

## Chapter 3

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### THEORETRICAL DISCOURSE

Performative landscapes.

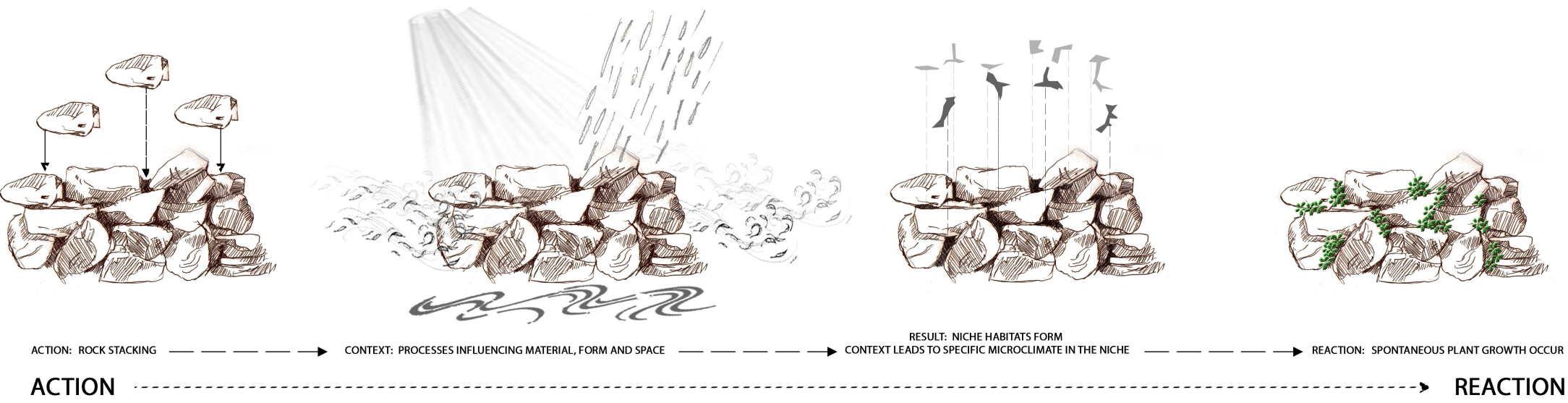


Fig 3.1: Ecology diagram (Author 2015)

### 3.1 Introduction

A new paradigm within the rethinking and conceptualizing of the field of landscape architecture has started to manifest itself at an increasing rate. These new theories are based on change in landscapes – change being the medium used by landscape architects rather than them simply operating in an environment dictated by change (Raxworthy 2003). Change is a vital part of life. Something that does not change, that is static, is not a living entity.

Life is defined by the HAT dictionary as: “n Toestand van gedurige verandering en funksionele bedrywigheid kenmerkend vir georganiseerde stof, veral vir daardie deel daarvan wat ‘n mens, dier of plant vorm voordat dit dood is” [A state of constant change and functional activity characteristic for organised matter, especially for the part thereof that a human, animal or plant forms before it dies].

In this definition it is clear that, where there is change, there is life. How does change manifest itself within a landscape? What are the factors that influence change? How do we, as landscape architects, work with change as a medium to design landscapes? These are the questions that will be discussed in the following chapter. To get answers to these questions, we need to understand the role of ecology in the decision-making process, as well as the humble profession of gardening and its influence on designing landscapes, to understand change and how this in turn starts to influence forms in landscape design.

### 3.2 Ecology

Ecology has been at the core of landscape architecture since the 1970s, forming the basis of knowledge on which all decision making, design and otherwise should be based. As Ian McHarg (1995) stated:

“I believe that ecology provides the single indispensable basis for landscape architecture and regional planning ... Where the landscape architect commands ecology he is only the bridge between the natural sciences and the planning and design professions, the proprietor of the most perceptive view of the natural world which science or art has provided.”

This quote makes it clear that the profession of landscape architecture is in the ideal position to orchestrate this ecological imperative. McHarg’s interest in ecology is literal and aesthetically driven by a romantic nature. How this changes in the reconceptualising of landscape architecture is that the focus is now on the notion of “commanding ecologically” (Raxworthy 2003). Ecology is seen as an interdependent system of the action and reaction between things. This implicates using the relationships between things in order to engage with them. Consequently,

landscape architects should use ecology as a tool and define a place for it in the design profession that is closer to systems engineering than to science or art.

This notion of cause and effect that is present in ecology can be more commonly understood as change. Change is important here as it is the form of ecology. The context in which change occurs is defined by Anne Whiston Spirn (1998) as “a place where processes happen, a setting of dynamic relationships not a collection of static states”. We cannot ignore context; we need to react to contextual expressions and guide them. Spirn (1998:96) further states that: “Material, form and space are sensed and shaped by processes ... neglecting pertinent processes can lead not only to failure of expression and function, but even to destruction and death.” In these terms, change is something that needs to be considered in order for a design project to perform.

In this act of engaging with processes and form, Spirn (1998) notes: “Shaping the context in which landscape is shaped is an act of design.”

#### Case Study The Ecocathedral, Louis le Roy

The Ecokathedraal [Ecocathedral] at Mildam in The Netherlands began when Le Roy arranged for recycled bricks to be dumped on his premises. He started stacking these bricks into a series of piles, without the help of any tools or mechanisms, and merely using human labour and a module. The bricks are laid out similar to a dry brick wall construction, without mortar. The bricks are loose and can move; this aids the process for he is, as Le Roy puts it: “leaving gaps for nature” (Boukema & McIntyre 2002). These gaps allow for silt and soil movement and it creates microclimatic conditions for plants and weeds to start growing spontaneously. This dynamic interaction between human actions, organic growth as a reaction, and the material of the bricks forms the basis of the Ecocathedral process.

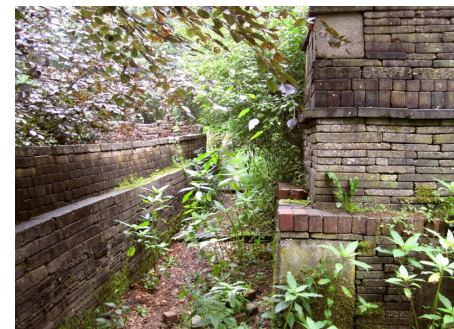


Fig 3.2: Ecocathedral, Louis le Roy (van Aerle 2011)

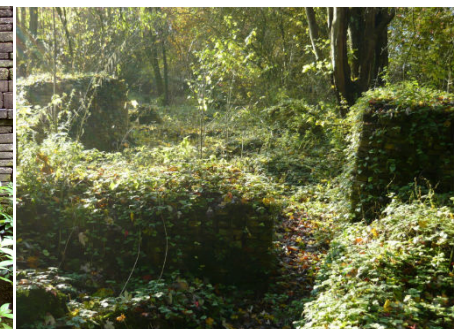


Fig 3.3: Evocathedral: growth over time, Louis le Roy (van Aerle 2011)



Fig 3.4: Nature confined (Author 2015)

The Ecocathedral directly influences the microclimatic conditions of the site by increasing soil water, reducing evaporation and erosion and the drying out of soils. It also increases the types of habitats present for animals, plants and insects to thrive in, leading to an overall increase in biodiversity. After these processes start to take place, it will lead to indirect influences such as organic matter of the plants that improves the soil structure, which in turn leads to the reduction of soil erosion and the conservation of soils (Boukema & McIntyre 2002).

### 3.3 Forms

Landscape architectural form does not seem to get to grips with the truly complex nature of landscape, making any project seem potentially simplistic. Potentially this is because it has inherited languages from architecture which are based on the design of an object, rather than taking into account that the systems dealt with are unavoidable and much larger than the site itself (Raxworthy 2008:66).

An analysis of the precedent discussed in the previous sub-category shows that form is generated through personal labour and the action and reaction between nature, man and material. It is this interaction with nature, the intuitive way in which the design of the Ecocathedral develops, that is most interesting about this project. Form is generated by observation and reaction to what is observed, rather than by preconceived ideas on a plan that confine and limit nature, preventing it from reaching its true potential.

When designing in an office, there are constraints that might limit the engagement with the productivity of change as form-making device. Forms can be catalytic strategically. Thus this theory is based on designing frameworks that direct and regulate natural processes. These processes then in turn respond by producing new form. The design of a landscape would then be influencing this process of action and reaction. The change and movements that occur over time and influence the shape of the landscape can be guided to a degree so as to create variable spatial qualities to experience (Raxworthy 2008).

Elizabeth Grosz expresses well how time "... disappears into events, processes, movements, things, as the mode of their becoming. And it disappears into our representations, where it is tied to, bound up in, and represented by means of space and spatiality. It suffers a double displacement: from becoming to being, and from temporal to spatial. Time is understood as the neutral "medium" in which matter and life are framed rather than as a dynamic force in their framing" (Grosz 1999:2).

Allowing for change to occur spontaneously requires one to take unpredictability into account. This unpredictability of the reaction to an action is a chance that one will have to take when designing with change. But just because it is unpredictable does not mean one cannot influence the outcome. Each reaction will differ depending

on the executed action; thus it all depends on how we react to what nature offers to determine what the outcome of our actions will be. Architects are quite scared of this notion of releasing control to uncontrolled or unintentional transformations. But in landscape architecture there is more potential to engage with this notion due to our main precedent operating in the same way: ecology.

Form comes out of process. This can be seen on a large scale when one looks at the forms of a river system, generated by the processes that play a part in the forming of the river due to the forces of water, gravity, plant growth, etc. But form can also direct process. An example of process directed by form is seen in an intervention done by Gustav Lange in a courtyard in Berlin.

#### Case Study Gustav Lange, Friedrichshain Courtyards, Berlin, 1995

Lange cut a piece of limestone into a perfect cube, configured in such a way that it showed several of its material qualities on the edge. The cut face of the limestone revealed the changes in texture and pockets forming in the cube. Over time and due to weathering, water and freezing, expanding gaps started to form in the cube. The solid limestone became soil, which eventually supported plant growth. Within two to three years the rock was gone.

Because the limestone was cut in a cube and not left in a natural shape, the form forced specific outcomes to occur related to the processes that influenced it. The fact that it was in the shape of a perfect cube accentuated the process of disintegration. The cube made the transformation visible (Raxworthy 2013).



Fig 3.5: Limestone cube, Gustav Lange, 1995 (Raxworthy 2013)

### 3.4 Gardening

The Oxford English Dictionary's definition of maintenance is quite contradictory, meaning both "[to] continue, persevere" and "[to] hold (a place, position, possession) against hostility or attack" (Stevenson 2010). The first refers more to the work of a landscape architect when doing a project, where he/she needs to ensure that plant

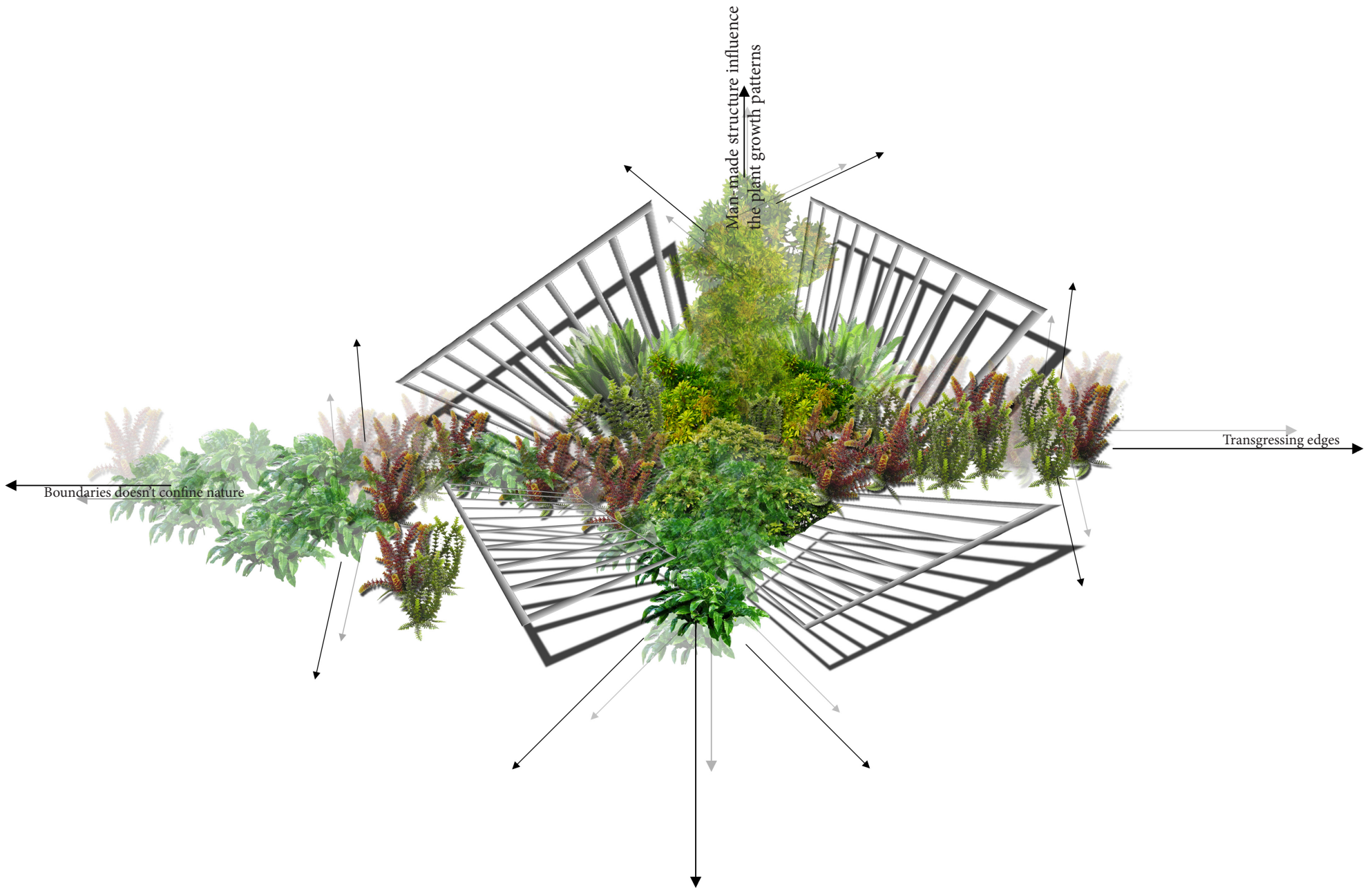


Fig 3.6: Nature transcending boundaries (Author 2015)

growth will continue after construction. The second refers to architecture, where the structure needs to remain unchanged after construction. The Latin phrase from which the word is derived means “[to] hold in one’s hand” (Stevenson 2010). Thus this seems like the more dominant definition, which is quite contradictory to the essence of landscape architecture, which thrives in its ability to engage with change. For gardeners, change is something that rewards their efforts and that they can look forward to. Change is the productivity of the garden.

In this act of working with change in landscapes, theorists like Raxworthy and Clément suggest that we need to turn to landscape architectures’ poor cousin, gardening (Raxworthy 2003). To truly seize ecology, we need to engage with it in a way different from how it has been utilized conventionally in landscape architecture. We are used to dealing with landscape architecture projects in practice in the same way as we deal with architectural projects. Practise is defined by the Oxford English dictionary as “the habitual doing or carrying out of something; action as opposed to profession.” Thus the way we practise landscape architecture is due to habit, and might not be the best possible way to do it. Representation is the tool used to create the link between the profession and practice. If we look at all the other disciplines that landscape architecture draws from, each with its own tensions and contradictions and ways that it is practised, one might be able to propose alternative ways of working for the discipline.

If landscape architects work with ecological systems based on the architectural model, but they are not able to engage with them properly, it is because this model includes a practice that does not enable active exploration within the systems. This is clear when one looks at the representation of a tree on plan as opposed to its change over time and its varying spatial and microclimatic effects. Yet, a creative involvement with the tree would be represented by the gardener that prunes and shapes it into a form according to its recent growth developments (Raxworthy 2003). That would represent the definition of engaging with change rather than a landscape architect in an office, trying to predict the unpredictable and control something that can never be fully controlled.

Furthermore, Spirn (1998) notes that: “As a material, ‘change’ seems to be vaguely delimited by a potential of a will inherent in the medium, and perhaps engagement with change is characterised by an appreciation of the variables of flexibility within the material designed.”

The landscape architect might be able to draw a landscape at any point in time, but it is the reaction of the gardener that makes it ecological and the form specific, as the gardener observes the plant and then the plant reacts to the gardener in return, with its new growth habit. Thus in considering change, the medium of gardens should be in the hands of the humble and amateur pursuits of the gardener, where

it is able to wax and wane in a way that the preconceptions of the plan will never allow (Raxworthy 2003).

But now, where does this leave the landscape architect? Spirn (1998) rightfully asked a similar question: “How can we find a balance between planning and flexibility, between stability on the one hand and freedom, growth and individual development on the other?”

Her answer is simple: The resolution of these questions is to “... establish a structure and let the details evolve ... The structure establishes the order: time and circumstance contribute complexity” (Spirn 1998). Thus landscape architects need to move away from confining nature with pre-conceived shapes on a plan. They need to rather focus on establishing a structure, guiding nature and ecological processes, and allowing nature to fill in the blanks. This allows for the appreciation of the variability and flexibility within nature that we so often try to suppress.

### Case Study Sven Ingvar Anderson's Garden at Marnas, Sweden.

Anderson used his own garden to experiment with the idea of form and effect. He planted trees to form rooms in the garden. The different edges of the rooms were planted with exactly the same plants, the only difference being that the one edge was pruned while the other was left natural. Anderson did this in order to see how the plants would interact with one another, compete for light, grow into each other and shade each other. The difference between the pruned and the natural edges becomes clear in the way that they evolve. This is a long-term investment that Anderson has in his garden. A planting plan could not determine what the outcome was going to be. Thus, for Anderson it is not about the prediction of what the plant will turn into, but appreciating the plant as it develops over time. It is not about the initial configuration of the garden, but what comes after that. Anderson is giving the gardener rather than the designer the dominant role in form production, and is anchoring that form in time by the constant or long-term action of the gardener (Raxworthy 2011).

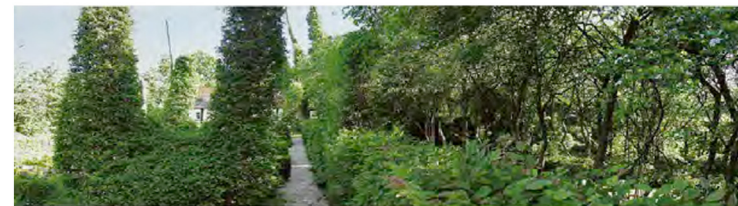


Fig 3.7: Pruned versus natural edges: Garden at Marnas (Raxworthy 2011)

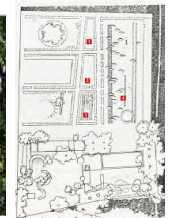


Fig 3.8: Garden plan, Anderson (Raxworthy 2011)

### 3.4.1 Gardens in Motion

French landscape architect Gilles Clément has created a similar theory for landscape design, called Gardens in Motion. The inspiration for this idea comes from neglected land that is left behind and becomes an environment where plants start to settle and flourish with unhindered succession. Thus, these plants do not encounter any obstacles whilst growing, struggling, shifting and exchanging. Usually landscapes are being controlled in terms of yielding to geometry, tidiness, or any other cultural principles. It comes down to the gardener whose advantage is to shape the garden without altering its dynamics: thus to do as much as possible for and as little as possible against it. The gardener has to observe and interpret the interactions between elements in the garden, and decide from there what needs to be maintained or shaped and what not. This includes the balance between shadow and light, how species adjust to the conditions, how this adjustment insures an increase in biodiversity, and allowing species to decide where they want to grow (i.e. when a flower starts to grow in a pathway, it must be decided whether to maintain the pathway or the flower), to name a few. Such a state of mind leads the gardener to observe more and garden less, in order to become more closely acquainted with the species and their behaviour in order to make more efficient use of their natural capacities without the input of unnecessary energy and time. Ultimately, as mentioned above by Raxworthy as well, the garden's outcome will be defined by its caretaker, rather than by pre-conceived ideas on a drawing board (Clément n.d.).

### 3.4.2 Case Study Parc André Citroën, Gilles Clément, Paris

Clément designs by letting go of the designer's almighty control: he designs to allow plants, 'nature' and people to be treated as equal contenders; all are respected participants in his designs, "where man is a visitor amongst other living visitors, plants and animals" (Rocca 2008:42). His work provokes people's involvement in and interpretations of the sophisticated orchestration of his designs and their temporal characteristics.

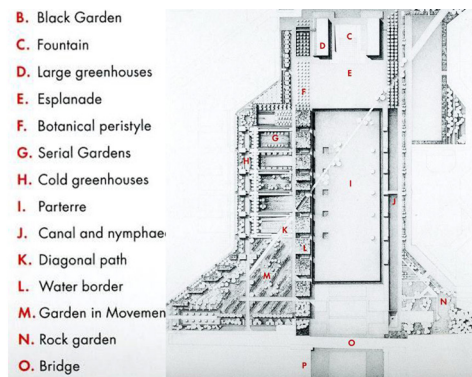


Fig 3.9: Parc André Citroën Plan, Gilles Clément (Heykoop 2015)



Fig 3.10: Parc André Citroën, Gilles Clément (Heykoop 2015)

The Garden in Movement at Parc André Citroën has an open-ended character. It is described by Rocca (2008:44) as the "dynamic management of spontaneous vegetation" leading to an unfinished, unpredictable nature for the garden. This clearly shows the leap taken from a popular fixed maintenance system to one of contingency so that "appearance is determined by chance, to a strict temporality" (Rocca 2008:44). The behaviour of living things in the garden is expected to be unexpected, to follow the spontaneity of the vegetation. The garden changes its configuration from one year to the next, according to people's usage of the spaces. Responsiveness and change is a key aspect of the Garden in Movement.

Rocca (2008:36) quotes Clément:

"The idea is not to create the illusion of nature, as in the Romantic garden, but to take part in a vital flux that is already present and active in that place."

### 3.5 Case study The Bordeaux Botanic Gardens, Catherine Mosbach

The Bordeaux Botanic Gardens is situated in Bordeaux, a port city in the south-west of France, 200 kms from the Spanish border. It is in the Aquitaine region, and is the capital of the Gironde prefecture, located on the banks of the Garonne River, that leads off the Bay of Biscay. The site for the botanic gardens is located directly adjacent to the Garonne, on the left bank, running perpendicular to the river, in the centre of an urban area. The brief for the project was for a Botanic Garden that exhibited the particular characteristics of the natural and cultural character of the Aquitaine bioregion. Mosbach's response to the brief is effectively a scaled model, or a diorama



of the region. The Bordeaux Botanic Gardens is effectively based around the use of materials that will weather, and during that weathering, provide growing media, and material niches for other species to colonise. and as they weather. (Raxworthy 2013)



Fig 3.11: Bordeaux Botanic Garden plan (Archbabeigeon 2014)

### 5.5.1 Niches:

- Created in the surrounding walls of the garden, and along the paths/ramps.
- Composed of trunks of pine of different sizes that are stacked lengthways and perpendicularly, forming “dry timber walls” with lots of deliberate gaps and without noticeable fixings.
- Gaps or “moulds” are niches: encouraging degradation and colonisation. The wall is regarded as a geological or geographical form, affecting and being affected by the ecological systems.
- Two particular models: the wall as a form interacting with wind; and the wall as plant growth medium. (Raxworthy 2013)

### 5.5.2 The “Environment Gallery”:

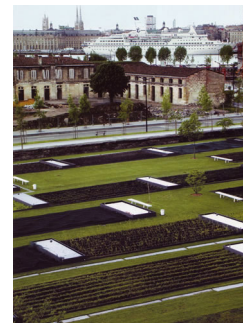
- A series of mounds, as elevated simulations of the geomorphological strata and soil profiles of the Aquitaine region, are placed in two rows, representing the two banks of the river:

- The five mounds in the north representing the right bank are comprised of clay, gravel and sandstone, with a heath of a moor floristic constitution.
- The six in the south represent the left bank, and are largely different types of sand of a dune character.



Fig 3.12: Environmental gallery (Raxworthy 2013)

- A space for existing landscape processes of the region is established. The form, growth media and propagative mechanisms of the mounds attempt to engage the landscape processes themselves in the implementation process.
- They create conditions for the natural regeneration of the species in the referenced ecologies rather than simply using standard horticultural practices applied to endemic species.
- The mounds are effectively exhibits, objects that interpret the indigenous flora of the region, as well as their foundation – the soil media and the geology.
- The design allows, even encourages, a completeness of degradation and transformation that is outside what might be regarded as allowable change in a landscape design. This scheme establishes conditions for change to occur.
- Vegetation affecting the shape of the mounds is unusual because edging form is generally seen as static, and as constraining vegetation or natural processes. Should vegetation encroach too far over an edge, it normally gets cut back to that edge. By using similar material next to the mounds, the mounds can “move” without seeming out of control. (Raxworthy 2013)



### 5.5.3 “The Field of Crops”:

- Comprised of 49 elevated beds in six rows growing agricultural species from the region.
- Irrigated by flood inundation from the tank – a method that is also used by farmers in the Aquitaine.
- Greenhouses for horticultural purposes.

Fig 3.13: Field of Crops (Raxworthy 2013)

- Species used for agricultural crops all have ethnobotanical uses, and can be eaten, used as cut flowers, or have medicinal uses, and indeed this is encouraged, with information locating species in the matrix provided on signage. (Raxworthy 2013)

### New formal language for landscape design:

- Erosion as a formal element in the design.
- Encouragement of interaction between elements to affect form.
- Based not on binary oppositions of growth and control, but on differential periods of transformation and the juxtaposition of one time period with another, and is much closer to the real agency of the natural world where, regardless of what you measure it against, nothing is permanent.
- Brief for landscape architecture: accommodate growth. Rather than resist these forces (of nature, physics, entropy and energy transfer) outright, Mosbach's approach is to work with the productive, form making results of those processes and to influence them to create new forms. (Raxworthy 2013).
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Fig 3.14: Wetland (Reed 2005)

## 5 Conclusion

Working with change as a medium for landscape architects to design with, will have a great effect on the way that landscapes are represented in practice. We need to design in a way that does not limit the potential outcome of the landscape. What we design needs to guide the landscape and work with ecological processes, allowing it to flourish, to utilize the freedom it possesses within itself, to transcend what we have put down on paper and reveal itself as the living, changing, flexible entity that it is.