon play a role connecting the surroundings in which they stand and a second separate role in providing a connection to the city of Rome. The importance of the area is confirmed in the competition for the *Ponte dei Congressi* bridge (won by Enzo Siviero and still in the planning stage at the time of writing) that lies within the orbit of a hardly homogeneous part of the city, where there are unresolved planning questions such as the Ponte della Magliana bridge (as the only place connecting EUR and *Magliana*), and with areas of through traffic crossing them and connecting with the hinterland of the city such as the Orte-Rome-Fiumicino rail node.

Interest in this area arises from the fact that this area plays a modifying role which is also envisaged in the recently approved Urban Development Plan. In fact, the urban planning and zoning instrument developing the *Ponte dei Congressi* bridge uses the opportunity to redevelop the connection between Magliana and EUR and the connection with the River Tiber (also a follow-up to the road infrastructure of *Viale dell'Oceano Pacifico*). Furthermore, the new metropolitan centrality of *EUR Castellaccio* has developed near this area, where Europarco is being defined by office towers, two skyscrapers, the Department of Health building, various housing projects and a shopping mall, all united by a system of green space connections.

With all of its planning typologies, *Castellaccio* starts trimming the edges of EUR which had alrea-

dy started through the development of the districts resulting from Statute 167. It integrates and contaminates the historic area and requires relief routes affecting *Via Cristoforo Colombo* in favour of alternative mobility.

The Velodrome was a unique development, not only because of its open-air track and architectural and technological uniqueness, but also for the way in which it occupied the site.

Perhaps this architecture represented the essence of EUR: the construction of a landscape by modifying it (a general planning rule in EUR). In fact, the Velodrome was a 'non-building' because it was constructed of earth and cement to which many other materials, including industrial materials, were then added to create a certain formal nobility.

The fact that it was constructed of earth provides a reminder of how the landscape looked before it was built. Photographs of the time show soft hills with the symbolic architecture of EUR in the background. The shape of the Velodrome seems to organise these hills, the soft landscape consequently becoming architecture. And yet, there is something else exceptional precisely because of the creative formula of defining it as non-building and a work of land art: as a result it does not belong to the territory only but also transforms it.

The complexity of this building was not only seen immediately after the end of the Olympic Games because it does not conform to the regulations – which the International Cycling Union had still not defined in the 1950s – but also because of the concrete problem of maintaining the variety of materials and the fact that it was an open-air velodrome.

With the passing of the years it seemed to be forgotten, and it was only in 2006 that it again because a subject of discussion after the archive of architect Cesare Ligini was found, and due to the insistence of the Soprintendenza architettonica di Roma (City of Rome Superintendent of Architectural Heritage and Landscape) on declaring the legally binding conservation status of the structure due to its significance for the cultural heritage.

Despite its the excellence of its design providing an example to the world, there were problems in getting the Velodrome recognised as a work of quality. Its value has no benefits other than sensitising students, employees, and the citizens who live in the areas, thus demonstrating the problem of communicating the value of heritage.

Its state of neglect, together with a series of financial problems arising out of the strategic importance of the area and its value in linking the communications network, led to its demolition in 2008.

This not only seemed to indicate its non-recognition as a work of importance, but also demonstrated a concept of heritage linked to its moneterisation, or as was the case here where its site was of greater value when the land was freed for other use.

Ideas for using this area have included new housing and the development of a sports centre (which would maintain the opaque image of the architecture).

Fig. 14_ The Lake of EUR, Photo Luca Marcotullio

Fig. 15_ Hashi, project by Zagari architectural firm, Photo Luca Marcotullio

Fig. 16_ Cythera, project by Zagari architectural firm, Photo Luca Marcotullio

It is indisputable that what remains is an empty urban space which is missing something, namely the Velodrome. In fact, this absence is the result of the loss of a certain completeness, which leaves a sense of unease but one from which the strength of a new project can be created. The empty space of the Velodrome site now has the potential to allow different meanings to combine to redefine this area, which can be seen as a new agora, a territory connecting the citizens with different scales.

This theme of the unrecognised and demolished architectural heritage can give rise to the definition of an urban planning and zoning policy that takes the quality of the city and the needs of the citizen into account, combining this with the definition of new systems of relating neighbourhood, city, and territory. Such an approach could provide a form of compensation for the forgotten heritage.

U2.5 Recent completion

Today the green spaces provide an internal unity for the EUR district. De Vico's plan was to have a platform of green space on which the internal connecting spaces - the avenues and paths inside the parks - can be identified. The green spaces also provide a link with and create a relationship between the symbolic elements of the monumentality of the site.

Various interpretations of this planned and constructed nature can be found within the EUR district.

The Lake of EUR unites various spirits. It is both a cultured testimony to ancient history as well as a garden of games in the city, providing reflections of the surrounding buildings housing government departments. Furthermore, at the same time it has a representative function as it gathers

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TAB. 1. PROJECT DESCRIPTION FROM "IL MESSAGGERO" NEWSPAPER, MARCH 2005.

"It has become a must for promoting tourism in large European cities: Lisbon, Barcelona, London, Hamburg, all of them have their large aquarium. But Rome will do more. Following the example of Boston and Japan, it will build a latest generation virtual aquarium in the Lake of EUR in two years' time. The City Council unanimously approved the project yesterday. It will be a virtual aquarium of 16,500 square metres with a lot of real plants and rocks but with fish projected onto the water so as not to keep them in captivity and not to change the natural environment. (…)

There will be a mega glass cupola under the water with two tunnels that will make an internal walkway for the visitors. The marine animals will be projected among the real plants and rocks. It will be a museum of the Mediterranean Sea, a new structure to enhance the role of Rome as a city of the sea, and create about one hundred jobs for marine biologists and technicians.

The seabed of the promontory at Portofino will be reproduced inside the cupola as well as the Tuscan archipelago, the Maddalena Archipelago, the natural marine reserve on the Island of Ustica and that of Torre Guarceto, the planned natural marine reserve on the Aeolian Islands, Conero park, and the Miramare marine park. Furthermore, several of the great basins will show a pair of fluvial environments (the River Tiber and a few lakes) with various species of virtual freshwater fish and typical vegetation as were present before the ecological disaster and as will be restored. On the other hand, another basin will be dedicated to underwater archaeology. (…) Along with the aquarium a new underground car park will be made under the square in front of the EUR Palasport railway station with more than 15,000 square

cardinal elements of the EUR project around it: the UniCredit building that used to be the Hotel du Lac, the towers of the former Department of Finance subject of a disregarded project, the ENI building, and the sports hall Palazzo dello Sport. The EUR Lake is also the site of two projects that have recently been developed, one for movement – a bridge called Hashi – and the other a stationary urban lounge called Cythera, both designed by the Franco Zagari's practice. [Fig. 15 and Fig.16]

Hashi was completed in the spring of 2007 and is a doubly curved pedestrian bridge made from marine wood and glass which connects the two banks of the waterfall on the lake.

The boardwalk bridge, Hashi, links with one of the most interesting places planned by Raffaele De Vico: the lake area and runs alongside the waterfall garden adjacent to the water games and enjoys a view of the *Palazzo dello Sport*. The insertion of the bridge also makes it possible to continue to lakeside walk, which is interrupted by an area prohibited to the public unless for special events.

The Cythera bridge-terrace borders the EUR Lake, dissecting its geometry. It is comprises a floating island-platform beside a nymphaeum. The platform is situated on the bank on the western side and is part of a pedestrian path in the park designed by Raffaele De Vico.

The structure, which is made of marine wood slats is 60 metres long and varies in width, measu-ring 12 metres at its widest. The continuity of the landing stage is interrupted by seven floating glass fibre tubs, inside which are a variety of water lilies. In addition, there are areas along the path equipped with facilities to enjoy the open air.

These projects were made possible by the Joint Plan for the Use and Improvement of the Green Areas (Piano Unitario di Utilizzo e Valorizzazione delle Aree Verdi) based on an Agreement signed between the City Council of Rome and EUR S.p.A. on the 28 of July, 2004. This provides for the re-establishment of the green areas of the EUR by 2010. It is a unified operational plan which protects the parks in the district. It also provides services for the inhabitants including the pedestrianisation of large areas and the provision of cycle lanes.

Amongst the redevelopment projects for the EUR Lake is a Mediterranean aquatic museum designed by Domenico Ricciardi, involving an investment of €50 million through project financing provided by several private backers including Expomed and RR Service, who are also responsible for the executive plan (for project description see Table 1).

The completion of the work was scheduled for 2012 thanks to an agreement between the Bank of Intesa Sanpaolo, Unicredit, and Mare Nostrum Romae ("Il Tempo", 12 February, 2011). This also,

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TAB. 2. ANTONINO TERRANOVA'S RELATION - INTERVIEW WITH E. TAGLIACOLLO, 2011.

«At least in its central part, EUR is a business centre but in a particularly peculiar way. First and foremost is the planning of its layout as a World Exhibition (an exhibition hall representing a political regime) giving a strongly unified character when other directional centres are above all the accumulation of individual representations of individual companies or institutions always competing against each other. Furthermore, precisely because of its discontinuous development, it has not been specifically configured as a business centre. The limited residential areas conceived as experimental showcase settlements have overflowed, transforming into important nuclei in an everyday city (even if distinguished), and then other parts of the residential city have surrounded it. So little by little Eur has lost its character as a completely monofunctional space. Its roads are no longer simple accesses to offices and institutions, only crowded in the rush hour, but arterial roads in the city with a normal urban life (at least in several sections)».

The most evident example of this can be seen in viale Europa which «is made so that it gathers a great many themes of what is modern: reinforced concrete, small blocks of flats with penthouses, moving some buildings back, and with car parks in front of the shops. This is the place where this model in Rome was born, being relaunched in various avenues in the previously constructed city. (…) So this has been an attempt, which has fallen through, to give the fabric of the fascist and pre-fascist city an axis of facilities where a citizen can go for a walk, go swimming in the pool near the lake, eat an ice cream, with the modular schema of the ENI as a backdrop. Then this attempt was swept away. On the one hand, there were the circles of "law 167" type settlements and Torrino district on the other, with the episode of the Olympic Games in between them including Palazzo dello Sport and the Velodrome» (From an interview with Antonino Terranova in E. Tagliacollo, La progettazione dell'Eur. Formazione e trasformazione dalle origini a oggi, Rome 2011).

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in part, provides for the excavation of one of the EUR Lake shores, changing the original design. It will be accessed by a transparent acrylic tunnel with a moving walkway, leading from the underground railway stations EUR Fermi and Palasport, and leading directly to the bottom of the lake, where the exhibition containers will be positioned. The structure will probably be managed by the scientific committee of the Biopark foundation with the aim of creating the Second Tourist Pole in the Capital. The project is still being defined and the latest contents are not known.

U2.6 The current shape

If only the boundaries of the road network are considered, EUR is enclosed in a pentagon but its boundaries cannot be assumed to be the physical limits of EUR. The outline of the pentagon is easily recognised from the air, being defined by *Viale dell'Oceano Pacifico*, *Viale Egeo* – whose geometry is paralleled in *Via Ostiense* side by side with *Via del Mare*, then *Viale di Val Fiorita*, the Magliana viaduct, *Viale dell'Atletica*, *Via Laurentina* which can be interpreted as the edges opposite the river, and *Viale dell'Oceano Atlantico*. However, the edges are also defined by the relief and the contours of its slopes that obscure the classic shape and the usual view of a pentagon (which can only be identified from above). Superimposing the E.42 on to the latest land use map showing the current development shows how the edges have been eaten into, corroded and almost blurred by the bordering neighbourhoods that have been inserted in the gaps in the boundary.

The boundaries are characterised by varying height above sea level. This can be seen from viewpoints on the hills that define the profile of the EUR, such as the view from the top of the hill in *Parco degli Eucalipti*, by the side of the *Tre Fontane* Sports Centre, on the far side of *Via Laurentina*, on the *Abbazia delle Tre Fontane*, or from the belvedere viewpoint in *Piazza Benito Juarez*, that was intended to overlook the Albani Hills in the plan of Raffaele De Vico, or the view towards the River Tiber from the rear of Piazzale della Chiesa dei Santi Pietro e Paolo (St. Peter and St. Paul square).

Furthermore, the view of the EUR from the Sheraton hotel is interesting as it frames two visual focal points of the monumental EUR: the Palazzo della Civiltà italiana and the church of Saint Peter and Saint Paul (built on two hills) and also the new EUR gateway, the Propylaea, that according to Greco and Remiddi (2006) "offers an elegant image of modernity (...) creating a sort of opening to enter through the city wall". Further project descriptions are presented in Table 3.2.

According to Cellini (2001), "EUR owes a great

Fig. 17_ Laurentino 38, Piano di Zona 38, 1973, 1974. P. Barucci, urban and architectural design, with A. De Rossi, L. Giovannini, C. Nucci, C. Sostegni, B. Begnotti, M. Novelli, G. Pediconi.

Fig. 18a and Fig. 18b_ Quartiere INCIS a Decima, 1960 – 1966. Luigi Moretti, Vittorio Cafiero, Ignazio Guidi, Adalberto Libera (in collaboration with G. Agnelli,

deal to the curious arrangement of the urban and road layout. This axial (and classical) system is overlaid on a hilly relief that is apparently unsuitable for it. [It can be noted] how the two transversal axes (*Congressi – Civiltà Italiana and Forze armate – Santi Pietro e Paolo*) are located on two markedly arched ridges on hills, where the church and the Palazzo delle Civiltà Italiana occupy the promontories, and where the public spaces (the park, the "Piazza Imperiale", the lake) lie in the small intervening valleys. It therefore follows that the main axis of Via Cristoforo Colombo, having been artificially levelled compared to its natural sinusoidal profile, lies on what until then was sloping undulating land. So the academic axiality of

the spaces becomes blurred in the dynamism and variability of the surrounding built landscape".

U2.7 The new districts

Not far from the EUR and in very close relationship with it are several experimental 1960s projects, such as the INCIS district of *Decima* and some from the 1970s that have colonised pieces of the Roman countryside. Among the latter are *Laurentino 38* and *Corviale*. Finally there is one contemporary experimental project, the *Eur-Castellaccio*.

Decima[1] is a sophisticated housing project with
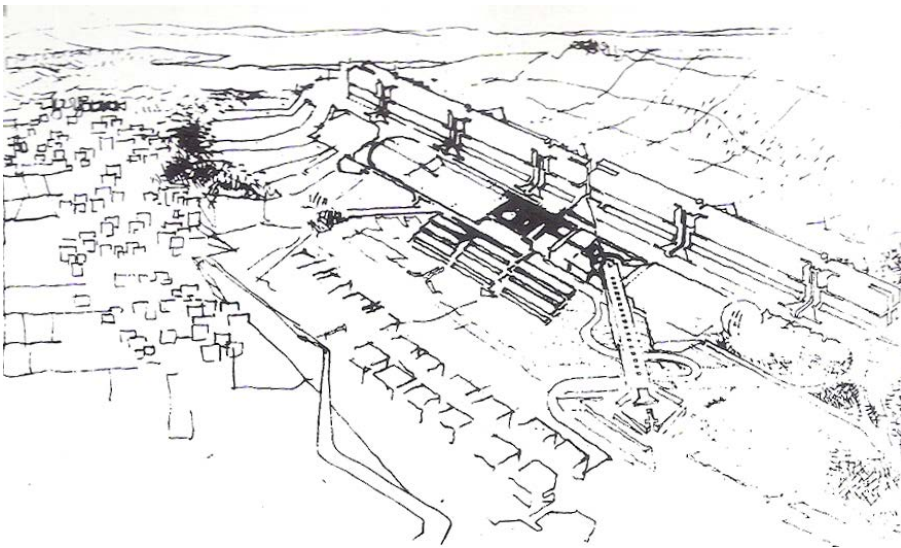
Fig. 19a_ Corviale, Piano di Zona 61, 1972, 1974. M. Fiorentino urban and architectural design, with R. De Simoni, M. Montani, E. Piroddi.

Fig. 19b_ Corviale, today.

Rethinking the Roman Landscape

frontages that bend and buckle by moving their façades continuously.

The design of the buildings follows the course of the roads, the ground floor, with pilotis that elevate the building and free it, creating continuity with the green plane and the design of the previously mentioned green urban lounges.

The morphological structure in Laurentino[2] exploits the nature of the land, which extends for 160 hectares and comprises a crown of high ground around a valley earmarked for use as a public park.

The project in Corviale takes up the Le Corbusier theme of "city building" again and resolves it from the morphological point of view in the physical unity of the large compact horizontal "housing wall". The section defines a continuous relationship between residences, social spaces, green areas, and services, and represents a unique and unrepeatable episode.

The last offshoot of the expansion to the south, *Vitinia*, is a large suburb similar to a village that had an initial planned form, but that has not withstood the effects of building without planning permission.

Lastly, several of the "rules" of the EUR project can be recognised in the plan for *Eur-Castellaccio*. The architects of this plan are Franco Purini and Laura Thermes together with "studio Transit". A building in this plan is identified by its natural form as seen in the plan with green inclinations that is a geometrised hill and a section of the hill at the same time.

In conclusion, the contemporary image of the district seen from above suggests the need to extend the relationship between the EUR and its surroundings, for example with the River Tiber, which could become a linear park, and with the districts that are the fruit of the 1960s and 1970s that have already made inroads into the borders of the pentagon. The system of green spaces could become,

even more than it is at present, the project unifying and resolving the variety of spirits in EUR.

Chapter U3: Contribution of the working group

U3.1 Understanding the uban landscape of EUR

U3.1.1 Introduction to the workshop

The "urban group" discussed the factors related to urban growth and worked on a case study area of EUR. The workshop methodology was based on four steps.

First, thanks to the detailed briefing documents prepared before the forum by the 'La Sapienza Team", the workshop participants were introduced both to the landscape of Rome and its region as a whole, as well as an in-depth introduction to the study area - the EUR district to the south-west of the city was provided. This information formed the first layer of participants' background to the site.

Secondly, our own understanding of the general issues relating to urban and peri-urban landscapes, as well as our knowledge of similar areas and related projects flew into our analysis of the study area.

The third part of the process took place on site during the field visit when we collected specific impressions of the landscape we observed. To structure those observations the "urban group" was divided into smallers teams. It was proposed to organise the work during the field visit in three groups according to a simple structure relating to a basic typology of urban landscapes and their main functions:

•"Point" (focus on individual open space e.g. park, square etc.)

•"Line" (focus on linear spaces such as green links, infrastructure corridors, blue corridors etc.)
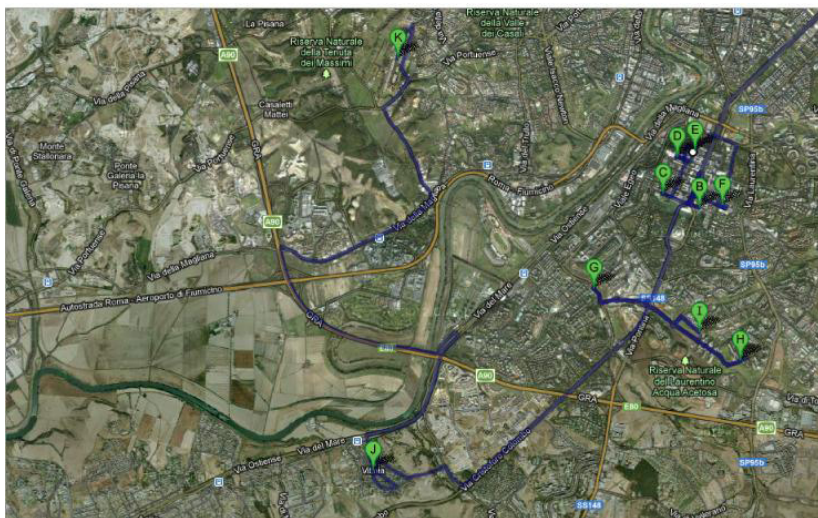
Map Legend

A. Valle Giulia Faculty of Architecture (out of map)
B. C. The Lake of Eur
D. Palazzo della Civiltà Italiana (possible visit)
E. Palazzo degli Uffici
F. Archivio Centrale dello Stato (presentation area)
G. Quarter Decima INCIS
H. I. Quarter Laurentino 38
J. Quarter Vitinia
K. Corviale

Fig. 20_ View towards the lake (sketch taken during field visit by Carl Steinitz).

[1] Dates of construction:1960–1966; Authors: Luigi Moretti, Vittorio Cafiero, Ignazio Guidi, Adalberto Libera in co-operation with G. Agnelli, C. Di Tullio, E. Valle, G. Quadarella, P. Reggiani, G. Rinaldi, A. Rulli, L. Sebasti, and G. Veroi.

[2] Piano di Zona - Area Plan - 38, 1973, 1974, P. Barucci urban and architectural design with A. De Rossi, L. Giovannini, C. Nucci, C. Sostegni, B. Begnotti, M. Novelli, and G. Pediconi.

•"Area" (focus on characteristic open space patterns within typical sections of the urban fabric)

Within each of these groups it was suggested that three sub-groups concentrate on assessing different aspects of open space functions:

•Biological-ecological (climate, hydrology, flora and fauna etc.)

•Social-societal (leisure and recreation, contact and communication, health and well-being, experience of nature etc.)

•Structural-symbolic (legibility and orientation; meanings and values; genius loci and identity etc.)

The final piece in the equation was to write down the impressions from the case study area and to find the answers to specific questions which we formulated as a result of our analysis of the information provided and the visit to the site.

During the field visit to the site the workshop participants had a chance to walk through the central part of EUR district and also "catch its atmosphere" from the bus passing by further estates. Figure 3.20 shows the excursion's route and visited points of interest.

Because urban and peri-urban landscape is a complex subject, and we had only a very limited time to visit the site it is important to notice that we tried to collect first-hand impressions of the landscape.

U3.1.2 From urban and peri-urban to metropolitan landscape

The developing mosaic of large city-regions forms the spatial foundations of a new system, whose internal and external relations and complex dynamics present a number of challenges to researchers and policy-makers (Scott, 2001, p.813). As a result, 'metropolis' and 'metropolitan area', such as Rome, is increasingly the lens for research into urban transformation.

Metropolitan territories are dispersed urban regions with distinctive spatial, social, and economic characteristics. Patterns of demography, commerce, governance, social behavior and cultural practices, and physical characteristics such as morphology, density and locality in metropolitan territories differ markedly from that of towns and cities.

Historically, urban and rural realms were divided administratively, economically and in planning terms, but nowadays more and more voices are naming this an outdated concept (Sieverts, 2007; Wandl, 2012; Cortes, 2009; Nassauer, 2012), augmenting that "core city and urban fringe, centre and periphery, city and landscape, town and country, these dichotomies of classic cities and landscapes are fading, and a new polycentric, frag-

mented, and patchwork feature of urban landscape evolves" (BBR, 1998).

However, land use dynamics are particularly strong in the peri-urban zone. Such areas are currently growing four times faster than urban core areas, and at a rate which would double their total area of 48,000 km2 within 30-50 years. Even in urban regions which are shrinking in terms of their population urban land uses are still expanding on the fringe. Therefore there is still a lot of research going on in these in-between-territories, trying to identify them spatially, develop planning strategies for them and find out design solutions which will serve people living in these areas.

Various terms are used to name the process of spreading of built up areas and the space which appears as result of that process. Urbanization, urban sprawl, suburbanization, dispersion, or fragmentation are processes which lead to appearance of new spatial forms termed urban fringe, peri-urban areas or territories-in-between. Research into territorial arrangements in metroplitan regions have resulted in a range of new insights on the form of the territory naming it as Cities without Cities (Zwischenstadt, Sieverts, 2001), Tussenland (Frijters&Ruimtelijk Planbureau, 2004), City Fringe (Louis, 1936), Città Diffusa (Secchi, 1997), territories of a new modernity (Viganò, 2001), Stadtlandschaft (Passarge, 1968), Shadowland (Harmers in Andexlinger et al., 2005) Spread City (Webber, 1998) and Annähernd Perfekte Peripherie (Campi et al., 2000) (in Wandl et al., 2012). A common theme in these concepts is the shifting relationship between city and countryside. In contrast to compact homogenous cities, metropolitan regions are characterized by an amorphous patchwork of urban fragments in which the distinction between rural and urban realms is dissolving. According to Castells (2010), "it includes in the same spatial unit urbanized areas and agricultural land, open space and highly dense residential areas…, it is a multi-centred metropolis that does not correspond to the traditional separation between central cities and their suburbs". The term 'metropolitan' broadens the meaning of what is usually understood under urban and peri-urban and includes the entire territory of the city-region.

Metropolitan landscape

A central problem in the metropolitan landscape is that of hybridization. In addition to the patchwork of industrial, residential, agricultural and open space territories in metropolitan areas, we also see the development of extensive hybrid tissues within metropolitan territories themselves. The majority of industrial, residential, peri-urban and mixed-use urban tissues in metropolitan areas are characterized by varying densities and forms

of built and unbuilt space which differ markedly from that of compact (historical) urban tissues and open countryside. Viewed from the perspective of the urban realm, these conditions challenge existing categorizations and qualifications of urban tissue. There is a need to map the contemporary landscape by including the study of rural areas and open areas within urban areas since they are all part of this new metropolitan structure (Pinzon Cortes (2009).

U3.1.3 Parks and other open spaces in EUR

The sub-team of "urban group" focussing on the individual open spaces grouped observed and visited areas into four categories: i) parks, ii) squares, iii) semi-public courtyards and iv) private green spaces, such as terraces and small gardens. Moreover, the selected green spaces were analysed in accordance to their predominant function (e.g. recreational, aesthetic,..) and their hierarchy in space (e.g. regional / local importance in urban fabric).

The site visit encouraged participants to pose questions and rise important issues. For the better understanding of the site, the participants wanted to know:
–Who lives in EUR?
–Is there enough green space where people can sit in shade?
–Are there enough playgrounds?
–Is the area accessible for cyclists (also by the river)?

The understanding of above issues was essential to find associations and interactions with other case studies.

In the following paragraphs one can find description of main individual open spaces.

The Central Lake Park

It was originally part of a larger and more articulated project, designed by architects Raffaele De Vico and Marcello Piacentini. The total design concept implied the creation of six new neighbourhood parks and an aquarium. Architect De Vico, considering the reduced budget, designed a simplified plan for the area, aiming at reducing the visual impact of the cylindrically shaped, newly built, Palazzo dello Sport. He divided the squared area in two sections, symmetrically placed with respect to the orthogonal axis: one, at the higher lever, with two spiral paths connecting to the Palace, and one, at the lower level, characterised by two large round areas, planted with Cupressus sempervirens trees, by two cascades, divided by smaller, irregular lakes and by lateral stairs. Two canals, tributary to the lake, present a series of smaller fountains and cascades on both sides, thus enriching the central system.

After a long period of abandonment, in 2006, architect Franco Zagari designed and realised a new bridge, 'Hashi' ('bridge', in Japanese) and a wooden terrace, 'Cythera' which reconnected the Garden of the Cascade with the pedestrian and cycle path, known as 'Passeggiata del Giappone' (Japanese Promenade), running along the full perimeter of the lake. View to the lake is presented on figure 21.

The country of Japan donated to Rome in 1959, 2.500 Sakura trees, the Japanese flowering cherry tree (Prunus serrulata). Many of them were actually planted in the EUR Park. Since then, the Japanese traditional practice of "hanami" (meaning 'admiration of flowers') typically takes place also in Rome during the flowering period of sakura (mid March – early April) and consists in walking under those trees and having a picnic in traditional costumes in the shade thereof. Poplars (Populus spp.), pines (Pinus pinea), and lime trees (Tilia platyphyllos), scattered, in small groups on the grass or placed along the pedestrian paths, together with many other Mediterranean shrubs, enrich the vegetal palette of the Garden.

Today, the commercial and sport uses of the lake and the green areas have significantly altered the style of the Garden. Several restaurants and bars,

Fig. 21_ View towards the lake (sketch taken during field visit by Carl Steinitz)

along the rivers, and sometimes even floating on the lake, together with playgrounds, summer festivals and extemporary markets, contribute to offer for visitors. The modern image is a much more confused comparing to the original intentions of the designer De Vico. One should remember that he was inspired by the much more "harmonious, classical spirit of the refined Italian villas".

Other recent controversial episodes regard the proposal of the former Major of Rome to host the Rome's Formula One Grand Prix in the area. After a long debate, the project had been abandoned. It was strongly opposed by the residents and ecologists.

According to some authors, the DeVico - Piacentini general design originally included an Aquarium, which has found practical implementation in 2011 with the beginning of the construction of Mediterraneum by EUR SpA. The structure, still incomplete and, again, not always favourably commented by architects, urban planners and population, is located on the northern side of the lake and has a surface area of approximately 14,000 sq. m.

The Gardens of Olive trees

The two small gardens, located symmetrically vis-à-vis the celebrative altar (where the Palace of Water and Light and the Adalberto Libera metal and concrete arch were supposed to be constructed) rise 2 metres above the street level and are barely visible from the surroundings after the construction of the more modern villas and buildings. They were not included in the original 1937-38 landscape plans, but were commissioned to Raffaele De Vico in 1940 and completed in 1952, with very little budget. Key design elements are the central water basin, surrounded by poplars (Populus italica), the grass amphitheatre, delimited by travertine slabs (typical Roman stone) and surrounded by olive trees (Olea europea).

Nowadays, only one of the two gardens is still open to the public. It is the one located on the west side, opposite the Fungus of EUR - a tower and water tank, 51 m high. It was realised between 1957-1959 by architects R. Colosimo, S. Varisco, A. Capozza and A. Martinelli The garden keeps its contemplative and peaceful character, originally conceived by its creator, architect Raffaele De Vico (1881-1969).

After the European Landscape Convention, both the Central Lake Park and the Gardens of Olive trees have been included in the 'protected zones' of E.U.R., as defined by the Italian so called "Urbani Code" (2004) because of their high historical and cultural values. Unfortunately, this measure does not imply that they will be re-qualified in the near future, as advocated by the local community. Considering also the high level of uncertainty still char-

acterising the possible outcome of the Mediterranean construction site, we can easily predict that EUR and its parks will soon be at the heart of the agenda of the newly elected Major of Rome, Ignazio Marino.

U3.1.4 Linear landscape of EUR and its surroundings

Linear landscape in EUR are the superposition of historical action about landscape. Can the struc-

Fig. 22_ First sketch of green, blue and gray infrastructures

ture and the hierarchy of spaces help the citizens creating a sense of quality for the open spaces of the city of Rome? The above question represent the interests of the sub-team focussing on linear structures, such as green links, blue infrastructure, etc.

Finding the typology of above mentioned linear spaces from the outsider perspective was one of the goals assigned for the workshop. The EUR district was built around in the second part of the XX century. The construction of the new settlement followed the idea of the modern period with the construction of hyperbuildings on the land connecting them by streets. In this process the great "stripes of highways", the grey line connect the urban fabric with the hills around Rome and the agricultural fields.

Knowing each other surveing

Working on the topic of linear landscape in the context of city is challenging and might be problematic. The forum gathered representatives from different disciplines, e.g. experts of urban planing, architects, botanic, agronomics, etc. So, the first step had to be the creation of a "common language"

(not only to understand the meaning of the word). Its also important to connect them to the object of the survey, apply to the meaning given to it by delegates of twentyseven European cultures.

The interpretation of the landscape during the survey passed gradually from an architectural one to a new one - collecting the view of the others participant. The most important part of the survey is to collect the impressions and to sketch them on a mental map. The goal after this moment was to cross the images impressed in the mind of the 'traveller' on a real map. By this operation, we wanted to find the structure of the places and their connections to the general structure of the city and the nature around.

The group discussed the typology of linear infrastructure and decided to divide them into three canonical groups: green, grey and blue.

Mapping the EUR

The individual understanding of the typology by each participant was elemental. This step caused a lot of disputes, as different educational and cultural backgrounds of participants caused diverse explanations. The major problems were related to the quality and the function of the linear elements constructing the EUR landscape.

The street of EUR by De Vico

The scheme proposed by De Vico is based on 8 boulevards. The typology of the different frame of the road was thought by De Vico linking the dimension of the street and the green system.

The landscape, trees, shrubs and flowers are very important to brake the monumentality of the Piacentini's architecture made by white 'travertino' stone.

The green stripes between the new settlement

The green system of the EUR was thought by De Vico like a system of 8 parks connecting the neigh-

bourhood with the agricultural system in the outskirts. For example, the Park of the Eucalyptus is the last remains of an old hood built around the 3 fontainnes, the place where according to the legend the head of the apostolo Pietro rolled three times on the ground.

All these green areas are now spaces in between. Even if not so well maintained, these spaces are loved by the citizens.

The blue system of the EUR lake

The last system of the linear landscape is the blue one. In the EUR district this layer is represented by the lake of EUR. This is important place for the Romans as it serves a leisure area. The different typology of function attract there a lot of people. For the construction of the lake, that took the place an old river, were used 2 acqueducts coming from west. In order to close the water cycle, the water probably goes to the Tiber, but the connection between the lake and the river - also visual - is stopped by a big construction / building.

A mapping strategy

The individuality of different typologies became the starting point for a lot of discussions about the

Fig. 23a_ Coarse defined map of built-up and non built-up areas divided by built areas density.

TAB. 3. EXAMPLES OF THE GREEN LINKS ELEMENTS IN EUR DISTRICTS AND THEIR FUNCTIONING.

	Ecological issues	Social issues	Structural / symbolic
Green infrastructure (the green valley)	1	0 / 1	0
Blue infrastructure (River Tiber)	1	0	1
Grey infrastructure (Mussolini axes)	0	0	1

1 – functioning existing value; 0 – not functioning, with potential
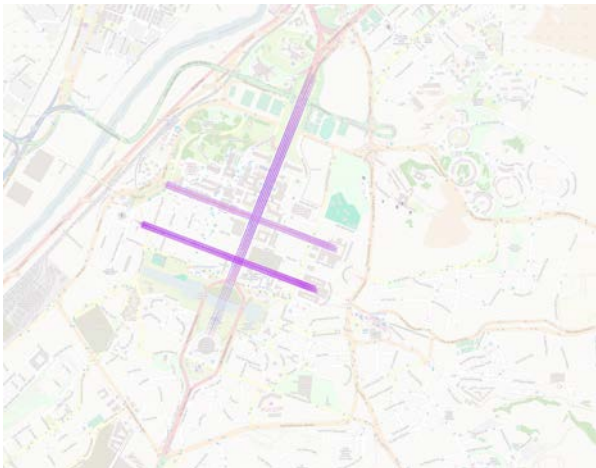
Fig. 23b_ EUR Plan

meaning of different elements in the landscape. The big question is about architectural role of the landscape system or ecological ones. If the architectural system from De Vico works well, even if the cars invade the common space. The group could not say the same for the ecological net, because the road doesn't function like connection between the reservoir of biodiversity, the parks, and the agricultural zone around.

The sub-team of "urban group" recognized that is not possible to classify each typology of space in this few time with no information about it, so decide to create a scheme where each element is described in its importance related to three main areas: ecological values, social ones and the importance of them in a symbolical structure of the city.

With such matrix, the group was able to work together defining the different quality of spaces. Using the scheme, the group understood that the lake of the EUR is of a great importance for the inhabitants. It improves the quality of the place and living conditions, but it's not able to support nowadays the ecological network. Using the scheme, the group found out that the blue elements of the

Fig. 24_ "Water management" practices.
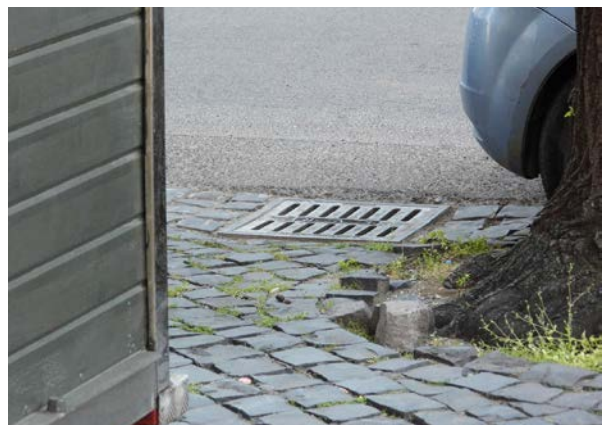
Fig. 25 (a-d)_ EUR's Main Axes -
Map data © OpenStreetMap contributors.

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Tiber represent a big element in a symbolical way and a big resource for the biodiversity. Between the EUR42 and the Tiber, the Strada del mare represents a wall for the inhabitants of EUR, that didn't use the blue corridor like part of the city.

U3.1.5 The Landscape of EUR's Urban Fabric

EUR area is composed of areas of different urban landscape qualities. The sub-team focusing on the general urban fabric of EUR considered that it can be divided roughly in four categories:

1) The area associated with the monumental architecture and associated landscape of the Musolini's EUR, a rationalist construct, thought to live "mass experiences". Nowadays those pedestrian masses have changed into automobile masses. Big expanses around grandiose buildings, associated with large axis using the existing topography to enhance the long views. Classical statuary is associated with the buildings. In terms of materials, the white surfaces of the travertine prevail.

2) The medium dense neighbourhood

Is there a sense of neighbourhood? It is an identifiable spatial unit to belong to? How it is organized? How dense is the traffic? How wide are the side-walks? What qualities has this area compared with other residential areas nearby? Is there an ongoing process of gentrification?

3) The low dense neighbourhood, houses and medium size buildings surrounded mostly by forums.

4) The external neighbouring living quarters.

Highlight / comments

•Crowded and busy car lanes (streets) but not very walkable or enjoyable.

•Space devoted to cars is too great, there are difficulties to walk, to enjoy walking; Parks and green spaces (infrastructure) adequate in terms of extension.

There is an ongoing process of modernization, of change in the built environment. Different materials and / or location of building related with the street, change of height (related with the surrounding buildings) might change the landscape. This process couldn't probably be stopped, although the main characteristics of the EUR Urban landscape might be preserved. One of the questions that arise during this study was: What are those characteristics?
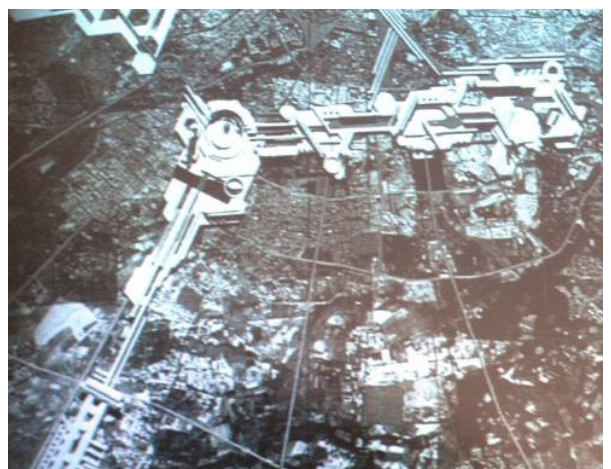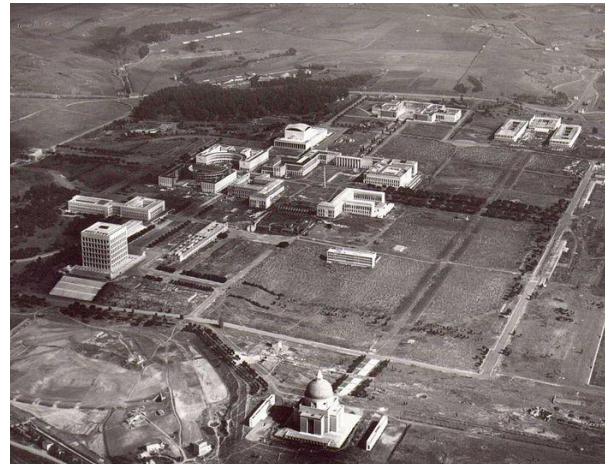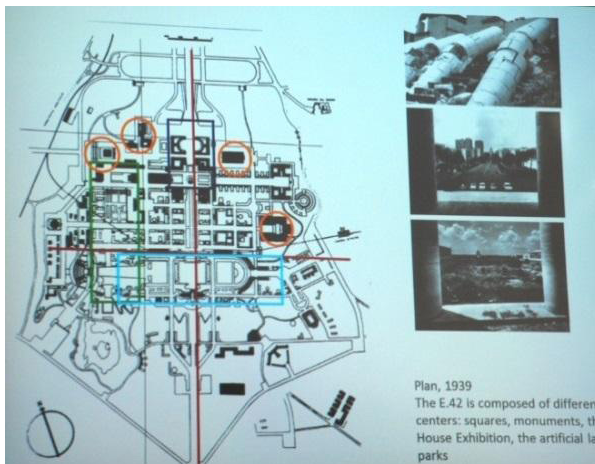
Fig. 26 (a-d)_Initial planning of the EUR area and its change in time. The original plan from 1938 (a). The condition of the area in 1953 (b), in 1961 (c) and in 1967 (d). Photos:Gintaras Stauskis.

Water management

It seems that the water goes underground. Even the lake is something unreal, not related with what the Tiber is.

U3.1.6 Landscape of EUR district in Rome as empowerment for the public space

Architecturally arranged landscape in urban areas has a strong potential to function as a public space meeting the needs of the users. The chapter analyses how functional and compositional arrangement of EUR district in Rome facilitates social inclusiveness and efficiency of the area as a public space. The methods of site visit, comparative visual analysis, research of archive documents and contemporary planning projects are used. The analysed EUR area is seen as a consistent part of the City of Rome as a whole on one hand, on the other hand it's planning and construction in the short time period allows for the researcher to analyse it as a single urban entity with specially designated functional structure, outstanding composition and planning developed in clearly outlined boundaries. Analysis of extensive photographic material produced by the author of this chapter provides a real emotional impressions and rational opinions for a professional analysis.

The planning and overall arrangement of public space is used as a tool to facilitate social inclusiveness of citizens enabling them to develop lo-cally acceptable communication traditions, habits and rules (Stauskis Eckardt 2012). Urban space is shaped by planning environment–specific and user–friendly arrangement of natural and man-shaped landscape, buildings and infrastructure elements to create and maintain specific areas of a space. Through many periods of historical development different approaches have been used to functionally and artistically arrange the new and existing public spaces and each and every case serves a study for the better understanding of how safe, comfortable and attractive spaces could be created and kept in different climatic and cultural environments. The case study of EUR district in the City of Rome gives a perfect material to share and learn by many landscape architecture professionals across the Europe.

The study of EUR area was performed in the aspect of analysis how efficient and functional is it as a public space. Especial attention was drawn to the application of landscape elements starting with planning, design and maintenance having in mind evolution of the area in time. The period of 75 years in which the area has been planned, constructed and managed is an extremely short period to the City of Rome still it allows to see how changes in social and economic life have influenced the development of EUR area.

The original plans and drawings of the EUR area present the unique valuable material for comparative research of the planned at 1938 and executed as fixed in several periods in 1953, 1961,

Fig. 27_ Planning of the EUR area feature two main spatial axes in the loop of urban landscape.

Fig. 28 (a-b)_ The line of pine trees marks the edge of the EUR area (a). Identity of the EUR space is formed by monumental spatial composition at Piazzale Adenauer Konrad (b).

1967 and the recent days. The ideological potential of the EUR district was certainly based on the attempts to create an impressive and monumental functioning system of public spaces as squares, avenues and lakeshore promenades with several landmarks - important architectural complexes as seen from the original map of 1938 (Fig. 26 a). Until 1953 just few main streets were built (Fig. 26 b). It took a time of more than two decades to see the first completion of the district urban structure in 1961 (Fig. 26 c). The buildings and elements of infrastructure were the first elements to appear and landscape structures were still at its roots. This could be understood as a natural process of construction technology still the foundation for the main parks and squares was laid down at that time as well.

The scale character of architectural complexes developed on the main street of EUR is seen from the 1967 birds-eye-view picture (Fig. 26 d).

Even for the city as Rome the sizes and scale of the constructed blocks seem exaggerated and over-dimensioned compared to the sizes and scale of adjacent landscape elements as groups of trees, adjacent spaces, river curves, land slopes.

The master plan of the EUR area designed by the architects, planners and politicians present a comprehensive plan that was drafted to realise the urban arrangement concept. As seen from the main map the master plan presents a combination of modernist planning introduced into the natural landscape. The impact of the Tiber River valley and the adjacent green areas on land marking the edges of the EUR area is especially evident (Fig. 27).

It is also observed that the master plan is created on the principles of separated functional zoning where different areas are assigned a dominating type of land use indicated by corresponding red, orange, blue, green, magenta and other colours This reflects the tradition and fashion of the time where urban planning was seen as a tool for determining the dominating functional type of use in the taken parts of the planned area. The plan clearly designated land plots for the network of interconnected public spaces of the area as squares, parks and avenues. The amount of public space assigned for this type of use is big enough compared to planning and construction of the later years which supposes the big number of visitors planned to use these spaces.

The cityscape of the EUR area is based on the

Fig. 29_ Terraces of the buildings work as an important viewpoint towards the wide vistas to the city centre of Rome.

Fig. 30 (a-b)_ Planning of the EUR area present two main spatial axes. View Northwards (a) and Southwards (b) at Square Colosseum.

masterly combined grouping of natural and artificial landscape elements. This on one hand very naturally outlines the edges of the area without any physical borders. On the other hand it provides for the users an impression of presence of natural landscape in the big city and that is an outstanding achievement of planners, designers and those who were maintaining the area for more than seventy years. In this context the contrast between the rectangular composition of geometrical planning of the district and the natural volumes of trees and land shapes is especially evident and gives amazing impressions. This feature provides for the users of the area emotionally relaxing views out to the city and around the surrounding landscape which are inviting and welcoming to stay, observe and analyse the area and its panoramas. As a public assembly and communication area the space is open, has little sub-spaces and quiet spots for groups and

companies. The movement is pre-arranged and has little flexibility of choice.

The open terraces around the buildings provide for the users several attractive spots for impressive and stunning views to the whole City of Rome. Being located on a high platform some spots of the area open the cityscape of Rome to the spectator. The views are mastered as a classical panoramic composition with several consecutive view screens: the front of terrace, the land around the plot with organic groups of trees, the next remote development and the distant skyline with memorable architectural ensembles. Being in the different distance to the spectator and having different urban textures and colours these views attract the human sight with plenty of elements to scan and commemorate. The presence of wide city panoramas around the main building of the EUR area is acting
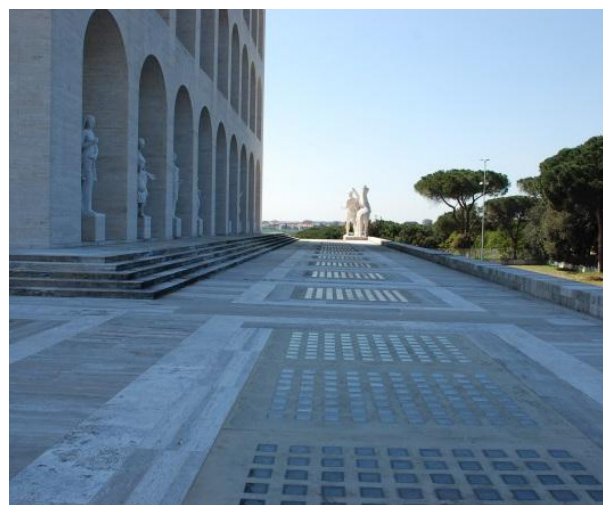
Fig. 31 (a-b)_ Monumental spatial planning of Square Colosseum at EUR area features wide passages towards the adjacent landscapes and the city panoramas.

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as an immense attraction for the users to come and stay here. Still the shortage of certain "comfort" elements limits the long-term functionality and usability of these areas.

The presence of public space within the EUR area is mainly determined by the planning of the area that is based on a composition of two orthogonally intersecting axes - "decumanus maximum" and relatively smaller "Decumanus minimum" (Fig. 30). The proportion of height and width of space is comparatively wide enough >1:6 (Fig. 3.30b), and probably for this reason it is subdivided by the lines of trees into smaller spatial corridors to the ratio >1:2 on the perpendicular avenue (Fig. 30 a). This approach is used to create more human and more user-friendly - in terms of climate - spaces and walkways to travel around and experience the area from the inside. Still, in many cases elements of landscape are used in a more formal and decorative way as they outline the formal planning axes but do not subdivide the wide space of the "street" and do not create a human space for comfortable walking and featuring the space as an arena for public interactions.

Another shift in the usability of the area is seen in absolute abundance of cars parked all around in the spaces on the main compositional axes. Negli-

gence of the parking issue and the need to provide for the users a more sustainable and visually less destructive solutions brought the EUR area to one more car-polluted district in no way different from any other city area in Rome or elsewhere in the world. The chaotic way of parking the vehicles is seen as a major limiting factor to functional usability and aesthetic value to the place as cars prevent seeing the spaces as intended by the designers in forties of the 20th c. In this context it is evident that wider introduction of landscape elements and integrating them to planning and spatial composition of the area might create better options for solving this obstruction by traffic problem at EUR.

Introducing buildings to the EUR area evidently follows the planning pattern of forties of the XX-th c. which is based on a modernist design tradition of urban edges, axis, districts, landmarks and links in between of them. Naturally this type of planning consequently brought the type of architecture which is laconic, monumental, and impressive and has neo-Romanic and neo-Classic features. The buildings of the area are masterly implanted into their sites with especial attention to their visual importance meaning view on the plot from the surroundings and view out of the plot to the city. Both directions of visual composition are equally

Fig. 32 (a-d) _ Technical condition of pavements in the EUR area limits the functionality and comfort for the users.

respected in planning of buildings and the areas around them. The close adjacent areas around the buildings feature an attractive terraces and outlook spaces opening a wide and long range views to the City of Rome where plenty of memorable ensembles could be observed from a long distance (Fig. 30). In this way the users of the EUR area are provided with masterly designed spots and monumental spaces for recording memorable views of the city.

Still the design of these areas breathe as formal and limited usability space having in mind the specific features of local climate, absence of shaded rest areas and lack of green surfaces and abundance of stone paved plains in the immediate vicinity to the buildings the place (Gehl 2010). This could be understood as a composition measure to create an unobstructed view around the monumental architectural objects and leave all the above mentioned comfort features for the surrounding landscapes. The spatial arrangement of the monumental square allows for the user to expect that monumentality should flow through the whole area with all its fountains, axis, seats, promenades and artistic sculptures (Cullen 1971). What we see instead is a modest minimalistic and quite formal layout, certainly judging on modern art by today's taste and tradition.

The functionality of the public space at EUR and elsewhere is determined by the general urban planning, the design of buildings and spaces around

them, also by the functionality of the spaces and its elements around. The technical quality of many public areas is bad at EUR because of a very simple and very important issue of broken sidewalks and unwalkable pavements. This feature limits usability of the space because of functional errors and poor technical and visual condition that compromises safety for the users and at the same time signals issues of personal security as well (Dadd 2010). The latter feature seems as having especially great impact on the users coming with families as bad visual quality signals danger to the users.

U3.2 EUR in Context: Learning from Comparative Case Studies

U3.2.1 Introduction

As a largely 'self-contained' urban expansion project built to embody a particular set of ideological beliefs and thus a reflection of its time, the EUR in Rome is, of course, unique. There are, however, many other examples of initiatives with a similar objective of creating new 'free-standing' urban districts as additions to existing cities, but which took place in different geographical and ideological contexts as well as at different times over the last century. These can serve as interesting comparisons to help place the planning and open space concept exemplified by EUR in the wider context of chang-

Fig. 33_ Aerial view of the Suburb showing the formal central square with its two Lutyens churches
http://www.myoops.org/ans7870/11/11.001j/f01/lectureimages/6/image37.html

ing fashions and trends in urban design and open space planning. This section, therefore, aims to consider briefly a number of other such high profile, ideologically driven urban expansion projects which have been developed both before and after EUR and indeed up to the present day. The comparative projects considered in this section are:

•Hampstead Garden Suburb, London: Masterplan design c. 1905 by Raymond Unwin (Arts & Crafts - Romantic historicism, Private social reformer). Area c. 320 ha

•EUR, Roma: Masterplan design c. 1938/39 Area c. 400 ha. (Fascism)

•Kraków, Poland – Nowa Huta: Masterplan design c. 1949 onwards (Socialist Realism)

•Milan, Italy - the gronda nord in Quarto Oggiaro Neighbourhood

•Vienna, Austria – Seestadt Aspern: Masterplan Design Tovatt Architects & Planners c. 2005 Area c. 240 ha. Post-modern formalism

Each of these projects can be looked at as the product of imposing particular planning and design ideologies on to green field sites close to the edges of existing large cities. All of them, in their way can be said to be trying to create their own particular utopia in conformity with certain social or political ideologies and in most cases in contrast or even direct opposition to the urban development of the rest of the cities of which they were planned to be a new part, but which all appear to have more in common with each other than one would at first superficially expect. Despite the century of time and the seemingly vast ideological gulf which separates the projects from fascism to Stalinism, from social reform to post-modern formalism, all of them have in common the important role afforded to landscape and open space in shaping the public realm.

U3.2.2 Hampstead Garden Suburb, London 1905

Background

Hampstead Garden Suburb can be characterised as an ideologically driven urban extension project located on what was then the north-western edge of London. Its immediate cause was to be found in plans for the extension of the London underground line to Hampstead, an attractive and still semi-rural area on the edge of Hampstead Heath, in the early 1900s. These appeared to bring with them the threat of a continuation of the un-checked and faceless suburban development that was the result of London' fivefold population growth during the 19th century. But whereas part of the motivation behind the project was to help preserve the environment around Hampstead Heath, the other part of its inspiration came from the social reform movement with its aims of improving the lives of the deserving working classes. The whole project was clothed in the 'Arts and Crafts' aesthetic of the recently founded Garden City Movement, and was planned and designed by Raymond Unwin and Barry Parker, the architects of Letchworth, the first Garden City (1903-04), which was being created at much the same time.

The initiative and idea for the creation of Hamp-
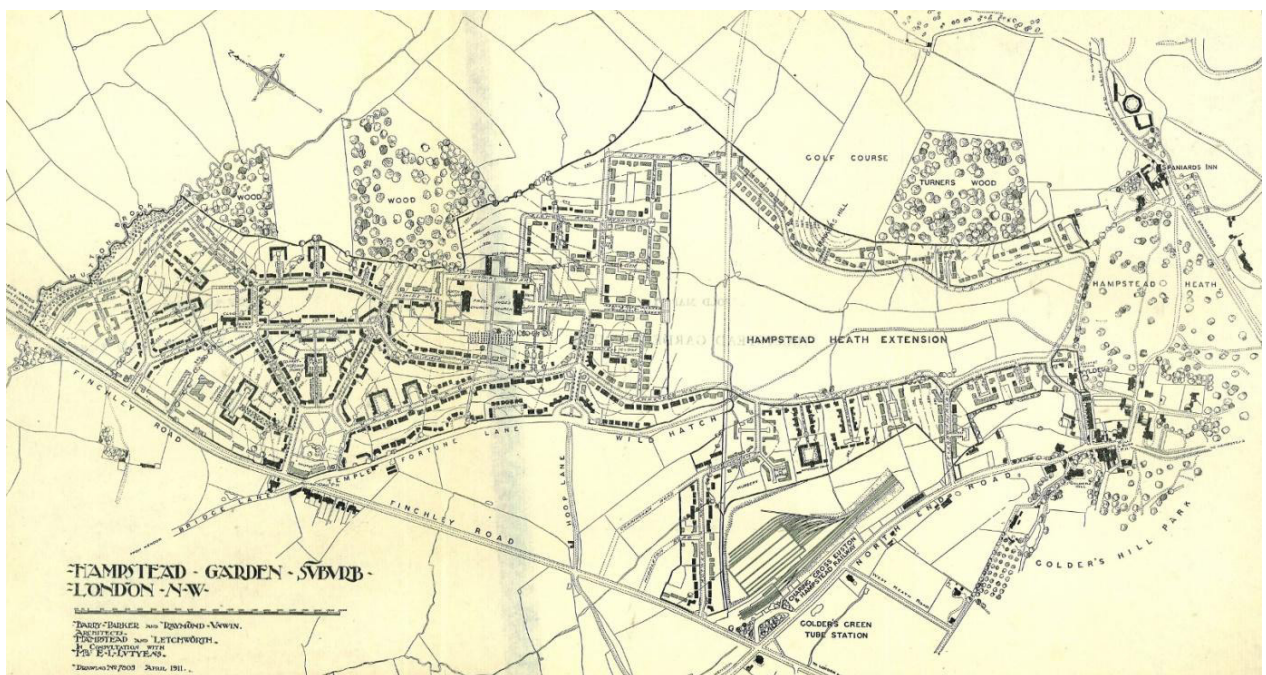
Fig. 34_ Raymond Unwin's first definitive plan of Hampstead Garden Suburb dating from 1911
http://www.hgstrust.org/maps/images/map%201911%20large.jpg

stead Garden Suburb came not 'top-down' from an ideological government but rather 'bottom-up' from the idealism of a private individual, the social reformer Henrietta Barnett. She was the well to-do wife of Samuel Barnett, a clergyman whose parish was in the poor East End of London, but someone who moved in circles influential in the social reform movement and was closely associated with, amongst others, Octavia Hill – one of the founders of the 'National Trust for Places of Historic Interest and National Beauty', established in 1894.

The Barnett's found relief from the stresses of life in their East End parish, in the form of a weekend retreat close to Hampstead Heath, which they purchased in 1889, and it was there that the plans for the creation of the Garden Suburb developed. The first stage was a campaign for the extension of the Heath on land owned by Eton College in order to protect this from development, but in order to help finance this, it became clear that a scheme to protect the Heath would itself need to include a development project. The idea of a 'Garden Suburb for the Working Classes' was first published by Henrietta Barnett in 1903, and she assembled an influential group of backers to support and help finance her plans for the purchase of the necessary land. Building work commenced in 1907.

Planning and Design

Between Henrietta Barnett's publication of her intentions to create a garden suburb and the start of construction on site in 1907, the first layout plans were prepared by Raymond Unwin. These were able to drawn both on his experience with the planning of previous projects at New Earswick near York and at Letchworth. He was also influenced in his design approaches by having read the work of the Austrian architect and planer, Camillo Sitte, whose book Der Städtebau nach seinen künstlerischen Grundsätzen had been published in 1889. Sitte's romanticisation of the informal compositions to be found in the mediaeval layouts of many European towns was an inspiration to Unwin, when he encountered Sitte's work initially in translation.

A second consultant was subsequently appointed by the Hampstead Garden Suburb Trust, one Edwin Lutyens, the archetypal architect of the British Empire, and one whose later classical and monumentalist work at least, contrasts considerably with the cosy small scale domestic approach of much of the Parker and Unwin style. Lutyens' work was, perhaps appropriately focussed on the development of, what eventually became a much more formal layout for the main square with its two churches.

A critical part of the concept was the road layout and the associated building lines, with the emphasis being to view the roads as being important public spaces, which would determine the overall character and effect of the new development. In order to achieve the desired road layout and overall urban design character, it was first necessary to change the local by-laws, which had recently been re-written in

Fig. 35_ View of newly built housing across the on-site builder's yard in 1909
http://www.hgstrust.org/history/images/photograph_4.jpg

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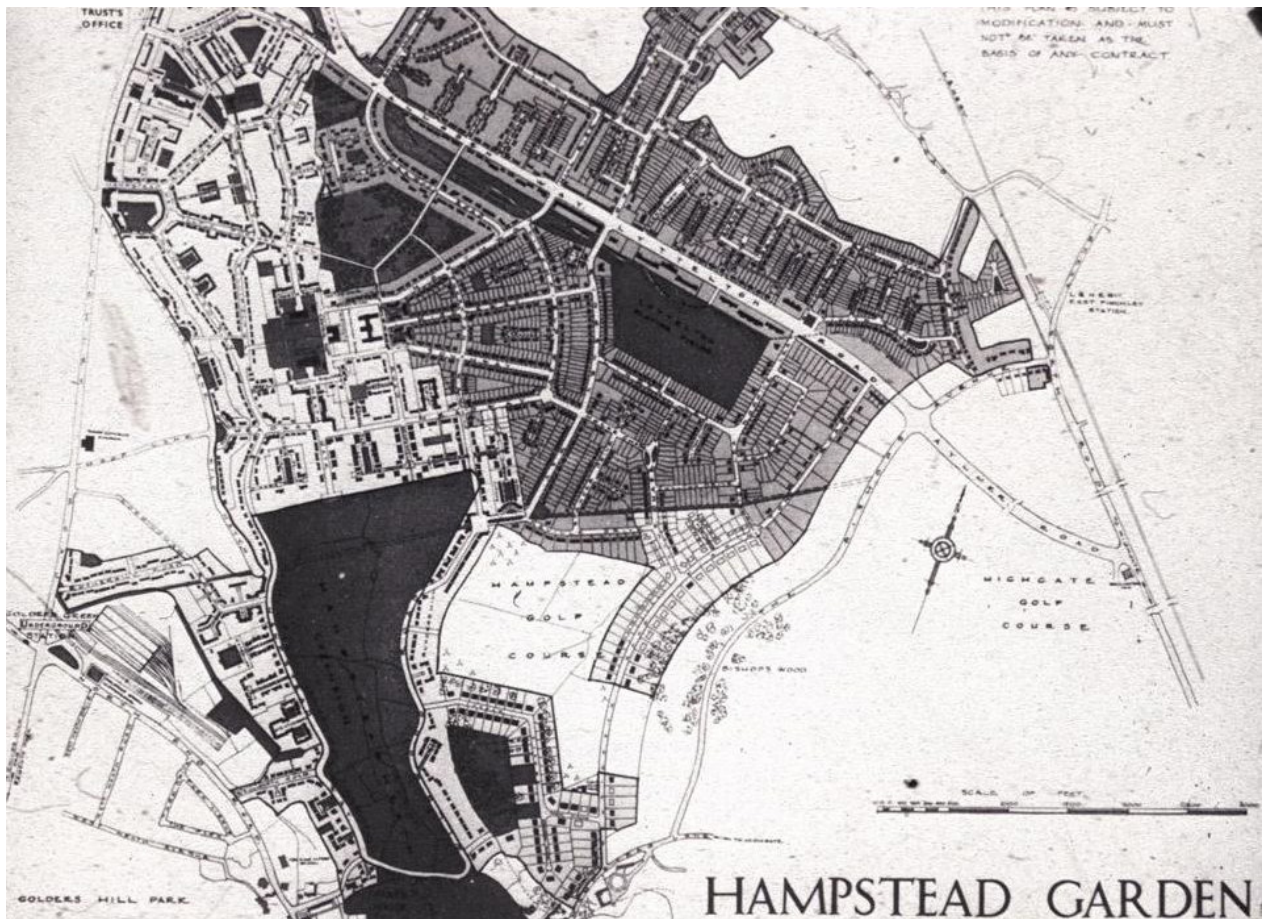
Fig. 36_ Later plan of Hampstead Garden Suburb showing extension of the development to the North after the First World War
http://www.myoops.org/ans7870/11/11.001j/f01/lectureimages/6/image36.html

order to allow for wider roads. Instead, Unwin was keen to define small-scale enclosed street spaces, and in order to achieve this goal it was necessary for a special Act of Parliament to be passed which exempted the Hampstead Garden Suburb Trust from the local by-laws and empowered it to make its own.

In this context, particular attention was devoted to designing road cross-sections. The possibility opened up by the Act of Parliament meant that less land needed to be devoted to roads and more could be used for gardens and open spaces. As stated above, the roads themselves could also be designed differently to give them the character of open spaces. Carriageway widths were reduced and footpaths were sometimes omitted altogether, being replaced with grass verges. Nevertheless, despite this provision, the distance between houses facing each other across a road had to be maintained. The road layout too was carefully designed in order to give an organic feel and to orchestrate views and sight-lines. Attention was also given to the design of building lines in order to be able to define groups of houses, while the careful positioning of buildings around road junctions allowed for the definition of visually enclosed spaces in line

with the principles enunciated by Camillo Sitte.

Further open space elements which were important in helping to define the overall character of the public realm within the Garden Suburb included 'village greens' and open courtyards, as well as the provision of areas of allotment gardens where tenants could grow their own vegetables. In addition existing areas of woodland were retained and made freely accessible to all residents. The main formal open space was the central square, which was identified at an early stage by Henrietta Barnett as the centrepiece of the Suburb where the main public buildings were also located.

The Hampstead Garden Suburb Act of 1906 is considered as the first specialist town planning legislation in Britain and formed the basis for later national town planning legislation. It also required the Garden Suburb to be created for people of all social classes, and called for the provision of gardens and open spaces as well as other 'special amenities'. In addition it defined the average residential density in terms of eight houses per acre (approx. 4000 m²). While Unwin made use of the Act to define a varied typology of streets and road cross-sections, the design of the buildings was left

largely to the individual architects.

Parker and Unwin themselves were responsible for designing and building many of the characteristic Arts and Crafts 'vernacular' style houses and cottages in the suburb, while their 'consultant' – Edwin Lutyens was responsible for some of the more formal buildings and in particular those on the main square. He designed both of the two churches, one with a spire the other with a dome.

Henrietta Barnett's idealistic aim was to create a not just a new development, but a social experiment – somewhere where people from all social classes could live together in well-designed housing. Initially this goal was successful, but as time went on and the Suburb expanded, more commercial objectives began to play a bigger role and the original Trust which defined the initial principles for the Suburb, began to lose influence.

Today Hampstead Garden Suburb is regarded as one of the most desirable areas to live in London and as a result has some of the highest property prices in the country. The list of famous people who live or have lived there bears witness to the ultimate failure of this social experiment as a means of bringing together people of all social classes.

Although the planning and design principles of the first Garden City at Letchworth were also applied by Parker and Unwin at Hampstead Garden

Fig. 37_ Location of Nowa Huta on the City plan of Cracow (made by K. Adamczyk-Mucha, 2013).
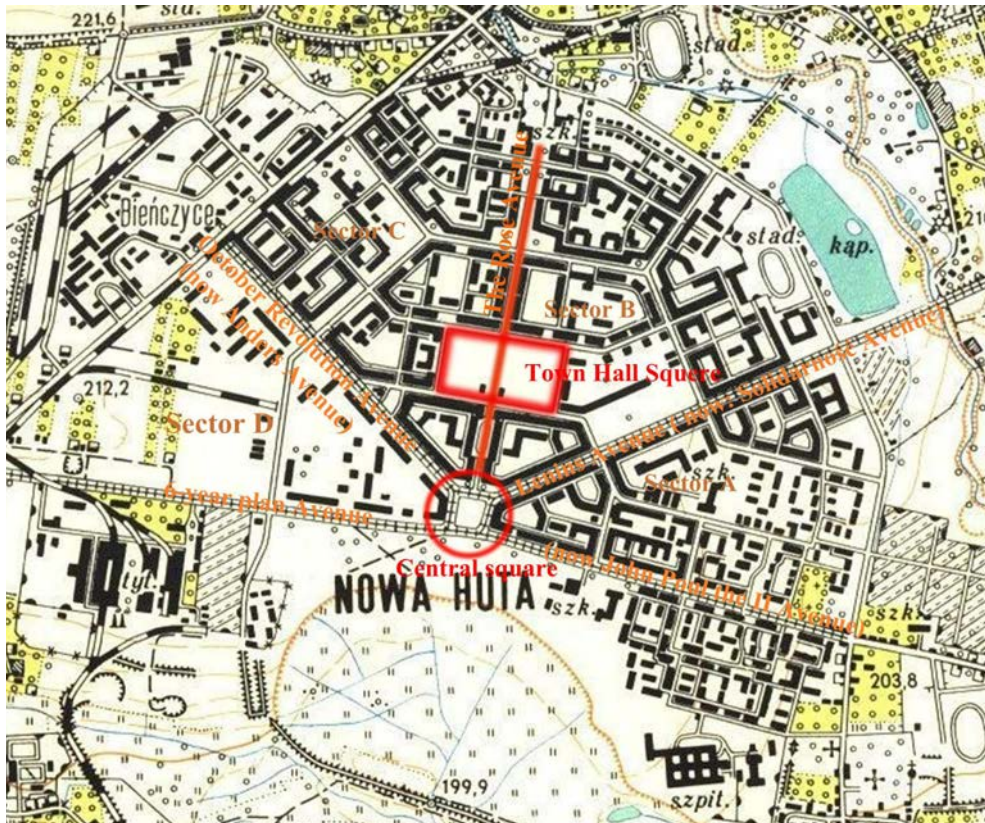
Fig. 38_ The map of Nowa Huta, 1961. (Zarząd Topograficzny Sztabu Generalnego - Warszawa 1961 r. /Kopia z egz. Nr 3, http://www.lapajer.webd.pl, 2013).

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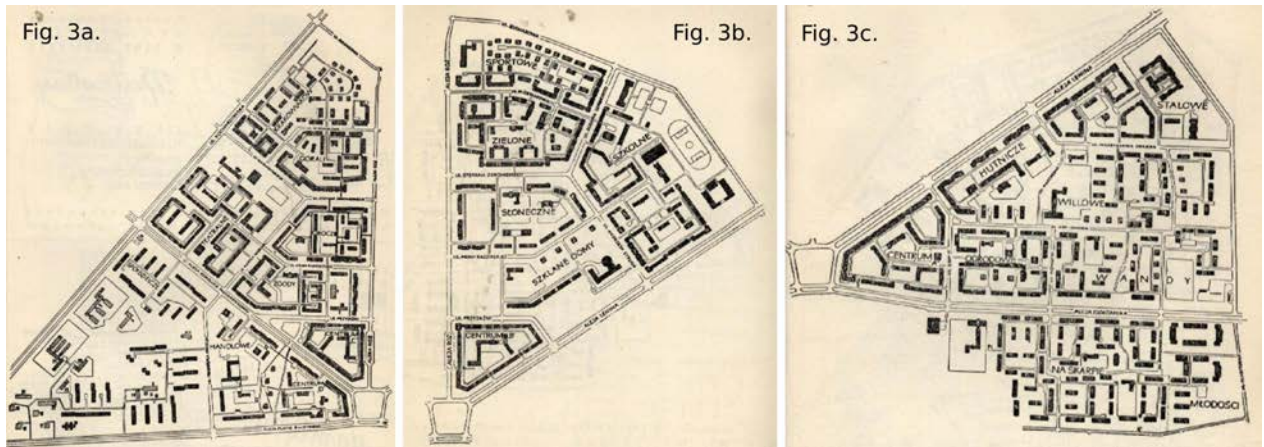
Fig. 39_ Layouts of Nowa Huta from 1959, a – sector A, b- – sector B, c – sektor C and D
http://www.lapajer.webd.pl

Suburb, it nevertheless departed from Ebenezer Howard's vision for a 'true' Garden City, in that it was not an economically self-contained settlement well away from the catchment area of an existing city, as he had envisaged. Despite this, it is regarded as a highly successful example of early British town planning. Its initial egalitarian social goals were certainly in line with those of Howard, and its enduring popularity as a place to live – now for relatively wealthy residents, reflects the success of creating a planned development in which landscape and open space played a central, if not explicit role – except perhaps in the name of the project.

3.2.3 Nowa Huta - the socrealistic city
Background, ideas and history of creation

The reason to build The Nowa Huta city were not only economical, but also political. The economic motives were strongly related to the "six years long plan" (1950 – 1955) - tough and rapid

Fig. 40_ Model of Nowa Huta central part. On first plan the is unrealised building of Town Hall, 1951
(From collection of Arkadiusza Sitarskiego, fot. W. Łozińskie,www.architama.pl , 2013)

industry development plan for Poland - what was treated as a base for socrealism. The metallurgy and machine industry, important in military in case of new war were introduced.

At the end of 1946, Josef Stalin proposed President of People's Republic of Poland - Bolesław Bierut - to locate in Poland the great ironworks. There was no chance to reject such proposal. There were 3 serious proposals to locate the new factory – including area between Gliwice and Pyskowice. But this region had belonged to the Germany before second World War and in case of a new war it would be probably to lose the factory. It was decided on 1st of February 1949 to locate ironworks nearby Krakow. The region has very fertile soils and it was very intensively cultivated. Because of the cessation, many farmers lost their land and harvests. It is said that the government payback just 5 – 10% of lost value.

Krakow as a historical and cultural capital of Poland, started to have new socialistic neighbours with new citizens - symbols of new builders of new Poland.

Before the master plan of Nowa Huta was completed, it was announced a competition for housing estate. The winner was Franciszek Adamski. According to his project, the first stage was to build two floors gable multifamily houses with no services in the ground floor. The shape of the buildings refer to houses in the riverside district in Warsaw to – the Mariensztat – the housing estate rebuilt as a first of all areas completely destroyed during Warsaw Uprising of 1944.

In Nowa Huta for the first there were built the peripheral working class houses. It was said that the bricklayers' team needed to practice before realisation of central district. The districts named „Wandy", „Na Skarpie", „Teatralne Krakowiakow", „Górali", „Sportowe" and „Zielone" were first completed.

The metallurgical conglomerate and the habitat were situated on an area of 76, 42 km2. According to the plan, the living district should be ready to use two years before the factory. That is why some of the buildings were constructed with no architectural plans. In 1949 architect Tadeusz Ptaszynski became a general designer and project manager. The fact that the master plan and some building projects were completed after realisation of investments created many complications. It needs to be said that the functional programme of the city was done in 1950, a year after first building works were started.

The project of the central part of the city was completed in May 1952. There were located eight floor residential blocks with shops and other services on first and second floor. The buildings of administration were concentrated around the Town Hall square. The cultural institutions were located at the Central square, were also was special area for a monument as a symbol of relation between the city and the conglomerate. In the Cultural Houses, there were a library, a theatre hall, a bookshop, a day-care room and a restaurant. Also the sport objects and sport equipments attracts the architects' attention.

Fig. 41_ Block of flats number 7, Centre housing estate, Sector D, 1963, (From collection of Historical Museum of Cracow, fot. D. Zawadzki, www.architektura.muratorplus.pl, 2013).

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The main rounds of travel shows the main directions and were treated as a symbols – „the axis of conglomerate" was the „axis of work", and „the axis of city centre" which linked Century Square and Town Hall Square was the "social axis". Along the "social axis" were located party's head office, trade union and social organisation offices. In the city hall was planned to place a Regional National Council. The northern part of the promenade was designed as a walk promenade. In September 1952 were finished the plans for building around the Central Square. The next year it was given the names for the main streets in the city – e.g. The Lenin's street, Leader Workers' street, 6-year plan's street.

According to Tadeusz Ptaszycki's vision, the city was planned for 100 thousand inhabitants. The main streets of Nowa Huta give shape of an isosceles triangle. On the southern east, it is enlarged by housing estate complex – Na Skarpie and Młodości. All main roads were located by using historic routes, e.g. first was completed Kocmorzyckiego street, with partly kept old trees. It is former road leading to Sandomierz. The residential area was separated from the conglomerate by 1.2 km wide belt of open space with greenery used for recreation and sport. In the urban communist ideology, squares and arteries had very special role. These were spaces for manifestation in communistic views.

All the factors cause that Nowa Huta invokes to Haussman's conception of urbanism, tradition of neighbourhood units and garden city movement. The main sectors with central districts for 15 thousand inhabitants are divided in to subunits for 5 thousand inhabitants and a school in the centre.

The urban concept is based on central square, were stars the main roads of travel. All of the roads have a tramline except The Rose avenue, which is directed to the north. The Rose Avenue is 50 m wide, has greenery reserve between buildings and roadway. It stars in Central square and ends in front of gate to stadium „Wanda". The Rose Avenue constitute the main axis of symmetry of urban sectors.

Main roads of communication devide Nowa Huto in to sectors and create a frame that is individual for each sector. The streets start in sector D are not straight continued is sector A. Therefore, the layout is symmetric but only in outline.

The Sectors are divided in to units. Each of unit is an independent district with school, kindergarten, day care centre, bars and restaurants. In addition, the spatial structure was organised in terms of altitude. Low freestanding buildings surrounded peripheral estates. The cubic of objects increases towards the monumental area of Central Square.

In terms of stylistic architecture of Nowa Huta is very diverse and reflects the character of the individual quarters and neighbourhoods. The buildings around the Central Square and the main streets
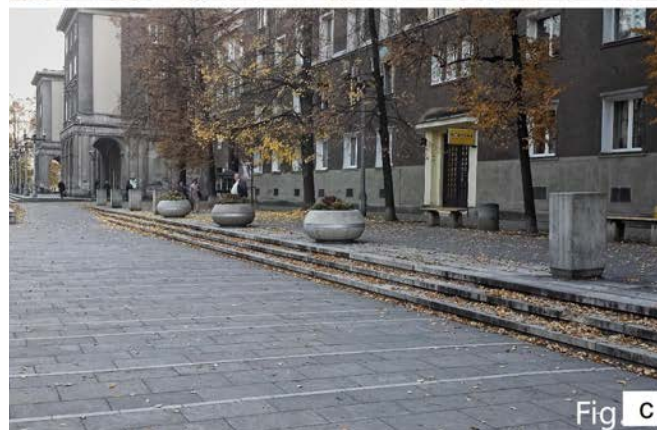
Fig. 42 (a-c)_ The Rose Avenue (photo: E. Baran, 2013).

refer directly to the demands of socialist realist architecture. Particularly noteworthy is the neoclassical architecture of the buildings located at the Central Square designed by Ingarden. The distinctive compositional distribution is based on among others a tripartite division of the facade and the use of arcades in the blocks immediately adjacent to the square. Some of architecture researchers compare the Administration Centre of Nowa Huta steelworks to the Doge's Palace and the Vatican.

It needs to be mention that Nowa Huta was never finished. The lack of important elements can be seen in the centre. Since the implementation of the full program was abandoned around

Fig. 43_ One the courtyard in Centre housing estate, used for recreation as a half-public green area (photo: E. Baran, 2013).

1955. Construction of a community centre has been abandoned in 1953. The is no Town hall with a high attic, heavily accented portal, spreading staircase and monumental tower. Also further projects were foregone: The is no Cultural House with two floors colonnades in the southern frontage of the Central Square and the great obelisk in the middle of that square, which was supposed to be visible from anywhere in Nowa Huta. It was abandoned the decoration of buildings like sculptures and reliefs.

In 1960, it was calculated that in ten years built 50,000 chambers in 18 thousands of apartments, 90 km of streets with pave roads, 550 km water supply system, sewerage system and heating system, 15 school buildings and hospital for 840 beds.

The society of Nowa Huta

Construction of a new town caused that mainly the villagers settled there, who came here in the hope of higher wages. Most of them had no idea about life in the city, so there were cases of farming poultry or pigs in the bathroom or walking in a bathrobe and curlers on the streets. The new community built by the poor from the countryside and criminals forced to come the site.

The reports indicated that in Nowa Huta were cramped conditions, vandalism of property, there was neglect in health care, thriving prostitution and drunkenness, corruption and theft accompanied by new investments, and there were a lot of problems with new workers.

Nowa Huta nowaday

Unfortunatelly it is easy to find an urban intervention from seventies and eighties. As a mistake can be treated a ten floors block of concrete slabs or closed the Rose Avenue by accidentally located detached housing estate.
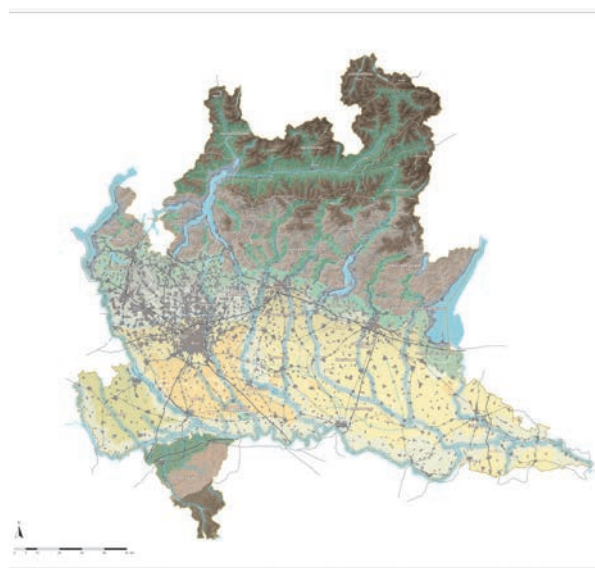
Fig. 44_ Region Lombardia: landscape and cultural heritage map

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It needs to be said that very late there were located churches in Nowa Huta. Thirst was church on the Glass Houses district. Then in 1998 the church designed by prof. Witold Cęckiewicz was built and since that time the Sacred Heart church is still under construction.

A few years ago, there was an idea of involving the Nowa Huta on a list of monuments, but it was not realized. Currently Nowa Huta is protected under local law, which seeks to determine the barriers to transformation that could permanently change the character of the place.

3.2.4 Landscape strategy for the new milanese metropolitan area

In the last decades, Lombardy became one of the Italian Regions driving a change in the landscape planning creating greenways, green belts, and penetration areas through the urban consolidated tissue. This was a slow but very important work conducted in parallel with the construction of new infrastructural structures. A lot of projects tried to solve the main problem the typical Italian political fragmentation let to the last century planning programmes, creating islands containing every function inside of them. With the introduction of the Regional Law that transformed the "PRG" (Urban General Plan) into "PGT" (Territorial Administration Plan) the Municipalities could asked to create a new kind of planning process where the plan can affirm its rules over a wider part of land, trying to glue the fringe of the cluster. To approve the PGT it is compulsory to prepare a "VAS" (Strategic Environmental Assessment) making a comparative study about the impact of the new constructions in the different contests.

In 2005, the Regional Law n. 12 produced several improvements for the landscape assessment, through the capability of the General Plan to receive contributions from different type of processes, and to recognize it like part of it. This procedure and the work made by a lot of associations and citizens create a lot of experimental practise able to discuss on landscape in a different way regarding the Italian's old one. These examples want to change the way to think about territory from a human being centred vision to another one more careful about nature and wildlife trying to allow them in collaborating together.

This is the context where the case study presented in the next sub-chapter origins. His force stays in ruling the space creating a mainframe that reconnects areas and gives continuity to the landscape through one of the main European corridors (the River Ticino Valley) from Switzerland to the Po

River till the Adriatic Sea. All the work made in the last decades tries to solve a problem only the actual world economic crisis could solve the land consumption. The disappearing of the industrial sector opens the door to the logistic and services one, fields needing more and more infrastructures to connect and transport goods and people.

Having won the 2015 International Exposition, Milan will attract many investments helping Italy to escape from the 2008 crisis, but creating new spaces able to attract people and goods during the EXPO's 6 months in 2015 Milan is risking the loss of an enormous amount of green areas involved in the construction of new infrastructures and buildings. Hopefully, Municipality and enterprises should take in account the enormous fatigues done to react to the industrial crisis in the 90s, but this is not sure at all.

Regional landscape trends around Milan

In the last 20 years, all the areas of the Po Valley had an enormous development of construction. The index of the land consumption reached in some case the 4.39 hectares for citizen. The national law introduced in the 1991 the Protected Areas. The law generated a great environmental movement that tried to develop natural areas and sanctuaries were the human beings respect the ecosystems' time and spaces. At the same time the law generated also, the idea that all the territories outside the "Natural Areas" borders can be used alike a 'tabula rasa' for new development and constructions. Facing this problem Milan the administration all around Milan pushing by association and citizens recognised the importance to create an integrated green system. The "Parco delle Groane" for examples is a regional park with an extension of 3,600 hectares and probably represents the Southerner moorland of Europe. It resists to the pressure of Milan, Saronno and Rho urban areas to preserve wide wetlands, that are very important for many migrant birds' species. Natural areas work altogether with the "Navigli Canals System" centred in the Darsena, the inner harbour of Milan connecting the dry lands where the town developed with the Ticino River and Lambro River Valleys, rich of water. The Ticino Valley Plan was organized in 1973 and represented the first Regional Park in Italy. Its extension is more or less 91,000 hectares and connects the Maggiore Lake with the Po River. In 2002, the Park received the mention by the UNESCO of Riserva della Biosfera (Biosphere Sanctuary).

The Ticino Park has an enormous importance in the equilibrium of the Region representing one of the main axes of the European Ecological Corridor, allowing the free movement of an enormous amount of animals. "TIB – Trans Insubria Bionet"

Fig.45_ Project P.O.A. in the Parco del Lura for promote biodiversity with native seeds

is an experimental project for the reconnection and de-fragmentation of green areas in the Lombardy's Province of Varese:

Projects like TIB are so important because the correct development has a ripple effect on the landscape, pushing other authorities to treat not-built areas like important places, valuable like they are, for not only living or working. Solving the fragmentation of spaces is not a simple question for a society whose territory is a hand-made product developed century after century. The concept of green net and ecological corridor has to be explained to the citizens also in a functional way. Seems strange to say that, but for the citizens is not so easy to think about the landscape valorisations. Facing the crisis Public administration has more and more interest in educate citizens and landowners to qualify the landscape resources. We need only to think how to improve the participation of landscape-maker to reach the goal of land continuity.

This is the case of all the areas around cities. To answer the problem Regions as Lombardy introduced experimental areas to connect the Natural Areas stopping land consumption, preserving biodiversity corridors and improving the quality of the Flora and the Fauna. This policy instrument called "PLIS" – Parco Locale di Interesse Sovra-comunale (Sovracommunal Park) was created by the Regional Law n.86 of November 13th 1983 but was largely used only from the '90s.

Such areas largely are along the secondary rivers; less controlled then the main ones. The poor attention about the state of the ecosystem of the surface-water creates an extremely dangerous situation for people and the environment. The PLIS, if well programmed and equipped with tools and instruments to control the areas, can act like a co-ordinator for the other authorities, linking them with the operator on site. Around Milan "Parco del Lura", characterized by a polluted "red" river course, and "Parco della Media Valle del Lambro" work with the Politecnico and University of Milan to create an experimental phytoremediation plant and to recreate a balanced environment on the North and East of the metropolitan area of Milan. The 'Centre for Urban Forestation' in Milan, with

Fig. 46_ Figure Bergamella's vegetable gardens at Sesto San Giovanni (Milan) - credits Comune di Sesto San Giovanni

its consolidate experience, collaborates with them to promote actions to encourage the land-management directly involving the citizens. "Parco del Lura" in example works to promote little projects with a deep impact on the society like the seeding of Popping and Cornflower in the wheat fields.

"Parco della Media Valle del Lambro", is trying to introduce policies and instruments on the Eastern boundaries of Milan. This area, together with the "Parco delle Cave" (Western Milan area) recovered nowadays after years of exploitation, is not able to regenerate itself. The 2008 crisis stopped a lot of projects done on the areas, so the local administrations tried to develop some inclusive practice to manage green areas. One of these projects was the Bergamella's vegetable gardens. Some facts and figures of the project: from October 2011 till January 2013, 783 working days, 3.083 certified working hours, 62 citizens-workers (and their relatives); 15 q of Eternit, 4,830 q of mixed garbage, 3,460 q of construction materials, 83,6 q of plastic, 1.820 q of wood removed.

The project included also the "owners" of the previous illegal gardens in the removal of all the former structures, saving money reinvested completely in the construction of 50 new gardens with common spaces and woods structures. Landscape became not only a theme of material construction, but also the creation of a place 'common sense' and a moment to recognize the 'common value' to the environment. So, the former "owners" of the gardens enter in a democratic system, participating in the demolition of the old structures earning 'points' for the assignment of the new structures and 50 square meters garden parcels.

Building the ecological network for a Great Green Milan before the EXPO 2015

A quick view on the green structure of Milan, like an x-ray exam, underlines that the metropolitan area has two different structures. The first one on South called "Parco Agricolo Sud Milano, extends its border on 61 municipalities and 1,400 farms. PASM is an agricultural area having a crescent form, where is largely cultivated in wheat and rice. In the North of Milan we can find an opposite situation where the urban growing follows the logic of the sprawl. The city fuses its borders with the hinterland, creating a continuous urban tissue one can see till Switzerland, through urban areas like Varese, Como, Lecco, and so on. More, by January 1st, 2014 Milan will be no more a mere "city". The borders of the actual Province of Milan are going to become the new "Metropolitan City of Milan" with 3,114,508 inhabitants.

Milan after Milan will pass from the historical "Duomo" centric vision to an ecological new one. In the boundaries of the metropolitan areas, one can find the productive system well connected with international and regional transportation system. In these middle marginal areas becomes more and more important for the wellness and the life's quality. In the West side of Milan there are a big areas taking a great importance in an ecological connection strategic vision. This area situated between the Ticino River, the Malpensa Airport and the Western suburbs of Milan. Fragmentation of policy creates a not homogeneous system that is always near to collapse for pressure and pollution problems.

Fig. 47_ One of the lake of parco delle Cave.

During the last 30 years some initiatives tried to repair the lack of attention about these areas. The first one was the process begun by CFU (Centre for the Urban Reforestation) with Italia Nostra to rehabilitate a derelict gravel pits area. In fact, the CFU founder betted on the recovering of the "Parco delle Cave" area, and one of the most important moments for the park creation was the campaign for the "reconquering" of the territory from the not appropriate uses that found place in the area after the end of the excavations.

This strategy based on minimal interventions, restored -year after year- something like 135 hectares of artificial lakes, woods, abandoned vegetable gardens, etc. In the '90s asleep citizenship were not able to propose a solution for the areas, so Municipality had designate a group of experts to design the park, independently from the public opinion. This freedom of choices allowed the designer to create a little wetland where 'cultivate' biodiversity typical of the wet areas. Nowadays the lakes, the wet area and the farm are the main attraction of the Park visited every year by thousand of schools and people.

"*Parco delle Cave*", "*Boscoincittà*" and "*Parco di Trenno*" are the Western spine of the green net of Milan. The three areas, each one with a high value, are split one from the other. This condition does not help the territorial continuity that is essential for the connection between the core areas of the ecological net. All around the parks, fields and agricultural areas have to be the corridors to link the core areas all together inside the urban belt. Working hard to improve quality of the land assessment, varying the plantation techniques, introducing hedge and rows of shrubs and trees help to improve the condition of this urban environment.

In the last few years the oil cost grew-up and a new students and younger's life-style is imposing in the Milan a new debate on the presence of bicycles. Following the biggest capitals in Europe, Milan is now creating an organic system of bike sharing, that day after day is extending its station to rent bicycles. After what happened in London and Paris, the bike movement "salvaciclisti", born as a defender of the slow lifestyle, is now promoting some change in the open spaces and their policies. "salvaciclisti" campaign uses the media passing information and suggestions to car drivers and pedestrian about little actions to respect the others typology of mobility. After the success of April 28th 2013 manifestation, the movement helped by a historical association, drafted some proposition to the Municipality. Milan is becoming more and more bike-friendly, even if its structure and infrastructure are not so prepared for hosting all the typologies of transportation. The success of the campaign "Go to School by Bike' presented in Reggio Emilia in 2003, now on promotion in Milan, is stimulating parents to accompany children to school shepherd by a bike "critical-mass" that protects them by any "cars attack". This campaign is now is exporting also in Rome, Naples and Bologna after other successes in pioneers cities as Bari, Pompeii and Rho.

Like all the International Exposition also the Milan's one will become the moment where take care about the land structure with good policy. Landscape is one of the indicators of the trend the city will decide to take. The trend to develop new and organic green areas creating a continuity to build a regional ecological net can develop also thanks to the new movement to change the private mobility modal split, helping the public transport to became more and more used and efficient. Moving people from cars to other greener typologies of transportation is useful also to reduce cars impact on the city, needing less and less infrastructure to manage the incredible flux every day present on the streets and highways through Milan.

A lesser pressure on the urban structure could help in the diminishing of the necessity in building new strips of asphalt in-between the buildings, letting green and empty spaces free to become common places.

Expo 2015 – a lost opportunity or still a chance?

Milan changes were slow and deep. The urban tissue are so dense that also real estate need a lot of time to build new part of the city letting the citizens and institution get use to them. Expo 2015 accelerate the way to think the city, pressed by the time goes fast. Milan just received the participation for the exposition by the majority of the nation so the fair will be a big attraction all over the world. To host all the people coming in 2015 city decide to build the site not in Milan municipality area but in an empty area on the north-western part of the city, more or less 10 km far from Piazza del Duomo.

The area hosting today only the jail of Bollate and the Postal-sorting centre is preparing for the big structure thought by Stefano Boeri where the pavilions of nations are going to stay in the middle of a big garden representing the five continents. In the planners ideas the area after the expo will be a new part of the great Milan offer many square meters of parks, water structure and loisir areas. Even if the presentation of this new part of Milan are fabulous, like Expo campaign have to show, we can say that the area is an enormous enclosure fenced by any sort of infrastructure. Highways and railways create a wall not easy to cross without a means of transport. The choice of the area was strategically link to the infrastructure present in the surround: Highways, railways are connecting it with the European

corridor north south and East west.

In the mind of the architects were a dream to link Expo site by a canal to Villoresi canal on north and Naviglio Grande on south.

Vie d'acqua

One of the main visions for Milan EXPO 2015 is the project Vie d'Acqua that wants to rehabilitate all the path of the Navigli all around Milan. The project does not want only to restore the old Navigli net, but thanks to the introduction of a new artificial canal, it will connect it with Villoresi and Naviglio Grande ones. Aim of the hydraulic project is the introduction of a bypass for the water allowing the continuous flowing of the Navigli when repairs are needed to the part inner the city. In contrast with the expectation, executive project foresee a not navigable canal with all along a new a bicycle pathway connecting Park Ticino ones with the Milanese bicycle net.

The layout of the project presented passing through the existing areas of Parco Pertini, Parco di Trenno, Bosco in città, Parco delle Cave and Parco dei Fontanili cuts most part of them in the half. Citizens, administration and parks offices are so

upset for this project, especially in its "water" part for the large amount of problems the infrastructure will create without providing any new opportunity. In the end we can think about the project linking expo site to the city that are quite modest for an international expo centre the vision on the spot 'Feeding the planet, Energy for Life'. Without any solution more the one presented until now, we can say that the 2015 for Milan does not change like in the preview the modal split, and the habits of the citizens. Reasoning about green areas and agricultural field the hope is to see after 2015 some innovation in the cultivation strategy passing more and more to a different life style trying to preserve land quality, vegetal diversity throw a more careful approach to the agricultural sustainability than today. Only in this way we can really connect all the Great Area of Milan in a continuous tissue innervated by Ecological connection.

U3.2.5 Seestadt Aspern, Vienna 2005

After a long period of declining population; which began with the end of the Habsburg Empire in 1918 and ended with the fall of the Iron Curtain in 1989, Vienna's population has started to grow
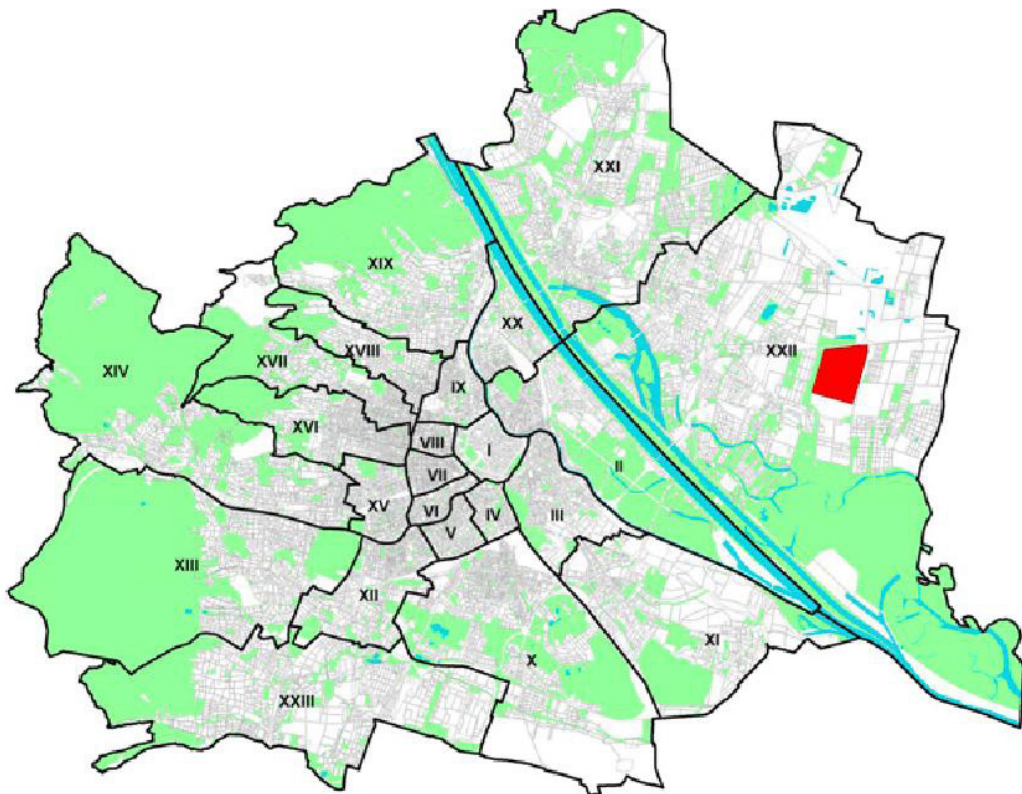
Fig. 48_ Location of the 240 ha site for the Seestadt Aspern in Vienna's 22nd District.

again. This has created the need for a new wave of urban expansion, and the latest urban development project – the Seestadt Aspern – which is planned as a new urban centre for 20,000 people, is being constructed on the far side of the Danube, some 17 km from the historic city centre .

About one third of the present area of the City of Vienna lies across the Danube, but for most of the city's history, it did not belong to Vienna, and as a result it now presents the greatest potential for the growth of the city. Here, on the former site of Vienna's first airport, which opened in 1912, the city's largest and most ambitious urban expansion project has been under construction since 2010. Like the EUR project, the Seestadt Aspern, which translates roughly as 'Aspern Lake Town', represents a self-contained attempt to create a modern urban development reflecting what are seen as the latest architectural, planning and landscape concepts.

Background – the development of 'Transdanubia'

By the end of the Austro-Hungarian Empire in 1918, much of the existing area of the city was already built up, but from 1908 the area of the city expanded across the Danube to take in almost half as much land again as the imperial capital had previously covered. In the period leading up to the First World War, the population of Vienna was larger than it is today at over 2 million, and still growing.

The expansion of the city across the Danube was made possible as a result of the regulation of the river, a mega-project which was started in 1870. It was achieved with the help of second hand machinery that had previously been used to excavate the Suez Canal, and took until 1876 before it was completed. Until then, the former multiple channels of the great river took up an area of several hundred meters in width, and regular floods meant that the braided river had until then acted, not just as a massive barrier to the expansion of the city, but also as a constant threat to those areas, which were built close to its banks.

With its regulation, the Danube was effectively 'tamed', and it became possible to use the land on both sides of the new canalised channel, which was previously part of the river and its floodplain, for urban expansion. However by the point at which this expansion would have been necessary, the collapse of the Austro-Hungarian Empire following the First World War meant there was little need for further urban development, and the scattering of rural villages which had previously occupied the area, on the other side of the Danube and the large

Fig. 49_ The site of the Seestadt Aspern with the former airfield runways and the General Motors factory to the bottom left of the picture.
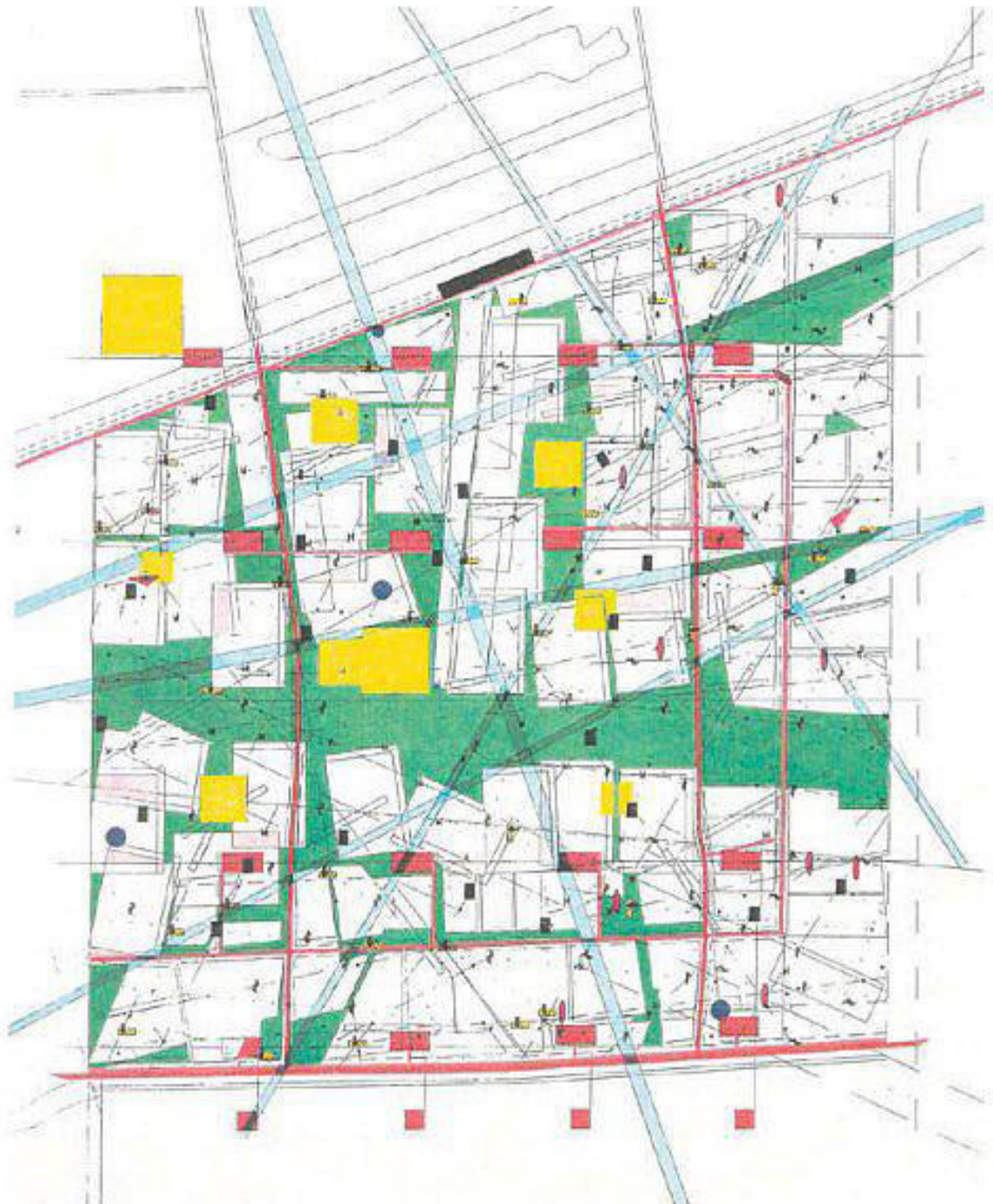
Fig. 50_ The winning scheme of the 1993 competition for a master plan on a part of the current site for the new Seestadt.

areas of newly reclaimed flat land continued to be used predominantly for agriculture.

In the nearly 100 years since, the new districts of Vienna across the Danube have indeed been the location of urban development leading to the expansion of the city, but this has tended to take the form of a confused patchwork of individual developments and architectural experiments on seemingly random parcels of land, and at a wide variety of scales. One of the largest areas to remain largely un-built until recently was Aspern Airfield. This is now the

site of one of the largest green field development projects in Europe.

Aspern Airfield – Site of the new 'Lake Town'
The Airfield opened originally in 1912 as one of the largest and most modern in Europe. It continued in both civil and military use throughout the 20th century until being gradually superseded by the growth of the current Vienna Airport at Schwechat, and it finally closed in 1977. In 1980 a massive
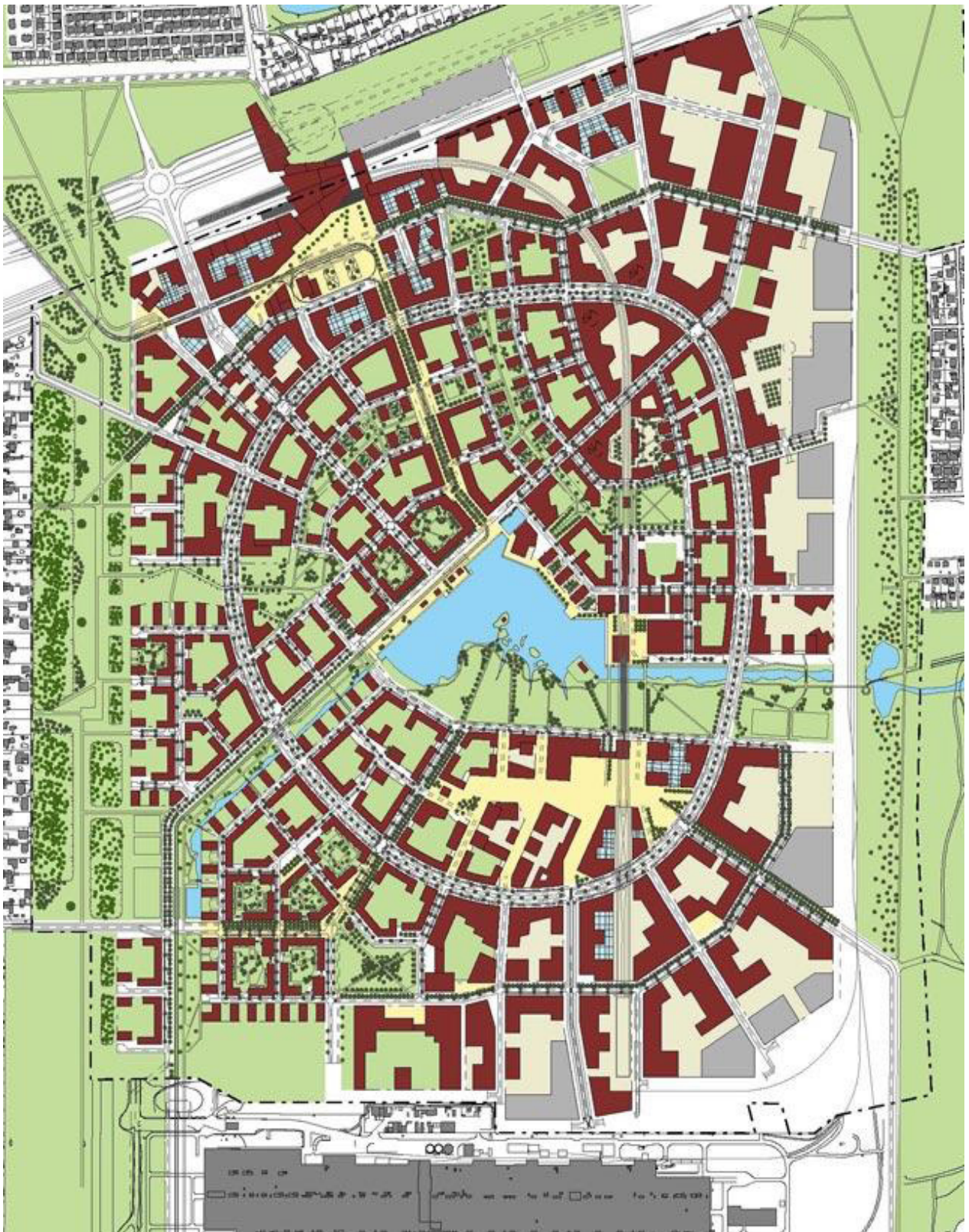
Fig. 51_ Revised version of the competition winning master plan for the new district.

Fig. 52_ 'Score' for the Public Realm, by Gehl Architects, Copenhagen.

Fig. 53_ Winning competition design for the Seepark by Lavaland & TH Treibhaus Landscape Architects, Berlin DE.

new factory covering 20 hectares for producing car engines and gearboxes was erected by General Motors on the southern end of the site, but the majority of it still remained unused.

With the expected expansion of the city following the fall of the Iron Curtain at the end of 1989 and the resulting expectation regarding the growth of the city, a limited competition was held for the design of a new district for 10,000 people on what was a smaller part of the site of the current project, and without the assumption that it would be integrated into the city's underground network. The competition was decided in 1993 in favour of the entry of the Vienna architect Rüdiger Lainer. He proposed an urban design master plan based on a seemingly almost mystical and barely comprehensible superimposition of multiple layers of different grids, axes and vistas, with the explanation that "the rules of classical composition no longer correspond to societal realities; forms have lost their capacity to mean".

As if to confirm the inherent 'unplanability' urban developments in today's complex world, that was the claimed justification for approach adopted, the areas marked in green on the winning urban design master plan are described as 'intermediate spaces'. It seems that whatever the inspired concept that led to this overall plan, the urban open space network still takes the form of good old 'SLOAP' – Space Left Over After Planning. Work continued for two years on developing the winning concept, but due to problems with financing the necessary infrastructure, the project was not pursued further, and indeed quietly forgotten by the city.

The Second Aspern Master Plan Competition 2005

The expansion of the European Union in 2004 to take in new member states, three of them immediately neighbouring Austria to the north and east, provided a convenient justification to hold a new competition for a new master plan. This time, the brief for which called for double the number of residents for the new urban district, and thereby a new concept with a higher density of development.

It was stressed in the competition brief that the size and location of the site within the newly expanded European Union and situated between the two European capitals of Vienna and Bratislava, demanded a solution which responded to its new 'Central European' context rather than just a simple urban expansion scheme. The brief spoke of a 'city within the city' approach being called for. This was perhaps the acceptance of a necessity given the fact that the site is bounded on all four sides by barriers to integration with the surrounding urban fabric and landscape.

Landscape and open space factors were nevertheless given appropriate prominence within the competition brief, with attention being drawn to the importance of preserving the two north-south green wedges bounding the site to the east and west.

The winning competition entry, by Tovatt Architects and Planners of Stockholm, Sweden took the form of a self-contained, almost introverted composition organised concentrically around a central park with a lake. A ring road provides the main vehicle circulation route, and begs comparison with the historic 'Ringstrasse' in the centre of the city, while the grid-like perimeter block development is also

reminiscent of the urban development in Vienna during the late 19th century. Its conservative layout and almost historical approach also contrasts radically with the previous competition winning entry of ten years previously. Apart from the circular and radial layout of the circulation system, the main identifying characteristic of the design is the central park with its lake. This has in turn provided the basis for 'branding' and marketing the new development.

Part U 3.3 Reflections on the EUR area

This is the map built by the participant link the feeling of the place during the survey with the knowledge background of each ones. to build it the main problem was to give a function and a meaning to the different space. this operation is the one that create a lot of problems but is the only one capable to reconnect the urban spaces with the natural ones.

At the end of the work the group touch a lot of problems, but were not capable to propose theme a solution because the poor knowledge of the real quality of them, so the decision was to propose a list of proposal capable to drive a management and a planning strategy for the next 20-30 years or more:

•Maintain the original plans
•Integrate local character with future development plans
•Develop ecological, social, economic sustainable equity
•Stitch the EUR to the rest of the city
•Make use of new linkage to enhance existing urban biodiversity
•Consolidate existing open spaces to optimize future development
•Particularly run the floodland for the social equity
•Use green infrastructure to enhance inclusivness and urban democracy by public participation
•Introduce urban agriculture as social, ecological and structural element of sustainable development
•Evaluate EUR identity with the context of Roman identity

Part U 3.4: Research Issues and Potentials arising from EUR researching the subject: gaps in research and potential areas to focus on in the future)

The main aim of this section was to find the "gaps in research" and to discuss the potential areas to focus on in the future. Below, one can find a survey of research topics related to metropolitan landscape.

Overview of the research topics that deal with metropolitan landscape

Research into the physical, social, aesthetic and conceptual potential of landscape for understanding, ordering and acting in metropolitan territories has gathered pace in recent decades. Studies addressing formal structural characteristics of urban landscapes in relation to social, economic and environmental aspects of large urban regions have been published by Rowe (1992), Sieverts (1997), Giro et al. (2003) and Tress et al. (2004). Oswalt and Baccini (2003), Bolling and Sieverts (2004) and Lampugnani and Noell (2007) investigate the metropolitan landscape with networks and edge conditions as points of departure. Wooley (2003) and Thompson and Traviou (2007) focus on the importance of open spaces to society, individuals and urban life. Steenbergen and Reh (2011) address formal aspects of the urban landscape and elaborate on relevant landscape architectural principles for spatial development. Waldheim et al. (2006), Czerniak and Hargreaves (2007) focus on landscape infrastructures as spatial armatures for urban development while Forman (2008) elaborates on the landscape ecological conditions for urban landscapes. To what extent landscape, in the sense of a permanent underlying substructure, visual, physical and conceptual open space and as a conceptual and instrumental "vehicle" of nature, has a bearing on the resolution of metropolitan problems is the broader aim of these inquires. Yet, even all these "schools of thought" have developed in research and praxis on landscape and its physical, social, aesthetic and conceptual potential in relation to metropolitan territories present state-of-the-art research still needs to tackle several relatively new topics: resilience and social natural systems and relation of landscape and ecosystem services.

The metropolis is an unstable, dynamic environment in which elements of the contemporary city re-array themselves in an urban-landscape system. Therefore it is important to explore emerging role of landscape in understanding, ordering and acting in metropolitan territories by answering these questions:

What are the processes and patterns particular to metropolitan spatial development, and how can planners and designers use landscape to understand order and act within it?

How can we comprehend the visual multiplicity of the metropolitan landscape? And how can we make this operational to landscape planning, design and management of metropolitan areas?

What is the potential of landscape and green spaces in structuring, organizing and programming metropolitan territories?

The ways to study metropolitan landscapes

The majority of industrial, residential, peri-urban and mixed-use urban tissues in metropolitan areas are characterized by varying densities and forms of built and un-built space which differ markedly from that of compact (historical) urban tissues and open countryside. Viewed from the perspective of traditional urban and landscape realms, these conditions challenge existing categorizations and qualifications and literally 'disappear off the radar' of the spatial disciplines. The limitations of existing approaches to classify and qualify metropolitan landscapes restrict our comprehension of the physical extent and character of the urban – and rural – realms in large urban regions (Tisma et al., 2013). Moreover, given that the number of citizens living in these areas, it is important to recognize and understand the character of these landscapes. This is an important basis for subsequent studies on their perception and valuing by metropolitan communities. Given the hybrid nature of metropolitan territories, the tools and methods to study rural and urban landscapes should be combined.

There are a number of different approaches to land¬scape typology and systems for landscape classification (Lipský and Romportl, 2007). As a result, landsca¬pe can be categorized according to a wide number of classification variables ranging from climatic, cultural or land use, but few of these are directly appli¬cable to urban areas. Conversely, typologies of urban space generally stop at the administrative city border whereas administrative borders are becoming less and less crucial for urban processes and actors driving urban development, planning and other spatial policies. Looking specifically at urban and peri-urban landscape classifications, the literature shows very few classifications that treat urban and rural landscape together. The most important exceptions are the landscape typology and characterization for the federal state of Belgium (van Eetvelde and Antrop, 2009) and the European Urban Atlas (http://www.eea.europa.eu/data-and-maps/data/urban-atlas). In the following text we present a short overview of the methods for rural and urban landscape classifications.

Brief overview of existing landscape classification methods

Depending on which elements are used to define the distinct types, landscape classification methods can be broken down into three main categories (adapted from Berendsen, 2000, Groom, 2005, and Nijhuis and Reitsma, 2011):

Biophysical landscape classification:
this category addresses the internal coherence between landscape factors focussed on key-aspects of form and functioning of the natural landscape, such as: soil, geomorphology, climate, vegetation and land cover. The typologies are usually mono-thematic in nature. European examples include: Geomorphological regions of Europe (Embleton, 1984), Ecological regions in Europe (Painho and Augusto, 2001), the Soil atlas of Europe (Jones et al., 2005), Environmental zones of Europe (Metzger et al., 2005), CORINE land cover (Bossard, 2000). National examples include: Soil-based landscape typology of the Netherlands (Edelman, 1950; Jongmans et al., 2013), Flora districts of the Netherlands (Van der Meijden, 1996), Geological landscape typology of the Netherlands (TNO, 2009).

Anthropic landscape classification:
this category addresses the specific structure and development (genetic succession) of the landscape, focussed on the human influence on the landscape form, such as: agriculture, forestry, recreational uses, mining, and infrastructure.

The typologies usually combine factors like soil, climate, management system, historical aspects, land use dynamics. European examples include: the pan-European landscape typology by Meeus (1988, 1993, 1995), ENVIP-nature map on landscape types (JRC, 2002), European Landscape Classification-LANMAP2 (Mücher and Washer, 2007; Mücher et al., 2010), Map of European Leisurescapes (Wascher et al., 2008). National examples include: Landscape typology of the Netherlands (Piket et al., 1987; Visscher 1972; Zonneveld 1985; Berendsen, 2000), Landscape Atlas of Flanders (Antrop, et al. 2011; Eetvelde and Antrop, 2003), Polder-typology of the Netherlands (Steenbergen et al., 2009; Nijhuis and Pouderoijen, 2013).

Visual landscape classification:
this category addresses the visual appearance (physiognomy) and human experience of the landscape, focussed on landscape perception and preference exemplified by indicators such as: degree of openness, landscape attractiveness, scenic and aesthetic aspects, visual urbanisation and cluttering. The typologies usually combine formal, visual and psychological aspects of the landscape. Pan-European examples are not available. National examples include: Landscape Attractiveness map of the Netherlands (Roos-Klein Lankhorst et al., 2002, 2011), Degree of Openness (Dijkstra, 2000; Nijhuis and Reitsma, 2011), Mapping aesthetic preference (Sevenant and Antrop, 2010), Visual urbanization (Van der Hoeven and Nijhuis, 2012).

Brief overview of urban space classification methods

This overview has no intention to offer an extensive listing of existing methods but to reflect on

several examples that are relevant for the characterization of metropolitan landscapes. Methods for urban space classification depend on the aims of the study they are implemented in, so they will differ when the city is viewed from different disciplines. Taking into account the type of data used for analyses, techniques implemented, and the ways of representation, two main groups emerge: form-related and function-related classification. Form related classification looks at the patterns and forms of urban elements by studying their morphological character; the representation of these studies is expressed is in drawings and maps. Function-related classifications start from land use, adding statistical data about densities of housing, jobs, inhabitants etc. These methods use computational techniques such as statistical calculations or clustering, and represent the results in the form of maps, which can be either grids or polygons.

Form related classification:

within the existing literature, there are two significant lines of studies on urban form. The first corresponds to the tradition of morphological studies, influential in the 1970s and 80s, and the second to more recent studies about the form of the landscape and the territory, which have been conducted since the 1990s (Pinzon Cortes, 2009). For both lines of studies, mapping and drawing are the most used techniques. Urban morphology deals with the knowledge of the logic of form, in this case, urban form. It is studied in several disciplines and involves looking at physical characteristics, structure, relations and transformations of things and their constituent elements. From the existing studies, the main three schools of typomorphology can be distinguished: British, French and Italian along with studies conducted in the Dutch context. (Pinzon Cortes, 2009)

Function related classification:

Here we are using two examples: "Urban Environments" (Stedelijke milieus) Ritsema van Eck *et al.* (2009) and European Urban Atlas (http://www.eea.europa.eu/data-and-maps/data/urban-atlas). For their classification of "Urban Environments" Ritsema van Eck, *et al.* used statistical data on land use, density of housing, jobs, shops, percentage of high rise buildings, office and shopping floor areas. They applied a grid of 250 x 250 meters, covering all of the land area of the Netherlands and grouped it into 18 urban environments (and one non-urban environment) using cluster analysis. This was done for 2000 and 2006 using the same categorization so that the changes could be analysed. Another example of the functional analyses is the European Urban Atlas (http://www.eea.europa.eu/data-and-maps/data/urban-

atlas) which is providing pan-European comparable land use and land cover data for Large Urban Zones with more than 100.000 inhabitants and uses images from satellites to create reliable and comparable high-resolution maps of urban land. The Urban Atlas has a legend designed to capture urban land use, including low-density urban fabric, and expressing it in a level of continuity with a resolution that is 100 times higher than CORINE land cover. The Urban Atlas provides a far more accurate picture of urban sprawl in the fringe of urban zones. It provides relevant data for analysis related to transport, environment and land use.

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Sustainable tourism: strategies for landscape regeneration

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Chapter 1

Introduction

xx The Old Appian Way (photo Marlies Brinkhuijsen)

1.1 Tourist attractions in a multifunctional landscape

The Landscape Forum in Rome built upon the results of the previous, 2012 Landscape Forum in Antalya. In 2012 the theme of sustainable tourism was explored from two different perspectives. Firstly, the character of sustainable tourism in general was discussed. The sustainable tourism programme of the United Nations Environment Programme and the World Tourism Organization (2005) was scrutinized to explore the potential of contributions by landscape planning, design and management. A landscape-based approach to sustainable tourism was defined, and fields for further research were put forward: environmental impacts, product development, and livelihood and quality of life for local communities. Second, the specific challenges of sustainable tourism in the Antalya region were discussed, focusing on seaside resorts.

The Landscape Forum 2013 in Rome looked at another type of tourism-related development. The case study area for the tourism group was the Appia Antica Regional Park, a protected area of 3.400 hectares, stretching from the historic centre of Rome in a southeastern direction to the Alban Hills. The centre of the park is formed by the Appian Way and a system of ancient aqueducts. The potential of these ancient relicts as a tourist attraction is substantial, yet only partially exploited. At the same time the area represents a frequently encountered contemporary problem: the fragmentation of urban fringe, rural landscape, caused by urban sprawl, large-scale infrastructure development and changes in the rural economy. At the moment the area has an important function as an outdoor recreation area for people from the region. Due to these pressures the development of this area from a tourist point of view is not easy.

Whereas Antalya primarily focused on the social, economic and environmental impacts of different tourist facilities, the subject for the tourism group in Rome was the development of the whole Appica Antica Regional Park as a tourist attraction. The aims of sustainable tourism were then applied in a different context, and as in Antalya, the potential contributions of landscape planning, design and management were considered. The conspicuous difference, however, was the multifunctional character of the case study area in comparison with the mono-functional character of the holiday resorts of the Antalyan coastline. This difference shifted the focus from sustainable tourism development to the role of tourism in sustainable development of landscapes, as was represented in the workshop's slogan 'strategies for landscape regeneration'.

1.2   From sustainable tourism to tourism-included sustainable development

Keynote speaker Jaap Lengkeek introduced two statements that set the stage for the discussion. 'Sustainable tourism is not automatically the same as tourism development in line with the principle of sustainable development' (Butler, 1999). This statement perfectly framed the complex problem of the Appia Antica Regional Park. The main question appeared not to be how the Appian Way and the aqueducts could be developed as tourist attractions, but rather how the Regional Park could be developed in a sustainable way, including the development of the Appian Way with its historic monuments as a tourist attraction.

His second statement was that sustainable tourism development goes beyond product-life cycles, cost-benefits, environmental impacts and participatory planning. Sustainable tourism should be interpreted as an 'adaptive paradigm' (Hunter, 1997), taking different conditions as a starting point:

- neotonous tourism (pristine nature and landscape protection);
- environment-led tourism (valuable/vulnerable resources development);
- product-led tourism (economic dependencies / continuation); and
- tourism imperative (economic stagnation / landscape regeneration).

These conditions can be linked to ecology, landscape, social systems, culture, economy and politics. Therefore, tourism development becomes a strategy to achieve other aims, and the four conditions formulated by Hunter can be used as conceptual vehicles for tourism policy formulation. This change of perspective formed the starting point for the workshop.

xx The Appia Antica Regional Park: a green wedge in Rome (photo Sabine Bouche-Pillon)

Chapter 2

Sustainable tourism, sustainable meanings

Jaap Lengkeek

xx Roman cart tracks on the Old Appian Way (photo Marlies Brinkhuijsen)

2.1   The concept of meaning

The concepts of sustainability are poorly developeThe concepts of sustainability are poorly developed in the realm of tourism studies and the tourist industry. In order to better understand and make choices for sustainability in tourism planning and design we should first look at the concept of meaning. Sustainability implies that we intend to deal carefully with situations we value. Values in turn, for now or the future, depend on human attributions or 'meaning'. For example, nature is valuable because we attribute certain meanings to nature

(lists of threatened species versus extermination of natural elements that we interpret as threatening to us). Sustainable meaning may still be valid in the future or can be dynamically adapted according to changing conditions and insights.

Here the context of the social system plays a central role, because human attributions or the meanings of social groups define the common sense reality of all contexts and related perceptions, importance, value, relevance, legitimation and memories. In the presentation Sustainable Tourism – Sustainable Meanings the following aspects figured as dimensions of meaning:

- use or utility for certain purposes;
- experience or the experiential impact on and reference to mental and social systems of appreciation;
- narrative content or the stories linked to situations, places, objects, people etc.; and
- ownership or the appropriation of situations, places and objects according to the interests of who owns or claims it.

These four dimensions are closely intertwined. Narratives play a key role in this interconnection because they are 'expressions' of meaning in shared language, specifying, legitimizing use (which also shows itself), experience (much depending on words for shared subjectivity and appreciation) and ownership (telling who is or was in charge, how or why). History provides good examples of how narratives specify and legitimize other meanings. History and heritage underpins feelings of nationalism and legitimizes the dominance of certain groups over others. Because history is always an interpretation of the past, the history normally changes over the years, with different narrative perspectives, changes in ownership or new utilities. Art history exemplifies the changes in taste over time. History is also almost always 'contested',

depending on claims of ownership. So meaning in general, is contested, depending on whose use, experience, narratives and ownerships are at stake.

The specifications, relations and dilemmas of the four dimensions of meaning find an illustration in the following. Imagine a picture of a rural road, crossing a small bridge, bordered by trees with a house in the distance. In order to develop this particular spot, there are different options. The first dimension is the use value, for instance, improving the function as a road connection between two villages. One can decide to improve the road for automobiles and create a separate cycle track, or remove a number of trees to enhance the safety for traffic. However this may affect negatively the experience, e.g. less green, noise, and loss of rural character. One can also adapt the road for leisure purposes: a comfortable walking track, leisure cycling, etc. Then the row of trees may be more closer planted, to act as a wind shelterbelt. The choice depends on prevalence of different interests and ownership.

Let us then turn to the second dimension, the experiential qualities of the road. The nature of the trees is a poor experiential significance. So replace the trees with poplars. They grow tall, produce a sound of rustling leaves and a characteristic smell. In the wider environment there are more old poplar alleys, linking farmland and houses, and the proposed change here creates a more comprehensive experience of a poplar dominated landscape and rurality.

Thirdly the narrative dimension is interesting. The road is located just outside the Dutch village, called Nuenen. Vincent van Gogh was born there in 1853. He painted the road, as well as other poplar alleys elsewhere near Nuenen, in 1885.

Figure xx: Picture of a rural path in Nuenen, the Netherlands (left) and picture of the same path painted by Van Gogh (right)

The meaning of this little road increases tremendously if the story of the painting becomes directly connected to the place. Much tourism is all about a good story, even if it is not (at) all true. Here it is the same road, beyond doubt. But the trees are no longer poplars and the window of the house is now closed with bricks. To tell the story convincingly and accompanied by a strong experience, one would close the road for cars, soften the road surface, bring back the poplars and make this all a narrative in tourist promotion.

The fourth dimension of ownership and appropriation may introduce a great conflict of interest. The owner of the house may be not amused by hordes of tourists around the house. The car drivers may protest loudly against the closing of the road. The tourist entrepreneurs, seeing an enrichment of their tourism product, may lobby in the community council to add the reconstructed road to the rest of the Van Gogh heritage sites.

2.2   Meanings of the Via Appia area

The example illustrates that a certain emphasis in meaning has consequences in all four dimensions. If, as with the Via Appia area, the question arises how to enhance the attraction of the place for tourists in a sustainable way, the help of the four dimensions can prove to be effective. It seems logical to underpin the narratives of the Roman era, of the remaining structures and objects. But there are different meanings: recreational area for the surrounding residents, heavy traffic around a part of the park segregating monuments from the park, green open space etc.

The sources of relevant meanings lie in ecology and landscape, as general contexts for health, use and experience. Moreover, social systems and culture define meanings of ownership and narratives. The political and administrative context emphasizes ownership and use; economics tends to determine the use of the area for employment and regional income.

An important question is: if the narrative of the Roman era becomes the main element for tourist attraction, what is then the kind of story that fits best into the whole of stories in and around Rome? What meets the interests and identifications of surrounding residents? What story leaves room for other dimensions? And last, but not least, how do we represent a certain story in landscape so it makes the narrative accessible?

Inundation area
River IJssel Defense Line 1953
Barriers
Floating structures
Bunkers
Roads
Guns

xx IJssel Defence Line

2.3 Narratives in landscape design

To elaborate these questions we present a case study, in which the alternatives for narratives and landscape design have been approached systematically. The case study concerns a military defence line in the eastern part of the Netherlands. The defence line, called the IJssel Line (IJssel Linie, after the name of the river IJssel), was created in 1953 during the Cold War to protect the country against possible attacks from the East. The line consisted of an inundation area, barriers in the river, floating structures, bunkers, roads and guns. The function of the line was to inundate a large part of the country, a traditional Dutch method to of using water to keep out enemies. Because of the changing political situation in Western Europe and NATO policy, the defence line against threats from the Warsaw Pact countries moved forward to West Germany. The

Chronicle	Processes, time line	- Rise and fall of the line structure 1950-1964 - Building bunkers and pontoons - River as natural barrier - End of military relevance - Nature taking over
Report	Interpretative landscape	- Concentric defence principle - Inundation - Keeping the enemy out - Contrast with today's functions
Memoirs	Associations, personal references	- Encampment - Keeping guard - Routes to and fro' - Working hours and leisure at the pub - Made up past
Novel	The whole story / myth	- History of the Cold War - NATO and Warsaw Pact - Berlin wall and Cuba Crisis

xx 4 types of narratives in landscape design (Van Westen en Westerink 2006, after Whiston Spirn 1998)

Dutch government decided to dismantle the IJssel line in 1964. The remains of the line, partly in the river, partly on land were left where they were. National and local organisations for the preservation of military heritage, started to take care of the remains of the line. Many elements are still visible in the rural and river landscape, contributing to the landscape structure.

Two landscape architecture students of Wageningen University carried out an explorative research project as to how the line could be incorporated in landscape design, not only aiming at preservation of the military elements but at using the narratives to make the area attractive for visitors as well. Their inspiration for narrative design came from two innovative publications by Potteiger & Purington (1998) and by Whiston Spirn (1998). The students (Van Westen and Westerink) were supervised by Paul Roncken assistant professor of landscape architecture and by Jaap Lengkeek, professor of social-spatial analysis.

Potteiger and Purington's book provides an extensive array of stories that can be told. From the many – often overlapping – types of narratives four main options were selected: the chronicle, the report, the memoir and the novel. Each type tells a somewhat different story.

The choice for each of these narratives connects to other conditions of meaning. The chronicle very closely matches the interests of the national and local associations for the preservation of military heritage, in other words particularly ownership. The report has a strong experiential significance, as it raises questions for visitors about peculiar structures in the landscape. What is it that we see?

The narrative is functional for visitors, recreationalists, nature lovers, and people walking their dog or just walking on their own. The memoirs offer a more personalized story of how soldiers operated during their service on the defence line. The narrative gives ample space for fantasy and imagination. It does not matter whether the story is true or not, as long as it is a good story. The memoirs lend themselves well as local and regional tourism attractions. The novel on the other hand fits in well in telling a nationwide tale, and links to the narrative and representation of Dutch defence principles. The defence line is the last in a long history of defence structures such as the local inundations during the Dutch War of Independence (1568-1648), the integrated Dutch Water Defence Line (Hollandse Waterlinie) with its fortresses (1672) and the New Dutch Water Defence Line (Nieuwe Hollandse Waterlinie) (1815 - 1963). Many heritage tourists are attracted to the exploration of all of these elements and structures. The attraction of military heritage and battlefield tourism is a widespread international phenomenon. Ownership is at least a national interest.

At present, the IJssel line, closely linked to the river IJssel, is part of a landscape development strategy of giving more space to river and nature development in the Dutch borderlands. The choice for one of the stories is for now logically connected to the predominant landscape policy, to low-key leisure activities within natural environments and small-scale heritage tourism. In terms of the options for adaptive sustainable development (see Introduction of this chapter) the choice for Environment Led Tourism Development seems a logical one, providing tourism is what policy makers want.

Chronicle	Address	- Reconstruction of elements - Preserving elements in tact - Showing elements in decay - Suggestion of disappeared elements
Report	Anomaly	- Accent on concentric structures - Deviation from open landscape - Different accent on land, air and water defence
Memoirs	Emphasis	- Connecting routes between encampment places - Artistic representation of the soldiers - Restoration of command post and field hospital - Reconstruction of soldier's pub
Novel	Metaphor	- Tree plantation as metaphor for nuclear weapons - Age of trees representing Cold War Monuments

xx Design strategies in 4 types of narratives (Van Westen and Westerink 2006)

Apart from the question of which story is most appropriate, the question arises how any story may be told in landscape design. From the many suggestions Ann Whiston Spirn gives in her book The Language of Landscape (1998) some have been applied to the four different types of narratives.

This explorative research project gives a perspective on narrative landscape development, taking meaningful conditions into account, and well supported by theoretical considerations. But, there is no empirical testing so far of the assumptions, because it did not result in policy and concrete interventions. If one reviews the projects on narrative landscapes with the help of the internet little appears, although the two books mentioned in the project on the defence line, were published in 1998, fifteen years ago. It seems justified to assume that experimental design for narrative landscapes, speaking an accessible language, is still in its infancy.

2.4 New technologies for narratives

In the meantime, new technologies have developed, that may be very helpful in supporting the idea of narrative landscapes and dynamic meanings. Many examples already exist of new media such as websites, mobile computer devices, quick response codes on the spot, intelligent apps, podcasts etc. helping the visitors to understand the stories of objects, places and areas. Where the landscape itself is unable to tell very explicit stories, new media can contribute. New horizons for telling stories about the landscape lie in the combination of design and new media information. The media can help us understand landscape forms, vegetation, structures and objects. They also enable the telling of different stories within the same landscape situation; an important issue when different owners or users come into view or meanings are contested. Probably most important of all: new media offer dynamic approaches to narratives. Although meanings change over time; landscape structures tend to remain more or less the same over longer periods. Tourism advertisements and promotion tend to pose a fixed meaning for places. But today, the representation of meanings in the landscape can be made much more flexible, adaptive to change and contested views with the help of new media. Moreover, the media make it possible to disclose different time lines for the same landscape: geological formation, early and later influences of human actors, specific historical events, natural processes, particular stories of places and objects, and so on.

The application of new media is constantly changing and developing. It is not always user-friendly, but it is reasonable to presume that we are only at the beginning. Some promising examples are online exhibitions and other developments in information technology, e.g. CultureNOW (Museum without walls), XS2TheWorld (Hong Kong), Terra Incognita (Bart Marable), the European Museum Academy, and Ubiquitous Computing (Mark Weiser). The use of mobile devices provides new opportunities to inform the users, but also to inform the 'makers', to directly test where people go, what they are looking for, how they understand the narrative meanings and, last but not least, whether the narrative intentions and landscape design really 'work'. The empirical proof of the impacts of the landscape on use, experience, narratives and ownership is an important step for landscape designers and policymakers. Only then is it possible to monitor the effectiveness of design and dynamics of meanings.

For landscape architecture and design there is still much to do, in testing the design options for landscape languages. Since the two previously mentioned books, Potteiger & Purington (1998) and Whiston Spirn (1998), not much has been accomplished in terms of landscape architecture user studies and user feedback Landscape designers do not regularly review how their designs are experienced and understood by users and visitors. They hardly learn by testing, monitoring and rethinking their design concepts. Ideally an interdisciplinary systematic approach by designers, cultural historians, psychologists and sociologists etc. to storytelling through landscape is necessary. If accomplished, it will significantly contribute to dynamic and sustainable meaning, and the understanding and use of the environment.

2.5 Creating dynamic meaningful spaces

This is not only a lesson for landscape designers, but also a challenge for the tourism industry. The focus on dynamic meaningful spaces for tourism in sustainable development, the role of services and 'products' changes. New media directly interact with the customers, who follow the information that suits them best. This implies a major re-definition of tourism 'agents', visitor management, interpretation practices and the alternating relevance of personal and collective meanings. Tourism meanings become less and less pre-defined, much more adaptive and responsive to user needs and demands.

The general conclusion for the Via Appia must be that a sustainable approach requires an understanding of meaning, the need for explicit choices as proposed by Hunter, an approach that enables dynamics in meanings, with interdisciplinary sources and considered interventions and the application of new technologies to story telling.

general conclusion must be that a sustainable approach requires a lot of understanding in the sources of meaning, the need for explicit choices as proposed by Hunter, an approach that enables dynamics in meanings, from interdisciplinary sources well-considered interventions and the application of new technologies in story telling.

Chapter 3

Rome and the Appia Antica Regional Park

Sara Gangemi

xx The location of the Appia Antica Regional Park

3.1   Background and context

3.1.1   General context

The Appia Antica Regional Park (Parco Regionale dell'Appia Antica) is a protected area, established in 1988 by the *Regione Lazio* (the Lazio Region). Its 3.400 hectares straddle the municipalities of Rome, Ciampino and Marino. The park is wedge-shaped and to the south-east of Rome. It stretches from the historical centre, from the *Mure Aureliane* (the Aurelian walls), to the outside of the present day city, to the volcanic complex of the *Colli Albani* (the Alban hills), and close to Ciampino Airport. It is centred on the Roman *Via Appia Antica* (the ancient Appian Way) and the system of ancient aqueducts. The area of the *Via Appia Antica* represents for Rome the formidable and unusual presence of a large, mainly undeveloped area reaching to the heart of the metropolis. This vast green area is very important to the ecosystem of the city: it is a very significant greenway.

The ruins - as an aesthetic, historical and cultural resource - are one component of the urban context and the rural landscape of park. The area has different identities: both permanent and changing, in terms of rural landscape, city, archaeology and infrastructures. There is a heterogeneous coexistence of the open air museum areas and the archaeological and heritage landscape, intermixed residential zones from the economic boom of the 1960s, tourist spots and city services (Capuano et al., 2013), industrial plants, agricultural landscapes, a system of the quarries, natural areas of high environmental value, wastelands, 19th century military forts, the important urban nodes of the city, and the landscape of infrastructure - *Grande Raccordo Anulare* (G.R.A.) (the Rome orbital motorway), railways, Ciampino Airport, etc.. The rural landscape is fragmented by changes in the rural economy and urban sprawl. The park is bisected by

The fragmentation and heterogeneous coexistences make the area difficult to recognise as a park and its monuments and green spaces remain largely inaccessible.

3.1.2 History of the Park

The Via Appia Antica was a Roman road that connected Rome to Brindisi. Its construction began in 312 BC and it ran from Brindisi across the Appennini to the western coast near Capua then north along the coast to Terracina then to Rome.

The *Via Appia Antica* is probably the most famous surviving great Roman road: the Regina viarum (queen of highways). The road, forgotten for centuries, was rediscovered during the Renaissance period. The idea of a large archaeological park emerged for the first time during the Napoleonic period. The first archaeological excavations and the reconstruction of the monuments along the Via Appia Antica started in the middle of 19th century thanks to Luigi Canina (1795-1856) and Giacomo Boni (1859-1925), Italian architects and archaeologists. In 1887, Rodolfo Lanciani (1845 –1929), archaeologist, Guido Baccelli (1830-1916) and
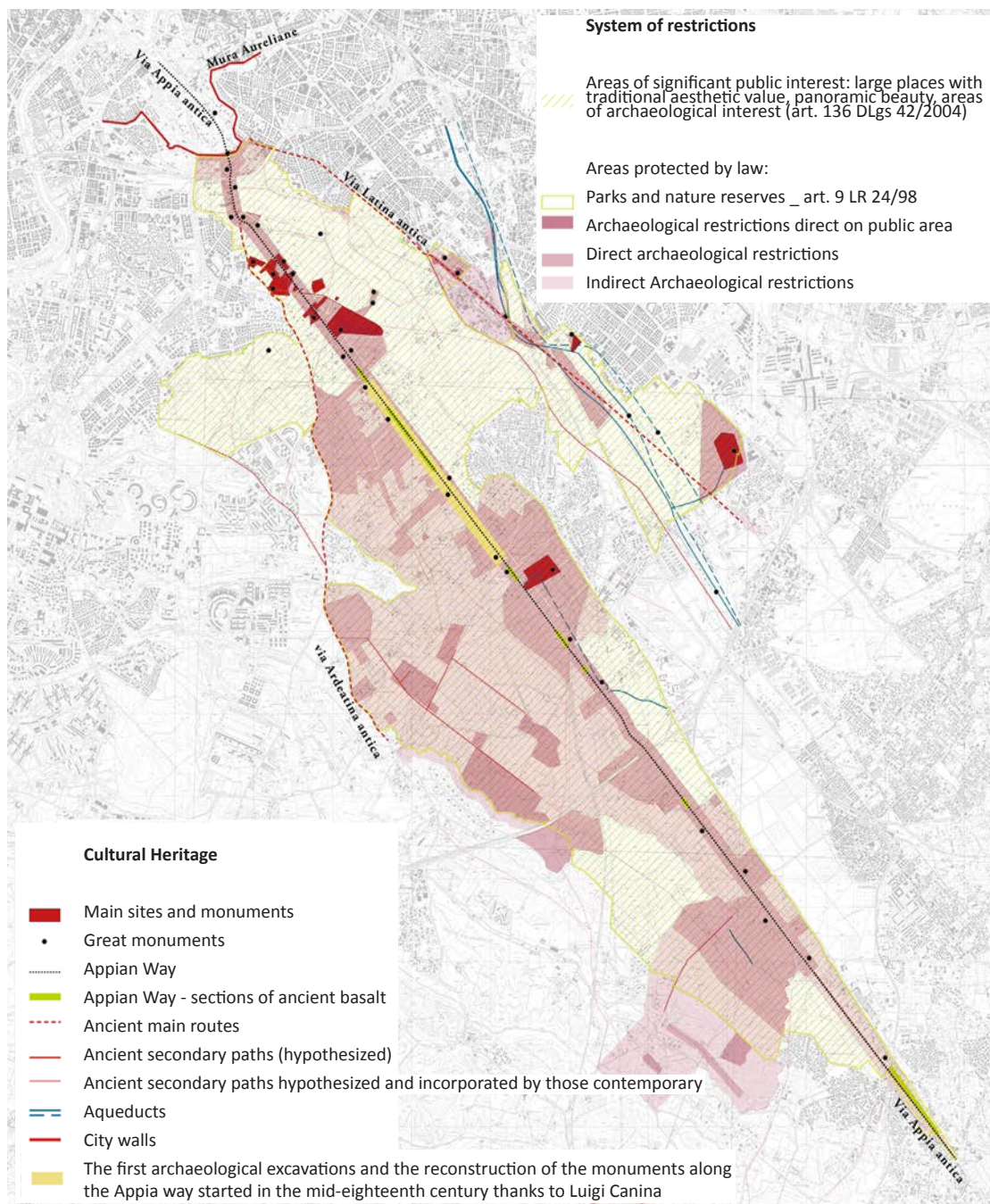
Fig. 9_ The Appia Antica Regional Park. Cultural heritage and system of restriction (SOURCE: http://www.unesco-paysage.umontreal.ca/recherches_et_projets/wat-appia-antica-rome-italie-2011)

Ruggero Bonghi (1826-1895), Italian politicians, first proposed the Passeggiata Archeologica (the archaeological public walk) and this was created in 1918. It was inserted as a "preserved area" in the Piano Regolatore Generale (the Rome Master Plan) (1931). This Master Plan defined the *Via Appia Antica* as a "great park" surrounded by a "buffer zone".

After World War II the park was in danger of being buried under concrete, because of proposals for residential development and sports facility (http://www.parcoappiaantica.it). The building of *Grande Raccordo Anulare* ring-road cut the park in two in 1951. The subdivision went on until 2000, when a part of the G.R.A. went underground. Then there were proposals in 1955 for the *Stadio Olimpico* (the Olympic stadium) on site of the *Catacombe di San Callisto* (the S. Callisto Catacombs): this did not go ahead due to popular protest. However, illegal building has been destructive. This development included houses built without planning permission, inappropriate rebuilding of farm houses and industrial activity. During the 20th century, the area has also had to face threats, such as farming on archaeological sites, landfill, real estate speculation – including a proposed golf course - and infrastructure projects.

3.1.3 Planning the Park

Concerns about the threats to develop the *Via Appia* area led eventually to the first Appia Antica Landscape Plan. The work was supported by a bottom-up movement, a long struggle in the late 1960s and early 1970s (Battaglini, 2005). Antonio Cederna and *Italia Nostra* played a crucial role in the safeguarding of the *Appia Antica* (Capuano et al., 2013). Cederna, a well-known journalist and writer, publicized issues of territorial conservation and environmental and cultural heritage. *Italia Nostra*, one of the oldest Italian environmental associations, commissioned Vittoria Calzolari, the Italian architect and urban planner, and a multidisciplinary group to design the first coherent project for the park in 1976.

This opened a dialogue among different experts: archaeological, historical, geological, botanical, forest, urban and landscape planning, and– legislators. The plan was made with the constant and active collaboration of local inhabitants, cultural groups and the municipalities. Their shared objective was the creation of a common platform and recognition of the cultural inheritance. In the 1970s and 1980s they lobbied for the preservation and the enhancement of this great historical landscape re-

source. The vision of the 1976 plan was a precursor of the present plan (2002).

The primary bases of the plan were the major geomorphological features: the lava flow of Capodibove, the canyons, the hills and quarries. These were linked to the key elements of nature and cultivation. They included the flora, which varies from wetlands in the valley, slopes and hills, caves, ruins, woods, and meadows. Species and vegetation, best able to develop spontaneously, were identified. They were considered suitable to conserve and promote a landscape coherent with the nature and history of the place.

The morphology and ecological system guided the choice of settlement and the archaeological and historical structures, seen as a unitary system. Issues related to usability and protection of monuments and historical routes have been considered. Another theme is management, essential for the sustainability of a park like this. The purposes of the park were:

- the protection of monuments and archaeological sites and dissemination of knowledge about them;
- the conservation and restoration of the natural environment; and
- the creation and management of social facilities, both cultural and leisure, that are compatible with the character of the park.

A series of acquisitions have marked the steps leading to the establishment of the park, for example the *Valle della Caffarella* (the Caffarella Valley) in 1999 (for more, see Di Giovine's text). The area was protected in 1988. The Territorial Coordination Plan drafted by the Provincial Authorities of Rome in 1998 and adapted in 2002 is still subject to the approval process by the Regione Lazio (www.parcoappiaantica.it)

The plan of the Park includes measures for development and promotion of agriculture and the relocation of incompatible industrial facilities. In the park many activities are prohibited by law, such as new construction of any kind, new roads, and the opening and exploiting of mines and quarries.

The park is bordered by agricultural landscape of considerable value and it has areas of significant public interest: vast areas of archaeological interest with traditional aesthetic and scenic beauty, and areas protected by law - such as natural parks and reserves. There are special conservation areas in accordance with the EU Habitats Directive, such as sites of regional interest. The park is one of the most classic of Roman panoramas.

The regional park is experimenting with a policy of rediscovering local traditions. The park has established three popular festivals and organic markets organized for the sale of local products, such as wine, cheese, honey and orchard fruits. Here, we begin to see a territory made up of cooperatives and biological farms. This is proposed as an alternative to tourism solely related to archaeology.

3.2 Characteristics of the park

3.2.1 Cultural and archaeological heritage

The Appia Antica is one of the most significant archaeological and architectural assemblages of the history of Rome. In 2006, the Italian government proposed the whole route of the *Via Appia "Regina Viarum"* from Brindisi to Rome as a World

Land Use

- forests
- urban allotments
- quarrying and earthworks
- transitional woodland-shrubs
- vineyards
- natural grasslands
- olive groves
- sport areas
- arable lands
- fruit trees
- gardens
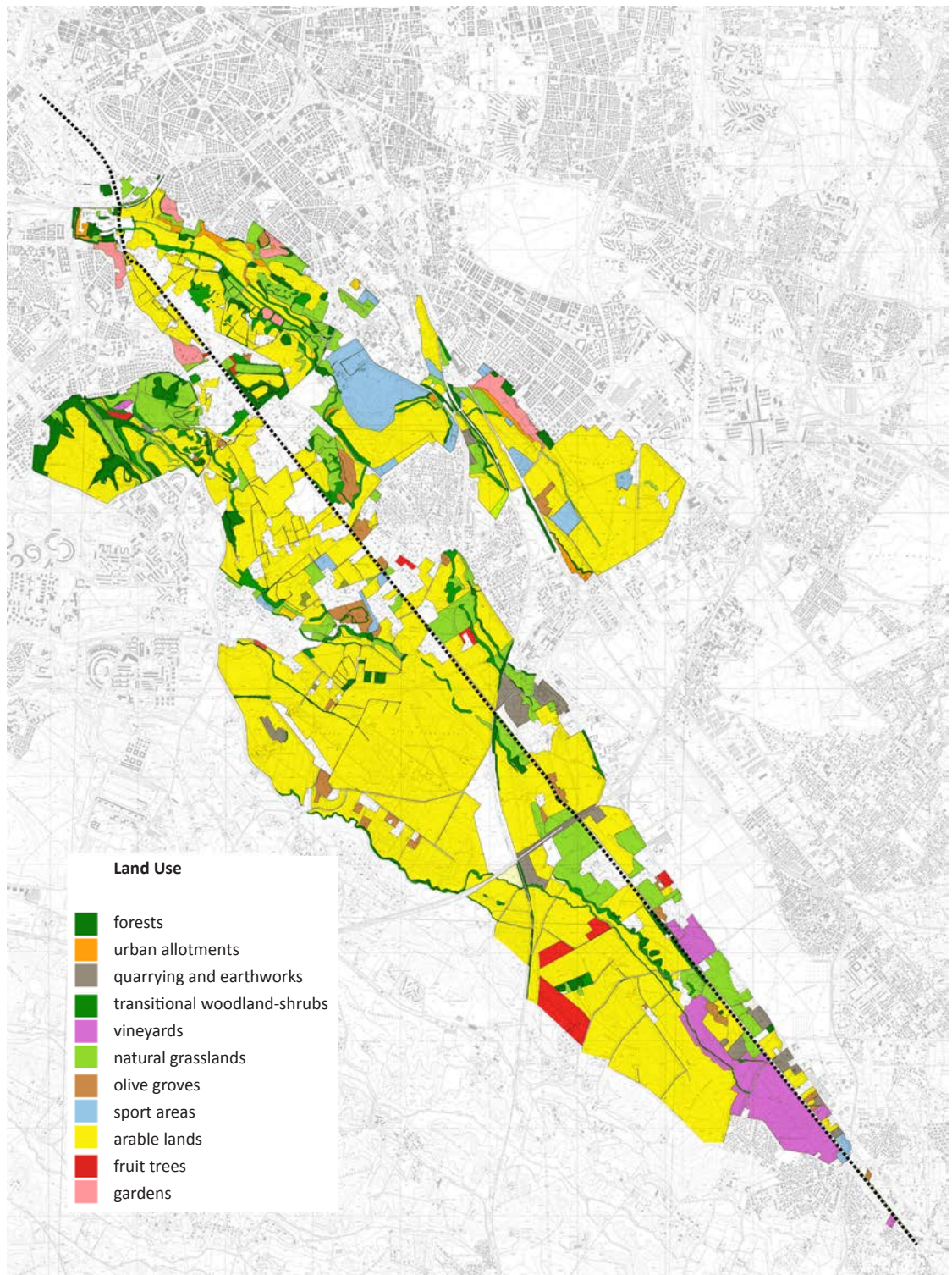
Fig. 10_ The Appia Antica Regional Park. Landuse (SOURCE: http://www.unesco-paysage.umontreal.ca/recherches_et_projets/wat-appia-antica-rome-italie-2011)

Heritage Site, as a cultural landscape, and it is currently on the UNESCO tentative list (http://whc.unesco.org/en/tentativelists/349/).

Some the best known remains from the Republican and Imperial period includ the *Terme di Caracalla* (the Thermal Baths of Caracalla), the *Porta San Sebastiano*, the *Mure Aureliane*, the *Tomba di Geta* (the Tomb of Geta), the *Tomba di Priscilla*, the area of the *Circo di Massenzio* (the Circus of Maxentius), the *Palazzo Imperiale* (the Imperial Palace), the *Mausoleo di Cecilia Metella* (the Tomb of Cecilia Metella) and *Villa dei Quintili*. From the first centuries of Christianity we find the *Catacombe di San Callisto, Domitilla, San Sebastiano*

and *Pretestato*. There are many churches scattered along the *Via Appia Antica* dating from the Middle Ages, the Renaissance and the Baroque period, such as *Santa Maria in Palmis*. There are towers and fortifications, often built on the ruins of Roman monuments. In the *Valle della Caffarella* remarkable monuments of all ages, such as the *Tempio di Dio Redicolo* (the Temple of Dio Redicolo), the *Ninfeo di Egeria* (the Nimphaeum of Egeria), the *Chiesa di Sant'Urbano* (the Church of Sant Urbano), towers and medieval walls can be found. We also find the *Tombe Latine* and the *Parco degli Acquedotti* (the Park of Aqueducts), the systems of the ancient aqueducts which supplied water to the city

Mains Of Mobility And Access

······· monumental axis of the Appian Way	✈ airport
── primary metropolitan road	── Archeobus route
── suburban roads	Ⓐ Archeobus stops
🅿 parking	⋯⋯ subway line A
ˇ road access	⋯⋯ subway line B
⁙ railway lines	Ⓜ subway stop
🚉 railway station	── pedestrian paths
── public transport	── cycling paths
🚌 urban and extra-urban bus terminal	🚴 bicycle rental
	ˇ pedestrian access
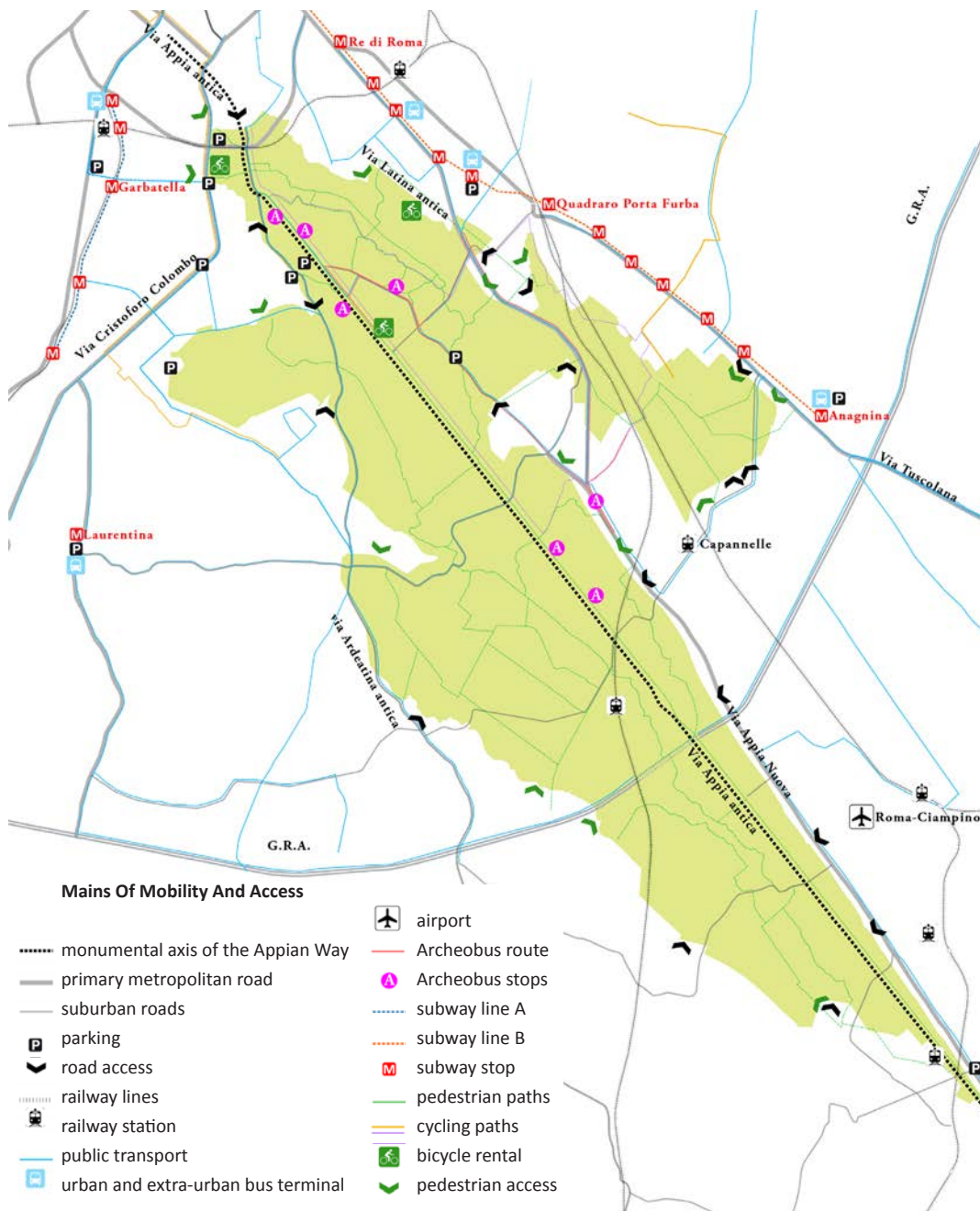
Fig. 11_ The Appia Antica Regionla Park. Means of mobility and access.(SOURCE: http://www.unesco-paysage.umontreal.ca/recherches_et_projets/wat-appia-antica-rome-italie-2011)

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of Rome. However, these major archaeological systems suffer from a lack of interconnection.

3.2.2 Land use and natural system

The Appia Antica Regional Park is a green wedge, serving as an important ecological corridor. This ecosystem has been partly compromised or put at risk by mines and illegal dumps that have arisen in the past in the park. Some of them are still operational. The Appia Antica territory is still mainly agricultural (over 66%), marked by arable land, mixed crops, and urban vegetable gardens, while another 16% is used as private garden (www.parcoappiaantica.it).

Morphologically the park is within the areas of activity of the *Vulcano Laziale* (the Latium Volcano). This is an undulating landscape, raised above the valleys of the same *Via Appia Antica*. The orography or upland areas have sunk and the impermeable geological formations have resulted in a regional aquifer, with a large number of springs, most of which are found in the *Valle della Caffarella* and its immediate proximity. The hydrographic network of the park has watercourses, and *Marrane* (Roman ditches and channels) of the *Tevere* (Tiber) hydrographic basin. The system of ditches through the whole territory, particularly in the south of the park, is used for agriculture.

Many areas of the park have significant natural value. The ancient *Foresta Farnese* (Farnese Forest), for example, is composed of oak and cork trees; in the *Circo di Massenzio* (Circus of Maxentius) there are ruderal plants such as olive and almond trees; and there is Mediterranean flora with brambles, *Rhamnus alaternus* and *Pistacia lentiscus*. There is also underbrush such as *Crataegus monogyna* (hawthorn), *Cornus sanguinea* (common dogwood) and *Prunus spinosa* (blackthorn). At the *Villa dei Quintili* there are many orchids in the wet meadows. While the Tor Marancia retains a high level of naturalness, and along the ditch Tor Carbone are *Carex pendula* (pendulous sedge) and large black poplar trees. The woods of holm, cork oak and oak, which originally characterized this landscape, were gradually felled for timber or to create agricultural fields. Subsequently, the landscape was characterized by large aristocratic estates that were built alongside the road system and some of these large estates still exist.

3.2.3 Accessibility of the park

For the tourist, *Parco della Caffarella* and *Tombe Latine* are adequately linked with the city, but there are no links between them. In spite of their proximity, it is not possible to go from one area to another due to the infrastructure that divides the area. The Via Appia Antica as a whole, has not developed an adequate system of tourism circuits and trails. It should also be noted that the park's presence is evident only in parts of its area. The most southern part blends with the adjacent countryside, especially the G.R.A. the orbital motorway, and it reappears with the archaeological system towards the southern extremity of the park.

3.3 Challenges

The territory of the Appia Antica is undergoing illegal squatting and includes areas of decay and social insecurity. As mentioned, the park's landscape is also very fragmented, because 95% of the area is private property (www.parcoappiaantica.it). The preservation of the environmental and historical values of this landscape is a challenge that can only be resolved with a political will.

In 2011 a UNESCO workshop was devoted to the park. The workshop highlighted that archaeological, environmental, economical, social and cultural issues should be combined in a unique system (Capuano et al., 2013). Approaches to the urban archaeology and urban design of *Appia Antica*, intended as an active use of the landscape, should:
- review the idea that archaeological sites are always enclosed precincts, protected and divorced from their local contexts, and from social interactions (Capuano et al., 2013);
- create the opportunity to link individual and collective resources and to begin practices of care and empowering in everyday landscape, as it was in the Parco della Caffarella;
- incorporate history and nature in a design avoiding anachronistic separations between past and future (Capuano et al., 2013); and
- build the tourism infrastructure that enables the existing spaces to perform within their global context and to improve public spaces (Baukuh, 2007).

The whole of the park can be a cultural common good, not only an economic, but also an educational resource. The challenge is to construct a new, alternative image for different parts of the park. Could the southern part be re-imagined as a kind of agricultural park, similar to parks in Milan and London?

Chapter 4

Tourism, sustainable development and landscape architecture

xx The Old Appian Way (photo Jaap Lengkeek)

4.1 Understanding the Appia Antica Regional Park

4.1.1 Approach

The tourism workshop participants studied the relation between tourism, sustainable development and landscape architecture. After a site visit the participants discussed their impressions. Many people brought forward cases from other countries. These cases could act as learning material for the Appia Antica Park, but also for the participants to apply in their teaching, research or innovative practice. Themes were defined as a starting point for further discussion and study from different perspectives – research, teaching and innovative practice – and to collect case studies for analysis. After scrutinizing the themes in sub groups the outcomes were brought together, structured and presented. In the follow–up of the Landscape Forum, themes and case studies were elaborated.

4.1.2 Impressions of the area

The group visited several sites in the Appia Antica Regional Park: the Caffarella park, the Circus Maxentius, the southern part of the Appian Way near the Casal Rotondo, and the Torre Fiscale Park. The sites represented the variety of uses in the Appia Antica Park and its different realms and meanings.

The 132 hectare Caffarella Park is one of the oldest and largest parks of Rome. The area is important for its archaeological remains and as a nature reserve. The park was originally owned by the Caffarelli family, hence its name, and it became a public park in the 1999. A large part of the terrain is still used for agricultural purposes. The park includes an old sheep farm used for cheese production. A narrow strip that borders a residential area has been turned into a city park with playgrounds and sport facilities.

The group visited a second city park within the Parco Regionale: the Parco di Torre Fiscali. The

xx Park Caffarella (photo Marlies Brinkhuijsen)

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park, named after a medieval tower in the area, includes the remains of two aqueducts. Recently planted olive trees, fruit orchards and vineyards refer to the agricultural history of the site. The area works as a city park for the adjacent neighbourhoods and has an active community group.

These parks, which can be characterized as urban parks for the adjoining residential neighbourhoods and other people from Rome, were observed as being very different from other areas within the Regional Park.

A second conspicuous characteristic of the area

is its history and archaeological inheritance. Several historic monuments situated along the Appian Way are exploited as tourist attractions, though they are very modest in comparison with the top attractions in the city centre. Only a few other people visited the Circus Maxentius when the group was there. The main tourist activity seems to be cycling along the Appian Way and enjoying the historic monuments along the road and the scenic views on the Italian landscape.

The participants judged the Appia Antica Regional Park as an urban fringe area, a degraded agricultural landscape fragmented by heavy infra-

xx Visited sites in the Appia Antica Regional Park: Park Caffarella, Park Tor Fiscale and the Appian Way near the Circus of Maxentius and near the Casal Rotondo
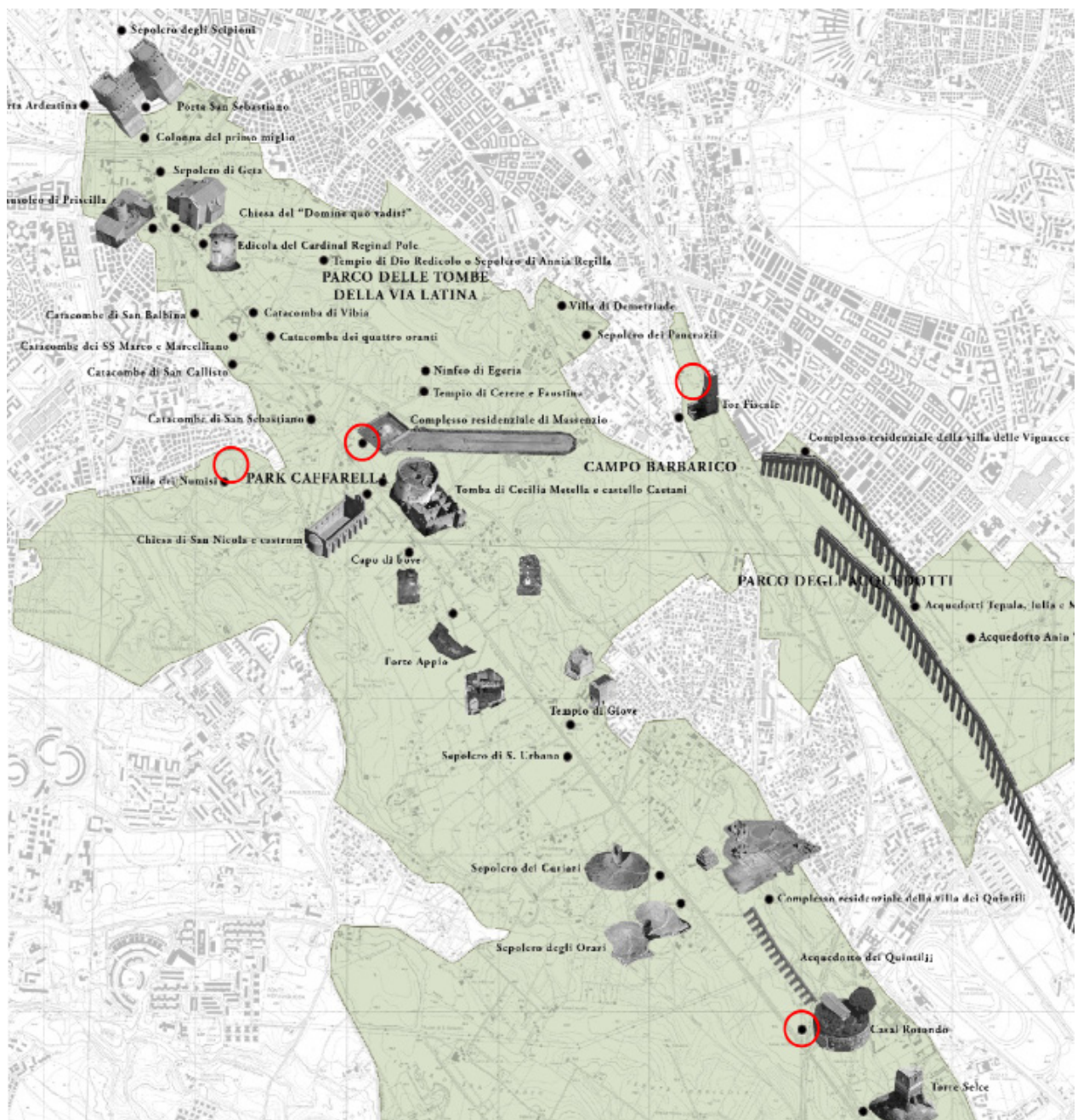
xx Park Tor Fiscale (photo Marlies Brinkhuijsen)

xx Aqueducts in Park Tor Fiscale (Photo Marlies Brinkhuijsen)

structure and under heavy urban pressure. At the same time the area is a large green space in the city and includes many archaeological and historical remains. There is no clear cohesive image or identity discernible and a lack of continuity of experience. The group thought, however, that the park should not have one, single identity. It seems more sensible to distinguish different overlapping identities, related to different groups of visitors and users.

The citizens of Rome are the most important group of visitors. After all, the Appia Antica Regional Park is the only green wedge of Rome, and people from adjoining neighbourhoods actively use some parts as city parks or neighbourhood parks. Several active local community groups exist, which shows the citizens' close relation with areas such as Caffarella Park and Park Torre Fiscale.

xx The tourism group having lunch in the Park Caffarella

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xx The Appian Way near the Circus Maximus and near the Casal Rotondo (photos Marlies Brinkhuijsen and Sabine Bouche-Pillon)

It was evident to the participants that the heritage sites in the Appia Antica Park could not be an alternative for the major tourist attractions in the city centre, which are burdened under millions of tourists. The Appia Antica was considered as a supplement though for some specific target groups, who might also be interested in other qualities of the area such as its nature and agriculture; potentials that are not fully employed yet. Ecosystem services of the Appia Antica Regional Park were considered as a valuable concept for future development.

The group observed that the accessibility of the area is poor due to the presence of railways, the orbital motorway and fences. Nevertheless the railway does give access to the heart of the area and offer good opportunities for a visit, and there are several buses and bicycle rentals in the area.

4.1.3   Themes
A multi-layered, integrative approach was considered much more appropriate than a mere tourism development plan. According to the workshop participants the aim should be to utilize recreational and tourist use of the area as means for sustainable development, with attractions and

competitiveness based on landscape qualities and specifics. There was no doubt that such a development is only achievable by forming new alliances and partnerships between public and private parties. Public involvement is needed to strengthen the relation between the city and the park, between citizens and initiators in the area.

Four themes in the development of the Via Appia Antica Regional Park were defined for further exploration and scrutiny:
- recreation and tourism in the broader field of sustainable regional development;
- aspects of tourism and recreation development: target groups, themes, narratives, accessibility and connectivity for slow traffic;
- ecosystem services in a peri-urban context: ecotourism, local products, urban agriculture, water; and
- public involvement, participation and partnership.

4.2   Learning from case studies

Simay Kirca, Isabel Aguirre, Sabine Bouche-Pillon, Linas Daubaras, Marlies Brinkhuijsen, MaryCarol Hunter

4.2.1   Handling historical routes on a regional scale: Culture Routes of Switzerland
Historical traffic routes are not isolated features in the landscape. They only have meaning and function when they are considered with and within their wider context. According to Doswald (2011), interweaved timelines of history may slip out of the structure of road and street networks. In landscapes, whose character is gradually changing, stable routes and traffic connections have been formed, while their particular features have been updated, changed and converted over and over again. Thus, they have often lost their older road forms and constructions. As a result, landscapes and the overall appearance of places is lost or won according to how these historical routes are handled.

Switzerland is the only country that has examined its historical streets and roads nationwide in detail because of their cultural landscape values (Staeger et al., 2011). The inventory of the historical routes of Switzerland (Inventory of Historical Traffic Routes in Switzerland-IVS) started in 1984 and continued until 2003. A group of experts and scientists searched for ways of research, renovation and appropriate use of historical traffic routes by considering their historical forms and functions. This specialist organization was transformed into

ViaStoria (Center of Transport History) in 2003 and continues working on the "Cultural Routes of Switzerland" tourism project, further research under the Transport History of Switzerland umbrella and produces publications. "Cultural Routes of Switzerland" is a very interesting tourism programme based on hiking, good food and drink, stylish overnight stays and museum visits through valuable cultural landscapes (http://www.viastoria.ch).

The basic idea of "Cultural Routes of Switzerland" is to build a network of attractive cultural and natural landscapes by attaching local tourism initiatives to the project and offering regional specialities to visitors. The network of twelve main "Via" routes (being supplemented by a increasing number of ViaRegio routes) is composed of historical roads, streets and waterways, which were designed for several days or weeks of walking (Figure 1). The inventory of the historical routes of Switzerland comprises texts, visual material and an inventory map showing routes of national, regional and local importance, while their history was recorded during the studies. This documentation was accepted as a binding instrument for federal authorities and is at the disposal of various cantons, helping them by taking planning decisions (Schneider, 2001). Recently, in 2010, the Swiss parliament agreed to protect the designated routes with particular legal regulations. The results of the inventory are also on an online GIS system, in which maps, features of local and regional importance and further information can easily be found.
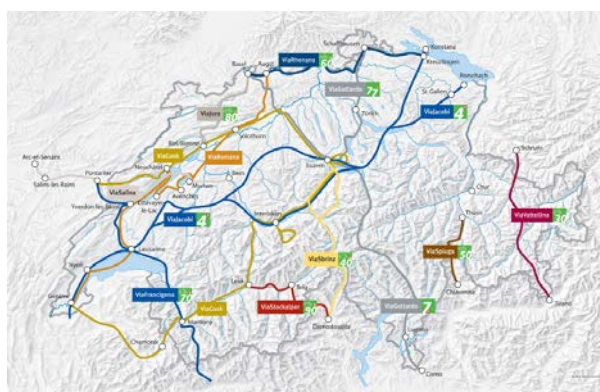
Figure xx Twelve main historical routes of Switzerland (http://www.kulturwege-schweiz.ch/via-routen.html)

Attractive regional cultural activities and places with history and landscape characteristics, as well as typical, mainly agricultural, regional products, , and a network of historically interesting routes were affiliated to a complete tourist attraction that can be hiked. As a result, ViaRegio routes fit into the system of national long-distance walking paths and merge with them at appropriate intersections
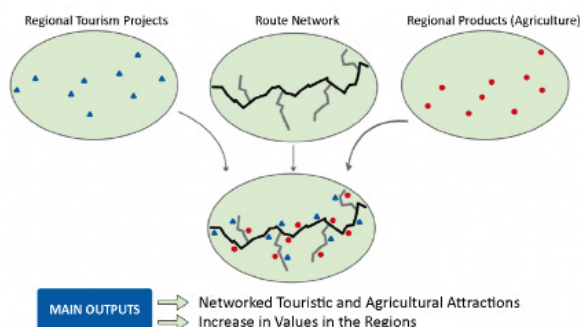
Figure 2 The network model developed by ViaStoria for the program "Culture Routes of Switzerland" in order to support the increase in values in the regions by creating a network of touristic and agricultural attractions (transformed after Doswald, 2009).

(Doswald, 2009) (Figure xx). These highly valuable historical routes are also offered as a subject for cultural landscape education from secondary to university level (Tanner et al., 2010). This inclusive approach is a model for the Via Appia. It shows how a single route can be related to a wider network of tourist attractions and how a comprehensive tourist product can be created.

Among the twelve historic routes "Via Romana" is particularly comparable to the Via Appia connecting Rome with Brindisi. The Via Romana follows a part of the ancient route from Rome via Geneva and the Jura Mountains and ends in the village of Augst in the former Germania (Figure 1). It leads past Roman ruins and connects with museums, which exhibit the most important finds of the Roman period in Switzerland. The main aim of revitalizing this route is to arouse interest not only in Roman engineering and culture, but also in the multi-layered historical cultural pattern of the region that the route passes through.

One may ask whether it is really possible to follow the traces of the Roman routes that were built 2000 years ago. In fact, there are very significant sources and ruins that provide information, which include(1) itineraries, (2) physical remains of the streets (such as pavements and other construction materials), (3) milestones and (4) street names. In the following paragraphs the role of these elements is summarized according to Bolliger (2004).

Topographic maps in the modern sense were unknown in Roman times, but there were documents, the itineraries, the purpose of which was similar to and which provided information about the routes. The term is derived from the Latin iter, meaning way, travel, trip. The itineraries describe routes with main locations and distance information. The "Tabula Peutingeriana" is one of the most beautiful and most famous examples. It shows the road network of the Roman Empire in the 4th or

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early 5th century.

In addition to itineraries, remains of the roads and milestones, modern place and district names are evidence of Roman roads. Street names might indicate to the Romans, so for example «Heath way», «Hochsträss» or «Hochgsträtt».

The Via Romana between Geneva and Augst provides very interesting monuments and museums along the road, which one can explore on foot, by train, by bus and boat through Roman Switzerland. Parallels with the Via Appia are evident. Swiss experience also indicates that the use of historic roads can be an essential tool for landscape planning in both local and regional level. The Via Appia could play a similar role in the Regional Park.

4.2.2   St James' Way

The "Camino de Santiago", and particularly the route from the French border to Santiago de Compostela in Galicia, is a great, historical pilgrimage route ranking with those to Rome and Jerusalem. It still has an important spiritual significance, but, additionally, is important for cultural tourism. Historically its religious significance of did not preclude cultural exchange between the towns it passed, and it has been fundamental for distribution of knowledge. The monasteries, churches, hospitals and bridges collected and transmitted new tangible and intangible knowledge, generating new cultural landscapes wherever the Way passed. After being largely forgotten in the nineteenth and twentieth centuries, it has been rediscovered and developed in the last third of the twentieth century. Though the contemporary world has many other media, the Way of St James maintains its significance, evidenced by the thousands of pilgrims of all nationalities each year. In 1987 the Council of Europe accepted the Ways towards Santiago de Compostela as the First European Cul-

Figure xx St. James' Way (http://es.wikipedia.org/wiki/Camino_de_Santiago)

tural Route (http://www.culture-routes.lu) and in 1993 it gained UNESCO World Heritage site status (http://whc.unesco.org/en/list/669).

Similarly, the Via Appia Antica leading to the city of Rome could consider knowledge as a path towards a way of understanding the nature and the territory, integrating all the equity from the perspective of sustainable development at all levels: restoration and enhancement of monuments, traditional agriculture recovery, crafts, intangible heritage, and all that linked to participatory tourism. Tourism aimed at both the inhabitants of Rome and those of other countries, allows them to participate in activities that should be developed through workshops of all kinds, agricultural work, etc. This participatory tourism could not only bring economic benefits but at the same time it could raise the self-esteem of local people as well.

4.2.3   Robert Louis Stevenson's track in the Cévennes, France

Following the international renown of Robert Louis Stevenson, the trek he did in his youth in 1879 and recalls in "Travels with a Donkey in the Cévennes", led to several similar hikes, such as the one of J.A. Hammerton in 1903. In the late 1800s

xx Travels with a Donkey in the Cévennes : Frontispiece of Walter Crane for the 1879 edition
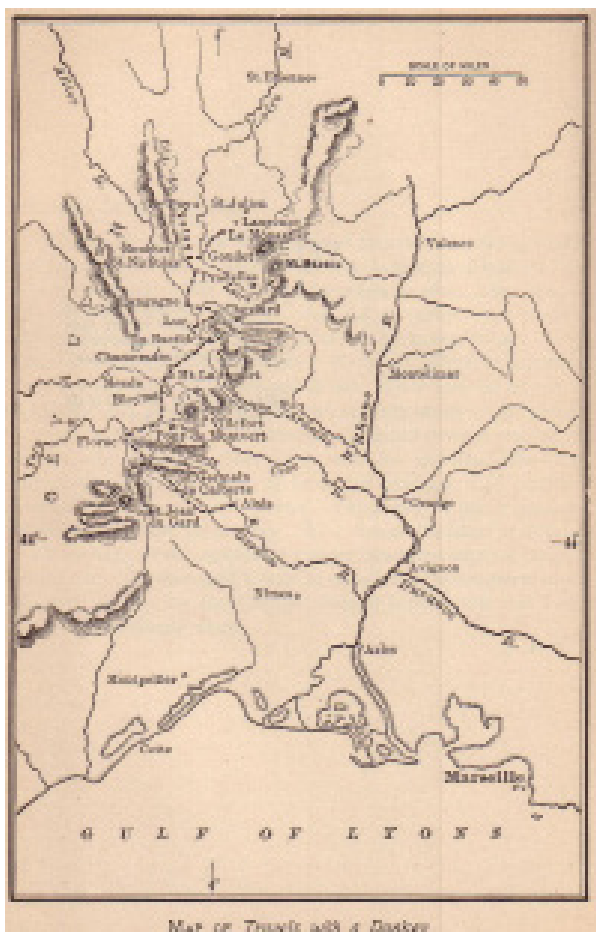
xx Map In ''An Inland Voyage And Travels With A Donkey in The Cévennes'', by Robert Louis Stevenson, edited by James Cloyd Bowman, 1918..

experts and devotees who were involved in the development of the first tourist and natural history activities in the Causses-Cévennes formed the Club cévenol. This society has promoted the dissemination of the book in France and coordinated the translation of the first French edition in 1901. The project was re-energized by the rediscovery of the environment and the neo-rural movement that developed in the Cevennes in the 1960s. In 1978, the French Hiking Federation marked out Stevenson's trail, named GR70 (Grande Randonnée 70) in collaboration with the National Park of Cévennes. It also published a relief map of the trail.

In 1994, the Association "Sur le Chemin de Stevenson", ("on the trail of Stevenson"), was created to open the access of the Stevenson trail and, in collaboration with its partners, to contribute to an economic development respectful of natural and cultural heritage in the territories it crosses. The key missions included establishing a professional network to guide walkers in preparing their trip, promote the Stevenson trail as well as natural and cultural heritage, and coordinate local projects.

In 2009, the project was recognized as a European Cultural Route (ECR) at the initiative of the Society with partners in Scotland, England, and Belgium; countries where Stevenson lived or travelled. Surveys and an impact assessment showed that most walkers would have not taken the trail GR70 without the reference to Stevenson's literature.

It is clear that the meanings given to the landscapes in Stevenson's book were essential for sustainable tourism and integrated development at the local level. Similarly, literary or other narratives could provide a framework for the tourism-based development of the Appian Way and the Regional Park.

4.2.4 Old railroad development in Lithuania

The Narrow Gauge Railway of Aukstaitija (in northern-eastern Lithuania) has a very rich history. Due to a complicated geopolitical and economic situation in 19th century, the time of railway development, Lithuania had two types (widths) of railway track gauge, the (Russian) 'standard' gauge, which is 1.520 mm wide, and the 'narrow' gauge, which is 750 mm wide. The Western European standard is 1.435 mm.

Construction of a narrow gauge railway was completed in the Aukstaitija region between 1891–1895. At that time it was used both for freight and passenger transport. The narrow gauge railway prospered between the two World Wars – it was the main means of transport and was developed intensively. Various goods like flax, bacon, grain and timber were exported with the help of it. Unfortunately, at the beginning of Soviet occupation it was

Figure xx The Narrow Gauge Railway of Aukstaitija offers a variety of special trips (http://s56.radikal.ru/i154/1005/b8/a8196594b774.jpg)

Sustainable tourism: strategies for landscape regeneration

also used for the exile of Lithuanians to Siberia.

With the restoration of Lithuania's independence in 1990, the need for narrow gauge railway services decreased. In 1996 the complex of narrow gauge railways was given the status of a cultural heritage object in order to prevent its destruction. In 1999 freight transport stopped. In 2001 the railway was also closed for regular passenger traffic, and a public Institution, the Aukštaitijos siaurasis geležinkelis, ASG (Narrow Gauge Railway of Aukstaitija) – was established.

The ASG railway system is the largest immovable cultural heritage object in Lithuania with a total length of protected railway comprising 179 km, and covering 1.340 hectares. There are more than forty monuments of nature, architecture and historical interest near the railway, and an idea of using the railway infrastructure for the recreational, educational and other purposes has emerged.

In 2005 the State began to part finance this public Institution to protect it from bankruptcy, and at the same time special programmes for tourist charter trips were created. A smaller part of the whole protected railway from Panevėžys to Rubikiai (68,4 km) was chosen for that purpose, and the first charter service was organized. The service became a great success and in 2006 the decision was made to renew the regular services. Today there are regular services at weekends from early May till late October, and there is also the opportunity to organize a charter trip at other times of the year. Regular trips have two programmes – "The valleys of Anyksta (a small river near the railway), and "Mysteries of Troskunai monastery", one of them taking place on Saturdays, and the other on Sundays.

The institution has a wide range of educational

Year	Charter trips	Passengers	Visitors expositions
2010	156	12.379	
2011	127	8.222	21.570
2012	135	10.386	35.101

xx Developmnt of tourist ctivities of hte Narrow Gauge Railway of Aukstaitija

and holiday programmes. They are very popular among various groups. New exhibitions in old industrial buildings are regularly held. Some of the educational programmes go deeply into the history, and some of them are more for fun and amusement. Some of the most popular educational programmes are 'Villages (places of birth) of famous Lithuanian writers', 'Sacred Art by the Roadside',

'Legendary rivers and Lakes of the Anyksciai Region', 'Mythological Stones by the Roadside', and 'Cheese tasting at Surdegis station'. There are holiday themes, such as the 'Beaujolais Train' or 'Welcome to Summer', and special charter trips, where one can combine a railway and a bicycle; the trip starts, you load your bicycles on a special platform, take a carriage yourself, and later you use a bicycle for short routes near the railway. In the evening you return to the town of Panevėžys by train.

These results show that the project is successful and has become almost self–financing. In 2011 the ASG received only 1.247 million Litas (0,361 million euro) support from the state budget. The ASG was awarded with the 'European Destination of Excellence' prize by the European Commission in 2009 for its achievements.

The case of the narrow gauge railway shows that a tourist route does not necessarily stand alone. Once the route is established as a tourist product, other initiatives in the area may profit from it, attaching their products and narratives to the existing one. Thus the route may become a multi-layered tourist destination. Some ideas were developed to connect the Via Appia Antica and its historic structures to the wider area of the Regional Park by relating narratives of Roman food production and water management techniques to narratives of contemporary practices of urban agriculture and water management. It is essential however to emphasize the narrative of the route as the primary one and others as sub-narratives to keep a coherent overall image. If not, there is a risk that visitor numbers drop because they do not know what to expect.

4.2.5 Ooijpolder: local networks and eco-system services in the Netherlands

The Ooijpolder is an agricultural river landscape between the city of Nijmegen, the Dutch-German Border, the river Rhine and forested slopes on glacial till. In the late 1980s a Land Use Plan was drawn up for the Ooijpolder and the neighbouring flood plains of the Millingerwaard. The floodplains were designated as natural areas, the river basins as areas for large-scale agricultural development. The ecological development of the flood plains turned out to be very successful, not only in terms of restoration of dynamic natural processes and biodiversity, but as a recreation area as well. At the same time, prospects for commercial agriculture worsened. So farmers in the Ooijpolder welcomed new opportunities offered by an initiative to establish a network of landscape elements for ecological and recreational purposes. This Landscape Devel-

opment Plan primarily aimed at private lands for the development of new landscape elements; a remarkable approach since new landscape elements were generally designated on public grounds (Blerck and Ziel 2004a).

Many residents and small farmers were looking for new economic opportunities and preferred diversification. They were positive about the initiative of so-called Groene Diensten (ecosystem services), provided that realistic financial means for maintenance and management were guaranteed. Within overall general objectives for the whole area the plan enabled adaptation to individual farming styles and demands at farm level. There was no master plan; the design was presented as sets of design principles for different areas, which were used to discuss the villagers' and citizens' desires concerning local footpaths, and to negotiate with landowners, which landscape elements they were willing to incorporate on their lands.

An implementation programme was set up and the municipalities that were involved established a charitable foundation to implement the plan. This foundation, Via Natura (www.vianatura.nl), manages contracts with private parties and administers a fund to compensate for landscape services with a thirty year guarantee. The foundation monitors results, judges quality and, if necessary, initiates new projects. The fund was established with public

xx Development of networks through landscape services in the Ooijpolder: situation in 2009 and progress in 2013. Individual initiatives contribute to a gradual development of networks for ecological and recreational purposes (source: http://dev.mapgear.nl/vianatura/)

money and private donations. The Association of Dutch Cultural Landscapes or Vereniging Nederlands Cultuurlandschap (VNC) was an important partner with a donation of 1.6 million euros of the Postal Code Lottery, an organization that spends 50% of its benefits on charities. Thus the plan could be developed into feasible, detailed landscape plans for individual farms. The interventions based on these detailed plans will eventually link up into a coherent network of landscape elements and recreational routes.

The innovative approach for landscape development in the Ooijpolder did not come out of the blue. The area had been labelled as a pilot area, with subsidies and scope for innovation. Incompatible regulations, complex and slow procedures, and lack of political and administrative support hampered ambitions and initiatives at first, but in 2009 the project was invigorated and a sense of urgency was established (Overbeek et al, 2011). Since then structural landscape development has taken place in the Ooijpolder, and in April 2013 the first phase of landscape development in the area was completed. Twelve landowners have converted 5% of their land into a network of landscape elements and paths (www.vianatura.nl).

The case of the Ooijpolder shows that political and administrative support, a clear perspective, smart financial instruments and reliable prospects are vital conditions to establish landscape development in the long term. A well-considered, strategic plan creates a frame for private and public initiatives and helps to bring public authorities, private organizations and the public together. Successful implementation of the project relies on structural support of local, regional and national authorities, and on smart involvement of unexpected stakeholders and local initiatives.

The political and administrative circumstances in the Via Appia Regional Park may not seem appear comparable, but one should realize that the initial circumstances in the Ooijpolder were also unfavourable. Thanks to the timely efforts of individual persons who pursued strategic lobbying and convincing on different levels the initiative succeeded.

4.2.6 Guidelines on Sustainable Tourism from California US

California's guidelines for sustainable tourism areCalifornia's guidelines for sustainable tourism are based on an international standard that was appropriately modified to suit Californian landscape and culture. The guidelines are found in the

California Sustainable Tourism Handbook (Ponting & Ponting, 2009). It sets the context for sustainable tourism in California based on the Global Sustainable Tourism Criteria. This global standard was developed by a coalition of 32 organizations at the initiative of the United Nations Environment Programme (UNEP) and the United Nations World Tourism Organization (UNWTO). The global standards continue to evolve in response to new knowledge about effectiveness of on-going practices of sustainable tourism (refer to Global Sustainable Tourism Council (2013) for a listing and discussion of criteria).

The California Sustainable Tourism Handbook provides the tourism industry with guidelines for and examples of best practice, and a checklist for adoption of sustainable tourism practices. For a full-text handbook online see (Ponting & Ponting, 2009). The tourism industry has enthusiastically embraced the principles and practices set forth in the handbook and it has become a catalyst for tourism industry leaders interested in learning more about operating their organizations in a more sustainable manner (Hendricks et al. 2010).

California's tourism industry hosts a website - visitcalifornia.com - which showcases research, resources and case histories to inform and support adoption of sustainable tourism planning and products. Focal to this effort are two documents, which lay out the foundations and principles of bringing sustainability to tourism – the handbook mentioned above and a marketing strategies guide for sustainable practices. A study of this website reveals a high degree of cooperation among public and private entities in order to achieve sustainable tourism when the land areas are large and under multiple jurisdictions (as is the case for the Appian Way). Partnering with local, state and federal government agencies is recommended and governing agencies are generally accommodating. At the federal level, the US Forest Service "... has adopted a framework to implement a place-based recreation planning model that uses a collaborative process to work with local communities and outdoor recreation and tourism providers within regional destination areas." (Hendricks et al 2010, p. 28). The Bureau of Land Management (BLM) "... recognizes that different destinations have different social and environmental carrying capacities, and has limited use in particular locations to maintain their pristine nature. However, the BLM recognizes the importance of partnerships with the local communities to sustain a destination" and works with them to achieve greater stewardship (Hendricks et al 2010, p. 27).

Participation and partnering is often set by the extent of spatial scale, land rights and property ownerships. As an example, consider a web-based interactive geotourism map developed for the California Redwood Coast, a land expanse running from San Francisco to its northern border at Oregon. The virtual geomap pinpoints and describes every nature trail and point of interest marking the area's nature heritage (e.g., tide pool and mushroom walks, habitat of endangered animals). Development of the geomap was the collaborative outcome of the North Coast Tourism Council with representatives from six counties along the northern California coast, the Bureau of Land Management who is responsible for the federal lands that run through the corridor, and the National Geographic's Center for Sustainable Destinations who used its notable mapmaking and sustainable tourism expertise to help produce the geotourism map. In addition, private donations and volunteer work by countless residents throughout the area were critical. According to Richard Strom, project leader for the North Coast Tourism Council, "...this sustainability project has been led and driven by dozens of leaders donating time, money and expertise so we can all feel confident about our collective futures and help preserve the things that make the North Coast so extraordinary" (National Geographic Society, 2010).

The project was initiated and facilitated by the California Coastal National Monument as a means of supporting the communities that are impacted by the proximity of the linear landscape monument. The official project site, www.visitredwoodcoast.com, illustrates the achievement of this coalition.

Like the Redwood Coast, the Appian Way is well-suited for geotourism, the type of tourism that "... involves regional communities in providing the visitor with an authentic, enriching experience" and a type of tourism that "... sustains or enhances the geographical character of a place - its environment, culture, aesthetics, heritage, and the well-being of its residents" (National Geographic Society Center for Sustainable Destinations, (2013). Since the Appian Way includes multiple jurisdictions, communities and many landowners, the key to successful development of sustainable tourism is participation and partnership among communities, business and the governments of multiple jurisdictions. The guidelines for sustainable tourism found in the California Handbook offer a suitable template for initiating a place-based version of the Redwood Coast project for the Appian Way.

Public will and clear guidelines for sustainable

tourism, while necessary, are not sufficient for a successful outcome. The end product must offer financial viability. This is addressed in a second set of guidelines – the California Sustainable Tourism Marketing Handbook (Hendricks, 2010), also online. Here, idealism and reality are synchronized. The overall goal is to maintain the delicate balance between conservation of resources (e.g. heritage) and the quality of tourists' experiences. When the balance is lost, "de-marketing" is recommended to reduce product demand by discouraging use, shifting use to a different time of year or encouraging visitors toward another destination. To support the integrity of a sustainable plan, the California Travel and Tourism Commission monitors, evaluates and publically reports whether the sustainable tourism practices are successful. Benchmarking is one tool used to compare the success among tourism entities in their ability to achieve sustainability by following best practices. In combination, best practices and benchmarking establish normative behaviours that protect the industry from green washing, a misrepresentation of sustainability efforts. See the Hendricks (2010) report for examples of successful sustainability practices at tourism destinations and within the associated service industries of hospitality and touring.

4.2.7   Reflecting on case studies

The case studies provided useful lessons on how to make use of routes as a catalyst in the sustainable development of larger areas. Routes established as a tourist product can enable other initiatives in the area to profit from it, attaching their products and narratives to the existing one. Routes can be developed as way of understanding the nature and the territory, based on principles of sustainable development at all levels and linked to participatory tourism. This could not only bring economic benefits but at the same time it could raise the self-esteem of local people as well.

The key to successful development of sustainable tourism is participation and partnership among communities, business and the governments of multiple jurisdictions. Political and administrative support, a clear perspective, smart financial instruments and reliable prospects are vital conditions to establish landscape development on the long term.

4.3   Teaching sustainable landscapes for tourism and recreation

Frederico Meireles Rodrigues, Robert Holden, Simon Bell

4.3.1   Introduction

The first publication in this series, dealing with Antalya's landscape, has brought to the discussion a set of issues focusing on tourism related teaching. A general finding emerged, that tourism is not a major subject in its own right, and is rarely considered in most schools of landscape architecture, but instead is better treated as a very contemporary issue addressed in many planning and design projects, especially in countries where it is a major activity such as Turkey and other Mediterranean countries.

Following this discussion, the sustainable tourism group at the Le:Notre Forum in Rome proposed a practical approach of intensive programmes and workshops, focusing on the teaching of planning and designing tourism and recreation in landscape architecture. Learning from other courses and programmes, as well as learning from the experience at the Appia Antica Park (figs.1 and 2), set the foundation to the development of a teaching approach for this specific site, by means of an intensive programme design.

4.3.2   Learning from the students' point of view

Additionally, learning from the expectations from the students' is also very valuable. A helpful question to the students participating in the tourism group in Rome highlighted some of their needs and concerns. A general, broad question was asked about participating in courses in landscape architecture that relate to a specific place (such as Via Appia) and a specific theme (such as sustainable tourism):

Q: What is that you are after?

"I'm interested in experiencing the site and taking a journey" (young woman)

"I am very interested in onsite interaction and learning from memories" (young man)

"I would like to be part of the place and interested in the interaction with what is there, engaged with its problems" (young woman)

Experiencing the place is likely to be more fruitful than researching the place away from site. Role playing in discussions is often very motivational and appreciated by students.

"Students that are not local can experience different things" (young man)

xx Via Appia at the Appia Antica Regional Park. Tourism group field trip in Rome's Landscape Forum (Photo: Frederico Meireles Rodrigues)

The diversity of origin of students attending is of interest in order to perceive the place from different cultural points of view and to experience the site as a tourist does. They can see it through fresh eyes, although, of course, with training on what to see. It can be very revealing of the problems, and a way to assess how tourist products and landscape are often over-promised and under-delivered.

"I like the relaxation part of these on-site courses. Then it's hands on and work" (young man)

Relaxation and joint social activities can be extremely important to bond and create a sort of team spirit among the students, especially in smaller groups up to around twenty, and when new or foreign students join a group that has been together for several years. It makes a big difference

xx Tourism group sketching site and discussion at Circo di Massenzio. During the field visit the participants sketched at several places – this is a key technique for "reading the landscape" and of course can be applied anywhere, but it was a good experience to share this and remember, in the age of digital media, how effective - and cheap and simple - a technique it is. (Photo: Frederico Meireles Rodrigues)

to the cohesion and dynamics of the group and also includes a key aspect of the teaching model used. This is the idea that the work should vary in speed and intensity, so that some phases need more time to collect data or to reflect on concepts and ideas, while other phases benefit from short, quick, intensive studios where idea generation works very well.

"... Like working with local materials to do modelling" (young man)

Drawing, taking pictures, discussing the various panoramas and specifics and also using local materials to do on-site models can be very revealing and helpful to landscape interpretation and also to elaborate on design concepts.

4.3.3 Teaching landscape architecture, tourism and recreation

Some specific issues were considered important in order to design a course or intensive programme. One is to address themes and aspects in the field of tourism and recreation, which are significant for landscape architecture education. The second has to do with the methodologies and specific methods to approach such complex places and work with neighbouring disciplines. Finally, there are the outcomes these programmes can generate. Some might be more conventional (as happens with planning/design proposals), others more unconventional (such as telling a story about the landscape by reading its language).

xx Villa Borghese Park, Rome, April 2013 (Photo: Frederico Meireles Rodrigues)

xx The Central Plaza in the Parc Güell, Barcelona, originally built to be a centre of a new garden suburb, has instead become a major tourist attraction as the centre of the park (Image: Wikimedia Commons user "johnw")

4.3.4 Themes and aspects of sustainable tourism

The working group's discussions, in Rome made clear that there are many fields and disciplines, which are necessary as background in order to approach design and planning projects; not only those in the field of tourism.

Quite a number of these subjects are likely to be found in many landscape architecture programmes, and can support students' work on tourism and recreation related courses (table xx). Tourism specific subjects are usually not taught in landscape architecture programmes, but might be part of specific courses, such as some recent examples of ERASMUS Intensive programmes (see case-study 2).

The teaching sub-group discussions led to the proposition that the focus should not be about sustainable tourism per se, but instead on examining how to design and plan sustainable landscapes that affect and are affected by tourism and from which people benefit – as proposed by Lengkeek earlier in this chapter.

This is equally valid across scales of intervention. An urban park, for instance, depending on its context, can be affected by tourism and it is likely to be used by tourists (fig.xx) given the fact that it is a place for recreation and leisure and usually a point of attraction within the city (fig.xx). The impact of tourism on such places is very often a problem addressed by professional practice in landscape ar-

Related subjects	Specific subjects
History, heritage, meaning	Tourism general principles
Cultural landscapes	Tourism planning snd management
Human geography	Economy of tourism and landscape economy
Place identity and meaning	Regional and local tourism resources
Environmental psychology	Applied sustainability
Land management and infrastructures	Applied policy and legislation
Food production and agriculture	Tourism marketing
Biodiversity planning and management	Psychology of toursim
Forest and nature recreation	Recreation theory and practice
Participatory planning methods	Recreation planning and design

xx Examples of tourism related and specific subjects that affect the understanding of landscapes

chitecture studios.

For the same reason, but at a larger scale, when planning national or regional parks and reserves, tourism needs to be considered as something that will affect the landscape and similarly tourists will be affected by or attracted to the landscape. Here, a large scale landscape planning approach will reveal also a wider set of tourism assets and many possible target groups (see case-study 3).

In many cases and scales, it seems that the tourist appeal of these places is highly dependent on its meaning and the stories that can captivate people. Earlier in this chapter Lengkeek proposes that tourism should focus more on the meaning of a place, instead of being completely orientated to products and services (REF).

4.3.5 Approaches to sustainable tourism teaching

When considering teaching tourism in landscape architecture, an important starting point is to what extent tourism specific subjects need to be taught and at what point. This is especially important so that the subject can be properly integrated by students when developing design, planning and maintenance plan proposals.

One way is to start from small scale perception

Case study 1 : Esquisse Gare d'Eaux. Lille, France, 2011

1	Theme/title	Esquisse Gare d'Eaux, Lille
2	Date	Sunday 6 - Saturday 12 February 2011
3	Type of course	Intensive Programme
4	ECTS and duration	3.0 ECTS Six days, x 12 hours, 72 hours,
5	Description of the participants (teaching staff and students)	Ecole Nationale Supérieure d'Architecture et de Paysage de Lille (ENSAPL) and the University of Greenwich (UG): 21 Univ. of Greenwich students, 17 ENSAPL students, four tutors (Armelle Varcin, Findlay Ross, Robert Holden, Jamie Liversedge) plus input from Direction d'Urbanisme de Ville de Lille headed by the director, Mathieu Goetzke, ENSAPL students were all at year 3, Greenwich students were a mix of 3rd year Bachelor students (Landscape Architecture and Garden Design) and of 1st (Certificate) and 2nd year (Masters) graduate entry conversion students with backgrounds in building construction, architecture, environmental consultancy, etc.

xx The Canal Basin, Lille (Photo Robert Holden)

6	Organization and facilities	Base ENSAP: Villeneuve d'Asq, Lille. Dedicated studio open 9am-9pm Monday to Wednesday + 9am onwards all night on the Thursday. Six of the Greenwich students stayed with Lille students. Presentation at Euratechnologies building on site Friday PM.
7	Object of the course	The Gare d'Eaux is a former commercial canal basin
8	Main objectives and subject fields	Live Project to brief set by Direction d'Urbanisme Ville de Lille. For ENSAPL an English language based Esquisse. For Greenwich students use of a dedicated studio all week, exposure to intensive 12/12 tutorials. Design objectives were: - To explore master planning - To explore multi-national team working and thereby develop students' self-confidence. To work to a real life brief, and produce ideas proposals for use by the Ville de Lille in there planning and design development for the site.
9	Proposed deliverables and outputs	Stage 1: groups of 4 (Tuesday PM) group of four: slogan, sketch plan. Stage 2: groups of c.8 (Friday PM) model, storyboard, plan, sections. Formal presentations to be voiced by two students, one Lille and one Greenwich.
10	Short description of the structure	The basin is on a canal built parallel to the River Deûle and the area is a rather delightful post industrial wasteland with occasional bare and terraces of workers' houses which survive. It is a place for the marginal in society, for barge dwellers and for fisherman. The one exception is the Euratechnologie building, built and converted from a brick factory and which is developing a Parc d'activités to the east of the site. Ref. www.euratechnologies.com This is part of Lille's proposal to develop this area as an Ecoquartier.
11	Timetable	11.00 hrs Sunday 6 February: check in London St Pancras for Eurostar, by 11.10 hrs for 11.57hrs (calls Ebbsfleet 12.15) departure to Lille, arrive Lille 14.24 hrs, to meet with Lille students to sort out accommodation arrangements, visit site and late lunch or early dinner to build solidarity. 9.00 hrs Monday 7 February: Meet at Ecole d'architecture to form working groups of 4 or so (50:50 Lille Greenwich students) then travel by metro and walk to presentation (9h30) by Ville de Lille, history of the site, planning, the landowners view, the local community lunch (12h30), local bistros etc. Site visit (14h-16h) and group work (17h-21h).

xx Late night group working (P)hoto: Robert Holden

9.00 hrs Tuesday 8 February: Charrette continues: group work. 15.00hrs initial ideas presentation to tutors, eight to ten groups , , each group to make a 15 minutes stage 1 sales pitch, then marriage (arranged by staff) of the small groups to form larger groups of eight students. 17.30 re-form group as larger equips, begin work on stage 2.

9.00 hrs Wednesday 9 February: Ideas development all day.
9.00 hrs Thursday 10 February: Second internal review of all groups, AM visit by Lille planners for informal group tuition.

9.00 hrs Friday 11 February: Presentation preparation. 14.00-17.00hrs client/ public presentation of stage 2 at Euratechnologies building on-site to Directeur d'Urbanisme + local counsellors. 17.00hrs onward client/ public formal post presentation reception, then move to Tir Na Nog Irish pub for early evening drinks. Students to organise party.

12	Methodology and teaching methods	Group tutorial/ formal group review/ internal critiques/ external crit. In an international live project.
13	Results (how is this case study related to tourism and recreation?)	A master plan of the area around old canal basin or Gare d'Eau in and nineteenth century area of the city with former factories.

Nowadays Lille is a major metropolis with a population of 226,000 and is capital of Région du Nord with Greater Lille having a population of more than a million. It is 20 kms to the Belgian border (the Flemish name is Rijsel) and Lille's hinterland extends well into Flanders. It is 92 kms from Brussels. Formerly an area of coal mining and heavy industry and also textiles it is now very much a service centre. Like many northern English towns it has suffered from the decline of mining and industry and is in the process of reinventing itself as a service, administrative, hi-tech and design industry centre. It was European Capital of Culture in 2004.

Production of a set of master plan models for development of the site, largely water based, transforming an area of industrial wasteland into housing, office, workspace and water based recreation, so revitalising this area of the old river port close to the Vaubun Citadelle and leading to recreation and tourist development along the River Deûle.

Figure 5 - Final day on-site presentation to Lille planners and local councillors. Photo: Robert Holden

14	Lessons learned / outcomes	Team work in an intensive charrette / experience of working in English for the EN-SAPL students/ urban and landscape and recreation development ideas for Ville de Lille planners/ experience of working on a live project/ experience of productive work in an intensive situation.

Case study 2 : Forest recreation and nature tourism planning and design, Warsaw and Tatra Mountains, Poland, 2011

1	Theme/title	FORREC: Forest recreation and nature tourism
2	Date	July 2011
3	Type of course	ERASMUS Intensive programme
4	ECTS and duration	6 ECTS, 2 weeks
5	Description of the participants (teaching staff and students)	The participants were master students in landscape architecture, nature tourism, sports science, forestry and ecology from 5 universities in Poland, Portugal, Finland, Estonia and the UK. Teachers were professors from each institution.
6	Organization and facilities	The course was organised by the Warsaw University of Life Sciences, one week in Warsaw and one week in the Tatra Mountains. Students and staff stayed on campus the first week, using the department facilities, and in a hostel the second week
7	Object of the course	This was a two site project course. The first week studied an urban forest in Warsaw at a territorial planning and site design scale while the second week studied strategic aspects in a busy and popular area in the Tatra mountains.
8	Main objectives and subject fields	To provide students with an understanding of the context of forest recreation and nature tourism to provide them with tools and techniques for planning and designing outdoor recreation areas in a range of settings and for a range of people. The interdisciplinary nature of the course meant that it also aimed to help students from different backgrounds to work together.
9	Proposed deliverables and outputs	Proposed deliverables and outputs The project delivered a series of presentations, posters and site designs for each location
10	Short description of the structure	The project consisted of a series of lectures spread out over the time looking at different themes from the various disciplines represented, then field work and planning/design group work by mixed groups from each discipline and country.
11	Timetable	Week 1: Lectures, site visit, site planning and design project Week 2: Lectures, site visits, strategic planning project

Figure 6 - Tatras FORREC Poster. Capture: Simon Bell
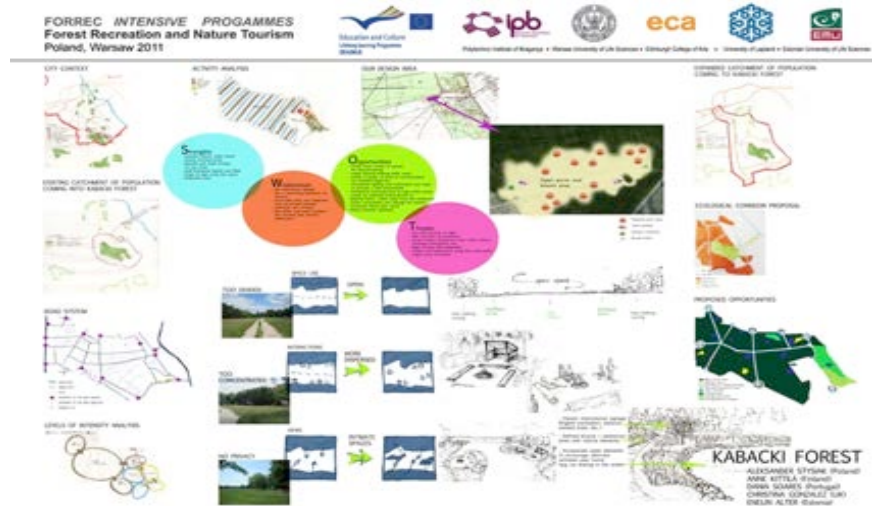
Figure 7 - Warsaw FORREC Poster. Capture: Simon Bell

12	Methodology and teaching methods	Lectures, guided site visits, group tutorial, internal critiques/external critiques.
13	Results (how is this case study related to tourism and recreation?)	This project focused on the issues faced by managers of busy tourism areas where pressures on the landscape are intense and conflicts with e.g. nature protection issues are frequent. Understanding trends in tourism and issues of site management under conditions of pressure help to show how integrated approaches ensure that a good tourism experience can be combined with landscape conservation and management.
14	Lessons learned / outcomes	Team work in an intensive workshop experience of working in English for the international students and experience of productive work in an intensive situation.

Case study 3 : Fisgas de Ermelo, National Park of Alvão, Vila Real, Portugal, 2012

1	Theme/title	Fisgas de Ermelo (National Park of Alvão): Landscape Reclamation and the recreation opportunities in the Protected areas.
2	Date	30 January to 4 February 2012
3	Type of course	Intensive Programme/Workshop of Landscape Architecture
4	ECTS and duration	3,0 ECTS: 1-day seminar, 1-day fieldtrip and 4 days of studio work, plus final presentation.
5	Description of the participants (teaching staff and students)	Master in landscape architecture students: UTAD (20) and the University of Porto (8); Master in forestry engineering students: UTAD (7); Teaching staff from the University of Porto (4) and from UTAD (9).
6	Organization and facilities	The workshop was organized by the Department of Forestry and Landscape Architecture at UTAD and took place at UTAD (conference, studios and exhibition) and in the field (field-trip). Students from Porto were invited by the local students to stay in their apartments for the week. Invited professors and experts stayed in a hotel.
7	Object of the course	The Fisgas of Ermelo are situated in the National Park of Alvão, a protected area that is part of a mountain complex in the north of Portugal. In the centre of a very steep and escarped watershed is a very dramatic waterfall with about 200m (one of the longest in Europe), falling through a large quartzite barrier. This site has been

Figure 8 - Fisgas de Ermelo waterfall. (Caption: Luís Silva)

used without any landscape planning and design, and so far, limited by the very difficult access. It has an immense potential.

8	Main objectives and subject fields	To develop the ability to design large scale landscapes, considering issues of landscape visual quality, landscape resilience to fire and climate change, tourism and recreation in a protected area. To be able to work in a multidisciplinary team.
9	Proposed deliverables and outputs	Two A1 posters, including the explanation of the methodology, site analysis, a master plan and other illustrative drawings and diagrams. Setting up an exhibition in the hall of the Forestry Science Building at UTAD.
10	Short description of the structure	A conference took place at the department auditorium. Counted with 7 speakers that approached topics from the large scale landscape planning, design and conservation, to comparable case-studies. All participants went to the site by bus on a fieldtrip; a barbecue on site was organized to be the place of discussion with the local forest managers and other technicians. The studio work was based on the landscape architecture facilities at UTAD. The exhibition was held in the hall of the Forestry Science building.
11	Timetable	Day 1: Conference Day 1 (after dinner): Studio work briefing Day 2: Field-trip Day 3-6: Studio group-work Day 6: Preparation of the exhibition
12	Methodology and teaching methods	Seminar; guided field-trip and on-site lectures; landscape design studio; methodological, planning and design critique
13	Results (how is this case study related to tourism and recreation?)	Students developed a series of posters including surveys and landscape analysis, as well as the planning and design proposals. These considered particularly the tourism as a one of the main drivers. The site is greatly affected by mass tourism in summer and it was proposed by most of the working groups that it should be accommodated within a series of rules. The local small communities were also con-
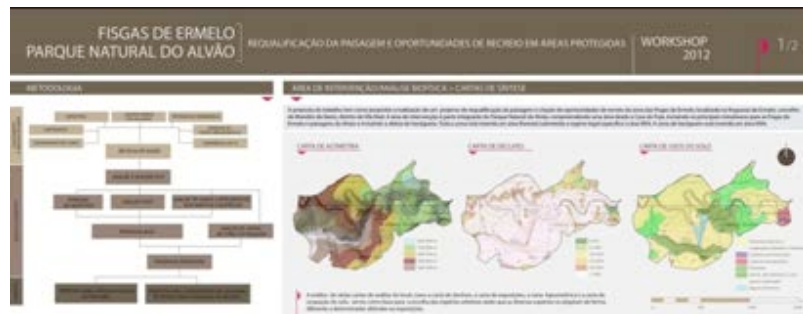
Figure 9 - Methodology set by one of the groups and some of their drawings to develop landscape analysis.
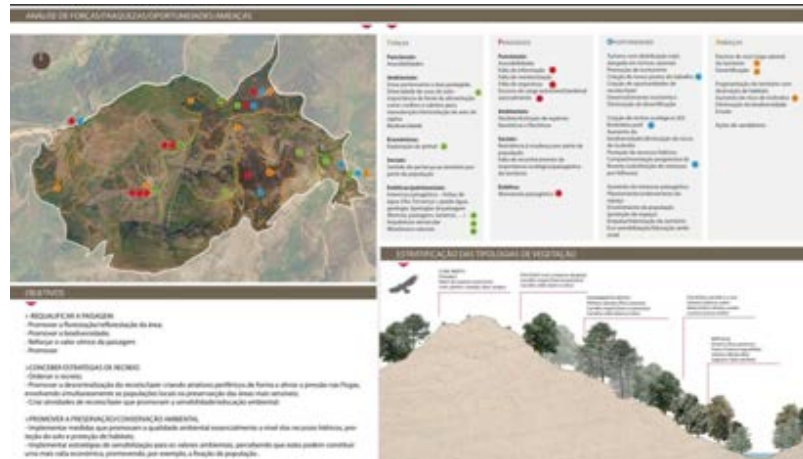
Figure 10 – Geo referenced SWOT analysis.
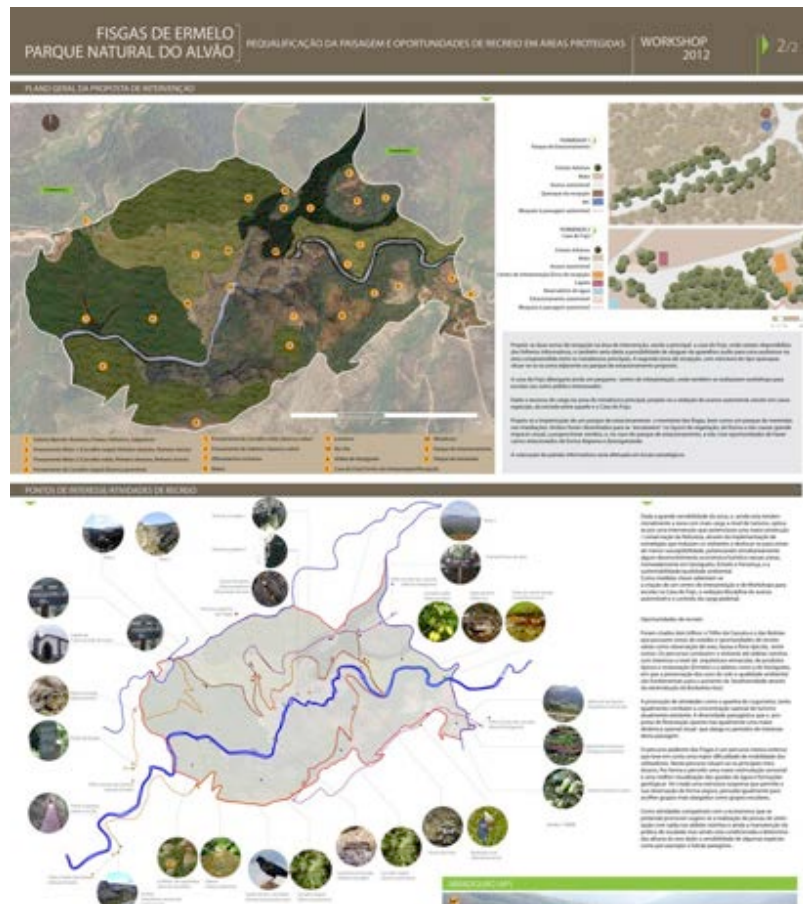
Figure 11 - Master plan supported by a synopsis and a diagram.

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sidered very valuable in the working groups proposals, by providing close services and benefiting from tourism as an economic driver.

| 14 | Lessons learned / outcomes | Group work and site visits proved to be extremely valuable for the quality of the final proposals. The fact that the workshop is seen by the students as off the routine results in higher levels of motivation and work capacity. Students were able to articulate a great number of issues in a very limited time by assigning tasks within the group and reporting back in short brainstorming sessions. |

Case study 4 : Deelen Airfield, near Arnhem NL, 2007

1	Theme/title	Fliegerhorst Deelen Airfield Camp, nr Arnhem, Gelderland, The Netherlands, Ideas Workshop
2	Date	12-16 February 2007
3	Type of course	Intensive Programme
4	ECTS and duration	2.0 ECTS Five days, x 12 hours, 60 hours
5	Description of the participants (teaching staff and students)	Universities of Kassel (Germany), Greenwich (Britain) and Wageningen (the Netherlands).29 students three tutors (Professor Diedrich Bruns, and Sabine Säck-da Silva, Kassel, Professor Adri van den Brink Wageningen and Robert Holden Greenwich) and for DLG Michel Ronden - CKN-SP project leader Mark Obbink - International design workshop project leader under auspices of Dutch Government Service for Land and Water Management (Dienst Landelijk Gebied (DLG). in the context of Interreg (the Interregional Cooperation Programme), students from 21 countries.
6	Organization and facilities	Fliegerhorst Deelen Airfield Camp, nr Arnhem, Gelderland, The Netherlands, Ideas Workshop in former NATO airbase residential accommodation and in Luftwaffe Officers' Mess, living on site, with self-catering, and group work in former mess hall.

Figure 12 - Camp set in a camouflage landscape. Photo: Robert Holden

7	Object of the course	The Development of Military Complexes Project: in 2004, DLG, the Government Service for Land and Water Management of the Netherlands Ministry of Agriculture, Nature and Food Quality (LNV), together with the Dutch National Real Estate Service (Dienst Domeinen) of the Netherlands Ministry of Economic Affairs), were commissioned to find new uses for 53 redundant military complexes (2100 hectares in total). Deelen Airfield was one of the 53 sites and included the 26 ha Fliegerhorst Deelen Airfield Camp. This was originally developed in 1940 by the Luftwaffe and later was a fighter airfield for the defence of the Ruhrgebiet from RAF and USAAF bombing campaigns from 1941-45 hence the idea of ideas workshop involving students from Britain, Germany and The Netherlands. Prior to 1940 the area had been part of the Hoge Veluwe estate which became a National Park in 1935. The challenge for the DLG was to find viable new uses for this estate.
8	Main objectives and subject fields	To explore news uses including tourism and nature conservation area uses in the format of an ideas competition. Design objectives were: • to explore master planning; • to explore new uses for the site with the aim of interesting potential developers and ultimately dispose of the land holding; and • to explore multi-national team working and thereby develop students' self-confidence. To work to a real life brief, with a real-life client (the Dienst Landelijk Gebied) and produce ideas proposals for use by the in there planning and design development for the site. Client objective were: • achieving a high-value and high-quality redevelopment in terms of landscape, nature, historic and natural monuments and experience, which is in keeping with the development guidelines stated in the Spatial Development Framework for Military Complexes; and • revenue Earning whereby, by means of a national equalisation system, these revenues contribute to properties elsewhere that cost money to return to their natural state.
9	Proposed deliverables and outputs	Stage 1 groups of 4 (Tuesday PM) group of four: slogan, sketch plan. Stage 2 groups of c.8 (Friday PM) model, story board, plan, sections. Formal presentations to stakeholders,
10	Short description of the structure	The students from the three universities were given the following assignment: • generate six high-potential design ideas for the redevelopment of the Camp Koningsweg North (CKN) and Seven Provinces (SP) complexes, within the planning policies set by the planning authority (Spatial Development Framework for Military Complexes, Gelderland ñ Arnhem North Arnhem Municipal Council) and the Visible Past vision document drawn up by DLG. The overall theme was the exploration of the spatial and economic potential is the redevelopment of the former Fliegerhorst Deelen. A number of research questions were formulated for the redevelopment of CKN-SP, which were further explored by the students with reference to three possible development scenarios. • What new economic functions and forms of use are appropriate in relation to the surroundings, and how will they contribute to a high-value and high-quality redevelopment? • How can the cultural-historical heritage of Fliegerhorst Deelen be utilised with a focus on development? • What ecological values and relationships should be enhanced or developed? The participants worked on three development scenarios in multidisciplinary groups: 1) Visible Past. On the basis of the original configuration of buildings from the Second World War, a plan would be drawn up for the redevelopment of the historic buildings and for the possible replacement development that would take place as compensation for the considerable 50% demolition ratio of the complex .

2) CKN-SP as the (economic) Arnhem - Hoge Veluwe National Park Gateway, and also a possible new entrance to the National Park. This is an extension of an idea from the Spatial Development Framework to make a direct connection with developments in the National Park.

3. An open commission based on a more spacious layout on the complex, combined with the creation of connections with developments outside of it. This would concern, for example, the intervening agricultural area, the nearby Petersburg campsite and the Diogenes bunker, which is being made available for other uses.

The students were asked to pay particular attention to the following research aspects:

- the valuable elements, patterns and structures to be preserved;
- the degree of accessibility for people and animals with the desired intensity of land use;
- the search area for replacement development as compensation for the extensive demolition in the northern part of CKN;
- the construction and architectural commission for the possible replacement development (location, extent and appearance);
- the spatial and functional programme of what is appropriate within the Veluwe's natural resources
- the possibilities for the restoration of the hunting and country estate character of the areas as a National Park that was present before the Second World War.

| 11 | Timetable |

Day 1.

On the evening of Monday 12 February there was a mutual exchange of expectations between DLG, the students and their supervisors. The students from the different universities were then divided into multidisciplinary design teams. A set division of roles for the group members and their supervisors was agreed.

Day 2

A collective site visit on the Tuesday morning (13 February) was followed by presentations from the stakeholders. Under the chairmanship of Professor Adri van den Brink, Mr Paul Thissen (Province of Gelderland), Mr Gijs Frencken (Arnhem City Council) and Ms Klara van den Berg (Schaarsbergen Village Council) presented the policy aims and other ambitions and wishes with regard to the redevelopment

Figure 13 - Site survey, exploring the beech avenues of Deelen, group led by Mark Obbink of the DLG. Photo: Robert Holden

of both military complexes. The history of Fliegerhorst Deelen was then discussed, with particular attention to the CKN and SP complexes. Mr Rene Vossebeld of the Dutch Federation of Aviation Archaeology described the construction and further post-war redevelopment of Fliegerhorst Deelen. Mr Joep Broeren (architect and student at the University of Eindhoven) discussed the architecture of the buildings and the philosophy behind them. On the Tuesday evening there followed a lecture on the Nieuwe Hollandse Waterlinie by Mr Peter Vos and Ms Rienke Groot of an inspiring example of an active design and planning strategy for the redevelopment of cultural heritage in the Netherlands.

Day 3
On the Wednesday afternoon (14 February) there was a visit to the nearby Hoge Veluwe National Park under the leadership of Mr Job Leidekker. During this lunchtime visit, the developments and ambitions of the park, the values in existence, park management and possible ideas regarding the development of both complexes were considered.

Figure 14 - Late night group tutorial sessions. Photo: Robert Holden

Days 2, 3 and 4
On the Tuesday, Wednesday and Thursday there was intensive work on ideas development. The initial selection of the six most promising and visionary ideas was made by means of a plenary design presentation. These ideas were then further developed in a presentation format made up of a draft concept with a title, scale model, plan map and spatial impressions or sketches. During the design session the supervisors from the participating universities and the DLG acted in a consultative role.

Day 5
Each design team presented its ideas by means of:
  • a PowerPoint presentation (5 slides maximum);
  • a poster presentation composed of a concept, a plan map and perspective illustrations;
  • a model.
These were critiqued by the organisers on a daily basis and then presented formally to a jury including representatives of the DLG, the Province of Gelderland, Arnhem Municipal Council and Schaarsbergen Village Council residents.
The results from the six groups were presented to the stakeholders and invited guests on the afternoon of Friday 16 February. An exhibition space was set up for this, and students gave a digital presentation. Under the leadership of Rolf M¸ller, regional manager of DLG East, the usefulness of the ideas was discussed with the stakeholders and invited guests.

12	Methodology and teaching methods	Group tutorial/ formal group review/ internal critiques/ external critique in an international live project.
13	Results (how is this case study related to tourism and recreation?)	A series of development ideas for this land holding including development based on nature conservation, military history and tourism based on the history of the site and its proximity to the Hoge Veluwe National Park and its position north of Arnhem. Production of a set of masterplan models for development of the site, transforming a military camp.
14	Lessons learned / outcomes	Team work in an intensive charrette/ experience working in a multi-lingual, international, multi-disciplinary groups developing landscape and recreation ideas for Dienst Landelijk Gebied/ experience of working on a live project/ experience of productive work in an intensive situation. For further details ref. DLG Netherlands Government Service for Land and Water Management in collaboration with Kassel University,University of Greenwich, Wageningen University Sourcebook Visible Past A source of inspiration for the redevelopment of military complexes Kamp Koningsweg Noord and Zeven Provinciën. Arnhem, Province of Gelderland, the Netherlands (2007) www. ontwikkelingmilitaireterreinen.nl/files/koningsweg_sourcebook.pdf

Case study 5 : Outdoor recreation Planning and design, Otepää, 2012

1	Theme/title	Outdoor recreation planning and design/Portfolio Project: Rural Planning
2	Date	Autumn semester
3	Type of course	Project course on the master programme of both universities
4	ECTS and duration	12 ECTS, September to December 2012
5	Description of the participants (teaching staff and students)	The participants are first year master students of landscape architecture from Estonian University of Life Sciences and second year conversion master students from Edinburgh College of Art, University of Edinburgh. The teacher is Simon Bell, who is responsible for both courses, as he splits his time between the two institutions
6	Organization and facilities	The course is run in both university departments, partly together and partly separately. There are two trips by the Edinburgh students to Estonia
7	Object of the course	This was a project in Otepää municipality (the winter sports capital of Estonia) which the municipality had asked the university to help them with, so there was a real client. The objectives were to develop a strategic development plan based on the concept of landscape sensitivity and capacity using landscape character units as a zoning technique and after this to design a site deriving from the strategy.

Figure 15 - Otepää view. Photo: Simon Bell

8	Main objectives and subject fields	Aim of the course: to provide students with an understanding of the context of outdoor recreation and to provide them with tools and techniques for planning and designing outdoor recreation areas in a range of settings and for a range of people. Learning outcomes: following the course students will be able to: • understand the process of planning, design and management of outdoor recreation in the context of modern urbanised society; • be able to carry out research into recreation planning needs; • be able to formulate strategic landscape policies for outdoor recreation based on survey and analysis of many types of data; and • be able to design sites for different uses and at different scales.
9	Proposed deliverables and outputs	The project delivered a series of reports on the area and on the recreation demand, a landscape character analysis, a strategic plan (capacity study) and a series of site designs
10	Short description of the structure	The project consisted of a series of lectures spread out over the semester, 3 phases of project work, field visits at each stage and several design intensives. The students from Edinburgh did a landscape character assessment (LCA) while the Estonian students did the other inventories, then they worked together on the capacity study after which they took individual areas. Each group of students was assessed in the group and as individuals according to the requirements of their respective courses
11	Timetable	September – Introduction, first field visit and collection of scoping information. First visit by Edinburgh students. Meeting with clients October – collection of detailed inventories and preparation of LCA, presentation of LCA to clients. November – second visit of Edinburgh students and analysis leading to capacity studies December – individual designs and completion of all documentation. Presentation to clients.
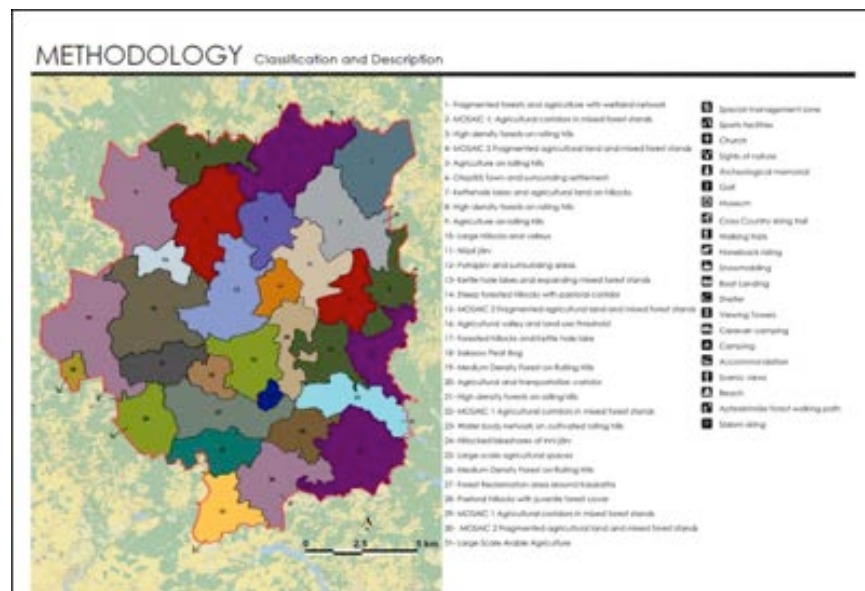
Figure 16 - Otepää landscape classification and description. Capture: Simon Bell

12	Methodology and teaching methods	Lectures, guided site visits, group tutorial, individual tutorial, internal crit/external crit.
13	Results (how is this case study related to tourism and recreation?)	The area studied is the winter sports and tourism capital of Estonia, famous for its skiing, and also popular in summer. The area is coming under more pressure and there are issues of management as it is mainly also a landscape protection area. The types of visitors are changing and their expectations are rising. There is demand for

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more facilities and accommodation which risks spoiling some of the area. The local municipality have limited expertise and capacity to solve it themselves.
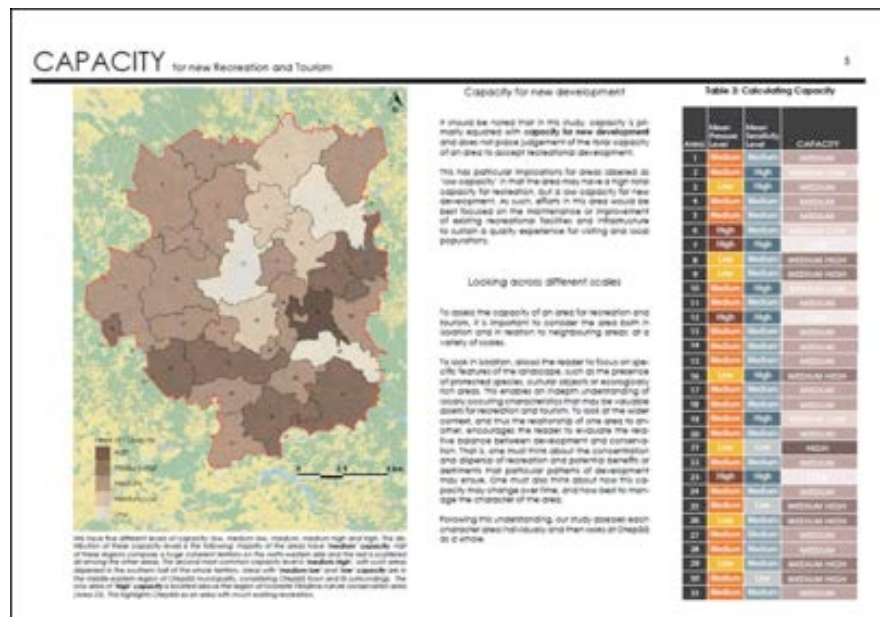
Figure 17 - Capacity map Otepää. Capture: Simon Bell

4.3.7   Reflecting on teaching case studies

The subject of recreation or tourism planning and design should be taught from the strategic aspect. Tourism can be a driver for landscape change at a national or regional scale. Territorial planning and site design of a limited area or region (such as the Via Appia Antica Regional Park), can act as a catalyst for wider change.

At the territorial planning scale, techniques such as zoning are well known. However, a landscape approach is to look at landscape capacity as a concept and to base the planning around landscape character units, for example, with assessment of the pressures and sensitivities of these units to different forms of recreation or tourism. This has been done in Otepää in Estonia for the project mentioned above.

The experience of site is critical to approaching design and planning issues in landscape architecture teaching. Many methods can intensify this experience and maximize knowledge of the specific characteristics that can create meaning. Intensive short ideas workshops can work well provided there is good preparation. Vital is use of information hubs, such as blogs or local NGO websites. Comprehensive and well prepared introduction by local experts with public participation involving residents at the beginning of such workshops can be a very efficient way to concentrate very valuable information in a limited time scale, whether five days as in the Lille, Deelen and Fisgas studies or one semester (three months) as in the Otepää study. In all these studies there has been thorough preparation beforehand and the use of group work.

At the master planning and design scale, physical model making is key to bringing groups from different universities together. Such group work is an excellent way of developing a live project experience. At a community level it can be a way of focusing community thinking and is similar to Ideas Competitions in that it permits a range of approaches to landscape planning of a an area for subsequent exhibition and discussion. The Lille study was also well reported in the regional press. In that respect such workshops or sketching sessions are similar to UDATS (Urban Design Action Teams) and can be part of the planning process. A key is to gain the support and involvement of local interest groups (ranging from planning authorities and community groups) beforehand. Short workshops of this nature need full preparation.

4.4   Research issues and potentials arising from the area

By Sabine Bouce-Pillon, with contributions of Isabel Aguirre and Silvija Rubene

Discussions in the tourism group underlined opportunities for cultural and eco-tourism in the Appia Antica Regional Park and surroundings as a possible catalyst for sustainable development of

the urban-rural fringe area as a whole. Given that perspective, different research domains were related to some of the four central themes that were defined after the field visit.

4.4.1 Recreation and tourism in the broader field of sustainable regional development

Two relevant interdisciplinary approaches were distinguished in landscape planning and design research: an integrated approach to urban-rural fringe development; and planning sustainable and multifunctional landscapes.

As early as the 1960s, multidisciplinary and integrated approaches have traced the history of the establishment of the Via Appia Antica Regional Park. Of course, this procedure has to be expanded to a larger scale/community, to encompass the existing parks of the area, and take into account the local inhabitants, in particular those of Rome.

A focus on the landscape dynamics of the urban-rural fringe will potentially contribute in developing leisure attractions and sustainable tourism in such areas (Swarbrooke, 1998).
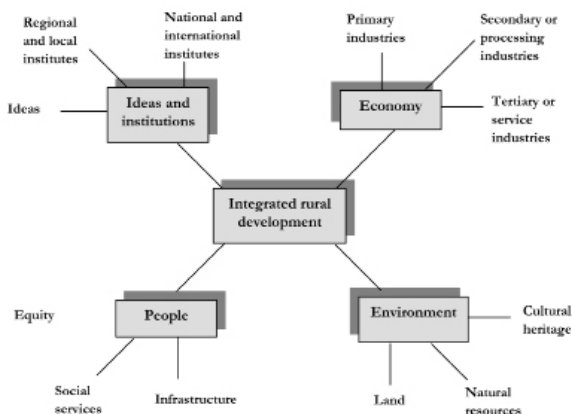
XX Scope of integrated rural development (Lordkipanidze 2002)

Integrated development is a way of promoting local improvements, by recognising the inter-dependence of economic, social and environmental objectives and needs, the individuality of areas, and their distinctive characters; and the involvement of local communities in developing programmes for their own future (Lordkipanidze, 2002). Figure XX gives an example of the scope of an integrated rural development that stressed the importance of four resources: (1) people skills, (2) local economy, (3) landscape and (4) ideas, institutions and power structures (Lordkipanidze, 2002).

Several examples demonstrate the benefits of this approach:
- residents' involvement in natural area planning in Helsinki Metropolitan area (Faehnle et al., 2011);
- residents' involvement in local landscape character assessment in Cheshire (UK) (James and Gittins 2007); and
- management of commonly used sources and sustainable tourism development (Briassoulis, 2002).

Some new theoretical insights on sustainable development come from the concept of social-ecological systems linked to resilience analysis, adaptive resources management, and adaptive governance (Walter, 2004). The resilience approach emphasizes non-linear dynamics of systems that explain how periods of changes interplay temporal and spatial dimensions (Folke, 2006; Folke et al, 2010).

Bridge to the country – the green infrastructure connecting rural to urban areas
Gateway to the town – features that make a powerful impression of the region
Health centre – the health benefits of outdoor recreation
Classroom – hands-on learning such as farm education centres
Recycling centre – i.e. landscaped quarries and landfills
Power plant – to expand, harness and use renewable energies
Productive landscape – i.e. agriculture, forestry
Place to live sustainably – scope for compact, energy-efficient settlements close to work and leisure
Engine for regeneration – increasing the value of often run-down landscapes
Nature reserve - existing ecological assets and scope for creating new ones
Heritage resource – hosting rich and diverse archaeological and historical legacy.
Locational function – occupying a position with potential to reduce travel, reduce food miles, and increase social inclusion

xx Multiple functions and values of the urban fringe landscape (Selman, 2009; based on Ove Arup & Partners Ltd, 2004; Gallent at al., 2004; Countryside Agency and Groundwork Trust, 2005)

4.4.2 Aspects of tourism and recreation development

When discussing the tourism and recreational potential of the Via Appia Antica Regional Park the history and heritage of the Via Appia Antica was an obvious theme. The encounter with historic and cultural aspects relating to particular

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'pasts' of countries, places and communities is an important motive for travelling; domestic as well as international. In this context the past is turned into a commercial product and a political message about a collective identity. History becomes heritage, an interpretation of the past, based on selectivity of what is known, considered important and meaningful. Heritage emerges from historical consciousness and the need for identity, partly as a response to the process of globalization and the diversification of individualized culture. Visits to heritage sites are motivated by a desire to enhance one's own cultural self, to learn something new, to spend time with friends and family and to satisfy one's curiosity or simply to use up excess time. In short, heritage tourism encompasses a multitude of motives, resources and experiences and is different for every individual and every place visited (Timothy, 2011).

When heritage is used for tourism product development, it needs a simple message that reaches a large number of people, smoothing away nuances and accentuating the aspects that appeal most to a general public. On the other hand, heritage as tourist attraction appeals to people for various reasons. This differentiation enables to respond to different groups with heritage tourism, with different consequences for commoditization, the underpinning of identities and impacts on the cultural environment.

Apart from heritage, more general research domains related to recreation and tourism and landscape based tourism themes were considered as well: the development of sustainable infrastructures and tourism; the management of domestic recreation and tourism; cultural landscape and food culture (Hall & Gössling, 2013; Sarlöv Herlin & Tellström, 2013; Pinto-Correia & Gonzalez, 2013); agriculture; nature; and water management. The latter also have a close relation with the theme of ecosystem services in a peri-urban context.

4.4.3 Ecosystem services in a peri-urban context

Landscape sustainability is closely linked to responsible use of landscape sources for human well being, often referred to as ecosystem services: (Selman 2008):
- provisioning services such as food, water, timber, and fibres;
- regulating services that affect climate, floods, disease, wastes, and water quality;
- promoting cultural services that deliver recreational, aesthetic, and spiritual values; and

- supporting services such as soil formation, photosynthesis, and nutrient cycling.

Selman (2009) refers to a number of studies of multiple functions and values in urban fringe landscapes in the United Kingdom and the implementation of multifunctional concepts in planning and policy. Other studies focus on specific functions in urban fringe landscapes, such as nature (Lachmund, 2013) and agriculture (Duchemin et al 2008 ; Pourias, 2013; Boswell, 2013). Agriculture in an urban fringe context is likely to be diversified, being the re-allocation of farming's productive resources, such as land, capital, farm equipment and paid labour, into new activities. These can be new crops or livestock products, value-adding activities, provision of services to other farmers and non-farming activities. Factors leading to decisions to diversify are many, but include responding to changing consumer demands or changing government policy, reducing risk, responding to external shocks and, more recently, as a consequence of climate change. Diversification of agriculture refers to the shift to regional production of a number of crops, and aims to improve soil health and a dynamic equilibrium of the agro-ecosystem. Crop diversification takes into account the economic returns from different value-added crops. It implies a shifting of resources from low value crops to high value crops, usually intended for human consumption such as fresh market fruits and vegetables. There are two approaches to crop diversification in agriculture. First is horizontal diversification, which is the primary approach to crop diversification in production agriculture. The second is the vertical diversification approach in which farmers and others add value to products through processing, regional branding, packaging, merchandising, or other efforts to enhance the product.

Chapter 5

Reflections and conclusions

xx The Tourism group on site (photo Marlies Brinkhuijsen)

The main question for the Via Appia Antica Regional Park appeared not to be how the Appian Way and the aqueducts could be developed as tourist attractions, but rather how the Regional Park could be developed in a sustainable way, including the development of the Appian Way with its historic monuments as a tourist attraction. Tourism development was thus considered as a strategy to achieve other aims, and different conditions of sustainable tourism as an adaptive paradigm (Hunter, 1997) can be used as conceptual vehicles for tourism policy formulation. This change of perspective formed the starting point for the workshop.

The workshop participants perceived the Appia Antica Regional Park as an urban fringe area, a degraded agricultural landscape fragmented by heavy infrastructure and under heavy urban pressure. At the same time the participants observed that the area includes many archaeological and historical remains and that it is a large green space

in the city. The citizens of Rome are the most important group of visitors. The Appia Antica is considered as a supplement for some specific tourist target groups, who might also be interested in other qualities of the area such as its nature and agriculture; potentials that are not fully employed yet in the Appia Antica Regional Park. There is no clear cohesive image or identity. However it seems more sensible to distinguish different overlapping identities, related to different groups of visitors and users.

The round table experts discussed the idea of multiple meanings and identities as well. Penny Travlou took up Lengkeek's keynote and suggested the possibility of multi-layered narratives on top of a landscape design, by use of new media technologies. Like in the project Ubiquitous Pompei, new images can be added by new technologies in addition to historic or archaeological images.

Marlies Brinkhuijsen argued that that viewing the Via Appia as a tourist attraction interferes with the use and meaning as a neighbourhood park for people who live in the adjacent neighbourhoods, and a metropolitan park and a productive landscape for the citizens of Rome. The area is not an archaeological museum, a consumptive tourist attraction; it is a living landscape that continuously changes. Future perspectives should be based on multiple identities and take flexibility and resilience into account.

Mariella Zoppi introduced the concept of authenticity. Tourists are attracted to a site due to its authenticity. By exploiting its economic potential, it may easily lead to site consumption, which projects the site into artificial and simplified virtual dimensions. She argued that authenticity must be continuously maintained and fostered to improve

the site's meaning as represented by the historical and social stratification established through time, and that enhancing the value of the site is synonymous with consciousness and sustainability, as the site is provided with an added value and not diminished in its authenticity and integrity.

Richard Tellström looked at the landscape from the perspective of food culture. In his eyes, food culture is always an idea, and, as a result, food tourism is an idea, a dream as well, a travel in a landscape of ideas. He distinguished different cultural systems of food culture; based on land or water ownership, based on custom and tradition, and consumer food culture. The relation of food with the landscape may be different; the meals are all cooked within the same cultural system. One could use this as a metaphor for the diverse landscape of the Via Appia Antica Regional Park as a place for the producing of contemporary ideas of the landscape.

Four themes in the development of the Via Appia Antica Regional Park were defined:
- recreation and tourism in the broader field of sustainable regional development;
- aspects of tourism and recreation development: target groups, themes, narratives, accessibility and connectivity for slow traffic;
- ecosystem services in a peri-urban context: ecotourism, local products, urban agriculture, water; and
- public involvement, participation and partnership.

The three sub groups on innovative practice, teaching and research elaborated on these four themes and collected a range of case studies of planning and designing tourism or recreation based regional development. The case studies provided valuable notions for the development of the Via Appia Antica Regional Park and for application elsewhere.

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Section 3: R

*The rural fringe and Rome -
production or culture?*

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Gunther Vogt (keynote speaker)

Chapter R1

The rural fringe in a metropolitan landscape

In 2012, the UN (UNITED NATIONS Population Division, 2012) announced that the world population hit 7 billion, and in 2011 that half of it already lived in urban settlements. As Meeres (2013) wrote, there was a fanfare about "an urban world" in the popular Press, but little explanation of what it really meant: not only do urban settlements vary to include large villages and small towns as well as cities, there is an imbalance in the urban-rural distributions of the more and less developed regions of the world. As the UN reported in 2011 the vast majority of Europe's population lives and will continue to live in a polycentric sprawl of well-connected towns and smaller cities to which the rural population has relatively easy access. Europe, it seems, is already about as urban as it will be.

'Sprawl', first identified in the United States where it was the result of 1950's policies that encouraged urban dispersal, has a negative connotation today and is taken to refer to the low-density development that occurs in the outer suburbs of a town. The suburban ideal of the Garden City greatly influenced twentieth century urban planning in Britain and America, but had less influence in continental Europe where the traditionally "compact" European city, distinct from its countryside, was long understood as an ideal. Nevertheless, in the past half-century the compact European town has evolved - towns and their suburbs have spread to the extent that in Europe, too, the void has supplanted the block. In 2010, Piorr et al. wrote that the total area of built land (the blocks) in Europe's low-density peri-urban areas equalled that of Europe's urban centres and that it was growing four times as fast.

As sprawl occurs, settlements spread outwards into their rural surroundings incorporating them into what can be described as a "more urban" structure. Agricultural land is converted to suburban industrial, commercial or residential use, and so a new type of population (and workforce) appears in the once rural fringes of the city. Farmland that remains within the rural fringe can be disconnected, or distanced, from a necessary agricultural infrastructure, farms may be isolated, or intersected by roads, railways and other urban infrastructure and thus, as farming itself becomes more difficult, a traditional type of landscape loses its cultural meaning and function.

The rapid peri-urban spread of Europe's towns has degraded landscapes on the city edge and risks endangering the environment on a much larger scale. On the outskirts of Rome, the once-agricultural area on either side of the river Tiber has undergone the types of transformations described above and remains under continued pressure from sprawl.

As part of the LE:NOTRE Forum, a site south of the Dragona Meander was studied, and a landscape approach applied to help understand the complexity of the processes acting on the land and provide a strategy for improving landscape quality and services and thus quality of life for both Dragona's inhabitants and those of Rome.

Fig. 1_ Aerial view: Zurich and Lake Zurich

Chapter R2

Keynote speech: Günter Vogt, ETH

The following summary of Gunther Vogt's address to the LE:NOTRE Forum in Rome is based on notes made by Jeroen de Vries.

In common with many other countries, the palimpsest of Switzerland's rural landscape, with urban pop-ups, has been redrawn as an urbanised countryside. Vogt reminded us that not so long ago, in Switzerland too, towns were surrounded by a traditional agricultural landscape, but this is no longer is the case. Furthermore, such transformations are occurring all over the world. The rapid transformation of South East Asian cities was quoted: in 1995 70% of China's population lived in the countryside and in 2050 70% will live in cities. India is also transforming as the countryside is abandoned for the city, creating more than two thousand new cities in next decade and a network of mega-cities that connect Mumbai, Kolkata and Dehli.

2.1 The role of landscape in metropolitan areas

Such transformation is evidence of cultural change that has affected parts of Europe for years. Vogt questions the future of Europe's rural land-scapes, long abandoned by a population that left for the city, evoking the many touristic resorts that were recently built in the now more-or-less empty landscapes of the Swiss Alps - these beautiful landscapes are defined by their topography, their forests and water systems, offering open spaces for inhabitants and tourists alike. Vogt suggests that the landscape is ignored, or neglected in many ways, mentioning as an example high-speed travel from Zürich to Milan. Why travel fast through a dark tunnel instead of slowly through a wonderful landscape asks Vogt. Why not take a different approach to the landscape?

2.2 Protecting landscape

For their protection beautiful landscapes are sometimes designated as National Parks but, according to Vogt, such designation imposes all sorts of constraints on the people that live there, or would live there, if the land were not protected as if it were some sort of museum. Vogt urges the discipline of landscape architecture to address this dilemma.

2.3 Perception of the landscape by people

From the perspective of the city dweller, Vogt tells us, rural landscapes function as parks - on an international, national, regional and/or local scale.
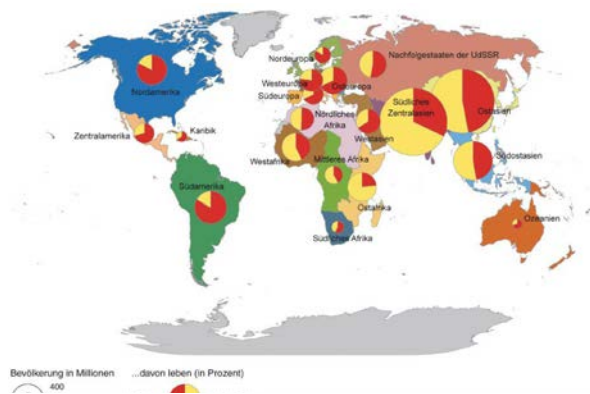
Fig. 2_ Global urbanisation : 2009

Fig. 6_ Rectory Farm and the green belt of London
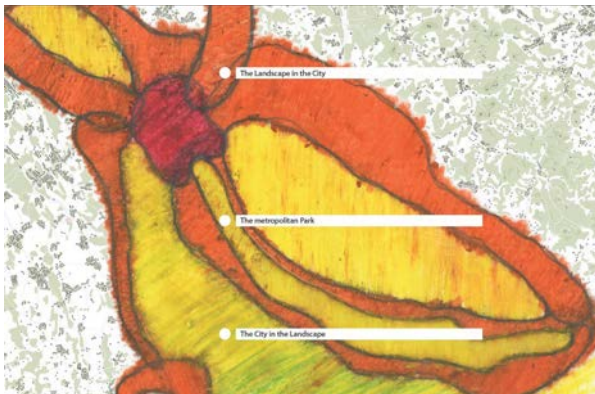
Fig. 3_ Landscape concept Zurich area

Fig. 7_ Park structure : Rectory Farm, London
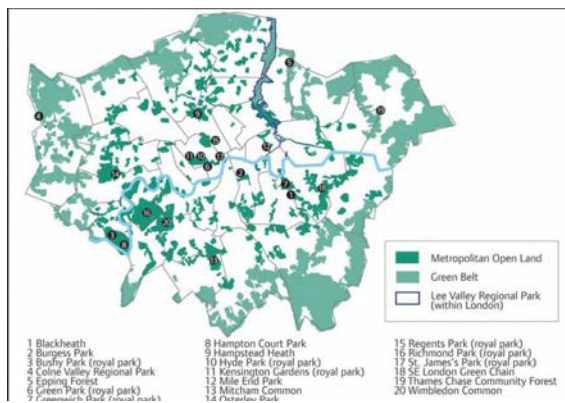
Fig. 4_ London – Metropolitan open land, green belt

Fig. 8_ Proposal : development Dagenham Docks
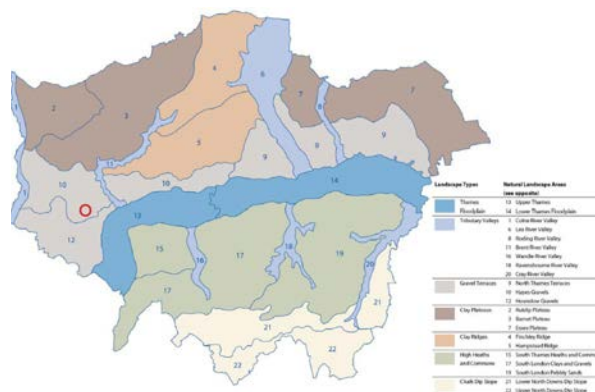
Fig. 5_ Landscape types : London, location of Rectory park
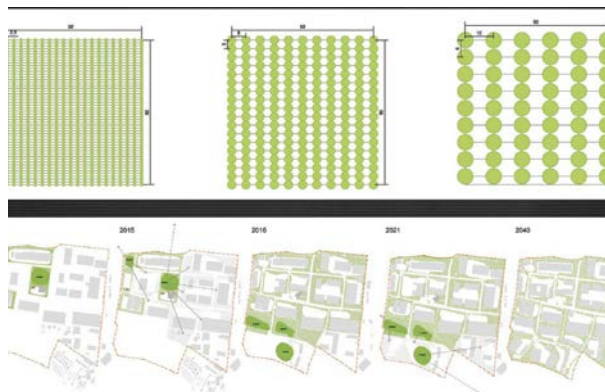
Fig. 9_ Woodland grid as frame work (development 2010-2040)
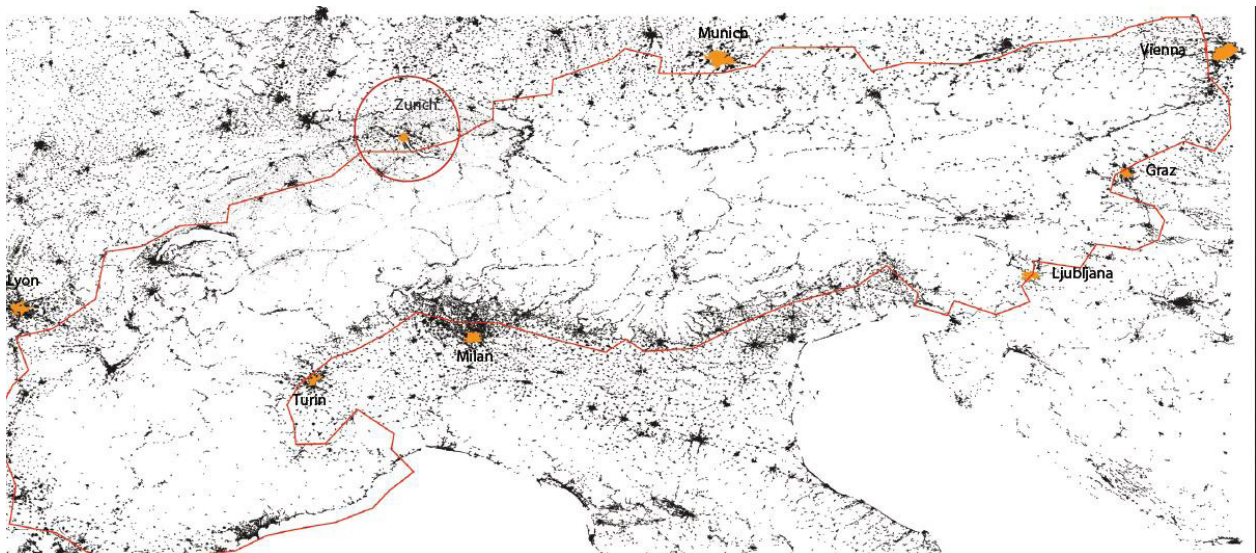
Fig. 10_ Metropoles around the Swiss Alps

Vogt describes interviewing people in Zürich: inhabitants of the city perceive Switzerland's lakes, mountains and rural landscapes as part of a metropolitan park. The citizens of Zurich consider Lake Zurich to be of great visual value, but also that it is more important to be able to see it from the house, or garden, or street, than to swim in it, or sail on it, or walk beside it - although of course they could do that too. Why would any of them see it as a productive landscape?

According to Vogt, inhabitants of Zurich consider the city differently from those who live elsewhere. The majority of its inhabitants probably spend the week in the city, but leave for the Alps, or somewhere else, close-by, at the weekend. This is probably the same for the inhabitants of every city of the Alpine region: Milan, Vienna, Munich, Lyon and Turin, but also London. One could say that the Swiss Alpine region should be considered as a park, as Central Park in New York!

2.4 Researching landscape aspects in cities

Vogt works on issues of rural space at local, regional and global scales. At the international scale, Vogt observes (without explanation) that Zurich can be compared to a village whilst London is a city still surrounded by countryside. Vogt wonders what makes London different from Zurich. How did London preserve so much green land within its limits despite urbanization: royal parks in the centre, scattered parks in the outer city and a greenbelt? Does it have something to do with the British culture?

Vogt describes two projects that he believes help define a new role for landscape in the London metropolitan area: Rectory Farm, in Hounslow, outer London and the new London Sustainable Industries Park at Dagenham Docks, east London.

Rectory Farm served as farmland since records began, until 1996, but the second half of the twentieth century saw a transformation of this area into an expanse of housing estates on the outskirts of the newly completed Heathrow airport. Surrounded by housing, recently abandoned (as farmland), today this 45-hectare site is proposed as a new public park comprising wildflower meadows, woodlands, recreation, community allotments and gardens.

The new park will also form part of a wider rejuvenation project. After the park opens, work will begin to extract gravel held beneath the surface, providing materials for the construction industry. The planned project will provide further benefits to the local community in so far as the space created by the gravel extraction will be transformed into underground warehouse and storage units, creating business and employment opportunities in and around Hounslow.

Vogt explains his design for Rectory Farm park as a spatial arrangement revealed by site conditions, ecological conditions, the genius loci and local way of life.

London Sustainable Industries Park is the second project Vogt describes. It is part of the Thames Gateway and concerns the transformation of industrial dockland into business park over a 30 year time span. Vogt hopes to create a 'working' woodland landscape for the new 142 ha London

Sustainable Industries Park that aims to become self-sustainable, developing an industrial symbiosis over time, where businesses use each other's by-products and share resources. The managed woodland should provide a dynamic spatial setting for the park as it emerges and develops up to 2040, fulfilling a purpose as a working landscape, as well as physically unifying the park as a single entity.

2.5 Awareness of food production

Vogt's architecture students at ETH are thinking about urban farming; Vogt wants them to understand how food production is connected to both the landscape and urban development and so to start he questions them about their daily lives and influences on local, regional and global effects. Vogt's students think, for the first time, about the effects of drinking water from Zurich, eating apples from Switzerland and organic salads imported from elsewhere. Vogt believes that landscape architects should be aware of how and where food is produced and of the primary and secondary effects the food industry has on the landscape. Food production, transport, sale and consumption, at local, regional, national and international scales has far-reaching effects on social relations, community development and landscapes and requires a new planning approach.

2.6 Conclusions

Vogt concludes that rural areas are greatly influenced by urban developments, by the use that urban inhabitants make of them and their perception of them. The majority of the world's population already lives in an urban environment and as rural populations flock to the city in Asia and other rapidly developing countries there will be further great transformation of both metropolitan areas and rural landscapes.

According to Vogt, in Europe, once productive landscapes near metropolitan areas have deteriorated as they have emptied of people and no longer serve any particular use; turning "beautiful" places into forest parks (or museums) is not a sustainable solution, they must serve some use.

Vogt believes that city dwellers value landscapes for their beauty, and cultural heritage, but have no idea about the value of their ecological services or

Fig. 11_ Living building project, London 2010-2040

The rural fringe, and Rome

Fig. 12_ Land within the Dragona Loop

contribution to the economy.

Vogt suggests that landscape architects are also insufficiently aware of how the food industry influences the landscape and suggests that local, national and international food networks should be part of planning considerations. According to Vogt, in this globalised market, although the "culture of food" and its influence on landscape planning differ from place to place, local food production mainly contributes towards well-being, community building and local ecology.

Chapter R 3 Local expert

Cristiana Costanzo

As a basis for the meeting, the "rural group" studied agricultural land located on the outskirts of Rome, part of a semi-urban fringe that stretches south westwards from Rome, to the sea, along the banks of the river Tiber. The study focused in particular on a bend of the river, known as the Dragona Loop.

The following text is based on notes and literature provided by Dr Cristiana Costanzo, of La Sapienza, Rome, the State Natural Reserve of the Roman Coast and the Italian Society for the Protection of Birds.

3.1 A long period of natural change

The land between the Roman Coast and Rome was, many years ago, very different from its pres-

ent-day appearance. The current day configuration of the Tiber delta is the result of an evolution that started at the beginning of the last ice age when the sea level was approximately 120 m lower than it is today and the river flowed approximately several km further out.

As millennia passed, the sea level gradually rose until, about 5,000 years ago, the phenomenon stabilized, having created a low lagoon area near the mouth of the river Tiber. Within the lagoon, salt-water evaporation occurred, forming salt-pans that were utilized to their maximum capacity during Ancient Roman times, when the first roads also traversed the terrain linking the city of Rome to the sea and the settlement at Ostia, which was at that time located on the coast, with Portus to the north, on the other side of the delta.

During the Middle Ages, a phase of erosion combined with frequent river flooding changed the whole coastal area near the Tiber delta until, by the 9th century, the delta assumed the characteristics that it maintains today: those of a sandy zone along the coast and a swampy inland area, below sea level, invaded by small and larger pools.

3.2 Reclamation, agriculture, urbanisation... and appreciation.

The *Roman Agro* refers to the vast geographical area that surrounds the city of Rome. It includes the portion of territory, object of this study, that extends to the south-west beyond the city, through suburbs, wetlands, farmlands, dunes and woodland to the Tyrrhenian Sea. Politically and historically, the Agro represents the zone of influence of the city, reflecting contractions and expansions
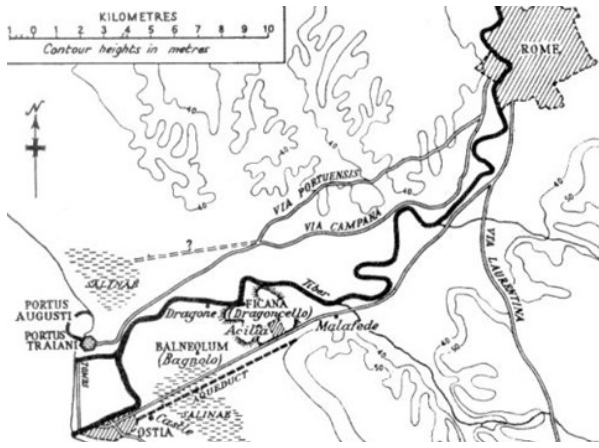
Fig. 13_ Evolution of the coastline since Roman times

Fig. 15_ Lido di Roma Antica al territorio Laurentino.
1968 Fidenzoni/Gusmani

that have occurred through the ages.

The floodplain of the river Tiber, including land now lying within the Dragona Meander, all of it part of Rome's contemporary Agro, was gradually transformed as described above, its changing states linked with thousands of years of fluctuating water levels, a shifting river delta and evolution of technological know-how and cultural practices.

Evidence of road and town building, salt collection and water management dating from the Roman era may be seen in the ancient settlements of Portus and Ostia that lay on the then coastline. The nearby settlement of Acilia also dates from Roman times, located on the direct road between Ostia and Rome.

Apart from the towns, remains of the port, roads that connected them to Rome and remains of the salt ponds and drains in the area near Ostia may be seen. This lowland lagoon area was an important source of salt in Roman times, however quantities of river deposits caused the coast to move inexorably westwards, constantly silting up natural inlets

and outlets, creating stagnant freshwater and salt ponds and forcing the Romans to maintain and lengthen channels that connected the salt ponds to the sea.

On either side of the Tiber, conditions remained more or less the same for centuries: a large, relatively flat, but uneven alluvial floodplain of salt flats, ponds and marshes interspersed with water meadows, riparian vegetation and patches of woodland and farmland. After the collapse of the Roman Empire, however, when the city of Rome itself was reduced to sparse groups of inhabited buildings within areas of ruins, spontaneous vegetation, vineyards and market gardens, the surrounding countryside was more or less left to itself. Over centuries, constant flooding and changes in the river delta caused changes in level, soil and vegetation until eventually the by then floodplain also supported a natural mosaic of riparian woodland and wetland ecosystems.

The population remained sparse during this time and if the artistic treasures of Rome were increasingly part of the "Grand Tour" itinerary from the early 18th Century onwards, the dark and dangerous countryside around it was almost certainly

Fig. 14_ The Roman Agro. 1692 Giovanni Battista Cingolani

Fig. 16_ A vast project of ditch digging

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Fig. 17_ View: land within the Dragona Loop

not: not only was there little to see outside Rome, apart from a few farms, the fear of malaria, the plague, cholera, isolation and highway robbery was enough to deter all but the bravest of aristocratic gentlemen!

The swampy area on the outskirts of Rome was known to be unhealthy and attempts were made by the Papal State to drain it between 1858 and 1868. These failed, but after the reunification of Italy, when the capital was moved from Florence to Rome (in 1872), efforts to reclaim the marshlands to the south west of the city were renewed, again largely for health reasons. Finally, in 1884, hundreds of labourers from Ravenna were hired to assist in a vast project of ditch digging, ground raising and pumping of water.

With the installation of pumps near Ostia, 150 acres of marshland were drained though a system involving approximately 90km of primary and secondary ditches. The removal of water took place in a relatively short period of time, but further long term and complex works were required to ensure that this new land remained safe from flooding. Recalibration of the river and its plain continued until 1936 with the construction of levees, the narrowing of the Tiber riverbed and regularization of slopes.

This once swampy land, now drained and fertile, protected by a series of ditches and levees, served for cereal production, vegetables, pasture and hay. Horses and mules for the army were fed alongside dairy and beef cattle. The agricultural period was not destined to last uninterrupted for too long however: in World War II the retreating

Fig. 18_ Aerial photograph: land within the Dragona Loop

Germans inflicted damage on the drainage system that resulted in renewed floods.

The system was repaired, but at about this time, pressures of suburban development also began to affect the land. Leonardo da Vinci Airport was built in the Municipality of Fiumicino to the north of the Tiber and, from the fifties onwards, unplanned and unregulated settlement spread outwards from Rome and along and inland from the coastline, interspersed with quarrying activities, road building and commercial zones that further deleted and fragmented remaining agricultural and natural land.

The unplanned nature and density of urban expansion has confused the landscape palimpsest, belittling the area's identity and history and resulting in banal types of urban settlement, one of which is Dragona. It's a hybrid landscape, the sum of several places and non-places that combine to form a variety of scenarios that mix the contemporary urban edge with an agricultural past, historical settlements with water and transport infrastructure and patches of ecologically rich land with tourism, the sea and the dunes. Nevertheless, the fundamentals of this landscape remain: the river, the plain, the drainage system, its lines of eucalyptus and fields of crops, pasture and market gardening combine to provide an agricultural and leisure base of great potential.

3.3 Efforts to protect the Agro

In the 1970's, various local and national associations began seeking to protect ecologically sensitive and beautiful land on Rome's shoreline from urban sprawl. In 1987 the Ministry of Environment identified a conservation area stretching almost 40km along the coast between Palidoro (to the north west of the mouth of the Tiber) and Capocotta (to the south east), covering almost 16,000 hectares of land of natural, historical and archeological interest in the provinces of Rome and Fiumicino. This park includes the last section of the Tiber and agricultural lands recovered by drainage of the ancient marshlands, including land enclosed by the Dragona Meander.

In 1996, the protected area was officially renamed the 'State Natural Reserve of the Roman Coast'. The reserve includes a variety of sites of natural, cultural and ecological interest: coastal dunes, river and agricultural landscapes, salt ponds, pine woods, Mediterranean forest, the tumuli of the Bocca di Leone and remains of the Roman city of Ostia.
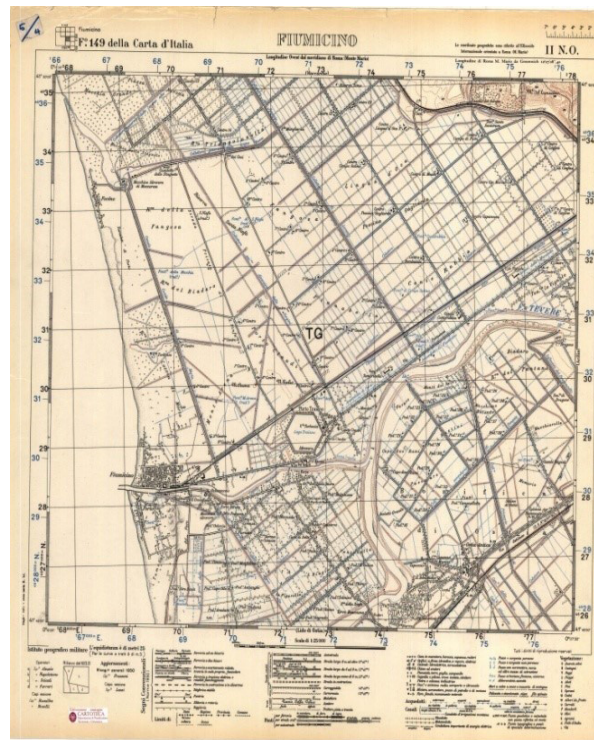
Fig. 19_ Topographical map 1872

Fig. 20_ View: land within the Dragona Loop

The objective of the park today is to protect and promote the natural characteristics of the territory as well as archaeological remains, such as the Ostia excavations, and Portus, newer villages and traces of past activities as well as present ones. Nevertheless, there is still a long way to go to consolidate the identities of all these different places, which also means addressing the needs of the recent unplanned settlements and their inhabitants.
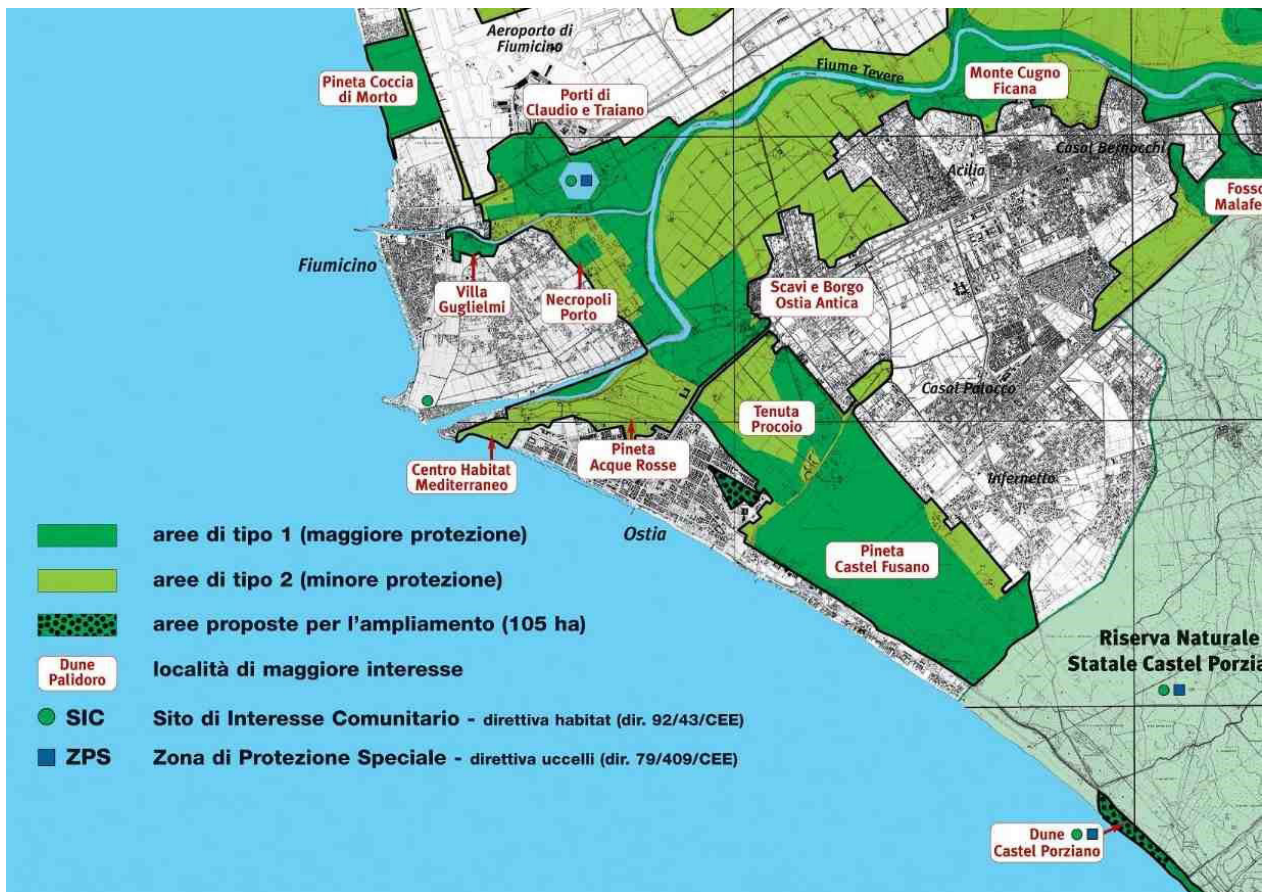
Fig. 21_ Map of the State Natural Reserve of the Roman Coast

Fig. 22_ Report of the meeting in Rome

Fig. 23_ The road to Dragona

Fig. 24_ Arrival at Dragona

Fig. 25_ Where are we?

Fig. 26_ A street in Dragona

Chapter R4

The workshop

Introduction

The rural group discussed past, present and future factors influencing land located on the outskirts of Rome, part of a semi-urban fringe that stretches south westwards from Rome, to the sea, along the banks of the river Tiber. The study focused in particular on a bend of the river, known as the Dragona Loop.

Aims of the study

The area had been studied by colleagues (La Sapienza) who concluded that it was at risk, despite its location within the State Natural Reserve, because of the pressures of urban development.

"This landscape of long historical claim has undergone much transformation. The most important, in my opinion, took place after the unification of Italy and the nomination of Rome as the capital of the Country. The marshes, ponds and riparian woodland of this part of the river Tiber's floodplain largely disappeared as the land was drained and put to mixed agricultural use. Today this flat landscape that supports a number of family farms (typically cereals, dairy, sheep and market gardening) is threatened by urban encroachment."

Questions raised before the forum included: What is the pressure to build and what do the planning rules say? Are the planning laws respected? Is the current status of the land as a "riserva natural statale" a proper reflection of its value and what protection does this status confer upon the site? Are current agricultural practices financially viable? Could leisure bestow an added value to this land, or could new types of agriculture add value? Does this land primarily serve the inhabitants of the Dragona quarter, in terms of local produce and leisure, or do the people of Rome also value this land and its productions? Do the people of Rome know that this land exists?

Furthermore, the fact that the river Tiber connects this land to the centre of Rome, seems to present an opportunity to enhance the socio-cultural value of what might be a declining agricultural landscape. By focusing on a relatively small area of land, on the fringes of Rome, on the concept of change and on the case study (as a tool that can link teaching, research and innovative practice), our intention was to discuss the factors influencing possible futures for this

The rurl fringe, and Rome

land and, at the same time, shed light on three aspects of the discipline of landscape architecture: research, practice and education.

Preparation for the workshop

Workshop participants made use of historical maps in addition to contemporary plans and tools such as Google Earth. No information was provided on planning laws, local demographics or economical situation. The field trip consisted of (i) a walk along the stretch of the river Tiber that forms the boundary to the study site (ii) a more or less perpendicular transect from the river to Dragona village.

The short walk, combined with maps and plans, aimed to allow an understanding of the site and interrelationships between the river, levees, ditches, fields, farms, trees and forest remnants, built up areas on both sides of the river and the sea.

Such a superficial approach to the site, and lack of local or public participation, meant that many questions concerned with socio-economic, legal and local organization of the Dragona Loop were unanswered.

State of the subject from research: rural fringe, urban fringe: terms and concepts

The "urban fringe" is part of the developing discourse about urban environments, but there is no commonly agreed definition of the term and expressions such as urban fringe, rural fringe and peri-urban zone are interchangeable. These terms describe the area on the edge of a town that reflects transition between urban and rural use: it is a zone of interface between town and countryside. The fringe may be viewed as a landscape type in its own right: characterised by tracts of agricultural land, woodland, often poorly managed and even abandoned or untended land. Fringe areas also usually contain "out of town" urban uses such as commercial centres, airports, manufacturing industries and waste water facilities.

The SURF project, or Sustainable Urban Fringes (part of the Interreg IVB North Sea Region Programme) studied elements that contribute to sustainability, inclusiveness and spatial quality in urban fringes and therefore in cities as a whole, suggesting that wherever they are situated, urban fringes tend to share certain characteristics:-

To a greater or lesser extent these are areas in transition, impacted by expansion of a city's needs (such as housing, infrastructure, and commercial

Fig. 27_ Some housing already amongst the fields

Fig. 28_ Market gardening in Dragona

Fig. 29_ The built edge of the suburb of Dragona

Fig. 30_ A farm shop, Dragona

Fig.31_ Access to the Tenuta di Dragone farm

Fig. 32_ Salad, pine woods and Eucalyptus

Fig. 33_ Working farmland

Fig. 34_ Market gardening

development) that necessitate changing land use. Dynamism within the urban fringe arises as land converts and adapts to different uses, often conflicting with any role as depository for historical and cultural heritage.

Highly contested, territory on the fringe fulfills overlapping functions, serves a range of interests and offers a range of potential development or conservation options, including as location for new urban services.

The fringe tends to be an untidy landscape where land can be variously traded or banked by a range of commercial, voluntary or public sector agencies, often with conflicting interests. It can contribute enormously to the quality of the living environment. It offers the urban population experience of nature and green surroundings. Green space in the urban fringe is increasingly promoted for its health benefits and respite from urban lifestyles.

Housing and other, often low-density, developments that require space but are urban in nature (shopping malls, infrastructure nodes) are frequently located within the fringe. Such demand can inflate the value of fringe land, creating competing conditions and conflict within planning systems. Indeed, the administration of fringe can be influenced by complex arrangements typified by governmental and non-governmental structures with authority in a variety of contexts. These often include statutory infrastructure delivery agents, arms-length development agencies, environmental quangos and voluntary conservation bodies etc., in addition to different tiers of formal government planning and regulation.

4.1 Introduction to the study area: the final leg of a river

The Tiber flows 400 km from the Apennine mountains, through Emilia-Romagna, Umbria, and Lazio, to Rome and through the city before meandering the last 15km of its journey through rural remnants on the city fringe and finally draining into the Mediterranean Sea between the seaside towns of Fiumicino and Ostia. This group followed the river through its final stages, on the "other side" of the outer ring road, as it passes through vestiges of fields and farms in the flat alluvial plain also shared with other activities typical of the urban fringe: housing development, industrial and commercial warehousing, out of town shopping, Rome (Fiumicino) airport and the ancient remains of "old" Ostia, a town located on the coast in Roman times.

The rural fringe, and Rome

4.2 A day by the river (or a study trip)

The study group drove to Dragona by bus from Rome. We left the city centre behind and passed through suburbs and undeveloped land on the urban fringe before arriving at Dragona, a modest suburban settlement located (it seemed) somewhat far from Rome.

We expected an older centre, but we didn't see one. Dragona is a new settlement, laid out on a simple grid of residential plots. From what we see, private gardens are mainly ornamental although some of them are vegetable gardens. We see little or no public space and no sign of the countryside. One can smell the sea. We climb down from the bus, turn a corner, walk down a suburban road lined with detached houses that ends abruptly at a gated entrance beyond which a row of large pines shades another road. We go through the gate and suddenly, we're in the countryside!

Large fields (of wheat), a tractor spraying and a large farmhouse (these people must be wealthy) make up a family farmstead. We don't know how old it is. The landscape is open, completely flat, no hedges, and apart from eucalyptus planted along drainage channels, there are few trees, no shade except on the horizon. We're walking on a dusty path. The river lies behind a raised dike so we climb up onto it to get a better view. Fishermen. A boat: bird-spotters! From up here we have a good view of the river and its surrounding land; it's cooler up here too. There are a few walkers, and bikers. There are farmhouses dotted around the fields, associated with the field pattern; people live in these houses. The field pattern is evident. Many of the fields are quite small. The drainage channels that criss-cross the land are a surprising feature, often lined with eucalyptus.

The banks of the Tiber are overgrown, sometimes the river is inaccessible and hardly visible, in other parts sheep are grazing. Adjacent land is protected from flooding by a raised dike on either side of the river; presumably the land between the dikes can flood, but in April 2013 the river's edge is lush and green and the water level is below that of the riverbank. Across the river there's a commercial centre. Roofs rise into view across reeds. An industrial centre is also visible, and the airport. The sight of planes is a feature of this landscape, although we cannot hear them.

On this side of the river there are sheep, some cows, some market gardening, some poly-tunnels, some cereals, some hay. There's a farm shop, selling dairy produce amongst other things. We're walking back towards the town of
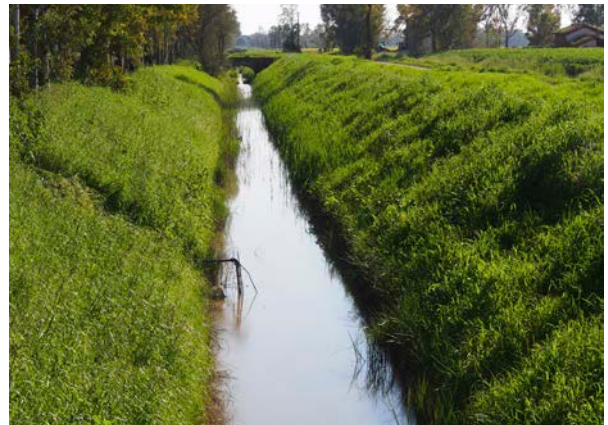
Fig. 35_ Drainage ditches are a common feature

Fig. 36_ Communal farmbuildings, or "colonia"

Fig. 37_ View from atop the dike across the river

Fig. 38_ View across the river

Dragona and, as suddenly as we left it, we enter it again.

This is a pleasant piece of land, reminiscent of the countryside; it's surprising that it's so close to the centre of Rome. The walk along the dike is wonderful. One wonders how much the water level rises but there's no clue. A sign shows that it is possible to walk or cycle back to Rome along the dike, we are connected to the city by the river! And we know from our maps that we're also connected to the sea.

4.3 Participants' expectations and responses to the site

Because of the international nature of the meeting, participants were asked to imagine the site and summarise their expectations in writing. During and immediately after the trip, participants noted their responses to the site. Subsequently, the variety of different expectations and reactions was discussed.

Recording first impressions of a site immediately after a first visit is interesting. Such impressions can be relatively unprejudiced and it is remarkable how quickly expectations adapt to the reality of a place! Furthermore, because participants were from all over Europe, we were interested in comparing our various expectations of the site. The following text summarises the range of comments that we received. The text is organised in terms of aesthetical, ecological and cultural landscape characteristics (scheme 1, next page) and concludes with a reflection on identity.

Aesthetics

Few of the participants actually expressed their expectations is terms of beauty. Of those who did, not everyone expected this landscape to be beautiful. Although some expected an Arcadian landscape, others imagined a monotonous area of intensive production. Many wrote about a flat landscape with grazing sheep, or cattle, some wrote about olive groves and citrus trees interspersed with vineyards, most expected a peaceful open area, relatively empty of people, with lines of trees, or hedges, along roads and waterways. None expected to see buildings in the area, apart from farmhouses and perhaps a glimpse of a village in the distance, or the skyline of Rome. Many hoped to see some ancient ruins in a "historical" landscape.

Almost all of the participants appreciated the beauty of this landscape once we left the town of Dragona. Although the Tiber is not visible from the

Fig. 39_ Beauty is in the eye of the beholder

The rural fringe, and Rome

town, or the fields, from the top of the dikes that run alongside the river there are panoramic views of both the river and adjoining agricultural land. Many of us found rows of eucalyptus strange in this context, and that the landscape was too flat, too open, with too few trees.

The abruptness of distinction between town and farmland was surprising, but perhaps it was the contemporary style of building, and the lack of historical connection. A traditionally compact village might not have engendered such surprise.

Ecological quality

We expected broad river banks with water meadows, marsh and a mature riparian habitat for birds and wildlife; interspersed amongst the agricultural fields, trees and hedges or verges of wildflowers - the trip took place in the springtime.

We were surprised by the lack of riparian habitat normally associated with a major river. The artificial floodplain between river and dike was too narrow, there was some semi-natural habitat (clumps of willow, elder and ash), but the size of

ETHICS

Landscape quality

Aesthetical - architectural
- orientation in time; cultural history
- orientation in space – allocation / scale / form
- beauty

**CHARACTER / IDENTITY
&
SUSTAINABILITY**

Ecological
- nature value
- variety
- coherence
- environmental quality

Economical – user value, functional
- flexibility
- multifunctionality
- recreation, tourism, agriculture

Ref: National Policy for Landscape in The Netherlands ('90-ies)

Scheme 1. National Policy for Landscape in The Nederlands ('90-ies)

Fig. 40_ A dike separates the fields from the river Tiber

the floodplain limited its contribution to any ecological system. In places, sheep grazed the riverbanks, elsewhere along the river there was some natural flora and fauna: grasses, herbs, wildflowers, birds, small animals and fish, but nevertheless, the agricultural area near Dragona cannot provide for a rich wildlife. There were few trees and, except for overgrown drainage ditches, little "unfarmed" habitat. There was very little woodland to be seen on the east side of the Tiber. The water quality of the river may be affected by upstream diffusion of wastewater. There were, however, fishermen and bird spotters.

Cultural value

Whilst some expected an extensive, well functioning agricultural area, others expected degraded farms fragmented by infrastructure and urban development. At least one participant thought that we would be unable to enter the farmland because of land ownership issues. Many expected the countryside to be linked to the settlement of Dragona, which many expected to be a traditional village. Some imagined groups of farmhouses set into fields. We all expected recreational potential to be poor, with little or no easy public access to the river, because of private farmland, consisting perhaps of a few paths and picnic places.

The suburbs have disrupted farmland within the Dragona Loop, however there is a distinct separation between the town and agricultural land caused either by land ownership or planning laws. The remaining agricultural land forms a relatively small, but integral landscape on the east side of the river. The large farmstead, Tenuta di Dragone seems wealthy; we saw no abandoned land. The 19th Century system of drainage and irrigation channels structures the landscape and communal farm buildings are also prominent features. The latter appear to have been converted into residen-
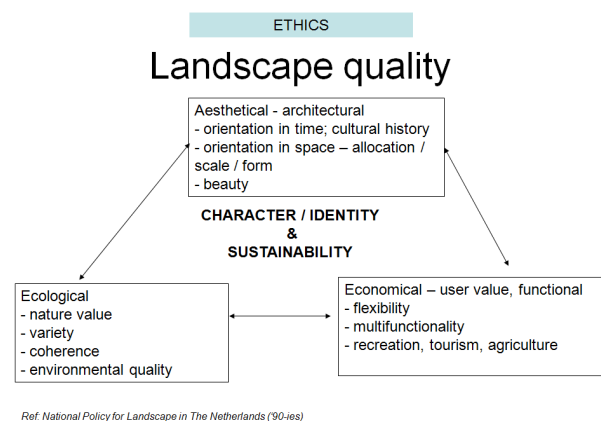
Fig. 41_ Birdspotting by boat on the Tiber

tial houses, although we do not know if their occupants have anything to do with the farms.

The agricultural land that we saw seemed well maintained, supporting a mix of cereal crops, market gardening, dairy and sheep farming. Some farms and some fields were larger than others. Close to the suburb there was a riding school, tourist accommodation and two farm shops. The dike forms part of a bike trail that runs from the centre of Rome to Ostia Antica, along the Tiber. The dike also serves for local jogging, dog walking and evening walks, we also saw people fishing and a couple of small motorboats on the water.

Identity

The area maintains an agricultural identity in a relatively recently drained landscape structured by a ditch system accentuated by lines of eucalyptus. The Tenuta di Dragone is a family farmstead; elsewhere, communal farm buildings punctuate fields that seem to have preserved their original patterns. There is division between agricultural land and the built suburb; both of which seem to ignore the other. The latter is connected to the city by the metro, but unemployment levels are high and we are told that Dragona is not an area without

problems. Nevertheless, its residents can and do enjoy the recreational potential of the agricultural landscape. They also buy local and imported food at the farm shops. The character of the settlement differed from our expectations, but had we looked more closely at maps before the fieldtrip, we'd have known that there was no historical village. Dragona is a relatively recent, relatively low density, low-rise heterogenous collection of detached residential constructions (one family houses, small apartment blocks) within a grid of regularly sized parcels serviced by narrow streets. The monotony of the suburb is brightened by the variety of more-or-less ornamental gardens.

Within the Dragona Meander visual landscape features are: flat land, drainage systems with a regular grid of channels, pumping stations and waterways, the river Tiber with 4m high dikes, the Tenuta di Dragone farmstead with surrounding garden, fields and avenue of pines, regular field structure and late 19th Century farm buildings that formerly functioned as storing places for crops and machinery.

Fig. 42_ An agricultural identity remains strong

The rural fringe, and Rome

4.4 Litterature review: the rural fringe

The urban fringe is an area of rapid growth.

In Europe, disciplines interested in the built environment: architecture, town planning, urban design and landscape architecture are increasingly interested in the urban fringe. The rapidly growing transitional areas located at the edges of cities have become a focus of attention. Indeed, the area of built land (the blocks) in Europe's low-density urban fringes already equals that of its city centres and the fringe areas are growing four times as fast as the city centres (PIORR et al, 2010).

The urban fringe is an area of research and study

Several EU funded large projects have studied city fringe areas (urban fringes, rural fringes, or peri-urban zone) on the pan-European level and there is increasing literature on the subject. Research results from the **EU FP6 PLUREL** project showed that urban development is by far the most rapidly expanding land use change in Europe. Today, the European areas classified as 'peri-urban' have the same amount of built-up land as urban areas, but are half as densely populated. There is a real risk of increasing urban sprawl and, if the trends identified by PLUREL continue, built development in peri-urban areas could double between 2040 and 2060. Similar modelling indicates that land fragmentation, loss of habitats and amenity that are already characteristic of the peri-urban today will worsen. Meanwhile, the urban fringe is also a place of innovation and increasing employment in the service and IT sectors: 25% of peri-urban regions are classified as 'highly innovative'. The SURF project, or Sustainable Urban Fringes (part of the Interreg IVB North Sea Region Programme) SURF defines the urban fringe as the zone connecting urban and rural areas, where urban and rural functions and characteristics interact.

The urban fringe is an area of risk and potential

SURF identified challenges that face urban fringes as including spatial planning and sustainable development, complex issues of ownership and administration, fragmented spaces, declining biodiversity, deteriorating water quality, low green space value, poor access and lack of engagement with local communities, changing demographics and their impact on the urban fringe and inconsistent planning policy. SURF identified the fringe as an area of both substantial risks and opportunities. Risks lie in issues of deprivation and poor spatial quality that result from mono-functional space

consuming developments for example waste processing sites, dis-organised small businesses and housing and unused farmland. Opportunities lie in the creation of attractive green spaces, diverse habitats, local production of food and sustainable energy, multifunctional facilities for flood prevention and water storage etcetera.

The urban fringe is critical to sustainable development

SURF defined five dimensions in the concept of sustainable area development. Social, environmental and economic phenomena are always cited as crucial, but the influence of "space", or "spatial quality" and "process", or "governance" is particularly important to disciplines involved in the design and planning of human settlement, including, of course, the urban fringe.

Rather than balancing different interests and qualities, SURF aimed at realising potential synergies between them, combining, for example, strengthened environmental values with enhanced accessibility of rural areas and high quality job opportunities. SURF concluded that such a complex process must be a participative one and that the empowerment of stakeholders was important in developing sustainable urban fringes.

1. Spatial quality, social quality and governance are critical factors. De Vries et al (2010) attempted to further define the concept of sustainable development, in regard to the urban fringe, but applicable to all human settlement. The tenets of the paper are particularly pertinent to the discipline of landscape architecture that, through spatial design, attempts to help resolve extremely complex society related issues. De Vries et al identify five components, rather than the usual three, as crucial in sustainable development:

2. Environmental quality: the environmental dimension of sustainability supposes energy saving, climate change reduction, safeguarding of natural resources, pollution prevention and biodiversity conservation, all of which can be addressed across the full variety of scales and sites.

3. Social quality: Van der Maesen and Walker (2006) defined four domains of social quality: security, cohesion, inclusion and empowerment that affect the characteristics (and livability) of an area. Socio-economic security covers issues like finances, housing, health care, availability of work and education.

There is evidence that green space is beneficial for health, in many ways: by decreasing stress, im-

proving air quality and through easily accessible opportunities for physical exercise like walking, cycling, playing and sporting (Maas, 2009). Social cohesion can be stimulated by the spatial design of common spaces and facilities where people meet and communicate. Van Dorst (2006) demonstrated that social cohesion can be stimulated by the layout of streets and houses thereby contributing to sustainability and livability. Involvement of underprivileged groups in decision making processes, communication and maintenance of open space can contribute significantly to social inclusion and empowerment, and lead to open space that is better adapted to the needs and interests of these groups.

4. Economic quality: Economic quality supposes the availability of conditions to make a living in an area through availability of natural resources and other economic assets, availability of appropriate infrastructure for entrepreneurship and education as well as through facilitating government regulations and regimes. Measured through indicators such as unemployment, earning capacity of an area, or region, and long-term investment.

5. Spatial quality: SURF followed the definition of spatial quality used by the Dutch Ministry of Housing, Spatial Planning and Environment in their Spatial Planning documents (See e.g. Ministry of Housing, Spatial Planning and Environment, 2005) that identifies three main characteristics that determine spatial quality:

i. Functional value: logical, safe and practical arrangement of functions and activities in a space; accessibility of transport (walking, cycling, public transport) and connections between urban and rural areas; multifunctional land use where possible; separation of functions where necessary.

ii. Aesthetic value: although to a large extent subjective and individual, some common and broadly accepted elements of aesthetic value refer to issues of local identity, visibility of natural elements and cultural history, legibility of the landscape.

iii. Future value: refers to the adaptability of an area for possible future changes in functions, needs or life styles.

Quality can be measured. Aesthetics: do people like the place? Logical structure: can people find their way around and understand where they are? Convenience: can they do the things they want to easily. Assink and Groenendijk (2009) argue that spatial quality is gaining importance as a factor for location choice of companies.

6. Process quality: A final dimension focuses on the involvement of stake-holders in informal decision making and formal planning processes. Given that sustainable development always means taking into account different qualities and therefore different stakeholders, the process dimension is of crucial importance.

The challenge is to deal with the different perspectives and qualities not only individually but in an integrated way, focusing on the realization of synergy between qualities and between needs and interests of different stakeholders.

The urban fringe is an area of food production
Food production at local, regional and global scales is an increasingly important research theme. In her book "The Hungry City" (Caroline Steel, 2008) considers the role of food (production and distribution) in the structuring of rural and urban space. She is advocate of a more localized and complex system. Donald Chong's 'Small Fridges Make Good Cities' (2007) is recognized as a concise manifesto on both urban living and refined design culture. Major cities, for example London, Amsterdam (CITIES Foundation, 2011) and Toronto have begun seeking policies and programmes to help improve relationships between city living and rural and urban areas of food production.

Chapter R5

The rural fringe. How landscape architecture relates to it

The urban fringe: Challenging the traditional urban/rural dichotomy
"...contestation, (*between*) the driving forces and the assets of the fringe, is to a large extent related to the landscape" (Qviström, 2013:435).

The urban fringe is the subject of attention of landscape architecture and planning academics (see SURF 2012, for example) and study of the constraints and potential of a hybrid, liminal "in-between" spatial entity is a developing field. Fascination with this new landscape type (the fringe) is due to a state of flow and amorphousness that make up a particular spatial fabric that can be described as neither 'urban' nor 'rural'. New understandings and strategies are required to address spatial issues as well as ecological, social, cultural and economic challenges that affect contemporary settlements. One of the main contemporary discourses relates to challenging the traditional division between 'city' and 'country' or 'urban' and

Fig. 43_ Student project work : Mapping rural space

'rural' as distinct unconnected bodies (Qviström, 2010 & 2013).

In most places, the pressures of urban expansion include the transforming of agricultural, or natural, landscapes. Changes in land-use and accelerated development processes may have a dramatic impact on the fragmentation of fringe landscapes and affect the wellbeing of those who reside there, however. The complex ambiguity of fringe development requires in-depth analysis from a multi-faceted, interdisciplinary perspective.

Traditionally, the urban fringe was associated with informal settlement and social marginalisation. Industrial modernity, on the contrary, associated withdrawal from the city and settlement in vicinity of nature and rural idyll with luxury or emancipation. Contemporary notions of the urban fringe are more ambiguous however, recognising a shifting territory of great contrasts and complexity. At the urban fringe in European cities, we find everything from a city's most exclusive residential areas, to temporary camps (of the Romany people), commercial and industrial zones, transport hubs, waste processing plants and farmland. These fast growing areas on the city fringe are part of an ongoing transition involving transformation of the 20th century Metropolis into a polycentric regional system – a conurbation or a post-metropolis (Soja, 2000; Torres, 2004).

Addressing the urban fringe as third type of landscape may shed more light on today's challenges of socio-spatial integration (Secchi, 2010).

Chapter R6

Teaching about asoects of the rural fringe

The area of the Dragona Loop was not studied in great detail; an afternoon on site and a few maps provided us with a superficial and incomplete vision of the place. However, this area can correctly be described as a rural hinterland (Antrop, 2004) to the city (of Rome) with complex spheres of influence: the potential for local and second home housing, leisure (walking, fishing, boating, cycling, etcetera) and the added value of local agricultural products (dairy, fruit and vegetables).

As also observed in Dragona, the increasing complexity of human settlement and organisation is reflected by the multiplicity of factors that influence almost any site that one might choose to study. It is no longer possible to consider a single aspect of development. Understanding a site infers

understanding not only landscape issues, but also socio-economic and environmental ones that influence the way people live and use the land, including making decisions about its future. Understanding the landscape is a question of understanding not only what, but why and how.

Landscape architecture is typically taught through a combination of studio, academic lectures, reading and research. Concern about sustainability has always been core in the discipline, however a greater understanding of the synergies between societal, spatial, procedural and environmental issues should be reflected in the curriculum. The challenge is in dealing with different issues not (only) individually but (also) in an integrated way, focusing on synergies between site characteristics and needs and interests of different stakeholders.

Many schools organise studio projects in collaboration with local authorities and stakeholders, integrating public participation, developing communication skills and promoting the value of landscape architecture at the same time.

An ever-more integrated collaborative and multi-disciplinary approach to the complexity of human society and its impact on the world has lead to increasingly large teams of experts for every project. In a professional environment where other disciplines are becoming increasingly specific (and narrow) landscape architecture students must learn to broadly and accurately synthesize swathes of wide ranging information and produce them in readable and graphic forms that can be understood by the public. They should also be taught to work as part of an interdisciplinary team, and prepared for leadership roles.

Studio modules can occupy over 50% of a students working week. Lectures generally inform and complement studio work in parallel, both analytical and design methodology are taught, and applied through studio projects. Undergraduate students could benefit from longer periods of multi-disciplinary study of single complex sites such as the Dragona Loop. Studying a single site, in all its aspects, in detail, is an essential contrast to other, shorter studio projects that rely on a superficial knowledge of a place. Such detailed studies confer confidence to students, teaching them where and how to obtain information and a methodology for understanding: the basis for all future landscape work, no matter what the landscape typology.

Chapter R7

Researching aspects of the rural fringe

7.1 Reflection on landscape architectural research

Some of the most current urgent issues for landscape architectural research today are 'human health and well-being, with special attention to climate, water, and energy' as well as 'the spatial quality issues arising from the disappearance of the boundaries between cities and countryside, and resolving spatial problems associated with the mixing of different cultures, the fight against hunger and poverty, and the promotion of social equality' (Van den Brink and Bruns, 2012).

Landscape architecture research has, at its best, the ability to work beyond the divides between the arts and sciences, embracing social sciences, humanities, natural sciences and/or technology. The need to bridge between human and natural sciences in landscape research has been recognized for over a decade (Tress et al, 2001), but one can claim that both landscape architecture research and practice involve synthesizing and cross-boundary thinking, and an ability to switch between different perspectives (Sarlöv Herlin, 2006).

Thus, landscape architectural research can contribute to the questions being studied by the wide field of disciplines that are looking at the management of fringe land on the city outskirts. As far as many disciplines are concerned, these are broadly the same questions that are being asked of new cities concerning spatial organisation, environmental qualities and quality of life.

Landscape architectural research might, however, usefully present the urban fringe as a separate landscape type, a little bit less urban and a bit more rural in character. As the countryside begins to reappear as a place for human society to re-invent itself, offering new ways of better living Younes (2013) questions whether the fringe can represent a "third way" of living, on the "fringe", that combines the best of rural and urban life?

The potential for experimentation within the urban fringe is great. Are there successful examples that we might learn from? Does the fringe have potential for improving urban resilience? Can the values of hybrid landscapes be better quantified? Senda (2010) wrote that improved land use planning and management of urban fringes could greatly increase their contribution towards biodiversity. Her research aimed at adding value to the

urban fringe, promoting its contribution to environmental quality and biodiversity through effective land use planning and management strategies. Similar studies might be useful in demonstrating the added value of fringe landscapes in other areas of landscape service and in particular, quality of life.

The core of landscape architectural research for the rural fringe relates to spatial solutions and the search for elements that help define appropriate ways of organizing and structuring land. Steenbergen & Reh (2011) researched spatial development and green structure of cities all over Europe and beyond: Rome, Berlin, London, Barcelona, Boston, etcetera. In a series of case studies they explored the different layers that define metropolitan development and underline important relations between geomorphology and perception of space. As Günther Vogt also remarked in his keynote speech, Steenbergen concluded that at the scale of the city, landscape architecture is not about esthetics or specific forms, but about organizing dialogue between technical and functional forms that may result from the metropolitan process, genus loci and other conditions of site.

Similarly, Roggema (Ramirez et al, 2008) developed the concept of "swarm" in his search for new strategies for the planning of dynamic landscapes on the city edge. Swarm is based on the relationship between the complexity of a spatial system, sustainability and types of design principles. Roggema concluded that complex systems are common and that a new planning phenomenon might emerge based on the right impulse at the right time: swarm planning. A fundamental change in our spatial system, and a jump ahead in sustainability could be made possible by adjusting our designs and planning system to the new laws of swarm.

Food production is a main issue in sustainable development and is another area where landscape architecture can intervene (Adriaens, et al, 2010). Food production requires space, in addition to raw materials and a specialised infrastructure and is a traditional element within the urban fringe. New forms of food production tend to comply with a trend towards hybridity that combines food production and other values such as education, recreation, energy production and water treatment. Urban agriculture has potential to play a key role in two global challenges: urbanization and food security. In the globally emerging research field of urban agriculture, a European approach to the subject is required, integrating urban and landscape patterns, the role of the Common Agriculture Pol-

icy (CAP) and the needs of European society. The COST-Action Urban Agriculture Europe (UAE) will initiate a first summary of the pan-European approach. The outcomes of the Action could help focus future research on urban agriculture, modify the Common Agricultural Policy and stimulate private and public initiatives to do with food projects and planning. Themes within the programme are common agrarian policy, governance and local politics, entrepreneuring models and spatial visions.

Many research projects concerning urban food have started at European Universities e.g. SLU - Alnarp, Wageningen University and University VHL - Velp and RWTH Aachen University.

7.2 The contribution of practice to landscape architectural research

The research contribution of the landscape practitioner, as part of the team of experts often called in to advise on planning and other issues concerning development and change on the urban fringe, could be considerable. However, there is little incentive for the practitioner to disseminate knowledge – rather the opposite, specialist knowledge is sold, not shared. Thus, a great body of knowledge and the potential for linking practicing experts (and expertise) is lost to the public good. Where are the descriptions and comparative databases of similar sites? And if they exist, how does the practitioner (or academic) find them? It is particularly ironic in a world where vast amounts of information could be shared online. Research into the extent and value of this type of knowledge and ways of extracting it so that it can be shared is urgently needed. This phenomenon affects many of the design and planning disciplines: architects, landscape architects, planners, urban planners, urban designers, etcetera

Chapter R8

Practing in the rural fringe: innovative examples

The concept of the hybrid Eco Parks supposes that it can provide multiple ecological and landscape services to our metropolitan systems. Wetland parks that purify water and serve as catchment areas are also attractive sites for recreation and education. The programme "Room for the River" gives a broad spectrum of projects that show how an integral approach for water manage-

ment, nature development, agriculture and urban planning can combine flood protection and creating valuable landscapes. The planning process of Tempelhof shows that the complex long-term development of urban and rural fringes may best be achieved through new, open-ended planning concepts, that include intensive communication with and between stakeholders, make use of local opportunities and existing qualities of the site.

8.1 The hybrid eco-park

Advantages of hybrid eco parks and reasons for us to create them

In the city, green space is supposed to provide psychological and physical benefits. The reality of many traditional ornamental parks, however is that they create economic and environmental burdens because of their high maintenance costs and water and energy consumption. In addition, most city parks provide limited ecological services in terms of fresh air, habitat, purifying polluted water and so on. Today, as we face climate change, shortages of fresh water and energy with a backdrop of environmental pollution affecting water, air and soil, the building of hybrid Eco Parks can help provide multiple services for both society and nature. Services may include easing of the urban heat island effect, saving fresh water resources, providing habitat for birds and aquatic animals, purifying polluted air and water, improving flood control, providing opportunities for education and the chance for people to get close to nature. In other words, an Eco Park can save maintenance costs and water and energy consumption through letting nature do her work to the benefit of city sustainable development. The hybrid Eco Park is a kind of productive landscape that pays homage to an aesthetic grounded in principles of low maintenance and high performance.

Reference Case Studies
Qiaoyuan Wetland Park, Site: Tianjin, China, Date: 2008

Qiaoyuan Wetland Park located in the northern coastal city of Tianjin, a deserted shooting range, then used as a garbage dump and drainage sink for urban storm water, has been transformed into a low maintenance park by changing its landform and allowing the natural processes of plant community adaptation and evolution to take place. The park provides diverse natural resources for the city, including retaining and purifying storm water, improving the soil, offering opportunities for environment education, and creating pleasurable aesthetic experience.

Inspired by the adaptive vegetation communities that once dotted the landscape in this region, the new park concept is known as "the adaptation palettes", since the park is designed to let nature do her work with minimal management. Twenty-one pond depressions were constructed, varying from 10 to 40 meters in diameter and from 1 to 5 meters in elevation above sea level. Some depressions are below ground level and some are above, within mounds. Through the seasons' evolution, patches of different species of the regional water and alkaline-sensitive vegetation grow in correspondence to the conditions of the individual depressions. In the rainy season and due to the high ground water, some depressions have turned into ponds, some into wetlands, and some into seasonal pools, some stay dry. The saline-alkaline soil of the dry depressions has improved, while nutrients have been deposited in the deeper ponds that catch storm water runoff.

The park achieved its goals within two years. Storm water is retained in the depressions; diverse water-sensitive communities have evolved. Seasonal changes in plant species occur and integrate with the beauty of the "messy" native plant landscape.

Fig. 44_ Master Plan of Qiaoyuan Wetland Park
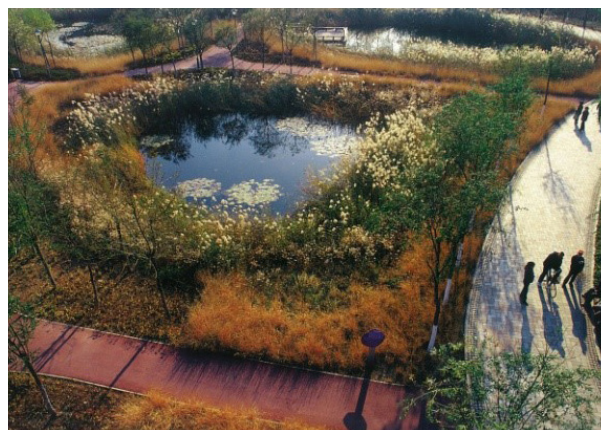
Fig. 45_ Fall landscape of Qiaoyuan Wetland Park

The rural fringe, and Rome

Houtan Park, Site: Shanghai, China, Date: 2009

Water pollution and shortages pose bigger threats to humankind than do future oil shortages. The water treatment system and water cleaning processes nowadays separate water from its living environment, particularly the concrete channelizing of rivers.

Houtan park is built on the brownfield of a former industrial site on Shanghai's Huangpu riverfront, the brownfield was littered with industrial and construction debris both above and underground, the water of the contiguous Huangpu river is highly polluted, with water quality ranking of lower Grade V (the lowest grade on a national scale of I to V), unsafe for swimming and recreation and devoid of aquatic life. The initial design challenge was to transform this site into a safe and pleasant public space; the second challenge was to improve flood control. Regenerative design strategies used to transform the site into a living system offer comprehensive ecological services, including food production, flood management, water treatment, and habitat creation. A constructed wetland, 1.7km long and 5 to 30 meters wide, running the length of the site, was designed to create a reinvigorated waterfront as a living machine to treat some of the contaminated water from Huangpu river. A cascaded wall was used to oxygenate the nutrient rich water, and terraces were installed to create a treatment sequence to remove and retain nutrients, and reduce suspended sediments while offering pleasant experiences to visitors. Various species of wetland plants were selected to absorb various pollutants from the water. Field testing indicated that 2,400 cubic meters of water per day could be improved from Lower Grade V to Grade III. The terraced design of the wetland negotiates the elevation difference between the city and the river, safely reconnecting people to the water's edges. The existing concrete flood wall was replaced by more habitat-friendly rip-rap that allows native species to grow along the riverbank while protecting the shoreline from erosion.

Inspired by Chinese agricultural landscapes, the designers created terraces to segment the 3 to 5 meter elevation change from the water's edge to the road and slow the runoff directed to the channel in the constructed wetland. Crops such as corn, rice, sunflowers, and buckwheat and wetland plants were selected to create an urban farm that allows people to learn about urban agriculture and to witness seasonal changes: golden blossoms in the spring, sunflowers in the summer, the fragrance of ripened rice in the fall, and green clover in the winter.

Room for the Rivers, The Netherlands, Period 1987-2015

New understanding of the effects of changing climate and of bad management and damaging intervention in hydrological systems and brought about by urban development in river basins, has brought about new ways of "working with" water courses. The Tiber has long been constrained between walls, or dikes, and neither the agricultural land, nor the built commercial, industrial of residential projects built alongside the river can stand up to flooding. Indeed, throughout Europe, floods brought about by bad water management have sometimes caused damage and sometimes loss of life.

Fig. 47_ Cascade aerates and cleanses river water
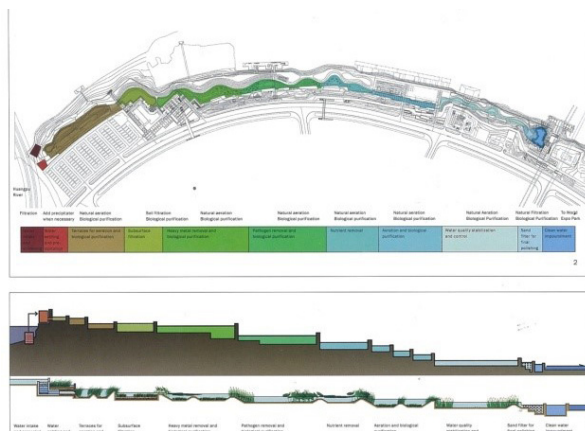
Fig. 46_ Site plan and water treatment sections of Houtan Park

Fig. 48_ The landscape of Houtan Park

In the Netherlands a new approach of the main river system of Rhine, Meuse and Waal started with a landscape architecture contest in 1987. The winner was the Plan Stork (Ooievaar in Dutch) by D. de Bruin, D. Hamhuis, L. van Nieuwenhuijze, W. Overmars, D. F. Sijmons and F. W. M. Vera. Their proposal was to create a more dynamic river system with flooding areas, giving more space to the river and developing a natural area along the rivers.

This is the basis for a new national strategic landscape plan for river areas, outside and inside dikes. The plan proposes a landscape framework with separation where it is needed and integration of functions where it is possible.

The national government, inspired by this plan, in 2006 made a strategic spatial key decision called: "Room for the River" with a project programme for each part of the river system.

By 2015, the level of flood protection must meet representative discharge levels determined in 2001 for the Rhine (16,000 m³/s at Lobith) and the Meuse (3800 m³/s at Borgharen). Current understanding suggests that ongoing climate change will cause higher discharge levels. The Government assumes a maximum discharge level in the Rhine of 18,000 m³/s and in the Meuse of 4600 m³/s, with a rise in sea level of 60 cm.

Measures taken (up to 2015) to improve flood protection as regards these two rivers should remain effective in the event of even higher discharge levels in the long term. An overall approach has therefore been drawn up for long-term measures and the short-term measures have been assessed against that approach.
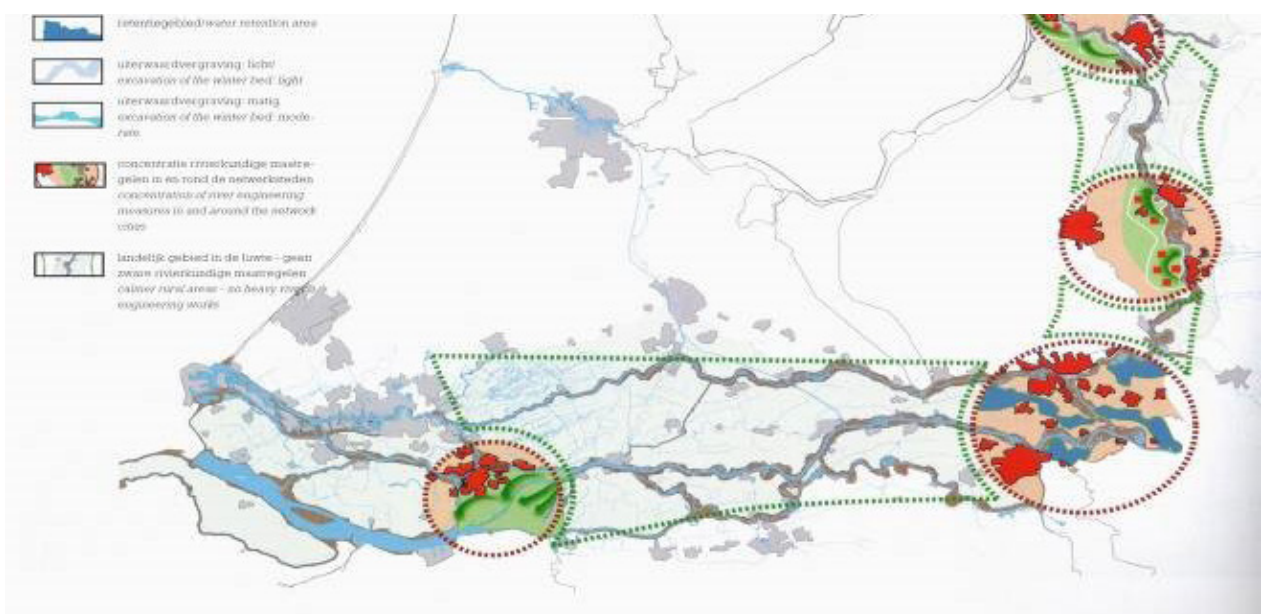
Fig. 50_ National policy "Room for the river"

The rural fringe, and Rome

Principles of Room for the rivers

Depoldering
The dyke on the riverside of a polder is lowered and relocated inland. This creates space for exc flows in extreme high water situations.

Removing obstacles
If feasible, removing or modifying obstacles in the riverbed will increase the rate of flow.

Lowering floodplains
Lowering/excavating part of the floodplain increases room for the river in high water situations.

Deepening summer bed
Excavating/deepening the surface of the riverbed creates more room for the river.

Water storage
The Volkerak-Zoommeer provides temporary water storage in extreme situations where the storm surge barrier is closed and there are high river discharges to the sea.

Lowering groynes
Groynes stabilise the location of the river and ensure its correct depth. However, in a high water situation, groynes may obstruct the flow to the river. Lowering groynes speeds up the rate of flow.

Dyke reinforcement
Dykes are reinforced at given locations where river widening is not feasible.

High water channel
A high water channel is a dyke area branching off from the main river to discharge some of the water via a separate route.

Fig. 51_ "Menu" for improving river basin management (source: Dutch National Policy "Room for the River".

The programme suggests a "menu"of interventions that make more space for more water : e.g. lowering dikes, depoldering and lowering flood planes. According to function, policy and landscape value, spatial plans are composed.

Many projects are already finished. In 2013 the area north of Nijmegen is under development, including the creating of a parallel branch in the river and a new island, extension of flood planes and additional bridges.

8.2 Urban fringe as place of innovation

The urban fringe is a place of innovation. Innovative or pioneer projects can put their locations back into the public eye and Tempelhofer Freiheit provides such an example, although its particular examples are generally not-for profit. Other examples were described earlier in this chapter: Rectory Farm, in Hounslow, outer London and the new London Sustainable Industries Park at Dagenham Docks, east London.

Fig. 52_ Artist impression of design proposal north of Nijmegen City in the Netherlands.

Fig. 53_ Flooding in 1991

Tempelhofer Freiheit, Berlin, Germany. Date: ongoing.

The Tempelhofer Freiheit project initiated by the Berlin Senate Department for Urban Development in 2008 for the post-closure use of the airport site at Tempelhof comprises a 386 ha open space and one of the world's largest public buildings (the airport hangar). This vast largely open expanse of land attracts large numbers of visitors to Tempelhofer Feld for a variety of planned and unplanned outdoor activities and events and also for the "pioneer projects" that have been established there. Tempelhof decided to integrate short-term so-called pioneer projects into a gradual urban development process. At Tempelhof, selection of pioneer projects that fit six key themes (*innovation platform, sport and health, neighbourhood integration, dialogue on religion, future technologies, knowledge and learning*) will continue until 2015. The pioneer projects run on three-year contracts. Planning and building permission matches that time frame, which is regarded as a probatioary period. At present, Tempelhofer Feld is home to 13 temporary projects on sites covering an area of about 20ha hectares that is earmarked for future construction.

Vogelfreiheit, an adventure playground for children and young people, was the first pioneer project to be located in the parkland. The playground was an award winner in the 2007 online dialogue competition held during the conceptual design phase prior to the re-opening of the airport.

The Plattenvereinigung project staged various events and discussions for a single season only. Plattenvereinigung set quality standards for its discussions, recycling approach and practical implementation in a participatory building site and acts as a source of inspiration for the other pioneer projects.

Allmende Kontor is a community garden project in which people of different ages and nationalities get together to do garden, exchange ideas and pursue common interests.

Lernort Natur and MINTgrünes Klassenzimmer teach pre-school and young children about nature and the environment.

Chapter R9

A landscape approach for the Dragona loop

Some participants of this workshop in the LE:NOTRE Landscape Forum in Rome discussed a strategy for promoting the rural fringe in the Dragona Loop. A landscape approach combines a layered analysis (abiotic, biotic, infrastructure) with that of landscape characteristics and features to identify developments that can help improve the visual, ecological and economic value of an area.

A landscape approach assumes respect for underlying and surrounding landscape character, multifunctionality, hybrid uses, added beauty and identity, democracy, stakeholder involvement, public participation, site adapted design, easy maintenance and pays particular attention to interventions that may be irrevocable.

In the case of Dragona, four themes were explored:
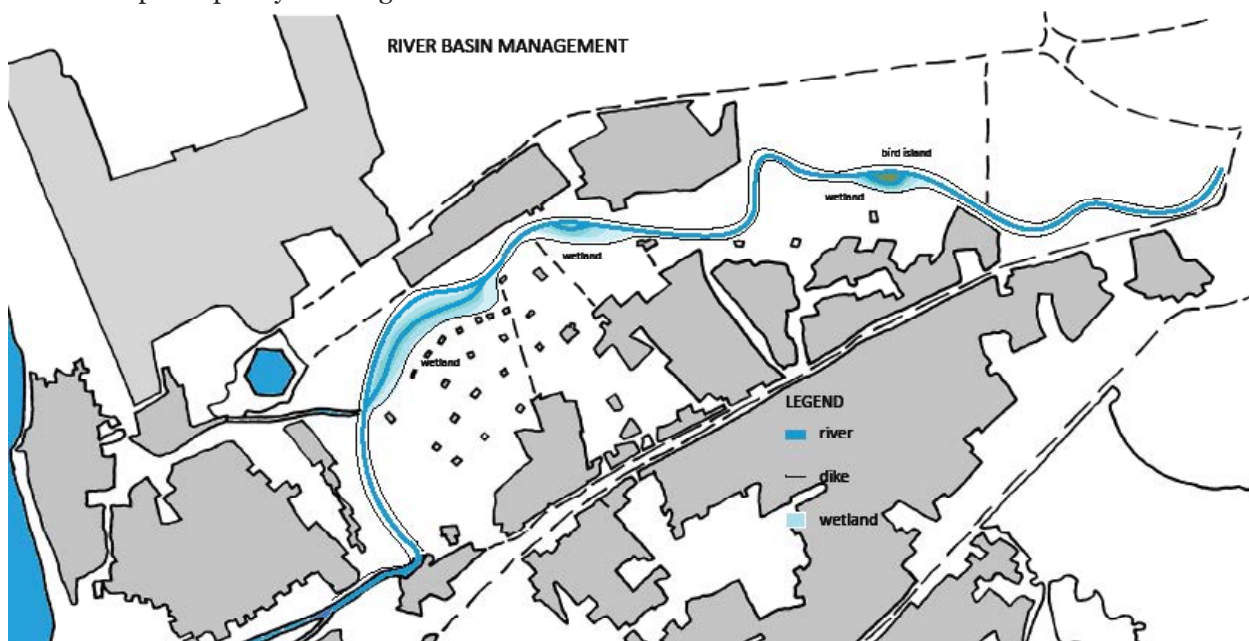
Fig. 54_ Concept for river basin management

Fig. 55_ Concept for local food production in the Dragona Loop

• River corridor and water management
• Local food production
• Developing the urban/rural fringes for leisure
• Enhancing identity of local villages

River basin management

The Dragona loop is a polder characterised by a flood control system of ditches and dikes. Enlarging the flood plain could help contribute to a more resilient river and riparian ecosystem, however systematic flooding could destroy not only productive farmland but also the pattern of drainage

channels and waterways, affect avenues of mature trees and possibly impact on local settlements. Developing marshes would strengthen nature experience (bird watching, walking along the river, through marshlands).

Local food production

Several local farms currently produce and sell dairy and other products. Assumptions that the agricultural sector cannot survive must be confirmed; however, a combination of different types of food

Fig. 56_ Development for leisure in the Dragona loop

Fig. 57_ Improving the dike for leisure
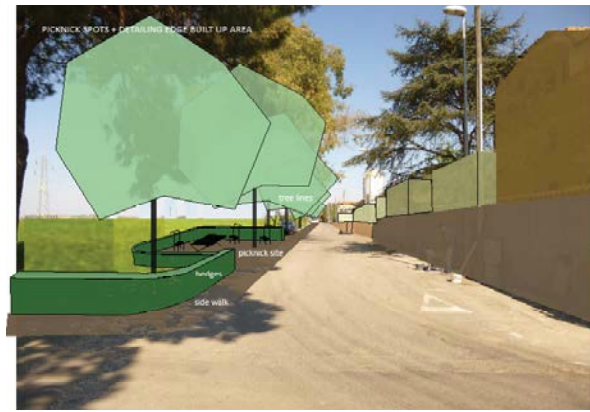
Fig. 58_ Picnic spots and detailing edge of suburb
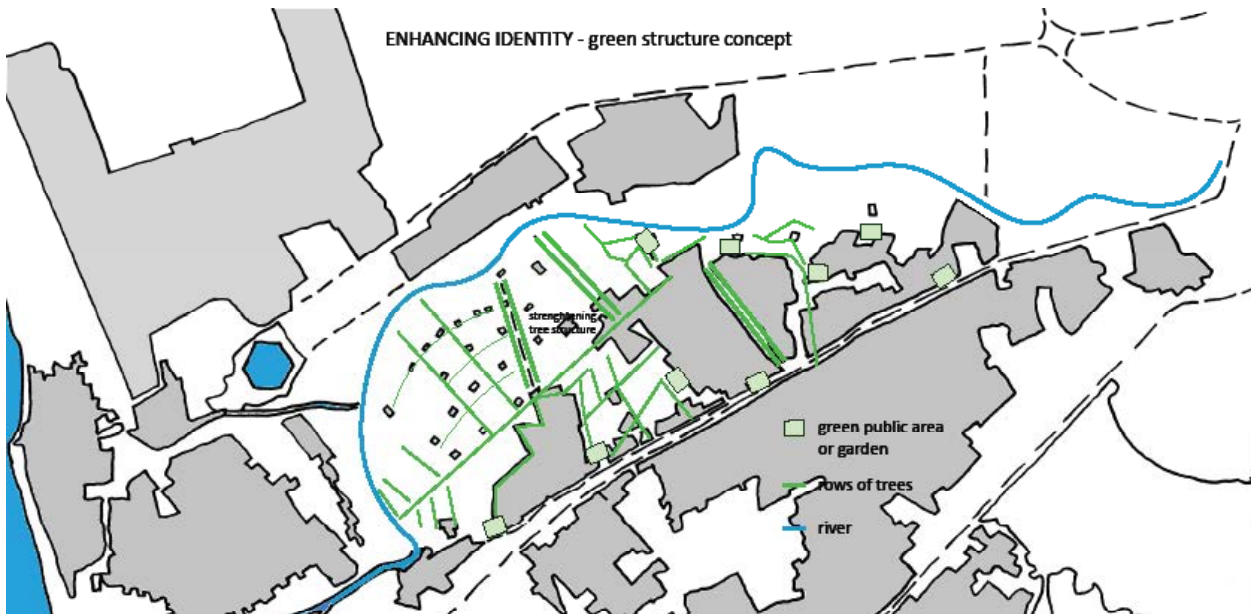
Figure 59_Concept for enhancing identity of local villages

production, possibly including organic, could help boost the local agricultural economy, identity, social cohesion and quality of life. Several possibilities were discussed:

- local food production in private gardens and allotments bordering the suburb
- collectively grown local produce in community garden projects
- introduction of more extensive organic farming of local products
- combine all of the above with education about food and leisure activities such as "pick your own" products.
- re-introduce a special regional product and brand the Tenuta di Dragone as a farm that produces a special local product. Strengthen the brand by upgrading the estate to reflect the desired image e.g. by restoring the garden of the estate, screening the suburb, replanting Eucalyptus or other trees along the water channels.

Developing the urban/rural fringe for leisure

Local inhabitants use the riverside area for evening and weekend strolls, jogging and biking. The private road leading to the Tenuta di Dragone is a pine-shaded promenade and the landowners could benefit/ encourage passage by improving the gardens and the environment of the farm shop. A waterside footpath follows the Tiber from the centre of Rome to the sea offering spots for picnics, fishing and bird watching. The dike is developed into a linear park. The river itself can be used for boating. A bridge across the river makes the Dragona loop easy accessible for people who live on the north bank.

The footpath beside the Tiber could be improved, by providing places to sit, picnic, or by allowing access to the water, or across the river. A network of footpaths in the agricultural land could offer more possibilities for evening walks and picnic sites on the edge of the suburb.

Enhancing identity of local villages

Dragona is not a traditional village. It is a heterogeneous sprawl of housing, public space (roads, squares) are of poor quality, but private gardens seem to be quite large. The Tenuta di Dragone is visually connected to the settlement by an avenue of pines, but with no traditional "centre" Dragona is disadvantaged. Identity of the village could be strengthened by providing open public space, or a centre, or meeting place that allows for better exchange within the settlement, by strengthening links between the settlement and the river park, by renewing the green structure of the Tenuta di Dragone and its garden, by planting trees for shade along paths and waterways.

Conclusion

Evaluating the above themes, it seems that proposals form a feasible strategy for the Dragona Meander except for one exception: the lowering or taking away of parts of the dike to allow flooding. Such an action would severely impact on the existing land as much of it lies at, or below sea level. Furthermore, the creation of wetland in this area might cause the return of the mosquito – something that would also negatively impact on the local population! By integrating the concepts for local food production, leisure and enhancing identity and discussing these with local stakeholders the Dragona Loop can be developed in a sustainable way.

Chapter R10
Reflections and conclusions

Multifaceted perceptions of the rural fringe were presented throughout the LE:NOTRE Landscape Forum. A wide variety of multi-disciplinary and multi-cultural approaches was evidenced by the expert panel during the final "round table" discussions.

Round Table discussion was chaired by Dr Nilgül Karadeniz of Ankara University and co-moderated by professor Paolo Balbo. Members of the panel were:
- Professor GüntherVogt, ETH Zürich and Vogt Landscape Architects Zürich,
- Dr Cristiana Constanza, La Sapienza University, Faculty of Architecture.
- Piere Sala Martí, coordinator of the Landscape Observatory of Catalonia, UAB Barcelona,
-Marti Franch, visiting professor at ETSAB Barcelona, Estudi Marti Franch
-Professor Eliana Cangelli, La Sapienza Univer-

sity, Faculty of Architecture.

It seems to be generally agreed that rural and city areas have become increasingly intertwined and inter-dependent, in Europe. The production and distribution of food impacts all types of landscapes and rural areas - be they within a "near-by" fringe, such as the Dragona area of Rome, or further beyond, such as the Alpine Region - are also greatly influenced by the needs and activities of the urban population.

Vogt maintains that Europe's urban population tends to view "the rural" as a leisure resource, or some kind of museum that needs to be protected. As the UNITED NATIONS Population Division reported in 2012, the world population is 7 billion and half of it already lives in urban settlements. In Europe, however, a far greater majority of the population already lives (and will continue to live) in the current polycentric sprawl of well-connected towns with easy access to the countryside. Changing land-uses and lifestyles will nevertheless continue to transform Europe's urban and rural landscapes, particularly at their fringes, as cities sprawl.

Professor Balbo calls for a change in paradigm, for multi-disciplinary discussion on how to "define" *nature*, how to "protect" *nature*, how to "value" *nature*, how to ensure that *cultural* sites are not lost?

A more holistic approach to infrastructure could help improve both existing and future quality of a third landscape type – the fringe. Traditional methods of design are changing in response to the scale of climatic and social change; such complex problems require a democratic strategy that recognises stakeholders and existing in-situ urban processes.

According to Marti Franch, development may help enhance certain existing values in the landscape, careful mapping can help reveal identity and landscape character, transformation can positively reverse issues of abandonment and degradation. Yet, Franch too, refers to the need to accept changing landscape uses and representations.

Piere Sala Martí presented results from the Catalonia landscape observatory work on the rural fringe, seeking new nature-culture-economy scenarios for hybrid landscapes. Such scenarios may relate to energy transition and the post-petroleum economy; new types of agriculture and forestry may respond to new markets. Tourism is starting to see peri-urban areas as complementary allies. The peri-urban offers local products, wine paths, business meetings, scenes for advertising. The singularity of rural landscapes can have a positive impact on emergent sectors such as cinema,

advertising, fashion, gastronomy, design... that use the landscape to communicate ideas, or concepts. Rural fringes can provide ideal scenarios for creative, integrated, innovative projects concerned with cultural, social, economic and environmental perspectives.

Landscape character and specificity are two increasingly relevant in attracting business, especially in the more advanced sectors of the economy - and leisure and culture. Such features help improve the attractiveness of a city or a region. In the multifunctional landscape on the edge of a metropolis it is hard to make the distinction between rural and urban. Rural areas are influenced by urban processes and often occupied by city workers.

The Roman Agro, including the Dragona Meander of the river Tiber, in the metropolitan area of Rome, is an example of the rural-urban fringe and an area of agricultural, historical and ecological potential, encroached upon by unplanned development since the 1950's.

The Dragona meander is one of the last remaining parts of a larger once productive agricultural area disturbed by planned and unplanned commercial, residential and infrastructural projects, including the Rome Fuminciano airport. Dragona itself is a small town, not far form the city of Rome and there are two, or three types of population that could, or do, depend on the area for housing, recreation, food and work.

The BIRV (Bunce Indicator of Rural Vitality) is an easy indicator of rural vitality. Compare the number of gardens where people grow vegetables with the number of garden where this is not the case. The latter houses commuters, or second homers. The division of the two gives an index. The more vegetables in the gardens, the more rural the population!

We did not have time to assess the rural nature of Dragona, but the existing landscape is under pressure from further urban development. It is not clear whether planning laws or protections are sufficient to protect Dragona from further development, or whether an agricultural future is economically viable, however, literature on the fringe shows that these areas are prone to rapid change. Their high potential for ecological and landscape services makes them critical to the sustainable development of cities - calling for better planning processes that take account of environmental, social, economic, aesthetic and functional values.

Teaching about the rural fringe preferably takes the form of studio project work, but requires an increasingly integrated and multidisciplinary approach that allows students of the various design professions to work together whilst communicating local authorities, the people of the place and other local stakeholders.

Landscape research bridges between disciplines and is concerned with social, ecological, technical and architectural issues. The core of landscape research relates to design and planning, with concepts that make use of the genius loci. Because of its dynamic hybrid nature, the rural fringe cannot be planned in the form of a spatial design - it calls for a strategy that includes a flexible approach that may include changes, link up to unexpected opportunities and influence of stakeholders.

International reference projects provided inspiration for the development of the Dragona Loop: the hybrid Eco-Park can provide multiple services to metropolitan systems. Wetland parks that purify water and serve as catchment areas are at the same time attractive sites for recreation, education and biodiversity. It is not clear whether the benefits of hybrid eco-parks can best be calculated from consideration of single projects, or from that of an integrated urban ecosystem. In the same spirit, energy provision can be considered in terms of a meta-grid, or a mega-grid.

The Dutch programme Room for the River provides a broad spectrum of projects that demonstrate an integral approach to water management, nature development, agriculture and urban planning that combines flood protection and creation of new landscapes. The planning process of Tempelhof in Berlin, Rectory Farm, in Hounslow and the new London Sustainable Industries Park at Dagenham Docks, London revealed a new, more flexible approach to the development of fringe sites.

During the LE:NOTRE Landscape Forum strategies for the rural fringe of the Dragona meander were identified. These were based on four themes: river basin management, local food production, leisure and recreation and cultural-historical value.

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Section 4: H

Heritage and Identity
The Landscape of Ostia Antica

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Chapter H1

The Landscape Context of Ostia Antica
Harlind Libbrecht, Paolo Camilletti

Ostia Antica, an evident choice?

The city of Rome, where all heritage is of course Roman, is respected as such by many people because of the link between those people and the Roman period as a study-topic in their secondary school. Many feel familiar to the Roman heritage and think of it as logic to protect for the future generations. However, when we visit the Trastevere-museum, we find many watercolour paintings made in the 19th century by Ettore Roesler Franz (1845-1907) representing places and aspects of popular Roman life that were thought to be disappearing due to the new urban development of Rome as the capital city of Italy after 1870. People, I was told in the museum, were afraid that Roman ruins would disappear after Rome becoming the capital city of Italy... after all, evolution showed otherwise. Roman heritage is still in place, and Ostia Antica is

Fig. 1_ marble plates cover the brick masonry

still one of the interesting sites where the ordinary life of the Romans centuries ago can bee seen. The image of the city, however, changed from a marble city to a brick one (with travertine cornerstones).

Measures from Pope Pius IX were necessary in 1801 to protect the city of Ostia to be stripped entirely form all reusable natural stone. The process of change already started in 1191 when a Papal Bull records a place called 'the lime kerns', where the marble was burnt to lime to provide the builder (Meiggs, 1973, p.102). The process of change is a well-known case in heritage studies. When we look at Flemish Romanesque buildings constructed in the Belgian blue stone provided from quarries in the neighbourhood of the city of Tournai, not much of the building material can still be found in the younger constructions. The blue stone is, similar to the marble used in Ostia, a limestone. When burnt, it provides the good lime for the builder. Parts of the marble however were reused in other buildings from Pisa to Florence, as described by Meiggs. It is important to remember that a site like Ostia Antica looks like a picture, well protected, but has undergone quite some changes. The major protection might have been the coverage by almost the whole site by sand (earth). As we see in similar sites like Pompeii and Herculaneum where the sites were frozen in one moment, by the eruption of the volcano Vesuvius, and covered by ashes for centuries.

Fig. 2_ Corine land cover analysis (GIS Natura 2000, elaborated by P. Camilletti)

Ostia Antica in its multi-layered context

The south-west part of the Roman metropolitan area, between the ring motorway GRA and the Tyrrhenian coast, is considerably various and dynamic. The area is characterized by a 2500 year history of sedimentation, oblivion and transformation. In such a palimpsest, weaknesses and potentials – the latter sometimes hidden – come to the light, conveying mixed impressions among the visitors. The study area has been purposely chosen to include the most remarkable parts of the historical and archaeological heritage, insisting on the administrative territory of the Local Council of Fiumicino to the north, and the X. (former XIII.) Munici-

pality of Rome to the south. The river Tiber draws the administrative boundary but it also represents the millenary "soul" of this landscape.

By considering the 2010 demographic data of Fiumicino and the X. Municipality of Rome, the whole territory is inhabited by ca. 300,000 people, showing a positive trend. The research group has narrowed the focus on a smaller area characterized by the countryside and the archaeological heritage and therefore by low population density. Focusing on the use of soil (Corine land cover analysis) the districts of Ostia Antica (Rome) and a part of Isola Sacra (Fiumicino) are residential areas, close to the archaeological parks and even sparse ruins, surrounded by agricultural areas with farms and

Fig. 3_ Vegetation and ruins in Ostia Antica, image: P. Camilletti

Fig. 4_ The ancient via Severiana among the Mediterranean scrub, image: P. Camilletti

residual wetlands around the Trajan Harbour basin. The ancient route of Via Severiana crossing the pine woods of Castel Fusano and Castel Porziano has been included, inspiring the idea of a cultural-ecological landscape for Ostia.

The morphology is plane and characterized by the delta of the river Tiber, once completely navigable until Rome. The peculiarity of the Tiber and its interaction with the geomorphology through the history lies in the deposit of alluvial sediments which modified its meanders and made the coastal line move forward some four kilometres in 2000 years. Therefore, the archaeological ruins of the Ostia and Portus harbours are currently in the hinterland, de-contextualized from their original sites, imprints of a glorious eternal past in a multifunctional district. Thus, the landscape unit is an example of a Tyrrhenian reclaimed marsh. The vegetation denotes the presence of dune and retrodune systems, and temperate transition series in the hinterland, including the Mediterranean scrub. The pine woods were planted the 18th century, and the archaeological park of Ostia Antica was landscaped in the 1940s . Wider green connections are remarkably visible with the Presidential Estate of Castel Porziano and the Capocotta dunes.

Concepts introduced by the keynote speakers

In a brief introduction the different keynote speakers had the opportunity to evolve some of the recent concepts in heritage studies, in relation to their proper discipline. Marina Döring stated that architecture and tourism should not be disassociated. She illustrated her concept with different examples from Austria (Weinviertel) and Turkey, where many protected sites are not yet developed as tourist attractions. In the archaeological landscape there are no isolated objects. All archaeology should be looked at in relation to the context of the surrounding city or landscape. She showed the example of the well preserved ruins of Alinda, an ancient inland city of Caria in Anatolia. It is situated on a hilltop that commands the modern-day town of Karpuzlu, Aydın Province (TR), where grazing and farming are still the main activities.

Fig. 5_ Roman mosaics with marine motives in Ostia Antica, image: Ingrid Schegk

The old centre is still related to the 19th century development and to the modern village. The students documented the Anatolian building history. It is actually a living museum where in Orta Mahalle valuable buildings are falling apart. The role of science was stated, archaeologists are eager to start excavations. Could those sites be developed as historical national parks? New research priorities should be defined such as working by augmented reality as a possible on-site visual representation technique.

Architectural relics deserve protection as part of the surrounding landscape; this protection should be described in the land-use guidelines. Nowadays classical archaeological sites like the Via Appia need social acceptance because of their location in the heart of the city. It is a brave decision of a government not to build on a site of this surface.

Sam Turner started by stating that the work of landscape archaeologist is useful in the field of landscape architecture. By using the site of Ostia as a starting point for the analysis of the surrounding landscape, we can look beyond the fence. We need to see the site in relation to the surrounding landscape, wherein the time depth can be studied by means of the historic landscape characterisation method. Here the change of the landscape over long term is analysed. Relationships and links across time are highlighted. As a case study area the Greek Island Naxos was mentioned where terraced cultivation techniques were found to be much older than first presumed. The landscape archaeologists have created downloadable datasets from their current research projects for the use of different disciplines. This makes it possible for other disciplines to use results in an easier way in their own studies.

Gert Jan Burgers compares the classical archaeological way of working on monuments in comparison with the current way of working of the last

Fig. 6_ Portus, Ostia and the main roads in the Roman Empire (S.S.B.A.R., further elaborated by P. Camilletti)

two or three decades where the space-time concept is used as the main concept in heritage studies. Heritage studies do not take place in isolation, but within a spatial-social context. As mentioned by Turner, the different time layers should be considered as a palimpsest of different histories. As mentioned in the Valetta convention, the wider spatial context is taken into consideration. In the case of the Testaccio-neighbourhood, the archaeologist offers support, integrating archaeology in the urban fabric by collaboration in a development project. For new developments, the provision of a Spatial Data Infrastructure (SDI) is necessary. It can provide geo-information, all archaeological data next to oral history (interviews), to the developer.

Chapter 2H

The landscape of Ostia: historical analysis and research overview

Decoding the palimpsest
Ostia in Antiquity

Some preliminary historical background data are useful in order to decode the current landscape palimpsest (Pavolini, 2006; Keay and Paroli, 2011). The study area achieved a primary role during the Roman Empire when it garrisoned the delta of the river Tiber. Actually, the toponym Ostia comes from the Latin term ostium, which means mouth, with reference to the delta itself. Under Augustus, Ostia and Portus controlled a sensible military and commercial area of the First Regio Augustea "Latium et Campania", serving both as the northern boundary and the defence of the Tiber. The major infrastructures leading to Rome were the Via Ostiensis on the left bank from Ostia, and the Via Portuensis on the right bank from Portus. In addition, parallel to the coastal and peninsular axes, the ancient Via Severiana ran from Ostia to Terracina, linking also the numerous villas built by the

Fig. 7_ The Castel of Giulio II dominates the Borgo (P. Camilletti)

seashore. During the late Empire, Portus gradually overtook the socio-economic role of Ostia thanks to the harbours built by Claudius and Trajan. Their construction was needed not only as a consequence of the increasing demand for space for ships, but also to face the effects of the coastal line changes and the river-bed deviations caused by the alluvial sediments.

Fundamental changes during the Middle Ages

It must be highlighted that drainage engineering works were made by the Romans to enable the cultivation of land. The decline of the Empire and therefore the lack of maintenance implied that the marshes were back, re-colonizing the Roman campagna. Human settlements moved from plane sites to the safer hilly and mountain position. The few inhabitants left ancient Ostia and Portus, partly populating the new Mediaeval Borgo of Gregoriopoli (9th century). From a political viewpoint, after the fall of the Roman Empire this territory was ruled by the Papal State until 1870, when it was annexed to the unified Reign of Italy.

Rediscovery of the landscape on the Grand Tour

For centuries, the reputation of those wild and inhospitable landscapes, where pasturage was almost the only activity still existing, was even worsened by the diffusion of malaria and the raids of brigands. Nonetheless, its unique traits fascinated generations of young foreign visitors who used to spend the Grand Tour in the Italian peninsula eager to improve their classical education. The 18th century map by Cingolani witnesses that the two main ponds were close to the banks of the Tiber, whose bends were changing, and the ruins of Ostia Antica already far from the sea.

In the 19th century there was the resumption of drainage works, as shown by the IGM map of 1872-74. Especially in the post-unification decades there was an intense planning activity and urbanization in and around Rome, capital of the Reign. At the same time, archaeologists started to supervise more systematic excavations, and contributed to the early hypotheses on Ostia and Portus.

Ostia during the Fascist government

A crucial phase for the contemporary development of this territory was the period between the two World Wars, dominated by the Fascist government. On one hand, the study area benefitted from the four national laws on hydrogeological improvement, marsh drainage and infrastructures – n.3256/1923, n.753/1924, n.2464/1925 and n.3134/1928 "Integral drainage" - meticulously applied to exploit the availability of agrarian soil for cultivation. On the other hand, Mussolini's idea to strengthen agriculture went further the goal of

Fig. 8_ The artificial post-drainage landscape: fields and eucalyptus rows; on the back, the archaeological park of Ostia Antica with its outstanding conifers, image: Paolo Camilletti

Fig. 9_ The modern town of Ostia with its spa landscape on the seashore, image: Ingrid Schegk

self-sufficiency (the "battles"), as it represented a socio-economical model for the country, keeping the population in the countryside. The railway line Rome-Ostia was open in 1924 and, somehow, it represented a milestone in the re-conquest of the post-drainage territory.

It led to the beginning of an intensive colonization, strongly pursued by the Fascist regime as a job opportunity for the increasing population, and a tool to monitor and care such artificial landscape. For instance, the "braccianti ravennati" (farm labourers from Ravenna) had been encouraged to settle along the Lazio coasts. The famous motto which synthesized Mussolini's vision of the urban growth was "Rome to the sea". It characterized Piacentini's E42 masterplan and the 1942 Rome masterplan – both never approved because of the war. Even the development of the coastal areas as touristic attraction for bathing perfectly fitted in the overall designed context, and again embodied the corporativistic vision of the Italian society.

A new town on the seashore

In the newly developed town of Ostia Lido, based on a radial urban tissue, there were chances for architectural competitions and developments designed by remarkable exponents of the Rationalist movement, i.e. Adalberto Libera and Angiolo Mazzoni (the Postal Palace). Within that political context, the excavations of Ancient Ostia were strongly encouraged and funded, as well as the Fori in Rome city centre. Mussolini's government ideologically claimed the grandeur of the Eternal Rome on the basis of archaeological evidences.

The beginning of conservation activities

In 1939, with the laws n.1039 and n.1497 and subsequent ministerial acts, the archaeological park of Ostia Antica, the Renaissance Castle of Giulio II and the surrounding Borgo became protected

by the Superintendence, with respect not only to the archaeological heritage, but also the landscape and architectural ones. In the same years, Busiri Vici and De Vico Fallani landscaped Ostia Antica, with a planting design ideally linked to the other archaeological areas of Rome. It included Pinus pinea, Cupressus sempervirens, Laurus nobilis, Quercus ilex, Cercis siliquatrum. The umbrella pine (Pinus pinea) was one the most symbolic – and overused - trees of the Fascist regime. It created the atmosphere musically depicted by the symphonic poem Pini Romani by Ottorino Respighi.

The situation today

The man-made landscape of the study area shows a unity of thought which has been rather well preserved so far. At a first look, it is easy to note that the landscape typology reflects the agrarian structure shaped by drainage canals, rural roads, and consequently the subdivision of estates and fields. The vegetation of this reclaimed landscape is another distinctive feature, as the Eucalyptus rows underline the design of fields and roads, whilst masses of native shrubs by the banks confer a more naturalistic appearance. Last but not least, rural architecture contributed to the definition of the identity of the place. Houses, stables, barns, manure tanks, dwells reflected the homogeneous inspiration through their location, layout, materials, and finish details. A partial decline of agriculture in the decades 1960-2000 has led to the abandonment or improper transformation of those fabrics, sometimes including minor crafts activities or determining the separation of the residential unit from its original land parcel.

After the Second World War, Italy experienced its proper industrialization and tertiarization, facing serious consequences in terms of urbanization. The spontaneous/illegal residential quarters - which were built even in the study area – met the

Fig. 10_ Magnificant pinus trees dominate the heritage landscape of Ostia Antice, image: Ingrid Schegk

Fig. 11_ Marginalised squatter settlements at the seashore near Ostia Lido, image: Janice Thien

housing need of the population, but added further complexity and rigidity to the landscape. The lack of infrastructures and identity in such areas rapidly led to anonymous settlements of commuters, located in those outskirts well documented by the Neo-Realistic films.

Fiumicino and its countryside had a dramatic rate of unplanned construction in the countryside, especially as a consequence of the newly built airport. From 1961 on, the International Airport Leonardo da Vinci has gradually attracted not only employers and workers, but also entrepreneurs who pursued better opportunities in terms of business logistics. Nonetheless, the outstanding historical, archaeological, and environmental heritage characterizing Ostia and Fiumicino seems not to have been completely perceived for its touristic potential.

Since the 1960s, infrastructures and public transports have not supported the increasing needs. The absence of a direct north-south railway connection – despite the closeness of Fiumicino to Ostia – still highlights the two linear relationships between the so-called "Comet's tail" and Rome. The main investments have been done to serve the airport, with a motorway and a railway. Actually,

the Tiber still represents a marked separation whereas there would be claim for re-connecting such territory, on the basis of shared environmental, cultural and socio-economical features.

Travelling by airplane, the landing and take-off can reveal the complexity of today landscape of the Tiber delta, and its values. Coasts, pine woods, mixed woods, residential and tertiary districts, axial roads are intermixed in a relatively small area.

Three Ostias

According to the history of settlements, three Ostias may be distinguished. The first one is the archaeological park of Ostia Antica, a peaceful island where visitors are projected back to the everyday life of the Roman Empire by walking along the decumanus and admiring its millenary heritage surrounded by exuberant vegetation. The second Ostia consists of the mediaeval-renaissance Borgo, dominated by the Castle of Giulio II, the church of Saint Aurea, its tidy and tiny streets and houses. Actually, it is the third Ostia - the one born with the Lido foundation and grown with the post-Second World War developments - to be usually considered the proper Ostia by the citizens of Rome. Moreover, if considering the urban sprawl, such identification process applies also to the overall area

Fig. 12_ The Pine Wood of Castel Fusano from via Cristoforo Colombo, image: Paolo Camilletti

between Ostia and Isola Sacra. On one hand, in the last four decades such settlements have been interested by a rising process of urbanization - partly planned and partly spontaneous – which has met the demand of housing, but not the identity awareness. On the other hand, Fiumicino has consolidated its vocation for territorial and international connections.

A correspondence between socio-economical factors and the identity of the place can be noticed. Born in the classical era as a crucial area for transports and commerce, this area has rediscovered such leading role in the metropolitan area of Rome. What was once mainly related to the sea and river communication, currently involves the air traffic with a complementary touristic function of water routes. As it occurred at the time of Portus, a considerable part of today citizens of Ostia are commuters employed in Fiumicino. The new Rome Fair, malls, and warehouses have occupied its territory on a large scale and there is no difference any more between town and countryside.

State of the subject from research

The multidisciplinary approach to the theme requires specific contributions from the literature. According to each field of study, it is possible to analyse the current state of research on this topic, and delineate potential further investigation. At a more germane level, the making and transformation of the Italian agrarian landscape, Sereni (1961) pointed out the role and identity of the communities that directly contributed to shape such man-made landscapes. The drainage of marshlands in Lazio has been compared to the ones carried on in other regions, highlighting both the impact of governments' guidelines and the cultural legacy of emigrated farmers from northern Italy (see also Isaja, Lattanzi G. and V., 2008).

The evolution of the Tiber mouth and its landscape has been described in Bagnasco (1998), through the reconstruction of the effects of sedimentation on the river-bed's morphology and the modification of coastal line. It has been clearly debated how the economic and demographic prosperity of the delta area was directly related to the succession of phases – Roman drainage, Mediaeval marshes, contemporary drainages. Rocci (1995) supports the description of the turned marshy lands and their usages before the 19th-20th century drainages with an exhaustive iconographic apparatus. Such was the perception got by the 18th century Grand Tour protagonists, for instance, when this territory was almost completely uninhabited because of its insalubrious conditions.

A deep knowledge of the environmental heritage has been achieved in the study area. The flora and fauna of the ZPS (Zones of Special Protection) of the Trajan Lake and the Presidential Estate of Castel Porziano, which includes the dunes of Capocotta, have been thoroughly investigated by botanists and environmentalists in the recent decades. Within the overview on the Italian vegetation in Blasi (2010), the chapter dedicated to the flora of Lazio Region highlights the various phytogeographic and phytosociological aspects of this coastal area. It also shows the interaction and integration between introduced species (i.e. Pinus pinea) and the native Mediterranean scrub and woods.

Focusing on the archaeological heritage, the ancient sites of Ostia and Portus have been usually investigated separately. Through the holistic appro-

Fig. 13_ The 1940s tree avenue linking Ostia Antica to the Borgo, with Pinus pinea, image: Paolo Camilletti

ach, Pavolini (2006) has integrated the knowledge of architectural and decorative features with further studies on territorial relationships, landscape, economy, society, carrying on his research on the landscape design of Ostia Antica, as conceived by Michele Busiri Vici and Raffele De Vico Fallani towards the end of the 1930s. Pavolini (1996) also delivered a realistic description of the town and its everyday life.

To better understand the Emperor Claudius' socio-political aims and his urban policy regarding the harbour of Portus, the consultation of Il Porto di Roma (Silenzi, 1998) can be useful; the volume is finely illustrated. Massimo De Vico Fallani (1998) focused on the landscaping of the Trajan Harbour as an archaeological park of the 20th century.

An updated and innovative hypothesis on the ancient site of Portus - including its territorial and architectural features – have been described in the monograph edited by Keay and Paroli (2011). Such

volume followed a decade of previous surveys and studies essentially published on periodicals. The authors have related information and evidences from recent archaeological excavations to socio-economical data, giving a detailed overview of Portus and its dominant role during the Roman Empire, which lasted for centuries until the decline of Middle Age.

Urban and regional planning issues, including the most recent observations on social trends, have been widely debated by planners and politicians (Bonvino and D'Ausilio, 2013). Significant long-term research activity, coordinated by the Department Diap of Sapienza University with the programmes Coda della Cometa (Comet's Tail) and the PRIN 2013-15 Re-cycle Italy aims to delineate future sustainable scenarios on the basis of landscape and urban analysis, major projects, and regeneration of derelict areas. Typological aspects imprinted on the agrarian landscape between 1920 and 1942 have been studied by that research unit as well.

Chapter 3H

Heritage and landscape of Ostia: issues and potentials, plan and design

Key aspects of Ostia that relate to landscape architecture

The territory between the great conurbation of Rome and the mouth of river Tiber is relevant for landscape studies because of the presence of a land use stratification. This offers the opportunity to analyse the landscape evolution during a very long period of time (from the 4th century b. C. to present). The ecological and anthropological approach can determine new ideas for landscape planning, design and management (ELC) aimed to create a better integration of the natural systems, the social organization and the cultural heritage.

This landscape presents a multifaceted palimpsest in which it is possible to recognize the ICOMOS cultural landscape category of "organically evolved landscape" which "has developed its present form by association with and in response to its natural environment" reflecting the "process of evolution in their form and component features" (ICOMOS, 2009) and also "the multi-values" "including strong community engagement, need to be brought to their protection and management" (US/ICOMOS, 2004).

The archaeological sites, the ancient Roman streets and the landscape elements of the following

centuries, in particular the castle and village of Borgo Pio, represent an example of the large estates (in this case belonging to the Torlonia princes) until the transformation of the marshlands in rural areas. They are today surrounded by the Rome urban sprawl and the post-war urbanisation of Ostia Lido with the characters of a contemporary landscape, in which incoherencies are omnipresent. This case study has an interest at international level for the application of landscape architecture teaching, research and practise in the following main topics:

The river landscape

It is important to understand the central role of the river Tiber from the perspective of landscape ecology. In the past, the river was a major feature of local identity, which favoured the human settlement and the development of the harbour. All of this was closely connected to the expansion of Rome as the most important economic, political and cultural centre of the Mediterranean Sea. Today the river is hidden in various parts of its banks, its course, its mouth and the coastal line

Fig. 14_ The river Tevere nearby Ostia Antica, image: Kinga Janossy

have changed during the ages. The environmental and landscape analysis can be used to determine the decline of the natural characters of the river in the last decades and to consider the impacts of the unauthorized water extractions from the wells and the emission of polluted water in the canals and the river. It is also significant to realise how the changes of the landscape have influenced the life of the local population. In the past they used to live in the marshlands (of which only some relict still exists). This land use represented an economic resource for the production of salt, rich in biodiversity, but, at the same time, it was dangerous for the human health because of the malaria. This disease existed until the reclamation measures taken by the fascist regime.

Landscape patterns

This case creates the opportunity to analyse the peculiarity of the landscape due to the regular

Fig. 15_ Agriculture in the urban periphery, image: Kinga Janossy

patterns, the structure of the ancient Ostia in the Republican period (cardus and decumanus) and its development in the Imperial period, the texture of the plots of small farms of the Fascist times, the networks of straight lines of the canals and the modern aqueduct to supply water for the agricultural colonisation of the first half of the 20th century running in parallel lines to the Strada Statale Ostiense and the railway Roma-Ostia-Castel Fusano and Roma-Fiumicino.

Infrastructure Landscape

Another aspect is the reflection of mobility infrastructures over a long period of time, the modern road Strada Statale Ostiense which had been superimposed on the ancient Via Ostiensis with the construction of Via Severiana (approx. 118 km) located in the south part of the plain of the Gaeta Gulf (Agro pontino) and the railway Roma-Ostia-

Fig. 16_ everyday landscape in Ostia Lido, image: Kinga Janossy

Castel Fusano to promote tourism mobility. The development of the striking network of Roman roads used for centuries until the present time is not so evident for the tourists visiting Ostia. Another issue is the opportunity to use pedestrian and cycling routes and to visit the Eco-museum of Roman Coast to by the tourists which don't find information in the archaeological sites and direct access to the archaeological sites from the Fiumicino airport.

Landscape Heritage

The contribution of history, anthropology and social science can underline the heritage of the rural landscape of the 20th century. It is a result of the hard works of migrants from the north of Italy which shaped the built landscape formed by the regular pattern planned by the Fascist regime with the aim to modernize and to convert the semi-natural landscape for agricultural use. The landscape analysis using the historical maps, images, satellite photos, plans at various scales, can identify the changes in the agricultural uses and the artificial water system to emphasize the landscape in transition in which past and new identities should be integrated.

Immaterial Heritage

The consideration of immaterial heritage can illustrate the relationship between the landscape and modern art. This is shown in particular in the movies of Federico Fellini and Pier Paolo Pasolini

Fig. 17_ Numerous Italien movies used western urban periphery of Rome as a setting

(66 movies were made in Ostia and Ostia Lido). In Pier Paolo Pasolini's movies the regular grid of the small farms and the shape of a well organised rural landscape are no longer recognizable because it became a peri-urban landscape. The social asset is also disintegrated, the new inhabitants have precarious jobs, the exploitation of Ostia is connected with the growth of unauthorized small buildings and allotments in the countryside.

Biodiversity and Natural Heritage

The contribution of a management plan to preserve the flora existing in archaeological sites, abandoned fields and residual areas in which 1300 species have been identified. Ostia, Traian Harbour, Claudius Harbour, Via Severiana are included in the Natural Reserve of Roman Coast (Ministry of Environment, 1996). A relevant aspect of the Ostia archaeological sites is the presence of spontaneous plants and small animals which set

Fig. 18_ Almost natural woodlands in the *Reserva Statale Tenuta di Castelporziano* south of Ostia Lido, image: Ingrid Schegk

up biodiversity islands because of the favourable and undisturbed environment which usually are not perceived as a special value from the population and the tourists.

The interactive and integrating understanding of the landscape, the ecosystems, the rural and urban landscape of Ostia in which it is possible to find an astonishing continuity and similarity between the ancient Roman everyday in current daily life and to recognise the influence of the ancient Roman heritage in different field of human activities and ideas in Europe of the present time.

New Media

The use of new media related to Ostia landscape could improve the communication to airport passengers. They could be made aware of the fact that they are in the proximity of one of the most important archaeological heritage of the ancient Roman civilization and that they can visit it, in the Ostia archaeological sites to offer to the visitors environmental education activities using multimedia tools and to present the romantic idea of the icons of Italian vegetation related to the ruins (Pinus pinea, Cupressus sempervirens, etc.) described by poets, writers, painters and the interpretation of 19th and 20th centuries of the archaeological heritage in the landscape design concept in the excavated areas.

Planning and Design Topics identified

Ostia Antica and its surroundings represent a pluralistic landscape characterized by different 'layers', which include transport infrastructure (the airport, railway and roads), agricultural activity, settlement, cultural heritage and archeological sites, as well as natural features such as the Tevere river. These are important preconditions for acces-

sing and perceiving the landscape. It is important that Ostia Antica is not seen as an island, but as an integrated part of the larger landscape. The process of planning requires a holistic consideration of the context of Ostia Antica and a methodical approach related to considering the different layers and their potentials.

In the following some planning and design considerations that seem to be relevant for the archaeological site of Ostia Antica have been compiled. In the first place, both the arrival of the visitors at Ostia Antica and their movement in the historical site should be explored in more depth. This includes consideration of how visitors and tourists arrive from Rome and other locations, the numbers of visitors and if there is a maximum number. Can universal access be improved and if so how can inclusive measures be integrated by design?

The second aspect refers to the perception and experience of the historical site and possibilities for interaction. Here one would consider the existing views and settings as defined by the topography. Could the site allow history to be experienced as an 'adventure'? Who are the site users and how could different groups interact with one another? Could local people interact with visitors? All of this would require interdisciplinary cooperation with sociologists, cultural scientists and environmental psychologists.

The third important point is the vegetation management of the historical site of Ostia Antica. At the moment three major processes are interacting in parallel: first, natural succession including more or less intensive management action against it. Second, the strong presence and preservation of the Fascist' planting design scheme, primarily based on mighty pine trees. And third, the fragile presence of remnants of the antique vegetation structure. From the perspective of landscape architecture it would be useful to define the criteria for vegetation management in Ostia Antica. Which spatial and visual concept is intended and what is the role of plants in this context? The process of gradual succession as it can be observed at the moment on the site creates a romantic impression. However, active intervention is required for preserving the ruins from being completely overgrown by nature. A management plan will probably need to seek for the right balance between succession, restoration (of antique planting schemes), preservation (of the Fascist planting scheme) and innovative approaches creating new spatial experience. On top of that, biodiversity and habitat connectivity may not be excluded from these considerations.

Fig. 19_ Natural succession in the archaeological park of Ostia Antica, image: Ellen Fetzer

The last discussion point relates to the connectivity of the heritage site of Ostia Antica to its direct urban and landscape context. At the moment the site is fenced and thus disconnected from its environment. Even the river, one the reason of being of the harbour city, is outside the fenced area and not accessible from the heritage site itself. Furthermore, the antique area is in direct vicinity to a medieval village with a small castle. But the urban space in between is currently not mediating between these two foci. A redesign of this arrival and contextual zone would be of high relevance in terms of a landscape architecture intervention. Last but not least it remained unclear as to whether the inhabitants of the adjacent zones are involved in the activities on the historical site. It seems desirable to have local people also benefit from the attractions in their landscape.

Seen from a wider perspective it became obvious during the forum discussions that the historical site of Ostia Antica would benefit from a better integration into its wider landscape context. This is first and foremost the river itself as it is an inseparable part of Ostia's genius loci. The site is also in direct vicinity to Fiumicino airport and the second port, Portus Traian. Up to the present, there is no connectivity in the form of bike or walking paths between these major attractions. The second important connection would be between Ostia Antica and Ostia Lido, the spa on the seaside, which is today open to the sea like Ostia was in antiquity.

Teaching heritage in landscape - landscape as heritage

Landscapes are the results of dynamic interaction between cultural and natural forces. They can therefore be the sources for understanding of the past development as well as of possible future transformation of an area. Ostia is one of the icons of heritage sites in the neighbourhood of the city of Rome. Still today, new discoveries are done by archaeologists using recent research methods. The site and the way to the site gave the heritage group excellent opportunities to discuss the future vision on heritage and identity. One aspect that was discussed in particular was the teaching of cultural heritage in relation to landscape. This chapter takes a look at the different aspects of teaching cultural heritage in landscape architecture: why the subject of heritage in landscape is important, what types of knowledge and competences are relevant, and finally a few hints about teaching methods.

One of the articles discussed by some of the participants at the workshop was "Why landscapes of the past are important for the future" by Marc Antrop (2005). This article lists some of the main elements relevant for landscape studies in a heritage perspective. Diversity and identity of cultural landscapes are central in the discussion. Coherence between landscape elements at different scales is important for the legibility of the landscape. The legibility of a place, i.e. the ability to tell the history of a place from the landscape, strongly enhances the identity and the overall value. In the workshop in Ostia Antica, emphasis was put on the inventorying and assessing of the landscape. This, as well as input from a number of related disciplines, such as biology and archaeology, is needed to discuss future management and development.

The role of heritage is also explored in the Faro Convention (Council of Europe, 2004), which was one of the other texts provided for the workshop, as well as the European Landscape Convention (Council of Europe, 2000) and the ESF/COST Landscape Policy Briefing (Landscape in a changing world, 2010). All documents accentuate the importance of landscape heritage studies for the core curriculum of landscape architects. The role of interdisciplinary collaboration was also stressed in the workshop in general and in the excursion in particular. At the excursion there were both archaeologists and botanists with specialities in landscape studies.

As an example of the complexity of the matter, the use of the Ostia Antica area for propaganda purposes by the fascist regime of Italy during the 30ies was discussed. The landscape architects of the fascist era prescribed for example plantings of cypresses and pines for beautification of the archaeological sites. Today these plantings symbolize the problematic historical period, but they also provide shade for the visitors of the archaeological

park, they are part of the special biotopes in the area and they have become part of the well-known visual identity of the place. All these aspects are important to take into account when discussing the management and development of the site.

Types of knowledge, skills and understanding

Ostia Antica is an excellent example of a cultural heritage area that includes not only monumental heritage 'sites', nor only the most ancient, but also everyday heritage and even relatively 'modern', 'small' heritage, working heritage, and it also opens opportunities to study heritage as associations, activity, custom etc.

This may raise the awareness about the relationship between individual ('public', 'tourist') monuments and sites on the one hand and on the other hand the wider functional, historical, perceptual and symbolic landscape which underlies present day identities. Questions discussed during the workshop included:

- Can we think about the Roman heritage as a kind of living heritage?
- Is it possible for people to identify themselves with privatised heritage sites?
- If in the city of Rome, every possible site has its heritage value, how do we look from this idea to the concept of future developments (permanence versus transformation)?
- How are the different time layers experienced by the different groups such as local town-dwellers, rural populations, incomers, tourists, professionals and practitioners, politicians?
- How is professional practice currently involved in heritage / identity?
- What are the interdisciplinary relations between University Departments (archaeology, landscape architecture, social science or tourism etc.)?

To answer such questions, students must study a broad range of subjects from history to botany and from anthropology to geology. The skills of synthesizing a number of different factors into a management scheme or a development plan are necessary to deal with such areas. And the understanding of the values of identity and legibility for both residents and visitors of an area like this is likewise of crucial importance.

Landscape architecture is generally taught in relation to practice. Being a professional education, the teaching methodology is often an imitation of actual planning challenges. The methodology discussed at the workshop therefore focused on the studio project model, enhanced by specialised lectures from related fields like archaeology or ecology. The assignment could be to present a development plan for the site or different scenarios for development based on different terms or policies. VR technology and Augmented Reality may be useful tools in studio classes of this kind. Multidisciplinary teams of students can also bring new perspectives to the work.

Teaching the wider context of Ostia Antica

Ostia Antica in the context of its surrounding region is a worthily case study site for teaching in a specific design studio through all steps of teaching and learning: from landscape analysis to the actual design and planning. Due to the complex aspects of history, the geomorphologic conditions, spatial development and changing social structure the region of Ostia Antica is a very complex example for further analysis and research. The spatial fabric of the region is fragmented. The identity is very versatile and therefore unclear. There are several potentially interesting motifs for research and teaching in a design studio:

- The presence of numerous heritage sites from different historical periods from Roman times until the Fascist period and their identity forming role
- Coastline, moving with time and its influence on the region
- Rapid expansion of suburban areas connected to Rome and new dwellers from different regions of Italy forming a new identity of the region.

In the context of teaching in landscape architecture and planning the present or absent connections between heritage sites as well as important sites of the present time in the region are interesting. These include: heritage sites, like Ostia Antica, the old Roman harbour area, the medieval part of Ostia or the Pine grows of Fascist times and sites of the present time, like Ostia Lido or the Airport Fuimicino.

Important aspects of the analysis and design tasks would be:
- The importance of the heritage sites for the earlier and later local inhabitants and the role of tourism in the development of the new identity of the region
- The aesthetics and perception of today Ostia Antica as the suburban expansion of Rome in contrast to the heritage sites of Ostia
- The potential interaction between the old and new layers of the landscape, meaning the he-

Fig. 20_ site visit with students in Ostia, image: Ingrid Schegk

ritage and tourism functions from one side vs. the contemporary functions, forming the layers of everyday life

• Alternative ways of traffic connection from the coastal area (Ostia Lido) and the heritage areas (Ostia Antica) to the city of Rome.

This proposal for the teaching in a design studio, by taking the Ostia Antica region as a case study, is mostly aimed for genuine landscape architecture or planning student groups as well as interdisciplinary groups of students and professionals. The proposal includes an involvement of the local sta-

keholder groups during analysis and planning phases. The approach of the teaching methods should include exploring, reading/interpreting and communicating the landscape layers and qualities of the Ostia Antica region. Due to the complexity of the case a good method would be to work with future developments scenarios, looking on different development aspects of the region, such as:

• Airport expansion
• Future of agriculture
• Suburbanisation
• River and coastline in context of climate change
• Road network expansion
• Expansion of tourist infrastructure
• Industrial infrastructure around airport

The teaching of heritage in the landscape creates great opportunities for development of understanding and competences in the core areas of landscape architecture. Ostia Antica and other archaeological sites may provide excellent arenas for such teaching.

Figure 21_ Masterplan "OSTIAXES" of the team L4ND+2, authors: Anika Binder, Mario Matamoros, Negar Mehryar, Tina Vetter, Moira Zouridis.

Introduction to Rome's Landscapes City and Region

Chapter H4
A new design for Ostia Antica: didactic contributions and research

Teaching Case Study

From October 2013 to January 2014 the landscape around Ostia was the subject for a design studio for the IMLA second year students. The International Master of Landscape Architecture (IMLA) is a joint programme of two German universities of applied sciences Nürtingen-Geislingen and Weihenstephan-Triesdorf. A central element of this design studio was a ten-days workshop in the Department of Architecture and Design of La Sapienza University in Rome and in Ostia in October 2013. The title of this project was Nuovi paesaggi per Ostia - New landscapes for Ostia. Landscape layers, Landscape patterns. Six teams of five to six local and international students from 17 different nations worked together. Their task was to develop concepts for the sustainable development of a changing peri-urban landscape in relation to the cultural heritage site of Ostia Antica. The main objective was to formulate a vision and to create an overall concept for the pluralistic landscape between the airport Fiumicino and Ostia Lido in consideration of its time 'layers' from the ancient ages over the time of "Bonifica" and the Mussolini era until now. In addition, the spatial patterns designed by different functions like transport infrastructure (airport, railways, roads), agriculture, sprawling settlements, archeological sites, water bodies and other natural features were to be included in the concepts.

Didactic and methodical approach

The project modules of the IMLA programme, organised as studio work in teams, are focussing on the application of planning and design methods. The tasks are often related to international or European issues and thus follow the principle of "design as research" (see also Deming and Swaffield, 2011). Project-oriented research by design allows different ways of accessing and perceiving the landscape. However, it is important not to see cultural heritage as a closed spatial or temporal 'island', but as an integral part of the wider environment. The process of planning and design requires a holistic consideration of the context and a method that considers the different conflicts and potentials. According to this, the core issues are landscape and identity, more precisely: recovering and designing identity with the help of landscape. In this sense landscape design is an interrelation of abstract and concrete as well as site-related and thematic design contents. The point of departure is the site-oriented context which has concrete (pattern of use, natural conditions) and abstract (layers of history)
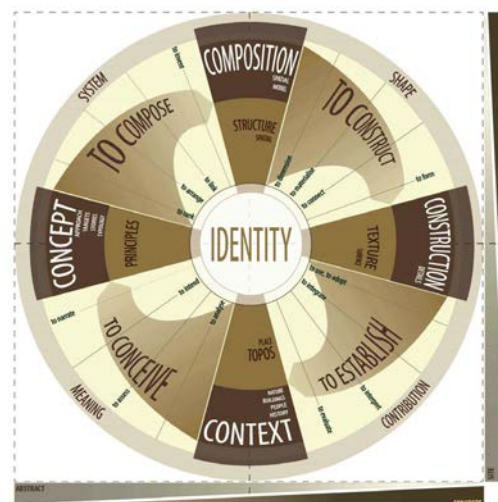
Fig. 22_ The process of creating identity as a relation of context, concept, composition and construction; the scheme shows the position of these four components between abstract and concrete and between site and issue, image: Ingrid Schegk

elements. On this basis the (abstract) concept can be developed as well as the composition and the (concrete) construction. All of this becomes a full circle by creating a new context.

Against the background of this understanding the proposed design for future development -the composition- should be pecific for the region and represent a theme-oriented solution creating a (new) identity. But it should also reveal conceptual approaches and base on concepts. These might be transferable to other heritage areas and peri-urban contexts. Projects like this are specific due to their specific relation to European culture on the one hand and the possibility to use the knowledge in a global context on the other hand.

Project organisation

The project was divided in different working phases:
- preparation phase at HfWU, Nürtingen
- on-site phase: analysis and studio work in Rome and Ostia
- finishing phase at HfWU, Nürtingen

The on-site phase included various introductory lectures about the landscape development in the area of consideration and field trips to Ostia Antica, Portus (the archeological site of Trajan's Harbour), the protected area of Castelporziano and Ostia Lido, where the students stayed for the last days of the on-site workshop.

Project Outputs and Deliverables
The following outputs were expected:
- vision and strategy, methodical approach

- target system and results of analysis
- spatial concept or master plan (composition)
- specific topic, detailed design

Each working team had to elaborate four posters (format A0). The detailed contents were specific for each team's approach and thus variable.

Group Results

The group 'Land+2' found that water is already the unifying element in the fragmented landscape of Ostia while green structures are still isolated. Their project emphasised connecting elements such as the river and the canals, traffic networks, urban structures, agriculture, green areas and tree lines. The concept includes two axes: open views and new varieties of activities along the river and the new harbour from east to west and a green corridor resembling the ancient coastline and enhancing the important landmarks from north to south.

The 'Green GO' team emphasised the role of stormwater and waste water management for sustainable landscape development. The river and the old canal network are the main structuring elements. New wetlands have been added along these existing structures. The historical sites are connected with a sustainable transport system along the river.

Two groups focussed on the connection between the historical site of Ostia Antica and the Trajan Harbour (Plant and FSL). This line also represents the historical sea shore. In this corridor different aspects would come together: community gardens for the local population, nature protection, sustainable tourism, sustainable transport and of course the currently disconnected heritage sites.

Fig. 24_ Team "F.S.L.": Activity corridor between Trajan harbour and Ostia Antica, authors: Vivien Harmati, Evelina Knyzelyte, Neha Shrestha, Azadeh Soltan Ahamdi, Daniele Stefàno

The 'G-link' group proposed to emphasise the historical canal structure in order to re-establish the readability of the dispersed landscape. Green spaces would concentrate along the canal axes while other areas could be densified with housing functions. A big event in the form of an agricultural fair would be the starting point for such a long term strategy.

The 'A.R.K.-lab' focussed on the contemporary coastline of Ostia. Increasing pressure on this sensitive landscape caused by uncontrolled urban development was regarded as a priority. A protection concept for the shoreline was developed which included a reorganisation of the public spaces.

Even if heritage had been the starting point for this project all groups came to the conclusion that the historic layer is only one of many elements in

Fig. 23_ Team G-Link: proposed area for the agricoltural fair between Ostia Antica and Trajan Harbour.
Authors: Christopher Boone, Stephanie Janke, Matthias Klauser, Miguel Magalhaes, Matilde Forte e Simona Russo.

this multifaceted context. Some groups clearly emphasised the heritage potential as a trigger and connector for sustainable development. Other groups decided to focus on different aspects such as water management and coastal protection. The common aspect is that all groups tried to find integrated approaches.

Researching the subject: gaps in research and potential areas to focus on in the future

Throughout the forum discussions of the heritage working group it became obvious that two general fields of research can be identified: How to deal with heritage in general and how to deal with the specific site? Of course, both aspects are closely intertwined.

During the discussions in the workshop some research issues were brought up several times and

Fig. 25_ Porto di Ripetta, virtual: digital reconstruction of the former Tiber harbour, view corresponding to the perspective in the veduta of Giovanni Battista Piranesi, about 1751, authors: Florian Martin and Alexander Schmidl.

elaborated on. After the visit at the fenced Ostia heritage site a topic for investigation that was advocated is to investigate the visitor's views. Why do they visit the site? What do they expect from their visit? Sociotope mapping was suggested for such investigation. The importance of bringing in diverse perspectives by a multi-disciplinary approach was emphasized many times. Multi-disciplinarity and trans-disciplinarity were held up as desirable approaches. It was evident from the site visit that the principles of preservation have shifted substantially over time. Therefore, history of principles of preservation was lifted as a topic for research where the Ostia heritage site could serve as example.

Another history subject is agrarian history. This topic is linked to the idea of enlarging the heritage site in order to include the surrounding agricultural areas. Also History of Flora was suggested as a research subject. Having in mind Richard Deakin's Flora of the Colosseum of Rome, maybe a 'Flora of Ostia Antica' could develop new understandings of the cultural history of the place. Philosophical concept analysis was also discussed. Constantly contested concepts, such as 'cultural heritage', 'history', 'identity', 'culture' and others, are important to always discuss in order to develop new understanding, which gives us new possibilities to see something in a new perspective.

Also methodologies, which would be good to apply and to further develop, were discussed. Historical case study was mentioned. Historical studies could be enriched by the multi-methods approach—working like a criminal detective— which is characteristic of case studies. Also, discourse analysis was suggested for instance to studies of history of preservation. Further, it was proposed to use more unusual data sources, such as travel reports, works of art and movies. Lastly, it was also pointed out that the landscape architects' capacity to work on, and alternate between, big and small scales should be utilized in research.The following literature references are examples of how the case study approach can be applied:

Peter Blundell Jones: Modern Architecture through Case Studies, Architectural Press, 2002.

Most literature on case study methodology is written by social scientists. They are interested in what is going on right now in society and they argue that case inquiry is the study of contemporary phenomena. Blundell Jones' book illustrates that case study methodology can be applied in history studies.

Hans Bjur & Barbro Santillo Frizell: Via Tiburtina. Space, Movement & Artefacts in the Landscape, Svenska Institutet i Rom, 2009.

This is an example of a study where scholars from different disciplines work on the same case and thereby provide a multifaceted understanding of the whole.

In addition to descriptive and discursive case study research the design process itself can become a research in its own right. Design can bee seen as an open system, similar to a discourse. During this process various aspects of a site can not only be explored but also reinvented by means of exploratory designs. Various options for interdisciplinary cooperation are thinkable for such a project. The most obvious disciplines are historians, archaeologists and sociologists. During the forum workshop the collaboration of landscape architects and communication designers was particularly stressed. Findings of the landscape analysis with

all its historical layers could be transformed into an information system which requires both a sensitive landscape design and a comprehensive communication concept. This could be imagined not only for the antique part of Ostia Antica but also for its wider context to which at present no visible connection exists. It was also mentioned that non-invasive methods for the analysis of archaeological sites exist. These allow for archaeological analysis without concrete excavation activities. New media, for example virtual reality tools, could build on those findings and help visitors understand the underlying meanings of a landscape. Some good practice examples for the topics 'new media in historical research' and 'virtual monuments' have been collected during the forum workshop:

Fig.26_ Museumspark Kalkriese: the access lines of the Roman legions have been symbolised with steel flags. Image: Scott Miller

Diploma Thesis Ripetta4D

During their diploma thesis Florian Martin and Alexander Schmidl explored the history of the Baroque harbour Porto di Ripetta (opened 1704) in Rome as a contact zone between river and city. This important space that is representing landscape in the city center of Rome has been completely lost by constructing flood protection walls in the beginning of the 20th century. The digital reconstruction of the former harbour was primarily based on different contemporary paintings and descriptions. The aim was not only to show the former construc-

tion (which was also the archetype for the design of the famous Spanish Steps) and to explain the relation between river, landscape and city, but also to get inspirations for the future development of the urban space in this part of Rome.

Further case studies mentioned during the workship discussions were:
• Weihenstephan 4D (reconstruction, interactive presentation and concept for staging/installations/events of the ancient abbey Weihenstephan)
• UCD undergraduate design thesis 2013: Eoghan Riardan; Accessing the Alhambra, Spain
• UCD undergraduate design thesis 2011: Claire Foster; Accessing the grounds of the former Bishop's Palace in Armagh, Co. Antrim, Northern Ireland

Yet, some issues seem not to be deeply analyzed, although they may contribute to develop sustainable policies and best-practices. Firstly, there is a demand for specific surveys and indications for sustainable agriculture – cultivation and farming – and landscape design and management, in terms of green areas and planting design which ought to preserve or restore the local identity. Secondly, there is claim for evaluating the landscape protection and management policy to highlight their weaknesses and formulate diverse strategies. Lastly, some hypotheses might be elaborated to enhance the vocation of the place, which most likely would include several fields and directions coherently with its multifaceted contemporary image.

Some thoughts on how the archaeological site of Ostia Antica may evolve

It might be constructive not to see Ostia Antica as a traditional museum site. Instead, the archaeological site could allow for integrating heritage in people's daily life. An Ostia Landscape Park (similar to the model of some of the new parks in Rome) without fences might bring it closer to those living nearby. It might be worth considering that necessary boundaries could also be created by using devices such as the 'Ha-Ha'. This element is often found in classical English landscape parks to set boundaries without creating visual barriers.

The park might avoid the trap of being a tourist ghetto' with tours provided by local specialists as well as using new systems of understanding historic settings provided through augmented reality (e.g. an Ostia App for smart devices). The park could also make connections with its historical roots in Trajan's harbour, located just across the river Tevere. The potential of the train connection

Fig. 27_ The rock art archaeological park in Galicia, Spain, image: teterocamonde

with Rome could be developed. Exhibitions and special events such as theatre plays could also be an important part in the life of the park.

Good-practice examples and case studies involving landscape architecture

Kalkriese – Museum and park for the Varus Battle

The museum and park 'Kalkriese' is located in the vicinity of the city of Osnabrück in northern Germany. After several years of research this site has been identified as the actual location of the 'Varus battle', also known as the 'Battle of the Teutoburg Forest'. It was the decisive battle of the Germanic tribes against the Roman Empire preventing the latter from further expansion on the territories east of the river Rhine. The interesting point for landscape architecture is that the topographical situation, which was the key factor for the success of the Germanic tribes, has become a core part of the exhibition. This situation was caused by the combination of a fortified mountain to the south and a swamp area to the north. This bottleneck situation became fatal for the Roman army.

The landscape architecture office Schweingruber and Zulauf (Zürich, CH) proposed clearing and reforestation measures in order to redesign the historic landscape situation of the battle. Steel flags symbolise the routes of the Roman legions and iron bars show the height of the Germanic fortification. The landscape architects followed the idea of an abstract representation of the historic facts instead of fully

reconstructing history. In addition, different historic layers remain active on the site. For example, agricultural paths are still in function in and around the site. After a competition held in 1998 the project was realised from 1999-2000. The design concept was also implemented in close cooperation with the architects who designed the buildings for the exhibition (Anette Gigon and Mike Guyer, Zürich, CH).

Office: http://www.schweingruberzulauf.ch
Project site: http://www.kalkriese-varusschlacht.de/en
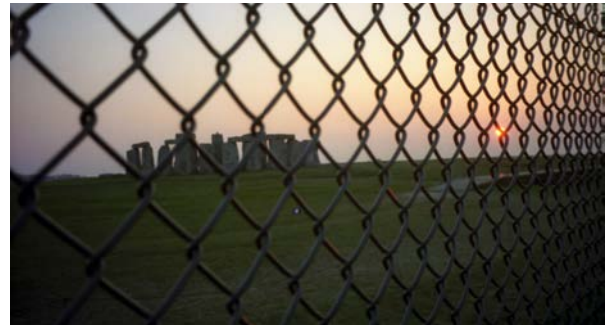
Fig. 28_ Stonehenge has become a fenced monument - it use to be different not so many years ago. Image: Joe Shlabotnik

The archaeological site of Boscoreale in Naples

Another interesting example is the eco-museum of Boscoreale Antiquarium, opened in 1991 by the Pompei Archaeological Superintendence, in which the visitors are involved in the interactive understanding of the landscape, the ecosystems, the rural landscape at the moment of the erupting of Vesuvius volcano (39 b. C). The landscape archaeology studies put in evidence the main characters of the landscape and the use of the resources. In the first section the flora, fauna and the everyday life of the population who lived at the foot of the volcano (Pompei, Ercolano, Oplontis, Stabia, Terzigno, Boscoreale) are presented showing the use of plants for cooking, cosmetics, flower decoration, flower arrangements for ceremonies, etc., and animals, in the second part there are artifacts founded in the various villa rustica built for the production of oil and wine. Next to the Museum it is possible to visit Villa Regina with the ancient jars for the production of wine.

The Rock Art Archaeological Park of Campo Lameiro, Pontevedra, Spain

Spain started the studies for creation of archaeological parks by two meetings held; the Archaelogical Park Seminar and Conference on Parks with Cave Paintings in which, the possibilities, objectives and contents necessary to establish archaeological parks and cultural parks in Spain are discussed. The definition given by ICOM in 1983, formed the basis of the concept of the both cultural

and archaeological parks in Spain (Vazquez, V.V., Estevez, M. S., Boado, F. C., 1997). The Galician Archaeological Heritage Network (RGPA) is an organizational body created by the Government of Galicia for the protection, conservation and dissemination of the Galician archaeological heritage. This Archaeological Network is based on four parks (one per province), representative of the main cultural periods of Galician archaeology. Landscape, considered as a whole, is the fundamental basis of the Network structure (Nieto, M.J.T., Roura, F.I., Garcia, J.M.R., Puentes, E. R., 2004).

RGPA plans to create four main archaeological parks in the four Galician provinces with a network approach with four different archaeological thematic focus; Coruna (Megalithism), Pontevedra (Rock Art), Ourense (Hilford Castro) and Lugo (the Roman World). This approach is prepared to encourage people to move from one province to another through the network with access routes, walkways and information panels and getting visitors to circulate within each province throughout the whole Galicia. Up to now, only the Archaeological Rock Art Park has opened in Campo Lameiro (Pontevedra). The Rock Art Archaeological Park is supported by a complete research programme, financed with regional funds as well as European funds, incorporating methods from very different disciplines, with the collaboration of national and international institutions (Veiga, Y.S., 2007).

The Rock Art Archaeological Park is a significant example for the management of rock art in Galicia and as a model for presenting rock art heritage to the public. This case study may lead us to learn more about past societies; the ways they perceive the environment and social space. Therefore the Archaeology of Perception can be established by understanding how the human beings are effected by natural and artificial landscape features. Landscape Archaeology, integrating and encouraging multiple identities and public access to Archaeological Heritage can be other considerations. At last - what has happened to Stonhenge?

Finally, it might be interesting to remember what has happened to Stonehenge, the famous prehistoric monument on the Sailsbury Plains in Wiltshire, UK. Due to it becoming 'overloved' and visited by too many people the first step was to prevent people from touching the stones. The second important impact was the construction of a fence around the monument which is clearly destroying the relationship of the site to its landscape. The vicinity of two major road has of course strongly contributed to this defensive strategy. Sadly enough, we rather find a 'Stonefence' today.

Chapter 5H

Summary and conclusions

Would it be possible to open a site like Ostia to the public, to insert it in a living community, make it part of a living landscape, the site protected by means of social responsibility, in a form of good citizenship? It worked in many cases of nature protection. The heritage community mirrors itself often to the nature model of protection, and some comparable heritage sites have been developed as an eco-museum, where maintenance of the site includes the archaeology in balance with the natural processes, protection next to decay, might in the long term be a more sustainable solution than the musealization (fossilisation) of the site as it is today. New concepts need to be discussed among the different disciplines involved in the study of the landscape. This could become the main goal for the development of the LE:NOTRE Institute. Within the format of the Landscape Forum, the possibility is created for professions working together within a chosen landscape.

Finally, it would make sense to question whether the heritage preservation policy as pursued in the last 60 years has been really effective or not. The multi-layered and general protections which have introduced by law on this territory aimed to preserve it from further loss of value, although there is an unheard claim for landscape improvement. Perhaps, by enhancing landscape management policy and promoting integrated projects might be the key-point to define a new and sustainable image of such landscape.

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Comment by Amber Roberts: "*The ARCHAEOguide project uses augmented reality to convey archaeological information to site users and tourists at a Greek ruin. This technology was tested at Olympia, Greece as a tourism and management tool to minimise interventions needed in the ecologically and archaeologically sensitive area. The technology presents 3D reconstructions of monuments to enrich user experience whilst minimising damage to the ruins.*"

Fritz, F., A. Susperregui, and M. T. Linaza. "Enhancing cultural tourism experiences with augmented reality technologies." 6th International Symposium on Virtual Reality, Archaeology and Cultural Heritage (VAST), 2005.

Comment by Amber Roberts: *'The main objective of PRISMA is the implementation of augmented binoculars, that combine the needs of tourists in real environments and Augmented Reality technologies. The use of these technologies will allow the users retrieving personalized and interactive multimodal information about monuments and historical buildings of a city."*

Part 3

LE:NOTRE Landscape Forum Poster Exhibition

Section 3

Introduction
Kristine Vugule, Elke Mertens, Marlies Brinkhuijsen, Sabine Bouche-Pillon, Sirpa Torronen

Individuals or groups who were interested in submitting a poster, were invited to send a brief description of the project to be presented. 38 poster abstracts were received. A poster review committee of four persons accepted 27 posters after a double review process. Extended poster abstracts were reviewed for the second time before this publication. Extended texts of sufficient quality are included in this section.

The selected posters were exhibited throughout the Forum at one of the Forum venues. The posters described a recent and/or innovative project from Landscape Architecture Practice, Research or Education. The projects presented were related to one of the following topic areas and provided an input to the four theme workshops held at the LE:NOTRE Landscape Forum 2013:
- urban growth and peri-urban sprawl: landscapes of the contemporary city;
- sustainable tourism: strategies for landscape regeneration;
- heritage and identities: permanence vs. transformation;
- rural fringe: production or culture?

Furthermore the following cross-cutting themes were addressed: Climate change, public participation, European Landscape Convention and water manage- ment. The scheme on the next page gives an overview of the posters, the themes domains and sub themes they addressed.

No.	Poster title	Author(s)	Themes	Domain	Cross cutting theme
227	Vacaresti - Wetland Park Proposal for Bucharest	Vladimir Boc, Robert Ionescu	Urban Growth and Peri-urban Sprawl	Education	-
80	All hands on deck!	Anna Staniewska, Jacek Konopacki, Katarzyna Konopacka, Krystyna Pawlowska	Urban Growth and Peri-urban Sprawl	Research	-
67	The mountain as an urban garden	Cristina Mattiucci	Urban Growth and Peri-urban Sprawl	Research	-
73	Coastal Landscape Planning 'Mangrove Town' in Aceh as Conservation Zone and Disaster Mitigation Base	Yoni Elviandri, Rizky Rahadian, Dea Hasna Isadora	Urban Growth and Peri-urban Sprawl	Research	-
93	Urban Allotment Gardens	Frederico Meireles Rodrigues, Sandra Costa, Maria Inês Sousa, Bianca Silva, Lina Fernandes, Mariana	Urban Growth and Peri-urban Sprawl	Research	-
95	Popular culture in the contemporary city spatial structure – view analysis of the Municipal Stadium	Ewa de Mezer, Anna Galecka-Drozda	Urban Growth and Peri-urban Sprawl	Research	-
98	Green structures of Nitra and Tvrdosovce urban settlements its category and function values	Jan Supuka, Attila Toth	Urban Growth and Peri-urban Sprawl	Research	Climate change
222	Visual attractiveness evaluation of cultural landscapes by different expert groups – City of Zagreb	Maja Tomljenovic, Vesna Koscak Miocic-Stosic	Urban Growth and Peri-urban Sprawl	Research	European Landscape Convention
223	Public open space in newly set up housing areas - methodology	Barbara Adámková, Anna Magni	Urban Growth and Peri-urban Sprawl	Research	Public participation
224	Future urban green space	Damian A. Perez, Gabriela Calvo	Urban Growth and Peri-urban Sprawl	Research	-
231	The Quarries' Park. A new Park as Strategy for the Green Network of Brescia, Lombardy	Luca Maria Francesco Fabris, Guido Granello	Urban Growth and Peri-urban Sprawl	Research	European Landscape Convention
234	System of public spaces in Wroclaw	Monika Pec-Swiecicka	Urban Growth and Peri-urban Sprawl	Research	-
62	The possibilities of public participation in the evaluation of tourism potential of the landscape	Daniela Vítovská	Sustainable Tourism	Research	Public participation

No.	Poster title	Author(s)	Themes	Domain	Cross cutting theme
101	Planting design for ecological resilience and sense of place under climate change	MaryCarol Hunter	Sustainable Tourism	Research	Climate change
225	Sustainable Tourism: strategy for landscape regeneration	Eleni Getachew	Sustainable Tourism	Research	European Landscape Convention
237	Recreational space planning for families in rural villages	Eun-Ja Kim, Jeung-Won Lee	Sustainable Tourism	Research	Public partici-pation
96	Landscape Analysis Plug-In	Jekaterina Balicka, Friedrich Kuhlmann	Heritage and Identities	Education	-
97	The revival of Kocevska lost landscapes	Nadja Penko Seidl, Mojca Golobic	Heritage and Identities	Research	European Landscape Convention
99	Redemptive landscapes in central area of Bucharest, zone destructured in the communist time	Cristina Enache, Maria Bos-tenaru Dan, Gabriel Tanase, Adina Matroz, Lorena Pitu-licu, Alexandru Chior	Heritage and Identities	Research	Climate change
229	Brindisi 2050: Desedimenting Time/Resurfacing Hydrology	Irene Toselli	Heritage and Identities	Research	Water manage-ment
64	Cultural heritage in Spis region in Slovakia: proposal of the San-souci revitalisation	Mária Bihunová, Mária Sklenárová, Roberta Ste-pánková	Heritage and Identities	Research	-
223	Urban-Rural Identity of a Bosphorus Village: Cengelköy, Istanbul	Yasemin Kublu	Heritage and Identities	Research	-
235	Rozumice – the village of ex-ceptional local identity	Krzysztof Rostanski	Heritage and Identities	Research	-
238	Strategic Plan for the Preserva-tion of the Skopje Aqueduct and its Environment	Hadji Pecova Stefanka, Steenberghen Thérèse, Steenwegen Lowie, Van Balen Koen, Biceva Kristina, Gucev Dimitar, Kitanovska Liljana	Heritage and Identities	Research	European Landscape Convention
226	Redefining Tiananmen Square Identity. Between Permanence and Transformation	Vladimir Boc, Ioana Streza	Heritage and Identities	Innovative Practice	-
232	Redefine the Value of Rural Landscape in the Exurban Zone in Shenzhen, China	Xili Han	Rural Fringe	Education	-
63	Three Sardinian rurban land-scapes: readings and interpre-tations	Adriano Dessì	Rural Fringe	Research	-

No.227 | Vacaresti - Wetland Park Proposal for Bucharest | Vladimir Boc, Robert Ionescu

Abstract

The poster presents an analysis and planning project regarding Vacaresti area, located in the southern periphery of Bucharest (Romania). It contains one of the largest urban wetlands in Europe, which has been developed mostly naturally within an unfinished manmade lake bed, built in the late 80's, during the last years of the communist era. The study is divided into four sections: analysis of urban context (urban tissues, human activities, natural framework), analysis of the wetland (visual aspects, ecological aspects, land use), general synthesis and proposal. Until 1985, Vacaresti was an old suburb neighborhood, dating from 19th century. Within the urban systematization process, initiated by the dictatorial authorities, the houses were razed to build an artificial lake. Its roles were to control the water level of Dâmbovita River and to create naval accessibility between the Danube River and the capital city. In 1990, after the falling of the totalitarian regime, the project was abandoned, even if it was almost ready. Nowadays, after more than two decades, a valuable marsh ecosystem has been developed between the dams of the unfinished lake, on about 150 ha. It includes a rich fauna, with many species of migratory birds, amphibians, fishes, insects and green areas covered by spontaneous vegetation, both aquatic and terrestrial plants. Even if the area should be a very important component of the urban green system, it is neglected by the inhabitants and the Romanian authorities. The proposal objective is to integrate the wetland within the green system of the city, enhancing its natural potential at social and ecological level and transforming the site into a functional and sustainable space in the urban life. The project brings in a social use of the area by introducing an eco-friendly infrastructure into the wetland, considering wildlife conservation principles.

Urban context – Văcăreşti suburbia

The high percentage of undeveloped land in the inner periphery, represented by Văcăreşti Wetland, is very atypical for such an area, being a unique case for Bucharest and for most European cities. The important presence of the natural area is visible, by the high level of spontaneous vegetation in the inner periphery.

The suburban area synthesis integrates the site issues presented above, by overlapping the natural elements and the human activities in order to determine the urbanization level and the report

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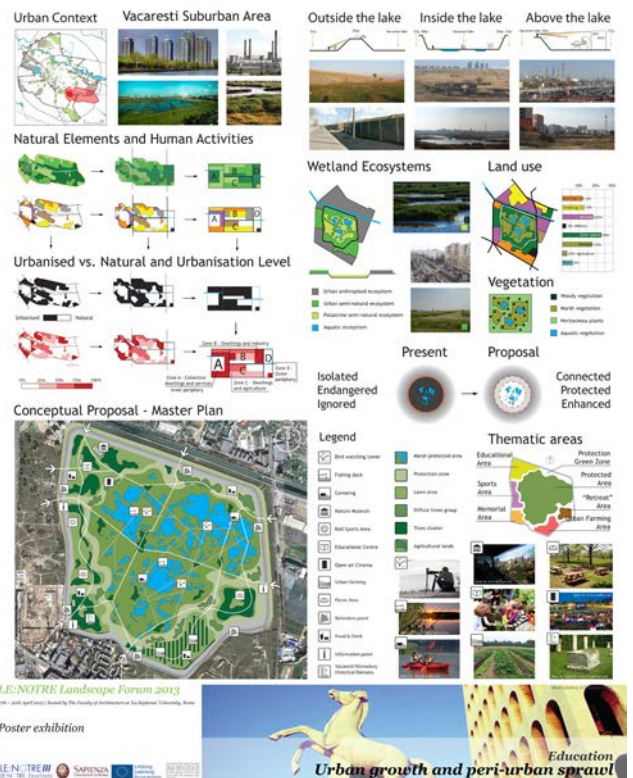
between the natural lands and the urbanized ones. Thus, considering the report between natural environment and the built one, four major areas resulted:
- Zone A - Collective dwellings and services, a significant wide natural area – the inner periphery
- Zone B - Dwellings and industry – located the middle periphery
- Zone C - Dwellings and agriculture – situated in the middle periphery
- Zone D - Mostly undeveloped – located in the outer periphery

As a conclusion of the synthesis, it can be observed that the natural area is surrounded mostly by a high urbanized environment which leads to social and economical pressures on the wetland zone, threatening the valuable marsh ecosystem. The undeveloped land from the middle periphery area may be transformed into a suburban greenway, which should link the wetland to the outer periphery. So, it would play an important role, filling the Dambovita River green axis, within the green system of Bucharest.

The wetland

Visual aspects

The visual analysis presents three types of landscapes, from three different points of view. Outside the wetland - the area acts both as a physical and visual barrier, the access inside the lake being quite difficult. The views from both inside and outside the lake bed are blocked by a concrete bank.

Within the wetland - the landscape is dominated by lakes and water. The general character of the area is flat. Above the wetland – from Văcăreşti Dike, the dike has a strong impact on the landscape, being both a physical and visual barrier. The bank offers a dominant position, from it, wide views over the city are enabled.

Ecosystems

The area includes four types of ecosystems:
- Aquatic ecosystem
- Palustrine semi-natural ecosystem – it contains nesting areas, with many protected species of birds Urban semi-natural ecosystem
- Urban anthropised ecosystem

The palustrine semi-natural ecosystem is located between an urban semi-natural ecosystem and urban anthropogenic ecosystem, being bounded and also protected by Văcăreşti Dike. It has been developed mostly natural in the last 20 years behind the dike of the unfinished lake.

Vegetation

The vegetation structure is dominated by the marsh vegetation in the inner area, while near the dike the herbaceous plants are prevalent. The woody vegetation distribution is well-balanced, some scattered tree clusters being present both in central and marginal areas.

Land use

The main human activities in the area comprise: collective dwellings – 11,5 %, individual dwellings – 13%, services and commerce – 18,5 %, a military base – 2%, green spaces – mostly undeveloped – 23%, marsh zone – 17,5%, agriculture – greenhouses – 2,5%, water surfaces – 6%.

Environmental impact

The major negative activities which had been identified are industry, wastelands and the major roads. The only positive anthropogenic factor is the Văcăreşti Dike, which has an important protection role for the flora and fauna of Văcăreşti wetland.

Proposal

The proposal objective is to integrate the wetland within the green system of the city, enhancing its natural potential at social and ecological level and transforming the site into a functional and sustainable space in the urban life. The project brings in a social use of the area by introducing an eco-friendly infrastructure into the wetland, considering wildlife conservation principles. The park contains seven thematic areas:
- Educational area (ecological education, thematic library, sciences movies, nature museum) Sports area (ball sports fields, run & bike trails, picnic, open air fitness centre)
- Memorial area (cultural events, arts exhibitions, historical awareness)
- Protection green zone (run & bike trails, resting areas, bird watching)
- "Retreat" area (resting, picnic)
- Urban farming area (ecological agriculture learning, horticultural production, fruits and vegetables market)
- The Protected area (bird watching, canoeing, fishing)

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*No.60 | All hands on deck! | Anna St-
aniewska, Jacek Konopacki, Katarzyna
Konopacka, Krystyna Pawlowska*

Abstract

During the last 7 years a team of academic teach-ers and researchers at the Institute of Landscape Architecture in Krakow carries out research on public park design using methods of public partici-pation in teaching of landscape design. This design lab offers an opportunity for students to experi-ence real life constraints and opportunities of their profession during social research and participative planning workshop. At the same time the team car-rying each year a different project has a chance to observe the attitude of local communities towards landscape and their willingness to contribute to the design. Moreover, the research touches also many aspects of uncontrolled urban sprawl and the urg-ing need for green public green strategies for Pol-ish cities struggling with the issues of (un)sustain-able development and investment pressure.

Description

In 1999 at the Institute of Landscape Archi-tecture at Cracow University of Technology intro-duced landscape architecture as a new course of studies. And now it's been 10 years since the team of academic researchers and teachers led by Pro-fessor Krystyna Pawłowska – the Mother of Pub-lic Participation in Landscape Architecture in Po-land - first carried out a park design with people and for the people. This unique and pioneering course programme was developed at the Institute by architects, landscape architects, social geogra-phers and psychologists. It refers to international experiences in public participation in landscape design taking into consideration local cultural de-terminants. For all these years the team has been carrying out comparative studies and analyses on participative planning both in Poland and abroad (i.e. Great Britain, Germany, France, the USA and Japan), which prove that cultural circumstances play a significant role in practice of community in-volvement in spatial planning since the changes in this field strongly depend on the customs and men-tality of people. The course is providing students with necessary social sciences' background and offering opportunities for basic social communi-cation skills training concerning the presentation and facilitation of landscape projects. Designing a public park follows an introductory semester of social research and is a task for students of the 5th semester of landscape architecture studies leading to a bachelor's degree (7 semesters), which may be continued to obtain a master's degree (further 3 semesters). Before designing, students examine

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the needs of local communities by doing surveys, carrying interviews and brainstorming sessions or drawing mind maps. One of the most effective methods of community involvement turned out to be participative design workshop performed each year at the beginning of the design process. The atmosphere of the feast combined with an oppor-tunity to draw and build models unlocks creativity of students and the invited public. This is a unique chance for the people to speak up and substantial-ly contribute to the programme and shape of the park. Regretfully, the projects are seldom contin-ued by the local administration, which is justified by the lack of financial support and remain only an exercise, what often discourages people from the deeper involvement. It is a pity all the more so be-cause the legally guaranteed public participation in spatial planning focuses rather on formal aspects than qualitative social input in planning and man-agement. All in all, there is still much to be done in the area overcoming administrative barriers and of citizen empowerment in favour of landscape quality.

Design topic for the semester project of the pub-lic park is new each year, since social research on particular site should not be repeated. Kraków is

well known for its historic centre, yet it was rapidly expanding territorially during last 20 years following the transition of political system and economical from communism to democracy and liberal market conditions. Locations of potential new public parks in Kraków were in many of the above mentioned cases in the direct neighbourhood of the new settlements consisting of dense blocks of flats, which depict urban sprawl on the outskirts of the historic city. Topics for the design were chosen according to the assessment of the need for public green and challenging landscape design potential and presence of the stakeholders likely to get involved in social research.

Although Kraków is considered as a relatively green city, in almost all chosen areas landscape quality understood as the access to public green areas is often considered as "additional" luxury and is not subject of planning. This fact shows clearly the situation many Polish cities are facing now struggling against the crisis and the issues of (un)sustainable development and investment pressure. In this situation pre-design social research and park design stimulate local communities to rethinking their attitude towards public green policy and to expressing their willingness to take things in their own hands and to lobbying for the parks.

For the landscape architecture students it is an excellent opportunity to experience real life constraints and opportunities of their profession, which is relatively new in Poland and still not well established, although state of Polish landscape shows that there is a strong need of strategies, plans and actions in this field.

No.67 | *The mountain as an urban garden* | *Cristina Mattiucci*

Abstract

The poster presents some issues from an ongoing research project. The research aims to develop approaches and methods for interpretative readings of the mountain post-metropolitan landscapes, focussing on the understanding of the mountain open spaces. Since the transformations that have affected the Alpine cities in the last 30 years, a revision of the interpretive categories of these spaces has emerged as living matter, both from an analytical perspective and to drive further policies and projects. Actually, in the light of their space "reduced" by the geographical and topographical conditions, the settlement dynamics, the territorial growth and the landscape changes make possible to read the whole mountain as a place not really rural nor effectively urban, but deeply connected to its cities. In this context, proposing the interpretative metaphor of "the mountain as an urban garden", we present a way for reading a landscape that has been developed around the valley city centre, in relation to the economic, social and physical features that have determined its complexity and hybridization. Since the mountain landscape is the middle of a broader reflection concerning the hybrid rural/urban areas, it means looking at the mountain as a device to understand complex contemporary landscapes – built or produced by imaginaries, uses and politics – where the classical spatial interpretative categories are re-questioned. The research analyses these phenomena in two contexts of the Alps (Grenoble and Trento). Here, the interpretation of the imaginaries, connected to the inhabiting /living/ practising / governing the landscapes, has been proposed as reference to understand the landscape and to propose strategies and contents for its transformation. The research project is founded by FP7 - European Framework Program 2007-2013 - specific program "People" - Actions Marie Curie – COFUND by the Autonomous Province of Trento.

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No.73 | Coastal Landscape Planning 'Mangrove Town' in Aceh as Conservation Zone and Disaster Mitigation Base | Yoni Elviandri, Rizky Rahadian, Dea Hasna Isadora

Abstract

Indonesia coastline reaches 95,181 km, which is the fourth-longest in world. Sea regions and coastal areas make up 75% of Indonesia regions (5.8 million km² of 7.8 million km2). Coastal region has many resources and enormous benefits for human life, one of which is mangrove forests. Mangrove forest ecosystem is complex, dynamic and has economic and social importance in coastal area development. Mangrove forest can be one solution to deal with tsunami hazard in Indonesia. Mangrove roots protect coastal areas by reducing waves, flows and sediment. However, mangrove forests that should be barrier and protective areas have been reduced due to increasing human activities. In Aceh that was hit by tsunami in 2004 and is still prone to tsunami, 75% of mangrove forests became extinct because of their conversion to fishponds. Economic hardship is the main reason for people to exploit the mangrove forests. Authors propose a plan to integrate coastal mangrove forest landscape to Aceh region-based nature recreation.

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No.93 | Urban Allotment Gardens | Frederico Meireles Rodrigues, Sandra Costa, Maria Inês Sousa, Bianca Silva, Lina Fernandes, Mariana

Abstract

The implementation of urban allotment gardens (UAG) in Portuguese cities has increased in the past decades. Although some research has been produced about the benefits and importance of UAG, there is lack of accessible information that addresses the allocation and provision of such places in cities. Therefore, this work aims to identify and examine UAG in Portugal regarding its spatial distribution urban context and inherent characteristics and to evaluate to what extent programmes in which some of them are embedded contribute to their success. An Inventory was conducted aiming to develop a classification system to the existing UAG based on their relation to urban morphology and density, the layout, shape and extent of plots, components, land use, management and land ownership, among others. This generates a statistical profile on 84 existing allotments which allowed finding five different classes, addressing their main purpose and functions, type of users, and context: Subsistence, Community, Institutional, Therapeutic and Pedagogical. Analysis has shown that UAG can be found in urban dense (34,5%), peri-urban (44,0%) and low density or rural fringe (16,6%) of cities. They are specially concentrated in public land of Porto, Lisbon and Funchal (Madeira), which is largely due to the fact that they are organized in programmes, what seems to be very effective stimulating and regulating them. In terms of spatial organization these UAG are generally fenced, orthogonally arranged be a grid of paths and plots (30,47 average number). Many of those provide recreation and meeting opportunities, suggested by features such us benches, tables, pergolas, playgrounds and lawns. These places are becoming an important new type of public green space, providing a great range of functions, such as recreation, community valorisation, regeneration of wrecked vacant land, pedagogic, restorative and therapeutic. In addition, although UAG cannot deliver the same values as parks and gardens, by occupying sites where those are typically settled, they may decrease significantly public maintenance costs, plus delivering food products.

http://www.le-notre.org/output/posters2013/093.pdf

No.95 | Popular culture in the contemporary city spatial structure – view analysis of the Municipal Stadium | Ewa de Mezer M.Sc., Anna Galecka-Drozda M.Sc.

Abstract

Defining the city always leads to some difficulties, what can be observed in sociological studies (Davis, Castells). Understanding contemporary city is even more difficult. However it is possible to subtract its characteristics. The authors consider popular culture development as one of the city attributes. Mass culture features could find the audience in all social levels both in city and country. Nevertheless contemporary city is the very place where popular culture phenomenon occurs and develops. The situation could be explained by the city specific functioning which is dependent on masses. Popular culture does not only affect the city life but also its spatial structure and results in architectural layer changes. One of the examples could be football stadiums built or renovated in Poland, during preparations for the 2012 UEFA European Football Championship (Euro 2012). Football matches are not only a sport event anymore. It becomes a huge show supported by media, which needs appropriate space to be realized. The landscape of four Polish cities hosting the Euro 2012 had changed. The transformations will be legible in the city landscape for many years. It could be predicted that this issue will result in many scientific researches. The authors would like to focus on a single building of the Municipal Stadium in Poznan. The main aim is to present popular culture influence on landscape of the contemporary city and its surrounds. To fulfil the task it was necessary to conduct view analysis. The Stadium during the renovation got fully covered stands, what made it a dominant concurrent to historical city composition. Surprisingly the Stadium has become an object which has the strongest view impact on city and its surrounds. The described phenomenon based in Poznan could have wider research context in all of the European cities where popular culture touches genius loci.

http://www.le-notre.org/output/posters2013/095.pdf

No.98 | *Green structures of Nitra and Tvrdosovce urban settlements its category and function values.* | Jan Supuka, Attila Toth

Abstract

During solution of research project No. 1/4406/07, the two settlements green structure were analysed and assessed in regard to potential multifunctional utilisation. The emphasis was given upon three principal green area categories as are: a) social and recreation, b) semi natural and biodiversity supporting, c) production green areas. Those categories of vegetation were inventoried and mapped at two settlements, Nitra as town settlement and Tvrdosovce as rural settlement. The group of social and recreational green areas represent as follow: elements of historical parks and historical woody plant compositions, contemporary parks and green areas, latter-day and current green areas and recreation spaces (pedestrian zone, relax parks, amusement and festival spaces), parks related to sport centres and areas, green areas of exposition and education spaces, reserved green areas and parks (e.g. school area and university campus, hospital area, botanical garden etc.), street tree alleys and embankments. The second group of natural and semi natural green areas represents: urban forests and remains of flood plain forests, forest-steppe vegetation and dry habitats, castle and Calvary hill vegetation, reverent and cemetery green areas, semi natural grasslands. The third group of production green areas represents: allotments, gardens as part of family houses, glass house economy spaces, vineyards, orchards and other specific gardens, grasslands and other agriculture-used areas. The all inventoried green areas were assessed from point of function effects, biodiversity supporting, space composition quality and area cover within built up settlement structures. Many achieved results have been published in journals and other contributions.

Description

Within the research project No. 1/4406/07, green structures of two settlements were analysed and assessed in terms of potential multifunctional use and with emphasis on three main categories of green areas: a) social and recreation, b) semi-natural and biodiversity supporting, c) production green areas.

Vegetation structures were inventoried and mapped at two settlements, Nitra (urban settlement) and Tvrdošovce (rural settlement). Both of them are situated in the Nitra Region, in the western part of the country. This region consists of

Green structures of Nitra and Tvrdošovce urban settlements, their category and function values

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lowland and hilly areas. Almost the whole region is situated in the Danube Lowland which consists of flatlands and hilly areas. In the southern and south-eastern part of the region, there is a high-quality arable land. Nitra, the capital of the region, is perceived as a centre for agriculture in Slovakia. It is surrounded by agricultural landscape and the main agricultural institutions of the country reside there - university, research institute and exhibition area. In the north, the town borders on the Tríbeč mountain which represents one of the geographical borders of the Danube Lowland. The other analysed settlement, Tvrdošovce, is situated in the rural agricultural landscape of the Danube Lowland where nearly 80 percent of the cadastral area is represented by arable land.

In Nitra, the secondary landscape structures have been analysed with an emphasis on contact zones of the analysed area. Agriculture represents right after settlement and recreational areas the second largest land use category within the analysed urban area. Within agricultural land use the most significant part (77 %) consists of arable land, followed by vineyards and orchards (12 %) and al-

lotment gardens (10 %). The category of settlement and recreational areas represents a significant portion in the land use of the analysed area (42 %); nearly one third of this category consists of public open green spaces and parks.

The category of social and recreational green areas is represented by:
- objects of historical landscape architecture (historical parks, gardens and woody plant compositions);
- contemporary parks, green areas and recreational spaces (pedestrian zones, recreation and leisure parks, festival spaces, cultural and amusement parks);
- parks related to sport centres, areas and facilities;
- green areas related to exhibition and education (The Agrokomplex exhibition area which consists of exhibition halls, exterior exhibition areas, The Slovak Agricultural Museum, an open-air museum, sample fields and plots, fishponds, etc.);
- special parks and other green spaces (school areas and university campuses, hospital areas, botanical gardens and other special green spaces)
- the campus of the Slovak University of Agriculture with a surface of approximately 55 ha includes educational and research green spaces together with greenhouses, orchards, park areas, a botanical garden, a mini zoo and other green spaces;
- accompanying greenery of streets (alleys, avenues and other linear forms of streetscape vegetation structures) and watercourses (embankments of canals, valleys of rivers and brooks). The Nitra river represents within the urban structure of the town a significant bio-corridor and the riversides serve as an important greenway within the local green infrastructure.

The second group of natural and semi-natural green areas is represented by urban forests and remains of floodplain forests, forest-steppe vegetation and dry habitats, Castle Hill and Calvary Hill vegetation, religious and cemetery green areas, semi-natural grasslands.

The third group of production green areas is represented by allotment gardens, gardens at family houses, greenhouses, work lands, vineyards, orchards and other specific gardens, grasslands and other agriculturally used open lands.

The green infrastructure of the rural settlement Tvrdošovce consists of public, semi-public and private green spaces and open areas. Its core is represented by the central historic streetscape with wide open and green spaces. Important elements of the local green infrastructure are represented by ponds, lakes and brooks with surrounding green areas and smaller open and green spaces within the residential area. The semi-public elements of the green infrastructure consist of cemeteries, the church garden, greenery of the school and kindergartens and others. An important element of the green infrastructure within the built-up area is represented by private gardens and open spaces at family houses which include a traditional form of urban agriculture at rural settlements in Slovak conditions.

The analysed green areas were assessed in terms of biodiversity supporting function, spatial composition, perceptual values and land cover within the settlement structures. Partial results of this research project have been published in research journals and other scientific contributions.

Key words: settlement structures, green spaces and their categories, assessment of green structures.

No.222 | *Visual attractiveness evaluation of cultural landscapes by different expert groups – City of Zagreb* | *Maja Tomljenovic, Vesna Koscak Miocic-Stosic*

Abstract

Cultural landscapes are an important part of heritage and identity of the City of Zagreb situated at the bottom of the mountain Medvednica. They are characterized by strong connection between natural and man-made structures. The increasing needs for housing within natural environment accompanied with unplanned urbanization resulted with changes and extinction of recognizable traditional spatial pattern which influenced city's character and visual identity. Based on the results of sociological research, project presents criteria for visual attractiveness evaluation of the mountain Medvednica's highlands mixed general landscape area, seen through the perspective of different expert groups (geographers, architects, landscape architects). It results with guidelines for preservation and development of its most important aesthetic-experience values. Sociological research included 21 experts that were shown the photographs of Medvednica's highlands mixed general landscape area, consisting of five different landscape character areas. The results have shown that the main criteria for positive evaluation of visual attractiveness were preservation degree of natural, semi-natural and historical man-made landscape elements. The process of change and extinction of distinctive traditional landscape pattern of Medvednica landscape area is considered to be a negative factor of its visual attractiveness. Guidelines for the preservation and improvement of landscape visual attractiveness within researched area are directed towards prevention of further unplanned urbanization. The research also revealed differences among criteria for evaluation of cultural landscapes visual attractiveness, defined by representatives of different expert groups with regard to their professional profiles. Geographers and landscape architects were focused on natural components of landscape and its protection while architects were more focused on landscape development and presented wide range of knowledge about urban landscapes. Landscape architects and architects were both focused on formal and structural characteristics of landscape.

Description

Cultural landscapes have been developed as a result of interaction between natural values and conditions and human activities and were shaped according to man's spiritual, existential and cultural needs. They are usually areas with strong spirit of place, high distinctiveness and unique ecological,

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spatial, historical, archaeological, architectural, environmental, artistic, social and technological values.

Cultural landscapes are also an important part of cultural heritage and visual identity like in the City of Zagreb situated at the bottom of the Medvednica mountain. They are characterized by strong connection between natural (Medvednica mountain) and man-made structures (settlements).

On the other side, current increase in population and growing building process is resulting with big changes and degradations of cultural landscapes in the city of Zagreb. The increasing needs for housing within natural environment accompanied with unplanned urbanization resulted with changes and extinction of recognizable traditional landscape pattern which influenced city's landscape character and visual identity.

Due to mentioned problem, the preservation of cultural landscapes of the city of Zagreb is becoming an urgent problem to be solved. In order to preserve its landscape character, in 2010 Landscape Character Assessment Study of the City of Zagreb was made as one of the expert background docu-

ment of the City of Zagreb Development Strategy. The end product of landscape characterization of the City of Zagreb was a map with 6 general landscape character types/areas and 24 landscape character types/areas.

Based on the results of sociological research, project presents criteria for visual attractiveness evaluation of one general landscape area - the Medvednica mountain highlands mixed general landscape, seen through the perspective of different expert groups (geographers, architects, landscape architects). The whole area has recognizable traditional mosaic landscape structure consisted of remains of former agricultural lands (orchards, vineyards, meadows, fields) that are abandoned today which lead to change and extinction of traditional landscape pattern. Recognizable spatial pattern (settlements with organic pattern, low detached houses, rural villages with churches surrounded by agricultural fields) has also been transformed into scattered settlements without form. The research results with guidelines for preservation and development of the most important aesthetic-experience values of different landscape types.

Sociological research included 21 experts that were shown the photographs of Medvednica's highlands mixed general landscape area, consisting of six different landscape character areas that differ in the degree of urbanization and specific landscape pattern consisted of forests, settlements and agricultural field (mountain rural south-eastern Medvednica landscape, hilly semi-urban south-western Medvednica landscape, hilly urban central Zagreb landscape, hilly urban historic Zagreb landscape, hilly rural-urban southern Medvednica landscape, hilly rural eastern Medvednica landscape.

The results have shown that the main criteria for positive evaluation of visual attractiveness were preservation degree of natural (forest areas), seminatural (agriculture fields) and historical man-made (settlements, historical villages, authentic architectural features) landscape elements. The process of change and extinction of distinctive traditional landscape pattern of Medvednica highlands landscape is considered to be a negative factor of its visual attractiveness. Guidelines for the preservation and improvement of landscape visual attractiveness within researched area are directed towards prevention of further unplanned urbanization.

The research also revealed differences among criteria for evaluation of cultural landscapes visual attractiveness, defined by representatives of different expert groups with regard to their professional profiles. Geographers and landscape architects were focused on natural components of landscape and its protection while architects were more focused on landscape development and presented wide range of knowledge about urban landscapes. Landscape architects and architects were both focused on formal and structural characteristics of landscape.

This research showed that preservation of cultural landscape elements with defined character contributes to its visual attractiveness. Thus, protection of cultural landscapes with such elements is important for prevention of landscape unification and an effort to increase the landscape diversity.

Abstract

To live in a private house is a very popular image of happy live of many nowadays town inhabitants in the Czech Republic. There was opened a quite new market and space for developers after the year 1989. Unfortunately, this was done without any proper regulations and with only vague rules. Due to this fact there were set up great suburban housing areas especially on fertile fields or green meadows without any realizing or respecting the place, broader context or archetypes of a functional housing. There are many housing estates without streets or even any public open space, isolated spatially and sociologically, with no continuity. All the mentioned problems have many reasons. Some of them can hardly be influenced by means of landscape architecture (policy, ownership, economy, developers ...) but the newest experience tells us that a suitable design of a public open space means not only a better possibility for dwellers to find what they are looking for. Even there are some new attempts to find a methodology for designing public open space in general no one of these is focused especially on newly set up housing estates. The research dealing closely with this is now running at the Department of Garden and Landscape Architecture, Faculty of Horticulture, Mendel University in Brno. The first findings out are that very important is to stress and properly introduce a good and detailed analysing process in a broad context. It is necessary to see it as the basis for any designing process. And, after interpretations and following steps, we are going to present forms and genius of gardens as the basis for designing. Among these we can see: vegetation, water, ground, art, small forms, edges and ideas. Lastly, except for a proper methodology, we want to react upon the boundless devastation of our suburban landscape, to show evidences of it and to start a serious debate on it.

http://www.le-notre.org/output/posters2013/223.pdf

Introduction

The methodology is focused on chronological steps leading towards planning and design process of public open spaces in newly set up housing areas. There have not been prepared any other similar methodology in the Czech Republic so far even though boom of newly developed housing estates is still very current. The majority of them have a total lack of any public open space. There are even some examples without streets for pedestrians so people have to use motorways. The urban sprawl on fertile land is attaching also the smallest cities.

The methodology is intended for all planers and designers and is accenting the landscape point of view.

Our basic premise is that every design process is strictly individual and should make the best link between a place and its design. The basis for every design process is a proper and deep understanding of a place, the ability to see the broad context and all related relationships. But, at the same time, this is the most complicated phase because of many various interpretations and misunderstandings.

Results

We propose seven main steps towards creating a functional and sustainable system of open spaces in newly set up housing areas:

Methodology – PART A: Defining (and realising) qualities, types and relationships of urban open spaces

1. Realising - all possible qualities of an open space in housing areas (spatial, social, psychological, recreational, demographical, hygienic, environmental and symbolic)
2. Realising - all possible types of an open space in housing areas. Human should be seen as a basic

determinant of a space with its inborn need of defining spaces in and out side and doing this defining also boarder lines. He always requires private, intimate and public, social space. Fundamental is penetration of these.

- Types of private spaces: interior of a flat, house, villa, atrium, patio, private garden
- Types of spaces on the boarder line between private and public: façade, corridor, winter garden, rooftop garden, courtyard, courtyard balcony, terrace, balcony, entrance space, doorstep, front garden
- Types of public spaces: square, street, gap site, entrance space of a public institution or similar, riverbank, public garden, plot gardens, pocket – park, park, car park, places around traffic infrastructure, public forms of previous types, natural elements and forms
• Types of spaces on the boarder line between housing estate and a town/landscape: entrance space, border spaces, interconnecting space, path, road

Landscape seen as an endless space where every human should look for its own boarders inside.
3. Realising – the relationship of a planned housing estate to its surroundings (broad context: border lines, relationship to the surrounding landscape, demography, urban planning, open spaces, visual connections, traffic, environmental characteristics, symbolic aspects...)

Methodology – PART B: Making an analysing process of the proposed area
4. Making - an analysing process of:
- differentiation of adjoining spaces
- urban structure in the surrounding
- open spaces in the neighbourhood
- demographical structure
- landscape analysis (morphology, patterns, typical forms, dominants, preserved areas, significant landscape elements, recreational potential...)
- operation and traffic
- visual links
- symbolic aspects (Genius of the Place, local traditions, elements of identity...)
- historical development and structure
- environmental aspects
- others (according to specifics of a place – possibility of a participation ...)

Methodology – PART C: Interpretations
5. Interpretations of analysis
- all founded facts in analysing process melted together with experience, personal insight and broad, open discussion;
- looking for starting points for planning and design process.

Methodology – PART D: Creating an open space as a part of a system of open spaces
6. Creating an open space
- urban planning design process
- architectural design process
- landscape design process
These three should be interconnected from the beginning. Main principles and forms of landscape process:
- terrain
- water
- vegetation
- art
- relatives
- ideas (that make forms alive)
7. Creating an interconnected system of open spaces growing up the place and growing together with the surroundings.

No.224 | Future urban green space | Damian A. Perez, Gabriela Calvo

Abstract

The urban fringe usually presents unique opportunities for the future of the cities. The allocation and preservation of land for future green infrastructure and urban open space is a difficult task especially in the limits of megacities where the development often occurs without much public control. The metropolitan areas of Buenos Aires have been growing extremely fast during the last 20 years. Gated neighbourhood has been the preferred mode of land development during the last two decades having taken most of the wetlands north of the city. Urban sprawl has happened at the same time in the inadequate planned land of the outer municipalities. Urban green space is simultaneously a scarce asset and its adequate allocation is not taken into account by most of the local governments. In this context a resent research line has been established to detect the bests strategies to allocate and preserve urban green space for future urban growth of the Buenos Aires metropolitan area. To detect the areas which present the best chance to be allocated for green space current ownership, management regimes and/or size have been used. A map with the selected areas from part of the urban fringe is here presented.
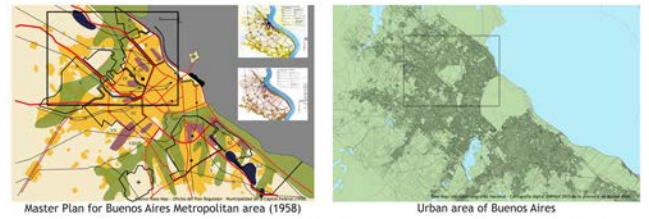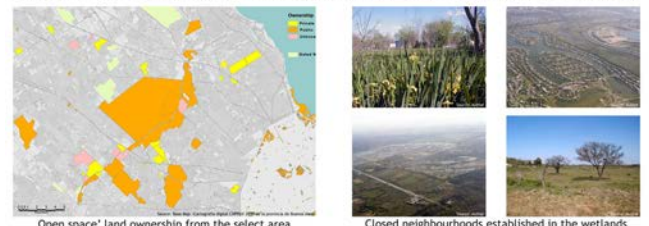
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No.231 | *The Quarries' Park. A new Park as Strategy for the Green Network of Brescia, Lombardy* | *Luca Maria Francesco Fabris, Guido Granello*

Abstract

The poster focuses on Brescia, an Italian town facing the passage from industrial to new post-industrial reality, where environment and landscape strategies are potentials for the local community future. During the last century Brescia became rich thanks to the presence of great steel plants producing heavy products for the post-Second World War reconstruction. Then, in the last 50 years, sand and gravel excavation industry became its relevant economical sector. For all these matters, Brescia now counts many derelict industrial areas and polluted brownfields to be reclaimed. The poster introduces the widest sustainable urban transformation in Brescia starting from the reclaiming of 600 hectares of wetlands and artificial lakes - formerly sand and gravel quarries - that, after decades of presence inside territory, have become part of the Brescia cultural landscape. This area represents a solution of continuity in the ecological green net that surrounds the urban centre, not allowing the basis for a correct development of a natural habitat hosting biodiversity and blocking the completion of town outskirts greenway. This research indicates "Parco delle Cave" (Quarries' Park) as link to complete the Brescia green network, constituting a great recreational and ecological corridor system including several local and tourist functions that can improve the community economy and add features necessary to plan a sustainable future. The project takes count of the suggestions of the stakeholders, having activated a wide participation process and suggesting as economical engine for the new Quarries' Park a public-private management supporting a common sustainable vision for Brescia and its territory. The research indicates also parks as a system in which all the stakeholders have to be empowered through a long-time management that can be funded by European Commission or other institution dedicated to the promotion of new landscape values.

Description

The aim of this research is to discover the hidden threads that can bind different experience of producers and users of landscapes, in order to generate new alliances between actors involved in building the green belt of Brescia, providing the support still missing to local administrators to develop sustainable urban planning. Brescia works to build new solutions to deliver the future a territory without fractures and reclaimed by the pollutant

http://www.le-notre.org/output/posters2013/231.pdf

substances that its industrial heritage has left. In the last 50 years, sand and gravel excavation industry became a new relevant economical sector for the town, due to the strong development of the Lombardy infrastructural system.

This is a study about the widest sustainable urban transformation in Brescia starting from the reclaiming of 600 hectares of wetlands and artificial lakes -formerly sand and gravel pits- that, after decades of presence on the town territory, have become part of the Brescia cultural landscape. At the moment, this large area represents a great solution of continuity in the ecological green belt that surrounds Brescia, not allowing the basis for the correct development of a natural habitat hosting biodiversity and blocking the completion of town outskirts greenway.

This research indicates in the "Parco delle Cave" (Quarries' Park) as the necessary ring to complete the Brescia green belt that includes the "Parco delle Colline di Brescia" (Brescia Hills Park), the linear park of the River Mella, and a strong vegetal system along the South Brescia highway (proposed also). This constitutes a great recreational and eco-

logical corridor system including several local and touristic functions that can improve the community economy and supply the city with service sand features necessary planning a sustainable future. Brescia Urban Master Plan defined The Quarries' Park in 2004: after 50 years of sand and gravel excavations what remains in inheritance are 9 major lakes in size between 10 and 20 hectares each and other lakes and ponds of smaller size.

The heterogeneity of these environments makes it a real open-air laboratory in which to experiment a new participatory approach that could become an example for the development of positive policies. The park and its lakes can host temporary and nomad functions as little floating buildings or light foundations buildings like camps, hostels for young or elderly people, educational structures, and innovative energy production structures integrated in a natural and newly agricultural landscape.

To make the research proposal stronger, the project took into account the suggestions and the desiderata of the stakeholders having activated a wide participation process including several associations working of the field, suggesting as economical engine for the new Quarries' Park a public-private management supporting a common sustainable vision for Brescia and its territory.

The research indicates as important to think about parks like a system in which all the stakeholders have to be empowered. A long-time correct management helps all the participants to promote projects and programs that can be funded by European Commission or other institution dedicate to the promotion of new landscape's values. To obtain this, is important also the City Government is open to debate according to a common vision based on a sustainable approach to local territorial strategies.

In practice, this approach must include the mobilization of society through the procedures and organizational structures already in place. The creation of new participatory structures should be the goal of the path and not a prerequisite. This activity will aim to explore the real needs of citizens, the tendencies that can not be detected with the tools of statistics, so as to adjust the level of intervention, making it sustainable and in line with the capacity of the socio-economic context.

Developing this strategy is important to create a decisions makers' table where the administrations technicians are integrated in a system where the net of active participation actors are present. Starting from public institutions continuing with the local enterprises, the industries and compa-

nies, the aim is to create new protocols that enable interdisciplinary collaboration and acquisition of new stakeholders skills. The process that results is continuous in time and characterized by the continuous creation of new goals and new moments to build up the local identity, sharing it between different actors involved in landscape.

Abstract

Wroclaw is a city with great urban roots. Is located on the central-wedges plan as a result of the fortifications demolition in 1813 and later concentric development as a Garden City, in a period of prosperity from 1872 until the World War II outbreak. The city is rich in green areas and covered with a grid of five rivers. Observing the spatial development of Wroclaw waste of left heritage can be noticed. The system of urban green has lost its continuity as a result of the chaotic city reconstruction after WWII. However the situation of public and green spaces system has become worse, especially in the last decade. The reason for this is not precised masterplan and property rights, as the rights for free development. Mono-functional zones are built causing lack of integration of housing, commercial and public spaces. Residents of housing estates are forced to crawl considerable distances to reach park, sports facilities, shopping centre, school or work on a predefined grid of streets. Most of these distances need to be covered with the use of cars. Wroclaw, although it is called the green city, does not provide places open for general use such as "greenways", in which you can move freely on foot or by bicycle between the points of destination, which are combined in networks. This indicates the need for continuous communication and compositional system. The network, where people could move freely between areas with different functions. The aim of the project is to demonstrate that such a network of squares, parks and important points interconnected with avenues or promenades, is realizable and necessary in the layout of Wroclaw. The project will point out how to overcome existing barriers and obstacles in public spaces system. The result is model of potential plan that can arise in Wroclaw.

Description

Wrocław is a city with a great urban roots. It is located on the central-wedges layout as a result of demolition of fortifications in 1813, built promenade in their place and later development as a garden city in accordance with Howards concept, in a period of prosperity from 1872 until the outbreak of World War II.

Observing spatial development of Wroclaw waste of left heritage can be seen. As a result of chaotic city reconstruction after World War II, the system of urban green has lost its continuity.

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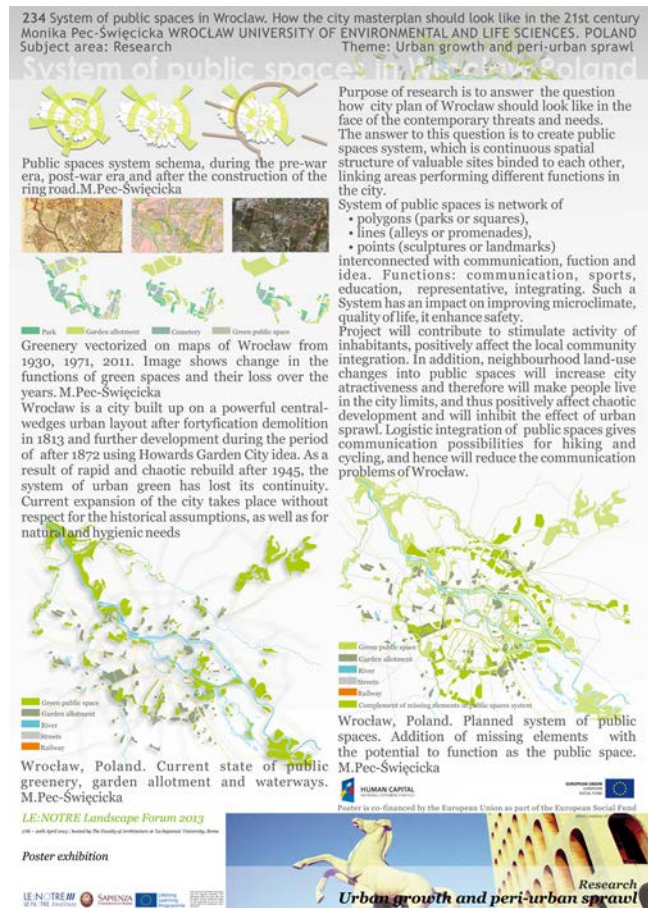
However, efforts to detriment existing public spaces layout, take place especially in the last decade. The reason for this is not precised masterplan and property rights, read as the rights for free development, which is fully used by developers.

Development of monofunctional zones, chaotic expansion of the suburban area and lack of integration of public spaces with different, complementary functions. Existing public transportation is not able to meet residents needs. In a consequence, residents of housing estates are forced to crawl considerable distances to get to the nearest park, sports facility, mall, school or work, after a predefined grid of streets. Most of these distances they are forced to overcome with use of car.

Wrocław, although it is called the green city, it does not provide public places such as "green corridors", along which people can move freely on foot or by bicycle between the points of destination, which when combined might play role strings. There are many green neglected wasteland, or even dirty sites that don't encourage walking, making people feel dangerous.

Free market rights contributes to change green areas to concrete islands, breaking the mentioned rings and wedges. A break in the continuity of green strings has its consequences in environment. In addition to changing the quality of life in the city has a negative effect on the migration of fauna, urban heat island temperature rise, draughts and gusts of winds.

This indicates the need for continuous environmental, communication and compositional system. Structure, in which users of the city could spend time not only in leisure time, but where they could move freely between areas with different functions. The aim of the project is to demonstrate that such a network of squares and parks, interconnected with avenues or promenades, is feasible and necessary in Wrocław urban structure.

The project will point out existing barriers and constraints, how to overcome them and a potential plan that can arise in Wroclaw. It is possible to reconstruct planning assumptions, even if not in the original shape, that's for sure with integrated character. This task is challenging, because studies have shown that the hardest barrier to overcome is the right real estate market, in which the decisive link is a developer. Although the city legislative documents indicate central-wedge system need to be reconstruct, specifying the potential protection. Time shows that the developers to effectively circumvent these documents, building on the most valuable public areas closed settlements or commercial objects. Deriving benefits from their location, do not compensate losses to the city.

The result of the project is continuous system of public spaces - urban development planning model which will be platform for agreement between authorities, the development team, professionals, and residents. The model, which has impact on the integration of the local community, will create the opportunity to increase the activity of the residents, and attractiveness of the estates and consequently whole city, not only because of the attractiveness of the public spaces, but also for their integration, clear outline and management, with the provision of convenient access to services.

This aim will be achieved by examining the current state of public spaces. Then identifying barriers in continuity. Analysis will be based on current zoning plans, legal acts concerning directions of development of the city. The results obtained are compared with the historic city plan. Support with comparative studies of public spaces systems of Valencia, Berlin and London.

The next step will be demarcation of the polygons and lines which have the potential to complement the missing elements of network, as well as methods to overcome barriers in potential system of public spaces.

No.62 | The possibilities of public participation in the evaluation of tourism potential of the landscape | Daniela Vítovská

Abstract

Sustainable tourism comes out the natural and sociocultural resources of host communities, satisfies the needs of current participants of tourism and at the same time provides for not only the economic development of area. Methods of evaluation of tourism potential of the landscape are mostly focused on natural and cultural-historic conditions and services, but in many cases don´t accept the relationships of local inhabitants to their landscape. If we build on the European Landscape Convention, that says: "Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors", it is necessary to involve human perception to the evaluation of the current state and planning of the future state. It is important to cooperate with disciplines psychology and sociology. The research deals with assessment of above mentioned methods where the main criterion is the degree of cooperation with the public. In conclusion there are designed possibilities of strategies how to integrate the reflection of locals' perceptions into the selected methodologies.

Description

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The research deals with assessment of above mentioned methods where the main criterion is the degree of cooperation with the public. In conclusion there are designed possibilities of strategies how to integrate the reflection of local's perceptions into the selected methodologies.

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Process and methods of project:
- collection of methods - that evaluate the tourism (recreation) potential;
- list of criteria;
- assessment of methods - the main criterion is the degree of cooperation with the public;
- design of strategies - how to integrate the reflection of local's perceptions into the selected methodologies.

In the existing research were analyzed in detail following methods:
- Evaluation of natural preconditions of area for recreation (Míchal, Nosková 1970 in Sum 1981);
- Evaluation of the potential of tourism in the municipalities of the Czech Republic (Bína a kol., 2001, Institute for spatial development, in Bína 2002).

The methods were applied on two model areas (part of microregion Venkov, part of microregion Mikulovsky) and it was drawn a comparison between them. The aim of comparison is the evaluation of quality, objectivity and complexity of

particular methods. Sustainability has to include primarily public participation during the searching of present and future values of landscape. Not a single one didn´t include opinion of local people about the values of landscape.

In the strategy how to integrate the reflection of locals' perceptions there are two basic tasks:
1) We want to know who and why visits the model area - basic quantitative sociological research using questionnaires (structured; closed, multiple-choice, open questions; target group: visitors of the model area[1])
2) We want to know which places local people like or don't like, where are the values for them, how they perceive the environment:
- mind maps (target group: local people, local NGOs);
- interactive map – paper form or online form (target group: visitors, local people);
- other sources of inspiration could be also in methods of PPGIS "public participation geographic information system".

Mind maps were described by Kevin Lynch in his book Image of the city (2004). For our project are relevant this kind of answers and tasks for local people:
draw a map of your surroundings, where there will be recorded most interesting, most beautiful and most important elements (places, buildings, sites, etc.);
- imagine that you have become a tourist guide. Draw a map of the trail and everything interesting on it what would you like to show;
- go back to the first map and circle the places that you don´t want to show the visitors and write the reason (why?).
Another possibility of public participation in assessment of landscape values is a method according "A guide to good practice" by Spiegler and Dower (2006), sometimes known as an ECOVAST.

The part of sociologic research is going to be done in the spring and summer 2013. The aim of the whole research will be the method of evaluation of tourism (recreation) potential of the landscape with the public participation.

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[1] It could be of course local people that go to the landscape and nature with the aim to spend their leisure time there.

Abstrsct

Strategies for landscape regeneration are culturally and ecologically complex. Landscape architects face the challenge of designing for landscape regeneration in the face of unpredictable changes brought by climate change. Under global warming, a shift in plant growth zones has been established worldwide. As plant species move to new locations that better meet their ecological requirements, urban ecosystems and the people who live in them will attempt to adjust. Landscape architects can be instrumental in this adjustment. Here I propose an adaptive strategy for climate change that supports ecosystem health and protects human sense of place during times of transition. The adaptation strategy begins by rating locally appropriate plant species on ecological criteria for plasticity, functional redundancy, response diversity, and structural diversity. A plant palette is then developed within the confines set by ecological value, aesthetic goals and cultural considerations such sense of place and history. A graphic example of the strategy is given for an adaptive planting design that supports pollinators and birds. Collective application of this landscape urbanism strategy at smaller scales across an urban/regional landscape has the potential to protect and expand nature corridors that are resilient to climate change and to provide a low cost version of assisted migration. The approach itself is not specific to place or scale. It is suitable for new development, retrofits, and landscape restoration. It does not require extensive training or bring added expense to apply.

Description

Under global warming, a shift in plant growth zones has been established worldwide. As plant species move to new locations that better meet their ecological needs, urban ecosystems and the people who live in them will have to adjust. The adaptive strategy described here can be used to help communities adjust.

Public and private gardens can be designed to support the capacity of ecosystems to deliver essential services in the face of unpredictable weather. Application of resilience criteria to street-side gardens across a city can produce a linked matrix of habitat that supports ecosystem services and assists the migration of plant and animal species responding to changing climate.

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Planting designers and horticulturalists have begun to realize that protocols for plant selection must be modified to accommodate global warming and increasingly unpredictable weather. To this end, I developed an adaptation strategy to accommodate the impact of changing climate on the health of urban greenspace. The strategy translates aspects of ecological theory to practical guidelines for planting design. The end goal is protection of urban ecosystem functions and services as well as sense of place even when climate disturbance changes the cast of interacting community members.

The crux of the strategy is a focus on ecological resilience rather than matching specific plant species to specific predictions of climate change models. Resilience goals most relevant for cities include support of biodiversity, urban wildlife, human wellbeing, stormwater management, air and water quality, and heat island reduction.

Design criteria to provide ecological resilience

Aesthetic: Provide year round engagement using place-based plant selections that acknowledge local ecology, culture and history. When possible, include climate analogues-- plant species or varieties found in areas whose current climate is like that predicted for your location 50 years from now. Be sure that some of these species have an aesthetic character similar to what currently defines "place". For more, see Hunter's (2008) proposal of how to manage aesthetic aspects of plant selection to safeguard sense of place within a changing ecological context. * Hunter, MC 2008. Managing Sense of Place in Transition: Coping with Climate Change. PLACES 20(2): 20-25.

Ecological: Select plants to participate in ecological processes that support resilience against perceived threats to local ecosystems. This requires creation of, or access to a locally- appropriate plant database. Plant choice addresses four ecological processes that support ecological resilience against perceived threats to local ecosystems:

Plasticity is how well a species performs across range of conditions. For example, temperature plasticity can be measured by the number of overwintering hardiness zones acceptable to a plant species.

Functional redundancy occurs when multiple species do same ecosystem job. For example, four flowering herbaceous species provide pollinator resources throughout July.

Response Diversity is described by how well species contributing to the same ecosystem function perform under different environmental conditions. For example, three flowering herbaceous species provide nectar to pollinators during the late summer period. Resources offered by one plant species are unaffected by rainfall, while for the 2nd and 3rd species, nectar is reduced under drought and flood conditions, respectively.

Structural diversity is the spatial complexity offered by plant form. It increases the capacity for biodiversity. Plus, it provides more options for aesthetic interest.

Applying adaptation strategy to the design process
- Set design criteria for ecological resilience, aesthetic engagement, and project function. Note that the larger the space or collective of spaces, the easier it is to design for multiple resilience goals.
- Develop a plant database with locally/regionally appropriate species (see website)
- Calculate plasticity ratings for temperature, soil moisture and flowering phenology.
- Build a plant palette that addresses aesthetic and functional goals in light of their contribution to ecological resilience.
- Create an inspired design through iterative rounds of design to meet all goals.

Although this planting design strategy was developed for urban gardens, the dominant green infrastructure of cities, it can be extrapolated to programs for larger scale landscape restoration and assisted plant migration.

For details and examples: Hunter, MC. 2011. Using ecological theory to guide urban planting design: An adaption strategy for climate change. Landscape Journal 30(2):173-193. Download at http://natureforcities.snre.umich.edu/

No.225 | Sustainable Tourism: strategies for landscape regeneration | Eleni Getachew

Abstract

Rome is one of the greatest cities of western civilization, in which her income is based on tourism. Area like Appia Antica which is not recognized but have high tourism potential need to be given due attention to intertwine with a beautiful landscape for additional tourism income. Regeneration of such places can help both small and big sites as demonstration sites.They can also be a model or a reference for further design studies and researches. Because of urbanization, the fast growing cities urban development can crate conflict between open space and economic value of land. Developing a strategy is very important to manage different landscapes like Appia Antica by enhancing and protecting the environment. Improved land-use policies should also catered to reinforce the strategy. The natural and cultural components must be taken into account together so by keeping the archaeological pieces and historical ruins in the site, we can introduce new design approaches with different activities can be developed and that help to bring more tourists in to it. This helps the site to be stupendous, a place to refresh organize one's thoughts. Water and greenery are the two basic elements to create a good relaxation place on which most tourists get a chance to spend. As a strategy planting many types of trees will help for the study display, preservation and for good climate condition. Introducing artificial lake will help to have water related recreational activities. Sustainable landscape derives sustainable tourism, by using biogas for energy production form animal wastes in the site, water treatment to keep the water clean and a place for compost processing to produce fertilizers from fallen leaves shall be incorporated. The aforementioned approaches ensure the realization of a sustainable landscape there by a sustainable tourism with an everlasting green view on the site.

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No.237 | *Recreational space planning for families in rural villages | Eun-Ja Kim, Jeung-Won Lee*

Abstract

Since the late 1990s, rural tourism in Korea has been spotlighted as the means to earn nonfarm income. The rural development for tourism has been focused on experience programs by developing rural amenity resources through building new facilities in rural villages. However these developments could damage original rural landscape and environment. Also lack of high-quality human resource! s has been a problem for running experience programs. Meanwhile, the number of visitors taking recreation in rural area tended to increase recently along with rising family outdoor activities. Such activities are based on abundant natural resources in rural area so that would be a sustainable way to utilize rural environment. Here we suggested two types of recreational spaces according to spatial proximity to cities which influence visitors' activity types and time.

The first type is recreational space for overnight trips in remote rural villages. This type has abundant natural resources and beautiful scenery, although it has low accessibility from cities. Therefore relatively long-time visitors are the main users and they need camping sites to enjoy surrounding natural environment.

The second type is picnic ground in rural villages adjacent to cities for short time visitors. These places has abundant facility resources and high accessibility from cities, although they are relatively poor in natural resources compared to other rural villages. However, they still have good natural resources among the areas which surrounded with cities and there are lots of short-time visitors. For these people, we need to provide picnic ground for cookout parties and outdoor activities for families which take few hours. And there should be consideration of rural resident's participation to pursue these developments in harmony with whole village in a sustainable way. In this research, we applied these two models to a field in rural villages and made spatial plans for each model.

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No.96 | Landscape Analysis Plug-In | Jekaterina Balicka, PhD candidate. Friedrich Kuhlmann, Professor

Abstract

Analyzing a given space for future design often challenges the students, because there is 'nothing to grab for'. As a spatial example a post-industrial site is occupying a place of former purpose, but although outdated, its spirit still exists through visible remains high-lighting the abandoned function. But do places only have to be tangible or visible to be recognized or are there also invisible or symbolic traces beyond the familiar tactile and eye-centred perception? What, if all visible remains are gone? In our definition traces also can be found, if the spirit of the previous purpose still leaves mental traces in minds of people connected with the place. These traces can give one more evidence about the spatial identity than pure material remains. The poster will demonstrate an attempt in the study program of Landscape Architecture. The spatial analysis is seen as a Plug-In into existing design courses in different years. It can be applied in small situations or traditional open spaces, but also on a 'City' or 'Landscape' scale following three modes of understanding:

Using adequate movement while analyzing: from bicycles to street view

Collection of data in any dimension: from pebbles to large-scale maps

Creative perceptive methods: from snap-shots to watercolour paintings

This approach gradually shifts the focus from tactile and visible to invisible / symbolic and making this shift transparent. It refers to the 'Genius Loci' as a tool to design a place, by subtly reminding of hidden layers of former utilization.

Description

During design assignments students have to cope with landscape structures with very different size and contradicting functions, with a certain density of the surrounding and with changing expectations of users and passers. Analyzing a given space for future design therefore challenges the students, because at the place there is 'nothing to grab for' or only obvious material which does not serve to be analysed but fits a description. This lack of evidence calls for a broader, deeper dive into the place and asks the question, whether a place only has to be tangible or visible to be recognized or are there invisible or symbolic traces beyond the familiar tactile and eye-centred perception? What, if all visible remains are gone?

http://www.le-notre.org/output/posters2013/096.pdf

In our definition traces can be found, if the spirit of the previous purpose still leaves mental traces in minds of people connected with the place. These traces can give one more evidence about the spatial identity than the pure material remains. In fact, every space to be designed hosts manifold hidden information to be exploited for design purpose.

The poster demonstrates an attempt for study programs of Landscape Architecture, where the spatial analysis is to be seen as a Plug-In into existing design courses in different years with different skills. The Plug-In can be applied in small situations or traditional open spaces, but also on a 'City' or 'Landscape' scale following different modes of understanding. The landscape analysis is performed in four different stages during the design process not necessarily in a certain sequence succeeding in the question of change. This includes adequate movement while analyzing, elaborate data collection and creative perceptive methods:
- Understanding the basis: What is the space made on? This step should be carried out by singular or collective model-building sessions with presentations of hard facts like soil, flora or topography.
- Understanding process: How did the space

change? The Students should squeeze out Archives, Libraries and the web to present different layers of historical development.
- Understanding the appearance: What does the space look like? Sketches, Photographs and Interviews should provide a multidimensional overview of the actual visual aspect as well as the actual use.
- Outlook: What should change? This asks for Imagination and the ability to connect the facts.

All stages can accompany the design process without any limitation of sequence. This approach gradually shifts the focus from tactile and visible to invisible / symbolic and making this shift transparent. It refers to the 'Genius Loci' as a tool to design a place, by subtly reminding of hidden layers of former utilization. It furthermore clarifies each designers relation to the place of interest and by this stimulates the gathering of ideas from start.

No.97 | The revival of Kocevska lost landscapes | Nadja Penko Seidl, Mojca Golobic

Abstract

The landscape of Kocevska (south-east Slovenia) was cultivated and managed by German speaking community (Gottscheer), inhabited there by Ortenburger from Kärnten and Osttirol. First Gottscheer came to Kocevska at 1330, and their number constantly increased until the second half of 19th century, when 28000 people lived in 177 villages and hamlets. Emigration due to economic and later also political situation reduced their number to 12500 by the beginning of World War, when the majority was forced to leave their homes. Nowadays only a few of these villages are still inhabited. The remnants of houses are almost gone; here and there we can see the ruins, overgrown by bushes and trees. The wells seem to be the most persistent built structures. An attentive observer would not overlook terraces on the sunny slopes in the middle of the forest or pasture, and fruit trees on these terraces – a proof that people used to live there. And, last but not least, many toponyms survived as evidence that this harsh, cold and wooded landscape was a home of German speaking community, which preserved their language and culture for more than 600 years. How to preserve and present this unique heritage and landscape was the challenge for the students of the 2nd year of Master programme of Landscape Architecture study at the University of Ljubljana. Students have addressed the problem considering the available information, initiatives and guidance from local community and developed alternative solutions for some of the abandoned villages: farming, eco-village, local centre with tourism development and camping site with the renovation of former Rog steam saw. One of the challenges was also how to mark and connect these locations with foot and bicycle trails which would enable the visitors to discover at least a tiny piece of history, culture and landscape, which Gottscheer have created and cultivated through 600 years.

Description

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How to preserve and present this unique heritage and landscape was the challenge for the students of the 2nd year of Master programme of Landscape Architecture study at the University of Ljubljana.

Students have addressed the problem considering the available information, initiatives and guidance from local community and developed alternative solutions for some of the abandoned villages:
- eco villages are proposed at two locations, in villages Mokri Potok and Preža. The initiative for eco village was expressed by local community and some investors. The main criteria considered in the process of searching for locations were: good natural conditions for farming, vicinity to local roads and possibilities to get building permits;
- new local centre is proposed in Kočevska Reka. It will become a generator of development in the whole Kočevsko-Reška dolina. New settlement, tourist development, traditional crafts which use local sources and farming are proposed for the villages Borovec, Inlauf, Dragarji, Mlaka, Primoži and Koče;
- the whole area has very good soil, but harsh climatic conditions are the reason that there is almost no arable land. Some sheep and cattle farms already exist and one of the proposals for the abandoned villages is the development of farming. Two alternatives were proposed at four different locations: farming with supplement touristic activity (accommodation, horse riding, help on the farm, etc.) in the villages Pleš and Grintovec pri Kočevju, and cattle farming in the villages Staro Brezje and Hrib pri Koprivniku;
- the next challenge students addressed was the area of former steam saw Rog. Deep in Kočevska's forest a steam saw was built in 1895 and it operated until 1932. Nowadays only remnants of some buildings, forest railway embankment and two pools, build to collect the water for the saw are preserved. Reconstruction of the main building, camping site and forest playground with hand drive railway are proposed for that area.

One of the challenges for the students was how to mark and connect these locations with foot and bicycle trails and how to present this unique history, landscape and culture that Gottscheer have created through 600 years. An inventory of all abandoned villages, mountain peaks, natural and cultural heritage was made and a system of foot and bicycle trails with different pretentioutness was proposed and presented on a map. The map of all trails was saved on http://www.geopedia.si and could be further developed with geocatching.

A system of signs, a proposal for touristic booklet, information tables and memorials which would present and designate abandoned villages were also designed.

Abstract

The area proposed for study is located near the historical centre of Bucharest and represents an important part of the recent history of this city. Since 1974 the area has suffered major urban interventions such as the demolition of an entire neighbourhood in order to build The People's House-Parliament of Romania and an important change regarding the morphology of the urban tissue from individual houses to neighbourhood blocks. The area is seen today only like an ordinary place with no current attracttive activities for the community and a lack of access inside the urban tissue created by the continuously front of blocks. The purpose of the intervention is to offer a special environment for the people, to make them assume their recent history, to integrate the new landmark (People's House) in the old ones and to emphasize them. Several approaches has been followed:
- For the 2012 IFLA stundent competition landscape design approaches have been followed. A visual flow can be created by breaking the current structural barriers with designing patterns of the old streets that bound important places and architectural elements;
- For a student project the area void of buildings around the Parliament Palace has been integrated with the 'Izvor' park;
- In frame of a recent applied research project on natural and man-made hazards endangering the site student exercises were done how the landscape can help dealing with disasters. In particular green areas can build so-called 'security zones' for emergency housing, visible among others in Sittesque relationship in 3D modelling;
- For another student project the idea of breaking the structural barriers was followed by designing a new street while considering a characteristic of the Bucharest city tissue, the 'house with garden' and thus the presence of trees in gardens of private houses was documented and integrated.

Description

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Project for Ifla student competition 2012 – visual flow
Authors: students Adina Matroz, Lorena Pitulicu, Gabriel Tanase

The purpose of the intervention is to offer a special environment for the people, to make them assume their recent history, to integrate the new landmark (Peoples' House) in the old ones and to emphasize them. A visual flow can be created by breaking the current structural barriers with designing patterns of the old streets that bound important places and architectural elements.

Changing the present activities and disposing the new ones in seqeuenses during the bulevard re-

lated to the landscape intervention will transform this area into a part of the city in which the heart of the urban life will pulsate in the daylight and in the night.

An urban indentity for the area can be created by designing this important place from the middle of the city to fulfill the needs of the comunity and to constantly show the interest in its punctual elements.

Student project - Izvor park
Author Maria Bostenaru Dan

In 1996 the international urban design competition "Bucharest 2000" took place. As a solution it has been proposed, to incorporate the presence of the Parliament Palace in a green space that should act as ecological pole. This exercise aimed to set up a garden-park on an area of ca. 70 ha.

The planning area was divided into two parts: a rectangular part of the palace located laterally of the palace, down to the river Dambovita. The other, in the original concept intended as a back garden of the house is much higher and has an irregular border. Organizational concept was to adapt the part to the river to its austere geometric forms, while the other part tries to accomodate the strict order of the palace with a green counterpart. Rectilinear axes, geometrically led water, trees strictly adjacent to the alley define the dimensionality of this part. By controlling the perspective using color and height of the chestnut, sycamore and nourish the spatial limits are blown up. Oriental spirit leads in the other part to a mosaic of chestnut and oak trees and avenues with free contours. A crossway leads from the adjacent block of flats neighborhoods close to the river on the main road. The inflection points are marked by pavilions (for wood, Fire, earth, metal, water - the Chinese elements).

Applied research student project - natural and man-made hazards endangering the site - how the landscape can help dealing with disasters
Authors: students: Iuliana Costache, Vasile Milea, Atanasia Stoica, Alin Titiriga, Alexandra Chiriloae

In the context of our cohabitation with the hazard, and the mythical roots of its interpretation, the efforts of the specialists and central administrative authorities are focused on the implementation of a risk reduction management regarding hazards, by direct methods – consolidation, as well as by indirect methods – of legal type, for developing architectural urban strategy. The area selected for the field study is destructured by the intervention during communist dictatorship, with razing of the old urban tissue and construction of building blocks which break the traditional texture. At the same time it is endangered by multiple hazards, seismic hazard and flood hazard being some of the most important natural ones, but also heavy snowfall and man-made hazards such as demolition mark the site.

The research is proposing the scientific substantiation of some management operations for the reduction of disaster risk of the built space and the space under post-disaster reconstruction with keeping the continuity and specificity of the urban habitat, in order for the feeling of civic affiliation to be preserved.

No.229 | Brindisi 2050: Desedimenting Time/Resurfacing Hydrology | Irene Toselli

Abstract

The growth of the port of Brindisi in the 20th century has occurred with a negation of its inherent dynamics as territory of transition between land and water and of multiple layers of historical traces. But the identity of the city as node of exchange is inseparable from its history, geography and ecology. The future of infrastructure, which has led to lack of access to the coast and fragmentation of the surrounding landscape, is now precarious, in between expansion and decline. In the face of these uncertain scenarios this proposal intervenes in the fractures between city, port and industrial areas, reconnecting historical and ecological layers, reimagining the relationship of Brindisi with water. The project introduces a network of vegetation and water corridors and a system of archaeological sites that read and reactivate layers of hydrology and archaeology, redistributing and recombining resources already made available by public administrations. Brindisi becomes a testing ground for regional strategies –historical preservation, water reuse and reforestation – giving visibility to these processes and utilizing them as drivers for urban transformation, fostering a new identity for the city. As hydrology resurfaces the city is reconnected with the ecological systems that support it, desedimenting the memory of its relationship with water. The layering of hydrology, archaeology, vegetation and urban program leads to a differentiation of planting and maintenance regimes. The site operates as a linear system along the river and the coastline utilizing vacant lots, fragments of agriculture and archaeological sites to reconnect Brindisi to the coast, giving opportunities for new program along the water edge, at the interface with the city and the tourist ferry terminal. Planting and excavation are the main tools that respond to the progressive unearthing of memory and to the presence of water, and set the base for urban and ecological connections.

Description

Port cities can be recognized as both the result and the cause of the growth of their ports, which has often occurred in 20th century development with a negation of their inherent dynamics as territories of transition between land and water and of multiple layers of historical traces. But the identity of these cities as nodes of exchange is inseparable from their history, geography and ecology. The future of infrastructure, which has led to functional segregation, lack of access to the coast and frag-
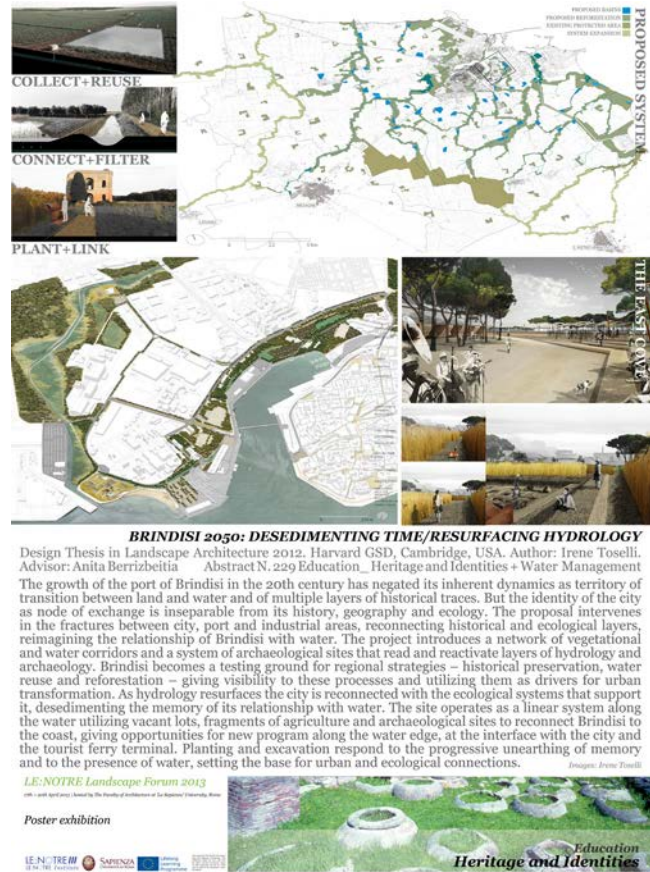
BRINDISI 2050: DESEDIMENTING TIME/RESURFACING HYDROLOGY

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mentation of the surrounding landscape, is now precarious, in between expansion and decline. In the face of these uncertain scenarios this thesis proposes to intervene in the fractures between city, port and industrial areas, reconnecting historical and ecological layers, reimagining the relationship of Brindisi with water.

The project introduces a network of vegetational and water corridors and a system of archaeological sites that read and reactivate layers of hydrology and archaeology, redistributing and recombining resources already made available by public administrations. Brindisi becomes a first point of implementation of regional strategies –historical preservation, water reuse and reforestation – giving visibility to these processes and fostering a new identity for the city. Given these objectives the east cove emerges as a testing ground for project strategies, utilizing them as drivers for urban transformation. While hydrological and ecological networks are often disconnected and inhibited within urban contexts, the proposal facilitates the reactivation of the biophysical systems that underlay the site in conjunction with the reconnection of the city with cultural heritage, and rethinks the presence of

accessible cultural and ecological space in the east cove of Brindisi, fostering both large and small scale civic change.

The site operates as a linear system along the river and the coastline utilizing vacant lots, fragments of agriculture and archaeological sites to reconnect Brindisi to the coast, giving opportunities for new program along the water edge, at the interface with the city and the tourist ferry terminal. The layering of hydrology, archaeology, vegetation and urban program leads to a differentiation of planting and maintenance regimes ranging from a public pine and oak forest to hydrophytic vegetation in stormwater collection basins. Areas for sports and recreation create a sequence of public spaces that activate the new forest. The excavation of basins for runoff collection facilitates water circulation on site, reducing peak flooding and releasing water to the aquifer. The presence of archaeology is expanded to include underwater exploration, the reactivation of the beach and the former Montecatini warehouse. Planting and excavation are the main tools that respond to the progressive unearthing of memory and to the presence of water and set the base for urban and ecological connections. As hydrology resurfaces the city is reconnected with the ecological systems that support it, desedimenting the memory of its relationship with water.

The project was completed as an independent thesis in satisfaction of the degree Master in Landscape Architecture at the Harvard Graduate School of Design, advised by Professor Anita Berrizbeitia and defended in May 2012. All images and text by Irene Toselli.

No.64 | Cultural heritage in Spis region in Slovakia: proposal of the San-souci revitalisation | Mária Bihunová, Mária Sklenárová, Roberta Stepánková

Abstract

Historical landscape structures are unthinkable part of the landscape anywhere. There are some historical remains, which have documented historical development in Slovakia. Now days it is possible to see former fortification systems, wall of the monasteries, sacral groves, complexes of the designed landscape, manors with the gardens, ... Some of them could be seen in urban, peri-urban areas or in the landscape. San-souci (near Ilia?ovce village) is one of the most significant places, which was almost forgotten Spis region in Slovakia. It was a baroque-rococo complex, which was probably designed by count Stefan Csáky (1741 - 1810). It has about 10 hectares and its main function was a summer house for his family and friends with nice garden composition around the house and plenty other attractions. We have decided to make a proposal for its rediscovery and reminding. We have proposed an educational trail from the small town Spisská Nová Ves to the hill Zamcisko, where San-souci was situated. The designed trail is 7,8 km. long; it has 11 stands. Stands are specialized on cultural-historical and natural potential of the area. In its surroundings are situated two natura reserves. The educational trail will not be only informative, but there will be also facilities for enjoying visitor's leisure time.

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No.233 | *Urban-Rural Identity of a Bosphorus Village: Cengelköy, Istanbul | Yasemin Kublu*

Abstract

Çengelköy, once a village with its fertile gardens and fields along the Bosphorus, is one of the historic neighbourhoods today in Istanbul, that has preserved most of its spatial characteristics at the village centre with its remaining traditional houses, physical structure, topography, flora and relations with water. While the historic neighbourhood, with some parts remained from the 17th century, enjoys its central location at the heart of Istanbul it is also providing an investigation area for activating urban agriculture potentials. The poster of this study will be presenting the discoveries of the hidden, lost and remained urban agricultural characteristics of the neighbourhood and the development of new urban landscape design ideas for maintaining this natural and cultural heritage of the place.

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Abstract

This work is a synthesis of the characteristic landscape features of Rozumice village and encompasses historical, urban and natural values of that area. Special valour is the collection of so many exceptional elements in one place and their still visible presence there. Human colonization history goes back here beyond 250 thousand years and reaches time of glaciations. Urban structure preserves XIV century shape. Sociologically that place is either very interesting thanks to the history of Protestant community established here. It was one of the first Protestant villages in Silesia. Biological richness of local nature reserves is exceptional in Poland. That comes from fertility of soils and diversity of habitats, and especially from neighbouring Moravian Gate, which is source of plant dispersion migrating from southern Europe. Geomorphologic forms shaped by glacier front complete values of the landscape. In consideration of all local values that is possible to comprise the area with protection of culture park form.

Description

Rozumice village is placed on Polish-Czech border, near town Racibórz. Its features give exceptional opportunities for defining local uniqueness. Special valour gives the collection of so many landscape and historical elements in one place.

One should start with the oldest traces of culture found here. Human colonization history in that place goes back beyond 250 thousand years and reaches time of glaciations. Typical geomorphologic forms of fluvio-glacial deposits shaped by glacier are still the most visible features of the landscape. There were several periods when glacier front of the Oder stage stopped to the north of Rozumice and when it reached further area of Jesionik and Beskid Mountains in San stage. The remains of human, Pre-Neanderthal lairs show tents orientation with entrance directed to the south and facing fireplace. There were no wood around and meat was roasted on burning bones. This orientation helped to avoid nasty smell because wind was blowing still from glacier to the south.

Next element of local characteristics is the urban structure which preserves XIV century shape. The village was firstly mentioned in 1260 and founded according Flemish low 1335. Inside the road oval is central meadow, where cattle was brought together for the night. On its edge was built a church. Its tower had clocks on every side and visible from

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surrounding crop fields. The meadow is crossed by the creek Psina and was in old times watering place. By the oval road are living houses with farm dwellings and gardens behind. Many buildings preserved their appearing from the beginning of XX century or even older. Between gardens and crop fields is the line of honey-yielding trees. In that line were found 21 trees of monumental value. Most of them are Small-leaved limes (Tilia cordata) and Black locust trees (Robinia pseudoacacia) with the age over 100 years. The oldest tree is Broad-leaved lime (Tilia platyphyllos) with diameter 510 cm and supposed to be 230 years old.

Much more monumental trees you can find in the village wood (93,9 ha). Its southern border is either the country border. In the year 2000 was there established wood-preserve with five forest communities: ash floodplain forest; ash and elm floodplain forest; oak-hornbeam forest; acidic oak and lime forest; oak and birch forest. These communities are very close to fully natural. In wood undergrowth are many protected and rare species. Biological richness comes from fertility of soils and diversity of habitats, and especially from neighbouring Moravian Gate, which is source of plant

dispersion migrating from southern Europe to Polish territory. Richness of Rozumice wood places it in the most naturally valuable sites in southern Poland.

Sociologically that place is either very interesting thanks to the history of Protestant community established here in 1524. It was one of the first Protestant villages in Silesia and lasted as that until 1945 without a break. There lived together Germans, Moravians and Poles. You could find there names of all that origins. They use that three languages either but German was dominating. After the II World War all indigenous residents emigrated to Germany and village was settled by Polish Catholic people moved out from the East. The history of Protestant community was this way finished. Big building of old Protestant church was destroyed during the war. There are still its picturesque remains as a reminder of the past. Small local Catholic community was unable to rebuild it and new church finally appeared in the opposite side of central meadow.

Old residents and their families are still more frequently coming there and are welcomed by new ones. In 2009 in Rozumice was organised conference by joint old and new communities on the perspectives of maintenance local historical values and place identity. In consideration of all values that is possible to comprise the area with protection of culture park form.

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No.238 | Strategic Plan for the Preservation of the Skopje Aqueduct and its Environment | Hadji Pecova Stefanka, Steenberghen Thérèse, Steenwegen Lowie, Van Balen Koen, Biceva Kristina, Gucev Dimitar, Kitanovska Liljana

Abstract

Recent urban developments, planning initiatives and new infrastructure constructed nearby the Skopje Aqueduct, indicates the importance of strategic planning. Funded under the cooperation program between the Flemish region (Belgium) and states in Central and Eastern Europe and leaded by the University of Leuven and several partners from Macedonia the Project "Strategic plan for preservation and rehabilitation of the Aqueduct in Skopje and its environment" was developed. The report of the Strategic Plan proposes strategic planning method, and emphasizes the importance of analysis, spatial structures and relations and the need of an integrated and participatory approach. The approach indicates some ideas for future projects and is flexible within a long term perspective. The report focuses on three main aspects (1) to assess needs and identify opportunities to protect the monument; (2) to develop a vision on the desired rehabilitation of the Aqueduct and its environment; (3) to identify ways which might facilitate the implementation of the vision. In this article principles and visions for desired rehabilitation, objectives for the desired development, proposed actions, logical framework and policy recommendations for the rehabilitation of the Aqueduct in Skopje and its environment will be presented.

Description

Recent urban developments, planning initiatives and new infrastructure constructed nearby the Skopje Aqueduct, indicates the importance of strategic planning. Funded under the cooperation program between the Flemish region (Belgium) and states in Central and Eastern Europe and leaded by the University of Leuven and several partners from Macedonia the Project "Strategic plan for preservation and rehabilitation of the Aqueduct in Skopje and its environment" was developed. The report focuses on three main aspects: (1) To assess needs and identify opportunities to protect the monument and avoid further decline, (2) To develop a vision on the desired rehabilitation of the aqueduct and its environment; (3) To identify ways which might facilitate the implementation of the vision.

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The Aqueduct, a monument built in Early Byzantine or Ottoman times, located near the City centre and City park in Skopje, is almost unknown by the Skopje population. Parts of the monument are in a bad condition: some fundaments and arches have been eroded and stones of the water canal are falling down. The monument is threatened by new spatial developments.

The project focuses directly on the development of a long-term perspective for preservation of the monument and the surrounding area. An approach to raise capacity and impact for stakeholders and citizens in order to stimulate their involvement in the shaping of their own city into a qualitative public space worthy of the urban lifestyle was developed . The main focus of the analysis are the Aqueduct, the protected zone which surrounds it and the wider environment. Physical and environmental dimension, social, cultural, economic, urban and spatial dimensions and legal instruments are analyzed.

The vision for the rehabilitation and future development is based on nine general principles of planning approach. These principles and the planning approach determine the long-term perspective that was elaborated. The vision offers a frame for policy actions and initiatives. It is detailed by the identification of concrete objectives and the identification of spatial concepts. The following concepts are the basis of the vision for rehabilitation of the Aqueduct and its environment:

The Aqueduct as a unique historic construction of national interest will be respected and preserved. Because of its value and its meaning, the Aqueduct will determine which activities and functions are adequate around the monument. Rehabilitation initiatives will use a gradual approach in which respect, maintenance and renovation are preferred above rebuilding of reshaping. The rehabilitation of the Aqueduct and its environment will be carried out in partnership. New buildings and constructions will be developed in a way that they fit in the environment. Open areas around the monument will be kept green and attractive public spaces will be created and treated with respect. The area around the Aqueduct will gradually develop towards a lively and sustainable environment, which offers space for new functions and activities in respect with and related to the historical value of the site. The area will be developed in a sustainable and exemplary manner in order to become an example for other potential cultural (urban) landscapes sites in Skopje and Macedonia. The vision is detailed by concrete objectives that creates a basis for actions and measures to undertake.

The planning process resulted in an increased awareness of opportunities, threats and needs. A growing interest for the monument and its history, the identification of the contact zone and the process to adopt the monument and its environment as a cultural landscape are indicated as important chances. There is a need to undertake immediate actions to preserve the monument for further decline. Vast research has to be undertaken and budgets to be allocated. The desired function of the site in the development of the city has to be indicated and supported. The development of the area should fit in a general vision, create space for functions related to the site and developed on the long term.

The fast suburbanization process and the proposed spatial development around the aqueduct are indicated as main threats. Further investigation is needed and a collective vision on the site has to be shared by different policy sectors before new detailed urban plans around the aqueduct are

drawn and adopted by the council. The land use planning has to be embedded in a vision on sustainable development at different scales.

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No.226 | *Redefining Tiananmen Square Identity. Between Permanence and Transformation | Vladimir Boc, Ioana Streza*

Abstract

The project represents a proposal for remodelling Tiananmen Square, being an entry for the international competition launched by gardenvisit.com and landscape architect Tom Turner. Our approach was to redefine the identity of Tiananmen, one of the largest squares in the world and a national landmark of China, by maintaining its major structure and function. The aim of the intervention was to create a binder between the identities of imperial and communist eras. In addition, we wanted to respond to the current social needs and ways of use regarding the public space and to introduce human scale into the vastitude of the square The project is divided into several phases: analysis (historical, urban morphology, symbolism), synthesis and concept, general proposal, details. The first stage of the analysis was the study of historical plans in order to understand the evolution of the space structure during the last centuries. By analyzing the morphology of the area we identified a very significant urban axis, which contains gates, halls and monuments from various periods. As a result of the symbolic values analysis, Tiananmen Square represents a historical site, memorial place, political symbol and cultural space. The concept was elaborated based on the analysis synthesis integrating the local emblematic elements: initial configuration of the square, North-South urban axis, China's flag and Yin-Yang symbol. Thus, the elaborated concept is "Transcendence", reflected by the use of two axes: a spatial-temporal physical axis and an Earth-Heaven immaterial axis. The proposed composition consists of: a water channel, an axes system, representative plants of the Chinese culture and four ensembles around a central element: the Zenith Gate. The project was selected to be presented in the Final Competition Report in the "Minimalist interventions" section, being described as a careful historical and cultural approach.

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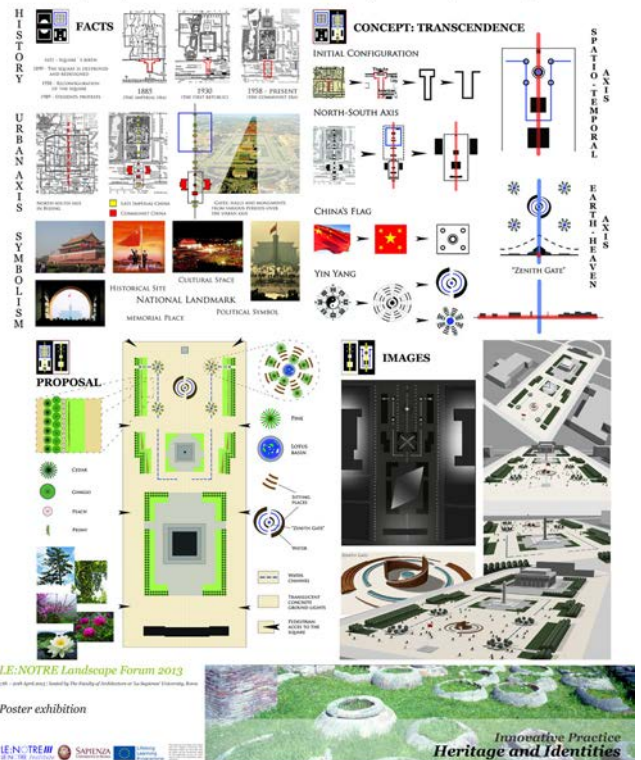
*No.232 | Redefine the Value of Rural Landscape in the Exurban Zone in Shenzhen, China | Xili Han*

Abstract

Under the background of rapid urbanization, the built up area of Shenzhen quickly spread. The relationship of supply and demand between city and country in the exurban zone has changed. To redefine the value of rural landscape is urgently needed. Jinggui rural area in Shenzhen exurban zone was chosen as an example, based on analysis of the new demands from the city and analysis of supply potential of rural landscape from location, natural, social and cultural aspects, it explores the way to redefine the value of the rural landscape in the exurban zone. It suggests that first, sightseeing and leisure of planting landscape replaces productive farmland landscape; second, biological cleaning and recycling water landscape replaces pure drainage water landscape; Third, high value-added agricultural landscape replaces low-value agricultural landscape; Fourth, urban and rural residents share the new rural landscape. These suggestions have important strategic implications for rural landscape protection and development in the exurban zone and, ultimately realize the sustainable development of urban fringe region.

Description

This is a landscape design workshop held in the fall semester of 2011 in Peking university Shenzhen graduate school, 32 first year master students in landscape architecture and Xili Han, Francisco f. Longoria as tutors involved in this workshop. The workshop is about the sustainable development of Jingui village area in the exurban zone of Shenzhen city in China. Shenzhen is a modern city of migrants with 8 million people. As a metropolis with only 30 years history, it is one of the most vibrant cities in the world. Living in this busy city with high construction density, there are more and more people go out of the city to the natural and rural area spontaneously during weekend. How to balance the economic development and ecological protection of the village area in the exurban zone and guide those areas into sustainable development become the main questions that this workshop tries to answer.

The course themes were set as: (1) The connection between the exurban zone and central city in natural landscape and humanistic landscape; (2) Intrinsic motivation of sustainable development of villages? Natural and humanistic landscape in exurban zone; (3) Outdoor space design principles and ways based on human scale.

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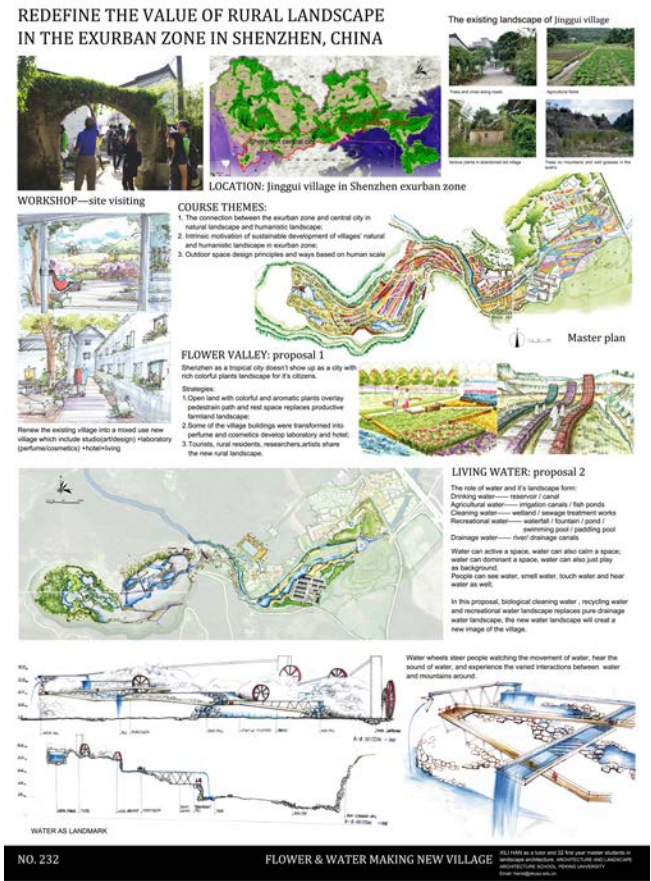
Six proposals were put forward by six groups of students. Two of them were picked out and introduced here as follows:

- Proposal 1: 'Flower valley'

Students: Chenqu, Tianran Tao, Xiaoqing Qin
Shenzhen as a tropical city doesn't show up as a city with rich colorful plants landscape for its citizens. Strategies came up by students as first, open land with colorful and aromatic plants overlay pedestrian path and rest space replaces productive farmland landscape; Second, some of the village buildings were transformed into perfume and cosmetics develop laboratory and hotel; Third, tourists, rural residents, researchers, artists share the new rural landscape; Fourth, renew the existing village into a mixed use new village which include studio (art/design),laboratory (perfume/cosmetics) ,hotel and living.

- Proposal 2: 'LIVING WATER'

Students: Chenwei Lin, Hemin, Liuting
Water is the key element of the landscape in the site, but it is kind of hidden. The role of water and its landscape form as follows should be rethought and some of them should be represented:

- Drinking water—— reservoir/canal;

- Agricultural water - irrigation canals/ fish ponds;
- Cleaning water - wetland / sewage treatment works;
- Recreational water - waterfall / fountain / pond / swimming pool;
- Drainage water - river/ drainage canals;

Strategies came up by students as first, let water landscape dominant this village area, make some space more active and some space more calm; second, create opportunities for people to see water, smell water, touch water and hear water as well; third, biological cleaning water, recycling water and recreational water landscape replaces pure drainage water landscape; fourth, transform some village buildings into art studio and hotel, the forest landscape replaces farmland landscape, so to maintain high quality of air.

In this project, Water wheels landscape was created to guide people to watch the movement of water, hear the sound of water, and experience the varied interactions between water and mountains around. Water landscape is used as landmark and guidance system in this site.

Flower and water landscape in these two proposals will create a new image and economic opportunities for Jinggui village and create job opportunities for village people at the site.

No.63 | *Three sardinian rurban landscapes: readings and interpretations.* | *Adriano Dessì*

Abstract

The poster proposes, as post-doctoral research, an insight into three peri-urban areas of Sardinia, the sprawl city along the Quartus coast, the Sassari's olive-grove fringes and the specialized farming triangle between San Sperate, Assemini and Decimomannu, paradigmatic places of hybridization between agricultural structures and urban fringes within the Sardinian context, that still shows strong historic structures of the rural landscape. The urban expansion in these places, rich of historic agricultural production, generates new forms of rurban landscape (Bauer, Roux, 1976) and makes the observation on these areas so interesting. In these places, the rules of the urban fabric blend with the strong persistence of rural structures, resulting in atypical forms of settlement, new ecologies of living outside the city. The Fields 'en Lanières' (Bloch, 1936) of Quartus ancient peri-urban farming, become the most desired areas of outside-city residence, as well as the 'puzzle' of the olive monoculture on the...

Description

The study proposes an insight into three peri-urban areas of Sardinia, the sprawl city along the Quartu's coast, the specialized farming triangle between San Sperate, Assemini and Decimomannu and the Sassari's olive-grove fringes, paradigmatic places of hybridization between agricultural structures and urban fringes within the Sardinian context, region that still shows strong historic structures of the rural landscape.

The urban expansion in rural fringes, rich of historic agricultural production, generates new forms of rurban landscape (Bauer, Roux, 1976) in which the rules of the urban fabric blend with the strong persistence of rural structures, resulting in atypical forms of settlement, new ecologies of living outside the city.

In Quartu's east rural fringe, the long-narrow fields, residual mesh of Roman times, but especially of modern and contemporary fieldworking divisions, once place of the largest and most productive wine-growing sector of Sardinia, now consists of an intricate mesh land that receives a widespread "second Quartu", denser and more structured towards the coast, more dispersed and discontinuous towards the hinterland in which we still find some agricultural capacity. This settlement fabric consisting of paths, housing blocks, public parks, gar-

http://www.le-notre.org/output/posters2013/063.pdf

dens, service areas, squares, waterfront avenues, it has all the characteristics of an urban structure that spreads from coast to fragmented rural inland.

In the rural triangle between San Sperate, Assemini and Decimomannu, housing spaces, living here and with spaces of production, greenhouses, sheds, instrumental outbuildings, and with spaces of commerce, small markets, shop houses, kiosks, leading to a diversification of land uses, that sometimes involving to parking facility, field sports, garage, domestic and urban garden, the tree-lined street, interspersed with mixed crops, olive trees, citrus groves, vineyards and uncultivated fields of waste production (even for grazing).

The multi-functionality of this agricultural fringes determines completely atypical housing, given the extreme overlap of activities, which are expressed in unusual ways of aggregation. One of these, is well represented by the combination "greenhouse-home", a variation of the farm-house workshop, direct expression of the deep merging between domestic spaces, commercial and production, but above all, in a constant state of ambiguity between public and private spaces.

The "puzzle" of the olive monoculture on the rural fringe of Sassari, it is the breeding ground for the introduction of new agri-tourism activities. On the westside of this fringe, the long and thin olive lot is transformed into residential garden while maintaining its structure, on the north side, olive groves, with more square and larger plots, remain productive but activates many parallel activities, above all accommodations; in other cases, the rationalization of historian agricultural lots, led to the creation of residential subdivisions typical of urban expansion areas.

The analysis of the principles that guide the generation process of these "rurban" phenomena in these particular forms of sardinian rural fringes, is carried out through the reading of the structures and transformations on two fundamental scales of observation:

The scale of the rural landscape structures, through the highlight mapping of farm mesh and agricultural plots, the reading of extra-urban spread and relationship with the main environmental matrix, and highlighting the active agricultural areas;

The scale of "minimal rationalities" (Secchi, 1989), micro-polarity settlements found in the rural fringes that tend to organize the space according to their specific production skills, through the land use reading, spatial location of factory buildings and infrastructures.

These two scales of spatial analysis, seemingly unrelated, return an image of a new landscape, an intermediate dimension between urban and rural that, although critical, offers interesting opportunity for a landscape development. The lines of greatest interest in the observation of these forms of rurban settlement are:
- Research project on new forms of multifunctional housing in which rural space fragments, breaks, but also becomes the main connector of the constituent elements of the settlement;
- The presence of an agriculture that feeds new forms of public space and park and it is the primary creation factor of extra-urban places for the community;
- The multifunctionality of suburban agriculture and its daily use, has the capacity to organize the new forms of urban fringes.

Conclusions

Richard Stiles, Fabio Di Carlo

Rome's Landscape
Overall Conclusions

Fabio Di Carlo and Richard Stiles

1. An international landscape Forum in Rome – Fabio Di Carlo

Not since 2006, has Rome hosted a major International Symposium related to landscape architecture. In 2006 the international Symposium "Becoming Landscape Architect in the XXI Century", provided a helpful occasion for Rome to represent achievements of Italy landscape education in the international scene.

By contrast, the 2013 Landscape Forum in Rome provided an opportunity for a wider debate. During the Forum, over the course of nearly a week, we could observe simultaneously the results of our work and our city landscapes from a different perspective, that of 150 foreign colleagues, who together with us got to know Rome along some less familiar routes.

According to our understanding, our international colleagues were pleased to be able to participate in this unique and challenging experience. Such an exercise compels us to seek to understand the landscapes of Rome as well as simply concerning ourselves with preserving and creating them. Although the landscape of our city, is layered with history and meanings, it is nevertheless fragile as far as maintaining its balance in the time of renewal is concerned.

Similarly, our colleagues have been able to highlight problems that we have not previously been aware of because of being blind to them due to our over-familiarity with the situation. The lack of defined minimum standards for public space as well as the non-suitability of many spaces as compared to the common standards in other countries, are examples of those shortcomings. The distance between the potential quality and actual reality of landscape seems dramatic.

The landscape systems of Rome and of surrounding territory are strong and can be seen to represent a significant resource, if considered from the perspective of the need to overcome the current difficulties.

The Forum was a moment of great significance for us as Italians, who often feel themselves to be stuck in the "suburbs" of contemporary landscape culture. It was, therefore, a moment to be acknowledged by the 'outside world', but it was also useful to win some internal recognition of the landscape on the part of Italian culture, as compare to other more established teaching traditions.

Another great result was the creation of a community of young researchers and students in the school of Rome. A large team of people who have collaborated before, during and after the Forum, has become a kind of reference group in the faculty of architecture and continue to collaborate with each other and with me. These include Cristiana Costanzo, Sara Gangemi, Emma Tagliacollo and Paolo Camilletti, the four local experts, but also Ana Horhat, Lorenzo Decembrini, Samaneh Nichayin, Elisa Lumaca, and many others. To all of them my affectionate gratitude.

2. Reflections on the Outcomes of the Rome Landscape Forum – Richard Stiles

As stated in the introduction to this publication, the format of the LE:NOTRE Landscape Forum was 'road-tested' for the first time in Antalya, at the first event bearing this name. Following this year's very successful Rome Forum the format into which so much thought and effort has been invested can be pronounced to be fully 'road worthy'. The first incarnation of the Landscape Forum in Antalya has been shown not just to have been a 'one-off' success, and any residual worries that the format would not be up to meeting the challenge of being transferred to Rome have been shown to be groundless by the success of the second LE:NOTRE Landscape Forum.

But the 2013 Forum was not just the second LE:NOTRE Landscape Forum, it was also particularly significant as it was, in one way at least, the last. It was the final annual meeting of the participants in the long-running LE:NOTRE Project, which had started way back in the autumn of 2002 as a European Union co-funded 'Thematic Network' under the, then, Socrates Programme and then became a so-called 'Academic Network' under the subsequent 'Lifelong Learning Programme'.

The amount of thought that went in to 'designing' the Forum as a new type of event has been outlined in the introduction to this publication, but the success of the Rome event was down to much more than a well conceived format. Above all it way again due – as was the case in Antalya the previous year – to the tireless work, enthusiasm and commitment of the host university: La Sapienza and the many local experts and keynote speakers to whom our thanks are again recorded here. Their support in the selection of the topics and case study areas, as well as their hard work in the planning and organisation of the event helped to ensure, and was integral to its success.

But while it indeed proved possible to replicate the structure and success of the LE:NOTRE Landscape Forum that had been originally conceived and piloted in Antalya, in the end this was not where the ambitions for the Rome Forum stopped. Instead the success of Antalya could be seen almost more as a 'trial run' for what became an altogether more ambitious and larger scale event, which the Rome Forum became. This increase in ambition is to some extent reflected in the scope of this publication. 'Rome's Landscape' has grown significantly as compared to the previous 'Antalya's Landscape'. Three developments in particular stand out, which differentiate this publication from that prepared following the Antalya Forum. The first of these is the fact that the introduction to the local landscape situation has expanded considerably: it is no longer just a single chapter, but a whole section comprising six separate chapters. The second is the fact that the four chapters contributed by the thematic groups no longer all follow exactly the same format. A degree of 'internal differentiation has taken place with each of the four groups having developed their own specific approach to dealing with the issues with which they have been concerned, something which can be interpreted as a growing sign of maturity. Finally, the appendices, making up the third part of this publication comprises the posters submitted and accepted on each of the four themes, which is also a new departure and an expansion of the format of the previous publication. The inclusion of a call for posters for the Rome Forum, in spite of the continuing conviction that the Forum should not in any way resemble a traditional academic conference, was nevertheless felt to be an important new introduction to the format.

In particular thanks are due to the efforts and commitment of the large team at La Sapienza University, in particular the group of doctorate students who have been responsible for contributing to the chapters making up the first part of this publication. This can be seen as a unique and excellent primer on the landscape of Rome that currently has no equal in the extensive English language literature about the 'Eternal City'.

Even though the Rome Forum has been successful, not just in its own right, but also in raising the stakes with regard to what it was possible to achieve during the first meeting in Antalya, the possibilities for making yet further improvements have by no means yet been exhausted. The next stage in raising the level of the Forum is, however, perhaps to be sought in educating all participants to understand it should not be viewed as just a one-off event, but as a process, of which the visit to the host city is just a part, albeit a central one. The key to this is to see the thematic groups not just as convenient 'teams' which get together on a one-off basis for a few days during the course of the Forum itself, but rather as standing working groups of people with long term common interests, which can provide a structure within which projects can be developed, research applications made and joint teaching experiments undertaken.

On this basis the preparatory meetings of the thematic groups need to be given more weight in future Forums, as do the follow-up sessions which are responsible for shaping and editing the respective parts of the publication. The concept for the publication itself still also needs to be developed further, and a means needs to be found of 'squaring the circle' and producing a publication which at the same time lives up to high academic standards, while still retaining much of the freshness and immediacy of the 'workshop' character of the Forum of which it is a record. The 'round tables', for example, which are an important part of the Forum concept have the potential both to be improved as a component of the discursive process of the Forum itself, and there is the need to find a more satisfactory and at the same time feasible way of including their outcomes in the in the publication. Here, generally there is perhaps still important work to be done to ensure that the published record of the 'new kind of academic event, which the Forum aspires to be, is also reflected in the creation of a 'new kind of academic publication. But the Rome Forum, and this publication has provided an important first step in this evolutionary process, and it can be expected to continue in the years to come.

3. Relationship with EFLA, Uniscape, biennial and CUN proposal for the teaching of the landscape in Italy

The Forum also provided an excellent opportunity for comparison between European landscape institutions and for the strengthening of their relations. In particular the comparison with IFLA Europe and with the Biennale of Landscape of Barcelona, was able to focus better common objectives with ECLAS - LE: NOTRE especially with respect to possible future actions at the international level.

Even with Italian istitutions, the presence of prof. Enzo Siviero, president of the CUN, National University Council, represented a significant moment of the closing session of the Forum. In particular Siviero has produced a motion submitted to the entire assembly plenary, for the promotion of new courses of study of landscape in Italy, to counteract the negative effects of the recent university reforms that have seen a gradual closing of the landscape study corses started around 2000.

There follows the text of the motion by E. Siviero of CUN, which was approved and signed by the plenary session of the Forum and later implemented by IFLA Europe.

MOTION FOR THE CREATION OF A FULL EDUCATIONAL CYCLE ON LANDSCAPE KNOWLEDGE, DESIGN AND MANAGEMENT

With reference to the initiative promoted by Prof. Enzo Siviero, vice-president of CUN, for the establishment of a full cycle of studies on landscape knowledge, design and management we are hereby addressing our request to the Ministry for Universities to take appropriate measures.

In our petition, having regard to:
- articles 6b and 8 of the European Landscape Convention (Act no 14 of 17ì/09/2006) inviting member States to establish university courses for the training of "experts in the knowledge and interventions on landscapes";
- Art. 32 (3) of the Code of Cultural and Landscape Heritage that envisages that "the public administration may undertake training and educational activities";
- IFLA/UNESCO CHARTER FOR LANDSCAPE ARCHITECTURAL EDUCATION (2012) that envisages at least four years of full-time training plus two years of internship

it is pointed out that :
- the lack of a full cycle of studies concerning the landscape means that Italy does not have the qualification required at the European level and consequently it does not have access to international accreditation;
- D.M. 270/2004 does not envisage a three-year class corresponding to the LM-3 in Landscape Architecture;
- D.M. 270/2004 has provided for the "merger" of existing university courses and elimination of university courses initiated in 2000 concerning the knowledge, design and management of the landscape, thus depriving university training of the internationalization process that the D.M. itself calls for.

it is pointed out that: D.M. 270/2004 (art. 4.2) envisages that changes may be adopted or individual classes may be established, upon proposal by the universities, with ministerial decree, having heard the CUN and in compliance with the abovementioned D.M., envisage the possibility of asking the Ministry a review of the classes with simplified procedure;

it is pointed out that:
- the full training pathway requires that the basic and neighbouring basic training activities should include "University teachings that, in their respective fields, deal with the values linked to the landscape and the issues concerning its protection, management and planning" (Euroepan Landscape Convention, articles 6 B, 8);
- IFLA/UNESCO CHARTER FOR LANDSCAPE ARCHITECTURAL EDUCATION (2009) has identified the specific requirements of the educational process;
- the basic and neighbouring educational activities must be aimed at forming/educating the professional profiles capable of operating on the landscape with specific competences in such areas as:

analysis and evaluation of the landscape (use of analysis and evaluation methodologies, data and information processing at different levels, definition of landscape quality goals), landscape design (preparation of project for the transformation of the landscape, identify constructive processes, processing of final projects), landscape management (processing of plans and project for the conservation and enhancement of the landscape);

On the basis of these remarks it is deemed necessary and most urgent that the Ministry for Universities:
- start taking action to establish a single university course or a three-year course in Landscape Science and Techniques that allow for access without requirement for additional subjects to the LM-3 Landscape Architecture course and ensure a full training program;
- adopts appropriate measures for activating and disseminating a university program taking into account some given difficulties by the limitations envisaged by D.M. 270/2004 and subsequent D.M. 47/32013.

4. The Future and prospects of Lenotre Institute –
Richard Stiles

from LN project to LN INSTITUTE
Appointments for 2014, 2015, steps

As far as the 2013 LE:NOTRE Landscape Forum is concerned: all roads have lead to Rome, as the saying goes, but the question for LE:NOTRE is now: which roads lead beyond and in what direction do they lead?

Apart from the trauma of having to prepare the final report and accounts for the project to be assessed by the funding agency in Brussels, the main challenge facing the project/ network over the coming months is to keep LE:NOTRE going, with only one small change that needs to be taken into account, namely the sudden absence of any European Union, funding, which on reflection is not such a minor matter after all..!

After the official end of the LE:NOTRE Project in November 2013 the independent LE:NOTRE Institute will 'take over' from the European Union co-funded network. In fact the Institute was formally established before the Rome Landscape Forum, but until the end of the project it has not had to stand alone. The test now will be whether the people who were happy to be part of the Project when their participation was being supported by the European Union will still be willing to continue their role when it becomes up to them to support the Institute.

The future funding model is very simple, the Institute – a Foundation under Netherlands law – will be dependent on the support of individual members of the landscape academic (and indeed practice) community, if it is to survive. A decision has been made to make membership on an individual rather than an institutional basis, in order to make it simpler for people to decide to become supporters. There is therefore no need for the collective agreement of an organisation to pay a corporate membership fee, nor is there therefore the risk that any decision to support the Institute may enter into competition with an institution's support for its parent organisation ECLAS, or for that matter any other similar organisation.

Given that the resources of the LE:NOTRE Institute are likely to be limited, to start with at least, a decision has been taken to focus its initial activity in three areas, each of which already has a certain pedigree arising from the LE:NOTRE Project. The first of these will be to continue to develop the LE:NOTRE Web Platform as an instantly accessi-

ble resource for communication, collaboration and the sharing of information which will be available on a '24/7' basis as the backbone of the new organisation. Secondly, it is planned to develop a regular programme of on-line eLectures on a broad range of landscape related topics, and, last but not least, the LE:NOTRE Landscape Forum will continue to provide the annual opportunity for members of the Network to meet and exchange ideas in the context of an active encounter with an unfamiliar landscape. The success of the Rome Landscape Forum will help to establish the standard for future incarnations of the annual meetings of the LE:NOTRE Institute. The LE:NOTRE Institute web site can be found at www.le-notre.org