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SPANISH COASTAL LANDSCAPES AFTER THE SPECULATIVE TSUNAMI

INTRODUCTION

During 1997-2006, Spain led the European real estate explosion. This stage has been seen as the largest increase of urbanised space throughout Spanish history, transforming the landscape as no other natural or artificial phenomenon had done before, especially in coastal areas. That is why many authors called it the speculative tsunami.

The construction fever ended when the real state bubble burst in 2008 and now is the time to analyse the causes and effects of an economic and social model organised around brick and mortar, without any respect for environmental, urban or landscape aspects. It is necessary to show the logistics that have fuelled real estate speculation to reach these limits and also the resulting spatial effects, with the aim to offer some possible ways of intervention to restore its territorial outcomes.

THE EFFECTS OF SPAIN REAL-ESTATE URBAN GROWTH MODEL: THE SPECULATIVE URBANISM

This period has been so intense and devastating, not only from an ecological, but also from a social point of view, that many experts in different disciplines worldwide have noticed it. Most of them have warned the citizens and the international scientific community, inviting them to reflect about its causes and its effects. All this research comprises a double value backed up with documentary evidence and supporting awareness of the real dimension of those landscapes. These landscapes may have an urban appearance, but that have truly been 'castles in the air'.

In fact, that was exactly the title that the German-American artist Hans Haacke selected to design the exhibition displayed last year at the 'Reina Sofía' Museum in Madrid. *Castles in the air*[1] revealed the failure of an extended model

of city production through his personal opinion about the Ensanche de Vallecas, a suburban area of Madrid. The exposed images managed to seize the visible and invisible characteristics of a desolating scene due to the unsatisfying, banal, disarticulated and soulless features that define this specific urban development. That is to say, sceneries without any social motivations, which keep no relation with the environmental and territorial structure, which lack a global vision and which therefore, also lack sustainability standards.

Meanwhile, the German architect Julia Schulz-Dornburg, in a book entitled Modern Ruins. A Lucrative Topography[2], published in 2012, describes twenty-five development projects 'with no connection with the existing urban fabric, of a considerable size, built during the years 1996-2007 and never inhabited'. The photo that illustrates the title page, for instance, shows the current conditions of the Fortuna Hill Nature and Residential Golf Resort (see Figure 1). This project was initiated in 2003 when Fortuna's Local Council, in Murcia, comprising ten thousand inhabitants, agreed to rezone some pieces of land to build dwellings for eleven thousand additional inhabitants. This development would double the total number of inhabitants in the municipality and it was carried out by means of simple land rezoning. This neither took into account its impact over the existing infrastructures and networks nor the surrounding natural environment. Between the years 2007 and 2008 the current housing was built and the activity went on until 2010, when the developer entered bankruptcy and later went into liquidation. The outcome consists of a completely urbanised battlefield, where urban orphan buildings, unfinished ones and a huge urban wasteland (much bigger than the village of Fortuna) live together. A ruined landscape, a territory abandoned to its own drifting.

1. Fortuna Hill Nature and Residential Golf Resort
Source: Julia Schulz-Dornburg, Modern Ruins. A Lucrative Topography

Unfortunately, this is not an exceptional case but just the opposite. There are examples of similar projects in almost every Spanish region. The amount of statements from the arts, science and societies, that have already condemned, and continue condemning, the 'no criterion' urban growth, are innumerable. These interventions were without criteria, because its only aim has been to go after profit, without considering common good. This period had its best friend in boundless urbanism. It is necessary to know the effects of this urban model and its variable characteristics as a means of reporting a foolish and absurd process but, above all, as an urgent disciplinary reflection to elaborate a new urbanistic model.

Changes in the occupation and uses of the land

The transformation of the land for touristic and residential uses and its complementary infrastructures has been felt in Spain since the 1960s. During the late 1980s and the early 1990s, a strong upturn commenced, with the height of its expression in the period between 1997 and 2006. For instance, the total number of dwellings that were started to be built in Spain during this decade was over 5.5 million, almost double the number of the previous decade.

In 2006, the Sustainability Observation Committee[3] in Spain published a research report entitled: 'Changes in the Occupation of the Land in Spain; Implications towards Sustainability'[4], which offers a very illustrative panorama about the transformations related to the occupation of the territory between 1987 and 2000. This period coincides with the real-estate boom. Despite these frightening figures, apparently, all this information may turn out to be irrelevant if attention is not paid to the environmental and territorial nature of the specific geographical contexts. A certain change in the occupation and use of the land, when it involves a more or less severe transformation, has ecological and territorial consequences that go beyond the mere physical vestiges of its transformation. This fact has favoured, among other processes, a relevant loss of biodiversity and, moreover, the increase of erosion of our territories.

Artificial land cover increased and fragmentation

The most harmful fact is not the extension of artificial land but its dispersion over the territory. While the traditional urban pattern in our country is characterised by being dense and continuous, typical of a compact city, during 1987 and 2000, the new urban pattern is characterised by lax set-ups and free-standing urban developments that represent 85% of the newly built areas.

This extension and dispersion of the urban phenomenon implies the ecological, functional and social fragmentation of the territory. The effects of that fragmentation increase the vulnerability of the undeveloped areas and they obstruct the social cohesion of those areas that have been developed. It deals with an inefficient model for both frameworks, yet the one preferred by developers during this period.

Long-shadow urban planning

Over this decade, continuous urban expansion at rates much higher than population growth has resulted in a massive urban footprint in Spain. For example the intensity of the building process has left its mark on the growth of the mining areas, which are also very important. Above all, those whose purpose is the extraction of materials intended for the building trade.

In the same way, the zones assigned to be dumping sites have increased, many of them being illegal. The recent rise of greenhouse gas emissions and energy consumption at all levels during this period is another indication of the lack of efficiency of this model. In addition, there is the distinctive feature that energy consumed comes mostly from fossil resources that are not only scarce, but also imported. Nowadays, it is generally accepted that the modification of a piece of land cannot be restricted to 'officially transformed' soils, that is to say, those that are already occupied, but it also affects that land that is involved in its development. In this context, this period presents a clearly unsustainable outcome which destabilises the natural and territorial environments.

Coastal developments

The number of homes whose construction began in this decade and, therefore, the amount of land directly transformed highlights the relevance of the urbanising activity in some regions over others. The Autonomous Community of Madrid, and Barcelona, Malaga, Alicante, Murcia and Valencia provinces are responsible for 41% of all of the dwellings that were started to be built in Spain in 1997-2006. Adding Almeria, Castellon, Tarragona, Girona, Sevilla and the Canary Islands, amounts to 13 regions where 60% of the newly constructed homes are located. This data gives an idea of the 'littoral focus' of the typical developments realised in this decade. The massive introduction of leisure, tourist and residential resorts has transformed vast regions of the Spanish coastal areas. This transformation has affected, not only the perception about coastal landscape, but also the system itself as a whole (soil waterproofing, fragmentation of habitats, biodiversity loss, pressure about the quality and quantity of hydric resources, pollution, waste production and urban sprawl, among others).

THE SPECULATIVE TSUNAMI

The urban explosion of this period and its effects can be seen from almost any part of the country, although, as in the case of tsunamis, the highest concentration and, consequently, the most damaging impact, have taken place in the coastal areas. Continuing the analogy of a natural phenomenon, this speculative tsunami has been the highest wavelength reported so far in Europe and, no doubt, it has prompted some of the most devastating effects[5].

In July 2010, Greenpeace studied the situation of the Spanish coastline after the real-estate bubble effects in its annual report[6]. The implications of this phenomenon on the coastal areas are the following:

2. Speculative urbanism and coastal areas
Source: Greenpeace

Consolidation of the strip that is closest to the coast as an urbanised sector (the first two kilometres), with the saturation of traditionally touristic areas and the reproduction of this model in other coastal sections that were scarcely developed until then.

The increasing and fast constructing colonisation of a second coastal strip (between 2 and 5 km, or even further inland in certain geographical and touristic areas).

The occupation of the interior of some coastal regions has also been taking place. In these cases, touristic occupation affects high and lower mountain environments, by using several building typologies that range from big residential complexes that are usually related to golf, to discontinuous residential areas.

In all these developments, must be added a growth of the risks of erosion, flooding and fire to the considerable loss of natural heritage and scenery.

The predominance of touristic dwellings, that are usually occupied and used with an intensity that is over the average during the summer seasons, involves high water consumption levels at certain moments and in the cities where the highest hydric deficit of the Peninsula takes place.

There are several reports that forecast clear warnings: within 20 to 40 years, Europe's Mediterranean Basin could experience severe

damage, in turn forcing the closure or economic demise of many coastal tourism destinations.

It has been revealed that a tourist offer based on increasingly congested areas, copes with more limitations to compete in a market as open and dynamic as the touristic one, in which the quality of the landscape is gradually more valued. Facts like human pressure and the deterioration exerted on certain essential tourist resources, such as beaches, have resulted in the most demanding visitors seeking new paradises. In certain areas of great touristic importance such as Costa del Sol, the term 'flight effect' is already being used.

THE URBAN COMPONENTS OF THE SPECULATIVE TSUNAMI

Many analyses, from an economic point of view have been carried out in order to find out the causes of this speculative tsunami. However, very few authors have looked into the nature of its urban elements. Many architects and town planners prefer to accuse the politicians and the financiers, instead of admitting that the urbanism which has occurred during these decades has been an accomplice and a 'necessary co-operator' of this boundless development. All those areas have been created and share analogue characteristics of spatial planning and development processes.

A dramatic urbanism

While in 1995 approximately 200,000 private homes and 60,000 government assisted dwellings were started, in 2006 over 800,000 dwellings were initiated, yet only 40,000 of them were part of the government assisted category. This data significantly expresses what has been happening during the last years and what has been widely broadcast by the media, that is, the production of residential areas in Spain has surpassed the total amount of dwellings built in France, Germany and Italy, countries whose total population is four times that of Spain.

In the central period of the 'prodigious decade'[7] of Spanish urbanism the annual volume of 'artificial land' grew up to 75.8ha per day; which means that during these five years, an area as big as Barcelona's enlargement was 'artificialised' every ten days.

An urbanism that thinks and acts locally

Contrary to the contemporary 'think globally and act locally' reasoning, and followed in an evidently short-sighted way by many experts and administrations, this model has led to the execution of local plans and projects which have neglected the assessment of their effects over the wider geographic environment.

This frenetic construction rhythm favoured a total lack of reflection on its effects over the territory, both over the natural system (fragmentation, biodiversity loss, natural risks increase) and over the urban one (regarding the disruption of mobility planning, the demand of endowment areas, facilities, water supply, waste collection etc.), paying no attention to the fact that the sustainability scale is eminently regional.

An a la carte urbanism

This progressive loss of planning as a public tool for a rational and sustainable use of the land and its resources has been facilitated by the changes which occurred in the normative and in the spatial planning practice during this period. No doubt this circumstance brought about the 'a la carte urbanism'. The new urbanism framework established by the 1998 Law was focussed on eliminating the "rigid factors" (as they were called by the politicians) that had been accumulated by spatial planning. What does this change means? The fact, is that its explicit purpose was

to make the increase of land offer easier, making it possible that all the land, in every place in Spain, that has not been incorporated into the developing process yet, can be considered likely to be urbanised (if there are no proven reasons for its preservation). But, as in Spain there was a lack of regional planning and the local plans had been traditionally made to grow, without considering the global scale.

The consequences were catastrophic. Hundreds of land reclassifications for new developments were carried out during this period with no regional framework to assess potential outcomes. The aimed flexibility of the new law has favoured dispersed and low density urban processes.

An urbanism that subsidizes the local Treasury

The governments, especially the local ones, experienced their most flourishing moment during this period. In a progressively clearer way, income derived from urban activities constituted one of the economic resources of municipal finances, maybe the most important of all. In this way, urbanism has become a means to obtain income to meet a wide range of public needs. Most of the time, its main objective, promoting a rational development and management of the city has been set aside. For this reason this period has been characterised also by the intensive use of 'planning agreements': something similar to 'barter', where local authorities got revenue in exchange for land reclassifications. These practices have attracted critical comments from the international community.

Planning based on a fictitious 'demographic demand' of residences

During this period, there has been no urban planning that has based its high expectations about first home dwelling on a judicious demographic projection. On the contrary, a demand related to leisure and residential tourism was also justified, together with the demand for a first home.

The motivation came from the selfish dreams of the municipal representatives, of the developers and many self-proclaimed town planners have 'invented' an endless number of 'leisure and vacation cities'. This situation has been fostered both by an increasing longing of the Spanish middle class to have a second home, and by the eminently touristic conditions of the Spanish economy within the European context. This longing is the fruit of the very favourable financial conditions offered by the market, which also attracted investors and operators from all over the world.

From a city for the citizen to a city for the tourist

A remarkable percentage of this fictitious demand was based on leisure time programmes that were directly related to the climatological conditions, the appeal of the scenery and the real estate profitability. 'A share of paradise for a modest price' was offered. This amounted to a change of paradigm which sets aside the traditional urbanism and gives itself over to the 'explorer spirit': people in search of new paradises. From a professional and ethical point of view, the direct consequence of this change is the creation of a conflict between land that is suitable for a rational growing (of our towns and cities) and land that is wanted by property developers.

Dispersed landscapes vs. diffused landscapes

During this time, the most generalised model consisted of huge, disperse and low density extensions. The vast majority of these homes

are detached from their inherited urban fabric and from the infrastructural systems. As a consequence, this model relies on private transport. Apart from the considerable consumption of land and resources for infrastructures, these changes on the urban patterns (from the traditional compact pattern, to the dispersed and diffused ones) have had an uncontrolled effect on the urban planned model.

Dispersed and diffused landscapes result in unsustainable models of organisation of the territory. The most characteristic effects of this model are fragmentation, increase of private mobility, intensity of building, morphological perturbation of natural systems, and deficiency of networks and local equipment (water consumption, waste management, etc.).

Landscapes as a product

These landscapes emerge as a stereotype of a banal ideology about the culture and the architecture of the country. One of its defining characteristics is the lack of recognition of the variables of the place: climate, topography, vegetation, dynamics, perception etc. It deals with products that have been 'pre-cooked' in the offices of property developers. This results in bland and banal landscapes that can be cloned and sold, regardless of the place. Just by being aware of some of the advertising slogans used in many of these real estate promotions it becomes easy to realise the typology that is hidden behind them.

Landscapes of illusion

Although many of these places were offered as idyllic resort towns where people could find everything they might want, they are actually mono-functional places (even if they are residential, commercial or touristic). Environments without a wide range of uses, where there is a lack of diversity and of meeting, working and production places, are leading to a disturbing loss of urbanity. That is the reason why many of these locations are deserted, like empty stages or theatres before the performance of a play.

Another consequence of these models is the remarkable growth experienced by industrial, commercial and service zones. These zones have replaced public spaces, such as squares and streets for private ones, such as 'department stores' resembling American malls.

Broken landscapes

This urbanism made of fragments dispersed in the territory has proved to be an inefficient model. The natural areas, but also the social and cultural ones need to be connected to make the system work properly as a whole. That is the reason why today there is international recognition that a landscape scale approach is fundamental to the understanding and management of ecological processes and the appropriate spatial framework for the analysis of sustainability. Among all the landscape urbanism proposals those focused on green infrastructures have become the central approach.

THE FUTURE: WHAT CAN WE DO NOW?

The economic crisis has managed to put the brake on this tsunami, but in its path, it has left a heart breaking scene. On the one hand, it is true that we have to coexist with these 'modern ruins', using Julia Schulz-Dornburg's reference. But this does not mean that we should not reflect about how to rectify them in search of more sustainable and efficient urban areas.

I think that it is necessary to re-construct the habitability and the society of a territory in a more equitable way and in harmony with the environment.

Re-classify to connect: The tsunami has left enough land classified for development for

35 or 40 years in its path. While the construction companies become entrenched, digging in their heels, waiting for better years to come, some experts are stressing the necessity of taking advantage of the real estate halt to protect this land. Scientific and ecological circles want to rescue this land in reserve to make landscape urbanism proposals for it by focusing on green infrastructures. However, this land has a certain market value, and is predictably placed next to the 'toxic assets' (were asset values are below mortgage debts). So this is not going to be an easy task.

Re-think. Finally, this period of crisis in Spain has left a whole generation of short-sighted and unsustainable local Master plans which need to be reviewed by taking into account an appropriate sustainability scale developed within a global perspective.

SOME EXAMPLES OF GOOD PRACTICES

I would like to mention some projects that have developed these ideas. I have chosen three types of projects related to coastal areas:

- At a regional scale: two Coastal Management Plans which I directed (Cantabria and Galicia)
- A spatial plan related with tourism: The case of Menorca
- An environmental and landscape recovery at Cabo de Creus

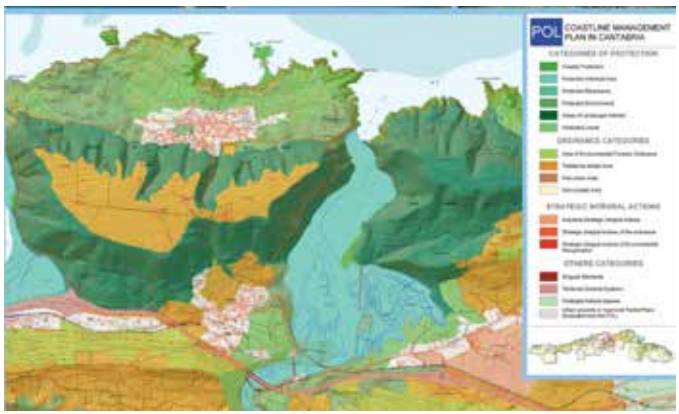
All of them have been recognised with national and international awards which show the interest of their methodologies and proposals.

The regional plans: Coastal Management Plans

The coastal areas do not only stand out for being the areas where the effects of the speculative tsunami have been more devastating, but also for being one of the first ones that suggested reacting against it. In this context, coastal areas have been a contemporary laboratory of techniques and tendencies for regional planning. Those large-scale plans are the best way of rethinking the territory at a global scale. At present, in Spain, almost all the regions next to the coast have implemented Coastal Management Plans.

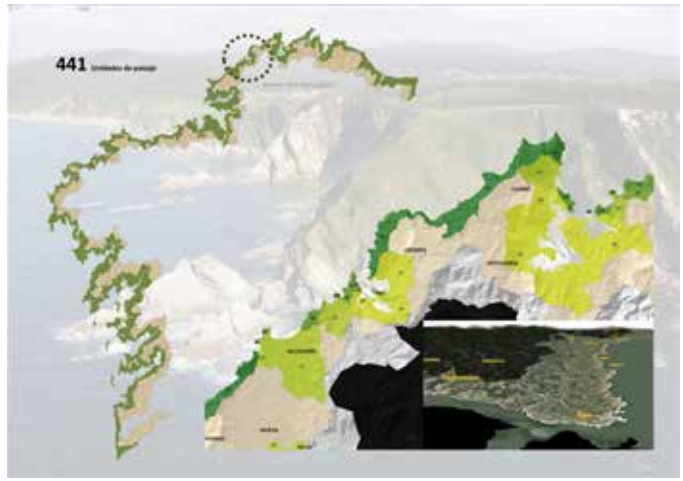
The Cantabrian Coastal Management Plan[8] was one of the first plans to try to stop the effects of the speculative tsunami. It is a regional plan approved by law since September 2004 for the government of Cantabria for its region in the north of Spain. This Plan establishes a regional spatial model that considers some concrete protection regulations, planning criteria, strategic actions and intervention suggestions. Thus, it deals with a plan that not only protects (re-classifies) but also organises (re-thinks).

For this, it defines its own coastal area (several kilometres off the coastline) mainly linked to the existence of physical phenomena related to marine dynamics; it also defined a series of interventions whose objective is to re-qualify some specific areas and to recover the environment and the landscape of certain fragile and valuable environments.



3. Example territorial mapping model of the Cantabrian Coastal Management Plan
Source: POL

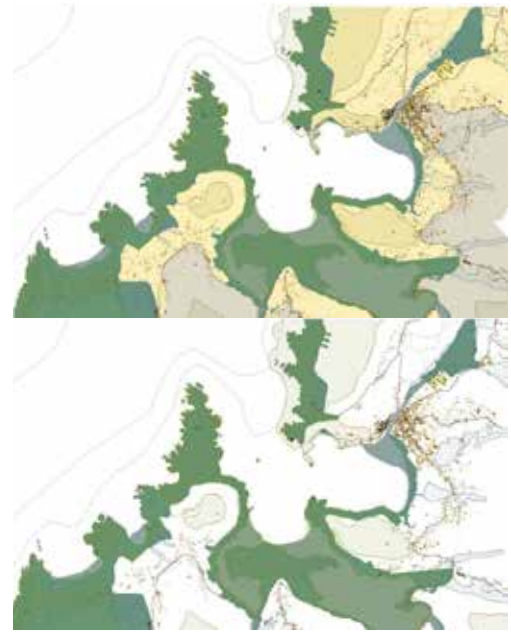
Also at a regional scale, some years later, the works carried out during 2008-2011 developing the Galician Coastal Management Plan[9] allowed us to implement some of the key components described in this article. We use the landscape approach first to define the scope of the study, together with the types of costs and sectors and units (see Figure 4).



4. Example territorial mapping model of the Galician Coastal Management Plan
Source: POLGA

The aim of the proposed model proposed was to define the territorial structure to garner all the wealth and particularities of every aspect of the landscape, by identifying where the different elements which contribute to this structure relate to, and complement each other, Thus, the areas which connect places with similar characteristics in a continuous way within the region contribute to connecting the discontinuous areas shaped by different elements of interest - landscape, geomorphological and natural - into corridors.

What I want to stress here is that the plan design consists of a green infrastructure utilising a layered approach from regional to local scale. The proposed green infrastructure network mode is composed of elements of the natural dynamic of coastal and ecological corridors. Besides, this network is complemented by a group of elements of cultural heritage, tangible and intangible which form the 'brown infrastructure'. Both networks are drawing up an environmental and functional 'skeleton' for the plan (see Figure 5).



5. Example territorial mapping model of the Galician Coastal Management Plan
Source: POLGA

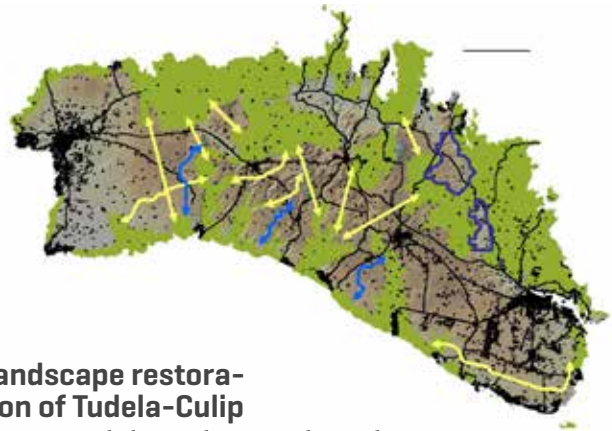
All of these plans arose as a reaction to the way Spain was changing the coastal landscape at the moments of greatest intensity of the speculative tsunami. These plans re- classify land by protecting vulnerable and sensitive areas; re-think local planning by establishing mechanisms to prevent the dispersion and diffusion of territorial construction, and re-connect the natural and social system by proposing a green infrastructure that enables the integration and coordination of policies into the territory's environmental functionality.

Land use and tourism: the case of Menorca

Menorca is a relatively quiet island but during this decade it developed and increased tourist resorts and residential areas. These processes needed to stop on this island, as it was one of the most natural areas in Spain. Political cooperation and coordination between the different levels and scales of government of the territory was very important, but Menorca´s plan was only possible thanks to a solid professional team led by the architect and urban designer Jose Maria Ezquiaga and the geographer Rafael Mata. This plan is highlighting their important contribution to the protection of the nature and of the landscape of the island. Nevertheless, I also want to stress here the proposed intelligent management of tourism and space for urban development. Without it, classical conservation actions would be difficult to achieve as would de-contextualised global sustainability. The reduction in land available for development has been accomplished, after careful legal and environmental analysis, by declassifying some developable land that had no established urban rights or where deadlines had expired. This land has become reclassified as protected, but the main objective is not only to protect, but also to connect natural environments to make the system work as a whole and restore its ecological functionality.

In response to the housing boom, the Plan aimed to reduce the number of places buildable to a horizon of 10 years following the approval of the plan. This is a technical survey, but also a social and political one. The previous provisions, approved from an expansionist perspective, had not taken into account the natural heritage of the island. The motivation for this decision reflects the findings of previous studies, showing that the capacity of the territory was being exceeded, or was about to be, in relation to the balance of certain natural resources (water, biodiversity changes, status habitats, etc.) Further, recognising the frustration of many of the island's tourists who were discouraged by the loss of quality and resources, the plan chose a tourism model based on the quality and uniqueness of Menorca.

This change of policy has not only prevented ground clearance, but is also planning the construction pace of new developments. The aim is to avoid an eventual depletion of the growth potential in a few years, and to guarantee the ability of the territorial system to integrate new developments. Thus, the tourist proposal is consistent with the ecological sustainability plan that makes it one of its priorities. This integrated view is a guiding methodology of this plan, as it does not only gamble on urban planning but goes beyond by integrating spatial planning and tourism.



6. Example territorial mapping model of the Menorca regional plan: connect and expands natural protected areas, preserves cultural landscapes. An ecological approach coordinated with a renewed tourism: 'restrict to change'.
Source: PTI Menorca

Landscape restoration of Tudela-Culip

In 1962 Club Med opened its doors in Cadaqués (Girona), in a unique coastal location of geomorphological interest and beauty. For this reason in 1998 the area was declared a Natural Park of Cabo de Creus. This place was also loved by many artists like Salvador Dalí. for its geological forms. It was a resort town for French tourists in the eastern tip of

the Iberian Peninsula, in the Punta de Cap de Creus. It was constructed as a private holiday village with 400 rooms that accommodated around 900 visitors in summertime. In the summer of 2003 it was permanently closed, and in 2005, the property was acquired by the Spanish Ministry of Environment to dismantle the resort and restore the affected natural space and to erase the imprint left by urban development.

In 2008 the restoration of the site from Tudela Culip-Club Med began. The landscape project was made by the office of Ton Ardèvol and Martí Franch. This project is a showcase for landscape driven nature restoration projects[10] (see Figure 7).

The project included 5 lines of intervention:

The removal of Invasive exotic flora planted for gardening.

The selective deconstruction of the buildings with innovative and respectful deconstructive techniques.

The management and recycling of 100% of the 45,000 cubic meters of construction waste.

The revival of the ecosystem dynamic by remaking the topography of the original site and re-establishing runoffs and sediment exchanges between land and sea.

The discovery and social value of landscape, what the authors called: the visitor's choreography around three main interventions

7. The project turns a demolition order into a creative landscape restoration development.
Source: Paisea

(path system, a network of viewpoints and the animal-rock identification and the double perception).[11]

CONCLUSIONS

These projects are just a small sample of the concept of landscape as a medium as conceived by Waldheim.[12] They add to the understanding that the concept of medium has to do with its double role, as a framework for connectivity conditions, (physical, chemical, biological, sociological, etc.), and as a spatial project itself. It allows us to set up concrete actions and carry out projects based on a new architectural concept of time and space in a sustainable way. There is still a long way to go to return the previously lost ecologic and social functionality back to many areas in Spain. This has to be a steady, scientifically motivated programme, able to provide the territory with legibility, functionality and structure. We encourage to move ahead with planning decisions which arise from a sustainability and landscape scale.

8. The project's approach is based on the narratives and interpretations put on the landscape by scientists, artists, fishermen and kids, reinterpreted in a didactic playful way. Example of viewpoint
Source: Paisea

1. Hans Haacke, Castles in the Sky, Reina Sofia Museum, Madrid (15th February – 23rd July 2012).
2. Julia Schulz-Dornburg, Modern Ruins. A Lucrative Topography. (Barcelona: Ámbit, 2012).
3. The Sustainability Observation Committee in Spain (OSE) is an independent project which became operational in February 2005, as a result of an agreement endorsed by the Ministry of Agriculture, Food and Environment, the Biodiversity Foundation and the General Foundations of Alcalá University. The OSE shut down due to lack of funds on the 31st May 2013.
4. The Sustainability Observation Committee in Spain, Changes in the occupation of the Land. Implications for Sustainability. Main Outcomes at National and Regional Level (Madrid: Ministry of Environment, Alcala University Foundation, 2006).
5. Ramón Fernández Durán, Spanish and Worldwide Developing Tsunami (Madrid: Cities towards a more sustainable future, 2006). http://habitat.aq.upm.es/boletin/n38/arfer.htm
6. Greenpeace, Destruction at any cost 2010, http://www.greenpeace.org/espana/es/reports/100709-04/ http://www.madrid.es/
7. Eugenio L. Burriel de Orueta, The Prodigious Decade of Spanish Urbanism (1997-2006), online magazine on Geography and Social Science Vol.XII, num. 270 (64), 1st August 2008. http://www.ub.edu/geocrit/sn/sn-270/sn-270-64.htm
8. The Cantabrian Coastal Management Plan is the first plan for littoral management that I had the honour of managing: http://www.territoriodecantabria.es/Contenido/plan-ordenacion-litoral-pol/43, was first prize in the Vth National Urbanism Prize at the Law, Urbanism and Nature issue, 2006.
9. The Galician Coastal Management, directed by Manuel Borobio and Miriam García García. http://www.xunta.es/litoral/index.php?lng=es, has been awarded as Good Practice 2012 by the Comité Un-Hábitat, and First Prize in the XII Biennial of Spanish Architecture and Urbanism, 2013.
10. In 2012 this project received the intervention Award VII European Landscape Biennial and has been the only European project chosen by the American Society of Landscape Architects (ASLA) among the 9 best landscaping projects in the world.
11. Traditionally fishermen had identified rock formations with animal names for their orientation, as Dalí did and Kids still do. The project, proposing a game of perception, constructs a sort of 'lecterns' outlining the 'animal-rocks' silhouette. (see: http://www.emf.cat/new/index.php?op=detall_projecte&id=184&idioma=eng&ca=8)
12. 'Landscape is a medium (...) uniquely capable of responding to temporal change, transformation, adaptation and succession'. Waldheim, Ch. (2006) 'Landscape as Urbanism', in Waldheim, Ch The Landscape Urbanism Reader, New York: Princeton Architectural Press, 39.

REFERENCES

1. Waldheim, Ch., ed. (2006) The Landscape Urbanism Reader, New York: Princeton Architectural Press.

2. Borobio M. and García M (2011) 'Landscape on transformation vs reason and sense. Mapping as a tool for Land Planning and Sustainable management' in Ezquiaga J.M. and Domínguez L. Transformaciones urbanas sostenibles (Sustainable urban transformations). International Menéndez Pelayo University, 38-66.

3. García M. and Borobio M. (2012) 'El paisaje como medio para la planificación territorial' (Landscape as a médium for regional planning) in Ciudades nº15. Institute of Urban Studies of Valladolid University. Land Planning, foundations and practice of a discipline in process, 115-132.

4. García M. and Borobio M. (2013) 'Landscape as a framework for coastal areas' in C.Newman, Y.Nussaume & B. Pedroli (Eds). Bandecchi & Vivaldi/ UNIESCAPE, Landscape & Imagination. Towards a new baseline for education in a changing world. Conference, Paris 2-4 May 2013, 401-404.

5. García M. (2009) 'Pla d´ordenació del litoral de Cantàbria' in Paisajes en transformación (Landscapes in transformation). Llop C. (coord.). Barcelona Council, 411-413.

6. Schulz-Dornburg, J. (2012) Modern Ruins. A LucrativeTopography, Barcelona: Ámbit.