

***Tour-scapes* or how to convert mature tourism destinations to complex sustainable landscapes; the strategy of the “second coast”**

Maria Goula

Department of Urban Design and Regional Planning, DUOT, School of Architecture of Barcelona, ETSAB,
Polytechnic University of Catalonia, UPC, 08028, Barcelona, Spain
e-mail: maria.goula@upc.edu

Ioanna Spanou

PhD candidate at Department of Urban Design and Regional Planning, DUOT, School of Architecture of Barcelona,
ETSAB, Polytechnic University of Catalonia, UPC, 08028, Barcelona, Spain
e-mail: huanna77@gmail.com

Patricia Perez Rumpler

PhD candidate at the Institute of Landscape Architecture, University of Natural Resources and Life Sciences, Vienna
and ETSAB, Polytechnic University of Catalonia, UPC, 08028, Barcelona, Spain
e-mail: patriciapr@xydirect.com

Abstract

The paper discusses the innovation potential of landscape design to mature tourism destinations in the Mediterranean, especially in relation to its contribution to generate new imagery as well as to configure sustainability criteria in order to improve tourist consolidated environments. It is structured in two parts: The first deals with the intense relationship between Landscape and Tourism. The second focuses on a review of the research results developed within the frame of the Master's in Landscape Architecture, UPC, in the territories of Costa Brava, Catalonia, Spain and Languedoc, France. The works presented explore protocols of developing a sustainable tourist imagery based on the identity and natural potential of these landscapes in relation to the development of a holistic tourist project that involves landscape not as a background but as a tourist product in itself. The experiences include approaches that relate the existing coastal developments to its agricultural “hinterland”, specifically denominated as “second coast”.

Keywords: landscape, natural processes, landscape ecology, hidden identities.

Introduction

This paper raises some first hypotheses on alternative sustainable approaches to coastal tourism developed during the last 6 years in the Master's program of Landscape Architecture (Department of Urban Design and Regional Planning, DUOT, Polytechnic University of Catalonia, UPC). This particular investigation line, which unfolds under the theme *Research by Design*, integrates an interdisciplinary team of professors¹ and post graduate students who deal with the specificity of Mediterranean landscapes and explore new potentials for improving conventional existing tourism infrastructure through the strategy of the “second coast”.

¹ The studio is led by a core team of professors: Maria Goula, (studio coordinator), Director of the Master's in Landscape Architecture, MUP, ETSAB-ESAB, UPC; Ricard Pié, professor of Planning, expert in Tourism, DUOT; ETSAB, UPC; Patricia Pérez Rumpler, landscape engineer, MLA; UPC; Ioanna Spanou, architect, MLA, UPC. According to each year's theme the following guest professors have participated: Daniela Moderini, architect, expert in eolic parks and renewable energies; Michele Orliac, architect, MLA; UPC, Director CAUE Languedoc Roussillon; Purificación Diaz, architect, MUD, UPC, expert in planning. As assistants: Anna Majoral, architect, MLA; UPC and Margherita Neri, architect, MLA, UPC.

The latter is discussed through three different lenses: a. reinforcing of natural reserves that until now function as “islands” difficult to manage and sustain, by enhancing connectivity between pieces² b. the reactivation of the hinterland through the recycling of river landscapes, plots of agricultural land and other hidden or pre-existing landscapes or processes that have a potential of sustainable site-specific contexts for diverse leisure programs and new operative scenarios c. the introduction of new readings of this interior landscape.

These hypotheses have been developed at three different territories: Alt and Baix Empordà, both in the province of Girona, Spain and Port Barcarés, in the Languedoc Roussillon coast, in the south of France. The first two are located along the Costa Brava coast, Catalonia: this territory is characterized by both its cliffs, coves and islets as by the major plains generated by the passage of rivers Fluvià, Ter and Muga. In their alluvial plain is concentrated the grand majority of farms, urban and tourist settlements, major port and road infrastructure, as well as most of the beaches and wetlands of the province. The case study of Alt Empordà, by including two important natural parks (Cap de Creus and els Aiguamolls) addresses the incorporation of natural areas of recognized value in the draft of new tourist developments. The case of Baix Empordà, although of similar physiographic characteristics to those of its neighbouring region, is differentiated from the previous one due to the lack of conservation strategies applied basically due to an uncontrolled urban development³.

The Port Barcarés area, in France, is distinguished by the presence of the Salses-Leucate lagoon, elongated parallel to the coast about 14km long and 6,5 wide with a depth of 1,1m-3,7m high. The proximity of the lagoon to the sea creates a language or *Lido* where the main tourist settlements are located. On the contrary, the continental front of the lagoon has a thorough viticulture vocation.

Probably the most relevant difference between these three territories is that Port Barcarés belongs to Mission Racine⁴, whose operation of transformation belongs to a radical paradigm of exploitation and elimination of natural processes, a strategy no longer considered sustainable, not only because of the profound transformation of the local identity but also because it generates spaces of extremely high maintenance requirements since their design goes against natural conditions.

On tourism and landscape

Tourism and landscape form part of an interactive binomial of dependence: there is no tourist development without a landscape; it also seems that landscapes, especially those called cultural landscapes, need tourism as an economic activity to be sustained. Their relation is also that of

² Meyer, E. 1997. “The expanded field of Landscape architecture” in , Thomson G.F. and Steiner, F.S. eds., *Ecological Design and Planning*. New York: John Wiley. The American landscape architect, among others, sustains the urge to avoid binary thinking by working in between the boundaries of culture and nature.

³ The Master Plan of 1983 of the town of Torroella de Montgrí, and more over its revision subsequently carried out by architects, Rosa Barba, R. Pié, J.M. Vilanova (1997-2001, National Planning Award) achieved to interrupt the dominating dynamic of the urban occupation along the coastline, as well as, to assure the recovery of natural spaces such as salt marshes in process of urbanization.

⁴ From 1963 to 1983, the Inter-ministerial Mission of coastal development in Languedoc Roussillon, called "Mission Racine," created the conditions for development of tourism along the 240 km of virgin coastline separating the river Petit Rhône from the Spanish border. The goal was to make this region a direct competitor to the Costa Brava and the Riviera, diversifying the regional economy, far too specialized in the eyes of technocrats on viticulture. The servicing operation and development of tourism infrastructure is accompanied by mosquito control operations, necessary for the domestication of this marshy landscape and reforestation. The quantitative target of 500,000 tourist beds was focused on the creation of several "tourist units" separated by natural spaces. See: Pierre Racine, *Mission impossible? L'aménagement touristique du littoral du Languedoc-Roussillon*, éditions Midi-Libre, collection *Témoignages*, Montpellier

contradiction. Tourism, as an economic as well as a leisure activity, belongs to the abstract space of globalization, where one loses orientation, distances do not exist and one's relation to places is none. On the other hand, landscape is a locality per excellence, conceptually related to local identity and culture.

The euphemism "mature tourist destination" which is often used to refer to a dense occupation pattern whose programmatic offer is limited to activities related to the sea, confronts a moment of decline⁵. The coast, this informal relatively narrow three-dimensional fringe thanks to recent environmental research is worldwide considered one of the most interesting environmental frontiers due to its gradual change in time and space; that means a series of singular, however non permanent, biotopes resulting into a complex system of enormous dynamism and a constantly variable image. Unfortunately, first implementations of tourism in the Mediterranean coast ignored existing landscape values, affecting in several degrees the structure and functioning of the pre-existing landscape features (freshwater and salt marshes, pinewoods, river ecosystems, and even agricultural land). In other words, massive tourism developed as a substitute of landscapes that were considered neither productive nor valuable⁶.

Not only tourist activity worked with the paradigm of *tabula rasa*, seeing the coast line as a two dimensional space⁷, ignoring its complexity and heterogeneity; it also seems that massive tourism developed in the coast of the Mediterranean, especially in Spain, was building-oriented without special emphasis on free and green space, that means without design criteria for the outdoors environment of the residential proposal, using most of the time imported models⁸ which we could call precarious interpretations of a picturesque⁹ exuberance alien to climate, soil and local species' potentials. Tourism in the Mediterranean needed a fictitious, artificial imagery¹⁰ for the surrounding spaces of architecture since Mediterranean landscape values were either generic or not recognised as such¹¹.

⁵ In the Mediterranean socioeconomic processes of the development of the tourist industry have been precarious and certainly non-sustainable. Most of them operations of a low architectural quality are nowadays confronted to a process of decline, in other words, they present no means of attracting high standard tourists which consequently are migrating to other destinations (Croatia, Turkey, Greece, or even, the Pacific, Caribbean, etc.)

⁶ Environmental values of marshlands for example, were not socially accepted until very recently. In other words, the dynamics and informal patterns of dunes and marshlands have been a non legible context for architecture. See also Goula M. 2007. *Los otros paisajes; lecturas de la imagen variable*, chapter: "Sobre lo informe", PHD Thesis, DUOT, UPC.

⁷ Nassauer, J.I. 1995. Messy ecosystems. Orderly frames. *Landscape Journal* 14. pp: 161-170: "One of the key consequences of many contemporary human interventions in ecosystems is simplification in both space and time. Many of the keys to an ecological approach to design lie in the ability of designers to conceive of creative ways to restore complexity at both broad and fine scales and to cultivate an appreciation for "messy" ecosystems."

⁸ The landscapes of tourism are many but there has been an imaginary related to the coast which mixes the Mediterranean characteristics that of rocky cliffs with sandy beaches, pine trees and compact villages with 19th century colonial imaginary of palm trees with boulevards, miniature french parterres, and "evergreen" grass that northerners prefer to dusty sand.

⁹ The picturesque here is not discussed as a style, but as a mechanism of processes that decode and transfer data in order to recreate a reality that belongs to another space or time but it fits to the climate and natural conditions and processes of a specific site as suggested in: Goula, M. *op. cit.*, p.203. Also see Meyer, Elizabeth K., 2000. "The Post Earth Day Conundrum: Translating Environmental Values into Landscape Design". in Conan, M., (ed.). *Environmentalism and Landscape Architecture, Proceedings of the Dumbarton Oaks Colloquium on the History of Landscape Architecture XXII*. Washington, D. C.: Dumbarton Oaks Research Library and Collection, pp. 187-244. and Ábalos I.(2005). *Atlas de lo pintoresco* (vol. 1: El observatorio). Barcelona: Gustavo Gili.

¹⁰ The coast, due to massive tourism, was converted to a hard, artificial, dense space that tends to a stability forced by high maintenance. Finally, free space with no specific programme, was in general developed under the vague name of green space following trends of Anglo-Saxon gardening and landscaping in the picturesque manner.

¹¹ The issue of value is inherent in the term landscape due to the close relationship of the evolution of the significance of the term with representation (several authors remarked the transfer of values from pictures to the real and/ or constructed landscape). In regard to the issue of value in landscape there is still no tradition going beyond the historic one between culture and nature. In general, it seems that if there is no visible process that derives from a

Also, the response to the critique of mature tourism has not been sufficient. Conservation policies applied since the seventies and onwards, focused basically on the protection on natural reserves, especially mountains and marshlands, from a "static" point of view that did not include the need for securing the interchange of species, energy and material between the protected areas. However, no landscape approach or criteria have been applied to update the coast. More over, many mature destinations have initiated a process of diversification and specialization of their global product, being both the main strategies for survival of the sea and sun model, which is still the first attraction in the Mediterranean. However, besides the effort to adapt the various residential units to the new consumers' demands, almost all disciplinary efforts have been placed on renovation through design of waterfronts, marinas, or the improvement of public space, most of the times applying conventional urban design arguments, with the exception of the widely published recovery of the dune system in selected areas.

Geographers, specializing in tourism, claim of integrated tourism plans, planners claim for an urban planning point of view: mature tourism destinations in the future should be mixed sustainable cities equipped to fulfil the needs of their citizens, permanent and fluctuating. Even though an important progress has been made in terms of environmental protection, at least in Spain after the Law of the Coast (Ley de Costas 1988) there is still no built examples of designed tour-scapes that offer a new environment, as a basis for both a renovated tourist occupational pattern and an improvement of the ecological/landscape conditions.

The paper sustains that very little has been done in the direction of improving the environmental aspects of the tourist location's surroundings by recovering natural processes that have generated the aforementioned landscapes and are still there, ready to be revealed. It also considers that the design of the landscape has unfortunately been associated, practically in all cases in the approach of the landscape as a series of juxtaposed gardens, in the best case scenario, like a surface that is defined by "ground designs" that deal with programmatic issues: sports, leisure, restoration etc. and not as a design of a new hybrid natural oriented structure that would be the dynamic context of the new urban patterns.

This paper explores how the landscape paradigm can dignify and restructure the tourist offer in the Mediterranean and provide good practice for the future, especially in relation to its contribution to generate new imagery as well as to configure sustainability criteria. In a way, how landscape can become an operative "background" or even a "figure"¹² for cultural tourism. In a way it sustains that we can redefine picturesque; this will no longer mean a formal representation but a site specific recreation, which relieves the hidden operative site specific memory and contributes to the general ecology of the site. In this sense, the idea of reconstructing the memory of the site by reactivating natural conditions and therefore, integrate them into the design process is the main input for design criteria in all scales in order to provide a built environment which does not stand in representation of an ideal, or a common tourist imaginary but as one informed by the natural (evolving and changing) circumstances of the site.

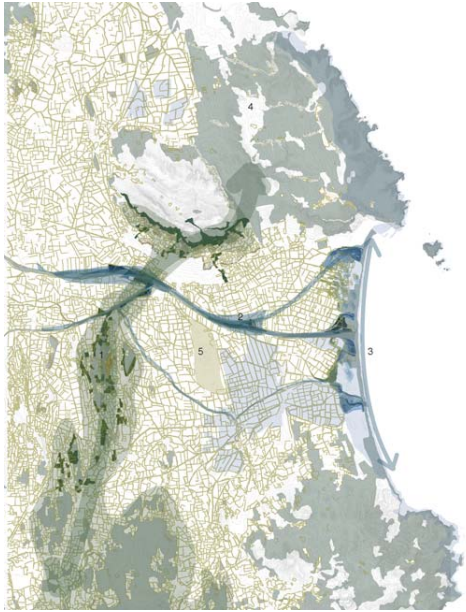
The second coast: a brief introduction

One of the most promising ideas in relation to the renovation of coastal tourism is the one that regards the idea of multiplying the coast line (and everything that is associated to its services, landscapes and program). The concept of a second coast has been roughly discussed, nevertheless basically in regard to the infrastructural opportunities¹³ that manage to interconnect in a more efficient way the interior regions

human action (according to a Kantian reading) there is still no much appreciation for environments that are not representations of a landscape but instead they are random fragments of landscape per se....

¹² Meyer, E., 1997, *op. cit*

¹³ The third coast, mostly explored in Andalusia, is an example of this idea



to the coast. In fact, almost all disciplinary efforts have been placed on renovating services, relating the model to its agricultural “hinterland”, augmenting basically their cultural offer.

Nevertheless, very little has been done in the direction of improving the environmental aspects of this interior landscape exploring its intrinsic tourist potential for development.¹⁴

Hereby there is an attempt to present and classify different developments of the concept of the second coast through landscape design concepts and instruments. These can be considered as certain strategies or means of diversification of the tourism offer, traditionally concentrated along the coast (See figure 1). Amongst them we would like to highlight the following:

The expansion of the dynamic frontier/the configuration of a wider transition¹⁵

The coast, the dynamic boundary between the terrestrial and marine systems, highly fragile, is struggling for survival in the fringe in between the long conquered by tourism beach and an intense agriculture activity. In the opposite way of Alt Empordà¹⁶, where the second most important wetland in Catalonia is found, in Baix Empordà, we encounter with poor evidence of what was once a rich coastal system: discrete sand dunes, patches of salt marsh, the river mouth of the Ter river and the Ter Vell water basins. In the case of the latter wetland, the physiological balance largely depends on anthropogenic pumping and vegetation techniques in order to prevent the eutrophication and / or drying of the basin.



(figure 2), towards a twofold objective: the recuperation of the ecological system by the cession of strategically chosen agricultural parcels, in order to create not so much a natural continuation (utopian goal given the structure of ownership and economic interests that derive from it), but a network of spaces that at least ensure the connectivity between its integrating parts, offering a whole new re-naturalized landscape image. The second objective, interweaved with the first, is the organization of people’s movement: along the beach, carefully through the newly established ecosystem on to the interior landscape and vice versa.

Nevertheless, the experiment is proved ready-witted: in the surroundings of this small artificial wetland, at the border of Estarlit village, a series of observation points of poultry are installed and actually complements the site’s tourism offer. The research results supply with some interesting ideas, proposing a quite radical restructuring of this landscape

¹⁴ The design criteria of the “Parc dels estanys” Park in Platja d’Aro, Catalonia, Spain, authors: R. Barba, R. Pié, J.M. Vilanova, is a clear example.

¹⁵ The authors consider that this proposed strategy, although it is not the most innovative contribution of the research should be included in this article, especially because of its holistic approach related to the regeneration of the ecological processes as well as the re-conduction of mobility in the coast.

¹⁶ In the case of Alt Empordà the ecological dynamism and values of this ecosystem is recognized through its protection as a natural park with thousands of visitors that come to enjoy this particular fest of singular bird’s observation. Unfortunately this is not the case in the rest of the sites.

The re-evaluation of the hinterland through the multiplication of the possible encounters with the water element along the visit in the interior landscapes: "the multiple coasts".

The drainage axes of the river system form an integral part of the coastal system, generating ecosystems characterized by freshwater input interrupting the longitudinal continuity of the coast. This water element, as a symbol of tourist attraction and excellence seems reminiscent: the recognition of tourism potential related to natural elements linked directly or indirectly with the presence of water, existing or to be revealed beyond the first coast line, is persistent in all case studies results.

The seeking for diversification of the tourist offer is orientated towards the recovery of these elements, firstly through the cession of the basic necessary condition they need to manifold: unobstructed space. Secondly, the design, recognizing the fragility of all the above natural system, introduces the visitor in a discreet background.

Perhaps the most representative example of this attitude would be the revelation of the hydrological axes as a unique opportunity of interconnection between the first coast line and the interior landscape. In all three cases the rivers are literally swollen by agriculture, limited to their minimal expression, channelled by concrete boundaries or moles, which permit almost no visual contact between the river and its surroundings. The existing river vegetation, composed primarily of invasive plants, offers a poor, homogeneous image of abandoned left-overs. The grand majority of the research study proposals focused on the recovery of the river natural dynamics mostly linked to their flood capacity. The breaking of their built limits and the cession of adjacent parcels results in the recovery of autochthonous woods and the improvement of this linear element in terms of its function as an ecological corridor. However, the recovering of the "impulsive" character of the river is often incompatible with the tourist uses that go beyond a mere contemplation. Therefore, in parallel with the actions related to the recovery of the river and its dynamics, quiet spaces such as pools and ponds are suggested, offering an "interior" alternative for the enjoyment of certain water activities. Finally, the linkage of these "areas of still water" with the creation of pools for sewage, converts them to both tourist and environmental infrastructures¹⁷.

Configured in that manner rivers are equally enhanced as a potential pole of sports and leisure but also as a unique opportunity of variability of the landscape image of the interior landscape, through the empowerment of their typical vegetation that creates a clear contrast with agriculture. What is more, the river acquires once again its traditional role as an ad-quo constant landmark that crosses the landscape and orientates its visitors, from the interior to the beach.

An exceptional alternative could lie on the premises of an extended concept of heritage. The case studies provide us with the following guidelines that go beyond traditional patrimonial poles and the architectural artefacts that denote the manner in which man has intended to domesticate these marshlands throughout the history. In all three case studies we encounter with a quite different, nevertheless interesting element: the signs of pre-existence of important natural elements (lakes dissected, streams and rivers that changed direction) still can be read through the aerial photo. The research study results converge in the recognition of the tourism attraction potential of the reactivation of the latent presence of these "heritage" elements: The most representative examples, which have been produced in the case of Baix Empordà, share a common strategy: the recovery of the water element through controlled periodical floods.

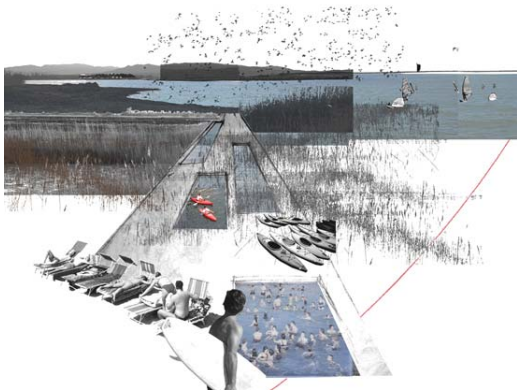
¹⁷ Izembart H. and Bertrand Le Boudec B. 2003. *Waterscapes using plant systems to treat wastewater* Gustavo Gili pp: 17-18. "The treatment plant thus becomes a place of discovery, a nature reserve, but above all, a production site"

The second line as a landscape of production: the seek for excellence in the configuration of a new paradigm

The predominant image of the interior landscape beyond the first coast line is occupied in all three case studies by an active agricultural activity. Situated on the tamed fertile river floodplain grounds, the agriculture has dominated over the pre-existing natural systems that once sculptured the landscape. Nevertheless, the phenomenon of a potential decline of agriculture seems every day even more probable, due to the abandonment of the activity by younger generations. The signs are already visible: properties are changing, becoming fewer owners with bigger estates, enhancing a lesser diversified image of the landscape due to the new implied technology.

In singular cases the agricultural production has been reconverted to a tourist attraction, as an alternative income source, as would be the case of the rice cultivation in Baix Empordà, where the visitor's interest is basically related to the traditional architecture premises dedicated on the process of rice elaboration and the consolidation of the related gastronomic offer in the area.

The working hypothesis examined in all three case studies was that the tourism potential of the agricultural plains would be reinforced through their restructuring as landscapes of a paradigmatic sustainable economical activity. The efforts were centralized on the improvement of the general environmental aspects, affected by the intensive agricultural activity in parallel with the high quality product control through a more sustainable agricultural model, introducing aspects of water purification and sustainable energy.



The case studies provide us with some interesting ideas towards this direction. In Barcarés case, the related efforts are concentrated along the limit of the lagoon (figure 3): the effort is centralized on the purification of the waters ending to the lake. In Baix Empordà, the already active rice cultivation is restructured through also the use of natural systems of water sewage in order to control the quality of the water that nowadays is used to flood the rice cultivation parcels, leading to a first quality product. In Alt Empordà the theme of energetic awareness is introduced through the wind energy in form of small scaled windmills used in traditional farmhouses. In the particular cases of recycling

of farm houses to small hotels of rural tourism, the windmills function at the same time as landmarks. The combination between the introduction of "natural" landscapes serving the improvement of the agricultural quality as well as the ecological conditions of the place, provide a way of multiplying the tourism potential attraction through the enrichment of the landscape image and process.

The second line as the experience of the plain



The research results point towards a quite innovating recognition of the aesthetic value of the agricultural plains as a succession of open spaces, with a variable image throughout the year (figure 4). These long extended platforms of a seemingly uniform and apparently random geometric structure offer unique visions of wide panoramas of the plain, punctually disrupted by tree lines introduced in the limits of cultivated plots, used as wind barriers. The research study results recognize this singular

experience of open space as valuable by its own means. Most projects orientate the attention on those elements that mark a visual difference, or seem to express certain legible and coherent meaning that aids to decipher the underlying structures or elements that form its particular character: irrigation and draining channels, discrete elevations where vestiges of natural vegetation still lay, remains of strips of spontaneous vegetation located in the in between of active agricultural parcels that underline the existing geometry and therefore the scale of the perceived landscape; a whole wide range of singularities ready to be revealed to the visitor, in combination with the ever changing image that marks the crops rotation throughout the year and of course, the already recognized heritage values present in the midst of the agricultural plain.



The projects are not bound at the point of the recognition of the intrinsic values of the plain or the detection of its constructive elements. The final objective is the organization of these significant variables in a pathways' network of a syntactic and semantic density, a coherent and interesting whole, legible and potentially experienced by the visitor (figure 5).

Conclusions

Diversity, complexity and the enormous dynamism of the littoral system in conjunction to the pressure that receives due to its potential as one of the most appreciated models for leisure, converts the coast to an especially stimulating case study within the search for new manners of renovation of existing tourist infrastructure. This new approach developed in the Master's¹⁸ in fact is the use of the paradigm of landscape ecological design in order to achieve compatibility between tourist infrastructure and healthy, strong environmental features through the knowledge of the relationships between spatial and temporal patterns of the site and their function.

The noble "gesture of retreat", or the benefits of "keep off of the fragile" remain valid approaches, especially in areas like the Mediterranean where the density of land use is high and where very often the limits of the valuable ecological spaces fail to be sufficiently broad in order to allow the manifold of the essential processes that determine their ecological integrity and the resilience of ecosystems to be spatially expressed within them. The occupation of the second coast line, breaking with the idea of "the closer the better" is an alternative approach to the development of renovated tourist backgrounds (contexts) or infrastructures (figures), which derives from this type of analysis. The potential spaces for the location of the hypothetical second coast line correspond to sites of a mainly terrestrial climate control with soft marine influence. These spaces are, in general, much less unique and less fragile than the coastal area itself, usually occupied by Mediterranean shrub communities, or agricultural crops and / or forestry activities of medium-low efficiency.

Tourism equal to Disturbance or Disturbances as opportunities

¹⁸ This line of research carried out in the Master 's program pursues the complex merge between techniques of design and analytical methods of ecology, based on theoretical references of planners and landscape architects as Rosa Barba, who actually introduced these issues in the design studio during the early nineties, professor Carl Steinitz, among others.

On one hand, traditional conservation policies have followed techniques of protection by isolation and avoidance of certain invasive uses. However, this is proved not sufficient any longer. This very same attitude can result simply conservationist if it is not reinforced and complemented by other approaches that assimilate a systemic vision of environment, rehearsed within the paradigm of landscape ecology. Those approaches avoid isolation and put emphasis on the relationships between the valuable "patches" and on their common processes.

On the other hand, if we apply the disturbance¹⁹ term as equal to tourist development, this may be considered capable to alter structure of ecosystems, communities or populations and more over, change the resources' availability. However, a system's capacity of self organization and its resilience to a concrete intervention is fundamental in order to design the development of any project related to natural dynamics. On the contrary of what Ian McHarg proposed, according to whom every ecosystem has an intrinsic fragility independently of the agents that interact with it, this new approach sustains that every ecosystem has different behaviours that depend on the diverse typologies of disturbance; thus its fragility is relative: "*When designs are considered as hypotheses, design processes and scientific inquiry can be more strategically aligned.*"²⁰ and despite the negative connotation of the term disturbance, this article sustains that the tourism development designs can also compensate and readjust previous impacts. Based on this hypothesis, the effort of inserting designed landscapes as new tourist infrastructures in these saturated spaces should initiate from the desire to make improvements in their performance, beyond acknowledging the rules of the generative forces of nature in order to avoid irreversible damage to ecosystems.

The rise of the sea level, due to climate change, causing a retreat of the coastline, the regulation of rivers along its entire length, reducing the contribution of detritus to the sea, deltas and estuaries and producing a negative sediment balance of the coastal system, the obstructing of the transport of material caused by the construction of ports, jetties, dams, etc. leading to a loss of depth in current and strongly modifying the current regime and deposition of sedimentary material, all these dramatically alter coastal ecosystems considered more valuable, but also jeopardize the tourist infrastructure constructed along the coast. The need for an integrated management of the landscape that covers large spatial and temporal scales is indisputable today, although trying to ensure the formation of dunes on the coast as a proposed new tourism development or improvement by dismantling a prey localized in various miles distance is certainly utopian.

Nevertheless, the landscape approach can explore the potential of site specific thematic parks or recreations of nature that diversify the offer and, at the same time, serve to attract attention and dissipate extreme use from delicate reserves from the pressure of massive tourism²¹. Or even, enhance groundwater recharge through retention and percolation techniques to balance the water flow failure of the rivers. It can also include environmental infrastructures such as river water purification basins, improving not only the quality of waters that form part of the coast tourism potential, but also creating diverse quality landscapes in the interior. The tourist project may definitely influence against the landscape fragmentation by reactivating mechanisms of circulation through the creation of connections or corridors between isolated habitats opting for, amongst others, the sponging of the consolidated and obsolete urban tissues.

¹⁹ White, P.S and S.T.A. Picket.1985. "Natural disturbances and patch dynamics: an introduction" in S.T.A. Picket and P.S White, editors. *The ecology of natural disturbance and patch dynamics*. Academic Press, Orlando, Florida, USA, pp: 3-13

²⁰ Johnson, B. R., Silbernagel, J., Hostetler, M. Mills, A., Ndubisi, F., Fife E., and Hunter, M.C.R., 2002. "The Nature of Dialogue and Dialogue of Nature: Designers and Ecologists in Collaboration." *In Design and Ecology*, Island Press. p. 343

²¹ *idem*

Finally, the disturbance agent can become a restoring one; a motor able to initiate, accelerate, slow down, interrupt etc. processes that act in the site. Only then the imagery of the tourist project will avoid ordinary, expensive to maintain representations of some distant ideal and will give back to the picturesque movement its original essence: that of artificially created site specific nature, in our case, Mediterranean water landscapes as tour-scapes.

References

Barba R. and Pié R. (1996) *Arquitectura y Turismo: Planes y Proyectos*. Barcelona: Centre de Recerca i Projectes de Paisatge (CRPP), DUOT, UPC.

Barbaza Y. (1988) *El Paisatge Humà de la Costa Brava* (vol. I y II). Barcelona: Edicions 62. (1^a ed.: 1966. Le paysage humain de la Costa Brava. Paris: Librairie Armand Colin).

Corner J. (1996) "Ecology and Landscape as Agents of Creativity" in: Thomson, G. F.; Steiner, F., (eds) *Ecological design and planning*. New York: John Wiley pp:80-108.

Foster H., (ed.). (2002) *The Anti-Aesthetic: essays on postmodern culture*. Seattle, Washington: Bay Press, pp. IX-XVI.

Izembart H. and Bertrand Le Boudec B. (2003) *Waterscapes using plant systems to treat wastewater* Gustavo Gili pp: 17-18.

Pie R. (2005) "Ara toca fer ciutat" in *Debat Costa Brava Congress: un futur sostenible*. Demarcació de Girona del Col·legi d'Arquitectes de Catalunya, pp: 50-88.

Steinitz C. (2002) "On teaching ecological principles to designers" in: *Design and ecology* Island Press.

White P.S and S.T.A. Picket (1985). "Natural disturbances and patch dynamics: an introduction" in: S.T.A. Picket and P.S White (eds) in: *The ecology of natural disturbance and patch dynamics* Academic Press, Orlando, Florida, USA pp: 3-13

<http://www.altour.uma.es/>

Credits

Figure 1: Masterplan proposal exemplifying the strategy of the "second" coast/ Course 2011/ Students: Carles Almoyna; Enrico Gorrea; Nawel Laroui; Víctor García

Figure 2: The expansion of the dynamic frontier of the coast/ Course 2011/ Students: Carles Almoyna; Enrico Gorrea; Nawel Laroui; Víctor García

Figure 3: Proposal: The limit of the lagoon in Port Barcarés/ Course 2009/ Students: Sergio Sanna, Marta Bianchi, Virginia Díaz Del Río, Lluisa Morao

Figure 4: Proposal: The experience of the plain/ Course 2009/ Students: Sergio Sanna, Marta Bianchi, Virginia Díaz Del Río, Lluisa Morao

Figure 5: Masterplan and pathways network proposal/ Course 2007/ Students: Sara Imola, Oihana Kerexeta, Gloria Gómez, Anna Majoral