

## **TRANSGRESSING EDGES AND DOING TIME**

Lecture for 4<sup>th</sup> European Landscape Architecture Bienale

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### **Introduction**

I have been asked to provide an “outsiders” perspective on an aspect of European landscape architectural production. That perspective is from the other side of the world, from Australia, where I am a landscape architect, academic and critic, and currently, student. A useful place to start such an overview is right here, in Barcelona, the place where I first became interested in my current PhD topic, and the subject of this lecture – change in landscape architectural design.

I came to Barcelona for the UIA Conference in 1996. I was very excited to be able to visit the urban projects that I had found in Quaderns. Somehow here architects were able to see things about the landscape, that the professionals, the landscape architects did not see. Visiting these projects, I was generally however faced with degradation. They were falling to bits as “designer” materials and details were proving unable to withstand the diverse and subversive use of the public they were designed for. They seemed to be provisional outcomes, to be tests. They were treating the city as a laboratory, an approach which I now believe is appropriate. I was disappointed however by the lack of a meaningful plant or horticulture component, to mediate a generally hot climate. In this architectural language of landscape, vegetation assumed the role of architectural objects, to be strewn compositionally around, like a bin or a light. Expensive, over detailed canopies rather than trees were used to moderate temperature. Areas of grass, or garden beds of plants, when they were used, were poorly maintained. Overall, these fledgling projects seemed older than their years – urban relics, designed terrain vague.

There was one project that I was very excited to visit – the Valle de Hebron, by Eduard Bru. The design of the Valle de Hebron strictly utilised the topography of the landscape and infrastructure to structure a matrix of activity. Architecture became a device for negotiating the grade – making the whole valley a topographical megastructure. When I visited the project, many materials were failing, due to issues of maintenance. Unlike other projects however, the vegetation at the Valle de Hebron was doing very well. Wide swale edges had been colonised by rushes and reeds. The design had created form that allowed the conditions for such growth. This form had been able to engage the natural processes in the site and those processes were now producing new forms. To use an American jingoism, the vegetation was “value adding” to the design. The contrast between a building degrading vs growing producing approach was patently clear. Ironically, the kind of regeneration the Australians were after was not occurring in Australia, but was occurring as a by-product in Barcelona.

During the UIA Conference delegates from European Colonial countries, of both Spanish and English descent ended up socialising. While the conference had a focus (amongst many) of intervening in old and historic cities, for many delegates from colonial countries, this focus on oldness was at odds with the conditions and issues we were facing back home. These were to do with indigenous landscapes and vegetation, and with indigenous peoples and their historic cultures. We all wanted to develop some form of culturally and environmentally specific design language that spoke uniquely of our places, separate, but admired by the old world.

Since the 1960's in Australia, Bruce Mackenzie has been hailed as a uniquely Australian landscape architect. He created a language of landscape architecture for Australia that is as invisible as it is unique. It is pertinent to quickly discuss his work, since it goes a long way to explain my fascination with the reeds at Valle d'Hebron, and isolating a key difference in approach between Australia and Europe in their approaches to regeneration and design. In preparation for this talk I

revisited one of Mackenzie's biggest projects: a park and remediation effort on Botany Bay. Mackenzie recreated what he assumed was the original dune configuration, manipulating the topography with precision. Amongst this he planted indigenous species. The assumption was that they would simply regenerate themselves once they were taken "home" and the park would assume the position the dunes had once had in the estuarine ecology of Botany Bay. Revisiting the site twenty years later, the planting was reaching its end, and weeds rather than the indigenous species were regenerating. Botany Bay Park was growing on its own, but it was not growing like it was supposed to. It was turning into a mongrel beast. To my eyes as a former native plant cult member, it looked all wrong. The weeds were winning. The Australian flora has developed to deal with very harsh conditions. The exact things that Colonial development had sought to ameliorate were necessary for native plants to regenerate. It was ironic that the plants brought over for gardening do better than the plants that were here originally, and that the efforts of gardening now must be used to maintain the native plants.

In Europe, however, on that trip to Barcelona, I was struck by the fact that the reeds that were growing at Valle d'Hebron were probably weeds, but regardless of that, they were growing and contributing to the design. It struck me that Europe was a cosmopolitan place, a place where people and organisms had been moving for thousands of years. This seemed to lead to an attitude where growth itself, rather than a biologically arbitrary classification such as native / non-native, was valued as the central property of vegetation. I have now realised that humans can impose an ideology on nature, but it won't respond with one. Its logic is strictly pragmatic and ecological. The physical does not care about ideas, although it will interact with them when they become physical.

My argument built almost entirely from reading European projects. My most basic interest in European landscape architecture projects that involve change and regeneration in their design form, is specifically because they are not Australian. These projects allow me to look at vegetation without getting stuck on whether the vegetation is indigenous or not. It liberates me to look at something I am unfamiliar with, and hopefully, this allows me to determine something of the key to the question. It is quite weird to speak to a room full of Europeans about their own productions, particularly when I have drawn most of my evidence and deductions from secondary sources, mostly journals, many of which are also published in languages I do not understand. Some of these projects I have visited, other I have not. Mostly I have been reading images. Consequently, my arguments are speculative. I ask for your forbearance, as locals, for this reason, but trust that the argument itself, and the distinctions I am making within it, will be relevant to you.

## **Change**

I am researching change in landscape architecture and studying these projects for techniques and strategies that they use to engage change. I believe that change is both a form, and a form making device that is specific, unique to the discipline of landscape architecture as a design discipline. Being pragmatic, I am specifically interested in change in vegetation, and land form and its surface. These types of change are most apparent in the life of the designers. I try to talk almost exclusively about built projects, since change is only change if it has happened in the world. When I use the term "change", I am using it as a verb, "to render different, alter, transmute". However, in Western philosophy, change is perceived to be synonymous with time. Despite this emphasis on Time, as a system of measuring, over Change, as that which is measured, some philosophers have focussed on Change itself.

Heraclitus famous dictum was: "Into the same river you could not step twice, for other <and still other> waters are flowing." He posited that all there was was transformation, and that any thing was different at any time, there was no universality that persisted across time. The 19<sup>th</sup> century French Philosopher, Henri Bergson critiqued the way that Western Philosophy accounted for time.

He characterised its account as “difference by degree”. That is, that Western Philosophy generally saw change as linear, where something effectively becomes “more” what it is over time. It prioritises “essence” over change. In contrast, he proposed that what time did was to create “differences in type”. Something was completely different after the effects of time. Bergson's view of difference in kind, rather than degree, is important to the following discussion, because the way that landscape architecture has traditionally dealt with time has been to see change as by degree. That is, the plant starts as an immature example of a species, becoming a mature one. A view of difference in kind would be to value that plant as simply as it is at that time, rather than deferring the value of the present to a later maturity.

## **Vegetation as a Material**

The current discourse of change in architecture and landscape architecture, for built projects, centres around the idea of living materials. It is already possible to make some generalisations about this kind of work. With the rise of sustainability in architecture living vegetation has become a functional raw material, thought of in terms of a sheer volume of transpiring organic material. This volume has now been broken into areas, into surfaces, square meterage. Architecture is mobilising to catalyse its entire surface, notably roofs and walls, to make it a living, breathing cyborg. Rather than being comprised of independent organisms, much of the architectural work treats vegetation as a static material, no different from bricks, thought of in terms of technical performance, and its objective qualities. The growth of the vegetation is a technical issue with new construction and maintenance systems that closely match the requirements of species. This technicality is being developed with greater and greater precision, however these technologies have the threat of becoming like hydroponics, or battery farmed chickens, creating weedy monocultures. Other technical issues are involved also, since it is difficult to limit natural processes once they are admitted: membranes on pools break; soil gathers in openings, opportunistic organisms occupy niches. My problem with this technical approach is that it does not recognise the potential of vegetation to create novelty in designed landscapes. The surface does not feed back or move past its container, or its limited brief. By novelty here, I mean it offers the spontaneous production of innovation and surprise. It offers serendipity.

In contrast to this use of vegetation as material, in Patrick Blanc's work there seems to be an emphasis not on a uniformly performing and consistent material of one species, but rather on the construction of containers for ecologies. Conditions are created that allow certain species to thrive, and importantly regenerate. Other species that typically occupy these niches are also introduced and interact with each other to configure the surface, “self-organising”. These species deposit organic matter through their own decomposition processes, and in turn begin to affect the container. While more in the language of an artwork, a project by Gustav Lange in a courtyard in Berlin illustrates this effect. Simple, perfectly cut stone monoliths are placed in the centre of courtyards, which are exposed to the weather and the seasons. They get rained on. During winter they crack and are eroded. Wind borne seed germinates in eroded areas. Over time, the monolith collapses and transgresses its original boundaries. A new form emerges, that changes the design of the space. At this point, novelty is created, and how that novelty is dealt with determines whether the vegetation is seen as a material. If the container collapses and is replaced, this is a catastrophe for a material. However, if the degradation of the container is directed but allowed in the design, perhaps it is novelty. Its change is set against the constancy of the otherwise robust landscape materials that surround it. However in this instance it is a monument to change.

In these and other projects I will discuss, I am not proposing a total naturalism or abandoning design. But I do think that vegetation, and how it interacts with other systems, can be a form making machine in its own right, utilising the inherent productivity of natural processes. I refer to this process later as “working from a distance”, however there are precedents within the history of

landscape architecture for working with change. Simply, there is gardening.

## Gardening

A landscape architecture engaged with change must recognise and influence forces that happen in time. Such an approach recognises that activity itself is a form shaping device. In conventional landscape architecture, the designers real involvement in the project generally stops after a year of its constructions. Landscape architecture, like architecture, is an office practice. Subsequent maintenance actions are also a form of activity that has a huge impact on the way that a project will develop, and indeed, what it will be. Cultural forms of systematised intervention in natural systems are no different from natural ones. Ecological processes are used by humans in gardening. Techniques such as pruning to create form from an organism – a tree – have no less formal quality or precision than does a well executed steel detail. What is different though is the relationship of the designer to the element. The gardeners engagement is directly with the plant. Gardening offers a form of precision with plants that the landscape architect rarely has. But to utilise the precision of the gardener, landscape architects may need to change the way they practice.

If gardening is a form language, then it has entirely different relationships with its media – plants. Landscape architects engage plants simply as singular items, where the key choice is selection and prediction of future form. The gardener in contrast responds repetitively, iteratively, to how the plant is changing over time. The gardeners decisions engage with certain possibilities within the biology of the organism. Sven Ingvar Anderson's personal garden at Marnas comprises a series of hawthorns that are seemingly randomly placed on a lawn outside his back gate, that he has pruned into the shape of chickens. Anderson considers the growth of the plants and and his (the Gardeners) response to them in terms of making form. To quote Spirm: :

“Andersson foresaw a time when he would no longer have the strength to “hold clippers or climb up ladders” (regarding his topiary of hens, cut from hawthorn). (He says) “I have a definite idea of how my hen yard will end, but a lot which lies between *now* and *then* is an open plan...A lot can happen before the hen yard becomes a hawthorn grove”

In considering the potential form of these Hawthorns, Anderson starts to characterise a type of design thinking, of form generation, which is an interaction between gardening technique, plant form and physiology. This is an action-reaction, chicken and egg, model of design. Anderson has written:

“the hawthorns permit enormous variation, from metre high closely clipped to the freely growing 20 foot tree. But not beyond those limits which lie in being a hawthorn.. this can vary a little bit and give each plant its unique individuality, yet still ensure similarities in form and mode of meeting external conditions”.

This is a particular type of accuracy. It is a kind of generalisation, a range of possibility. An action on the vegetation must understand how vegetation will respond to that action, and accept that the response will be in a range of desirable outcomes, but never exactly as one plans. In constructional terms, to work with vegetation in this way is to work with large tolerances. It is to work with trends rather than absolute outcomes. Equally important though in Anderson's example is the fact that the development of the grove was dependant on his own activity, over long periods of time, the time of his own life, in his own space of habitation. To work with clients and projects over long times, designers must have a part of their practice that can work outside the realms of strict and conventional project delivery. A number of projects by Pascal Cribier seem to work in this way.

Cribiers practice seems to regard the garden as fundamentally important to landscape architecture,

both as sensibility and technique. In his project for Donjon de Vez, the periodicity of the seasons in relation to plants, and the periodicity of a maintenance technique produce a type of form that one could not produce in traditional landscape architecture practice. The garden is constituted mostly of horizontal surfaces of grass, through which, in un-mown sections, grow flowers. In this project, Cribier uses two different mowing heights, rotated across different parts of the surface. Since bulbs are planted in the turf, allowing one section of turf to grow tall for a time allows bulbs to grow unhindered. This surface has invisible zones of flowers throughout, that are concealed by the mowing practice, which is rotated in relation to seasonal flowering cycles. This design uses the pattern to engage ecological relationships of the plant material. Critically for my argument, it is only through engaging with non-design processes, that is maintenance practices, that this form and the complexity could be developed. To do so, Cribier has re-conceived what is the traditional scope of landscape architecture practice.

As one moves into a time based practice of landscape architecture, the precedents that one discovers are generally from the realms of art. This is because art is a practice of making, and also because performative approaches to installation are now an acceptable part of art practice. While in landscape architecture discourse art is held up as a type of liberation, the following project by an artist has a direct relevance to a time based practice of landscape architecture. This is both because the methods are clearly ecological, but also because they engage social and political processes that are regularly engaged by landscape architects. In my view, the social and political forces exerted on a site are no different in their form making capabilities than the ecological.

Since the mid-1980's artist Louis le Roy has been building what he terms an Ecocathedral, on an agricultural paddock outside of Heerenveen, in Freisland, in the Netherlands. Le Roy has arranged for regular dumping of masonry products that have been demolished from urban projects. With these products Le Roy has constructed follies, that others have described as "tables". Around these structures, plants have regenerated according to the conditions that are created by the constructions. The tables have orientations that are affected by aspect, and thus create both hotter and cooler micro-climates around them. Their orientation also creates spots exposed and sheltered from the wind. Their dry and openly jointed construction allows them to catch water, as well as silt and seed. Over time forest has grown up in between, and in, the tables. This is the nature component, but Le Roy is very clear that his is a cultural response. He builds. Then nature responds. Then he responds. For Le Roy the ultimate aim of this collaboration is the production of novelty, of new things.

Over the last 30 years Le Roy has gotten older, and the site has also been appropriated by many others. Le Roy regards site occupation as another force that creates the form of the project. Access causes compaction and pruning of vegetation. Visitors are expected to find their own way through the complex, thereby creating their own mark. Neighbors sweep leaves to create ephemeral paths, and visiting landscape architects sneak in pieces of vegetation to colonise niches. A Time Society has grown up around Le Roy and the project, to continue his work as he stops being able to do so. This organisation has thoroughly studied Le Roy's work and writings to determine principles and lessons for "Time Building". The site has, through its own aging, become a laboratory of degradation and regeneration. The Foundation has recently gotten a hundred year contract for a new urban project using this method in Heerenveen. Such a project will provide a paradigmatic test of this method in a non-naturalistic or urban setting. This project has created a device that ensures its life and transformation over a long period of time. It has done this by mobilising the same community that designers regard as the most annoying during the public stages of a projects development. It has engaged them because the project has a conceptual base that the community can involve themselves in. What we can also learn as designers here is that it is possible to build into a project other processes, in the social realm that will perpetuate the trajectory of the project. Perhaps this could only happen in the Netherlands.

## Working from a Distance

From the perspective of the office there are precedents for how a project might engage the productivity of change as form making device. Forms can be catalytic strategically.. I refer to this as “working from a distance”. Working from a distance involves designing frameworks that direct and regulate natural processes. These processes then respond in kind by producing new form. The design act is in influencing this process.

The main precedents for this approach are from projects that are on the sea land edge, and use wind, to move soil and control deposition. Projects by Bruel and Delmar and also by de la Riguera do this by creating permeable fences through which the wind blows, depositing sand and seed fences. In the Bruel and Delmar project a grid geometry is utilised, while in the de la Riguera example, an exaggerated dune complex is used for the fence arrangement. Littoral landscape processes create erosion and desposition, through the action of wind and of water. Small changes in the dunal form have big impacts on wind direction and speed, and thereby also accelerate dune form, which again in turn affects wind. This creates a landscape of great movement. Design here is about moderating speed, or rather, controlling the temporal dimension of those processes. These natural processes are already happening, and they are just being affected by designers. While we could argue about which was the appropriate form, the grid or the dune, but the better question would be, how precisely does the configuration of the fences engage and manipulate those processes. Does this design direct the process, but also allow for productive catastrophe's? Does the natural form create meaningful effects on the design, rather than simply being directed? While it may seem that the design is in the shape or arrangement of the fences, of greater importance is the spatiality and zone of impact they create. Small spacings between fences may become generalised into larger forms, if the angle of repose of the soil is greater than the width between fences. If erosion and deposition is happening faster than regeneration of stabilising vegetation then the landscape will keep moving. The fence may be revealed again. In this situation a simple form interacts with a diverse and extensive range of other effects and relationships. These relationships between the fence and the processes extend much further than simply the materiality of the fence. Yet the fence has an irrefutable role in guiding these processes. Considering this, geometry is not just form making; a line is an element of resistance and an element of guidance.

The manipulation of natural processes has resulted in a large proportion of the Dutch landscape, through the creation of Polders. Dutch landscape architect, Roel van Gerwen describes this methodology of working as “steering processes” and uses the analogy of the “stick in the sand”. To build a sandcastle, one generally forms the sand into the shape of a castle . However, as soon as it is built, the sand castle begins to erode through the action of wind and water. An alternative approach to could be to put to select and correctly locate a stick in the sand which would then, over time, catch sand. The result will not be exactly the same as forming the sandcastle, but may be quite close,. It would also involve significantly less labour. This approach has been utilised by HNS, and Roel has developed it on a range of projects undertaken with Vista.

The Craillo project by Vista is one of a plethora of both historic and contemporary Dutch “nature building” projects. To some extent these projects seem to exist as a separate discipline to landscape architects, made up by engineers and ecologists. Vista is such a firm, but uses landscape architects to develop the form of these otherwise ecological projects. The brief of the Craillo project was to build nature and nature links (through the creation of a land bridge for fauna) and recreation opportunities, on the site of a disused quarry. In this project Vista developed a strategy that guided the development and regeneration of the landscape. This strategy comprised large scale, but finely graded earthworks in the form of orthogonal islands, that were elevated very carefully in relation to the existing but revealed water table. These lakes and islands are of a large scale and are accessed by board walks, only revealed in their totality from an elevated viewing structure. Each monolith is

uniformly set at its elevation, and composed of a simulated soil profile of sand and topsoil. Each has a single type of vegetation treatment. Access is controlled to islands in such a way that impacts of site occupation and usage are directed. Landscape and vegetation types result from a combination of the soil saturation, depth of the islands, and the type of impacts that will then affect the development of that vegetation. These impacts are from cattle, sheep, but also from people who use the site. Thus, an area with a deep topsoil, elevated 1200mm above the water table might develop into forest if it is isolated from access by fauna, while the same soil configuration grazed by cattle might turn into a grass land. The vegetation would regenerate rather than being planted, and would thus be composed of whatever is either latent in the soil or was introduced by seed dispersal agents, such as wind or from other animals and insects. It is the action of animals and people, controlled by the design that will largely determine what will result. The repetitive access and intervention of these agents over time will guide the life of the project. Design sets up forms that will direct that movement, even while the movement itself is unpredictable. The same ecological principles as the green walls or the dune projects, but at a much larger scale, are used in this example. Both micro and macro ecological processes can be mobilised with this design methodology and way of thinking.

### ***The Urban***

*All the projects I have discussed so far exist at the edges of landscape practice in rustic situations: nature parks, gardens, beaches, etc. However much landscape architecture is in urban situations, with different rules and regimes. In the urban, space is much more tightly controlled with greater human impacts on materials. In these situations change is something that is highly resisted, and indeed design, material and detail choices result from trying to control it. The final project I will discuss in my lecture is the winner of the last Rosa Barbara prize, the Bordeaux Botanic Garden, by the guest convenor of this symposium, Catherine Mosbach. Catherine was reticent about having her project discussed, but it is an important adjunct to this collection of projects, and suggests how change processes might be incorporated in a conventional urban project, so I will discuss it quickly.*

*The design comprises two main sections. The Environment Gallery and the Field of Crops, referring to the natural and cultural landscapes of the Gironde, respectively. In the Environment Gallery, Mosbach has developed forms, which I will call mounds that simulate the range of soil profiles of the region, using the actual soils from those areas, revealed on the edge profile. The edge profile has been reinforced with horizontal sections of mesh, and the soils stabilised, however the mounds are designed to degrade, to change form. The topsoil of the mounds has been seeded with indigenous species to the soils and areas represented. The top surface of the mounds are shaped to direct water and thereby erosion. Plants will colonise the moved soil. Over time, the shape of the mound may change greatly, according to the forces of erosion and vegetation, but will be regulated, slowed or speeded up by the resistance of the edge. In determining things such as the compaction, porosity and adhesion of the edge coping, another time interval has been inserted that will affect the speed of the processes it contains.*

*This project is as a highly refined boutique urban project, with a high level of detail. What is interesting to me is how change forces have been accommodated in such a tightly controlled design language. The Mounds are islands in a sea of granitic sand of a similar type to their own constitution. As the mounds erode over time they will deposit new soil onto the sand, but because of the similar colour, they will not contrast with this surface, but rather blend into it. The surface will be able to change without revealing an edge that seems to have been transgressed, without seeming out of control. Angular concrete paths join the dots between mounds to provide direction, but are set at least a meter away from the mounds so that they will not be affected should the mounds expand. If the paths are covered, other routes exist that allow continuous circulation.*

*There are contingencies.*

*Public space is a tightly controlled thing these days, and landscape architects are engaged to bring spaces under institutional control. The look of the designed landscape is synonymous with this control, and this control extends into control of detail. A tightly controlled space is a tightly detailed one. This sense of control, both by clients and by landscape architects will have to be relinquished or at least loosened to accommodate the types of change processes I am talking about in the urban landscape. Realistically, the Le Roy approach would be difficult for institutions to accept in the public realm, however in the Bordeaux Botanic Gardens we see that an approach can be developed that creates a spatial gradient of control. Parts that are tight and parts that are loose, with considerable opportunities for design and detail negotiating between the two. This can be done by creating details of different endurance and duration. Details that completely change across their life, but importantly where time is a constructional dimension, like length and breadth, with accuracy in ranges and tolerances. Projects can have multiple and simultaneous ages.*

## **Conclusion**

I have been very interested in the architectural discourse of process, in its numerous forms, for as long as I have been involved with design. For as long as I knew that design was generally static, I have been interested in dynamism. In examining the larger international architectural discussion about process, morphogenesis, self-generation, etc, I have been interested and sympathetic, but also critical. In accompanying projects however, change present mainly in simulation, representation and design generation. I believe that representation is a logical glitch in design thinking, one that academics fixate on because it will always be an issue where theory and practice are separated. Representation is a scratch on a record. By working in representation, the project is absent of the processes occurring in real time. In contrast, I am proposing that what is needed is detailed design, implementation and participation on real projects, with an extended project time frame. What is needed is not new representational tools, but practical technique. I believe that ecology, as a machine without ideology, can be utilised in the production of form in designs. Furthermore I believe that alongside this very visible representational discourse on change in architecture, European landscape architects are, and have been for some time, on the front line of experimental research into how change might happen.

The notion of change has long been at the foundation of landscape architecture. In examining the palette of landscape architecture, our disciplines building blocks are changeable things – earth, water, plants. However, despite this, I believe that the profession operates in a static manner, that it has appropriated from architecture in its language and its compositional systems .. This is a way of practicing that prioritises a final built product, over the demonstrable change in the landscape and its elements. However in the historic discourse of gardening, and the discourse of ecology, another form language is latent. This form language is no less precise, articulate nor less “formal”. But it is different, and in its difference, it presents for landscape architecture a distinct and individual approach to design. But to use it landscape architects must modify the way they work, and run their practices parallel to the time of their projects.